



TERRITORY OF GUAM
OFFICE OF THE GOVERNOR
Agana, Guam 96010
U.S.A.

EXECUTIVE ORDER NO. 88-20

FLOOD DAMAGE PREVENTION

WHEREAS, the flood hazard areas of Guam are subject to periodic inundation which results in loss of life and 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, and

WHEREAS, these flood losses are caused by the cumulative effect of obstructions in areas of special flood hazards 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; and

WHEREAS, it is the purpose of this Order 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:

- (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 and sewer lines, streets and bridges located in areas of special flood hazard;



- (6) To help maintain a stable tax base by providing for the second use and development of areas of special flood hazard so as to minimize future flood blight areas;
- (7) To insure that potential buyers are notified that property is in an area of special flood hazard; and
- (8) To insure that those who occupy the areas of special flood hazard assume responsibility for their actions; and

WHEREAS, in order to accomplish its purposes, this Order includes methods and provisions for:

- (1) 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 flood heights or velocities;
- (2) Requiring that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- (3) Controlling the alteration of natural floodplain, stream channels, and natural protective barriers, which help accommodate or channel flood waters;
- (4) Controlling filling, grading, dredging, and other development which may increase flood damage; and
- (5) Preventing or regulating the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards in other areas; and

WHEREAS, Executive Orders 78-20 and 85-19 were earlier promulgated in order to implement the above-outlined purpose through rules and regulations; and

WHEREAS, the Department of Public Works, the Territorial Planning Commission/Territorial Seashore Protection Commission, the Department of Land Management, the Bureau of Planning and the Guam Emergency Services Office have reviewed the newly revised rules and regulations to effect the above-outlined purpose;



WHEREAS, the above-mentioned rules and regulations are entitled "Government of Guam Flood Damage Prevention Rules and Regulations" and are attached hereto and by this reference made a part hereof; and

WHEREAS, promulgation of the above-mentioned Guam Flood Damage Protection Rules and Regulations must be accomplished by August 15, 1988 according to requirements of the United States government;

NOW, THEREFORE, by virtue of the authority vested in me by the Organic Act of Guam, and 10 Guam Code Annotated, Chapter 65, flood damage protection is declared to be an area of continuing particular concern in the planning and management of Guam's land and water resources and the attached Guam Flood Damage Prevention Rules and Regulations are hereby adopted and promulgated in order to affect the purposes of this Executive Order.

This Executive Order supersedes Executive Orders 78-20 and 85-19.

Promulgated this 11th day of August, 1988.

JOSEPH F. ADA
Governor of Guam

COUNTERSIGNED:

FRANKLIN J. GUTIERREZ
Acting Lieutenant Governor of Guam

Date: August 11, 1988

GOVERNMENT OF GUAM
FLOOD DAMAGE PREVENTION
RULES AND REGULATIONS

SECTION 1

DEFINITIONS

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

"Appeal" means a request for a review of an official interpretation of any provision of these rules and regulations or a request for a variance.

"Appurtenant structure" means a structure which is on the same parcel of property as the principal structure to be insured and the use of which is incidental to the use of the principal structure.

"Area of shallow flooding" means a designated AO, AH or VO zone on a Guam's Flood Insurance Rate Map (FIRM) with a one percent or greater annual 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" is the land in the flood plain within Guam subject to a one percent or greater chance of flooding in any given year. This area is designated as Zones A, AO, AH, AI-30, AE, A99, VO, or V1-30, VE or V on the Flood Insurance Rate Map.

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

"Basement" means any area of the 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 supporting foundation system.

"Building" - see "structure."

"Coastal high hazard area" means the area subject to high velocity waters, including but not limited to typhoon/hurricane wave wash or tsunamis. The area is designated on a FIRM as Zone V1-30, VE, or V.

"Commission" means the Guam Territorial Planning Commission/Territorial Seashore Protection Commission.

"Critical feature" means an integral and readily identifiable part of a flood protection system, without which the flood protection provided by the entire system would be compromised.

"Department" means the Department of Public Works.

"Director" means the Director, Department of Public Works.

"Development" means any manmade 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.

