

**NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION
LOCAL LAW FOR FLOOD DAMAGE PREVENTION
INSTRUCTIONS**

The attached MODEL LOCAL LAW is designed to comply with the floodplain management requirements of the National Flood Insurance Program contained in 44 CFR 60.3(b,c,&d). The Department of Environmental Conservation (DEC) has included several optional administrative provisions in the MODEL LOCAL LAW which are strongly recommended for proper administration. **Any changes made to this MODEL should be reviewed by the community's attorney and either the DEC or the Federal Emergency Management Agency (FEMA) before enacting. DEC and FEMA must be provided a list of any changes to this model at the time of filing.**

Department of State Filing Forms – insert all required information. Blank Local Law Filing Forms, including instructions and an online interactive version, can be found at <http://www.dos.state.ny.us/lgss/publications.htm>.

The following sections must be completed by the community:

Page 1, Sect. 1.1 - Insert legislative body and the name of the community twice.

Page 7, Sect. 3.1 - Insert the name of the community.

Page 7, Sect. 3.2 - Complete (1) through (5) as necessary, according to the documents your community has been furnished by the Federal Emergency Management Agency (FEMA). Cross out or delete any unused subsections. Documents you may have received are:

- (a) Flood Insurance Study report--a brown or buff colored booklet, which contains technical data on flooding in the community;
- (b) Flood Insurance Rate Map (FIRM)--a map in either an 11"x17" flat or a Z-fold (road map style) format. If the map consists of more than one panel, an index panel is usually included. The FIRM shows locations of areas of special flood hazard in the community; and,
- (c) Flood Boundary and Floodway Map (FBFM)--a Z-folded sheet that shows the location of floodways in the community.

If your community received only a single FIRM map, fill in (1). The community number, a six digit number whose first two digits are 36, is required and is found in the lower right corner of the FIRM. The community number may also have a letter suffix, which should also be included. Also include the "effective date" shown on the map.

If you received a FIRM map with more than one panel, fill in (2). Be sure to show the community number and the panel numbers (e.g., 361540 0001-0025) and the letter suffix, if one is shown. Also include the "effective date" shown on the index panel.

If you received a Flood Insurance Study report, fill in (3) with the community name, name of your county(s) as shown on the report and date.

If you received a single FBFM, fill in (4).

If your community received a FBFM with multiple panels, fill in (5) with data from the index sheet.

If you are unsure what documents were sent to you, contact the DEC Regional Coordinator for your county (listed on page v) or the DEC Central Office (listed on page iv).

If you received a completed Page 7 from NYS DEC, you may substitute out that page. However, make sure you insert the location where the Flood Insurance Study and the maps are on file.

Page 7, Sect. 3.2 – Insert the location where the Flood Insurance Study and maps are on file.

Page 8, Sect. 3.5 - Same as 3.1.

Page 8, Sect. 3.6 - Same as 3.1.

Page 8, Sect. 4.1 - Insert the title of the individual or group responsible for administering the local law, such as the Building Inspector, Code Enforcement Officer or Planning Board. May not be the same as Sect. 6.1(1).

Page 9, Sect. 4.2-2 - Insert fee amount and community name.

Page 14, Sect. 5.1-3 - Insert the name of the community in the six blanks.

Page 17, Sect. 6.1(1) - Insert the name of the appeals board (in many instances the Zoning Board of Appeals serves this role) and the name of the community. It may be necessary to create a 3-5 person board to fulfill these duties. **In accordance with Town/Village/City Law, the appeals board may neither be the Town/Village/City Board, nor have any common members, nor be the same person or body as named in Sect. 4.1.**

Page 23, Sect. 6.1(2) - Insert the name of the appeal board.

Page 23, Sect. 6.1(3) - Same as 6.1(2).

Page 23, Sect. 6.1(4) - Same as 6.1(2).

Page 24, Sect. 6.1(5) - Same as 6.1(2).

Page 26 - Insert date of enactment, the names of the governing body, community and county, and the date on which the law becomes effective.

Attachment "A" (4 pages) to this document provides a recommended "Floodplain Development Permit Application" form. This form or its equivalent must be used in conjunction with Section 4.2 of this model local law.

Attachment "B" (1 page) to this document provides a recommended "Certificate of Compliance for Development in a Special Flood Hazard Area." This form or its equivalent should be used in conjunction with Section 4.4-7 of this model local law.

Please contact one of the DEC Central Office Program Coordinators listed on page iv should you have any questions about filling in the blanks or if you find any errors or omissions to these instructions, content, or attachments.

Optional Language is provided should your community wish to enact additional requirements to increase the level of safety. Note that many of these options result in points that can result in discounts on flood insurance premiums within communities that participate in FEMA's Community Rating System. Contact DEC for information about the Community Rating System.

NOTE: This document must be adopted in a manner that is legally enforceable. File the indicated number of certified copies with each of the five offices listed below. Follow all instructions and use the official filing form.

1. **FEDERAL AGENCY** (1 copy)

Federal Emergency Management Agency
Mitigation Division
26 Federal Plaza, Room 1337
New York, New York 10278-0002

2. **COUNTY PLANNING** (1 copy)

The planning department for your county.

3. **SECRETARY OF STATE** (3 copies)

State Records and Law Bureau
Department of State
41 State Street
Albany, New York 12231

4. **DEC CENTRAL OFFICE** (1 copy)*

NYS Department of Environmental Conservation
Floodplain Management Section
Attn: Jaime Ethier
625 Broadway, 4th Floor
Albany, NY 12233-3504
(518) 402-8185

5. **DEC REGIONAL OFFICE** (1 copy)*

Regional Office address is determined by the county in which the community is located. See page iv for address of Regional Office covering your county.

***Please submit one copy of the "Local Law Acknowledgement" to the DEC Central Office and the DEC Regional Office upon receipt from the Department of State.** However, to expedite approval of your Local Law, please send a copy to the DEC Central Office immediately upon passage, prior to receipt of the "Local Law Acknowledgement."

**New York State Department of Environmental Conservation
Bureau of Flood Protection and Dam Safety
625 Broadway, 4th Floor
Albany, NY 12233-3504
(518)402-8185**

Central Office Floodplain Management Coordinators

Bill Nechamen:	518-402-8146	Chief, Floodplain Management	wsnecham@gw.dec.state.ny.us
Kelli Higgins:	518-402-8143	Environmental Engineer	kahiggin@gw.dec.state.ny.us
Jaime Ethier:	518-402-8149	Environmental Program Specialist	jaethier@gw.dec.state.ny.us
Jacob Tysz	518-402-8152	Mapping Specialist	rjtysz@gw.dec.state.ny.us
Bill Leslie	518-402-8258	Environmental Engineer Tech	waleslie@gw.dec.state.ny.us

Regional Floodplain Management Coordinators

1	Nassau & Suffolk	NYS DEC Region 1 Loop Rd., Building 40 SUNY Campus Stony Brook, NY 11790-2356	Eric Star (631) 444-0423 exstar@gw.dec.state.ny.us
2	Bronx, Kings, New York, Queens & Richmond	NYS DEC Region 2 1 Hunters Point Plaza 4740 21st Street Long Island City, NY 11101-5407	Vichit Aramsombatdee (718) 482-4946 vxaramso@gw.dec.state.ny.us
3	Dutchess, Orange, Putnam, Rockland, Sullivan, Ulster & Westchester	NYS DEC Region 3 21 S. Putt Corners Rd. New Paltz, NY 12561	Bernard Lohmann (845) 256-3020 bxlohman@gw.dec.state.ny.us
4	Albany, Columbia, Delaware, Greene, Montgomery, Otsego, Rensselaer, Schenectady & Schoharie	NYS DEC Region 4 1150 North Westcott Road, Schenectady, NY 12306	Tom Blanchard (518) 357-2379 teblanch@gw.dec.state.ny.us
5 North	Clinton, Essex, & Franklin	NYS DEC Region 5 Route 86, PO Box 296 Ray Brook, NY 12977-0296	Fred Dunlap (518) 897-1243 fddunlap@gw.dec.state.ny.us
5 South	Fulton, Hamilton, Saratoga, Warren & Washington	NYS DEC Region 5 232 Hudson St. Warrensburg, NY 12885	Rob Streeter (518) 623-1211 rwstreet@gw.dec.state.ny.us
6	Herkimer, Jefferson, Lewis, Oneida & St. Lawrence	NYS DEC Region 6 207 Genesee Street Utica, NY 13501	Albert Ash (315) 793-2358 awash@gw.dec.state.ny.us
7 North	Cayuga, Madison, Onondaga & Oswego	NYS DEC, Region 7 615 Erie Blvd. West Syracuse, NY 13204-2400	Kevin Delaney (315) 426-7501 kddelane@gw.dec.state.ny.us
7 South	Broome, Chenango, Cortland, Tioga & Tompkins	NYS DEC, Region 7 1679 NY Route 11 Kirkwood, NY 13795	Larry Lepak (607) 775-2545 ext 121 ltlepak@gw.dec.state.ny.us
8 North	Genesee, Livingston, Monroe, Ontario, Orleans, & Wayne	NYS DEC Region 8 6274 E. Avon-Lima Rd. Avon, NY 14414	Colleen Donovan (585) 226-5446 crdonova@gw.dec.state.ny.us
8 South	Chemung, Schuyler, Southern Seneca, Steuben & Yates	NYS DEC, Region 8 276 Sing Sing Rd. Horseheads, NY 14845	Scott Rodabaugh (607) 739-0809 sarodaba@gw.dec.state.ny.us
9	Allegany, Cattaraugus, Chautauqua, Erie, Niagara & Wyoming	NYS DEC, Region 9 270 Michigan Ave. Buffalo, NY 14203-2999	Rebecca Anderson (716) 851-7070 rjanders@gw.dec.state.ny.us

