CITY OF VENICE

2023-2028 Floodplain Management Plan

City of Venice Engineering Department

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KEY TERMS

100-Year Storm: 1% chance of a flood every year.

50-Year Storm: 2% chance of a flood every year.

25- Year Storm: 4% chance of a flood every year.

10-Year Storm: 10% chance of a flood every year.

Accretion: the process of growth or increase, typically by the gradual accumulation of additional layers or matter

ALERT Sarasota: Sarasota County's mass notification system for rapid emergency updates. This service sends alerts via phone, text and/or email, depending on user preference.

Base Flood Elevation: the elevation of surface water resulting from a flood that has a 1% chance of equaling or exceeding that level in any given year.

Bathymetry: the study of underwater depth of ocean floors or lake floors.

Coastal A Zone: portions of the SFHA landward of a V zone, the part of the coastal SFHA referenced by building codes and standards where wave heights can be between 1.5 and 3 feet during a base flood event.

Coastal Barrier Resource Area: zone that prohibits the sale of NFIP flood insurance in CBRA units for structures built or substantially improved on or after October 1, 1983, or the subsequent date that a CBRA zone was identified.

Coastal Flood Zones: contains three flood hazard zones: Zones VE (which are unique to coastal areas), AE and AO.

Coastal High Hazard Areas: Special Flood Hazard Areas along the coasts that have additional hazards due to wind and wave action.

Community Rating System: a voluntary program that recognizes communities that are doing more than meeting the minimum NFIP requirements to help their citizens prevent or reduce flood losses. The CRS also provides an incentive for communities to initiate new flood risk reduction activities.

CRS Committee: The City committee responsible for updating the Floodplain Management Plan every 5 years, and for providing an annual report to City Council regarding the progress of the plan.

Coverage Improvement Plan: a document that provides guidance to staff regarding public information efforts related to flood hazards, flood mitigation, flood protection and flood insurance.

Critical Infrastructure: facilities such as hospitals, schools, fire stations, water plants, wastewater treatment plants, and shelters.

Drainage Basin: Any land area from which the runoff collects at a common point or receives water.

Dredge and Fill: The process of excavation or deposition of ground materials by any means, in local, state, or regional jurisdictional waters (including wetlands), or the excavation or deposition of ground materials to create an artificial waterway that is to be connected to jurisdictional waters or wetlands (excluding stormwater treatment facilities).

Estuary: A body of water formed where freshwater from rivers and streams flow into the ocean, mixing with seawater. Estuaries and the lands surrounding them are places of transition from land to sea, and from freshwater to saltwater.

Flood Hazard Boundary Map: official map of a community issued by FEMA, where the boundaries of the flood, mudflow and related erosion areas having special hazards have been designated.

Flood Insurance Rate Map: official map of a community on which FEMA has delineated the SFHAs, the BFEs and the risk premium zones applicable to the community.

Flood Insurance Study: a compilation and presentation of flood risk data for specific watercourses, lakes, and coastal flood hazard areas within a community.

Floodplain: normally dry or semi-dry land areas to which water naturally flows as water levels rise. Floodplains are typically found near rivers, lakes, and the coast; however, many of Florida's flood-prone lands are simply low-lying areas or depressions where water naturally collects when it rains.

High Risk Zone: areas that begin with the letters A or V on FEMA flood maps; these areas face the highest risk of flooding. Properties with a federally backed mortgage are required to purchase flood insurance.

Hurricane: A warm core tropical cyclone in which the maximum sustained surface wind is 74 mph or greater.

Impervious Surface: Surface that has been compacted or covered with a layer of material so that it is highly resistant to infiltration by water, including surfaces such as compacted sand, lime rock, shell, or clay, as well as most conventionally surfaced streets, roofs, sidewalks, parking lots and other similar structures.

Letter of Map Amendment/Revision (LOMA/LOMR): a letter issued by FEMA that removes a structure from the Special Flood Hazard Area to a low-risk area.

Limit of Moderate Wave Action (LiMWA): the inland limit of the Coastal A Zone— the part of the coastal SFHA referenced by building codes and standards where wave heights can be between 1.5 and 3 feet during a base flood event. Special restrictions apply to new/substantial improvement building of structures seaward of the LiMWA.

Moderate to Low-Risk Area: areas that are designated with the letters B, C, and X on FEMA flood maps; the risk of being flooded is reduced, but not completely removed.

National Flood Insurance Program: program that provides flood insurance to property owners, renters, and businesses, and having this coverage helps them recover faster when floodwaters recede.

National Pollutant Discharge Elimination System (NPDES): program that helps address water pollution by regulating point sources that discharge pollutants to waters of the United States.

North American Vertical Datum (NAVD): The vertical control datum established for vertical control surveying in the Unites States of America based upon the General Adjustment of the North American Datum of 1988.

Otherwise Protected Areas (OPAs): a category of coastal barriers within the Coastal Barrier Resources System (CBRS); undeveloped coastal areas established under Federal, State, or local law, or held by a qualified organization, primarily for wildlife refuge, sanctuary, recreational, for natural resource conservation purposes.

Pre-Firm Structure: Structures completed or substantially improved prior to the issuance of the community's first FIRM.

Primary Frontal Dune: a continuous or nearly continuous mound or ridge of sand with relatively steep seaward and landward slopes immediately landward of and adjacent to the beach. PFDs are subject to erosion and may be vulnerable to overtopping or breaching from high water levels and waves during coastal storms.

Repetitive Loss Property: any insurable building for which two or more claims of more than $1,000 were paid by the NFIP within any rolling ten-year period, since 1978.

Resilience: the speed the City recovers after being flooded.

Saffir-Simpson Scale: A scale that categorizes hurricanes by their wind speed and estimates their damage potential.

Severe Repetitive Loss Property: are 1-4 family residences that have had four or more claims of more than $5,000 paid by the NFIP or at least two claims that cumulatively exceed the building’s value.

SLOSH Model: The Sea, Lake and Overland Surges from Hurricanes (SLOSH) model is a computerized numerical model developed by the National Weather Service (NWS) to estimate

storm surge heights resulting from historical, hypothetical, or predicted hurricanes by considering the atmospheric pressure, size, forward speed, and track data. These parameters are used to create a model of the wind field which drives the storm surge.

Slough: a ground depression or hollow which is usually filled with deep mud or mire, often a stagnant swamp, marsh, bog, or pond that is usually part of a bayou, inlet, or backwater

Special Flood Hazard Areas: An area having special flood, mudflow or flood-related erosion hazards as shown on a Flood Insurance Rate Map (FIRM). Includes Zone A, AO, A1-A30, AE, A99, AH, AR, AR/A, AR/AE, AR/AH, AR/AO, AR/A1-A30, V1-V30, VE or V. The SFHA is the area where the National Flood Insurance Program's (NFIP's) floodplain management regulations must be enforced and the area where the mandatory purchase of flood insurance applies.

Storm Surge: the abnormal rise in seawater level during a storm, measured as the height of the water above the normal predicted astronomical tide. The surge is caused primarily by a storm's winds pushing water onshore.

Stormwater: Flow of water which results from and which occurs immediately after a rainfall event.

Stormwater Management Facility: A feature which collects, conveys, channels, holds, inhibits, or diverts the movement of stormwater.

Stormwater Retention: storage for stormwater that drains into receiving waters or a storage facility for stormwater where no outfall is available.

Stormwater Runoff: water generated from rain events that flow over land or impervious surfaces, such as paved streets, parking lots, and building rooftops, and does not soak into the ground. The runoff picks up pollutants like trash, chemicals, oils, and dirt/sediment that can harm our rivers, streams, lakes, and coastal waters.

Tropical Depression: The formative stages of a tropical cyclone in which the maximum sustained surface wind is 38 mph or less.

Tropical Storm: A warm core tropical cyclone in which the maximum sustained surface wind ranges from 39–73 mph.

Unified Flood Information Promotion Plan: a plan that outlines the goals and objectives for increasing flood insurance policies and awareness through Sarasota County and its municipalities.

Unified Program for Public Information: a comprehensive outreach approach to provide communities and property owners with clear, coordinated messages that are delivered in a cost-effective and consistent manner.

Vulnerability: the extent of harm, which can be expected under certain conditions of exposure, susceptibility, and resilience.

Watershed: a land area that channels rainfall to creeks, streams, and rivers, and eventually to outflow points such as reservoirs, bays, and the ocean.

Wave Run-up: The rush of water that extends inland when waves come ashore. The overland wave analysis will determine the elevations to which wave run-up extends during a storm event. These elevations may be higher than the Stillwater elevations computed as part of the storm surge analysis.

Wave setup: The increase in the water level caused by waves breaking ashore during a storm event. It can be a significant factor in determining coastal BFEs. Wave setup is affected by the height of the waves, the speed at which waves approach the shore, and the slope of the ground near the shore.

Wetlands: areas where water covers the soil, or is present either at or near the surface of the soil all year or for varying periods of time during the year, including during the growing season.

ACRONYMS

BFE: Base Flood Elevation

CAZ: Coastal A Zone

CBRA: Coastal Barrier Resources Area

CCCL: Coastal Construction Control Line

CEMP: Comprehensive Emergency Management Plan

CFM: Certified Floodplain Manager

CHHA: Coastal High Hazard Area

CIP: Coverage Improvement Plan

CRS: Community Rating System

CFI: Critical Facilities Inventory

FDEP: Florida Department of Environmental Protection

FEMA: Federal Emergency Management Agency

FMP: Floodplain Management Plan

FWC: Florida Fish and Wildlife Conservation Commission

HMGP: Hazard Mitigation Grant Program

ICW: Intracoastal Waterway

LMS: Local Mitigation Strategy

LiMWA: Limit of Moderate Wave Action

NAVD: North American Vertical Datum

NFIP: National Flood Insurance Program

NWI: National Wetland Inventory

OPA: Otherwise Protected Area

PDRP: Post Disaster Redevelopment Plan

PPI: Program for Public Information

RLA: Repetitive Loss Area

SFHA: Special Flood Hazard Area

SRL: Severe Repetitive Loss

SLOSH: The Sea, Lake and Overland Surges from Hurricanes Model

SWFWMD: Southwest Florida Water Management District

PURPOSE

The purpose of the City of Venice Floodplain Management Plan is to protect people and property, to ensure federal flood insurance is available, to save tax dollars, and to avoid liability and lawsuits. Implementing floodplain management regulations reduces vulnerability to future flood risk. Learning about vulnerabilities, such as low-lying land that may flood from time to time, assists in making well informed decisions to help protect our families, homes, and businesses. Communities must join the NFIP and administer floodplain management requirements before residents and businesses can purchase Federal flood insurance and to be eligible for some types of Federal assistance, including flood mitigation grants.

Every time communities experience flood disasters, local budgets are impacted. If we build smart, we'll have fewer problems the next time the water rises. Remember, Federal disaster assistance is not available for all floods. Even when the President declares a disaster, communities still must pay a portion of repair and clean-up costs, temporary housing assistance, and evacuation expenses. If we know an area is mapped as a flood hazard area, and if we know people could be in danger and buildings could be damaged, it makes sense to take reasonable protective steps as our communities develop and redevelop. It is important to note that in order to receive grants for mitigation, the structure must have flood insurance in place.

Floods are the costliest and most pervasive hazard in the United States. Property loss due to floods has been on the rise over the last 100 years. According to FEMA, a structure in the high-risk area has a 25% chance of flooding in a 30-year mortgage. The National Weather Service noted 29 separate billion-dollar flood events and estimated that the average event cost of each event was 4.35 billion dollars in direct flood damage to property between 1985 and 2018. Inland flood damage caused by tropical cyclones was not included in the flood statistics. Since 1978, Federal flood insurance policy holders in Florida have received over $4 billion in claim payments. Even though that represents many payments, most of the State's flood-prone property owners do not have flood insurance. Historically more than 40% of NFIP claims are made by policyholders in low-risk area.

