

CITY OF VENICE
FLOODPLAIN MANAGEMENT PLAN
Supplement to Countywide LMS and Regional Floodplain
Management Plan
2010-2015

INTRODUCTION

The City of Venice is located along the Gulf of Mexico within southwestern Sarasota County, in southwestern Florida between Tampa and Fort Myers. The community occupies approximately 16.49 square miles. Following the expansion of the railroads in 1927, the City of Venice was incorporated. Since 1930, the city experienced a steady growth rate with the largest occurring between 1950 and 1960 (727 to 3,444 people). The city's full time 2005 population is 22,146. The City of Venice experiences, as most coast communities in Florida, an increase in population during the winter months. The city has approximately 8,538 part time residents.

Situated in a subtropical climate, the city experiences a distinct wet and dry season. The wet season extends from June through September. During this period, the city receives approximately two-thirds of its annual 50-inch rainfall. Topography in the area is generally flat and low with elevations ranging from sea level to 20 feet. The average island elevation is 13 feet NGVD, while the mainland averages 15 feet NGVD.

The City of Venice's municipal stormwater system was initially installed in the 1926 when the Brotherhood of Locomotive Engineers intensively developed the city. As part of the development, main drainage canals were constructed in the existing sloughs and the outlet to Curry Creek was improved. As the city grows, the stormwater system is expanded to meet the growth demands. Although in most areas the system functions successfully, localized flooding occurs.

The City of Venice is divided into three major drainage basins: Hatchett Creek, Curry Creek, and the Island of Venice. Hatchett Creek drains the south eastern portion of the mainland and discharges into the Intracoastal Waterway (ICW) south of Roberts Bay. The mainland's northern section is drained through Curry Creek basin using the Blackburn Canal and Curry Creek and discharges into Dona Bay. The Island of Venice basin drains into a beach outfall, or into Roberts Bay.

PLANNING

In addition to the planning process and public meetings described in the Sarasota County Unified Local Mitigation Strategy 2009, the city is in the process of updating the 1999 Comprehensive Plan. The "Envision Venice" movement, lead by a Comprehensive Planner, offered the community with many opportunities to provide input into the new comprehensive plan. The Evaluation and Appraisal Report was completed in 2006. As part of this process, the City has held meetings with representatives from outside agencies, including the Red Cross, Southwest Florida Water Management District, Department of Environmental Protection, Florida Fish and Wildlife, and the Charlotte Harbor National Estuary Program. The representatives have provided

input and support with the city's long term comprehensive plan goals and objectives. The Comprehensive Plan will include elements of the Floodplain Management Plan and the Stormwater Management Plan. The new Comprehensive Plan is expected to be complete in 2010.

On November 3, 2009, city staff presented this plan to the Citizen Stormwater Committee which is a public meeting for public comments. No comments were received.

PAST STUDIES

In 1994, the City developed a study entitled "Creating a Hurricane Tolerant Community" (HTC). The HTC: 1) reviewed the geography of the community as it relates to hurricane impacts, 2) offered solutions to address potential disaster problems before a hurricane occurs, and 3) found a need for strengthened communication and education efforts. Successful implementation of the HTC recommendations could reduce damage and prevent catastrophic hurricane damage to the community. In 1994, the HTC was approved by the State as the City's Pre-Disaster Redevelopment Plan.

In addition to the HTC, Venice also maintains an Emergency Management Plan, which is updated yearly. The City coordinates its disaster management practices with Sarasota County Emergency Management under the Local Mitigation Strategy (LMS). The purpose of the LMS is to coordinate with participating jurisdictions to identify and prioritize projects and initiatives that are mitigating in nature. A mitigation project is defined as having elements that reduce the natural hazard impact to the community. Sarasota County and each municipality within the County (Cities of North Port, Sarasota, and Venice and Town Longboat Key) have approved the plan.

A series of basin plans were conducted in 2002. These studies were used to evaluate flooding in areas other than the repetitive loss areas and lists structures below the finished flood elevation. Past council meetings, public workshops and newspaper articles were also analyzed in preparation of this plan.

The City also coordinates efforts with the Southwest Florida Regional Planning District. The City of Venice Comprehensive Emergency Management Plan, City of Venice Evaluation and Appraisal Report, Stormwater Management Plan, and Sarasota County Unified Local Mitigation Strategy. These were all used as sources for the Floodplain Management Plan.