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"Elevated building" means a non-basement building (i) built, in the case of a building in Zones A1-30, 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 A1-30, 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 V1-30, 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 if the breakaway walls meet the standards of Section 4.7.

"Existing construction," means for the purposes of determining rates, structures for which the "start of construction" commenced before the effective date of the FIRM or before January 1, 1975, for FIRMs effective before that date. "Existing construction" may also be referred to as "existing structures."

"Flood" or "Flooding" means:

(a) A general and temporary condition of partial or complete inundation of normally dry land areas from:

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(1) The overflow of inland or tidal waters.

(2) The unusual and rapid accumulation or runoff of surface waters from any source.

(3) Mudslides (i.e., mudflows) which are proximately caused by flooding as defined in paragraph (a)(2) of this definition and are akin to a river of liquid and flowing mud on the surfaces of normally dry areas, as when earth is carried by a current of water and deposited along the path of the current.

(b) 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 flash flood or an abnormal tidal surge, or by some similarly unusual and unforeseeable event which results in flooding as defined in paragraph (a)(1) of this definition.

"Flood elevation determination" means a determination by the Director of the water surface elevations of the base flood, that is, the flood level that has a one percent or greater chance of occurrence in any given year.

"Flood elevation study" means an examination, evaluation and determination of flood hazards and, if appropriate, corresponding water surface elevations, or an examination, evaluation and

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determination of mudslide (i.e., mudflow) and/or flood-related erosion hazards.

"Flood Boundary Floodway Map" (FBFM) means the official map on which the Federal Insurance Administration has delineated both the areas of flood hazard and the floodway.

"Flood Insurance Rate Map" (FIRM) means the official map on which the Federal Insurance Administration has delineated both the areas of special flood hazards and the risk premium zones applicable to Guam.

"Flood plain" or "flood-prone area" means any land area susceptible to being inundated by water from any source (see definition of "flooding").

"Flood plain management" means the operation of an overall program of corrective and preventive measures for reducing flood damage, including but not limited to emergency preparedness plans, flood control works and flood plain management regulations.

"Flood protection system" means those physical structural works for which funds have been authorized, appropriated and expended and which have been constructed specifically to modify flooding in order to reduce the extent of the area on Guam subject to a "special flood hazard" and the extent of the depths of associated flooding. Such a system typically includes hurricane tidal barriers, dams, reservoirs, levees or dikes. These specialized flood modifying works are those constructed in conformance with sound engineering standards.

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"Flood proofing" 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.

"Flood-related erosion" a condition that exists in conjunction with a flooding event that alters the composition of the shoreline or bank of a watercourse or one that increases the possibility of loss due to the erosion of the land area adjacent to the shoreline or watercourse.

"Floodway" - see "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. The term includes only docking facilities, port facilities that are necessary for the loading and unloading of cargo or passengers and ship building and ship repair facilities, but does not include long-term storage or related manufacturing facilities.

"Hazard Mitigation Plan" means a plan that incorporates a process whereby the potential of future loss due to flooding can be minimized by planning and implementing alternatives for floodplain management island-wide.

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

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"Levee" means a man-made structure, usually an earthen embankment, designed and constructed in accordance with sound engineering practices to contain, control or divert the flow of water so as to provide protection from temporary flooding.

"Levee System" means a flood protection system which consists of a levee, or levees, and associated structures, such as closure and drainage devices, which are constructed and operated in accordance with sound engineering practices.

"Lowest Floor" means the lowest floor of the lowest enclosed area (including basement). 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 Section 4.7.

"Manufactured home" means a structure, transportable in one or more sections, which is built on a permanent foundation when connected to the required utilities. For flood plain management purposes the term "manufactured home" also includes park trailers, travel trailers, and other similar vehicles placed on a site for greater than 180 consecutive days. For insurance purposes the term "manufactured home" does not include park trailers, travel trailers and other similar vehicles.

"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.

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"Manufactured Unit" is a prefabricated structure in one or more sections that is assembled on-site with a permanent foundation.

"Map" means the Flood Boundary Floodway Map (FBFM) or the Flood Insurance Rate Map (FIRM) for Guam.