Rapid growth of the City and the resultant reduction of vacant land available for development, coupled with a less than average rainfall for several years, have encouraged people to settle in flood hazard areas. As development has spread within and around the City, large amounts of land have been covered with an impermeable surface such as parking lots, roofs, driveways, streets. A greater number of teardowns and rebuilds have elevated structures within the floodplain, however, they have also tended towards bigger homes with the maximum allowed lot coverage. Not only have these manmade structures covered previously absorbent surfaces, they have also removed much of the existing vegetation. This vegetation normally acts to slow

the rate of runoff and to allow a greater portion of rainfall to be absorbed into the ground. In order to plan for flooding events, the City of Venice developed this floodplain management plan (FMP). The FMP is designed with following objectives:

- Organize community resources to reduce or eliminate flood risk to people and property,
- Implement strategies before a flood event to reduce the disaster's impact, which can save lives and property after an event,
- Give guidance in developing pre and post mitigation plans,
- Identify priority projects and programs for funding, and,
- Increase the likelihood of State and Federal funding for pre and post hazard mitigation projects

The FMP is required to be updated at least every five years, with an annual update to be provided to City Council. Venice's FMP is an appendix to Sarasota County's Local Mitigation Strategy (LMS), a state-approved, multijurisdictional, multi-hazard plan. The FMP offers structure in line with the Floodplain Management Planning activity of the Community Rating System (CRS).

Figure 1: Higel Marine Park Flooding

COMMUNITY PROFILE

Figure 2: Venice Aerial Map

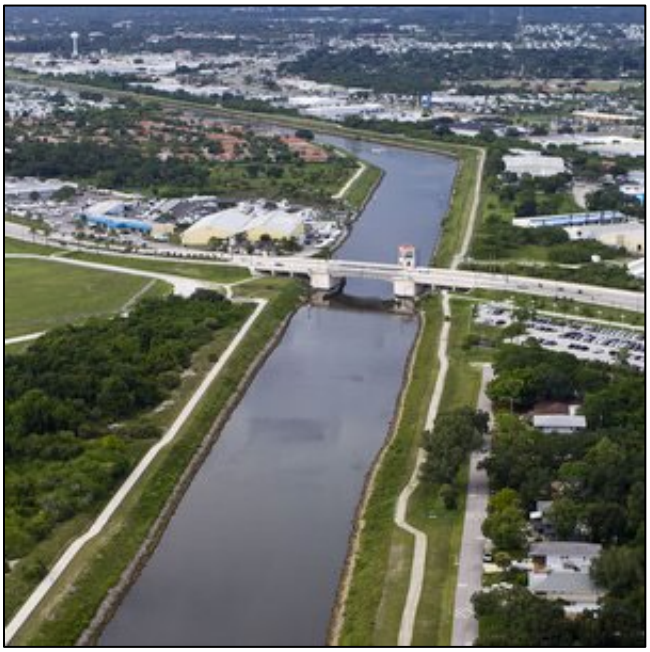
Geographic Profile

The City of Venice occupies approximately 17.7 square miles (land) of southern Sarasota, in Southwest Florida, between Tampa and Fort Myers. It is bordered on the west by the Gulf of Mexico and a portion to the East borders the Myakka River. The City of Venice has a unique geography in that a substantial portion of the City's boundary is surrounded by water. The City has almost four linear miles of coastline along the Gulf of Mexico, unobstructed by barrier islands. The City also has two linear miles of bay shores that are part of a major estuary, and approximately four miles of Intracoastal Waterway. These waterways include the Gulf of Mexico, Venice Inlet, Curry Creek, Myakka River, Hatchet Creek, Roberts Bay, and the West Coast ICW. These water bodies improve the community by providing an enhanced environment consisting of shorelines, estuaries, and woodlands, which allow habitation for wildlife. The water bodies also provide the community with a multitude of water and beach related activities including fishing, swimming, boating, shell and shark tooth hunting, and sunset watching.

The initial stormwater system for the City of Venice was installed in 1926, when the Brotherhood of Locomotive Engineers began its intensive development of the City following designs by John Nolen, an architect and city planner. As part of the development, main drainage canals were constructed in the existing sloughs, and the outlet to Curry Creek was improved.

The Island of Venice is not a barrier island, but instead an artificial island. An angular canal was excavated in the 1960s and it created the island of Venice. Hatchett Creek and Alligator Creek are at the north and south ends, respectively. The shoreline is entirely composed of rock revetment, and now hosts the Venetian Waterway Park along its banks. Marina Park, located on the northeast side, offers a boat launching ramp into the ICW. The direction of tidal flow is north from Lemon Bay to the Venice Inlets. This waterbody is part of the Charlotte Harbor National Estuary Program study area. The elevations on the island are higher than normal elevations usually found on barrier islands.

Figure 3: Intracoastal Waterway



The City is divided into five major drainage basins which are defined as Hatchett Creek, Curry Creek, Shakett Creek, the Myakka River, and the Island of Venice. The Hatchett Creek basin drains into the southern portion of the mainland area discharging into the Intracoastal Waterway (ICW), just south of Roberts Bay. The mainland's northern section is drained via the Curry Creek basin using the Blackburn Canal and

the Curry Creek basin to discharge into Dona Bay. The eastern portion of the City drains into the Shakett Creek basin and the Myakka River. The Island of Venice basin drains into the ICW and the Gulf of Mexico.

Topography

The topography in the area is generally flat and low, with elevations ranging from sea level to 20 feet. The average elevation of the island is 11.9 feet North American Vertical Datum (NAVD), while the mainland averages 13.9 feet NAVD.

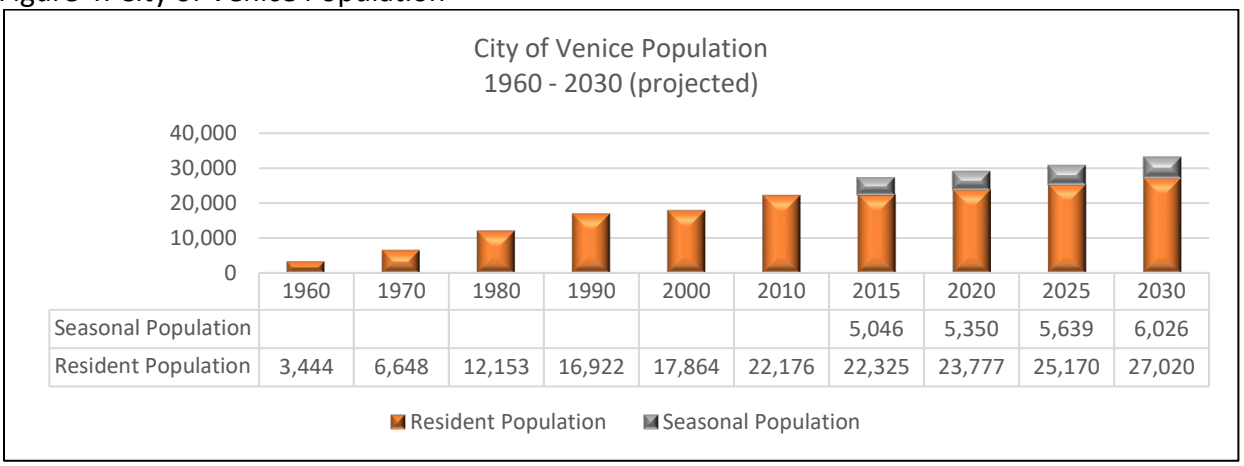
Climate

The City is situated in a subtropical climate and, as such, experiences distinct wet and dry seasons. The wet season extends from June through September and is warm and humid. During this period the City receives approximately two-thirds of its annual 50-inch rainfall thanks to frequent storms. The winter is mild, and the fall and spring tend to be dry. Summer daytime temperatures often reach 90°F or higher. The sub-tropical climate provides frequent extreme weather events like hurricanes and tropical depressions, Venice also receives frequent summer rains. These events contribute to causes of flooding in the area and can become a significant threat to life and property.

Demographic Profile

The City of Venice was incorporated in 1927, after expansion of the railroads, and has experienced a steady growth rate since 1930. The largest growth occurred between 1950 and 1960 when the population grew from 863 to nearly 10,000 people. The latest statistic from the U.S. Census Bureau estimates the 2020 population of the City is 25,463. However, as with most coastal communities in Florida, the City experiences an increase in population during the winter months, with the most recent estimates being approximately 5,350-part time residents. Compared to other cities, Venice has a high percentage of older, primarily retired residents, with a median age of 68 years.

Figure 4: City of Venice Population



	1960	1970	1980	1990	2000	2010	2015	2020	2025	2030
Seasonal Population							5,046	5,350	5,639	6,026
Resident Population	3,444	6,648	12,153	16,922	17,864	22,176	22,325	23,777	25,170	27,020

Housing

Most of the housing units in Venice are Single-Family homes. In recent years there has been a transition to allow a lot coverage maximum of 35%, on Residential Single-Family (RSF) homes, types RSF-1 and RSF-2. The additional lot coverage impacts have the potential to increase runoff from the lots for properties that are not required to obtain either a Southwest Florida Water Management District Permit (SWFWMD) or provide pre-development versus post-development runoff calculations.

Economy and Tax Base

Most residents in the Venice are retired. The residents who are employed tend to work primarily in the service sector, the medical industry, or government and they service tourism and the migration of retirees.

According to the U.S. Census Bureau, the cost-of-living index in Venice, as of July 2016, is 101.5 (U.S. average is 100). Per Capita Income is $47,353 (City of Venice CAFR, p.164). The Unemployment Rate is 5.2% (City of Venice CAFR, p. 164). According to the Sarasota County Property Appraiser (Sarasota County Property Appraiser 2021 Annual Report, p. 6), the 2021 Average Market Value in Sarasota County is $330,917 for single family Residential parcels, and $312,337 for Residential Condominium Parcels. The Taxable Value for Venice is $4,843,152,349 (Sarasota County Property Appraiser 2021 Annual Report, p. 8).

The City collects ad valorem taxes through a millage rate. In fiscal year 2023, the General Fund operating millage was 4.36, and the estimated property taxes were $46,486,846 (2022 City of Venice ACFR, p. 22). The total General Fund budget was $150,130,649 and the total Budget for All Funds was $128,048,942 (2023 City of Venice Budget Book). The City sets aside enough reserve funds to support operating costs for up to 3 months.

Land use patterns

Based on current figures obtained from the City of Venice 2017-2027 Comprehensive Plan (p. 152), the City's land use patterns are shown in Table 1 below, from 2018.

TABLE 1: LAND USE TYPES

Future Land Use	Acreage
Commercial	190
Conservation	608
Government	644
High Density Residential	134
Industrial	516
Institutional Professional	152
Low Density Residential	962
Medium Density Residential	273
Mixed Use Airport	127
Mixed Use Corridor	629

Areas of Unique Concern	49
Mixed Use Downtown	84
Mixed Use Residential	4,306
Mixed Use Seaboard	67
Mixed Use Transitional	214
Moderate Density Residential	566
Open Space Functional	573
ROW	887
Grand Total	10,983

National Flood Insurance Program

The National Flood Insurance Program (NFIP) was approved by Congress in 1968 to make flood insurance available to property owners with buildings located in the high-risk area also known as the Special Flood Hazard Area (SFHA). The SFHA is identified by Flood Insurance Rate Maps (FIRMs). To qualify for participation, a community develops and adopts a regulatory program designed to reduce exposure to flood damage and that conforms to the minimum participating requirements of the NFIP (44CFR, Part 60.3). If the community complies with the minimum requirements, then residents of that community are eligible for flood insurance. There are currently over 5,000 policies in force representing almost $1.2 billion of coverage. The City of Venice has participated in the NFIP since 1974 and have received Flood Insurance Rate Maps (FIRMs) and Flood Insurance Studies (FIS) ever since. FISs are compilations on flood risk information used for community planning and development. FIRMs show flood zones subject to regulations and where Federal flood insurance is required. The most recent map and study update was November 4th, 2016. Preliminary maps have been released for the next map update and these maps are anticipated to become effective in summer 2023. The preliminary maps used storm surge data and an evaluation of Coastal A Zones.