In addition to regularly meeting with the countywide CRS committee, the city periodically discusses mitigation strategies with Sarasota County, the Southwest Florida Water Management District, and Federal Emergency Management Agency. The city occasionally receives mitigation funding through grants or Capital Improvement Programs from these agencies as well.

RISK ASSESSMENT

Flooding results from two major sources. Coastal areas are subject to storm surge and tidal action from the Gulf of Mexico. Low and flat inland areas, which have inadequate or poorly

maintained drainage systems, are subject to riverine flooding. Land development has increased runoff volume which occasionally overwhelms the natural and manmade drainage systems. Rainfall occurs primarily due to thunderstorm activity, and through the passage of hurricanes or tropical storms. The majority of the city's repetitive loss area is coastal with one small inland area.

In 1984, the City of Venice adopted the Flood Damage Prevention Ordinance. This ordinance establishes the minimum standards and requirements for land management, building standards, and control measures in order to minimize flood damage to public and private property. The ordinance has been updated through the years to reflect new data, and state and federal requirements.

WARNING PROCEDURES

In addition to the warning procedures used by Sarasota County, the City of Venice utilizes an emergency telephone notification system called CodeRED®. The CodeRED® Emergency Telephone Calling System is an extremely high-speed telephone communication service available for emergency notifications. CodeRED® employs a one-of-a-kind Internet mapping capability for geographic targeting of calls, coupled with a high speed telephone calling system capable of delivering customized pre-recorded emergency messages directly to homes and businesses at the rate of up to 60,000 calls per hour. CodeRED® subscribers control their emergency broadcasts from anywhere in the world via a secure online portal. Residents are encouraged to contact the city to make sure that their phone number is current and correct.

Once a year, the monthly City Newsletter contains a section instructing residents of evacuation procedures and how to prepare for a hurricane. How to secure property, develop plans, what to take during an evacuation, and where to go during an evacuation are covered. The newsletter also informs residents of the National Flood Insurance Policy (NFIP), and how to apply for coverage.

As part of the Community Rating System, the city sends out a flyer to every resident that receives a utility bill informing them of the danger of flooding in the area, and how to protect themselves and their property. The flyer also instructs residents of what to do in case of an emergency.

CRITICAL FACILITIES AND INFRASTRUCTURE

For security purposes, inventory and specifics about each critical facility are available on a secure county database. There are a few critical facilities located in a flood zone that could be subject to a loss.

ECONOMY AND TAX BASE

The City of Venice is primarily a retirement community. According to City-Data.com, the regional economy estimated median household income in 2007 was \$44,494 (it was \$37,536 in 2000) and the cost of living index in Venice is 91.1 (less than average, U.S. average is 100). The

city collects ad valorem taxes through a millage rate and in fiscal year 2010 the total budget was estimated at \$59,267,325. The city sets aside enough reserve funds to support operating costs for up to three months. Major disasters have the potential to quickly deplete this source and negatively affect the city's economy for many months.

BUILDINGS SUBJECT TO HAZARDS AND REPETITIVE LOSS

The City of Venice is a community that has experienced repetitive losses due to flooding. The Federal Emergency Management Agency has identified 19 structures within city limits that has had two or more claims of \$1000 or more within a 10-year period and paid by the National Flood Insurance Program (NFIP). Of those 19 structures, 2 have been demolished and one has been demolished and rebuilt to current code. Severe rainfall that occurred between June 1992 and late 1997 caused many of the community's repetitive losses. Almost all of the losses were coastal residential buildings. After analyzing the repetitive losses and stormwater systems surrounding them, the city determined the repetitive loss area to include 429 insurable structures mostly residential without basements.

In addition to the 429 insurable structures in the repetitive loss area, two commercial buildings were identified as vulnerable structures in the Hatchett Creek Master Basin Plan. One residential and one multifamily duplex were identified in the Curry Creek Master Basin Plan. Approximately 50 to 60 residential properties were identified as vulnerable structures in the Island of Venice Master Basin Plan of which 33 are included in the repetitive loss area.

