

CITY OF NORTH WILDWOOD
FLOOD PROTECTION INFORMATION

(Rev. July 2022)

GRANT FUNDING AVAILABLE: FMA (FLOOD MITIGATION ASSISTANCE)

Cape May County and the municipalities of Ocean City, Sea Isle City, North Wildwood, West Wildwood, City of Cape May, Upper Township, Stone Harbor and Egg Harbor Township are coordinating an effort to develop a FEMA Flood Mitigation Assistance (FMA) grant application to elevate FLOOD INSURED structures. The FMA program provides funding for:

100% of the cost for SRL (Severe Repetitive Loss) Properties
90% of the cost for RL (Repetitive Loss) Properties
75% of the cost for insured properties

SRL/RL BY FEMA DEFINITION

The grant covers elevation costs of the existing structure only. You are invited to participate in this grant application which is fully voluntary. This FMA opportunity is a nationwide competitive grant.

Property owners who wish to participate in this program are required to provide the following documentation (see below).

- Requirements to participate:
 - Affidavit (notary required)*
 - Notice of Voluntary Interest*
 - FEMA Model Acknowledgement of Conditions (notary required)*
 - FEMA Declaration and Release Form*
 - Four pictures of property taken from each side
 - Proof of NFIP flood insurance (e.g., current policy declaration with insurance company and policy number)
 - NFIP Elevation Certificate (if available)
- * The names and signatures of ALL owners on the current property deed required on this form.
- List of data needed from each property owner who wishes to be considered (e.g., flood loss information)

Property owners need to be aware of the following conditions associated with this grant program:

- This is a reimbursement program, thus the property owners will be responsible for covering costs and then request reimbursement with proper documentation once the elevation project is completed. This grant is for elevation of the existing structure only.
- Application of \$1200 per property, non-refundable.
- Properties mitigated using Federal mitigation grant funding are required to maintain NFIP flood insurance on the property in perpetuity. This flood insurance requirement becomes part of the property deed.

THIS GRANT IS NOT GUARANTEED, AND MAY BE DENIED, AFTER WHICH YOU WILL RECEIVE NO REIMBURSEMENT OF YOUR APPLICATION FEE. THEREFORE, BY APPLYING YOU ARE ASSUMING THOSE RISKS. PLEASE FURTHER NOTE, THE GRANT TAKES TIME, AND IT MAY TAKE YEARS TO RECEIVE AN ANSWER REGARDING APPLICATION STATUS, AND WILL ALSO TAKE A SIGNIFICANT AMOUNT OF TIME TO RECEIVE GRANT REIMBURSEMENT.

IF INTERESTED AND WOULD LIKE TO REQUEST ADDITIONAL INFORMATION, PLEASE CONTACT JOSEPH BABORE AT (609) 522-2030 EXT. 1340 OR BY EMAIL AT JBABORE@NORTHWILDWOOD.COM

The City of North Wildwood is participating with the Federal Insurance Agency in the "Community Rating System", which may result in the reduction of Federal Insurance premiums of 5% or greater for all policy holders. As part of this program we are required to notify all homeowners of the program and the flooding potential in North Wildwood.

The Federal Emergency Management Agency (FEMA) has classified North Wildwood and all of our Island as a special flood hazard area, otherwise known as the 100 Year Floodplain, and North Wildwood specifically has been deemed a repetitive loss area. Your property, as well as all properties in North Wildwood, is located within the Floodplain, and within a repetitive loss area. As required by FEMA, flood maps have been developed for the City. The maps show flood zones and the predicted elevations that a 100 year storm could reach or exceed. The low lying lands west of New Jersey Avenue are most vulnerable. Damages occurred during northeasters in 1984 and 1987, Hurricane Gloria in 1985, northeasters in October 1991, January 1992, February 1998, Hurricane Irene in 2011, Superstorm Sandy in 2012, and most recently Coastal Storm Jonas. The most recent FIRM was adopted by North Wildwood City Council on August 1st, 2017, effective October 5, 2017.

NATURAL AREAS

The City of North Wildwood has determined that our beach/dune system and coastal wetlands, which represent approximately 30% of the City's land area, should be left in its natural state. These areas provide natural and beneficial functions to help reduce flood damage. Coastal wetlands provide an area for flood water to spread over a large area. Our beachfront and dune system is considered essential. They are our first line of defense against the onslaught of the incoming seas. Preserving these dunes and encouraging the development of new dunes is of utmost importance. These natural areas reduce wind and wave impacts, and their vegetation stabilizes soils during flooding.

The City maintains strict standards for dune restoration and preservation. It is our job to help preserve the natural areas.