Community Rating System

The Community Rating System is a voluntary incentive program of the NFIP. The program is intended to recognize and encourage a community's floodplain management activities that go above and beyond the minimum requirements set by the NFIP. The City of Venice has participated in CRS since 1991. The CRS program has three goals: to reduce and avoid flood damage to insurable properties; to strengthen and support the insurance aspects of the NFIP; and to foster comprehensive floodplain management. To be recognized in the insurance rating system, local floodplain management activities must be described, measured, and evaluated by the CRS. Communities must apply to participate in CRS and commit to implement and certify activities that contribute to reduced flood risk. Examples of actions communities can take to reduce the cost of flood insurance premiums include:

- Preserving open space in the floodplain;
- Enforcing higher standards for safer development through zoning, stormwater, subdivision, and flood damage protection ordinances;
- Developing hazard mitigation plans and watershed and storm management plans;
- Undertaking engineering studies and prepare flood maps;
- Obtaining grants to buy out or elevate houses or to floodproof businesses;
- Maintaining drainage systems;
- Monitoring flood conditions and issue warnings; and,
- Informing people about flood hazards, flood insurance, and how to reduce flood damage

A community receives a CRS classification based upon the total credit for its activities. Venice is currently a Class 6 as of 2023. A Class 6 allows our residents to be eligible for discounts on their flood insurance, which provides up to a 20% discount in high and low-risk flood areas. This represents a current savings of $697,246 to Venice residents every year. Various outreach templates, brochures, newsletter inserts and social media memes are also included in the Program for Public Information in Appendix K. The State Floodplain Management Office helps CRS communities improve their ratings and helps non-CRS communities qualify for the program. Every community can benefit by adopting and committing to the implementation of Florida's CRS Seven Performance Measures:

1. Adopt floodplain regulations that are coordinated with the Florida Building Code.
2. Conduct annual inspections of flood hazard areas and resolve compliance matters.
3. Adopt a flood zone permit application form, procedure, and checklists.
4. Use FEMA's Elevation Certificate form and verify accurate completion when certificates are submitted.
5. Send letters to local propane and air conditioning companies about compliant installations.
6. Use a set of forms and develop Substantial Improvement/Substantial Damage determination procedures.
7. Provide online public access to digital Flood Insurance Rate Maps and Elevation Certificates.

SECTION 1 - PLAN ORGANIZATION AND DEVELOPMENT

1.1. ORGANIZATION

The FMP provides a comprehensive overview of best management practices adopted and implemented by the City to improve flood risk reduction and flood protection for its residents. It also supports other City regulatory, preservation, conservation, social, and economic needs. The Building Official serves as the Floodplain Administrator for the City. However, floodplain management duties have been delegated to the City Engineer and the CRS Coordinator as they relate to flood zone determinations, review and approval of elevation certificates, flood insurance coverage evaluation and public outreach activities.

1.2. PLANNING COMMITTEE

In order to improve the effectiveness of floodplain management, outreach efforts, and the number of flood insured properties, City Council approved and adopted Resolution No. 2014-27 on August 12, 2014. This resolution created the CRS Committee, whose purpose is to create a joint Floodplain Management Plan (FMP), Program for Public Information Plan (PPI) and Coverage Improvement Plan (CIP). Resolution No. 2014-27 can be found in Appendix I.

The CRS Committee was created to address specific target audiences in order to evaluate the current outreach activities more effectively and to recommend areas of improvement to be incorporated into the plan documents. The committee includes both City staff and public stakeholders. CRS Committee members are appointed by the City Engineer with the intent to provide a broad spectrum of experience and perspective.

. The planning document was distributed to City Council, discussed during the adoption process, and referred to for guidance during committee meetings.

The Committee regularly meets four times a year to update the plan. Key topics in the meetings include:

- Implementing Plan Organization
- Encouraging Public Involvement
- Assessing flood hazards that affect the City of Venice
- Assessing the problems brought about by flood hazards
- Reviewing Floodplain Management goals
- Reviewing possible floodplain management activities
- Developing an action plan
- Reviewing the effectiveness of existing programs and recommended updates

1.3. CRS COMMITTEE MEMBERS

The following members are currently serving on the CRS Committee:

City Staff:

- Engineering –The City Engineer and Stormwater Utility Director is responsible for floodplain management and communication
- Planning & Zoning – A Planner or Planning Manager is responsible for management of the City's land use and comprehensive planning.
- Building Division – A Plans Examiner or Building Official is responsible for reviewing plans for building permits to verify that the proposed construction is consistent with the FBC, FEMA and City code requirements.

Public Stakeholders:

- Per Resolution No. 2021-33, in Appendix J, Five shall be members from the public, meeting at least one of the following criteria : a city resident, business owner, property owner, or tenant located within the special flood hazard area; a stakeholder within the community such as an emergency/disaster responder, member of the chamber of commerce or other business group, representative of a utility company, real estate office, insurance agency, developer/contractor, civic group, environmental organization, academia, non-profit organization, or major local employer; or staff from other governmental agencies such as the local housing authority, Natural Resources Conservation Service, or the National Weather Service.

City Staff Liaisons:

- The Public Information Officer issues any formal press releases and social media blasts that are issued for the CRS program.
- The CRS Coordinator completes committee related activities such as drafting plans and revisions, incorporating committee and public recommendations into the plan documents, preparing agendas, meeting minutes and outreach material preparation and distribution.

County Staff Liaison:

- The County CRS Coordinator increases our committee's coordination with Sarasota County on the issues discussed at the meetings.

CRS Planning Credit Activity Checklist

The following table provides the 10-step CRS planning credit activity checklist for the Floodplain Management Plan update and the page number within this plan that describes the completion of each planning step in more detail.

TABLE 2: CRS STEPS TO UPDATE AN FMP

CRS Step	
1. Organize to prepare the plan.	
a. Involvement of office responsible for community planning	Page 23
b. Planning committee of department staff	Page 23
c. Process formally created by the community's governing board	Page 22
2. Involve the public.	
a. Planning process conducted through a planning committee	Page 26
b. Public meetings held at the beginning of the planning process	Page 27
c. Public meeting held on draft plan	Page 27
d. Other public information activities to encourage input	Page 27
3. Coordinate with other agencies.	
a. Review of existing studies and plans	Page 28
b. Coordinating with communities and other agencies	Page 28
4. Assess the hazard.	
a. Plan includes an assessment of the flood hazard with:	Page 30
(1) A map of known flood hazards	Page 32
(2) A description of known flood hazards	Page 33
(3) A discussion of past floods	Page 46
b. Plan includes assessment of less frequent floods	Page 50
c. Plan includes assessment of areas likely to flood	Page 51
d. The plan describes other natural hazards	Page 53
5. Assess the problem.	
a. Summary of each hazard identified in the hazard assessment and their community impact	Page 63
b. Description of the impact of the hazards on:	Page 65
(1) Life, safety, health, procedures for warning and evacuation	Page 65
(2) Public health including health hazards to floodwaters/mold	Page 66
(3) Critical facilities and infrastructure	Page 66
(4) The community's economy and tax base	Page 68
(5) Number and type of affected buildings	Page 68
c. Review of all damaged buildings/flood insurance claims	Page 69
d. Areas that provide natural floodplain functions	Page 83
e. Development/redevelopment/Population Trends	Page 19
f. Impact of future flooding conditions outline in Step 4, item c	Page 76
6. Set goals.	
7. Review possible activities.	
a. Preventive activities	Page 79
b. Floodplain Management Regulatory/current & future conditions	Page 79
c. Property protection activities	Page 97
d. Natural resource protection activities	Page 98
e. Emergency services activities	Page 100
f. Structural projects	Page 102
g. Public information activities	Page 102
8. Draft an action plan.	

SECTION 2: PUBLIC INVOLVEMENT

2.1. PUBLIC INPUT AND REVIEW

During the update process, the CRS Committee actively provided input and review of the annual FMP update. To make the document more user friendly, inviting, and clear to the public, the general overall format was upgraded to be more consistent with the Sarasota County Floodplain Management Plan. Many outreach brochures and documents were updated to appeal to a larger audience for traditional mailings, emails, and newsletters. The CRS Committee was presented with the updated outreach materials for review and input with the goal to make the program more effective and increase awareness. The full plan was reformatted to flow easier and provide clarity to readers and our new more effective PPI materials. The CRS Committee also reviewed the projects listed on the Venice LMS and CIP.

From May 2021 to February 2023, the CRS Committee met 6 times prior to adoption of the plan and conducted additional review of the plan documents through e-mail distribution. All meetings were publicly posted and open to the public. In addition, the revised document and meeting information were published for the general public. The plan was presented to City Council at a public meeting with an opportunity for public comment during the meeting. The plan was published prior to the City Council meeting in the Agenda Packet to give an opportunity for additional public input prior to the formal adoption.

Members of the public and press were invited to attend and provide input at all meetings. The public was informed of the update process through social media blasts, email blasts, a website page, and noticed public meetings.

Table 3: Notice of Public Meetings

Event	Action	Date
Press Releases	Public awareness of update (Appendix C)	7-22-21 8-17-21
Noticed Public Meetings	CRS Meeting dates, agendas and minutes posted on website for public input (Appendix B)	Ongoing
Online Survey	Solicit feedback from the public (Appendix E)	Ongoing
Draft on Website	First ADA accessible draft posted for public comment	11/2/22
News Alert on Website	Public Awareness of the update (Appendix F)	8/18/21

2.2. CRS Committee Meetings for the Update of the FMP

Table 4: CRS Committee Meetings

Meeting #	Date	FMP Section #	Topic	Meeting Location
Meeting #1	5/3/21	N/A	Discuss update of plan and schedule	Virtual Meeting
Meeting #2	8/3/21	Sections 1-4	1. Organize to Prepare the Plan 2. Involve the Public 3. Coordinate with Other Agencies 4. Assess the Hazards	Venice City Hall
Meeting #3	10/5/21	Section 5	5. Assess the Problem	Venice City Hall
Meeting #4	8/2/22	Sections 6-7	6. Set Goals 7. Review Possible Activities	Venice City Hall
Meeting #5	11/1/22	Sections 8-10	8. Draft an Action Plan 9. Adopt the Plan 10. Implement, Evaluate and Revise	Venice City Hall
Meeting #6	2/1/23	All of FMP	Discuss adoption of plan	Venice City Hall

2.3. Public Information Activities

The city has developed other methods to inform the public about the FMP. These activities include:

- A webpage that provides information about the plan to the public and encourages input. The City Clerk's office posts the Notice of Meeting, Agendas and Minutes of each meeting on the city website.

- A survey is available online and occasionally advertised via our newsletter and social media. This survey includes questions about recent flooding history in the area and insurance information. Printed copies are also made available.

- Sarasota County hosts outreach workshops near Venice. These workshops are advertised through our city newsletter and social media.

SECTION 3: COORDINATION WITH OTHER AGENCIES AND ORGANIZATIONS

Other communities in the region face very similar flooding issues as the City and have developed their own plans to address the problem. Many of these plans were reviewed by the City of Venice while developing the FMP. The City maintains regular contact with other communities to discuss floodplain management activities as well as ideas and strategies to implement the FMP more effectively.

Review of Existing Studies and Information

Plans and data that were reviewed include but are not limited to:

- City of Venice 2017-2027 Comprehensive Plan
- City of Venice Repetitive Loss Area Analysis
- Watershed Management Plans
- City of Venice Capital Improvement Program
- Sarasota County Local Mitigation Strategy
- FEMA Flood Insurance Study and DFIRM
- Sarasota County Floodplain Management Plan
- City of Venice Comprehensive Emergency Management Plan
- City of Venice Code of Ordinances

3.1. COUNTY LMS MEETINGS

The Federal Disaster Mitigation Act of 2000 (DMA2000) requires all local agencies in the country to adopt a federally approved Multi-Hazard Mitigation Plan in order to receive post-disaster funds. The City of Venice complies with this requirement through our multi-Hazard, Multi-Jurisdictional, LMS Plan with Sarasota County, and the cities of Sarasota, Northport, and the Town of Longboat Key. The LMS meetings are held quarterly to discuss updates to the LMS plan. Grant application availability for municipalities in Sarasota are also discussed. The Sarasota County LMS is available online at scgov.net.

3.2. COUNTY FLOODPLAIN MANAGEMENT PLAN (FMP) COMMITTEE

The County FMP meetings are held quarterly. Different aspects of floodplain management are discussed to share ideas and strategies for implementing the FMP. The City of Venice participates in these meetings and we update our FMP to incorporate improvements to our program that are discussed in the meeting.

