

12-8 FLOOD DAMAGE PREVENTION.

STATUTORY AUTHORIZATION. The Legislature of the State of New Jersey has in N.J.S.A. 40:48-1 et seq. delegated the responsibility to local governmental units to adopt regulations designed to promote public health, safety, and general welfare of its citizenry. Therefore, the Borough of Harvey Cedars of New Jersey does ordain as follows:

12-8.1 Findings of Fact.

- A. The flood hazard areas of the Borough of Harvey Cedars are subject to periodic inundation which results in loss of life, property, health and safety hazards, disruption of commerce and governmental services, extraordinary public expenditures for flood protection and relief, and impairment of the tax base, all of which adversely affect the public health, safety and general welfare.
- B. These flood losses are caused by the cumulative effect of obstructions in areas of special flood hazard which increase flood heights and velocities, and when inadequately anchored, damage uses in other areas. Uses that are inadequately floodproofed, elevated or otherwise protected from flood damage also contribute to the flood loss.

12-8.2 Statement of Purpose. It is the purpose of this section 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:

- A. To protect human life and health.
- B. To minimize expenditure of public money for costly flood control projects.
- C. To minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public.
- D. To minimize prolonged business interruptions.
- E. To minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in areas of special flood hazard.
- F. 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.
- G. To insure that potential buyers are notified that property is in an area of special flood hazard.
- H. To ensure that those who occupy the areas of special flood hazard assume responsibility for their actions.

12-8.3 Methods of Reducing Flood Losses. In order to accomplish its purposes, this section includes methods and provisions for:

- A. Restricting or prohibiting 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.
- B. Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction.
- C. Controlling the alteration of natural flood plains, stream channels, and natural protective barriers, which help accommodate or channel flood waters.
- D. Controlling filling, grading, dredging and other development which may increase flood damage.
- E. Preventing or regulating the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards to other lands.

12-8.4 Definitions. Unless specifically defined below, words or phrases used in this section shall be interpreted so as to give them the meaning they have in common usage and to give this section its most reasonable application.

Appeal shall mean a request for a review of the construction code official's interpretation of any provision of this section 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 with a one percent or greater chance of flooding to an average 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 shall mean the land in the flood plain within a community subject to a one percent or greater change of flooding in any given year.

Areas of special flood related erosion hazard is the land within a community which is most likely to be subject to severe flood related erosion losses. After a detailed evaluation of the special flood related erosion hazard area will be designated a Zone E on the Flood Insurance Rate Map.

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

Basement shall mean any area of the building having its floor subgrade (below ground level) on all sides.

Breakaway walls shall mean 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 supporting foundation system.

Coastal high hazard area shall mean an area of special flood hazard extending from offshore to the inland limit of primary frontal dune along an open coast and any other area subject to high velocity wave action from storms or seismic sources.

Development shall mean any man-made change to improved or unimproved real estate including, but not limited to, buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations, or storage of equipment or materials located within the area of special flood hazard.

Elevated building shall mean a non-basement building (i) built in the case of a building in an area of special flood hazard to have the top of the elevated floor or in the case of a building in a coastal high hazard area to have the bottom of the lowest horizontal structural member of the elevated floor elevated above the ground level by means of piling, 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 up to the magnitude of the base flood. In an area of special flood hazard, *elevated building* shall also include a building elevated by means of fill or solid foundation perimeter walls with openings sufficient to facilitate the unimpeded movement of flood waters. In areas of coastal high hazard, *elevated building* shall also include a building otherwise meeting the definition of *elevated building* even though the lower area is enclosed by means of breakaway walls.

Erosion shall mean the process of the gradual wearing away of land masses.

Flood or flooding shall mean 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 Insurance Rate Map (FIRM) shall mean the official map on which the Federal Insurance Administration has delineated both the area of special flood hazards and the risk premium zones applicable to the community.

Flood Insurance Study (FIS) shall mean the official report provided in which the Federal Insurance Administration has provided flood profiles, as well as the Flood Insurance Rate Map(s) and the water surface elevation of the base flood.

Flood-related erosion shall mean the collapse or subsidence of land along the shore of a lake or other body of water as a result of undermining caused by waves or currents of water exceeding anticipated cyclical levels or suddenly caused by unusually high water level in a natural body of water, accompanied by a severe storm, or by 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.