A local law for Flood Damage Prevention as authorized by the New York State Constitution, Article IX, Section 2, and Environmental Conservation Law, Article 36

**SECTION 1.0
STATUTORY AUTHORIZATION AND PURPOSE**

1.1 FINDINGS

The _____ of the _____ of _____ finds that the potential and/or actual damages from flooding and erosion may be a problem to the residents of the _____ of _____ and that such damages may include: destruction or loss of private and public housing, damage to public facilities, both publicly and privately owned, and injury to and loss of human life. In order to minimize the threat of such damages and to achieve the purposes and objectives hereinafter set forth, this local law is adopted.

1.2 STATEMENT OF PURPOSE

It is the purpose of this local law to promote the public health, safety, and general welfare, and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

- (1) regulate uses which are dangerous to health, safety and property due to water or erosion hazards, or which result in damaging increases in erosion or in flood heights or velocities;
- (2) require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- (3) control the alteration of natural floodplains, stream channels, and natural protective barriers which are involved in the accommodation of flood waters;
- (4) control filling, grading, dredging and other development which may increase erosion or flood damages;
- (5) regulate the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards to other lands, and;
- (6) qualify and maintain for participation in the National Flood Insurance Program.

1.3 OBJECTIVES

The objectives of this local law are:

- (1) to protect human life and health;
- (2) to minimize expenditure of public money for costly flood control projects;
- (3) to minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;

- (4) to minimize prolonged business interruptions;
- (5) to minimize damage to public facilities and utilities such as water and gas mains, electric, telephone, sewer lines, streets and bridges located in areas of special flood hazard;
- (6) to help maintain a stable tax base by providing for the sound use and development of areas of special flood hazard so as to minimize future flood blight areas;
- (7) to provide that developers are notified that property is in an area of special flood hazard;
and,
- (8) to ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.

SECTION 2.0 DEFINITIONS

Unless specifically defined below, words or phrases used in this local law shall be interpreted so as to give them the meaning they have in common usage and to give this local law its most reasonable application.

"Appeal" means a request for a review of the Local Administrator's interpretation of any provision of this Local Law or a request for a variance.

"Area of shallow flooding" means a designated AO, AH or VO Zone on a community's Flood Insurance Rate Map (FIRM) with a one percent or greater annual chance of flooding to an average annual depth of one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

"Area of special flood hazard" is the land in the floodplain within a community subject to a one percent or greater chance of flooding in any given year. This area may be designated as Zone A, AE, AH, AO, A1-A30, A99, V, VO, VE, or V1-V30. It is also commonly referred to as the base floodplain or 100-year floodplain. For purposes of this Local Law, the term "special flood hazard area (SFHA)" is synonymous in meaning with the phrase "area of special flood hazard."

"Base flood" means the flood having a one percent chance of being equaled or exceeded in any given year.

"Basement" means that portion of a building having its floor subgrade (below ground level) on all sides.

"Breakaway wall" means a wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces without causing damage to the elevated portion of the building or the supporting foundation system.

"Building" see "Structure"

"Cellar" has the same meaning as "Basement".

"Coastal high hazard area" means an area of special flood hazard extending from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources. The area is designated on a FIRM as Zone VI-V30, VE, VO or V.

"Crawl Space" means an enclosed area beneath the lowest elevated floor, eighteen inches or more in height, which is used to service the underside of the lowest elevated floor. The elevation of the floor of this enclosed area, which may be of soil, gravel, concrete or other material, must be equal to or above the lowest adjacent exterior grade. The enclosed crawl space area shall be properly vented to allow for the equalization of hydrostatic forces which would be experienced during periods of flooding.

"Development" means any man-made change to improved or unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, paving, excavation or drilling operations or storage of equipment or materials.

"Elevated building" means a non-basement building (i) built, in the case of a building in Zones A1-A30, AE, A, A99, AO, AH, B, C, X, or D, to have the top of the elevated floor, or in the case of a building in Zones V1-30, VE, or V, to have the bottom of the lowest horizontal structure member of the elevated floor, elevated above the ground level by means of pilings, columns (posts and piers), or shear walls parallel to the flow of the water and (ii) adequately anchored so as not to impair the structural integrity of the building during a flood of up to the magnitude of the base flood. In the case of Zones A1-A30, AE, A, A99, AO, AH, B, C, X, or D, "elevated building" also includes a building elevated by means of fill or solid foundation perimeter walls with openings sufficient to facilitate the unimpeded movement of flood waters. In the case of Zones V1-V30, VE, or V, "elevated building" also includes a building otherwise meeting the definition of "elevated building", even though the lower area is enclosed by means of breakaway walls that meet the federal standards.

"Federal Emergency Management Agency" means the Federal agency that administers the National Flood Insurance Program.

"Flood" or **"Flooding"** means a general and temporary condition of partial or complete inundation of normally dry land areas from:

- (1) the overflow of inland or tidal waters;
- (2) the unusual and rapid accumulation or runoff of surface waters from any source.

"Flood" or "flooding" also means the collapse or subsidence of land along the shore of a lake or other body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels or suddenly caused by an unusually high water level in a natural body of water, accompanied by a severe storm, or by an unanticipated force of nature, such as a flash flood or an abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding as defined in (1) above.

"Flood Boundary and Floodway Map (FBFM)" means an official map of the community published by the Federal Emergency Management Agency as part of a riverine community's Flood Insurance Study. The FBFM delineates a Regulatory Floodway along water courses studied in detail in the Flood Insurance Study.

"Flood Elevation Study" means an examination, evaluation and determination of the flood hazards and, if appropriate, corresponding water surface elevations, or an examination, evaluation and determination of flood- related erosion hazards.

"Flood Hazard Boundary Map (FHBM)" means an official map of a community, issued by the Federal Emergency Management Agency, where the boundaries of the areas of special flood hazard have been designated as Zone A but no flood elevations are provided.

"Flood Insurance Rate Map (FIRM)" means an official map of a community, on which the Federal Emergency Management Agency has delineated both the areas of special flood hazard and the risk premium zones applicable to the community.

"Flood Insurance Study" see "flood elevation study".

"Floodplain" or **"Flood-prone area"** means any land area susceptible to being inundated by water from any source (see definition of "Flooding").

"Floodproofing" means any combination of structural and non-structural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

"Floodway" - has the same meaning as "Regulatory Floodway".

"Functionally dependent use" means a use which cannot perform its intended purpose unless it is located or carried out in close proximity to water, such as a docking or port facility necessary for the loading and unloading of cargo or passengers, shipbuilding, and ship repair facilities. The term does not include long-term storage, manufacturing, sales, or service facilities.

"Highest adjacent grade" means the highest natural elevation of the ground surface, prior to construction, next to the proposed walls of a structure.

"Historic structure" means any structure that is:

- (1) listed individually in the National Register of Historic Places (a listing maintained by the Department of the Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
- (2) certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
- (3) individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or
- (4) individually listed on a local inventory of historic places in communities with historic preservation programs that have been certified either:
 - (i) by an approved state program as determined by the Secretary of the Interior or

(ii) directly by the Secretary of the Interior in states without approved programs.