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

"New construction" means, for the purpose of determining insurance rates, structures for which the "start of construction" commenced on or after the effective date of an initial FIRM or after December 31, 1974, whichever is later. For flood plain management purposes, "new construction" means structures for which the "start of construction" commenced on or after the effective date of a flood plain management regulation adopted by Guam.

"Parcel" means any contiguous quantity of land in the possession of, owned by or recorded as the property of the same claimant, person or company.

"Person" includes any individual or group of individuals, corporation, partnership, association or any other entity, including State and local governments and agencies.

"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.

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"Riverine" means relating to, formed by or resembling a river (including tributaries), stream, brook, etc.

"Sand bars" mean naturally occurring accumulations of sand in ridges or mounds landward of the beach.

"Special hazard area" means an area having special flood, mudslide (i.e., mudflow) and/or flood-related erosion hazards, and shown on the FIRM as Zone A, AO, A1-30, AE, A99, AH, VO, V1-30, VE, V, M or E.

"Standard Flood Insurance Policy" means the flood insurance policy issued by the Federal Insurance Administrator, or an insurer pursuant to an arrangement with the Administrator pursuant to federal statutes and regulations.

"Start of Construction" (for other than new construction or substantial improvements under the Coastal Barrier Resources Act (U.S. Pub. L. 97-348)), includes substantial improvement, and means the date the building permit was issued provided the actual start of construction, repair, reconstruction, placement or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of 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

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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.

"Structure" means, for flood plain management purposes, a walled and roofed building, including a gas or liquid storage tank, that is principally above ground, as well as a manufactured home. "Structure" for insurance coverage purposes, means a walled and roofed building, other than a gas or liquid storage tank, that is principally above ground and affixed to a permanent site, as well as a manufactured home on a permanent foundation. For the latter purpose, the term includes a building while in the course of construction, alteration or repair, but does not include building materials or supplies intended for use in such construction, alteration or repair, unless such materials or supplies are within an enclosed building on the premises.

"Substantial improvement" means any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds 50 percent of the market value or replacement value, whichever is lower of the structure either (a) before the improvement or repair is started or (b) if the structure has been damaged, and is being restored, before the damage occurred. For the purposes of this definition "substantial improvement" is considered to occur when the first alteration of any wall, ceiling, floor or other structural part of the building commences, whether or not that alteration affects the external dimensions of the structure. The term

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does not, however, include either (1) any project for improvement of a structure to comply with existing federal or local health, sanitary or safety code specifications which are solely necessary to assure safe living conditions or (2) any alteration of a structure listed on the National Register of Historic Places or a local inventory of historic places.

"Variance" means a grant of relief from the requirements of these rules and regulations which permits construction in a manner that would otherwise be prohibited by these rules and regulations.

"Water course" means a channel cut by running water, with well defined banks, through which water flows for substantial periods of each year.

"Water surface elevation" means the height, in relation to the National Geodetic Vertical Datum (NGVD) of 1929, (or other other datum, where specified) of floods of various magnitudes and frequencies in the flood plains of coastal or riverine areas.

SECTION 2

GENERAL PROVISIONS

2.1 LANDS TO WHICH THESE RULES AND REGULATIONS APPLY

These rules and regulations shall apply to all areas of special flood hazards within the jurisdiction of the territory of Guam.

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2.2 BASIS FOR ESTABLISHING THE AREAS OF SPECIAL FLOOD HAZARDS

The areas of special flood hazards identified by the Federal Insurance Administration, through the Federal Emergency Management Agency in a scientific and engineering report entitled "The Flood Insurance Study for the Territory of Guam," dated September, 1983, with the accompanying Flood Insurance Rate Map and the Flood Boundary and Floodway Map and any amendment thereto is hereby adopted by reference and declared to be a part of these rules and regulations. The Flood Insurance Study is on file at the Department of Land Management.

2.3 FLOOD DAMAGE PREVENTION COUNCIL

There is created a Guam Flood Damage Prevention Council composed of the Director, Department of Public Works, the Chairman, Territorial Planning Commission/Territorial Seashore Protection Commission, the Director, Bureau of Land Management, the Director, Bureau of Planning, and the Director, Guam Emergency Services Office.

