

**Department of Community Planning and Economic Development – Planning Division
Zoning Code Text Amendment**

Date: September 27, 2004

Initiator Of Amendment: Council Member Gary Schiff

Specific Site: Citywide

Ward: Citywide **Neighborhood Organization:** Citywide

Planning Staff And Phone: Steve Weckman 612-673-5849

Intent of the Ordinance: The purpose of the ordinance revision is to comply with Federal Emergency Management Agency (FEMA) requirements for the City to remain eligible for the National Flood Insurance Program (NFIP).

Affected Section(s) of the Zoning Code: Section 551.540 through 551.650.

Background: Chapter 551, Overlay Districts, was last amended in 1999. The Floodplain Overlay District (FP) was established to minimize damage to property due to flooding and promote health, safety, and welfare. The ordinance allows residents of Minneapolis to remain eligible for the NFIP. FEMA is now requiring adoption of new flood zone maps and amendments to the floodplain ordinance in order to remain eligible for the NFIP.

Purpose For The Amendment:

What is the reason for the amendment? The City has been notified by FEMA that the requested amendment is mandatory to remain eligible for the NFIP. Residents of a suspended community are unable to renew insurance policies, purchase a new policy, or qualify for many forms of disaster aid that may be made available after a presidential disaster declaration.

What problem is the Amendment designed to solve? This amendment would incorporate new technical standards regarding floodproofing methods, clarify development standards within floodplains, and add or alter some definitions to make the ordinance easier to apply.

What public purpose will be served by the amendment? The amendment will allow residents of the City access to flood insurance through the NFIP and flood relief after a presidential disaster determination.

What problems might the amendment create? No problems are foreseen. The amendment would increase disclosure requirements by the City of Minneapolis to FEMA and other local government agencies regarding proposed changes to effected water courses and the 100 year floodplain. The City would also be required to more closely regulate nonconformities within the Floodplain Overlay District.

Timeliness:

Is the amendment timely? The amendment is needed now because FEMA required revision by September 2, 2004. A moratorium is in effect until November 25, 2004 to allow the City to additional time to approve a permanent amendment to the floodplain ordinance.

Is the amendment consistent with practices in surrounding areas? All communities within the State are required to adopt the same basic standards.

Are there consequences in denying this amendment? The City has been notified by FEMA that the requested amendment is mandatory to remain eligible for the NFIP. Residents of a suspended community are unable to renew insurance policies, purchase a new policy, or qualify for many forms of disaster aid that may be made available after a presidential disaster declaration.

Comprehensive Plan:

How will this amendment implement the Comprehensive Plan?

The Minneapolis Plan has the following relevant policies:

7.5 Minneapolis will protect and sustain its water resources.

Implementation Steps

Develop and adopt a municipal Water Plan in conformance with local watershed groups and regional, state and federal agencies, in order to properly manage water resources and to help all citizens be stewards of irreplaceable natural resources such as clean water.

Undertake community-based and citywide measures to protect lake water quality by managing storm runoff, employing erosion control measures and other best management practices.

Encourage practices that result in either reduced overall amounts of impervious surfaces, or disconnect impervious surfaces and allow water to be slowed or detained in vegetated areas where it will do no harm to homes or property.

Preserve and restore wetlands for their irreplaceable contributions to water quality, control of floodwater rates and volumes, wildlife habitat and aesthetic purposes.

Develop and adopt a stormwater management ordinance for projects that will result in sizable land disturbance activity, with design standards for appropriate "best management practices" in order to reduce both runoff volume and contaminant loading from surface water runoff.

Recommendation of the Community Planning and Economic Development - Planning Division:

The Department of Community Planning and Economic Development - Planning Division recommends that the City Planning Commission and City Council adopt the above findings and **approve** the text amendment.

ORDINANCE
of the City of Minneapolis
By Schiff

Amending Title 20, Chapter 551 of the Minneapolis Code of Ordinances relating to Zoning Code: Overlay Districts.