Flood-related erosion area or *flood-related erosion prone area* shall mean a land area adjoining the shore of a lake or other body of water, which due to the composition of the shore line or bank and high water levels or wind-driven currents, is likely to suffer flood-related erosion.

Flood-related erosion area management shall mean the operation of an overall program of corrective and preventive measures for reducing flood-related erosion damage, including but not limited to emergency preparedness plans, flood-related erosion control works, and flood plain management regulations.

Flood plain management regulations shall mean zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as a flood plain ordinance, grading ordinance and erosion control ordinance) and other applications of police power. The term describes such State or local regulations, in any combination thereof, which provide standards for the purpose of flood damage prevention and reduction.

Highest adjacent grade shall mean the highest natural elevation of the ground surface prior to construction next to the proposed walls of a structure.

Historic Structure shall mean any structure that is:

1. Listed individually in the Nature Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register.
2. Certified or preliminary 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
 - a. By an approved State program as determined by the Secretary of the Interior; or
 - b. Directly by the Secretary of the Interior in States without approved programs.

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

Manufactured home shall mean a structure, transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when attached to the required utilities. The term *manufactured home* does not include a *recreational vehicle*.

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

Mean sea level shall mean the average height of the sea for all states of the tide.

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

New manufactured home park or subdivision shall mean a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after the effective date of the flood plain management regulations adopted by the municipality.

Primary frontal dune shall mean 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 from coastal storms. The inland limit of the primary frontal dune occurs at the point where there is a distinct change from the relatively steep slope to a relatively mild slope.

Recreational vehicle shall mean a vehicle which is (a) built on single chassis; (b) 400 square feet or less when measured at the longest horizontal projections; (c) designed to be self-propelled or permanently towable by a light duty truck; and (d) designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

Sand dunes shall mean naturally occurring accumulations of sand in the ridges or mounds landward of the beach.

Start of Construction for other than new construction or substantial improvements under the Coastal Barrier Resources Act (P.L. 97-348) shall include substantial improvement and shall mean the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition, placement, or other improvement was within 180 days of the permit date. The actual start shall mean either the first placement of permanent construction of a structure on a site such as the pouring of a slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling, nor does it include the installation of streets and/or walkways; nor does it include excavation for a basement, footings, piers or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. 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 the alteration affects the external dimensions of the building.

Structure shall mean a walled and roofed building, a manufactured home, or a gas or liquid storage tank that is principally above ground.

Substantial Damage shall mean 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 replacement value of the structure before the damage occurred.
(Ord. No. 2010-23 § 1)

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

- (a) 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 officer and which are the minimum necessary to assure safe living conditions, or,
 - (b) Any alteration of a *historic structure*, provided that the alteration will not preclude the structure's continued designation as a *historic structure*.
- (Ord. No. 2010-23 § 1)

Variance shall mean a grant of relief from the requirements of this section which permits construction in a manner that would otherwise be prohibited by this section.

12-8.5 General Provisions.

- A. **Lands to which this section applies.** This section shall apply to all areas of special flood hazards within the jurisdiction of the Borough of Harvey Cedars.
- B. **Basis for establishing the areas of special flood hazard.** The areas of special flood hazard for the Borough of Harvey Cedars, Community No. 345296, are identified and defined on the following documents prepared by the Federal Emergency Management Agency:
 - i. A scientific and engineering report "Flood Insurance Study, Ocean County, New Jersey (All Jurisdictions)" dated September 29, 2006.
 - ii. Flood Insurance Rate Map for Ocean County, New Jersey (All Jurisdictions) as shown on Index and panel numbers 0509, 0517 whose effective date is September 29, 2006.

The above documents are hereby adopted and declared to be a part of this ordinance. The Flood Insurance Study and maps are on file at Borough Hall, 7606 Long Beach Blvd., Harvey Cedars, New Jersey 08008.