3.3. COUNTY-WIDE PROGRAM FOR PUBLIC INFORMATION (PPI) COMMITTEE

To improve the effectiveness of the PPI program, the City of Venice joined the County-wide PPI Committee. The Multi-Jurisdictional Program for Public Information (County-wide PPI) was reviewed by our CRS committee before it was adopted by resolution by the City of Venice City

Council July 14, 2020. It has been incorporated into the City's Floodplain Management and PPI program by resolution. From this point forward, the City will continue to complete the local City PPI activities included in Appendix I of this document in addition to the programs provided by the County-wide PPI to increase public information provided. The County-wide PPI was adopted by Resolution by BOCC on January 29, 2019 as an annex to the Unified Multi-Jurisdictional Local Mitigation Strategy (LMS). This LMS also includes the City of Venice adopted FMP as an annex along with the City's updated LMS Project List. The LMS and County-wide PPI includes of all the municipalities in Sarasota County, including: The City of Venice, City of North Port, City of Sarasota, the Town of Longboat Key, and unincorporated Sarasota County. The Unified Program for Public Information Plan can be found in Appendix K and at https://www.scgov.net/government/public-works/program-for-public-information.

3.1. Pinellas Community Rating System (CRS) Working Group

The CRS working group meetings consist of representatives from municipalities in Pinellas and Sarasota County. Different aspects of floodplain management are discussed to share ideas and strategies for implementing the FMP. Virtual meetings are held quarterly.

SECTION 4 - ASSESSMENT OF FLOOD HAZARDS

This section describes the known flood hazards within the City of Venice, their history of occurrence, and areas that are likely to be impacted by those hazards. Venice is a small coastal community characterized by low, flat topography and a high-water table. These characteristics make the County highly susceptible to the effects of flood damage caused by hurricanes, tropical storms, and heavy rain. Since 1978, the NFIP has paid $38 billion in closed paid losses in Venice.

The population in Venice is projected to increase within the next 25 years. This will be accompanied by an increase in new developments and homes, placing more stressors for flooding in terms of increased runoff and location of structures in at-risk areas. To reduce the risk of damage due to flooding for these new developments, the city implements regulations that exceeds the minimum requirements of the NFIP. FEMA continues to update the Flood Insurance Rate Maps (FIRM) with improved risk information based on newer and better data.

Flooding can be attributed to several types of natural hazards that may occur in this region, including coastal flooding, inland flooding due to frequent and heavy rains, tropical storms, and hurricanes. By nature of its location along the coast of the Gulf of Mexico, Venice is continuously at risk of coastal flooding in conjunction with tropical storms, hurricanes, and heavy rain. High tide conditions increase the effects of storm surge and inland flooding due to high tail water conditions. Outside of coastal areas, the Myakka River is prone to storm surge, high tail water conditions and westerly winds.

The Venice staff coordinates with the National Weather Service to receive warnings regarding the source of flooding, warning times and expected depth of flooding. The County also maintains gauges that provide additional information including rainfall amount, flow, velocities, and depth. Gauge information can be found at https://sarasota.wateratlas.usf.edu/rainfall/latest/.

In 2021, the City coordinated with Sarasota County on the preparation of a Sarasota County Post Disaster Redevelopment Plan (PDRP). As part of the planning process the City held meetings with representatives from outside agencies, including the Red Cross, SWFWMD, FDEP, Florida Fish and Wildlife (FWC) and the Charlotte Harbor National Estuary Program. The representatives provided input and support to the City's long-term comprehensive plan goals and objectives.

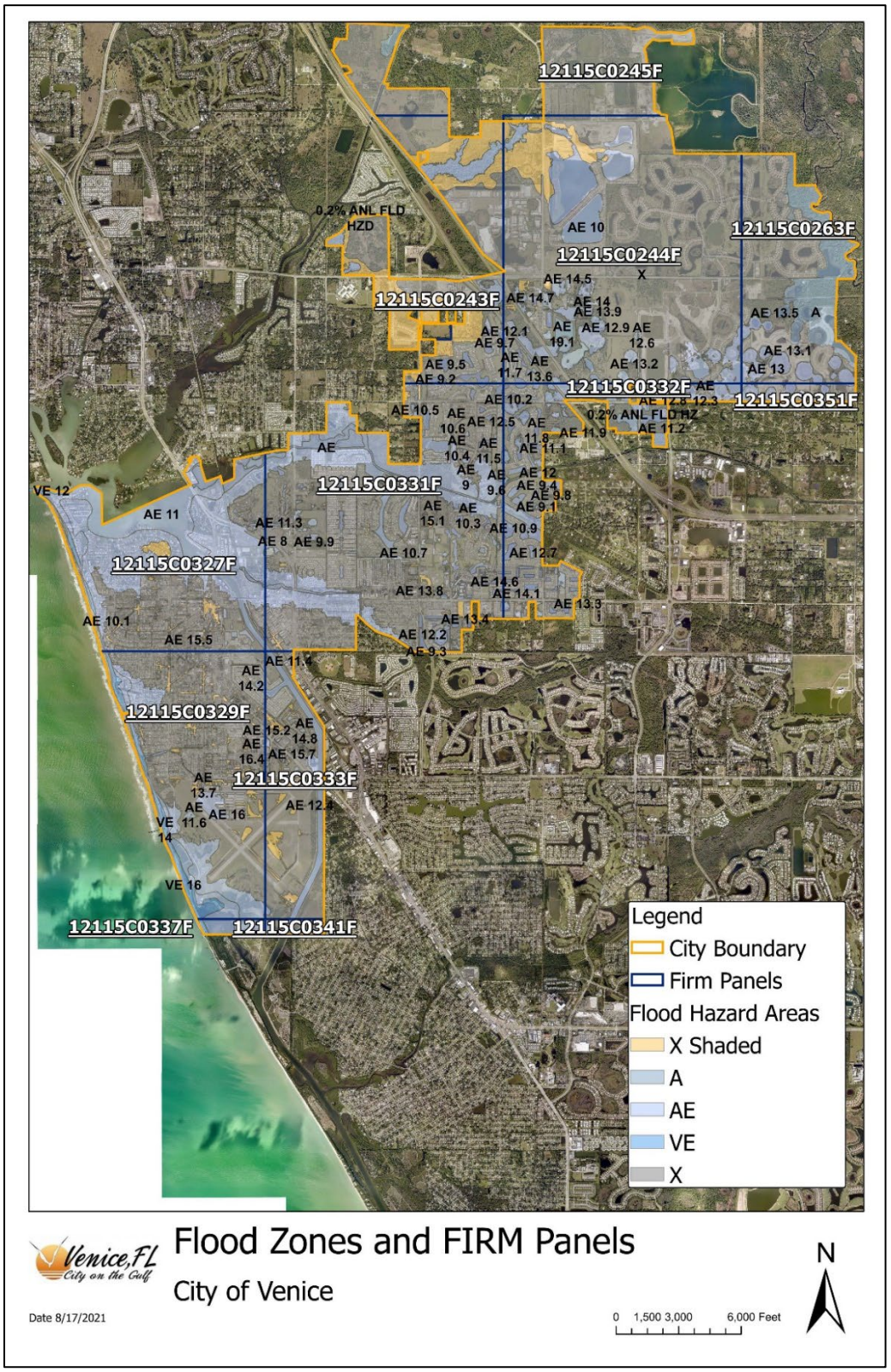
A PDRP identifies policies, operational strategies and decisions that affect long- term recovery and redevelopment after a disaster. It emphasizes pre-event actions for hazard mitigation, and

community improvement consistent with the local comprehensive plan and citizen participation. It is a countywide plan that may also be adopted by the municipalities. As part of the PDRP, staff created a checklist and flowchart designed to assist homeowners in the rebuilding process. These tools can help expedite the permitting process in post-disaster situations. The plan can be found at scgov.net keyword search "PDRP.".

Table 5: Flood Zone Designations

Moderate to Low-Risk Areas	
X Shaded	Moderate risk areas within the 0.2-percent-annual-chance floodplain, areas of 1-percent-annual-chance flooding where average depths are less than 1 foot, and areas of 1-percent-annual-chance flooding where the contributing drainage area is less than 1 square mile. No BFEs or base flood depths are shown within these zones.
X	Area of minimal flood hazard, usually depicted on FIRMs as above the 500-year flood level. Zone X is the area determined to be outside the 500-year flood.
High Risk Areas	
A	Areas with a 1% annual chance of flooding and a 26% chance of flooding over the life of a 30-year mortgage. Because detailed analyses are not performed for such areas; no depths or base flood elevations are shown within these zones.
AE	The base floodplain where base flood elevations are provided. AE Zones are now used on new format FIRMs instead of A1-A30 Zones
VE	Areas along coasts subject to inundation by the 1-percent-annual-chance flood event with additional hazards due to storm-induced velocity wave action. BFEs derived from detailed hydraulic coastal analyses are shown within these zones.
AO	Areas subject to inundation by 1-percent-annual-chance shallow flooding (usually sheet flow on sloping terrain) where average depths are between one and three feet. Average flood depths derived from detailed hydraulic analyses are shown in this zone.

Figure 5: Flood Zones and FIRM Panels Map



4.1. FLOODING

The City experiences seasonal flooding as does most of Florida. According to the Sarasota County Department of Emergency Management all of Sarasota County and its municipalities are flood prone. Some areas are more likely to flood than others especially areas near the coast, adjacent to bays, inlets, creeks, rivers, or portions of the Intracoastal Waterway (ICW). The circumstances for flooding occurring on the island of the City are substantially different than those to mainland areas due to storm surges coming from back bays like Hatchett Creek at Roberts Bay, Deertown Gulley, and Flamingo Ditch Many of the flooding issues on the Island are localized to these areas. Much of the older infrastructure has been replaced throughout the island so it has aided in proper stormwater discharge. Increased impervious areas increase the possibility of flooding throughout the City.

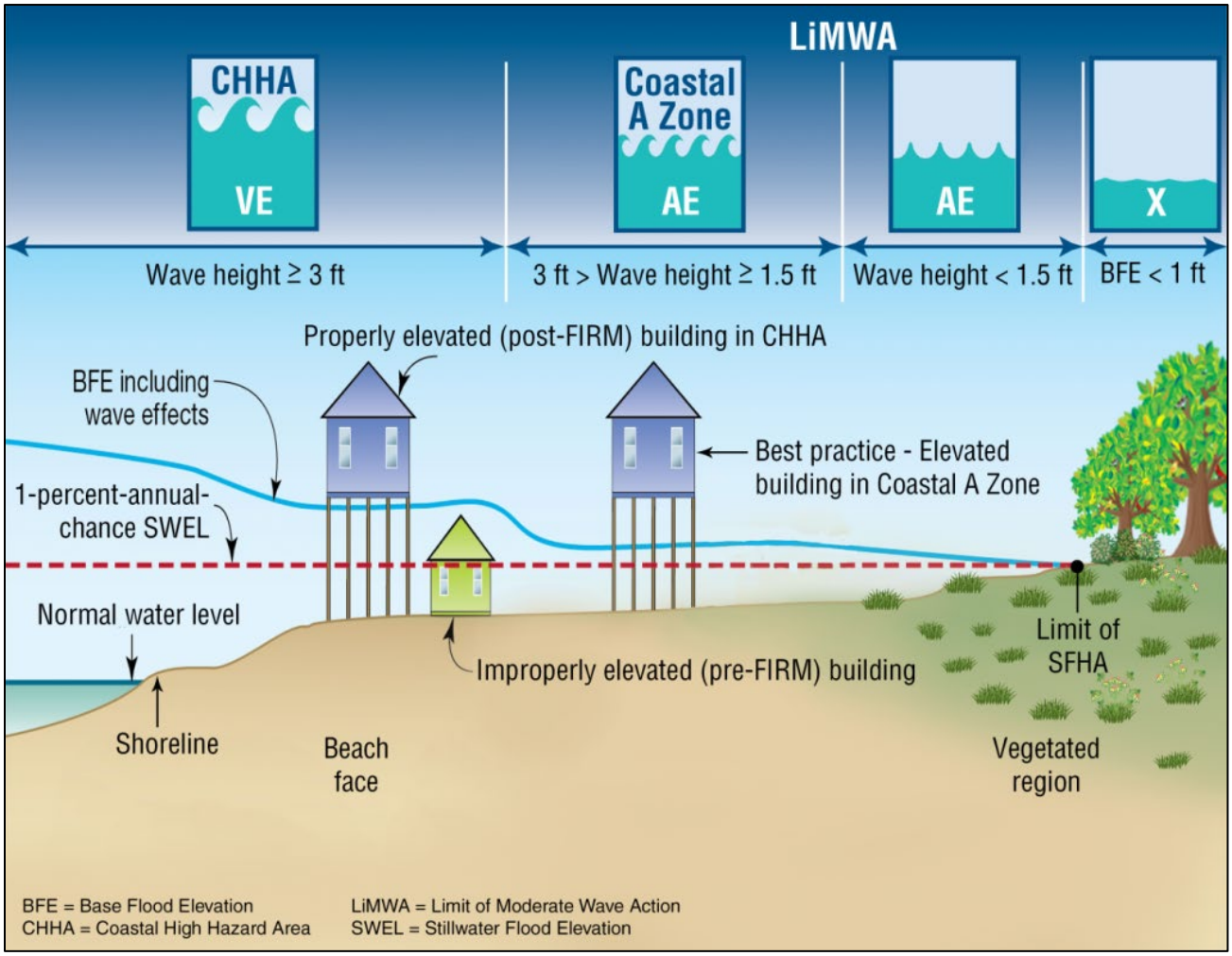
The Special Flood Hazard Area (SFHA) represents the area having special flood, mudflow, or flood-related erosion hazards and subject to inundation by 1% annual chance flood. Areas not in the SFHA are considered moderate or minimal risk areas, and they include X and X Shaded (or X-500). Areas of moderate or minimal hazard are studied based upon the principal source of flood in the area. However, buildings in these zones could be flooded by severe, concentrated rainfall coupled with inadequate local drainage systems. Local stormwater drainage systems are not normally considered in a community's flood insurance study. The failure of a local drainage system can create areas of high flood risk within these zones. Flood insurance is available in participating communities, but is not required by regulation in these zones. Nearly 40% of all flood claims filed are for structures located within these zones.