When severe storms are forecasted for North Wildwood the City radio station 1640AM, radio stations WZXL-100.7 FM and WCMC-1230 AM and TCI Cable TV will broadcast emergency information. If North Wildwood evacuation is required, the police will use the P.A. systems on all police cars to alert and instruct residents. The pick-up points and staging areas for persons without means of transportation will be: NORTH WILDWOOD COMMUNITY CENTER (Primary), and MARGARET MACE SCHOOL (Alternate). In the event the Alternate location is to be utilized an announcement will be broadcast on the City radio station 1640AM.

If someone in your home would need to be evacuated by ambulance, please notify the Rescue Squad in advance. In an emergency, contact the Police if the Rescue Squad does not have you on file. Knowing how high your property is above mean sea level will give you an idea how vulnerable your property is to storm damage. Your FLOOD ELEVATION CERTIFICATE, or property survey may have this information.

All of our residents should understand that we live on an island which is a flood plain and subject to tidal flooding from coastal storms. If the projected 100 year storm hits our island, the entire island will be subjected to some degree of flooding ranging from a few inches to over 5 feet in the low areas. The higher areas of our City are located on the ocean side with the lower areas along the bay side. Our residents should be aware of their location and the potential for flooding. We should all pay special attention when coastal storms are forecasted and the degree of flooding expected. All residents, especially those in low areas, should have evacuation procedures planned for and ready for implementation when requested to do so.

The Federal Insurance Administration suggests the following action when coastal storms or hurricanes are imminent:

1. Turn off all electrical power at panel.
2. Close main gas valve.
3. Move household items to the highest level you can.
4. Also, move cardboard boxes and newspapers as these materials disintegrate and will clog drains and vents.
5. Keep a full tank of gas in your car.

If you evacuate your home, here are some essentials you should take:

- First Aid supplies.
- Supply of Non-perishable Food
- Batteries (Hearing-aid, Flashlight, Radio)
- Battery-operated Portable Radio
- Blankets
- Dry Clothing – Especially Shoes and Socks
- Important Papers
- Bank and Check Books
- Valuables and Cherished Items
- Games for Children and Adults

Approximately eighty percent of City property owners carry Federal flood insurance and this percentage is one of the highest in the State. Keep in mind that the standard home-owners insurance policy does not cover flood losses. In the regular Federal flood insurance program, coverage of up to \$250,000.00 is available for single-family dwellings and up to \$250,000.00 for other residential dwellings. Up to \$60,000.00 for contents coverage is available for the above. Renters can also purchase flood insurance for contents coverage. All homeowners are strongly urged to carry Federal flood insurance. Information on flood insurance may be obtained from your local insurance agent, or call the National Flood Insurance Program at 1-800-638-6620.

The best way to minimize storm damage to your property is to make sure that the low-est habitable floor is at or above your base flood elevation. Property owners that raise their homes can reduce flood insurance premiums. The inexpensive and easy task of installing flood vents in your home can also reduce storm damage.

The Cape May County Library has many publications dealing with flood-related topics such as flood proofing, elevated structures, flood maps, flood emergency, and flood insurance. You can also receive information on flood-related topics from the City Building Inspector's office.

Flood Proofing:

There are two practical ways in which you could protect your building from flood damage. One approach is to make your walls waterproof and place watertight closures over the doorways. This approach will be effective if the flood water is no more than two (2) feet deep.

The other approach is to raise the house above flood levels. This approach will ensure no damage to your building from flooding and would significantly reduce the cost of obtaining flood insurance.

Please note that any alterations to your building require a permit from the Building Department. If you see any building activity taking place without a posted building permit, please report it to the Building Construction Department at (609) 522-2030 – Ext 1560.

Substantial Improvement / Damage Requirements:

The City of North Wildwood requires all buildings being substantially improved (including damage) to be treated as new construction and must conform to new building requirements.

"Substantial improvements" is defined as any repair, reconstruction, or improvement of a structure, the cost of which equals or exceeds fifty percent (50%) of the market value of the structure. In the case of an addition, only the addition must be protected.

In the case of an improvement to the original building, the entire building must be protected.

For example, if a house is flooded, has a fire, is hit by a tornado, or is otherwise damaged so that the cost of repairs is more than 50% of the value of the building before the damage, then the house must be elevated to two (2) foot above the base flood level.

Storm Drainage Maintenance:

The storm water collection system in the City is an underground system which collects storm water runoff and discharges the water to the ocean and bay. The system has many siphon drains which are used to move the water from the higher side of the street to the lower side. Rain water flows into the higher inlet, out of the lower inlet and continues flowing along the street to the next siphon system. These inlets must be kept clean of debris so as not to hinder the flow of water. The City has a maintenance program to keep these catch basins clear of debris. If you see dumping of debris or a debris build-up at catch basins, please call the Public Works Department at (609) 522 – 4646.