The City Council of the City of Minneapolis do ordain as follows:

Section 1. That Section 551.540 through 551.650 of the above-entitled ordinance be amended to read as follows:

Article VII. Floodplain Overlay District

540. Purpose. The FP Floodplain Overlay District is established ~~to provide special regulations governing development within the Floodplain Districts, in order to minimize damage to property due to flooding and to promote the public health, safety and welfare~~ to comply with the rules and regulations of the National Flood Insurance Program codified as 44 Code of Federal Regulations Parts 59-78, as amended, so as to maintain the community's eligibility in the National Flood Insurance Program. These regulations govern development within the FP Floodplain Overlay District in order to minimize damage to property due to flooding and promote public health, safety and welfare.

550. Established boundaries. (a) In general. The boundaries of the FP Overlay District shall include those areas within the regional floodplain boundaries and shall be as established in this article and shown on the official zoning map.

(b) Floodplain districts. The FP Overlay District shall be divided into two (2) districts: Floodway District and Flood Fringe District. The boundaries of these districts shall be as shown on the official Flood Insurance Rate Map ~~and Flood Boundary and Floodway Map.~~

(c) Official maps. The following technical data prepared by the Federal Emergency Management Agency are hereby adopted and incorporated by reference as part of this zoning ordinance: Flood Insurance Study, ~~City of Minneapolis, Minnesota, dated August 18, 1980, the Flood Insurance Rate Map and Flood Boundary and Floodway Map for the City of Minneapolis, Minnesota, dated February 18, 1981, and all future updates.~~ Volume 1 of 2 and Volume 2 of 2, Hennepin County, Minnesota All Jurisdictions, and the Flood Insurance Rate Maps numbered 27053C0212E, 27053C0214E, 27053C0216E, 27053C0217E, 27053C0218E, 27053C0219E, 27053C0352E, 27053C0354E, 27053C0356E, 27053C0357E, 27053C0362E, 27053C0364E, 27053C0366E, 27053C0367E, 27053C0368E, 27053C0369E, 27053C0376E, 27053C0378E, 27053C0379E, 27053C0386E, 27053C0387E, 27053C0388E, and 27053C0389E, for the City of Minneapolis, dated September 2, 2004, as developed by the Federal Emergency Management Agency. The Official Map shall be on file in the office of the Zoning Administrator.

(d) Interpretation. Where interpretation is needed as to the exact location of the boundaries of the Floodway and Flood Fringe Districts, as shown on the official zoning map, as for example, where there appears to be a conflict between a mapped boundary and actual field conditions, the zoning administrator shall make the necessary interpretation. All decisions shall be based on the regional (100 year) flood elevation and other available technical data.

(e) Removal of flood hazard area designation. The Federal Emergency Management Agency (FEMA) has established criteria for removing the special flood hazard area designation for certain structures properly elevated on fill above the regional flood elevation. FEMA's requirements incorporate specific fill compaction and side slope protection standards for multiple-structure or multiple-lot developments. These standards should be investigated prior to the initiation of site preparation if a change of special flood hazard area designation will be requested.

560. Warning and disclaimer of liability. This article does not imply that areas outside the FP Overlay District or land uses permitted in such overlay district will be free from flooding or flood damage. This article shall not create liability on the part of the City of Minneapolis or any officer or employee of the city for any flood damages that result from reliance on this article or any administrative decision fully made regarding this article.

570. Definitions. As used in this article, the following words and phrases shall mean:

ment. Any area of a structure, including crawl spaces, having its floor or base subgrade (below ground level) on all four (4) sides, regardless of the depth of excavation below ground level.

l degree of encroachment. A method of determining the location of floodway boundaries so that floodplain lands on both sides of a stream capable of conveying a proportionate share of flood flows.

d. The increase in the flow or stage of a stream or in the stage of a wetland or lake that results in the overflowing of water onto land that is typically devoid of surface water.

d, regional. A flood which is representative of large floods known to have occurred generally in Minnesota and reasonably characteristic that can be expected to occur on an average frequency in the magnitude of the one hundred (100) year recurrence interval. Regional flood is synonymous with the term "base flood" used in the Flood Insurance Study.

d frequency. The frequency for which it is expected that a specific flood stage or discharge may be equaled or exceeded.

d Fringe District. ~~An area lying outside the floodway, but within the floodplain and designated by Federal Emergency Management Agency reports and data as flood fringe or floodway fringe.~~ Those areas shown on the Flood Insurance Rate Map as adopted in this article as being within Zone AE, Zone AO, or Zone AH but being located outside the floodway. Where the floodway is not shown for flood zone AE on the flood fringe shall be the area above the Ordinary High Water (OHW) elevation, provided compensating flood water storage is created by any filling or obstruction placed below the one hundred (100) year flood level.