- C. **Penalties for noncompliance.** No structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with the terms of this section and other applicable regulations. Violation of the provisions of this section by failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with conditions) shall constitute a misdemeanor. Any person who violates this ordinance or fails to comply with any of its requirements shall upon conviction thereof be fined not more than one thousand dollars (\$1,000.00) or

imprisoned for not more than ninety (90) days, or both, for each violation, and in addition shall pay all costs and expenses involved in the case. Nothing herein contained shall prevent the Borough of Harvey Cedars from taking such other lawful action as is necessary to prevent or remedy any violation.

- D. **Abrogation and greater restrictions.** This section is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this section and other ordinance, easement, covenant, or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.
- E. **Interpretation.** In the interpretation and application of this section, all provisions shall be:
 - 1. Considered as minimum requirements.
 - 2. Liberally construed in favor of the borough board of commissioners.
 - 3. Deemed neither to limit nor repeal any other powers granted under State statutes.
- F. **Warning and disclaimer of liability.** The degree of flood protection required by this section 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 section does not imply land outside the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages. This section shall not create liability on the part of the Borough of Harvey Cedars or by any officer or employee thereof or the Federal Insurance Administration for any flood damages that result from reliance on this section or any administrative decision lawfully made thereunder.

12-8.6 Administration.

- A. **Establishment of development permit.** A development permit shall be obtained before construction or development begins within any area of special flood hazard established under subsection 12-8.5B of this section. Application for a development permit shall be made to the construction code official on forms furnished by him and may include, but not be limited to, the following plans in duplicate drawn to scale 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. Specifically, the following information is required.
 - 1. Elevation in relation to mean sea level, of the lowest floor (including basement) of all structures.
 - 2. Elevation in relation to mean sea level to which any structure has been floodproofed.
 - 3. Certification by a registered professional engineer or architect that the floodproofing methods for any nonresidential structure meet the floodproofing criteria of subsection 12-8.7B.2.

4. Description of the extent to which any watercourse will be altered or relocated as a result of proposed development.
- B. Designation of construction code official.** The construction code official is hereby appointed to administer and implement this section by granting or denying development permit applications in accordance with its provisions.
- C. Duties and responsibilities of the construction code official.** Duties of the construction code official shall include, but not limited to:
1. Permit review.
 - (a) Review all development permits to determine that the permit requirements of this section have been satisfied.
 - (b) Review all development permits to determine that all necessary permits have been obtained from those Federal, State or local governmental agencies from which prior approval is required.
 - (c) Review all development permits to determine if the proposed development is located in the floodway.
 - (d) Review all development permits in the coastal high hazard area of the area of special flood hazard to determine if the proposed development alters sand dunes so as to increase potential flood damage.
 - (e) Review plans for walls to be used to enclose space below the base flood level in accordance with subsection 12-8.7C.2(d).
 2. Use of other base flood and floodway data.

When base flood elevation and floodway data has not been provided in accordance with subsection 12-8.5B “Basis for Establishing the Areas of Special Flood Hazard”, the construction code official shall obtain, review, and reasonably utilize any base flood elevation and floodway data available from a Federal, State or other source, in order to administer subsection 12-8.7B.1 “Specific Standards, Residential Construction” and 12-8.7B.2 “Specific Standards, Nonresidential Construction”.
 3. Information to be obtained and maintained.
 - (a) Obtain and record the actual elevation (in relation to mean sea level) of the lowest floor (including basement) of all new or substantially improved structures, and whether or not the structure contains a basement.
 - (b) For all new or substantially improved floodproofed structures.
 - (1) Verify and record the actual elevation (in relation to mean sea level), and
 - (2) Maintain the floodproofing certifications required in subsection 12-8.6A.3.