The vulnerable structures potential dollar loss:

- Hatchett Creek Basin are estimated at \$200,000 total
- Curry Creek Basin are estimated at \$300,000
- Island of Venice Basin are estimated at \$15 to \$20 million

Reviews of the flood insurance claims show that properties most affected by flooding are coastal areas near Roberts Bay and the Gulf of Mexico.

NATURAL AREAS

Wetlands, as defined in Chapter 9J-5.003(149) of the Florida Administrative Code, can be found in the coastal areas, near the Myakka River and near water tributaries such as Curry and Hatchett Creek. The city works in coordination with the Charlotte Harbor Estuary Program, and other state entities to protect the wetlands in city limits. Approximately 13% of the city is categorized as a wetland, waterbody or drainage right of way.

In the Intracoastal Waterway (ICW), slow speed areas protect the Florida Manatee. The ICW connects to bays that are important for marine food source, fish habitat, and waterfowl nesting.

Mangroves can be found along water areas throughout the City of Venice. The mangroves provide erosion protection, water buffering, and they also filter upland pollutants. Mangroves are specifically protected though the Florida Department of Environmental Protection.

The city's beach and sand dune system is very important for the protection of upland infrastructure and buildings, and also to support our tourist economy. These areas are habitat for Scrub Jays, sea turtles and gopher tortoises which are very common along our coastal areas. The city works diligently with the Florida Fish and Wildlife Commission, Mote Marine, and other agencies and non-profit organizations to protect the endangered species, while maintaining a reasonable level of service to our residents and visitors through education and code enforcement. As part of a joint agreement with Sarasota County, a habitat conservation plan is currently being prepared.

DEVELOPMENT AND POPULATION TRENDS

Rapid growth, coupled with a less than average rainfall, has encouraged people to develop and settle into areas that may otherwise be a flood hazard area. Large areas of impervious surfaces and alterations in sheet flow require the city to regularly reevaluate the stormwater system.

The population of the City of Venice is currently 22,146. It is expected in 2010 that the population will increase to 22,277, and to 23,982 in 2015 due to annexations of areas east of I-75 off of Laurel Road. The annexation area is sparsely developed and mostly industrial and agricultural at this time. Major residential and commercial development is expected to occur in the next five to ten years. As the development plans come in, they will be carefully reviewed for negative impact on the watershed, natural resources and natural floodplain.

LOCAL HAZARDS

The City of Venice most common hazards are hurricanes, tropical storms, beach erosion, tornadoes, storm surge and flooding. Beach erosion usually commonly occurs during summer tropical storms and hurricanes; however, erosion is known to occur during winter cold front storms. Beach nourishment and reef placement were completed in order to save life and property. The most recent beach nourishment was completed in 2005.

Severe thunderstorms, tropical storms and hurricanes can spawn tornadoes and wind bursts. In 1982, a tornado killed one person and injured several others just east of city limits. The most recent wind event occurred on April 8, 2005, when a wind burst caused damage to a restaurant on East Venice Avenue, and damage to 15 nearby mobile homes.

Storm Surge from Gulf of Mexico: Tidal influence can affect areas along the beach, Roberts Bay, Intracoastal Waterway (ICW) and nearby creeks. Most of the repetitive loss areas are along the Gulf of Mexico and nearby Roberts Bay. Depth of flooding depends on the strength of the tropical storm or hurricane. Hurricane and tropical storm watches are issued several days in advance allowing residents, visitors and commercial property owners plenty of time to prepare.

Hatchett Creek: Flooding from Hatchett Creek generally occurs from the East Gate subdivision to the west. Historical aerials from the 1940's and 1950's show that Hatchett Creek was rerouted to allow for residential development. As a result, homes were built on EauGaille and Myakka sands. Soils in East Gate are poorly drained and have a seasonal high water table at 6 to 18 inches for 1 to 3 months, and within 40 inches for 2 to 6 months. Flooding in this area has

resulted from Hatchett Creek overflowing its banks due to water restrictions in the downstream reaches of the creek. Road flooding has occurred on East Venice Avenue between the intersections of Grove Street and Warfield Avenue, and on Grove Street in the Housing Authority. Warning time can be limited in this area. The streets are known to flood with less than one inch of rain in an hour. A summertime afternoon thunderstorm can create flooding in this area. A stormwater project will begin in January 2010 to alleviate flooding in this area.