dplain. ~~The bed of a wetland or lake or the channel of a watercourse and the adjoining areas, which may be covered with water during a normal flood.~~ Those areas shown on the Flood Insurance Rate Map as adopted in this article as being within Zone AE, Zone AO, or Zone

dproofing. A combination of structural provisions, changes or adjustments to properties and structures subject to flooding, primarily for reduction or elimination of flood damages.

dway District. ~~The channel of a watercourse or the bed of a wetland or lake and those portions of the adjoining floodplain which are normally required to carry or store the regional flood discharge.~~ Those areas designated as floodway on the Flood Insurance Rate Map as adopted in this article.

est Floor. The lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, used 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.

ufactured Home. 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 the term "recreational vehicle".

struction. Any dam, wall, wharf, embankment, levee, dike, pile, abutment, projection, excavation, channel modification, culvert, building, fence, stockpile, refuse, fill, structure, or matter in, along, across, or projecting into any channel, watercourse, or regulatory floodplain which may impede, retard, or change the direction of the flow of water, either in itself or by catching or collecting debris carried by such water.

h. A hydraulic engineering term to describe a longitudinal segment of a stream or river influenced by a natural or manmade obstruction. In an urban area, the segment of a stream or river between two (2) consecutive bridge crossings would most typically constitute a reach.

latory flood protection elevation. An elevation not less than one (1) foot above the water surface elevation of the regional flood plus any increases in flood elevation caused by encroachments on the floodplain that result from designation of a floodway. Within the AO Zones designated on the Flood Insurance Rate Map, this elevation shall be at least one (1) foot greater than the elevation of the highest ground surface adjacent to the proposed structure prior to construction next to the proposed walls of any structure or addition to be constructed.

stantial Damage. Damage of any origin sustained by a structure where the cost of materials and labor to restore the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before damage occurred.

stantial Improvement. Within any consecutive one year (365 day) period, any reconstruction, rehabilitation (including normal maintenance repair), repair after damage, addition, or other improvement of a structure, the cost of which equals or exceeds fifty (50) percent of the net value of the structure before the “start of construction” of the improvement. This term includes the cost of materials and labor to repair structures which have incurred damage which equals or exceeds fifty (50) percent of the market value. This term does not include any project improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been notified by the local code enforcement official and which are the minimum necessary to assure safe living conditions. This term also does not include any alteration of an “historic structure” provided that the alteration will not preclude the structure’s continued designation as an historic structure”. For the purpose of this article, “historic structure” shall be as defined in Code of Federal Regulations, Part 59.1.

580. ~~Additional~~ Administrative provisions. (a) Permit Required. A permit shall be issued prior to the construction, addition, alteration, repair, or rehabilitation (including normal maintenance and repair) of any building or structure; prior to the construction of a dam, levee, or on-site sewage treatment system; prior to the change or expansion of a nonconformity; and prior to the placement of fill, storage of materials, or excavation of materials within the floodplain.

~~(a)~~(b) Zoning certificate required. In addition to those matters which require a zoning certificate, as specified in Chapter 525, Administration and Enforcement, a zoning certificate shall be obtained prior to any placement of fill, excavation of materials, or storage of materials or equipment within the FP Overlay District.

~~(b)~~(c) Certification. An applicant for a zoning certificate shall submit certification to the zoning administrator by a registered professional engineer, registered architect or registered land surveyor that the finished fill and building elevations meet the requirements of this article. Floodproofing measures shall be certified by a registered professional engineer or registered architect.

~~(c)~~(d) Record of first floor elevation. The zoning administrator shall maintain a record of the elevation of the lowest floor (including the basement) of all new structures and structural alterations to existing structures in the FP Overlay District. The zoning administrator also shall maintain a record of the elevation to which structures and alterations to structures are floodproofed.