There are two types of flooding: coastal, and inland.

4.2. COASTAL FLOODING

The City of Venice coastline stretches about four miles along the Gulf of Mexico, making the City extremely vulnerable to coastal flooding. Coastal flooding is usually the result of a severe weather system such as a severe thunderstorm, hurricane, or tropical storm with high winds and intense rainfall. Water driven ashore by the wind, known as a storm surge, is the main cause of coastal flooding as well as low-lying canals subject to tidal surge. The damaging effects to structures on the beach areas are caused by a combination of higher levels of storm surge, winds, waves, rains, erosion, and battering by debris. Sea walls, jetties, and beach areas are affected by coastal flooding, and losses can occur over short or long periods of time.

Figure 6: Understanding the Coastal Floodplain



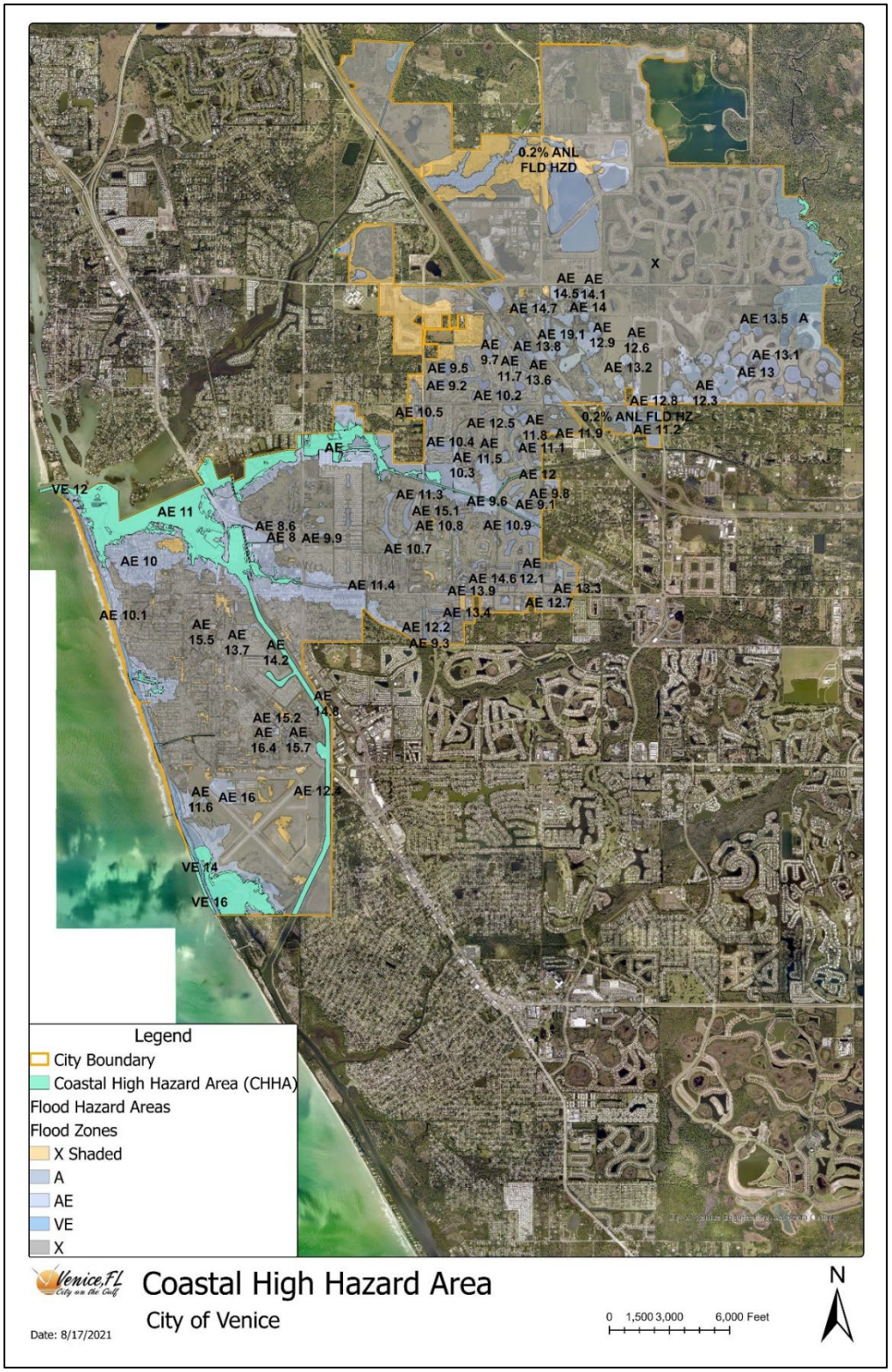
The Coastal High Hazard Area (CHHA) or VE Zone, is the Special Flood Hazard Area that extends from offshore to the inland limit of a primary frontal dune along an open coast and any other area subject to high velocity wave action. Waves can be greater than or equal to three feet. This area includes Zone VE. To address the added wave hazard, more stringent building practices are required in V Zones, such as elevating a home on pilings so that waves can pass beneath it, or a prohibition to building on fill, which can be easily washed away by waves. These practices are intended to improve the chance of a home safely weathering a flood event. Zone VE is the flood insurance rate zone that corresponds to areas within the 1% annual chance coastal floodplain that have additional hazards associated with storm waves. Base Flood Elevations derived from the detailed hydraulic analyses are shown at selected intervals within this zone.

The term Coastal A Zone (CAZ) refers to a portion of the SFHA landward of V Zones or landward of an open coast without V Zones. CAZs may be subject to breaking waves between one and a half and three feet high.

Flood maps in coastal areas may also include a line called the Limit of Moderate Wave Action (LiMWA). The LiMWA marks the inland limit of the Coastal A Zone where waves can reach one and a half feet or greater. On a flood map, it is shown as a black line with black arrows.

The remaining portion of the Special Flood Hazard Area are the A Zones (not part of the CHHA), which can include Zones AE, A10A30, AH, AO, and AR. Wave heights can be up to one and a half feet.

Figure 7: Coastal High Hazard Area (CHHA)



4.3. STORM SURGE

Storm surge is the most dangerous and destructive part of coastal flooding. It can turn a peaceful waterfront into a rushing wall of water that floods homes, erodes beaches and damages roadways. Storm surge is the abnormal rise in seawater level during a storm, measured as the height of the water above the normal predicted astronomical tide. The surge is caused primarily by a storm's winds pushing water onshore. The advancing surge combined with normal tides creates a hurricane storm tide, raising the average water level 15 feet or more. Sand dunes can be washed out, buildings near the coast can be toppled, and the surge can push flooding miles inland through rivers and back bays. Storm surge occurs along the coastline, the City's westward boundary, the Gulf of Mexico. 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.

Figure 8: Photo of Venice Pier

Figure 9: Storm Surge Diagram

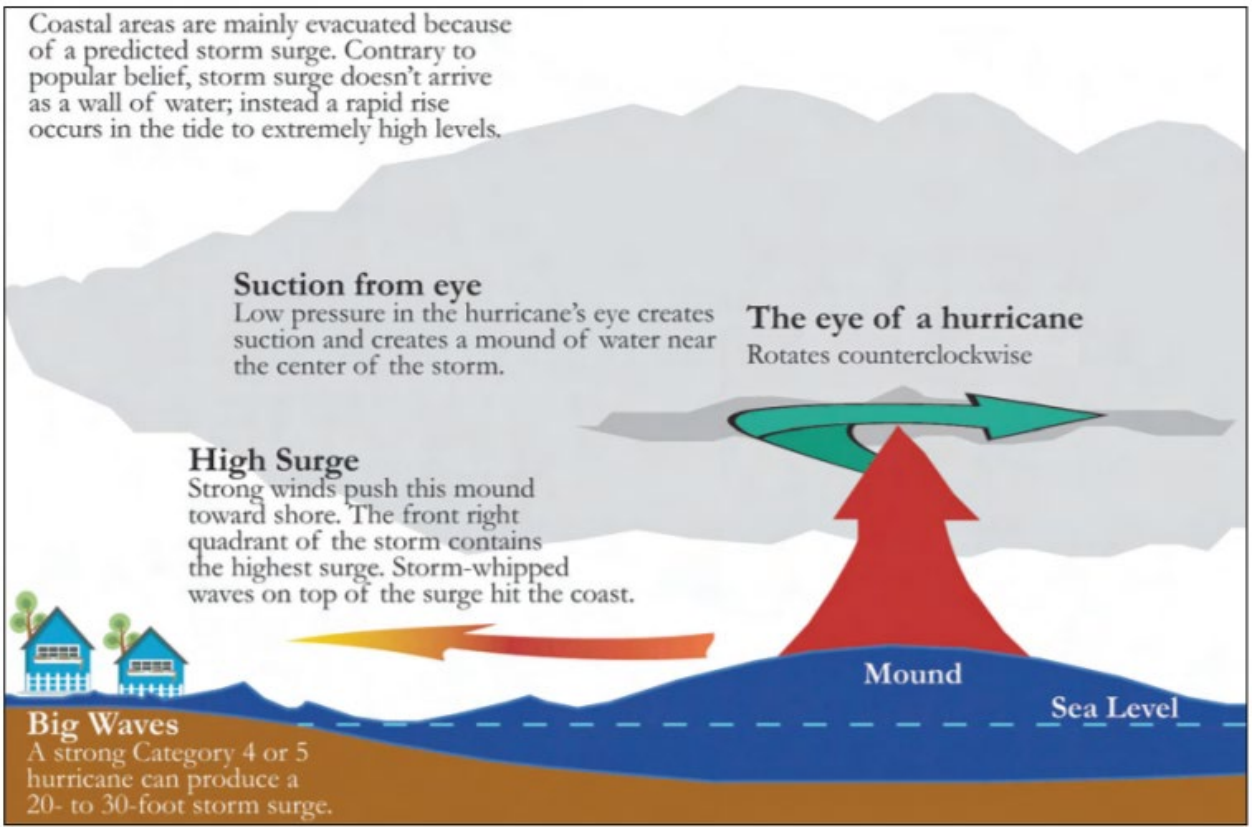
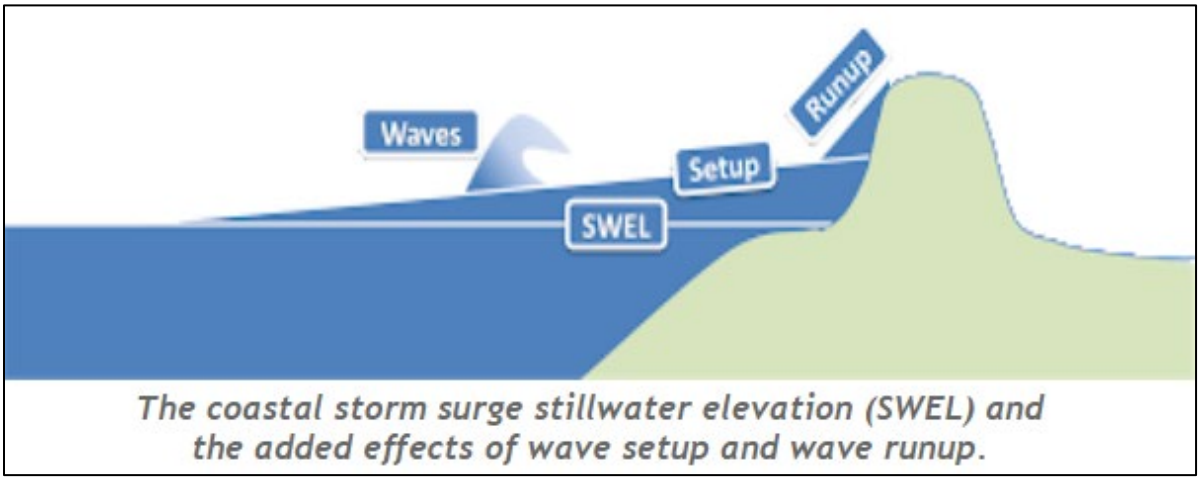