"Local Administrator" is the person appointed by the community to administer and implement this local law by granting or denying development permits in accordance with its provisions. This person is often the Building Inspector, Code Enforcement Officer, or employee of an engineering department.

"Lowest floor" means lowest floor of the lowest enclosed area (including basement or cellar). An unfinished or flood resistant enclosure, usable solely for parking of vehicles, building access, or storage in an area other than a basement area is not considered a building's lowest floor; provided, that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirements of this Local Law.

"Manufactured home" means a structure, transportable in one or more sections, which is built on a permanent chassis and designed to be used with or without a permanent foundation when connected to the required utilities. The term does not include a "Recreational vehicle"

"Manufactured home park or subdivision" means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

"Mean sea level" means, for purposes of the National Flood Insurance Program, the National Geodetic Vertical Datum (NGVD) of 1929, the North American Vertical Datum of 1988 (NAVD 88), or other datum to which base flood elevations shown on a community's Flood Insurance Rate Map are referenced.

"Mobile home" - has the same meaning as "Manufactured home".

"New construction" means structures for which the "start of construction" commenced on or after the effective date of a floodplain management regulation adopted by the community and includes any subsequent improvements to such structure.

"One hundred year flood" or **"100-year flood"** has the same meaning as "Base Flood".

"Primary frontal dune" means a continuous or nearly continuous mound or ridge of sand with relatively steep seaward and landward slopes immediately landward and adjacent to the beach and subject to erosion and overtopping from high tides and waves during major coastal storms. The inland limit of the primary frontal dune occurs at the point where there is a distinct change from a relatively steep slope to a relatively mild slope.

"Principally above ground" means that at least 51 percent of the actual cash value of the structure, excluding land value, is above ground.

"Recreational vehicle" means a vehicle which is:

- (1) built on a single chassis;
- (2) 400 square feet or less when measured at the largest horizontal projections;
- (3) designed to be self-propelled or permanently towable by a light duty truck; and

- (4) not designed primarily for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

"Regulatory Floodway" means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height as determined by the Federal Emergency Management Agency in a Flood Insurance Study or by other agencies as provided in Section 4.4-2 of this Law.

"Sand dunes" means naturally occurring accumulations of sand in ridges or mounds landward of the beach.

"Start of construction" means the date of permit issuance for new construction and substantial improvements to existing structures, provided that actual start of construction, repair, reconstruction, rehabilitation, addition placement, or other improvement is within 180 days after the date of issuance. The actual start of construction means the first placement of permanent construction of a building (including a manufactured home) on a site, such as the pouring of a slab or footings, installation of pilings or construction of columns.

Permanent construction does not include land preparation (such as clearing, excavation, grading, or filling), or the installation of streets or walkways, or excavation for a basement, footings, piers or foundations, or the erection of temporary forms, or the installation of accessory buildings such as garages or sheds not occupied as dwelling units or not part of the main building. For a substantial improvement, the actual "start of construction" means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

"Structure" means a walled and roofed building, including a gas or liquid storage tank, that is principally above ground, as well as a manufactured home.

"Substantial damage" means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before-damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

"Substantial improvement" means any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before the "start of construction" of the improvement. The term includes structures which have incurred "substantial damage", regardless of the actual repair work performed. The term does not, however, include either:

- (1) any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions; or
- (2) any alteration of a "Historic structure", provided that the alteration will not preclude the structure's continued designation as a "Historic structure".

"Variance" means a grant of relief from the requirements of this local law which permits construction or use in a manner that would otherwise be prohibited by this local law.

**SECTION 3.0
GENERAL PROVISIONS**

3.1 LANDS TO WHICH THIS LOCAL LAW APPLIES

This local law shall apply to all areas of special flood hazard within the jurisdiction of the _____ of _____.

3.2 BASIS FOR ESTABLISHING THE AREAS OF SPECIAL FLOOD HAZARD

The areas of special flood hazard are identified and defined on the following documents prepared by the Federal Emergency Management Agency (*COMPLETE ONE THROUGH FIVE AS NECESSARY, RENUMBER SEQUENTIALLY AND CROSS OUT OR DELETE UNUSED SUBSECTIONS*):

- (1) Flood Insurance Rate Map (single panel) No. _____, whose effective date is _____.
- (2) Flood Insurance Rate Map (multiple panels) Index No. _____, whose effective date is _____.
- (3) A scientific and engineering report entitled "Flood Insurance Study, _____ of _____, New York, _____ County" dated _____.
- (4) Flood Boundary and Floodway Map (single panel) No. _____, whose effective date is _____.
- (5) Flood Boundary and Floodway Map (multiple panels) Index No. _____, whose effective date is _____.

The above documents are hereby adopted and declared to be a part of this Local Law. The Flood Insurance Study and/or maps are on file at:

_____.

3.3 INTERPRETATION AND CONFLICT WITH OTHER LAWS

This Local Law includes all revisions to the National Flood Insurance Program through October 27, 1997 and shall supersede all previous laws adopted for the purpose of flood damage prevention.

In their interpretation and application, the provisions of this local law shall be held to be minimum requirements, adopted for the promotion of the public health, safety, and welfare. Whenever the requirements of this local law are at variance with the requirements of any other lawfully adopted rules, regulations, or ordinances, the most restrictive, or that imposing the higher standards, shall govern.

3.4 SEVERABILITY

The invalidity of any section or provision of this local law shall not invalidate any other section or provision thereof.

3.5 PENALTIES FOR NON-COMPLIANCE

No structure in an area of special flood hazard shall hereafter be constructed, located, extended, converted, or altered and no land shall be excavated or filled without full compliance with the terms of this local law and any other applicable regulations. Any infraction of the provisions of this local law by failure to comply with any of its requirements, including infractions of conditions and safeguards established in connection with conditions of the permit, shall constitute a violation. Any person who violates this local law or fails to comply with any of its requirements shall, upon conviction thereof, be fined no more than \$250 or imprisoned for not more than 15 days or both. Each day of noncompliance shall be considered a separate offense. Nothing herein contained shall prevent the _____ of _____ from taking such other lawful action as necessary to prevent or remedy an infraction. Any structure found not compliant with the requirements of this local law for which the developer and/or owner has not applied for and received an approved variance under Section 6.0 will be declared non-compliant and notification sent to the Federal Emergency Management Agency.

3.6 WARNING AND DISCLAIMER OF LIABILITY

The degree of flood protection required by this local law is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. Larger floods can and will occur on rare occasions. Flood heights may be increased by man-made or natural causes. This local law does not imply that land outside the area of special flood hazards or uses permitted within such areas will be free from flooding or flood damages. This local law shall not create liability on the part of the _____ of _____, any officer or employee thereof, or the Federal Emergency Management Agency, for any flood damages that result from reliance on this local law or any administrative decision lawfully made there under.

SECTION 4.0 ADMINISTRATION

4.1 DESIGNATION OF THE LOCAL ADMINISTRATOR

The _____ is hereby appointed Local Administrator to administer and implement this local law by granting or denying floodplain development permits in accordance with its provisions.

4.2 THE FLOODPLAIN DEVELOPMENT PERMIT

4.2-1 PURPOSE

A floodplain development permit is hereby established for all construction and other development to be undertaken in areas of special flood hazard in this community for the purpose of protecting its citizens from increased flood hazards and insuring that new development is constructed in a manner that minimizes its exposure to flooding. It shall be

unlawful to undertake any development in an area of special flood hazard, as shown on the Flood Insurance Rate Map enumerated in Section 3.2, without a valid floodplain development permit. Application for a permit shall be made on forms furnished by the Local Administrator and may include, but not be limited to: plans, in duplicate, drawn to scale and showing: the nature, location, dimensions, and elevations of the area in question; existing or proposed structures, fill, storage of materials, drainage facilities, and the location of the foregoing.

4.2-2 FEES

All applications for a floodplain development permit shall be accompanied by an application fee of \$ _____. In addition, the applicant shall be responsible for reimbursing the _____ of _____ for any additional costs necessary for review, inspection and approval of this project. The Local Administrator may require a deposit of no more than \$500.00 to cover these additional costs.

4.3 APPLICATION FOR A PERMIT

The applicant shall provide the following information as appropriate. Additional information may be required on the permit application form.