~~(d)~~(e) Evaluation criteria for conditional uses. In addition to the conditional use standards contained in Chapter 525, Administration and Enforcement, the city planning commission shall consider the following evaluation criteria for conditional uses located within the FP Overlay District:

- (1) The danger to life and property due to increased flood heights or velocities caused by encroachments.
- (2) The danger that materials may be swept onto other lands or downstream to the injury of others or they may block bridges, culverts or other hydraulic structures.
- (3) The proposed water supply and sanitation systems and the ability of these systems to prevent disease, contamination and unsanitary conditions.
- (4) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner.
- (5) The importance of the services provided by the proposed facility to the community.
- (6) The requirements of the facility for a waterfront location.
- (7) The availability of alternative locations not subject to flooding for the proposed use.
- (8) The relationship of the proposed use to the floodplain management program for the 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 expected at the site.
- (11) Such other factors which are relevant to the purposes of this article.

(e)(f) Conditional use permit conditions and guarantees. The city planning commission may impose such conditions on any proposed conditional use permit and require such guarantees as it deems reasonable and necessary to protect the public interest and to ensure compliance with the standards and purposes of this zoning ordinance and policies of the comprehensive plan, including but not limited to the following:

- (1) Modification of waste treatment and water supply facilities.
- (2) Limitations on period of use, occupancy and operation.
- (3) Imposition of operational controls, sureties and deed restrictions.
- (4) Requirements for construction of channel modifications, compensatory storage, dikes, levees and other protective measures.
- (5) Floodproofing measures, in accordance with the State Building Code and this zoning ordinance.

(f)(g) Flood insurance notice and record keeping. The zoning administrator shall notify the applicant for a variance, as authorized in Section 525, Administration and Enforcement, of the following. Such notification shall be maintained with a record of all variance actions, including the basis for their issuance. The zoning administrator shall report such variances issued in an annual or biennial report submitted to the administrator of the National Flood Insurance Program.

- (1) The issuance of a variance to construct a structure below the base flood level will result in increased premium rates for flood insurance up to amounts as high as twenty-five dollars (\$25.00) for one hundred dollars (\$100.00) of insurance coverage.
- (2) Such construction below the regional flood level increases the risks to life and property.

(h) Notifications for Watercourse Alterations. The Zoning Administrator shall notify, in riverine situations, adjacent communities and the Commissioner of the Department of Natural Resources prior to the community authorizing any alteration or relocation of a watercourse. If the applicant has applied for a permit to work in the beds of public waters pursuant to Minnesota Statute, Chapter 103G, this notification shall suffice as adequate notice to the Commissioner of Natural Resources. A copy of said notification shall also be submitted to the Chicago Regional Office of the Federal Emergency Management Agency (FEMA).

(i) Notification to FEMA When Physical Changes Increase or Decrease the 100 year Flood Elevation. As soon as is practicable, but no later than six (6) months after the date such supporting information becomes available, the Zoning Administrator shall notify the Chicago Regional Office of FEMA of the changes by submitting a copy of said technical or scientific data.

590. General provisions. (a) Use of fill. Fill, dredge spoils and all other similar materials deposited or stored in the FP Overlay District shall be properly compacted and the slopes shall be properly protected by the use of riprap, vegetative cover or other acceptable methods. Such fill and similar materials shall comply with the provisions of Chapter 52, Erosion and Sediment Control for Land Disturbance Activities, of the Minneapolis Code of Ordinances.

(b) Public utilities. All public utilities and facilities such as gas, electrical, sewer, and water supply systems shall be floodproofed in accordance with the State Building Code or elevated to above the regulatory flood protection elevation.

(c) On-site sewage treatment and water supply systems. Where public utilities are not provided, uses shall comply with the following:

- (1) On-site water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the systems.
- (2) New or replacement on-site sewage treatment systems shall be designed to minimize or eliminate infiltration of flood waters into the systems and discharges from the systems into flood waters. Such systems shall not be subject to impairment or contamination during times of flooding. Any sewage treatment system designed in accordance with the state's current statewide standards for on-site sewage treatment systems shall be determined to be in compliance with this article.

(d) Public transportation facilities. Streets, railroad tracks and bridges located within the floodplain shall be designed to minimize increases in flood elevations and shall be compatible with local comprehensive floodplain development plans. Protection to the regulatory flood protection elevation shall be provided where failure or interruption of these public facilities would result in danger to the

health or safety or where such facilities are essential to the orderly functioning of the area. Where failure or interruption of service would endanger life or health, a lesser degree of protection may be provided for minor or auxiliary streets or railroads.

500. Prohibited uses in the FP Overlay District. (a) In general. All uses not allowed as permitted or conditional uses by this article shall be prohibited, regardless of the underlying primary zoning district.