Figure 10: Coastal Storm Surge Stillwater Elevation



In addition to storm surge, waves play an important role in coastal flooding. FEMA typically uses a computer simulation model called the Wave Height Analysis for Flood Insurance Studies (WHAFIS) to perform overland wave modeling. This model considers water depth, wind speed, vegetative cover, building density, and other factors to predict the heights of waves, which plays an important role in determining coastal BFEs and flood zones. Wave run-up is the rush of

water that extends inland when waves come ashore. The overland wave analysis will determine the elevations to which wave run-up extends during a storm event. These elevations may be higher than the Stillwater elevations computed as part of the storm surge analysis. In addition to the effects of wave run-up and the computed storm surge Stillwater elevation, there is also an increase in the water level caused by waves breaking ashore during a storm event. This increase in the water level is called 'wave setup', which can be a significant factor in determining coastal BFEs. Wave setup is affected by the height of the waves, the speed at which waves approach the shore, and the slope of the ground near the shore.

Historically, the City has experienced several damaging coastal floods caused by wind-driven water associated with high tide. Tropical storms and hurricanes can produce coastal flooding, although they are not the only conditions under which such flooding occurs. For a full list of previous flood events see Table 6 at the end of this section. The probability of coastal flooding in the City is relatively high. This probability increases if the storm strikes the coastline during high tide.

Residences along the Venice coast are highly vulnerable to coastal flooding due to storm surge and/or high tide. The most vulnerable locations to storm surge are the area of the City near Donna Bay, along creeks, rivers, and ditches, and the area southwest of the airport according to the SLOSH model and the evacuation levels. This often occurs because these areas are closest to the coast.

4.4. Inland Flooding

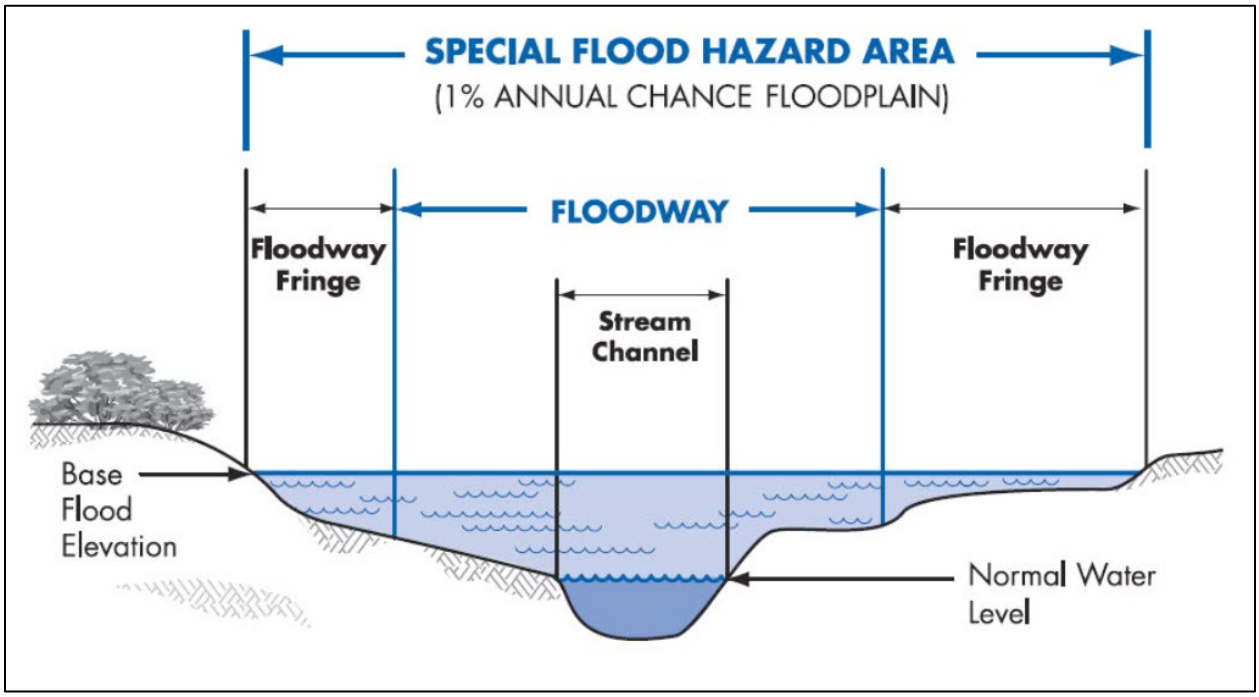
Flooding has been the most frequently occurring natural hazard in the City of Venice, including inland flooding due to heavy rains, whether or not the rains are associated with tropical storms or hurricanes. Prolonged periods of rainfall have shown increased potential for causing damage to property and requiring residents to evacuate due to flooding. This problem can become more severe if the heavy rainfall occurs at the same time as a high tide, which prevents much of the rainwater from flowing through the drainage systems into the bays or Gulf of Mexico.

Tropical storms and hurricanes can often produce inland flooding, although they are not the only conditions under which such flooding occurs. Most of the riverine flooding, within the Hatchett Creek, Curry Creek and Myakka River basins, appears to be along the major drainage ditches and the surrounding low-lying areas.

Flooding from Hatchett Creek generally occurs from the East Gate subdivision to the West. Flooding in this area has resulted from Hatchett Creek overflowing its banks. 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. The impact to the Housing Authority

property has been reduced due to tearing down of the existing structures, and replacing it with elevated structures and floodplain modeling to verify floodplain compensation impacts are addressed. Warning time is sometimes limited by the quick development of afternoon rain events.

Figure 11: Riverine (Fluvial) Flooding



The dynamics of riverine flooding vary with terrain. In relatively flat areas, land may stay covered with shallow, slow-moving floodwater for days or even weeks. Overbank flooding of rivers and streams is the increase in volume of water within a river channel and the overflow of water from the channel onto the adjacent floodplain. This represents the classic flooding event that most people associate with the term “flood.” A flash flood is a rapid and extreme flow of high water into a normally dry area, or a rapid rise in a stream or creek above a predetermined flood level, beginning within six hours of the causative event (e.g., intense rainfall).

Roads and low-lying areas along Curry Creek are known to have past flood problems. These areas include Bay Indies Mobile Home Park, and Roberts Bay Estates, estates. Residents generally have enough warning time to evacuate.

Storm events can be described as the amount of precipitation that occurs over a given duration (e.g., 10 inches of rain over a 24-hour period). Typically, the probability of these storm events is categorized as follows, consistent with United States Geological Survey (USGS) and FEMA terminology:

- 100-year storm = 1% chance of a flood every year
- 50-year storm = 2% chance of a flood every year

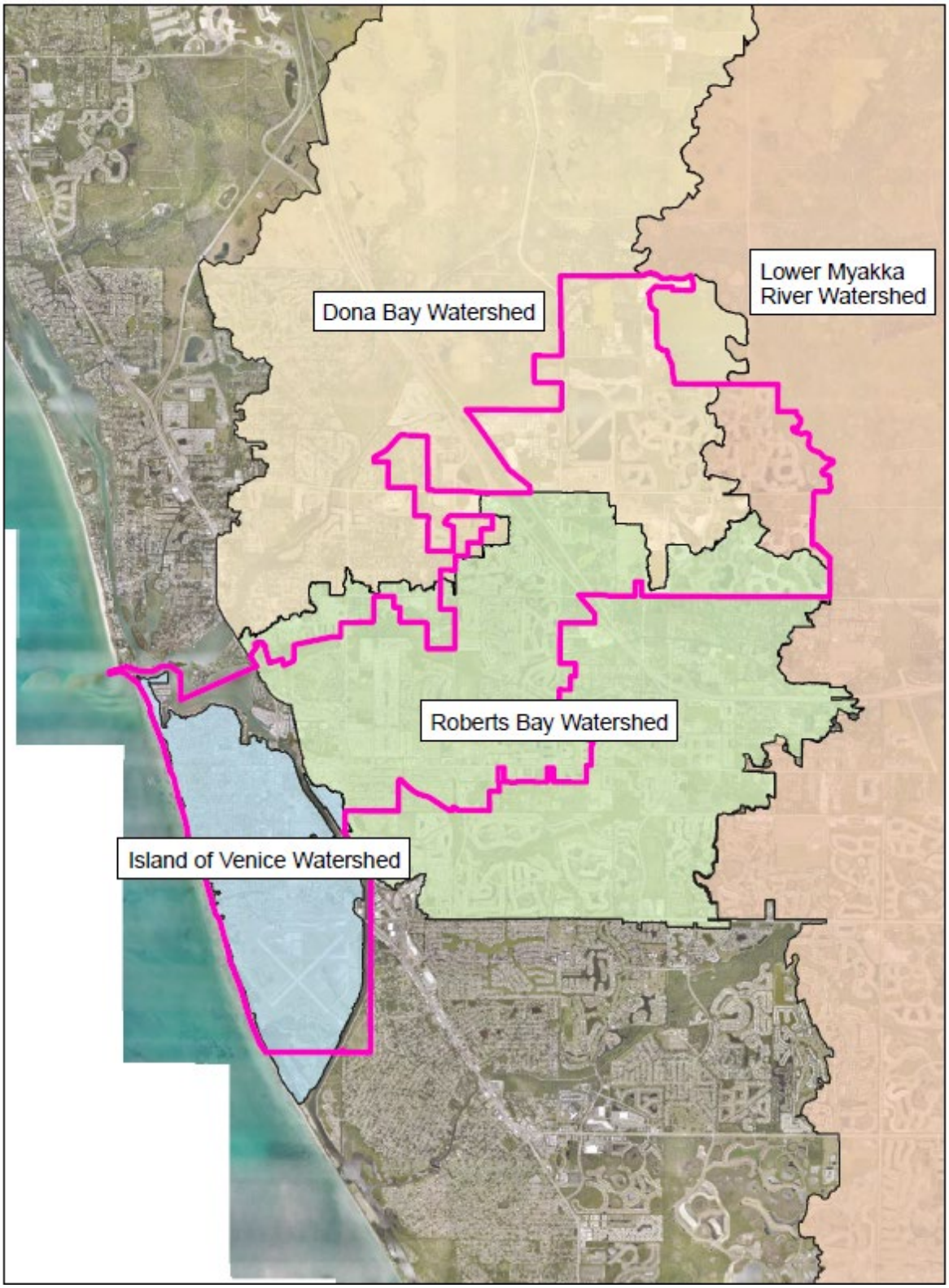
- 25-year storm = 4% chance of a flood every year
- 10-year storm = 10% chance of a flood every year

These categories indicate a probability of occurrence (a 100-year flood has a 1% chance of occurrence in any given year). The smaller the chance of occurrence is, the more devastating the flood potential may be. Each of the flood categories is associated with a specific amount of rainfall over a given duration for a specific region. For Venice, the 25-year flood is characterized as receiving 8 inches of rain within a 24-hour period, while the 100-year flood is associated with 10 inches of rain within a 24-hour period.