Keeping catch basins clean will help avoid flooding conditions occurring.

Flood Protection Assistance:

The City of North Wildwood, through its Construction Office, will provide interested property owners with general information and answer questions concerning flood protection. The assistance to be provided will include the following:

1. Site specific flood-related data.
2. A list of qualified contractors currently doing work in North Wildwood and knowledgeable in retrofitting techniques and construction.
3. Will make site visits providing one-on-one advice to property owners concerning flooding, drainage and other potential problems.
4. Provide advice and assistance on how to retrofit or modify a building to protect it from flood damage.
- 5.

The ATLANTIC CITY PRESS recently reported that eighty percent of those living on the coast had never experienced a hurricane. **DON'T BE COMPLACENT!!** Resolve to make your emergency plans now, and evacuate as soon as you are told.

Ralph Petrella is the City's "Community Rating System" Coordinator. For further information on this subject, call him at (609) 465 – 2600.

Mapping Inquiries:

The City of North Wildwood and representatives from the Floodplain Management Office provides information regarding flood map inquiries, including but not limited to information on: flood depths, BFE, LIMWA, FIRM, SFHA, V zone, historic flooding, mean high water, sea level rise, projected sea level rise, category 1 hurricane storm surge, projected special flood hazard area in 2050 and marsh migration. For additional information, please contact Joseph Babore at jbabore@northwildwood.com, (609) 522-2030 ext. 1340 or Ralph Petrella at (609) 465-2600.

FLOOD SAFETY

DO NOT WALK THROUGH FLOWING WATER. Drowning is the number one cause of flood deaths. Currents can be deceptive; six inches of moving water can know you off your feet. Use a pole or stick to ensure that the ground is still there before you go through an area where the water is not flowing.

DO NOT DRIVE THROUGH A FLOODED AREA. More people drown in their cars than anywhere else. Do not drive around road barriers; the road or bridge may be washed out.

STAY AWAY FROM POWER LINES AND ELECTRICAL LINES. The number two killer after drowning is electrocution. Electrical current can travel through water. Report downed powers lines to the Power Company or the City's Emergency Management Office.

HAVE YOUR ELECTRICITY TURNED OFF BY THE POWER COMPANY. Some appliances, such as television sets, keep electrical charges even after they have been unplugged. Do not use appliances or motors that have gotten wet unless they have been taken apart, cleaned and dried.

LOOK OUT FOR ANIMALS, ESPECIALLY SNAKES. Small animals that have been flooded out of their homes may seek shelter in yours. Use a pole or stick to poke and turn things over and scare away small animals.

LOOK BEFORE YOU STEP. After a flood, the ground and floors are covered with debris including broken bottles and nails. Floors and stairs that have been covered with mud can be very slippery.

BE ALERT FOR GAS LEAKS. Use a flashlight to inspect for damage. Do not smoke or use candles, lanterns, or open flames unless you know the gas has been turned off and the area has been ventilated.

CARBON MONOXIDE EXHAUST KILLS. Use a generator or other gasoline-powered machine outdoors. The same goes for camping stoves. Charcoal fumes are especially deadly – cook with charcoal outdoors.

CLEAN EVERYTHING THAT GOT WET. Flood waters have picked up sewage and chemicals from roads, farms, factories, and storage buildings. Spoiled food, flood cosmetics, and medicine can be health hazards. **When in doubt – throw them out.**

TAKE GOOD CARE OF YOURSELF. Recovering from a flood is a big job. It is tough on both the body and the spirit and the effects a disaster has on you and your family may last a long time.

CITY OF NORTH WILDWOOD FLOODPLAIN MANAGEMENT PLAN

I. INTRODUCTION

The City of North Wildwood has been identified by the Federal Emergency Management Agency (FEMA) as having a repetitive flooding problem. The City had 316 repetitive loss properties through August 1997. The repetitive loss properties are primarily located west of New Jersey Avenue. A repetitive loss property is one for which two or more claims of \$1,000.00 have been paid by the National Flood Insurance Program (NFIP) within any given 10 year period since 1978.

The City of North Wildwood has decided to submit an application to the Community Rating System. A condition of participation is that a floodplain management plan be prepared that addresses the repetitive loss areas.

The City Engineer, City Administrator and Construction Official were authorized to undertake the planning process and prepare a floodplain management plan. The management plan when completed is to be approved by the North Wildwood governing body and implemented.

The City held a public meeting on September 15, 1998 to present a draft plan to the public. The public was encouraged to review the plan and to submit their input to be included in the final plan. The draft plan was also submitted to various local, state and federal agencies requesting their input.

II. BACKGROUND

The City of North Wildwood is a resort community. The permanent population is approximately 5,500. During the summer, the population increases to over 75,000. The City is totally dependent on tourism as its sole industry.