(b) Waste transfer or disposal facilities. Waste transfer, treatment or disposal facilities shall be prohibited.

(c) Manufactured homes and manufactured home parks. Manufactured homes, ~~and~~ manufactured home parks, ~~including trailers and travel vehicles~~ and recreational vehicles greater than four hundred (400) square feet in area, shall be prohibited.

510. Permitted uses in the Floodway District. Permitted uses in the Floodway District shall be limited to the following uses, provided such uses shall have a low flood damage potential, shall not obstruct flood flows or increase flood elevations, shall not involve structures, fill, excavations, excavations or storage of materials, and shall be permitted in the underlying primary zoning district:

(1) Outdoor plant nurseries.

(2) Parking and loading areas.

(3) Recreational open space uses such as golf courses, tennis courts, driving ranges, archery ranges, public parks, boat launching ramps, swimming areas, play areas, wildlife and nature preserves, and hiking and horseback riding trails.

(4) Lawns and gardens.

520. Conditional uses in the Floodway District. Conditional uses in the Floodway District shall be limited to the following uses, provided such uses shall have a low flood damage potential, shall not cause an increase in the stage of the regional flood or cause an increase in flood damages in the reach or reaches affected, and shall be allowed in the underlying primary zoning district:

(1) Structures accessory to permitted and conditional uses, subject to the following:

a. Accessory structures shall be elevated on fill or structurally dry floodproofed in accordance with the FP-1 or FP-2 floodproofing classifications in the State Building Code. As an alternative, the structure may be floodproofed to the FP-3 or FP-4 floodproofing classification in the State Building Code provided the structure constitutes a minimal investment, shall not exceed five hundred (500) square feet, and for a detached garage, the garage shall be used solely for the parking of vehicles and limited storage. In addition, all floodproofed accessory structures shall be subject to the following:

1. The structure shall be adequately anchored to prevent flotation, collapse or lateral movement of the structure and shall be designed to equalize hydrostatic flood forces on exterior walls. To allow for the equalization of hydrostatic pressure, there must be a minimum of two "automatic" openings in the outside walls of the structure having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding. There must be openings on at least two sides of the structure and the bottom of all openings must be no higher than one foot above the lowest adjacent grade to the structure. Using human intervention to open a garage door prior to flooding will not satisfy this requirement for automatic openings.

2. Any mechanical and utility equipment in the structure shall be installed at or above the regulatory flood protection elevation or shall be adequately floodproofed.

b. Accessory structures shall not be designed for human habitation.

c. Accessory structures shall be constructed and placed on the building site so as to offer the minimum obstruction to the flow of floodwaters as follows:

1. So far as practicable, structures shall be constructed with the longitudinal axis parallel to the direction of flood flow.

2. So far as practicable, structures shall be placed approximately on the same flood flow lines as those of adjoining structures.

- (2) Land uses in which access to or use of a surface water feature is an integral component, such as boathouses, docks, marinas, observation platforms and water control structures such as locks and dams.
- (3) Streets, railroads, bridges, utility transmission lines and pipelines.
- (4) Outdoor storage and display of equipment, machinery or other materials, provided the storage of materials that are flammable, explosive, or potentially injurious to human, animal or plant life in time of flooding shall be prohibited. Storage of other materials or equipment may be allowed if readily removable from the area within the time available after flood warning, in accordance with a plan approved by the city planning commission.
- (5) Placement of fill.
- (6) Structural works for flood control such as levees, dikes and floodwalls, subject to the following:
 - a. Any proposed work that will change the course, current or cross-section of protected wetlands or public waters shall be subject to the provisions of Minnesota Statutes, Chapter 103G, and other applicable statutes.
 - b. Community-wide structural works for flood control intended to remove areas from the regulatory floodplain shall be prohibited.
 - c. A levee, dike or floodwall constructed in the Floodway District shall not cause an increase to the regional flood, and the technical analysis shall assume equal conveyance or storage loss on both sides of a stream.