Curry Creek: Roads and low-lying areas along Curry Creek are known to have past flood problems. The areas include, Bay Indies Mobile Home Park, Roberts Bay Estates, and Mobile City Estates. Residents have sufficient amount of warning time to evacuate.

FLOOD HISTORY

October 24, 1921	Storm that originated in the western Caribbean Sea, produced high tides (approximately 7 feet) and wave action resulted in heavy damage throughout Sarasota County.
September 19, 1926	unnamed hurricane resulted in flood damage of more than \$1 million. This was a 10-year storm in which it rained 8 inches in 24 hours.
June 26, 1943	7.48 inches of rain fell in 24 hours.
June 23, 1945	10.80 inches of rain fell in 24 hours.
September 10, 1960	Hurricane Donna resulted in flooding throughout the county. Tides ran more than 3 feet above normal, and rains totaled between 5 to 7 inches, and pre-storm rainfall of almost 10 inches contributed to flooding.
September 21, 1962	7.37 inches fell in 24 hours. Total storm rainfall over the three-day period was 13.83 inches. The storm caused flood damage to houses in Sarasota County.
October 1968	Unnamed storm that caused considerable flood damage.
June 18, 1972	Hurricane Agnes caused flood damage due to high tides and 5 inches of rain.
June 18, 1982	The “No Name Storm” brought 6 inches of rain and 60 mph winds to Sarasota County with little warning. The storm created high tides and structural flood damage.
Aug. 28 - Sept. 4, 1985	Hurricane Elena hovered over the west coast of Florida for six days and brought rainfall over 11 inches and required the evacuation of 37,000 people.

October 28, 1985	Hurricane Juan caused 25 to 35 foot swells in the Gulf and subsequent coastal flooding.
November 20, 1988	Tropical Storm Keith created tidal surges 4 feet above normal, rain and strong winds resulting in flood damage.
June 23, 1992	11 to 23 inches of rain fell within a 15-hour period throughout the county causing approximately 3,000 structures to suffer flood damage countywide.
June 23-26, 1993	Rain exceeded the 100-year, 24-hour storm event, 11.82 inches of rain falling in a 24-hour period.
July 18, 1995	Approximately 9 inches of rain fell within a 15-hour period and caused minor flood damage.
September 7, 1995	Rainfall of approximately 2 to 3 inches in one hour caused localized flooding an approximately \$5,000 worth of property damage (NOAA National Climatic Data Center)
Nov./Dec. 1997	El Nino event caused 10 to 12 inches of rain to fall within 24 hours causing flooding throughout Sarasota County
August 12, 2000	Rainfall of 4 to 6 inches over 6 hours caused localized flooding of low roads.
September 15, 2001	Tropical Storm Gabrielle created storm surge and localized street flooding.
May 2003	Rain events caused a lift station to fail and water/sewer damage to a local church that sits along Hatchett Creek.
September 5, 2003	Tropical Storm Henri caused flooding that intermittently closed sections of Venice Avenue, and flooding problems in the East Gate area.
November 7, 2006	Afternoon rains caused roadway and structure flooding along East Venice Avenue.
March 27, 2008	Rain event caused flooding along East Venice Avenue.
May 2009	Rain events during the month caused localized structure and roadway flooding along East Venice Avenue between US 41 Bypass and Warfield Avenue.

MITIGATION STRATEGY

The City of Venice participates with Sarasota County to prepare a Local Mitigation Strategy (LMS). The purpose of the countywide LMS is to establish a mitigation plan to reduce disaster losses that may cross government entities. The list combines pre-disaster and post-disaster mitigation projects. All types of mitigation projects are covered, and not limited to flooding. For the purpose of the Floodplain Management Plan, only flood related goals and objectives within city limits are addressed here:

- Goal 1: Reduce Structural Flooding
- Objective 1.1: The city will assess repetitive loss areas and find ways to decrease the impact of riverine and coastal flooding through capital projects.

- Goal 2: Reduce Flooding on Major Roadways
- Objective 2.1: The city will construct projects that reduce flooding to major roadways and evacuation routes.