- (1) The proposed elevation, in relation to mean sea level, of the lowest floor (including basement or cellar) of any new or substantially improved structure to be located in Zones A1-A30, AE or AH, or Zone A if base flood elevation data are available. Upon completion of the lowest floor, the permittee shall submit to the Local Administrator the as-built elevation, certified by a licensed professional engineer or surveyor.
- (2) The proposed elevation, in relation to mean sea level, of the bottom of the lowest structural member of the lowest floor (excluding pilings and columns) of any new or substantially improved structure to be located in Zones V1-V30 or VE, or Zone V if base flood elevation data are available. Upon completion of the lowest floor, the permittee shall submit to the Local Administrator the as-built elevation, certified by a licensed professional engineer or surveyor.
- (3) The proposed elevation, in relation to mean sea level, to which any new or substantially improved non-residential structure will be floodproofed. Upon completion of the floodproofed portion of the structure, the permittee shall submit to the Local Administrator the as-built floodproofed elevation, certified by a professional engineer or surveyor.
- (4) A certificate from a licensed professional engineer or architect that any utility floodproofing will meet the criteria in Section 5.2-3, UTILITIES.
- (5) A certificate from a licensed professional engineer or architect that any non-residential floodproofed structure will meet the floodproofing criteria in Section 5.5, NON-RESIDENTIAL STRUCTURES.
- (6) A description of the extent to which any watercourse will be altered or relocated as a result of proposed development. Computations by a licensed professional engineer must be submitted that demonstrate that the altered or relocated segment will provide equal or

greater conveyance than the original stream segment. The applicant must submit any maps, computations or other material required by the Federal Emergency Management Agency (FEMA) to revise the documents enumerated in Section 3.2, when notified by the Local Administrator, and must pay any fees or other costs assessed by FEMA for this purpose. The applicant must also provide assurances that the conveyance capacity of the altered or relocated stream segment will be maintained.

- (7) A technical analysis, by a licensed professional engineer, if required by the Local Administrator, which shows whether proposed development to be located in an area of special flood hazard may result in physical damage to any other property.
- (8) In Zone A, when no base flood elevation data are available from other sources, base flood elevation data shall be provided by the permit applicant for subdivision proposals and other proposed developments (including proposals for manufactured home and recreational vehicle parks and subdivisions) that are greater than either 50 lots or 5 acres.
- (9) In Zones V1-V30 and VE, and also Zone V if base flood elevation are available, designs and specifications, certified by a licensed professional engineer or architect, for any breakaway walls in a proposed structure with design strengths in excess of 20 pounds per square foot.
- (10) In Zones V1-V30 and VE, and also Zone V if base flood elevation are available, for all new and substantial improvements to structures, floodplain development permit applications shall be accompanied by design plans and specifications, prepared in sufficient detail to enable independent review of the foundation support and connection components. Said plans and specifications shall be developed or reviewed by a licensed professional engineer or architect, and shall be accompanied by a statement, bearing the signature of the architect or engineer, certifying that the design and methods of construction to be used are in accordance with accepted standards of practice and with all applicable provisions of this local law.

4.4 DUTIES AND RESPONSIBILITIES OF THE LOCAL ADMINISTRATOR

Duties of the Local Administrator shall include, but not be limited to the following.

4.4-1 PERMIT APPLICATION REVIEW

The Local Administrator shall conduct the following permit application review before issuing a floodplain development permit:

- (1) Review all applications for completeness, particularly with the requirements of subsection 4.3, APPLICATION FOR A PERMIT, and for compliance with the provisions and standards of this law.
- (2) Review subdivision and other proposed new development, including manufactured home parks to determine whether proposed building sites will be reasonably safe from flooding. If a proposed building site is located in an area of special flood hazard, all new construction and substantial improvements shall meet the applicable standards of Section 5.0, CONSTRUCTION STANDARDS and, in particular, sub-section 5.1-2 SUBDIVISION PROPOSALS.

- (3) Determine whether any proposed development in an area of special flood hazard may result in physical damage to any other property (e.g., stream bank erosion and increased flood velocities). The Local Administrator may require the applicant to submit additional technical analyses and data necessary to complete the determination.

If the proposed development may result in physical damage to any other property or fails to meet the requirements of Section 5.0, CONSTRUCTION STANDARDS, no permit shall be issued. The applicant may revise the application to include measures that mitigate or eliminate the adverse effects and re-submit the application.

- (4) Determine that all necessary permits have been received from those governmental agencies from which approval is required by State or Federal law.

4.4-2 USE OF OTHER FLOOD DATA

- (1) When the Federal Emergency Management Agency has designated areas of special flood hazard on the community's Flood Insurance Rate map (FIRM) but has neither produced water surface elevation data (these areas are designated Zone A or V on the FIRM) nor identified a floodway, the Local Administrator shall obtain, review and reasonably utilize any base flood elevation and floodway data available from a Federal, State or other source, including data developed pursuant to paragraph 4.3(7), as criteria for requiring that new construction, substantial improvements or other proposed development meet the requirements of this law.
- (2) When base flood elevation data are not available, the Local Administrator may use flood information from any other authoritative source, such as historical data, to establish flood elevations within the areas of special flood hazard, for the purposes of this law.

4.4-3 ALTERATION OF WATERCOURSES

- (1) Notification to adjacent communities and the New York State Department of Environmental Conservation prior to permitting any alteration or relocation of a watercourse, and submittal of evidence of such notification to the Regional Director, Region II, Federal Emergency Management Agency.
- (2) Determine that the permit holder has provided for maintenance within the altered or relocated portion of said watercourse so that the flood carrying capacity is not diminished.

4.4-4 CONSTRUCTION STAGE

- (1) In Zones A1-A30, AE and AH, and also Zone A if base flood elevation data are available, upon placement of the lowest floor or completion of floodproofing of a new or substantially improved structure, obtain from the permit holder a certification of the as-built elevation of the lowest floor or floodproofed elevation, in relation to mean sea level. The certificate shall be prepared by or under the direct supervision of a licensed land surveyor or professional engineer and certified by same. For manufactured homes, the permit holder shall submit the certificate of elevation upon placement of

the structure on the site. A certificate of elevation must also be submitted for a recreational vehicle if it remains on a site for 180 consecutive days or longer (unless it is fully licensed and ready for highway use).

- (2) In Zones V1-V30 and VE, and also Zone V if base flood elevation data are available, upon placement of the lowest floor of a new or substantially improved structure, the permit holder shall submit to the Local Administrator a certificate of elevation, in relation to mean sea level, of the bottom of the lowest structural member of the lowest floor (excluding pilings and columns). The certificate shall be prepared by or under the direct supervision of a licensed land surveyor or professional engineer and certified by same. For manufactured homes, the permit holder shall submit the certificate of elevation upon placement of the structure on the site. An elevation certificate must also be submitted for a recreational vehicle if it remains on a site 180 consecutive days or longer (unless it is fully licensed and ready for highway use).
- (3) Any further work undertaken prior to submission and approval of the certification shall be at the permit holder's risk. The Local Administrator shall review all data submitted. Deficiencies detected shall be cause to issue a stop work order for the project unless immediately corrected.

4.4-5 INSPECTIONS

The Local Administrator and/or the developer's engineer or architect shall make periodic inspections at appropriate times throughout the period of construction in order to monitor compliance with permit conditions and enable said inspector to certify, if requested, that the development is in compliance with the requirements of the floodplain development permit and/or any variance provisions.

4.4-6 STOP WORK ORDERS

- (1) The Local Administrator shall issue, or cause to be issued, a stop work order for any floodplain development found ongoing without a development permit. Disregard of a stop work order shall subject the violator to the penalties described in Section 3.5 of this local law.
- (2) The Local Administrator shall issue, or cause to be issued, a stop work order for any floodplain development found non-compliant with the provisions of this law and/or the conditions of the development permit. Disregard of a stop work order shall subject the violator to the penalties described in Section 3.5 of this local law.

4.4-7 CERTIFICATE OF COMPLIANCE

- (1) In areas of special flood hazard, as determined by documents enumerated in Section 3.2, it shall be unlawful to occupy or to permit the use or occupancy of any building or premises, or both, or part thereof hereafter created, erected, changed, converted or wholly or partly altered or enlarged in its use or structure until a certificate of compliance has been issued by the Local Administrator stating that the building or land conforms to the requirements of this local law.

- (2) A certificate of compliance shall be issued by the Local Administrator upon satisfactory completion of all development in areas of special flood hazard.
- (3) Issuance of the certificate shall be based upon the inspections conducted as prescribed in Section 4.4-5, INSPECTIONS, and/or any certified elevations, hydraulic data, floodproofing, anchoring requirements or encroachment analyses which may have been required as a condition of the approved permit.