The City dates back to the late 19th century. The vast majority of the housing stock was constructed prior to establishment of the National Flood Insurance Program and, therefore, does not meet the requirements of FEMA regulations. Of the 316 properties identified as repetitive loss properties, six (6) properties were identified as being post-FIRM. The City should review all post-FIRM buildings damaged to determine why the damage occurred. The City should review when the structures were built to be sure they are post-FIRM. If they are post-FIRM, then determine what the damage was and the reasons for the damage. The City will then evaluate the reasons for the damage and recommend changes in construction to avoid future post-FIRM structure damage.

The major thoroughfare through the City is New Jersey State Route 147 which connects to New Jersey Avenue, County Route 621. Route 147 has been completely reconstructed from the Garden State Parkway to New York Avenue. Route 147 is the only direct access to and from the City. The roadway has been elevated, for the 100 year storm, from the Garden State Parkway to Illinois Avenue. However, within the City, the roadway is below the base flood elevation and is, therefore, subjected to flooding.

III. HAZARD ASSESSMENT

A. SOURCE OF PROBLEM

1. Topography

North Wildwood is located on a barrier island. It is bounded on the west by the inland waterway, on the east by the Atlantic Ocean, the north by Hereford Inlet and on the south by the City of North Wildwood.

The City's beach is a flat low profile beach averaging 1,500 feet in depth. Our beach has a long history of accretion. Unlike other shore communities which experience severe erosion, our beach is continually enlarging. The highest area of the City is located along the east side. The land slopes west to the bay area. The base flood is predicted to be 10 feet above sea level and would inundate the entire City.

2. Hurricanes

The major threats faced by North Wildwood are hurricanes and coastal storms. These present three types of hazards: wind, storm surge and rain.

a. High winds: A hurricane is defined by its wind speed. a storm with velocities of more than 74 miles per hour is classified as a hurricane. These winds can blow roofs off of buildings and destroy mobile homes. All evacuation activities must be completed prior to onshore winds reaching tropical storm status (40 mph).

A related problem is tornadoes spawned by hurricanes, which will develop fast, inflict tremendous destruction, and vanish as fast as they appeared. It is impossible to predict tornadoes and where they will strike.

b. Storm surge: This is a great dome of water caused by winds and pressure differences in the air. Areas are flooded by water that can be up to 18 feet higher than normal sea levels.

c. Rainfall: Six to twelve inches of rainfall generally accompanies a hurricane. This causes flooding of streets before and during the worst part of a hurricane and river flooding inland after the storm passes. Flooding can be aggravated where rivers and drainage ways are blocked by hurricane-blown debris.

Hurricane Categories

CATEGORY 1: Winds 74-95 mph. Damage to shrubbery, trees, anchored mobile homes and some signs. Storm surge 5-7 feet above normal. Some damage to piers, exposed small craft and low-lying buildings.

CATEGORY 2: Winds 96-110 mph. Some trees blown down. Major damage to mobile homes and signs. Some damage to building roofs and windows. Storm surge 8-10 feet. Considerable damage to piers, marinas, small craft and low-lying buildings.

CATEGORY 3: Winds 111-130 mph. Large trees and many signs blown down. Mobile homes substantially damaged. Some structural damage to small buildings. Storm surge 11-12 feet. In addition to water damage, structures severely damaged by waves and floating debris.

CATEGORY 4: Winds 131-155 mph. All signs blown down. Mobile homes destroyed. Extensive damage to roofing, windows and doors. Storm surge of 13-18 feet above normal water levels.

CATEGORY 5: Winds over 155 mph. Some complete building failures. Storm surge over 18 feet. Major damage to structures less than 15 feet above sea level within 500 yards of shore.

Flood Hazard Data

The Flood Insurance Rate Map (FIRM) for North Wildwood shows the base flood elevation as 10 feet.

The FIRM designates two types of floodplain: 'A' Zone and 'V' Zone. Needless to say, all of North Wildwood is in either an A or V Zone, the base flood will cover the entire island. The A Zone is the "regular" floodplain. The V Zone is the "coastal high hazard area".

The coastal high hazard area is subject to the combination of storm surge and wave hazard. This area is where waves during the base flood are at least three feet higher than the still water elevation. This is the most dangerous part of the island. According to the FIRM, the V Zone is roughly the area along the boardwalk and J. F. Kennedy Beach Drive. The beach and the buildings acts as "wave busters", breaking the waves and protecting the areas inland.