- (c) In coastal high hazard areas, certification shall be obtained from a registered professional engineer or architect that the provisions of 12-8.7C.2(a) and 12-8.7C.2(b)(1) and (2) are met.
 - (d) Maintain for public inspection all records pertaining to the provisions of this section.
4. Alteration of watercourses.
- (a) Notify adjacent communities and the New Jersey Department of Environmental Protection, Flood Plain Management Section and Land Use Regulation Program prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Insurance Administration.
 - (b) Require that maintenance is provided within the altered or relocated portion of said watercourse so the flood carrying capacity is not diminished.
5. Interpretation of firm boundaries. Make interpretations where needed, as to the exact location of the boundaries of the areas of special flood hazards (for example, where there appears to be a conflict between a mapped boundary and actual field conditions). The person contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in this subsection.
- D. Variance procedure.
1. Appeal board.
- (a) The board of adjustment as established by the borough shall hear and decide appeals and requests for variances from the requirements of this section.
 - (b) The board of adjustment shall hear and decide appeals when it is alleged there is an error in any requirement, decision or determination made by the construction code official in the enforcement or administration of this section.
 - (c) Any person aggrieved by the decision of the board of adjustment or any taxpayer may appeal such decision as provided by law.
 - (d) In passing upon such applications, the board of adjustment shall consider all technical evaluations, all relevant factors, standards specified in other sections of this section, and:
 - (1) The danger that materials may be swept onto other lands to the injury of others;
 - (2) The danger to life and property due to flooding or erosion damage;
 - (3) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;

- (4) The importance of the services provided by the proposed facility to the community;
 - (5) The necessity to the facility of a waterfront location, where applicable;
 - (6) The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use;
 - (7) The compatibility of the proposed use with existing and anticipated development;
 - (8) The relationship of the proposed use to the comprehensive plan and flood plain management program for that area;
 - (9) The safety of access to the property in times of flood for ordinary and emergency vehicles;
 - (10) 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,
 - (11) The costs of providing governmental services during and after flood conditions including maintenance and repair of public utilities and facilities such as sewer, gas, electrical, and water systems, and streets and bridges.
- (e) Upon consideration of the factors listed above and the purposes of this section, the board of adjustment may attach such conditions to the granting of variances as it deems necessary to further the purposes of this section.
- (f) The construction code official shall maintain the records of all appeal actions, including technical information, and report any variances to the Federal Insurance Administration upon request.

2. Conditions for variances.

- (a) 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 level, providing items (1 through 11) above have been fully considered. As the lot size increases beyond the one-half acre, the technical justification required for issuing the variance increases.
- (b) Variances may be issued for the repair or rehabilitation of historic structures upon a determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.
- (c) Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.

- (d) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
- (e) Variances shall only be issued upon:
 - (1) A showing of good and sufficient cause,
 - (2) A determination that failure to grant the variance would result in exceptional hardship to the applicant,
 - (3) 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
 - (4) Victimization of the public as identified in section 12-8.6D.1(d).
- (f) Any applicant to whom a variance is granted shall be given written notice that the structure will be permitted to be built with a lowest floor elevation below the base flood elevation, and that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation.

12-8.7 Provisions for Flood Hazard Reduction.

- A. General standards. In all areas of special flood hazards the following provisions are required:
 - 1. Anchoring. All new construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure. All manufactured homes shall be anchored to resist flotation, collapse or lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable State and local anchoring requirements for resisting wind forces.
 - 2. Construction materials and methods.
 - (a) All new construction and substantial improvements shall be constructed with materials and utility equipment resistant to flood damage.
 - (b) All new construction and substantial improvements shall be constructed using methods and practices that minimize flood damage.
 - (c) For all interior spaces below the first floor living space, i.e. garage and storage areas, FEMA Technical Bulletin No. 2 shall not apply. All interior spaces below the first floor living space, in all flood zones, which includes the area below the Base Flood Elevation (BFE), with the exception of elevator shafts, and a non-heated space not to exceed 100 sq. ft. for a foyer and stairwell, and a non-heated space not to exceed 100 sq. ft. for a mechanical room, shall be unfinished with no insulation and be breakaway construction with a permitted exterior finish in accordance with the applicable Flood Zone Regulations.

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In addition, all houses shall be on structural piling which shall extend to and carry the structural support of the first floor living space. No concrete walls or foundations are permitted. Consideration may be given by the Construction Dept. when existing houses on existing foundations are being raised to or above the BFE under FEMA guidelines. (Ord. No. 2018-13 § 1)