2.4 FLOOD HAZARDS MITIGATION PLAN

The Council shall create a Flood Hazards Mitigation Plan for prevention of Flood Damage on Guam. The Plan shall be completed and submitted to the Governor for approval within a reasonable time not to exceed one year from the promulgation of these rules and regulations. The Council shall utilize all appropriate federal, state, local and other information

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to provide for orderly building and development within special hazard areas while also preventing flood damage therefrom or thereto. The Plan shall not be inconsistent with federal law or regulations or Guam law or these rules and regulations.

2.5 COMPLIANCE

No structure or land shall be constructed, located, extended, converted or altered without full compliance with the terms of these rules and regulations and other applicable regulations. Violations of these rules and regulations by affirmative act or by failure to comply with any of its requirements may subject such violators to the sanctions imposed by Section 31054 of the Government Code of Guam.

2.6 ABROGATION AND GREATER RESTRICTIONS

These rules and regulations are not intended to repeal, abrogate or impair any existing easements, covenants or deed restrictions. However, where there exists another rule, easement, covenant or deed restriction in conflict or overlapping, whichever imposes the more stringent restrictions shall prevail.

2.7 INTERPRETATION

In the interpretation and application of these rules and regulations, all provisions shall be:

- (1) Considered as minimum requirements;

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- (2) Liberally construed in favor of the governing body; and
- (3) Deemed neither to limit nor repeal any other powers granted under Guam or federal law.

2.8 WARNING AND DISCLAIMER OF LIABILITY

The degree of flood protection required by these rules 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 uses. These rules and regulations do not imply that land outside such areas will be free from flooding or flood damage. These rules and regulations shall not create liability on the part of the government of Guam, any officer or employees thereof or the Federal Insurance Administration for any flood damage that results from reliance on these rules and regulations or any administration decision lawfully made thereunder.

2.9 SEVERABILITY

These rules and regulations and the various parts thereof are hereby declared to be severable. Should any section be declared by the courts to be unconstitutional or invalid, such decision shall not affect the validity of the rules and regulations as a whole, or any portion thereof other than the section so declared to be unconstitutional or invalid.

SECTION 3
ADMINISTRATION

3.1 ESTABLISHMENT OF BUILDING PERMIT

A building permit shall be obtained before construction or development begins within any area of special flood hazards established in Section 2.2. Application for a building or development permit shall be made on forms furnished by the Department of Public Works and may include, but not be limited to: plans in duplicate scale showing the nature, location, dimensions and elevation of the area in question; existing or proposed structures, fill, storage of materials, drainage facilities; and the locations of the foregoing. Specifically, the following information is required:

- (1) Proposed elevation in relation to mean sea level, of the lowest floor (including basement) of all structures; in zones AO elevation of highest adjacent existing grade and proposed elevation of lowest floor of all structures.
- (2) Proposed elevation in relation to mean sea level to which any structure will be floodproof;
- (3) Certification by a registered professional engineer or architect that the floodproofing methods for any non-residential structure meet the floodproofing criteria in Section 4.1; and,

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- (4) Description of the extent to which any watercourse shall be altered or relocated as a result of proposed development.

3.2 DESIGNATION OF THE DIRECTOR

The Director, Department of Public Works is hereby appointed to administer and implement these rules and regulations by granting or denying building or development permit applications in accordance with the provisions herein.

3.3 DUTIES AND RESPONSIBILITIES

The duties and responsibilities of the Director shall include, but are not limited to:

(1) Permit Review

The Director shall:

- (a) Review all building and development permit applications to determine that the permit requirements of these rules and regulations have been satisfied;
- (b) Review all permit applications to determine if the building sites are reasonably safe from flooding;
- (c) Review all building and development permit applications to determine if the proposed development adversely affects the flood carrying capacity of the area of special flood hazards. For purposes of these rules and regulations, "adversely affects" means that the cumulative effect of the proposed

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development will increase the water surface elevation of the base flood more than one foot at any point; and

- (d) Review all proposals for the development of five parcels or more to assure that the flood discharge exiting the development after construction is equal to or less than the flood discharge at the location prior to development.