4.4-8 INFORMATION TO BE RETAINED

The Local Administrator shall retain and make available for inspection, copies of the following:

- (1) Floodplain development permits and certificates of compliance;
- (2) Certifications of as-built lowest floor elevations of structures, required pursuant to sub-sections 4.4-4(1) and 4.4-4(2), and whether or not the structures contain a basement;
- (3) Floodproofing certificates required pursuant to sub-section 4.4-4(1), and whether or not the structures contain a basement;
- (4) Variances issued pursuant to Section 6.0, VARIANCE PROCEDURES; and,
- (5) Notices required under sub-section 4.4-3, ALTERATION OF WATERCOURSES.

SECTION 5.0 CONSTRUCTION STANDARDS

5.1 GENERAL STANDARDS

The following standards apply to new development, including new and substantially improved structures, in the areas of special flood hazard shown on the Flood Insurance Rate Map designated in Section 3.2.

5.1-1 COASTAL HIGH HAZARD AREAS

The following requirements apply within Zones V1-V30, VE and V:

- (1) All new construction, including manufactured homes and recreational vehicles on site 180 days or longer and not fully licensed for highway use, shall be located landward of the reach of high tide.
- (2) The use of fill for structural support of buildings, manufactured homes or recreational vehicles on site 180 days or longer is prohibited.

- (3) Man-made alteration of sand dunes which would increase potential flood damage is prohibited.

5.1-2 SUBDIVISION PROPOSALS

The following standards apply to all new subdivision proposals and other proposed development in areas of special flood hazard (including proposals for manufactured home and recreational vehicle parks and subdivisions):

- (1) Proposals shall be consistent with the need to minimize flood damage;
- (2) Public utilities and facilities such as sewer, gas, electrical and water systems shall be located and constructed so as to minimize flood damage; and,
- (3) Adequate drainage shall be provided to reduce exposure to flood damage.

5.1-3 ENCROACHMENTS

- (1) Within Zones A1-A30 and AE, on streams without a regulatory floodway, no new construction, substantial improvements or other development (including fill) shall be permitted unless:
 - (i) the applicant demonstrates that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any location, or,
 - (ii) the _____ of _____ agrees to apply to the Federal Emergency Management Agency (FEMA) for a conditional FIRM revision, FEMA approval is received and the applicant provides all necessary data, analyses and mapping and reimburses the _____ of _____ for all fees and other costs in relation to the application. The applicant must also provide all data, analyses and mapping and reimburse the _____ of _____ for all costs related to the final map revision.
- (2) On streams with a regulatory floodway, as shown on the Flood Boundary and Floodway Map or the Flood Insurance Rate Map adopted in Section 3.2, no new construction, substantial improvements or other development in the floodway (including fill) shall be permitted unless:
 - (i) a technical evaluation by a licensed professional engineer shows that such an encroachment shall not result in any increase in flood levels during occurrence of the base flood, or,
 - (ii) the _____ of _____ agrees to apply to the Federal Emergency Management Agency (FEMA) for a conditional FIRM and floodway revision, FEMA approval is received and the applicant provides all necessary data, analyses and mapping and reimburses the _____ of _____ for all fees and other costs in relation to the application. The applicant must also

provide all data, analyses and mapping and reimburse the _____ of _____ for all costs related to the final map revisions.

5.2 STANDARDS FOR ALL STRUCTURES

5.2-1 ANCHORING

New structures and substantial improvement to structures in areas of special flood hazard shall be anchored to prevent flotation, collapse, or lateral movement during the base flood. This requirement is in addition to applicable State and local anchoring requirements for resisting wind forces.

5.2-2 CONSTRUCTION MATERIALS AND METHODS

- (1) New construction and substantial improvements to structures shall be constructed with materials and utility equipment resistant to flood damage.
- (2) New construction and substantial improvements to structures shall be constructed using methods and practices that minimize flood damage.
- (3) For enclosed areas below the lowest floor of a structure within Zones A1-A30, AE or AH, and also Zone A if base flood elevation data are available, new and substantially improved structures shall have fully enclosed areas below the lowest floor that are use-able solely for parking of vehicles, building access or storage in an area other than a basement and which are subject to flooding, designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of flood - waters. Designs for meeting this requirement must either be certified by a licensed professional engineer or architect or meet or exceed the following minimum criteria:
 - (i) a minimum of two openings having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding; and
 - (ii) the bottom of all such openings no higher than one foot above the lowest adjacent finished grade.

Openings may be equipped with louvers, valves, screens or other coverings or devices provided they permit the automatic entry and exit of floodwaters. Enclosed areas sub-grade on all sides are considered basements and are not permitted.

- (4) Within Zones V1-V30 and VE, and also within Zone V if base flood elevation are available, new construction and substantial improvements shall have the space below the lowest floor either free from obstruction or constructed with non-supporting breakaway walls, open wood lattice-work or insect screening intended to collapse under wind and water loads without causing collapse, displacement, or other structural damage to the elevated portion of the building or supporting foundation system. The enclosed space below the lowest floor shall be used only for parking vehicles, building access or storage. Use of this space for human habitation is expressly prohibited. The construction of stairs, stairwells and elevator shafts are subject to the design requirements for breakaway walls.

5.2-3 UTILITIES

- (1) New and replacement electrical equipment, heating, ventilating, air conditioning, plumbing connections, and other service equipment shall be located at or above the base flood elevation or be designed to prevent water from entering and accumulating within the components during a flood and to resist hydrostatic and hydrodynamic loads and stresses. Electrical wiring and outlets, switches, junction boxes and panels shall be elevated to or above the base flood elevation unless they conform to the appropriate provisions of the electrical part of the Building Code of New York State or the Residential Code of New York State for location of such items in wet locations;
- (2) New and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system;
- (3) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters. Sanitary sewer and storm drainage systems for buildings that have openings below the base flood elevation shall be provided with automatic backflow valves or other automatic backflow devices that are installed in each discharge line passing through a building's exterior wall; and,
- (4) On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

5.3 RESIDENTIAL STRUCTURES (EXCEPT COASTAL HIGH HAZARD AREAS)

5.3-1 ELEVATION

The following standards apply to new and substantially improved residential structures located in areas of special flood hazard, in addition to the requirements in sub-sections 5.1-1, SUBDIVISION PROPOSALS, and 5.1-2, ENCROACHMENTS, and Section 5.2, STANDARDS FOR ALL STRUCTURES.

- (1) Within Zones A1-A30, AE and AH and also Zone A if base flood elevation data are available, new construction and substantial improvements shall have the lowest floor (including basement) elevated to or above two feet above the base flood elevation.
- (2) Within Zone A, when no base flood elevation data are available, new and substantially improved structures shall have the lowest floor (including basement) elevated at least three feet above the highest adjacent grade.
- (3) Within Zone AO, new and substantially improved structures shall have the lowest floor (including basement) elevated above the highest adjacent grade at least as high as two feet above the depth number specified in feet on the community's Flood Insurance Rate Map enumerated in Section 3.2 (at least two feet if no depth number is specified).
- (4) Within Zones AH and AO, adequate drainage paths are required to guide flood waters around and away from proposed structures on slopes.

5.4 RESIDENTIAL STRUCTURES (COASTAL HIGH HAZARD AREAS)

The following standards, in addition to the standards in sub-sections 5.1-1, COASTAL HIGH HAZARD AREAS, and 5.1-2, SUBDIVISION PROPOSALS, and Section 5.2, STANDARDS FOR ALL STRUCTURES, apply to new and substantially improved residential structures located in areas of special flood hazard shown as Zones V1-V30, VE or V on the community's Flood Insurance Rate Map designated in Section 3.2.

5.4-1 ELEVATION

New construction and substantial improvements shall be elevated on pilings, columns or shear walls such that the bottom of the lowest horizontal structural member supporting the lowest elevated floor (excluding columns, piles, diagonal bracing attached to the piles or columns, grade beams, pile caps and other members designed to either withstand storm action or break away without imparting damaging loads to the structure) is elevated to or above two feet above base flood elevation so as not to impede the flow of water.

5.4-2 DETERMINATION OF LOADING FORCES

Structural design shall consider the effects of wind and water loads acting simultaneously during the base flood on all building components.

- (1) The structural design shall be adequate to resist water forces that would occur during the base flood. Horizontal water loads considered shall include inertial and drag forces of waves, current drag forces, and impact forces from waterborne storm debris. Dynamic uplift loads shall also be considered if bulkheads, walls, or other natural or man-made flow obstructions could cause wave runoff beyond the elevation of the base flood.
- (2) Buildings shall be designed and constructed to resist the forces due to wind pressure. Wind forces on the superstructure include windward and leeward forces on vertical walls, uplift on the roof, internal forces when openings allow wind to enter the house, and upward force on the underside of the house when it is exposed. In the design, the wind should be assumed to blow potentially from any lateral direction relative to the house.
- (3) Wind loading values used shall be those required by the building code.