- Goal 3: Preserve Natural Habitats
- Objective 3.1: The city will undertake projects that reduce impacts to natural habitats while controlling flooding.
- Objective 3.2: Minimize developments in floodplains in wetlands and floodplains

- Goal 4: Protect People from Flooding
- Objective 4.1: Ensure residents, visitors and businesses are given adequate warning of flood potentials.
- Objective 4.2: Plan projects that protect lives and property.

PREVENTATIVE ACTIVITIES

The city adopted a floodplain management ordinance 97-48 on August 12, 1997 that specifies rules for development in flood-prone areas. The original ordinance adopted the January 18, 1984 Flood Insurance Rate Maps (FIRM). The ordinance was reviewed and updated in 2007. The floodplain management ordinance enforces permitting, certification and building requirements in order to avoid future repetitive losses and includes provisions for one foot of freeboard, life of structure improvement limitations, and mandatory yearly engineer certifications of private stormwater systems.

Coastal areas are enforced by regulation from the National Flood Insurance Program (NFIP) and the Coastal Barrier Resources Act (COBRA). The Coastal Zone Protection Act of 1985 dictates the distance that structures can go based on the Coastal Construction Control Line (CCCL) as approved by the state on July 18, 1978. City Code also regulates development in the coastal high-hazard areas, or “V” zones as defined by the Flood Insurance Rate Map (FIRM).

Construction permits requires an approved permit from the Southwest Florida Water Management District (SWFWMD). All redeveloped lots with elevated structures must have a Stormwater Site Drainage Plan certified by a Professional Engineer. All sites are required by the

city to provide a yearly site inspection report completed and certified by a Professional Engineer. This inspection ensures that the stormwater system being properly maintained. Any site that is neglected or not in compliance are reported to SWFWMD and brought to the city's code enforcement board for enforcement.

All construction must conform to the latest adopted Floodplain Ordinance, Engineering Design Standards, Subdivision Regulations, Zoning and City Code. These regulations include setback requirements, special infrastructure design, and prohibited uses.

Open space preservation is addressed in the city's 1999 Comprehensive Plan. In the Plan's Goals, Objectives and Policies, it states that the city will maintain a minimum of 7 acres of dedicated or designated parks per each 1,000 functional population. Subdivision regulations require a certain amount of open space within developments that have reduced lot size (30% for cluster housing, and 50% for townhouses). It should be noted that the Comprehensive Plan is being updated and is expected to be complete and adopted in 2010.

PROTECTION ACTIVITIES

Property protection flood insurance activities are achieved through public information notices. Yearly a flyer is mailed to all residents that receive a utility bill informing them of the flood hazard in the area and encouraging flood insurance purchase. In the May city newsletter, information about flood insurance is included. Properties in the repetitive loss area properties those property owners are notified of their options for flood insurance, retrofit and flood preparation.

The city acquired a 1.43 acre site with the two vulnerable structures identified in the Hatchett Creek Master Basin Plan. The structures have been demolished. This site will become a water quality retention area and assist in alleviating upstream flooding and regular localized flooding along East Venice Avenue between US 41 Bypass and Warfield Avenue.

A 9.75 acre property at 395 East Venice Avenue was acquired in early 2009. The site had several structures below the finish floor minimum elevation which were vulnerable to flooding. The site will become a park and open space, and natural wetlands will be restored.

In addition to the acquisition projects, a section of East Venice Avenue will undergo a retrofit project in 2010. This project will be funded by Southwest Florida Water Management District and Federal Emergency Management Agency through a Hazard Mitigation Grant.

Impacts to wetlands are reviewed as part of the construction plan process implemented by the Engineering Department. The process ensures proper mitigation. In 2009 the city acquired a ten acre abandoned cement plant property along Hatchett Creek near the Intercoastal Waterway where wetlands will be restored to natural state.

EMERGENCY SERVICES

Hurricanes are the most common large-scale emergency situations that the city must prepare for. The Sarasota County Department of Emergency Management is the responsible authority for developing and administering hurricane preparedness planning through the *Comprehensive Emergency Management Plan*. The plan establishes uniform policy and procedures for coordination throughout the county and all local governments in county limits. Select officials from the City of Venice are stationed at Sarasota County Emergency Operations Center (EOC) during emergencies. The Sarasota County EOC operates through a technologically advanced system. The EOC has access to on-line meteorological services, is equipped with an emergency satellite communication system, and can deliver television feed to area communities.