(2) Use of Other Flood Data

The Director shall obtain, review and reasonably utilize any base flood elevation and floodway data available from a federal, state, territorial or other source as criteria for requiring that new construction, substantial improvements or other development in Zone A meets the requirements of these rules and regulations.

(3) Information to be Obtained and Maintained

The Director shall promulgate, periodically update and make available as needed Flood Insurance Policies and Procedures covering the following:

- (a) The certified elevation required in Section 4.1 (residential);
- (b) The certification required in Section 4.1 (shallow flooding);
- (c) The floodproofing certification required in Section 4.1 (non-residential);

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- (d) The floodproofing certification required in Section 4.1 (subdivision);
- (e) The coastal high hazard certification required in Section 4. (coastal); and
- (f) The anchoring certification required in Section 4.5 (manufactured home).

3.4 INTERPRETATION OF FIRM BOUNDARIES

The Director shall 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 persons contesting the location of the boundary shall be given a reasonable opportunity to appeal the interpretation as provided in Section 5.

3.5 ALTERATION OF WATERCOURSES

Prior to the issuance of a permit for the alteration or relocation of any watercourse within a special hazards area, the person seeking the alteration or relocation shall:

- (1) Notify the Department and the affected communities as identified by the Department prior to any alteration or relocation of a watercourse and submit evidence of such notification to the Federal Emergency Management Agency; and
- (2) Ensure that the flood carrying capacity of the altered or relocated portion of said watercourse is maintained and not lessened.

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3.6 MAINTENANCE OF FLOOD PROTECTION MEASURES

The maintenance of any and all flood protection (levees, dikes, dams, reservoirs or other measures) shall be required of the Government of Guam where such measures provide protection. If these measures are privately owned, unless otherwise provided such private owner shall maintain such flood protection measures. An operation and maintenance plan shall be required of the owner thereof to be on file with the Director.

3.7 COMPLIANCE WITH HAZARDS MITIGATION PLAN

The Territorial Planning Commission/Territorial Seashore Protection Commission shall weigh all requests for flood plain development against Guam's Plan. Consideration of the following elements are required before approval:

- (1) Determination of whether the proposed development is in or affects a flood plain;
- (2) Informing the public of the proposed development;
- (3) Consideration of input from the public concerning the proposed development;
- (4) Determination of whether there is a practicable alternative plan or site for the proposed development; .
- (5) Identification of the impact of the development on the flood plain; and
- (6) Provision of a specific plan to mitigate the impact of the development as provided in Section 3.3.

SECTION 4

PROVISION FOR FLOOD HAZARD REDUCTION

4.1 STANDARDS OF CONSTRUCTION

In all areas of special flood hazards, the following standards are required:

(1) Anchoring

(a) All new construction and substantial improvements shall be anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy.

(b) All manufactured homes shall meet the anchoring standards of Section 4.5.

(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 improvement shall use methods and practices that minimize flood damage.

(c) All 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

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flooding, provided that none of the service facilities shall be located below the base flood elevation or depth number specified on the FIRM.

(3) Elevation and Floodproofing

(a) New construction and substantial improvement of any structure shall have the lowest floor, including basement, elevated to or above the base flood elevation. Non-residential structures may meet the standards in Section 4.1. Upon completion of the structure, the elevation of the lowest floor including basement shall be certified by a registered professional engineer or surveyor and verified by the local building inspector that elevation requirements have been met. Notification of compliance shall be recorded as set forth in Section 3.3.

(b) New construction and substantial improvement of any structure in Zone AO shall have the lowest floor, including basement, elevated to or above the depth number specified on the FIRM. If there is no depth number on the FIRM, the lowest floor, including basement, shall be elevated to a depth of two feet above the highest adjacent grade. Non-residential structures may meet standards in Section 4.1. Upon completion, the structure's compliance with the elevation requirements shall be certified by a

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registered professional engineer or surveyor and verified by the local building inspector. Notification of compliance shall be recorded as set forth in Section 3.3.