5.4-3 FOUNDATION STANDARDS

- (1) The pilings or column foundation and structure attached thereto shall be adequately anchored to resist flotation, collapse or lateral movement due to the effects of wind and water pressures acting simultaneously on all building components. Foundations must be designed to transfer safely to the underlying soil all loads due to wind, water, dead load, live load and other loads (including uplift due to wind and water).
- (2) Spread footings and fill material shall not be used for structural support of a new building or substantial improvement of an existing structure.

5.4-4 PILE FOUNDATION DESIGN

- (1) The design ratio of pile spacing to pile diameter shall not be less than 8:1 for individual piles (this shall not apply to pile clusters located below the design grade). The maximum center-to-center spacing of wood piles shall not be more than 12 feet on center under load bearing sills, beams, or girders.
- (2) Pilings shall have adequate soil penetration (bearing capacity) to resist the combined wave and wind loads (lateral and uplift) associated with the base flood acting simultaneously with typical structure (live and dead) loads, and shall include consideration of decreased resistance capacity caused by erosion of soil strata surrounding the piles. The minimum penetration for foundation piles is to an elevation of 5 feet below mean sea level (msl) datum if the BFE is +10 msl or less, or to be at least 10 feet below msl if the BFE is greater than +10 msl.
- (3) Pile foundation analysis shall also include consideration of piles in column action from the bottom of the structure to the stable soil elevation of the site. Pilings may be horizontally or diagonally braced to withstand wind and water forces.
- (4) The minimum acceptable sizes for timber piles are a tip diameter of 8 inches for round timber piles and 8 by 8 inches for square timber piles. All wood piles must be treated in accordance with requirements of EPEE-C3 to minimize decay and damage from fungus.
- (5) Reinforced concrete piles shall be cast of concrete having a 28-day ultimate compressive strength of not less than 5,000 pounds per square inch, and shall be reinforced with a minimum of four longitudinal steel bars having a combined area of not less than 1% nor more than 4% of the gross concrete area. Reinforcing for precast piles shall have a concrete cover of not less than 1 1/4 inches for No. 5 bars and smaller and not less than 1 1/2 inches for No. 6 through No. 11 bars. Reinforcement for piles cast in the field shall have a concrete cover of not less than 2 inches.
- (6) Piles shall be driven by means of a pile driver or drop hammer, jetted, or augered into place.
- (7) Additional support for piles in the form of bracing may include lateral or diagonal bracing between piles.
- (8) When necessary, piles shall be braced at the ground line in both directions by a wood timber grade beam or a reinforced concrete grade beam. These at-grade supports should be securely attached to the piles to provide support even if scoured from beneath.
- (9) Diagonal bracing between piles, consisting of 2-inch by 8-inch (minimum) members bolted to the piles, shall be limited in location to below the lowest supporting structural member and above the stable soil elevation, and aligned in the vertical plane along pile rows perpendicular to the shoreline. Galvanized steel rods (minimum diameter 1/2 inch) or cable type bracing is permitted in any plane.
- (10) Knee braces, which stiffen both the upper portion of a pile and the beam-to-pile connection, may be used along pile rows perpendicular and parallel to the shoreline.

Knee braces shall be 2-by-8 lumber bolted to the sides of the pile/beam, or 4-by-4 or larger braces framed into the pile/beam. Bolting shall consist of two 5/8-inch galvanized steel bolts (each end) for 2-by-8 members, or one 5/8-inch lag bolt (each end) for square members. Knee braces shall not extend more than 3 feet below the elevation of the base flood.

5.4-5 COLUMN FOUNDATION DESIGN

- (1) Masonry piers or poured-in-place concrete piers shall be internally reinforced to resist vertical and lateral loads, and be connected with a moment-resisting connection to a pile cap or pile shaft.

5.4-6 CONNECTORS AND FASTENERS

- (1) Galvanized metal connectors, wood connectors, or bolts of size and number adequate for the calculated loads must be used to connect adjoining components of a structure. Toe nailing as a principal method of connection is not permitted. All metal connectors and fasteners used in exposed locations shall be steel, hot-dipped galvanized after fabrication. Connectors in protected interior locations shall be fabricated from galvanized sheet.

5.4-7 BEAM TO PILE CONNECTIONS

- (1) The primary floor beams or girders shall span the supports in the direction parallel to the flow of potential floodwater and wave action and shall be fastened to the columns or pilings by bolting, with or without cover plates. Concrete members shall be connected by reinforcement, if cast in place, or (of precast) shall be securely connected by bolting and welding. If sills, beams, or girders are attached to wood piling at a notch, a minimum of two (5/8)-inch galvanized steel bolts or two hot-dipped galvanized straps 3/16 inch by 4 inches by 18 inches each bolted with two 1/2 inch lag bolts per beam member shall be used. Notching of pile tops shall be the minimum sufficient to provide ledge support for beam members without unduly weakening pile connections. Piling shall not be notched so that the cross section is reduced below 50%.

5.4-8 FLOOR AND DECK CONNECTIONS

- (1) Wood 2- by 4-inch (minimum) connectors or metal joist anchors shall be used to tie floor joists to floor beams/girders. These should be installed on alternate floor joists, at a minimum. Cross bridging of all floor joists shall be provided. Such cross bridging may be 1- by 3-inch members, placed 8 feet on-center maximum, or solid bridging of same depth as joist at same spacing.
- (2) Plywood should be used for subflooring and attic flooring to provide good torsional resistance in the horizontal plane of the structure. The plywood should not be less than (3/4)-inch total thickness, and should be exterior grade and fastened to beams or joists with 8d annular or spiral thread galvanized nails. Such fastening shall be supplemented by the application of waterproof industrial adhesive applied to all bearing surfaces.

5.4-9 EXTERIOR WALL CONNECTIONS

- (1) All bottom plates shall have any required breaks under a wall stud or an anchor bolt. Approved anchors will be used to secure rafters or joists and top and bottom plates to studs in exterior and bearing walls to form a continuous tie. Continuous 15/32-inch or thicker plywood sheathing--overlapping the top wall plate and continuing down to the sill, beam, or girder--may be used to provide the continuous tie. If the sheets of plywood are not vertically continuous, then 2-by-4 nailer blocking shall be provided at all horizontal joints. In lieu of the plywood, galvanized steel rods of 1/2-inch diameter or galvanized steel straps not less than 1 inch wide by 1/16 inch thick may be used to connect from the top wall plate to the sill, beam, or girder. Washers with a minimum diameter of 3 inches shall be used at each end of the 1/2-inch round rods. These anchors shall be installed no more than 2 feet from each corner rod, no more than 4 feet on center.

5.4-10 CEILING JOIST/RAFTER CONNECTIONS

- (1) All ceiling joists or rafters shall be installed in such a manner that the joists provide a continuous tie across the rafters. Ceiling joists and rafters shall be securely fastened at their intersections. A metal or wood connector shall be used at alternate ceiling joist/rafter connections to the wall top plate.

Gable roofs shall be additionally stabilized by installing 2-by-4 blocking on 2-foot centers between the rafters at each gable end. Blocking shall be installed a minimum of 8 feet toward the house interior from each gable end.

5.4-11 PROJECTING MEMBERS

- (1) All cantilevers and other projecting members must be adequately supported and braced to withstand wind and water uplift forces. Roof eave overhangs shall be limited to a maximum of 2 feet and joist overhangs to a maximum of 1 foot. Larger overhangs and porches will be permitted if designed or reviewed and certified by a registered professional engineer or architect.

5.4-12 ROOF SHEATHING

- (1) Plywood, or other wood material, when used as roof sheathing, shall not be less than 15/32 inch in thickness, and shall be of exterior sheathing grade or equivalent. All attaching devices for sheathing and roof coverings shall be galvanized or be of other suitable corrosion resistant material.
- (2) All corners, gable ends, and roof overhangs exceeding six inches shall be reinforced by the application of waterproof industrial adhesive applied to all bearing surfaces of any plywood sheet used in the sheathing of such corner, gable end, or roof overhang.
- (3) In addition, roofs should be sloped as steeply as practicable to reduce uplift pressures, and special care should be used in securing ridges, hips, valleys, eaves, vents, chimneys, and other points of discontinuity in the roofing surface.