3. North Eastern Coastal Storms

The City of North Wildwood in its entirety has been identified and mapped to be within the 100 year flood plain. As a

coastal community, the city is subjected to tidal flooding caused by normal astrological (moon tides) conditions and coastal storms. Under normal astrological conditions, property damage does not occur. Property damage occurs during coastal storm events, primarily northeastern storms. Northeastern storms are a common event, especially during the winter and spring seasons. Depending on the severity of the storm and astrological conditions occurring at the time the storm hits the island, significant flooding has occurred. The most recent Superstorm Sandy.

The vast majority of flood damage occurred west of New Jersey Avenue and to buildings constructed prior to the establishment of the Federal Insurance Rate Maps (FIRM). The west side of the City has the lowest elevation and is therefore prone to flooding on a somewhat regular basis. The ground elevation in this area averages elevations 6.0 with some areas having elevations of 5.0 or less. Many of the houses in this area (pre-FIRM) are built only 1 to 3 feet above grade. These are the homes that have repetitive losses.

As of August 31, 1998, the City of North Wildwood had 902 repetitive losses on 316 properties. The vast majority of these properties are located west of New Jersey Avenue and are pre-FIRM; that is, constructed prior to the establishment of the National Flood Insurance Program (NFIP).

4. Flood Danger:

The flood danger for the City of North Wildwood is strictly from the effects of hurricanes and coastal storms. The flooding condition is the result of the increased rise in tides caused by coastal storm events. Rain events alone do not cause a flooding condition which result in property damage. Rain events will cause some localized flooding of streets, but will rarely cause property damage. There were only two of the 316 repetitive loss properties that were identified as being caused by inadequate storm drainage. The City resolved the storm drainage problems in the mid-1980's. Since the entire City of North Wildwood is mapped to be within the 100 year floodplain, the planning area is the whole City.

The major goal of the Committee, other than to protect lives and property, was to maintain and enhance the City's economy which is tourism.

According to the 1990 U.S. Census, there were 7,209 housing units in the City. Of the 7,209 units, only 2,150 units were occupied. The remaining (5,059) unoccupied units were for seasonal, recreational or occasional use. This reflects the seasonal resort nature of our City.

In order to protect the City's tourism economy, we must also maintain our housing stock.

B. FLOOD DATA

The City of North Wildwood in its entirety has been mapped as being in a Flood Hazard Zone. The majority of the City is located in AE Zone, Elevation 10. The area along the Atlantic Ocean and Hereford Inlet is mapped as being in the VE Zone, Elevation 14.

C. RECENT FLOOD HISTORY

All repetitive loss properties damage except for two was caused by tidal flooding from coastal storms. There are two properties located along Ocean Avenue that had repetitive losses in the 1980's. These losses were most likely caused by a backup of the storm sewer system. Since the City made improvements to the storm sewer system in the area there has not been a flood problem. This is also one of the highest areas of the City. All other repetitive loss properties are located in the low areas of the City except for 23 properties, which are located in the Anglesea Beach Colony section of the City and along the Hereford Inlet. The damage to these buildings is primarily due to wave splash over. The homes in this area are located very close to the seawall. During coastal storms, waves hitting the seawall splash over the seawall and into the buildings. The six properties that have been identified as being post-FIRM will be reviewed to determine why damage occurred.

D. CRITICAL FACILITIES

There are no critical facilities within the repetitive loss area. However, since the entire City is located within the 100 year flood plain, all critical facilities would be affected during the 100 year flood event. The critical facilities include the Municipal building, the Police Department, the fire stations, Civil Defense Building and the evacuation roads leaving the City. All of the listed critical facilities would be subjected to some degree of flooding during the 100 year flood, except for Route 147 from Illinois Avenue westward, which is constructed above the 100 year flood level.

E. DEVELOPMENT TRENDS

The City of North Wildwood is substantially developed except for scattered vacant lots. New construction is limited to the existing vacant lots and to replacing and/or rehabilitating existing buildings. Redevelopment will remain within the constraints of the City's zoning ordinances.

F. DEVELOPMENT CONSTRAINTS

There are three major constraints to development in the City: Flood plain regulations, ownership and zoning.

- (1) Floodplain Management: The City has adopted an ordinance that meets the minimum NFIP rules. In A and V Zones, new buildings must be elevated above the base flood elevation plus 2 feet. In A Zones, commercial buildings can be flood-proofed. In the V Zone, all new buildings must be elevated on open pilings or piers so that waves do not batter the building walls. Sand dunes cannot be altered in the V Zone because they provide protection for the buildings behind them.
- (2) Ownership: No building is permitted within the dunes and beach area of the City. The City owns this land and has dedicated this land as a public park and is zoned Conservation. The land area represents a critical buffer between the Atlantic Ocean and the built up area. The high water line averages 1500 feet from our boardwalk and developed area. This represents approximately 200 acres which is restrictive to any development. This

beach area is the largest undeveloped area of the City, which will remain undeveloped due to its dedication as a public park. Also, the State of New Jersey under the Coastal Area Facilities Review Act (CAFRA) has jurisdiction over all development within this area. Their policy for development along beaches and dunes is that development is prohibited.