(c) Non-residential construction shall either be elevated in conformance with Section 4.1. or together with attendant utility and sanitary facilities:

- (i) Be floodproofed so that below the base flood level the structure is watertight with walls substantially impermeable to the passage of water;
- (ii) Have structural components capable of resisting hydrostatic and hydrodynamic loads and effects of buoyancy, and;
- (iii) Be certified by a registered professional engineer or architect that the standards of this subsection are satisfied. Such certification shall be provided to the officials as set forth in Section 3.3.

4.2 STANDARDS FOR STORAGE OF MATERIALS AND EQUIPMENT

The storage or processing of materials that are in time of flooding bouyant, flammable, explosive or could be injurious to human, animal or plant life is prohibited. Storage of other material or equipment may be allowed if not subject to major damage by floods and firmly anchored to prevent

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flotation, or if readily removable from the area within the time available after flood warning.

4.3 STANDARDS OF UTILITIES

All new and replacement water supply and sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the system and discharge from systems into flood waters. On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.

4.4 STANDARDS FOR SUBDIVISIONS

(1) Subdivision Proposals

- (a) All preliminary subdivision proposals shall identify the flood hazards areas and the elevations of the base flood.
- (b) All final subdivision plans shall provide the elevation of proposed structures and pads. If the site is filled above the base flood, the final pad elevation shall be certified by a registered professional engineer or surveyor and provided to the officials as set forth in Section 3.3.
- (c) All subdivision proposals shall be consistent with the need to minimize flood damage.
- (d) All subdivision proposals shall have utilities and facilities such as sewer, gas, electrical and water

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systems located and constructed to minimize flood damage.

- (e) All subdivision proposals shall have adequate drainage provided to minimize exposure to flood damage as set forth in these rules and regulations. Certification of compliance with this Section by a registered professional engineer or a surveyor shall be required of the developer and shall be submitted to the Director.

4.5 STANDARDS FOR MANUFACTURED HOMES AND MANUFACTURED HOME PARKS AND SUBDIVISIONS

(1) Anchoring

- (a) All manufactured homes to be placed or substantially improved within Zones A1-30, AH, and AE shall be elevated on a permanent foundation such that the lowest floor of the manufactured home is at or above the base flood elevation and shall be securely anchored to an adequately anchored foundation system in accordance with the provisions of these rules and regulations.
- (b) All manufactured homes and additions to manufactured homes shall be anchored to resist flotation, collapse or lateral movement by one or more of the following methods:
 - (i) By providing an anchoring system designed to withstand horizontal forces of 15 pounds per

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square foot and up-lift forces of 9 pounds per square foot; or

- (ii) By anchoring the unit with a system which is in compliance to the Department of Housing and Development (HUD) Mobile Home Construction and Safety Standards; or
- (iii) By providing over-the-top and frame ties to ground anchors as follows:
 - (A) Over-the-top ties shall be attached at each of the four corners of the manufactured home, with two additional ties per side at intermediate locations, provided that manufactured homes less than 50 feet long require only one additional tie per side; and
 - (B) Frame ties be attached at each corner of the manufactured home with five additional ties per side at intermediate points, with manufactured homes less than 50 feet long requiring only four additional ties per side; and, all components of the anchoring system be capable of carrying a force of 4,800 pounds.
- (iv) As set forth in Section 3.3, certification meeting the standards above is required of the installer or government entity responsible for

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regulating the placement, installation and anchoring of individual manufactured home units.

(2) Manufactured Home Parks and Manufactured Homes

The following standards are required for manufactured homes not placed in manufactured home parks or subdivisions; new manufactured home parks or subdivisions; expansions to existing manufactured home parks or subdivisions; and repair, reconstruction or improvements to existing manufactured home parks or subdivisions that equals or exceeds 50 percent of the value of the streets, utilities and pads before the repair, reconstruction or improvement commenced.

(a) Adequate surface drainage and access for a hauler shall be provided.

(b) All manufactured homes shall be placed on pads or lots elevated on compacted fill or on pilings so that the lowest floor of the manufactured home is at or above the base flood levels. If elevated on pilings:

(i) The lots shall be large enough to permit steps;

(ii) The pilings shall be placed in stable soil no more than ten feet apart; and

(iii) Reinforcement shall be provided for pilings more than six feet above the ground level.