5.4-13 PROTECTION OF OPENINGS

- (1) All exterior glass panels, windows, and doors shall be designed, detailed, and constructed to withstand loads due to the design wind speed of 75 mph. Connections for these elements must be designed to transfer safely the design loads to the supporting structure. Panel widths of multiple panel sliding glass doors shall not exceed three feet.

5.4-14 BREAKAWAY WALL DESIGN STANDARDS

- (1) The breakaway wall shall have a design safe loading resistance of not less than 10 and not more than 20 pounds per square foot, with the criterion that the safety of the overall structure at the point of wall failure be confirmed using established procedures. Grade beams shall be installed in both directions for all piles considered to carry the breakaway wall load. Knee braces are required for front row piles that support breakaway walls.
- (2) Use of breakaway wall strengths in excess of 20 pounds per square foot shall not be permitted unless a registered professional engineer or architect has developed or reviewed the structural design and specifications for the building foundation and breakaway wall components, and certifies that (1) the breakaway walls will fail under water loads less than those that would occur during the base flood; and (2) the elevated portion of the building and supporting foundation system will not be subject to collapse, displacement, or other structural damage due to the effects of wind and water loads acting simultaneously on all building components (structural and non-structural). Water loading values used shall be those associated with the base flood. Wind loading values shall be those required by the building code.

5.5 NON-RESIDENTIAL STRUCTURES (EXCEPT COASTAL HIGH HAZARD AREAS)

The following standards apply to new and substantially improved commercial, industrial and other non-residential structures located in areas of special flood hazard, in addition to the requirements in sub-sections 5.1-1, SUBDIVISION PROPOSALS, and 5.1-2, ENCROACHMENTS, and Section 5.2, STANDARDS FOR ALL STRUCTURES.

- (1) Within Zones A1-A30, AE and AH, and also Zone A if base flood elevation data are available, new construction and substantial improvements of any non-residential structure, together with attendant utility and sanitary facilities, shall either:
 - (i) have the lowest floor, including basement or cellar, elevated to or above two feet above the base flood elevation; or
 - (ii) be floodproofed so that the structure is watertight below two feet above the base flood elevation with walls substantially impermeable to the passage of water. All structural components located below the base flood elevation must be capable of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy.
- (2) Within Zone AO, new construction and substantial improvements of non-residential structures shall:

(i) have the lowest floor (including basement) elevated above the highest adjacent grade at least as high as two feet above the depth number specified in feet on the community's FIRM (at least two feet if no depth number is specified), or

(ii) together with attendant utility and sanitary facilities, be completely floodproofed to that level to meet the floodproofing standard specified in sub-Section 5.2-3.

- (3) If the structure is to be floodproofed, a licensed professional engineer or architect shall develop and/or review structural design, specifications, and plans for construction. A Floodproofing Certificate or other certification shall be provided to the Local Administrator that certifies the design and methods of construction are in accordance with accepted standards of practice for meeting the provisions of sub-Section 5.5(1)(ii), including the specific elevation (in relation to mean sea level) to which the structure is to be floodproofed.
- (4) Within Zones AH and AO, adequate drainage paths are required to guide flood waters around and away from proposed structures on slopes.
- (5) Within Zone A, when no base flood elevation data are available, the lowest floor (including basement) shall be elevated at least three feet above the highest adjacent grade.

5.6 NON-RESIDENTIAL STRUCTURES (COASTAL HIGH HAZARD AREAS)

- (1) In Zones V1-V30, VE and also Zone V if base flood elevations are available, new construction and substantial improvements of any non-residential structure, together with attendant utility and sanitary facilities, shall have the bottom of lowest member of the lowest floor elevated to or above two feet above the base flood elevation. Floodproofing of structures is not an allowable alternative to elevating the lowest floor to two feet above the base flood elevation in Zones V1-V30, VE and V.

5.7 MANUFACTURED HOMES AND RECREATIONAL VEHICLES

The following standards in addition to the standards in Section 5.1, GENERAL STANDARDS, and Section 5.2, STANDARDS FOR ALL STRUCTURES apply, as indicated, in areas of special flood hazard to manufactured homes and to recreational vehicles which are located in areas of special flood hazard.

- (1) Recreational vehicles placed on sites within Zones A1-A30, AE, AH, V1-V30, V, and VE shall either:
 - (i) be on site fewer than 180 consecutive days,
 - (ii) be fully licensed and ready for highway use, or
 - (iii) meet the requirements for manufactured homes in paragraphs 5.7(2), (3) and (4).

A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices and has no permanently attached additions.

- (2) A manufactured home that is placed or substantially improved in Zones A1-A30, AE, AH, V1-V30, V, and VE shall be elevated on a permanent foundation such that the lowest floor is elevated to or above two feet above the base flood elevation and is securely anchored to an adequately anchored foundation system to resist flotation, collapse and lateral movement. Elevation on piers consisting of dry stacked blocks is prohibited.
- (3) Within Zones A or V, when no base flood elevation data are available, new and substantially improved manufactured homes shall be elevated such that the manufactured home chassis is supported by reinforced piers or other foundation elements of at least equivalent strength that are no less than 36 inches in height above grade and are securely anchored to an adequately anchored foundation system to resist flotation, collapse or lateral movement. Elevation on piers consisting of dry stacked blocks is prohibited.
- (4) Within Zone AO, the floor shall be elevated above the highest adjacent grade at least as high as the depth number specified on the Flood Insurance Rate Map enumerated in Section 3.2 (at least two feet if no depth number is specified). Elevation on piers consisting of dry stacked blocks is prohibited.

SECTION 6.0 VARIANCE PROCEDURE

6.1 APPEALS BOARD

- (1) The _____ as established by the _____ of _____ shall hear and decide appeals and requests for variances from the requirements of this local law.
- (2) The _____ shall hear and decide appeals when it is alleged there is an error in any requirement, decision, or determination made by the Local Administrator in the enforcement or administration of this local law.
- (3) Those aggrieved by the decision of the _____ may appeal such decision to the Supreme Court pursuant to Article 78 of the Civil Practice Law and Rules.
- (4) In passing upon such applications, the _____, shall consider all technical evaluations, all relevant factors, standards specified in other sections of this local law and:
 - (i) the danger that materials may be swept onto other lands to the injury of others;
 - (ii) the danger to life and property due to flooding or erosion damage;
 - (iii) the susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;

- (iv) the importance of the services provided by the proposed facility to the community;
 - (v) the necessity to the facility of a waterfront location, where applicable;
 - (vi) the availability of alternative locations for the proposed use which are not subject to flooding or erosion damage;
 - (vii) the compatibility of the proposed use with existing and anticipated development;
 - (viii) the relationship of the proposed use to the comprehensive plan and floodplain management program of that area;
 - (ix) the safety of access to the property in times of flood for ordinary and emergency vehicles;
 - (x) the costs to local governments and the dangers associated with conducting search and rescue operations during periods of flooding;
 - (xi) the expected heights, velocity, duration, rate of rise and sediment transport of the flood waters and the effects of wave action, if applicable, expected at the site; and
 - (xii) the costs of providing governmental services during and after flood conditions, including search and rescue operations, maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems and streets and bridges.
- (5) Upon consideration of the factors of Section 6.1(4) and the purposes of this local law, the _____ may attach such conditions to the granting of variances as it deems necessary to further the purposes of this local law.
- (6) The Local Administrator shall maintain the records of all appeal actions including technical information and report any variances to the Federal Emergency Management Agency upon request.

6.2 CONDITIONS FOR VARIANCES

- (1) Generally, variances may be issued for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood elevation, providing items (i-xii) in Section 6.1(4) have been fully considered. As the lot size increases beyond the one-half acre, the technical justification required for issuing the variance increases.
- (2) Variances may be issued for the repair or rehabilitation of historic structures upon determination that:
 - (i) the proposed repair or rehabilitation will not preclude the structure's continued designation as a "Historic structure"; and

- (ii) the variance is the minimum necessary to preserve the historic character and design of the structure.
- (3) Variances may be issued by a community for new construction and substantial improvements and for other development necessary for the conduct of a functionally dependent use provided that:
 - (i) the criteria of subparagraphs 1, 4, 5, and 6 of this Section are met; and
 - (ii) the structure or other development is protected by methods that minimize flood damages during the base flood and create no additional threat to public safety.
- (4) Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.
- (5) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
- (6) Variances shall only be issued upon receiving written justification of:
 - (i) a showing of good and sufficient cause;
 - (ii) a determination that failure to grant the variance would result in exceptional hardship to the applicant; and
 - (iii) a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public or conflict with existing local laws or ordinances.
- (7) Any applicant to whom a variance is granted for a building with the lowest floor below the base flood elevation shall be given written notice over the signature of a community official that the cost of flood insurance will be commensurate with the increased risk resulting from lowest floor elevation.