The city is partner in a Statewide Mutual Aid Agreement for Catastrophic Disaster Response and Recovery. If mutual aid is deemed necessary, the City Attorney will review, and City Council will authorize specific requests. Mutual aid can also include cooperation from Federal entities.

Depending on the seriousness of the emergency, the City of Venice Incident Commander may chose a site for the Emergency Operations Center. The site may be a Mobile EOR (from where the incident is first managed), Mobile Command Vehicles (command post using VHF radio, cell phones and conference stations), a Primary (Fixed) EOC (at Fire station 3), or Alternate (Fixed) EOC (at another critical facility). One of these options would be more likely for a localized rain event rather than a countywide hurricane event.

Prior to the arrival of a storm, the City of Venice Police Department and the Sarasota County Department of Emergency Management are charged with notification and orderly evacuation of citizens and visitors in the affected zones, and are charged with establishing and monitoring evacuation routes. The CodeRED ® system is put into place at this time as well, notifying residents and visitors of evacuations. Alerts are also sent to and issued by the National Weather Service and NOAA weather radio alerts. Residents and visitors that are told to evacuate are encouraged to find the shortest route to the closest open public shelter.

In the event that there is proper warning time before a storm, city utilities stocks sandbags. These sandbags are made available to the public, and depending on the state of emergency, these bags are prefilled by Utilities and Public Works employees and are available at the Eastside Wastewater Plant.

In August 1998, Sarasota County' Emergency Management Department completed installation of an ARMS System, a virtual weather system that is linked to a satellite system and ultimately provides a picture of how much rain will fall in a specific area. There are 53 gauges in the network. The gauges function as an early warning system for storm related coastal surges and riverine flooding.

The city has the capability to interact with our own and other agencies though an 800 MHz Truck Radio System. With this system in place, communication between city police, public works, utilities, and emergency vehicles are possible. All city department directors and

supervisors also carry Nextel ® phones and are able to communicate as long as towers are still standing.

The Southwest Florida Regional Planning Council completed a Hurricane Evacuation Study in 2001. It includes information such as shelter listings, evacuation routes, and clearance times. The Study also included updated Sea, Lake, and Overland Surges from Hurricanes (SLOSH) model. The SLOSH model includes mapping that shows hurricane surge limits for all county residents.

Every year, prior to hurricane season, the City of Venice, along with cooperation from the news media, conducts a free hurricane seminar at city hall for all residents. The seminar is announced to all residents via telephone as part of the CodeRED ® test.

STRUCTURAL PROJECTS

The One Cent Voted Sales Tax through a Capital Improvement Program funds most major structural projects. These funds are dispersed to prioritized and ranked projects in the city annual budget. A Citizen Oversight Committee reviews the projects on a regular basis to ensure that the projects are presented to the public and receives proper notification and hearing. Also, the city has a Stormwater Enterprise fund which handles large projects, operation and maintenance.

Additionally, grants are sought to help fund these projects. Federal, state, non-profit groups, and regulatory agencies are used to match city funds when there are any project budget shortfalls.

Below is a summary of active structural projects:

- Hatchett Creek/Venice Ave. Land Acquisition and Stormwater Retrofit: This project proposes to purchase a commercial parcel with two buildings below the 100 year flood stage and transform the property into a stormwater retention pond. The stormwater system at Venice Avenue between Warfield Avenue and Grove Street will be retrofitted to accommodate additional water flow. This section of Venice Avenue is an evacuation route and during heavy rains the road becomes flooded.
- Milan Stormwater Pipe Replacement: This project includes the replacement of failing stormwater under Milan Avenue.
- Beach Outfall Study: This is a combination water quality and flood study to assess water impairment and coastal flooding.
- Other Improvements: The stormwater system is continually assessed for weaknesses. When an impairment is found and it is financially feasible to correct quickly, it is repaired.
- Eastgate Project: Stormwater conveyance has been upsized to reduce road way flooding and potential impacts to residential structures.