Both the City and the State of New Jersey have policies which prohibit development in this area. It is therefore assured that development could not take place.

- (3) Zoning: Since the City is substantially developed (other than scattered vacant lots), the only new development that will occur will be on the scattered vacant lots. Any major development will require the demolition of existing structures. All redevelopment will remain within the constraints of the City's zoning ordinances.

IV. PROBLEM ASSESSMENT

A. BUILDING

For all practical purposes, the City of North Wildwood is completely developed. The largest tract of undeveloped property is the City's beach. This land is owned by the City and is dedicated as a public park and zoned Conservation. No building can occur on this site. The vast majority of structures in the City were constructed prior to the NFIP. Therefore, their construction does not meet FEMA requirements. All buildings constructed after 1978 do meet FEMA requirements. Except for six (6) properties, all of the 316 repetitive loss properties are pre-FIRM. These structures were built one to three (1 - 3) feet above grade and within the lowest area of the City. These are primarily the structures that have repetitive losses and will continue to experience flood loss during severe coastal storms.

V. NATURAL AREAS

The beach and dune area, which represents approximately 200 acres, must be preserved for its natural and beneficial functions. The dunes provide a barrier from coastal storms. The wide beaches also provide a significant barrier from erosion damaging the built up area of the City. The beach is at least 1500 feet in depth between the built up area and the high water line.

VI. COMMUNITY NEEDS, GOALS AND PLANS

The following goals are used to guide the Flood Hazard Mitigation Plan.

- A. Protect lives and property from the hazards of wind, surge and rain.
- B. Preserve the public beach and dune system which are essential to the economy of the City and protects the City from destructive waves.
- C. Preserve the City's tourism economy.
- D. Preserve the existing land use pattern.
- E. Ensure continuous police, fire, ambulance and other public services.

VII. STRATEGIES TO REDUCE FLOOD LOSSES AND PROTECT NATURAL AREAS

It is important that the City consider all possible ways to reduce flood losses and protect the natural areas. To ensure that the full range of alternatives were reviewed, the list of strategies and tools recommended by the Unified National program for Floodplain Management (FEMA Publication 248, 1994) was used.

The Unified National Program lists four strategies to prevent or reduce flood losses and to preserve and restore the natural resources and functions of floodplains. The strategies are summarized in the box on the following page.

Strategies and Tools from the Unified National Program for Floodplain Management

Strategy 1: *Modify human susceptibility to flood damage and disruption by avoiding hazardous, uneconomic, or unwise use of floodplains.* Tools include:

- Floodplain regulations, e.g., zoning to steer development away from hazardous areas or natural areas deserving preservation; subdivision regulations; and building, health and sanitary codes
- Development and redevelopment policies on the design and location of public services, utilities, and critical facilities; land acquisition; open space preservation; and permanent relocation of buildings
- Floodproofing of new buildings and retrofitting of existing ones
- Flood forecasting, warning systems, and emergency plans that prepare people and property for flooding
- Preservation and restoration of the natural resources and functions of floodplains

Strategy 2: *Modify the impact of flooding by assisting individuals and communities to prepare for, respond to, and recover from floods.* Tools include:

- Information and education to assist self-help and protection measures
- Flood emergency measures to protect people and property during the flood
- Disaster assistance, flood insurance, and tax adjustments to reduce the financial impact of flooding
- Post flood recovery plans and programs to help people rebuild and implement mitigation measures to protect against future floods

Strategy 3: *Modify flooding through projects that control flood waters.* Tools include:

- Dams and reservoirs that store excess waters upstream of development
- Dikes, levees, and floodwalls that keep waters away from developed areas
- Channel alterations that make the channel more efficient, so waters will overbank flooding will be less frequent
- High flow diversions that send excess waters off to undeveloped areas
- Land treatment to hold as much rain as possible where it falls so it can infiltrate instead of running off
- On-site detention measures to store excess runoff and flood flows
- Shoreline protection measures that protect inland development and account for the natural movement of shoreline features

Strategy 4: *Preserve and restore the natural resources and functions of floodplains by maintaining and reestablishing floodplain environments in their natural state.* Tools include:

- Floodplain, wetlands, and coastal barrier resources regulations, e.g., zoning, to steer development away from hazardous areas or natural areas deserving preservation; subdivision regulations; and building, health and sanitary codes
- Development and redevelopment policies on the design and location of public services, utilities, and critical facilities; land acquisition; open space preservation; permanent relocation of buildings; restoration of floodplains and wetlands; and preservation of natural functions and habitats
- Information and education to make people aware of natural floodplain resources and functions and how to protect them
- Tax adjustments to provide a financial encouragement for leaving lands in their natural state
- Beach nourishment and dune building to protect inland development by maintaining the natural flood protection features

In reviewing the four strategies, the Committee found that many of the strategies were already in force, some could be incorporated and others would not be feasible.