3. Utilities.
 - (a) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system;
 - (b) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharge from the systems into flood waters;
 - (c) On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding; and
 - (d) Electrical, heating, ventilation, plumbing and air-conditioning equipment and other service facilities shall be designed and/or located so as to prevent water from entering or accumulating within the components during conditions of flooding.
4. Subdivision proposals.
 - (a) All subdivision proposals shall be consistent with the need to minimize flood damage.
 - (b) All subdivision proposals shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize flood damage.
 - (c) All subdivision proposals shall have adequate drainage provided to reduce exposure to flood damage.
 - (d) Base flood elevation data shall be provided for subdivision proposals and other proposed development which contain at least 50 lots or five acres (whichever is less).
5. Enclosure openings. All new construction and substantial improvements fully enclosed areas below the lowest floor that are usable solely for parking vehicles, building access or storage in an area other than a basement and which are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or must meet or exceed the following minimum criteria: 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 shall be provided. The bottom of all openings shall be no higher than one foot above grade. Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

- B. Specific standards. In all areas of special flood hazards where base flood elevation data has been provided as set forth in subsection 12-8.5B “Basis for establishing the areas of special flood hazard” or subsection 12-8.6C.2 “Use of other base flood and floodway data”, the following standards are required:
1. Residential construction. In Zones A or AE zones new construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated to or above base flood elevation; require within any AO zone on the municipality’s FIRM that all new construction and substantial improvement of any residential structure shall have the lowest floor, including basement, elevated above the highest adjacent grade at least as high as the depth number specified in feet (at least two feet if no depth number is specified). And, require adequate drainage paths around structures on slopes to guide floodwaters around and away from proposed structures.
 2. Nonresidential construction.
 - (a) In A or AE all new construction or substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated to the level of the base flood elevation or, together with the attendant utilities and sanitary facilities, shall:
 - (b) require within any AO zone on the municipality’s FIRM that all new construction and substantial improvement of any commercial, industrial or other nonresidential structure shall either have the lowest floor, including basement, elevated above the highest adjacent grade at least as high as the depth number specified in feet (at least two feet if no depth number is specified). And, require adequate drainage paths around structures on slopes to guide floodwaters around and away from proposed structures; or
 - (c) be floodproofed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water;
 - (d) have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy; and
 - (e) be certified by a registered professional engineer or architect that the -design and methods of construction are in accordance with accepted standards of practice for meeting the applicable provisions of this subsection. Such certification shall be provided to the official as set forth in subsection 12-8.6C.3(b).
 3. Manufactured homes.
 - (a) Manufactured homes shall be anchored in accordance with section 12-8.7A.1 “Anchoring”.

- (b) All manufactured homes to be placed or substantially improved within an area of special flood hazard shall be elevated on permanent foundation such that the top of the lowest floor is at or above the base flood elevation.
- C. Coastal high hazard area. Coastal high hazard areas (V or VE zones) are located within the areas of special flood hazard established in subsection 12-8.5B. These areas have special flood hazards associated with high velocity waters from tidal surges and hurricane wave wash; therefore, the following provisions shall apply:
- 1. Location of structures.
 - (a) All buildings or structures shall be located landward of the reach of the mean high tide.
 - (b) The placement of manufactured homes shall be prohibited, except in an existing manufactured home park or manufactured home subdivision.
 - 2. Construction methods.
 - (a) Elevation. All new construction and substantial improvements shall be elevated on piling or columns, so that the bottom of the lowest horizontal structural member of the lowest floor (excluding the piling or columns) is elevated to or above the base flood level, with all space below the lowest floor's supporting member open so as not to impede the flow of water, except for breakaway walls as provided for in subsection 12-8.7C.2(d).
 - (b) Structural support.
 - (1) All new construction and substantial improvements shall be securely anchored on piling or columns.
 - (2) The pile or column foundation and structure attached thereto, shall be anchored to resist flotation, collapse or lateral movement due to the effects of wind and water loading values, each of which shall have a one percent chance of being equaled or exceeded in any given year (100 year mean recurrence interval).
 - (3) There shall be no fill used for structural support.
 - (c) Certification. A registered professional engineer or architect shall develop or review the structural design specifications and plans for the construction and shall certify that the design and methods of construction to be used are in accordance with accepted standards of practice for compliance with the provisions of subsection 12-8.7C.2(a) and 12-8.7C.2 (b)(1) and (2).

(d) Space below the lowest floor.