PUBLIC INFORMATION ACTIVITIES

The City implements stormwater outreach projects. Some of these projects are required by our National Pollution Discharge Elimination System (NPDES) permit. In January 2006, the city published a “Citizens Guide to Stormwater” which encourages residents to limit fertilizer use, water lawns on appropriate days, and be aware of illicit discharges into the stormwater system. Also, the city has been working with the Citizen Stormwater Committee, a council recognized group, in recruiting volunteers to label inlets as no dumping zones. The city’s newsletter contains an article once a year that informs residents of the importance of the stormwater system and how they can do their part to maintain it.

Yearly a flyer is mailed with utility bills to educate residents on flooding, the federal flood insurance program, and on flood safety. A similar flyer is mailed annually to the property owners who are located in a Special Flood Hazard Area (SFHA).

The quarterly newsletter that is mailed to residents includes a hurricane edition that explains the evacuation process, flood safety and insurance, emergency numbers, and a list of supplies that should be stocked. This same information is included on the city web site, and also includes links to other governmental emergency agencies that can provide additional information.

FEMA Flood Insurance Rate Maps (FIRM) are available in the Building Department. The flood zone boundaries can enable property owners, residents, developers, and insurance agents to determine what flood zone a specific property is located in. They can view these maps in person, or call and ask staff for information.

ACTION PLAN

PROJECT	BENEFIT	COST	WHO	HOW FINANCED
Stormwater System Inventory (Preventative)	Assess current stormwater system and prioritize improvements using the Cues camera system	Staff time	Stormwater Supervisor and Engineering Intern	City Budget
Ditch Cleaning (Preventative)	Clears ditches from stormwater flow impediments	Staff time	Public Works Department	City Budget
FEMA Map Updates (Preventative)	Adjust FEMA 1992 maps to reflect development	Staff time	Engineering Dept. GIS Technician	City Budget

Venice Avenue Drainage Project (Structural)	Reduce flooding on major roadway and evacuation route. Protect Property.	Staff time and construction costs	Engineering Dept.	Federal Emergency Management Agency and Southwest Florida Water Management District
Beach Water Quality Study and Corrective Actions to Flamingo Ditch and Deertown Gully (Natural Resource)	Sample and evaluate water quality at major Gulf of Mexico outfalls. Implement improvements at outfalls through new drainage projects	Staff time and construction costs	Engineering Dept.	City Budget and Grants
Redirect Aldea Mar Outfall (Structural and Natural Resource)	Modify outfall #4 for water quality and stormwater improvements	Staff time and construction costs	Engineering Dept.	City Budget and Grants
Outfall 23 – Industrial Area Improvements (Structural)	Improvement to the stormwater system which is beyond normal repair and reduce flooding/increase water quality	Staff time and construction costs	Engineering Dept.	City Budget and Grants
Laguna/Osprey Outfall 12 Modification (Structural)	Replace existing pipes, area is prone for flooding	Staff time and construction costs	Engineering Dept.	City Budget and Grants
Park Blvd Outfall 13 System Improvement (Structural)	Design and install larger pipes to increase carrying capacity. Prevent street flooding	Staff time and construction costs	Engineering Department	City Budget and Grants
Retrofit Fire Station #1 (Emergency Services)	Update Fire Station #1 to meet current building code	Design and construction costs	Fire Department	City Budget and Grants

Property Protection Services (Property Protection and Public Information)	Provide citizens and business owners with technical and grant assistance for property protection	Staff time	Engineering Dept.	City Budget
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In addition to the LMS Work Group review procedure, the Venice Floodplain Management Plan will be reviewed by the City Engineer, Stormwater Supervisor and Stormwater/Engineering Research Analyst for any new studies or changes to ordinances, policies, projects and priorities. The Engineering Department, Fire Department, Airport, Utilities Department and Police Department are responsible for overseeing the implementation of the action plan activities.

The Regional Floodplain Management Plan will be reviewed and updated annually by the Certified Floodplain Manager and Committee members. The Regional Floodplain Management Planning and Coordination Committee will continue to review the LMS and Floodplain Management Plan elements for revision and updates. The update will include an overview of this original plan, and provide status reports on projects and any revisions to planning. Any recommendations or changes to the local or regional plan will be included in an annual update to City Council prior to October 1st. The annual report will be available to the public and released to the media.