The following is a summary of the Committee's findings and the basis for the recommended Action Plan.

STRATEGY I – MODIFY HUMAN SUSCEPTIBILITY TO FLOOD DAMAGE AND DISRUPTION BY AVOIDING HAZARDOUS, UNECONOMIC, OR UNWISE USE OF FLOODPLAINS. TOOLS INCLUDE:

- A. Floodplain regulations. The City has in effect floodplain and zoning regulations that prohibit development within a portion of the floodplain. This area being the beach/dune area and coastal wetlands. However, the entire City is within the 100 year floodplain and substantially developed. It is therefore not possible to prohibit development within the entire floodplain.
- B. Development and redevelopment policies. The City has in effect open space preservation for a portion of the floodplain (beach/dune and coastal wetlands). Again, since our City is already fully developed it is not possible or economically feasible for land acquisition or to relocate buildings out of the floodplain.

- C. Flood-proofing of new building and retrofitting of existing ones. The City has in effect floodplain regulations that required the first floor of all buildings to be constructed 2 feet above the base flood elevation. The Construction Office provides information to the public on retrofitting existing buildings. The City also requires that all existing buildings meet current FEMA regulations if the value of the improvement exceeds 50% of the building value (substantial improvement) on an accumulative basis over the life of the building.
- D. Flood forecasting, warning systems, etc. The City has in effect an emergency response plan for all disasters that might be expected, including flooding.
- E. Preservation and restoration of the natural resources and function of the floodplain. Again, the City has preserved a portion of the floodplain to be left in its natural state (beach/dune and coastal wetlands); however, it is not possible to include all of the floodplain since the City is already substantially developed.

STRATEGY 2 – MODIFY THE IMPACT OF FLOODING BY ASSISTING INDIVIDUALS AND COMMUNITIES TO PREPARE FOR, RESPOND TO, AND RECOVER FROM FLOODS. TOOLS INCLUDE:

- A. Information and Education.
- B. Flood emergency measures to protect people and property during flood.
- C. Disaster assistance, flood insurance.
- D. Post flood recovery plans.

The City has instituted an outreach project to all City residents providing them with flood protection information.

STRATEGY 3 – MODIFY FLOODING THROUGH PROJECTS THAT CONTROL FLOOD WATERS.

The Committee finds that none of the tools except shoreline protection is applicable to the City of North Wildwood.

After many years of shoreline accretion, our City has experienced in the last ten (10) years significant erosion of our beach, in particular, along the North end. As a result, the City and State has in place a Beach Nourishment Program. The top of the dune is set at elevation 16.0 NGVD. The dune extends along our entire shoreline from 2nd Avenue through 26th Avenue. In addition, the US Army Corps of Engineers has recently completed the Stone Seawall project along Hereford Inlet. The project extends from 2nd Avenue through the Anglesea Beach Colony area. The top of the seawall is set at elevation 13.0 NGVD. Therefore, our entire oceanfront shore line is protected by dunes or seawall.

The U. S. Army Corps of Engineers is currently working on plans to construct higher dunes along the full length of our island known as The Wildwoods.

Since the entire City is located in a floodplain, no shore protection measure short of a seawall around the entire perimeter of the island will fully protect inland development.

Other than a seawall along Hereford inlet and the building of dunes along our beach-front, shore protection is not economically feasible.

STRATEGY 4 – PRESERVE AND RESTORE THE NATURAL RESOURCES AND FUNCTIONS OF FLOODPLAINS BY MAINTAINING AND REESTABLISHING FLOODPLAIN ENVIRONMENTS IN THEIR NATURAL STATE.

The Committee recommends that current prohibition on buildings within our beach/dune and coastal wetlands be continued. We also encourage the continued development of dunes along our beachfront.

Obviously the existing built-up area of the City must be maintained since the City's entire economy is dependent upon tourism.

SUMMARY

The City of North Wildwood is a fully developed seashore community. The entire economy of our City is solely dependent on tourism. The entire City is located within the 100-year floodplain.

In recommending the Action Plan, the Committee's prime objective is to 1) maintain our existing tourist economy which in turn necessitates the maintaining of our existing housing stock, and 2) protect lives and property of our citizens and visitors.