530. Permitted uses in the Flood Fringe District. Permitted uses in the Flood Fringe District shall be those uses listed as permitted uses in the underlying primary zoning district. In addition to the standards of Chapter 551.650 such uses shall be subject to the following:

- (1) Structures. All structures and all additions to such structures shall be elevated on fill so that the lowest floor, including the basement, is at or above the regulatory flood protection elevation. The finished fill elevation for structures shall be no lower than one (1) foot below the regulatory flood protection elevation and the fill shall extend at such elevation at least fifteen (15) feet beyond the outside limits of the structure erected thereon. As an alternative to elevation on fill, accessory structures may be floodproofed to the FP-1 or FP-2 floodproofing classification in the State Building Code. In addition, accessory structures that constitute a minimal investment and that do not exceed five hundred (500) square feet may be internally floodproofed to the FP-3 or FP-4 floodproofing classification in the State Building Code, subject to the following:
 - a. The structure shall be adequately anchored to prevent flotation, collapse or lateral movement of the structure and shall be designed to equalize hydrostatic flood forces on exterior walls. To allow for the equalization of hydrostatic pressure, there must be a minimum of two "automatic" openings in the outside walls of the structure having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding. There must be openings on at least two sides of the structure and the bottom of all openings must be no higher than one foot above the lowest adjacent grade to the structure. Using human intervention to open a garage door prior to flooding will not satisfy this requirement for automatic openings.
 - b. Any mechanical and utility equipment in the structure shall be installed at or above the regulatory flood protection elevation or shall be adequately floodproofed.
- (2) Storage of materials. The storage of materials and equipment shall be elevated on fill to an elevation at or above the regulatory flood protection elevation.
- (3) Fill. The cumulative placement of fill shall not exceed twenty-five (25) cubic yards of fill in any one (1) calendar year, unless such fill is specifically intended to elevate a structure in accordance with section (1) above.

540. Conditional uses in the Flood Fringe District. Conditional uses in the Flood Fringe District shall be those uses listed as conditional uses in the underlying primary zoning district and all uses listed as permitted uses in the underlying primary zoning district that cannot comply

the elevation, floodproofing or fill standards for permitted uses, as specified in section 551.630 above. In addition to the standards of section 551.650, conditional uses shall be subject to the following:

- (1) Alternative elevation methods. Alternative elevation methods other than the use of fill may be utilized to elevate a structure's lowest floor above the regulatory flood protection elevation. These alternative methods may include but are not limited to the use of stilts, pilings or parallel walls, or above grade, enclosed areas such as crawl spaces or tuck under garages. The base or floor of an enclosed area shall be considered above grade and not a structure's basement or lowest floor if ~~the enclosed area is above grade on at least one (1) side of the structure. In addition, the structure shall be subject to the following~~ all of the following apply:
 - a. The enclosed area is above grade on at least one (1) side of the structure.
 - b. The enclosed area is designed to internally flood and is constructed with flood resistant materials.
 - c. The enclosed area is used solely for parking of vehicles, building access or storage.
 - d. In addition, the structure shall be subject to the following:
 - ~~a.1.~~ 1. Design and certification. The structure's design and as-built condition shall be certified by a registered professional engineer or architect as being in compliance with the general design standards of the State Building Code. All electrical, heating, ventilation, plumbing and air conditioning equipment and other service facilities shall be at or above the regulatory flood protection elevation or be designed to prevent flood water from entering or accumulating within these components during times of flooding.
 - ~~b.2.~~ 2. Specific standards for above-grade, enclosed areas. Above grade, fully enclosed areas such as crawl spaces or tuck under garages shall be subject to the following:
 - ~~1.a.~~ 1.a. The enclosed area shall be designed to internally flood. Design plans shall show the minimum area of openings in the walls where internal flooding is to be used as a floodproofing technique. ~~When openings are placed in a structure's walls to provide for entry of flood waters to equalize pressures, the bottom of all openings shall be no higher than one (1) foot above grade. Openings may be equipped with screens, louvers, valves or other coverings or devices, provided such coverings permit the automatic entry and exit of flood waters.~~ There shall be a minimum of two openings on at least two sides of the structure and the bottom of all openings shall be no higher than one foot above grade. The automatic openings shall have a minimum net area of not less than one square inch for every square foot subject to flooding unless a registered professional engineer or architect certifies that a smaller net area would suffice. The automatic openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of flood waters without any form of human intervention
 - ~~2.b.~~ 2.b. The enclosed area shall be constructed of flood resistant materials in accordance with the FP-3 or FP-4 classifications in the State Building Code.
 - ~~2.c.~~ 2.c. The enclosed area shall be used only for parking vehicles, storage or building access.
- (2) Basements. Residential basement construction shall be prohibited below the regulatory flood protection elevation. Nonresidential basements may be allowed below the regulatory flood protection elevation, provided the basement shall be structurally dry floodproofed, subject to section (3) below.
- (3) Nonresidential structures. All areas of nonresidential structures, including basements, located below the regulatory flood protection elevation shall be floodproofed in accordance with the structurally dry floodproofing classifications in the State Building Code. Structurally dry floodproofing shall meet the FP-1 or FP-2 floodproofing classification in the State Building Code, requiring the structure to be watertight with the walls substantially impermeable to the passage of water and requiring structural components to have the capability of resisting hydrostatic and hydrodynamic loads and the effects of buoyancy. Structures floodproofed to the FP-3 or FP-4 classification shall be prohibited.