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- (c) No manufactured home shall be placed in a floodway, except in an existing manufactured home park or existing manufactured home park subdivision unless the manufactured home meets the same standards as conventional housing and other development. For example, placement of such manufactured homes would be prohibited unless it could be demonstrated that there would be no increase in base flood elevations in the community.
- (d) No manufactured home shall be placed in a coastal high hazard area, except in an existing manufactured home park or an existing manufactured home subdivision unless such manufactured homes meet the same standards as conventional housing as stated in Section 4.5.
- (e) Certification of compliance with Section 4.5 is required of the developer responsible for the plan or the territorial agency responsible for regulating manufactured home placement.

4.6 FLOODWAYS

Located within areas of special flood hazards established in Section 2.2 are areas designated as floodways. The floodway is an extremely hazardous area due to the velocity of flood waters which carry debris, potential projectiles and erosion potential and the following provisions apply:

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- (1) No encroachments, including fill, new construction, substantial improvements and other development shall be allowed unless certification by a registered professional engineer is provided demonstrating that encroachments shall not result in any increase in flood levels during the occurrence of the base flood discharge; and
- (2) If no floodway is designated then a set-back of ten meters from the banks of the watercourse shall be established, wherein encroachment shall be prohibited.

4.7 COASTAL HIGH HAZARD AREAS

Coastal high hazard areas (V Zones) are located within the areas of special flood hazard established in Section 2.2. These areas have special flood hazards associated with high velocity waters from coastal and tidal inundation tsunamis and the following provisions shall apply therein:

- (1) Location of Structures
 - (a) All buildings or structures shall be located landward and out of reach of the mean high tide.
 - (b) The placement of manufactured homes shall be prohibited, except in an existing manufactured home park or manufactured subdivision or as allowed in Section 4.5.
 - (c) Man-made alteration of sandbars or mangrove stands which would increase potential flood damage is prohibited.

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(2) Construction Methods

(a) For all new construction and substantial improvements, fully enclosed areas below the lowest floor that 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 must 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 shall be provided;
- (ii) The bottom of all openings shall be no higher than one foot above grade; and
- (iii) Openings may be equipped with screens, louvers, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

(b) All new construction and substantial improvements in Zones VI-30 and VE, and also Zone V, if base flood elevation data are available on the FIRM, shall be elevated on pilings and columns so that the bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings

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or columns) is elevated to or above the base flood level, and the pile or column foundation and structure attached thereto is anchored to resist flotation, collapse and lateral movement due to the effects of wind and water loads acting simultaneously on all building components. Wind and water loading values shall each have a one percent chance of being equalled or exceeded in any given year (100-year mean recurrence interval). A registered professional engineer 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 meeting the provisions of this subsection. Pilings used as structural support shall be designed and anchored so as to withstand all impact forces and bouyancy factors of the base flood. There shall be no fill used for structural support.

- (c) Compliance with the provisions of Section 4.7 shall be certified by a registered professional engineer and provided to the officials as set forth in Section 3.3.
- (d) All new construction and substantial improvements, within Zones V1-30, VE, and V that have space below

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the lowest floor shall keep that space either free of 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. For the purposes of this section, a breakaway wall shall have a design safe loading resistance of not less than 10 and no more than 20 pounds per square foot (either by design or when so required by local code) may be permitted only if a registered professional engineer 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 loads acting simultaneously on all building components (structural and non-structural). Maximum wind and water loading values to be used in this determination shall each have a one percent chance of being equalled or

exceeded in any given year (100-year mean recurrence interval); such enclosed space shall be useable solely for parking of vehicles, building access or storage.

- (e) If breakaway walls are utilized, such enclosed space or storage as set forth in Section 4.2, such space shall not be used for human habitation.
- (f) Prior to construction, plans for any structure that will have breakaway walls must be approved by the Director.