The Committee finds the following as being the best means to accomplish our goal:

- 1. Institute a public outreach project to inform our citizens and visitors of the potential for flood damage.
- 2. Maintain prohibition on building within our beach/dune and coastal wetlands open space preservation.
- 3. Provide higher regulatory standards for new buildings and substantially damaged buildings.
- 4. Advise and assist property owners on retrofitting their buildings.

VIII. ACTION PLAN

In order to meet the community needs and goals to a) protect lives and property from the hazards of wind, surge and rain; b) preserve the public beach and dune system; c) preserve the existing land use pattern; and d) ensure continuous police, fire, ambulance and other public services, the following activities are recommended.

- 1. Prevent an increase in development densities by maintaining existing zoning regulations. Maintain the beach as a public park prohibiting development and encourage as much open space as possible. All current parks and playgrounds should be maintained as dedicated open space.

The current open space preservation in the City of North Wildwood is 372 acres, which includes the beach, all public parks and playgrounds and wetlands.

This is an existing condition and no action is necessary.

CRS Credit: Preventing new buildings on vacant property is recognized under Activity 420 (Open Space Preservation).

2. The Construction Official will continue to enforce the higher regulatory requirement.

In order to officially enforce this standard, the City did adopt an ordinance which requires that the first floor elevation be two (2) foot above the base flood elevation.

All buildings substantially damaged must be elevated to two (2) feet above the base flood elevation.

The City has adopted standards for cumulative improvements to buildings requiring buildings to eventually meet the current base flood elevation plus two (2) feet.

The Building Inspector requires and maintains FEMA elevation certificates for all permits for new building or improvements to buildings.

All of these activities are currently being done: no action is necessary.

CRS CREDIT: Maintaining elevation certificates is credited under Activity 310 (Elevation Certificates). The other activities are credited under Activity 430 (Higher Regulatory Standards).

3. Advise and assist property owners on retrofitting their buildings. "Retrofitting" means modifying an existing building to protect it from flood damage. Homes on crawlspaces can be elevated at a cost of \$30,000 to \$35,000.

Property owners need to be made aware of retrofitting. There are many documents on the topic that can be found in the County library or Building Inspector's Office.

The Building Inspector will tell interested property owners about historical flood and flood protection levels.

Property owners need to be aware of sources of financial assistance for retrofitting. The City should look into Increased Cost of Compliance coverage under the National Flood Insurance Program and Hazard Mitigation Grant Program. These programs should be reviewed and made available to our residents.

RESPONSIBLE PERSON: City Administrator and Building Inspector.

DEADLINE: The Building Inspector is currently providing information on retrofitting, historical flood levels and other general information relating to the flood plain.

CRS CREDIT: Credit for the public information programs is available under Activities 330 (Outreach Projects), 350 (Flood Protection Library), and 360 (Flood Protection Assistance).

There is no credit for making property owners aware of sources of financial assistance for retrofitting; however, if buildings are retrofitted, credit is available under Activity 530 (Retrofitting).

4. The City must maintain its beach and encourage creation of dunes. Our vast beach and dune system will provide a first line of defense against the ravages of coastal storms.

RESPONSIBLE PERSON: The City has in effect an ordinance which establishes the beach and dune area as a public park which is to be left in its natural state.

CRS CREDIT: Credit is based on the amount of land preserved as open space under Activity 420 (Open Space Preservation). Additional credit may be available because the beach area is preserved in its natural state.

5. Prepare and implement a hazard awareness program. The average newcomers and tourists are unaware of the extent of the threat of coastal storms or what to do to protect themselves.

The hazard awareness program should be carefully developed and should include the following:

- a. The Building Inspector should continue to maintain elevation certificates for all new buildings. He should provide inquirers with elevation certificates and flood hazard data from the FIRM as appropriate.
- b. The City should draft a booklet on the hazards, the City's storm warning system, safety precautions, evacuation procedures, flood insurance and property protection measures. The booklet should be provided to all local businesses through the Chamber of Commerce and Tourism.
- c. In July of each year, the city should conduct a Hurricane Awareness Week to remind everyone of the hazard and how to take protective measures. A practice evacuation should be conducted as a drill and to provide added publicity. Appropriate City or County officials should make presentations to groups such as the Chamber of Commerce and Realtors.

RESPONSIBLE PERSON: City Administrator, Building Inspector and Director of Civil Defense.

DEADLINE: The Building Inspector currently maintains elevation certificates and provides inquirers with flood hazard data as appropriate

CRS CREDIT: Credit for these activities is provided under Activities 310 (Elevation Certificates), 320 (Map Determination), 330 (Outreach Projects), 340 (Hazard Disclosure), and 440 (Flood Data Maintenance).

6. Implementation of the recommended activities in the plan needs to be monitored. A tracking system is needed to allow the City Council to evaluate progress and revise the activities as needed.