Most vulnerable are structures built before the county entered the NFIP in 1974 are called pre-FIRM structures. Sarasota County has developed and maintained a comprehensive Watershed Management Plan for all watersheds within the County. These plans include stormwater models developed to describe the flooding potential for areas within the City. The plans were developed in coordination with the Southwest Florida Water Management District (SWFWMD), which oversees the management of the region's water resources and includes flood protection and issuing of permits to ensure that new developments do not cause flooding. The results of these plans help to identify those areas that are vulnerable to flooding from small storms or less frequent, larger storms. The following descriptions highlight the watersheds and the drainage systems that they contain that are within City of Venice limits.

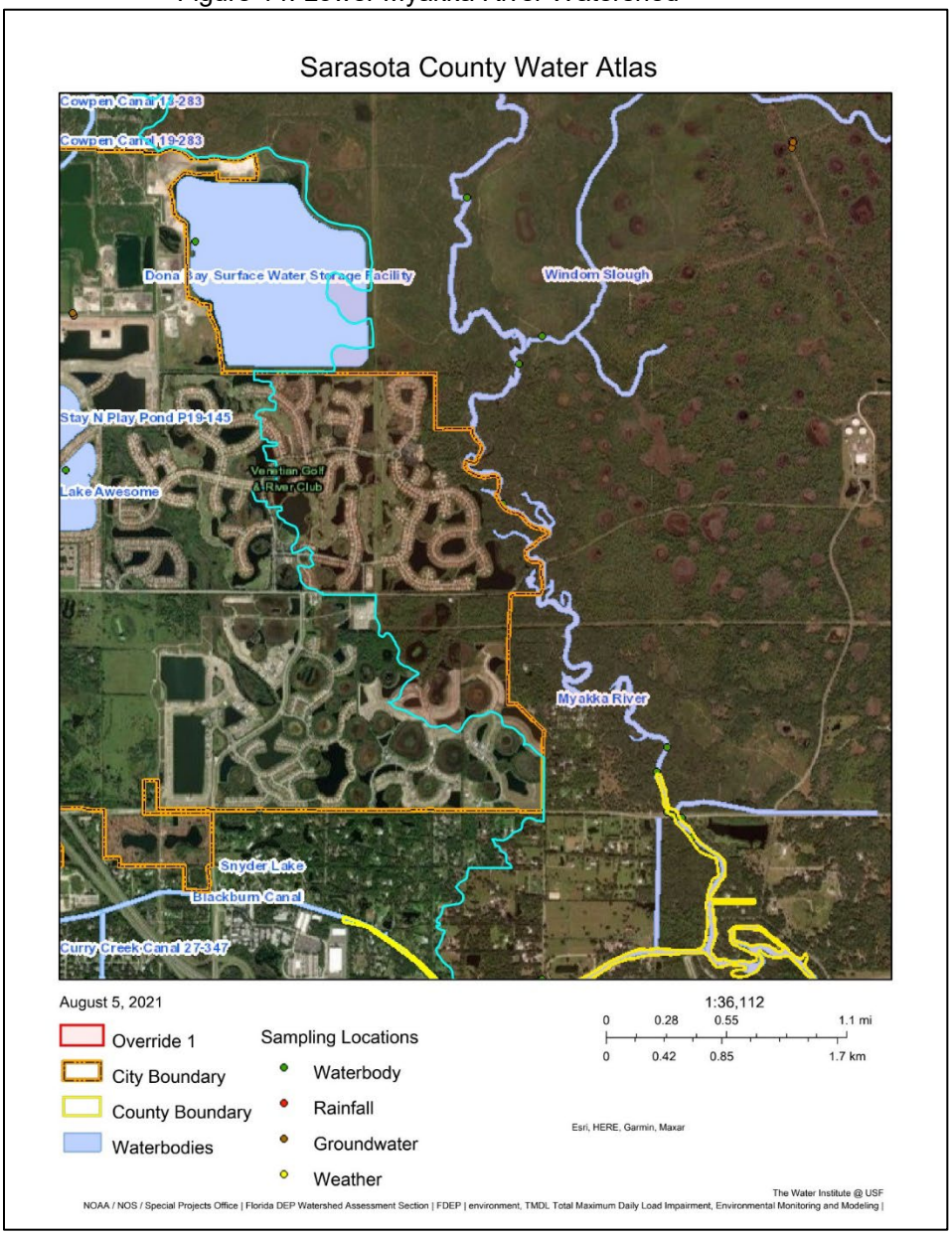
Figure 12: Myakka River Park Flooding

Figure 13: Watersheds within Venice



- **Dona and Roberts Bay Watersheds:** Cow Pen Slough, Fox Creek, Curry Creek, Dona/Roberts Bay Coastal, Hatchett Creek, and Island of Venice.
- **Lower Myakka River Watershed:** Big Slough Canal, Curry Creek, Deer Prairie Creek, East Cocoplum Waterway, Harris Camp, Howard Creek, Lake Myakka, Lower Myakka River, Maple Creek, Mossy Island Slough, Mud Lake Slough, North Cocoplum Waterway, Oglegy Creek, Owen Creek, South Cocoplum Waterway, Tatum Sawgrass Swamp, Tippecanoe Bay, West Cocoplum Waterway, Wildcat Slough, and Wingate Creek.
- **Island of Venice Watershed:** Coastal areas of the City of Venice.

Figure 14: Lower Myakka River Watershed



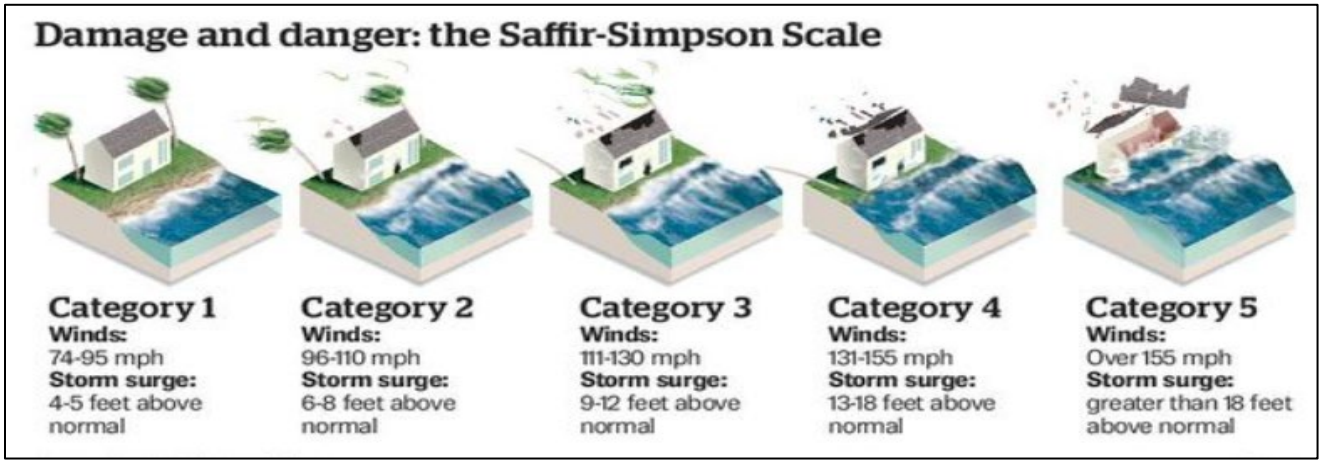
4.5. TROPICAL STORM/HURRICANE

Tropical storms and hurricanes are large cyclonic storms with counterclockwise winds of 39 mph or greater. If the conditions are right, with warm ocean water and favorable high-altitude winds, the system could develop winds in excess of 155 miles per hour, with catastrophic results if it makes landfall in populated areas. The following are descriptions of the three general levels of development for hurricanes:

- Tropical depression: The formative stages of a tropical cyclone in which the maximum sustained surface wind is 38 mph or less.
- Tropical storm: A warm core tropical cyclone in which the maximum sustained surface wind ranges from 39–73 mph.
- Hurricane: A warm core tropical cyclone in which the maximum sustained surface wind is 74 mph or greater.

Hurricanes season in Florida is June 1st through November 30th. Hurricanes are measured by the Saffir-Simpson Scale, see Figure 8 below. Hurricanes in Category 3 or higher are considered major hurricanes because they have the potential to be devastating or catastrophic. A category 3 hurricane would cause flooding of the most heavily populated portions of the City. A category 4 or 5 hurricane would cause flooding almost to the I-75 corridor. Category 1 and 2 are still dangerous and require preventative measures.

Figure 15: Saffir-Simpson Scale



NOAA describes the damage potential for each category as follows:

- **Category 1:** Very dangerous winds will produce some damage: Well-constructed frame homes could have damage to roof, shingles, vinyl siding, and gutters. Large branches of trees will snap and shallowly rooted trees may be toppled. Extensive damage to power lines and poles likely will result in power outages that could last a few to several days.

- **Category 2:** Extremely dangerous winds will cause extensive damage: Well-constructed frame homes could sustain major roof and siding damage. Many shallowly rooted trees will be snapped or uprooted and block numerous roads. Near-total power loss is expected with outages that could last from several days to weeks.
- **Category 3:** Devastating damage will occur: Well-built framed homes may incur major damage or removal of roof decking and gable ends. Many trees will be snapped or uprooted, blocking numerous roads. Electricity and water will be unavailable for several days to weeks after the storm passes.
- **Category 4:** Catastrophic damage will occur: Well-built framed homes can sustain severe damage with loss of most of the roof structure and/or some exterior walls. Most trees will be snapped or uprooted and power poles downed. Fallen trees and power poles will isolate residential areas. Power outages will last weeks to possibly months. Most of the area will be uninhabitable for weeks or months.
- **Category 5:** Catastrophic damage will occur: A high percentage of framed homes will be destroyed, with total roof failure and wall collapse. Fallen trees and power poles will isolate residential areas. Power outages will last for weeks to possibly months. Most of the area will be uninhabitable for weeks or months.

Although hurricanes are categorized according to sustained wind speeds, they are often accompanied by heavy rains and storm surge that can cause flooding throughout Venice. In addition, fallen trees and debris can obstruct water flow, contributing to flood damage to structures.

Due to its geographic location in the subtropics, adjacent to the Gulf of Mexico, the entire City is vulnerable to damage caused by tropical storm and hurricane-force winds and related flooding. Vulnerability to hurricane related flooding is dependent upon the severity of storm surge, a general rise in sea level caused by the low pressure and strong winds around a hurricane's eye, and the amount of rain carried by the hurricane. Storm surge is influenced by the hurricane's velocity, and can rise 20 feet or more above normal sea level to cause massive flooding and destruction along shorelines in its path. During tropical storms and hurricanes, flooding due to heavy rainfall may extend over widespread areas of the City. Thankfully hurricanes also take time to develop and provide enough warning for an evacuation and/or preparation of residents and visitors.

Venice's most common hazard is hurricanes. For a list of several tropical storms and hurricanes that have occurred recently, for a list see Table 6 at the end of this section.

4.6. Hazard History

The City's most common hazards are hurricanes, tropical storms, beach erosion, tornadoes, storm surge and flooding. However, localized flooding can be an issue that may be caused by the following maintenance related issues:

Clogged Inlets: debris covering the catch basin inlets may contribute to an inadequate flow of stormwater into the system which may cause flooding near a structure. Debris and sediment accumulations within the catch basins and stormwater pipes may also reduce the efficiency of the system by reducing the carrying capacity.

Blocked Drainage Outfalls: debris blockage including sediment and vegetation or structural damage at drainage outfalls may prevent the system from discharging runoff which may lead to a back-up of stormwater within the system.

Improper grade: poor grading around catch basin inlets may prevent stormwater from entering the catch basin as designed.