Be it enacted this _____ day of _____, 20__ by the

_____ of the

_____ , -

_____ County, New York, to be effective

_____.

SEAL

ATTEST _____ CLERK

Attachment A
MODEL FLOODPLAIN DEVELOPMENT
APPLICATION FORM

FLOODPLAIN DEVELOPMENT PERMIT APPLICATION

This form is to be filled out in duplicate.

SECTION 1: GENERAL PROVISIONS (APPLICANT to read and sign):

1. No work may start until a permit is issued.
2. The permit may be revoked if any false statements are made herein.
3. If revoked, all work must cease until permit is re-issued.
4. Development shall not be used or occupied until a Certificate of Compliance is issued.
5. The permit is invalid if no work is commenced within six months of issuance, and expires 2 years from date of issuance.
6. Applicant is hereby informed that other permits may be required to fulfill local, state and federal regulatory requirements.
7. Applicant hereby gives consent to the Local Administrator or his/her representative to make reasonable inspections required to verify compliance.
8. I, THE APPLICANT, CERTIFY THAT ALL STATEMENTS HEREIN AND IN ATTACHMENTS TO THIS APPLICATION ARE, TO THE BEST OF MY KNOWLEDGE, TRUE AND ACCURATE.

(APPLICANT'S SIGNATURE) _____ DATE _____

SECTION 2: PROPOSED DEVELOPMENT (To be completed by APPLICANT)

NAME	ADDRESS	TELEPHONE
APPLICANT	_____	_____
BUILDER	_____	_____
ENGINEER	_____	_____

PROJECT LOCATION:

To avoid delay in processing the application, please provide enough information to easily identify the project location. Provide the street address, lot number or legal description (attach) and, outside urban areas, the distance to the nearest intersecting road or well-known landmark. A map attached to this application, and a sketch showing the project layout would be helpful.

DESCRIPTION OF WORK (Check all applicable boxes):

A. STRUCTURAL DEVELOPMENT

<u>ACTIVITY</u>	<u>STRUCTURE TYPE</u>
<input type="checkbox"/> New Structure	<input type="checkbox"/> Residential (1-4 Family)
<input type="checkbox"/> Addition	<input type="checkbox"/> Residential (More than 4 Family)
<input type="checkbox"/> Alteration	<input type="checkbox"/> Non-residential (Floodproofing? <input type="checkbox"/> Yes)
<input type="checkbox"/> Relocation	<input type="checkbox"/> Combined Use (Residential & Commercial)
<input type="checkbox"/> Demolition	<input type="checkbox"/> Manufactured (Mobile) Home
<input type="checkbox"/> Replacement	(In Manufactured Home Park? <input type="checkbox"/> Yes <input type="checkbox"/> No)

ESTIMATED COST OF PROJECT \$ _____

B. OTHER DEVELOPMENT ACTIVITIES:

- Fill Mining Drilling Grading
- Excavation (Except for Structural Development Checked Above)
- Watercourse Alteration (Including Dredging and Channel Modifications)
- Drainage Improvements (Including Culvert Work), Stormwater Control Structures or Ponds
- Road, Street or Bridge Construction
- Subdivision (New or Expansion)
- Individual Water or Sewer System
- Other (Please Specify) _____

After completing SECTION 2, APPLICANT should submit form to Local Administrator for review.

SECTION 3: FLOODPLAIN DETERMINATION (To be completed by LOCAL ADMINISTRATOR)

The proposed development is located on FIRM Panel No. _____, Dated _____.

The Proposed Development:

- The proposed development is reasonably safe from flooding. Entire property is in Zone B, C or X.
- The proposed development is in adjacent to a flood prone area.
100-Year flood elevation at the site is:
_____Ft. NGVD 1929/ NAVD 1988 (MSL)
 Unavailable
- See Section 4 for additional instructions for development that is or may be in a flood prone area.

SIGNED _____ DATE _____

SECTION 4: ADDITIONAL INFORMATION REQUIRED (To be completed by LOCAL ADMINISTRATOR)

The applicant must submit the documents checked below before the application can be processed:

- A site plan showing the location of all existing structures, water bodies, adjacent roads, lot dimensions and proposed development.
- Development plans and specifications, drawn to scale, including where applicable: details for anchoring structures, proposed elevation of lowest floor (including basement), types of water resistant materials used below the first floor, details of floodproofing of utilities located below the first floor, details of enclosures below the first floor, openings in foundation for entry and exit of floodwaters.
Other _____
- Elevation Certificate
- Subdivision or other development plans (If the subdivision or other development exceeds 50 lots or 5 acres, whichever is the lesser, the applicant must provide 100-year flood elevations if they are not otherwise available).
- Plans showing the watercourse location, proposed relocations, Floodway location.
- Topographic information showing existing and proposed grades, location of all proposed fill.
- Top of new fill elevation _____ Ft. NGVD 1929/ NAVD 1988 (MSL)
- PE Certification of Soil Compaction
- Floodproofing protection level (non-residential only) _____ NGVD 1929/ NAVD 1988 (MSL)
For floodproofed structures, applicant must attach certification from registered engineer or architect.
- Other: _____

SECTION 5: PERMIT DETERMINATION (To be completed by LOCAL ADMINISTRATOR)

I have determined that the proposed activity: A. Is
 B. Is not
in conformance with provisions of Local Law # _____, (yr) _____. This permit is hereby issued subject to the conditions attached to and made part of this permit.

SIGNED _____, DATE _____

If BOX A is checked, the Local Administrator may issue a Development Permit upon payment of designated fee.
If BOX B is checked, the Local Administrator will provide a written summary of deficiencies. Applicant may revise and resubmit an application to the Local Administrator or may request a hearing from the Board of Appeals.

Expiration Date: _____

APPEALS: Appealed to Board of Appeals? Yes No
Hearing date: _____
Appeals Board Decision --- Approved? Yes No

Conditions: _____

SECTION 6: AS-BUILT ELEVATIONS (To be submitted by APPLICANT before Certificate of Compliance is issued)

The following information must be provided for project structures. This section must be completed by a registered professional engineer or a licensed land surveyor (or attach a certification to this application). Complete 1 or 2 below.

1. Actual (As-Built) Elevation of the top of the lowest floor, including basement (in Coastal High Hazard Areas, bottom of lowest structural member of the lowest floor, excluding piling and columns) is: _____ FT. NGVD 1929/
 NAVD 1988 (MSL).
Attach Elevation Certificate FEMA Form 81-31

2. Actual (As-Built) Elevation of floodproofing protection is _____ FT. NGVD 1929/ NAVD 1988 (MSL).
Attach Floodproofing Certificate FEMA Form 81-65

NOTE: Any work performed prior to submittal of the above information is at the risk of the Applicant.

SECTION 7: COMPLIANCE ACTION (To be completed by LOCAL ADMINISTRATOR)

The **LOCAL ADMINISTRATOR** will complete this section as applicable based on inspection of the project to ensure compliance with the community's local law for flood damage prevention.

INSPECTIONS: DATE _____ BY _____ DEFICIENCIES? YES NO
DATE _____ BY _____ DEFICIENCIES? YES NO
DATE _____ BY _____ DEFICIENCIES? YES NO

SECTION 8: CERTIFICATE OF COMPLIANCE (To be completed by LOCAL ADMINISTRATOR)

Certificate of Compliance issued: DATE: _____

BY: _____

Attachment B

**SAMPLE
CERTIFICATE OF COMPLIANCE**

for Development in a Special Flood Hazard Area

**CERTIFICATE OF COMPLIANCE
FOR DEVELOPMENT IN A SPECIAL FLOOD HAZARD AREA**

(Owner Must Retain This Certificate)

Premises located at:

Owner:

Owner's Address:

Permit No. _____ Permit Date: _____

Check One:

- New Building
- Existing Building
- Fill
- Other:

The Local Floodplain Administrator is to complete a. or b. below:

a. Compliance is hereby certified with the requirements of Local Law No. _____ of _____

Signed: _____ Dated: _____

b. Compliance is hereby certified with the requirements of Local Law No. _____ of _____,
as modified by variance no. _____, dated _____.

Signed: _____ Dated: _____