- (4) Storage of materials and equipment. The storage, display or processing of materials that are flammable, explosive, or potentially injurious to human, animal or plant life in time of flooding shall be prohibited. Storage of other material or equipment may be allowed if readily removable from the area within the time available after flood warning in accordance with a plan approved by the city engineer.
- (5) Fill. When more than twenty-five (25) cubic yards of fill is located on a zoning lot in any one (1) calendar year for such activities as on-site storage, landscaping, streets, dredge spoil disposal or construction of flood-control works, an erosion/sedimentation control plan shall be submitted subject to the provisions of this article and the Shoreland District.

445. Nonconformities. A structure or the use of a structure or premises which was conforming before the adoption of this article but which is not in conformity with this article may be continued subject to the following conditions.

- (1) No nonconformity shall be altered or expanded in a way which increases its nonconformity.
- (2) Any structural alteration or expansion which would increase the flood damage potential of that structure or use shall be protected to the Regulatory Flood Protection Elevation in accordance with any of the elevation on fill or flood proofing techniques allowable in the State Building Code, except as further restricted in this article.
- (3) If any nonconformity is discontinued for a period of one (1) year or more, any future use of the premises shall comply with this article.
- (4) If any nonconformity is substantially damaged, it shall not be reconstructed except in compliance with this article.
- (5) If a substantial improvement occurs from any combination of a building addition to the outside dimensions of the building or a rehabilitation, reconstruction, alteration, or other improvement to the inside dimensions of an existing nonconforming building, then the building addition and the existing nonconforming building must meet the requirements of this section.

450. Standards for all uses located in the Flood Fringe District. The following standards shall apply to all permitted and conditional uses located in the Flood Fringe District:

- (1) Vehicular access. All new principal structures shall provide vehicular access at or above an elevation not more than two (2) feet below the regulatory flood protection elevation. If a variance from this requirement is granted, the board of adjustment shall specify limitations on the period of the use or occupancy of the structure for times of flooding and only after determining that adequate flood warning time and local flood emergency response procedures exist.
- (2) Commercial uses. Accessory uses, such as yards and parking lots, may be located at elevations below the regulatory flood protection elevation. However, a zoning certificate for such facilities to be used by the customers, occupants and employees shall not be granted in the absence of a flood warning system that provides adequate time for evacuation, if the area were inundated to a depth ~~greater than two (2) feet or subject to flood velocities greater than four (4) feet per second~~ and velocity such that when multiplying the depth (in feet) times velocity (in feet per second) the product number exceeds four (4) upon the occurrence of the regional flood.
- (3) Industrial uses. Measures shall be taken to minimize interference with normal plant operations especially for streams having protracted flood durations. Accessory uses such as yards and parking lots may be at an elevation below the regulatory flood protection elevation. However, a zoning certificate for such facilities to be used by the customers, occupants and employees shall not be granted in the absence of a flood warning system that provides adequate time for evacuation, if the area were inundated to a depth ~~greater than two (2) feet or subject to flood velocities greater than four (4) feet per second~~ and velocity such that when multiplying the depth (in feet) times velocity (in feet per second) the product number exceeds four (4) upon the occurrence of the regional flood.
- (4) Hydraulic capacity. Floodplain developments shall not adversely affect the hydraulic capacity of the channel and adjoining floodplain of any tributary watercourse or drainage system where a floodway or other encroachment limit has not been specified on the official zoning map.