SECTION 5

VARIANCE AND APPEAL PROCEDURE

5.1 APPLICATION

The Territorial Planning Commission/Territorial Seashore Protection Commission shall hear and decide requests for variances from the requirements of these rules and regulations, and appeals from decisions of the director of Public works.

5.2 VARIANCE PROCEDURE

(1) Variance Grounds

No variance shall be granted by the Commission unless it finds in writing:

- (a) a showing of good and sufficient cause such as a renovation, rehabilitation or reconstruction.

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Reasons of economic considerations, aesthetics or because variances have been issued in the past are not good and sufficient cause;

- (b) a determination that failure to grant the variance would result in exceptional hardship to the applicant; and
- (c) a determination that the granting of a variance shall not result in increased flood heights, additional threats to public safety, extraordinary public expense, nuisances, fraud on or victimization of the public or conflict with existing federal or local laws or rules.

(2) Variance Factors

In deliberating upon variance applications, the Commission shall consider all technical evaluations and all relevant factors and standards specified in other sections of these rules and regulations, including but not limited to:

- (a) the danger that materials may be swept onto other lands to the injury of others;
- (b) the danger to life and property due to flooding or erosion damage;
- (c) the susceptibility of the proposed new construction or substantive improvement and its contents to flood damage and the effect of such damage on the individual owner;

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- (d) the importance of the services provided by the proposed facility to the community;
- (e) the necessity to the new construction or substantive improvement of a waterfront location, where applicable;
- (f) the availability of alternative locations, for the proposed use which are not subject to flooding or erosion damage;
- (g) the compatibility of the proposed use with existing and anticipated development;
- (h) the relationship of the proposed use to the comprehensive plan and flood plain management program for that area;
- (i) the safety of access to the property in times of flood for ordinary and emergency vehicles;
- (j) 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
- (k) 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, water systems and streets and bridges.

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(3) Variance Conditions

- (a) Upon consideration of the factors above and the purposes of these rules and regulations, the Commission may attach such additional conditions to the granting of variances as it deems necessary to further the purposes of these rules and regulations.
- (b) Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.
- (c) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
- (d) Variances may be issued for new construction and substantial improvements to be erected on a lot of one-half acre (2,000 square meters) or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, providing all items a through k, above, have been fully considered. As the lot size increases beyond the one-half acre, the technical justification required for issuing the variance increases.
- (c) Variances may be issued for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places or the State Inventory of Historic Places, without regard

to the procedures set forth in the remainder of this Section.

(4) Variance Decision

(a) Upon granting or denying an application for variance, the Commission shall provide all parties concerned and the Department the written decision which shall include the reasons for said decision. No granted variance shall be operative until such written decision has been so provided.

(b) When a variance application has been granted, the applicant shall be provided 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.

5.3 APPEALS PROCEDURE

The Commission shall hear and decide appeals when it is alleged there is an error in any requirement, decision or determination made by the Director of Public Works.

5.4 APPEALS TO SUPERIOR COURT

Those aggrieved by the decision of the Territorial Planning Commission/Territorial Seashore Protection Commission or any taxpayer may appeal such decision to the Superior Court of Guam, as provided in Section 17506 of the Government Code of Guam.

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5.5 RECORDS

The Director of Land Management shall maintain the records of all variance applications and appeals to the Commission. The decisions rendered thereon shall also be maintained and shall be provided to the Federal Emergency Management Agency and to the Department and to other government of Guam agencies upon request.



OFFICE OF THE SPEAKER

Nineteenth Guam Legislature

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FRANKLIN J. ARCEO QUITUGUA
Speaker

Tel: 472-3401/3


August 10, 1988

MEMORANDUM

TO: All Senators
FROM: The Speaker
SUBJECT: Legislative Session Days In August

Please be advised that legislative session will be held beginning August 22, 1988. Additionally, August 25, 1988 is the tentative date set for the State of the Judiciary Address to be delivered by the new Presiding Judge of the Superior Court of Guam, Alberto Lamorena III. Please make plans for these session days.

Finally, I will be off-island August 10 to 15, 1988. Please render your support and cooperation to Vice-Speaker Franklin Gutierrez while he assumes the Speakership in an acting capacity.


FRANKLIN J. A. QUITUGUA