- (1) Any alteration, repair, reconstruction or improvement to a structure started after the enactment of this section shall not enclose the space below the lowest floor, unless breakaway walls, open wood lattice-work or insect screening are used as provided for in this section.
- (2) Breakaway walls, open wood lattice-work or insect screening shall be allowed below the base flood elevation, provided that they are 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. Breakaway walls shall be designed for a safe loading resistance of not less than ten and no more than 20 pounds per square foot. Use of breakaway walls which exceed a design safe loading of 20 pounds per square foot (either by design or when so required by local or state codes) may be permitted only if a registered professional engineer or architect certifies that the designs proposed meet the following conditions.
 - (i) Breakaway wall collapse shall result from a water load less than that which would occur during the base flood, and
 - (ii) The elevated portion of the building and supporting foundation system shall not be subject to collapse, displacement, or other structural damage due to the effects of wind and water load acting simultaneously on all building components (structural and nonstructural). Water loading values used shall be those associated with the base flood. Wind loading values used shall be those required by applicable State or local building standards.
- (3) If breakaway walls are utilized, such enclosed space shall be used solely for parking of vehicles, building access, or storage and not for human habitation. Prior to construction, plans for any breakaway wall must be submitted to the local administrator for approval.

3. Sand dunes. There shall be no alteration of sand dunes which would increase potential flood damage.

D. All provisions contained in subsection 12-8.7C shall apply to all buildings and structures whenever located in the Borough of Harvey Cedars.

12-8.8 – 12-8.10 RESERVED

12-8.11 Lot Elevation. No building permit shall be issued for new construction and for additions, alterations or repairs to existing structures unless the land complies with the lot elevations as set forth herein.

A. Land East of Long Beach Boulevard.

Any land eastward of Long Beach Boulevard must be filled with clean fill to a minimum elevation of eight (8) inches above the higher of the following:

1. the established Borough Street Profile as defined herein.
2. the crown of the road or easement bordering said land.

All applications for building permits shall include a plot plan drawing showing a profile of the established Borough Street Profile, the relationship of the property along said profile, and the existing and proposed grades in conformance with this paragraph. In the event the building department determines that the plot plan must be reviewed by the municipal engineer, then the cost of said review shall be borne by the applicant.

B. Land West of Long Beach Boulevard.

Any land westward of Long Beach Boulevard must be filled with clean fill to a minimum elevation of twenty (20) inches above the crown of the road fronting said land.

If any land referred to herein does not front on an improved municipal street, then the reference point for lot elevation purposes shall be taken from the crown of the road of the nearest municipal improved street to said land as determined by the municipal engineer.

All applications for a building permit shall include a plot plan showing the existing and proposed grades in conformance with this paragraph. The use of retaining walls and drainage swales will be permitted in order to contain the fill and provide proper drainage.

C. Borough Street Profile defined.

The established Borough Street Profile shall be a line drawn from a starting point at the east edge of the pavement thirty (30) feet east from the centerline of Long Beach Boulevard except as follows:

1. Thirty five (35) feet east from the centerline of Long Beach Boulevard for 85th Street.
2. Forty (40) feet east from the centerline of Long Beach Boulevard for 86th Street.

Said starting point having an elevation established in 1988 (NAVD) Datum, the slope of the line shall be 2.1 percent extending eastwardly and perpendicular to Long Beach Boulevard.

D. All lot grades shall be established in 1988 (NAVD) Datum.

E. Additions, alterations and repairs.

In the case of additions, alterations or repairs to existing structures, the above requirements shall apply when:

1. Additions, alterations or repairs exceed seventy-five (75%) percent of square footage of the existing structure.
2. Any structure on a building lot is moved from its existing foundation for the purpose of installing piling or to raise the structure to a higher elevation.

(Ord. No. 2018-13 § 2)

12-8.12 Bulkheads.

- a. Permit required. Before any work of the type described in this section may begin, a bulkhead permit must be obtained. Plans and specifications showing compliance with the bulkhead design standards shall be provided. Work in progress shall be subject to inspection by the Code Enforcement Officer to assure compliance.
- b. All new bulkheads shall be constructed in accordance with all applicable Borough and State statutes and amendments. The top of all bayside and lagoon bulkheads shall have a minimum elevation of five feet (5') Mean Sea Level NAVD 1988. (Ord. No. 2012-07 § 1)