Figure 16: Flamingo Ditch

The City has experienced numerous events over the years that have caused flooding, from minimal street flooding to significant flooding of roadways, making them impassable, and impacting structures. The primary events are listed in table 6, Flood History:

Table 6: Flood History of Venice 1921-Present

Date	Event Name	Description
10/24/1921	Unnamed Storm	This storm produced high tides (approximately 7 feet). Wave action resulted in heavy damage throughout Sarasota County.
9/19/1926	An unnamed hurricane	This was a 10-year storm in which 8 inches of rain fell in a 24-hour period, resulting in flood damage of more than $1 million.
6/26/1943	Unnamed storm	7.48 inches of rain fell in a 24-hour period
6/23/1945	Unnamed storm	10.80 inches of rain fell in a 24-hour period.
9/10/1960	Hurricane Donna	Resulted in flooding throughout the county. Tides ran more than 3 feet above normal, rains totaled between 5 to 7 inches and pre-storm rainfall of almost 10 inches contributed to flooding.
9/21/1962	Unnamed storm	7.37 inches of rain fell in a 24-hour period. Total storm rainfall over the 3-day period was 13.83 inches. The storm caused flood damage to multiple houses in Sarasota County.
10/21/1968	Unnamed storm	Considerable flood damage
6/18/1972	Hurricane Agnes	Caused flood damage due to high tides and 5 inches of rain.
6/18/1982	Unnamed Storm	6 inches of rain and 60 mph winds in Sarasota County with little warning. The storm created high tides and caused structural flood damages.

Date	Event Name	Description
8/28/1985	Hurricane Elena	Hurricane Elena hovered over the west coast of Florida for 6 days. Aug 28 – Sept 4, 1985 and brought rainfall of more than 11 inches, requiring the evacuation of 37,000 people.
10/28/1985	Hurricane Juan	Hurricane Juan caused 25-to-35-foot swells in the Gulf of Mexico, and subsequent coastal flooding.
10/16/1987	Hurricane Floyd	Hurricane Floyd brought heavy rains and string winds, resulting in flooding.
11/20/1988	TS Keith	Tropical Storm Keith brought rain and strong winds, creating tidal surges 4 feet above normal
6/23/1992	Unnamed storm	11 to 23 inches of rain fell within a 15-hour period, causing minor flood damage.
6/23/1993	Unnamed storm	June 23-26, 1993. Rain exceeded the 100-year, 24-hour storm event with 11.82 inches of rain falling in a 24-hour period.
7/18/1995	Unnamed storm	Approximately 9 inches of rain fell within a 15-hour period causing minor flood damage.
9/7/1995	Unnamed storm	Rainfall of approximately 2 to 3 inches in 1-hour. Caused localized flooding and approximately $5,000 worth of property damage (NOAA National Climatic Data Center).
11/1/1997	El Niño event.	Caused 10 to 12 inches of rain to fall within a 24-hour period, causing flooding throughout Sarasota County. Nov/ Dec 1997
8/12/2000	Unnamed storm	Rainfall of 4 to 6 inches over a 6-hour period caused localized flooding of low roads.
9/15/2001	TS Gabrielle.	Gabrielle reached tropical storm strength mid-day on Sept 13th, while located about 175 nautical miles SW of Venice. Gabrielle's center made landfall near Venice about 1200 UTC on Sept 14th. The storm strengthened to about 69 MPH just before landfall. Caused storm surge and localized street flooding.
5/1/2003	Unnamed storm	Rain events - May 2003 caused a lift station to fail and water /sewer damage to a local church that sits along Hatchett Creek.
9/5/2003	TS Henri	Caused flooding that created flooding problems in the East Gate area and intermittently closed sections of Venice Avenue.
8/13/2004	Hurricane Charley	A Category 4 storm struck Punta Gorda. Due to the compact nature of the storm and the quick course change, the rain and wind impacts to the City of Venice were minimal.
9/5/2004	Hurricane Frances	A very large, slow moving Category 2 storm. Although the eye did not impact the City directly, several inches of rainfall caused some flooding and wind impacts within the County

Date	Event Name	Description
9/19/2004	Hurricane Ivan	A strong Category 4 storm made landfall near Gulf Shores, Alabama. Although the storm remained west of Venice, beach erosion was experienced here.
9/26/2004	Hurricane Jeanne	Caused flooding impacts although the landfall was on the East coast of Florida, near Stuart.
10/24/2005	Hurricane Wilma	Hurricane Wilma made landfall in Florida near Cape Romano and moved across the peninsular in less than 5-hours. The location of the landfall was far enough south of Venice that winds and rain were minimal.
11/7/2006	Unnamed storm	Afternoon rains on November 7, 2006: Afternoon rains caused roadway and structure flooding along East Venice Avenue.
6/2/2007	TS Barry	Tropical Storm Barry made landfall near Tampa, dropping a few inches of rain, and creating high surf conditions along the west coast of Florida, including Venice.
3/27/2008	Unnamed Storm	Caused flooding along East Venice Avenue.
8/19/2008	TS Fay	Tropical Storm Fay made landfall in Florida, south of Naples, and moved northeast with rainfall amounts in excess of 20 inches on the east coast. Because of the path of the storm, there was minimal impact on Venice.
5/1/2009	Unnamed storm	Rain events during the month. May 2009 caused localized flooding of structures and roadway along East Venice Avenue, between U.S. 41 By-pass and Warfield Avenue.
6/1/2012	TS Debby	June 2012. Caused downed trees and flooding. No evacuation notice issued. 1 home destroyed; 35 homes damaged. No injuries or fatalities. No Critical facilities impacted. Beach Road was the only road closure.
8/1/2012	Tropical Storm Isaac	Flooding at Flamingo Ditch. Beach erosion. August, 2012
9/1/2013	A heavy rainfall event	Caused flooding, 2 beach outfall ponds to be overtopped, and beach erosion.
9/27/2014	A heavy rainfall event	The Myakka River at Myakka State Park reached 8.75 feet on Monday. Sept 27-29, 2014. Sunday reading of 8.5 feet. Its flood stage is 7 feet. There were no official road closures in the City of Venice.
8/5/2015	Myakka River Flooding Event	Myakka River continues to stage above action level of 6.5ft. There were no road closures in the City of Venice.
1/18/2016	EF2 Tornado	An EF2 tornado touched down in Siesta Key in Sarasota County with winds estimated to have reached 70 mph, according to the NWS. 111 to 135 mph. 300 business throughout the county were damaged.
5/5/2016	Unnamed Storm	Flooding at Base Ave E and Cooper St. intersection
6/6/2016	TS Colin	Tropical Storm Colin made landfall near Deckle Beach in Taylor County, moving at 20mph. Venice was impacted by rain, strong winds, and an unusually high tide, creating tidal surges 3 feet above normal and localized flooding.

Date	Event Name	Description
8/31/2016	TS Hermine	Tropical Storm Hermine (later Hurricane Hermine) caused flooding within the City in the vicinity of Flamingo Ditch, Tarpon Center and S. Jetty Park.
7/31/2017	TS Emily	Tropical Storm Emily swept through Florida after a whirlwind landfall on July 31, 2017, featuring heavy rain and some local wind damage.
8/4/2017	Myakka River Flooding Event	The Myakka River rose to the point that all walkways were under water with no safe access to the floating dock. Venice Myakka River Park closed.
8/25/2017	Low pressure system	Approximately 20 inches fell over a period of 5 days, resulting in flooding in various areas of the City. Localized flooding at Park Blvd N, Golden Beach Blvd/Everglades Dr., and the north side of W. Venice Ave.
9/10/2017	Hurricane Irma	Category 2 over Marco Island and continued to weaken into a category 1. Irma caused a lot of downed vegetation and it cut out power for many days and damaged the water main. No city water for a short time.
8/28/2018	Myakka River Flooding Event	Venice Myakka River Park closed.
8/29/2018	Heavy rain event	Flood Warning was issued by VPD for the following areas due to localized flooding, US Bypass 41 and E Venice Ave, the base of all 3 bridges, Capri Isles Blvd, and Barcelona and Madrid
10/2/2018	Myakka River Flooding Event	Venice Myakka River Park closed.
8/13/2019-8/16/2019	14 County-wide Flood Watch	14 different counties including Sarasota were placed under flood watch due to heavy rains, saturated soils and multiple rivers including Myakka at or above flood stage.
8/15/2019-9/4/2019	Myakka River Flooding Event	Venice Myakka River Park closed.
10/19/2019	TS Nestor	Localized flooding 1 mile from Caspersen Beach.
06/01/2020	Tornado Event	Tornado during a heavy rain event caused structural damage to the dugout and goal posts at Wellfield Park and the roof of the E. Venice Publix.
06/02/2020	Heavy rain event	Approximately 4” of rain within one hour caused localized flooding in many areas within the City including: Madrid St., N. Park Blvd, Harbor Dr. S, Turin Ave., Granada St., business on US 41 N and other locations. Flooding was also observed in the North Pier Parking area as the outfall pipe was unable to be opened due to active Marine Turtle nest immediately adjacent to the outfall pipe.
6/6/20	TS Cristobal	Tornado during a heavy rain/wind event caused minor structural damage.
9/14/21	Hurricane Sally	Almost all of Florida saw continuous shower and thunderstorm activity starting on September 12. Venice Myakka River Park closed.

Date	Event Name	Description
11/9/20	Hurricane Eta	Highest wind in County reported was a gust of 57 mph at the Venice Municipal Airport. Rainfall was generally around 5 inches. Minor structural damage.
7/6/21	TS Elsa	Flooding reported throughout county, with some localized flooding.
9/24/22	Hurricane Ian	Category 4, with 140 miles per hour winds. 500-Year storm event, beach outfall erosion and roadway damage due to scour from rainwater runoff. Some flooding on Laurel Rd, Venice Ave., Jackson Rd and other private roadways in the Toscana Isles subdivision. Widespread roof damage, heavy damage to trees and fences, some damage to structures. Major damage to mobile home parks.
11/10/22	Hurricane Nicole	Flooding reported throughout county, with some localized flooding.

Less Frequent Floods

4.7. Dam Failure

According to the US Army Corps of Engineers (USACE) National Inventory of Dams, there are no dams in Sarasota County. The Peace River/Manasota Regional Water Supply Authority (PRMRWSA) Reservoir is in neighboring DeSoto County. If a dam were to breach, sections of the mainland part of the City could potentially see flooding. It is expected that the extent of the flooding would be minimal, although the flooding could be greater if combined with a severe weather event. Dam failure could impact non-elevated homes and temporarily impact critical facilities that directly support these homes. The depth of flooding, velocities, and warning time would vary with each event. No recorded failures of dams have caused significant flooding in the community.

4.8. Levee Failure

A levee failure is defined as a break in the water-retaining earthwork, allowing water to flood the land that the levee was designed to protect. Levee failure inundation studies conclude that depending upon the location of the failure and current level of the reservoir, residents within the inundation area could experience water depths from two to four feet. The impact of a levee failure could impact non-elevated homes and have a temporary impact to the critical facilities that directly support these homes.

4.9. Coastal A Zones

The term Coastal A Zone (CAZ) refers to a portion of the SFHA landward of V Zones or landward of an open coast without mapped V Zones. CAZs may be subject to breaking waves between one and a half and three feet high. In a Coastal A Zone, the principal source of flooding will be

astronomical tides and storm surges, not riverine flooding. Past events have shown that waves as small as one and a half feet can cause foundation failure and structural damage to buildings. Stem walls are not permitted in CAZs. In CHHAs and CAZs, alteration of sand dunes and mangrove stands shall be permitted only if such alteration is approved by the Florida Department of Environmental Protection. Buildings are regulated the same in the CHHA and Coastal A Zone. See Ordinance Chapter 88 Section 6–Floodplain Management for more information.

4.10. High Tide Flooding

Another type of inland flooding is high tide flooding or "sunny day" flooding. During extremely high tides, the sea literally spills onto land in some locations, inundating low-lying areas with seawater until high tide has passed. Because this flooding causes public inconveniences such as road closures and overwhelmed storm drains, the events were initially called nuisance flooding. High-tide flooding causes short-term public inconveniences such as flooded streets and closed roads. As global sea level rises, so will the frequency and depth of high-tide flooding. High-tide flooding is generally very localized, occurring at a scale of city blocks. By definition, a high-tide flooding event occurs when local sea level temporarily rises above an identified threshold height for flooding, in the absence of storm surge or riverine flooding. The heights of locally identified flooding thresholds are related to impacts such as standing water on low-lying roads or seawater entering stormwater systems. Tides that are much higher than usual occur a few times per year during new and/or full moons. These perigean spring tides—also known as king tides—are astronomical in origin: they occur when the Moon's regular orbit brings it to its closest distance to Earth (called perigee) during a new or full moon, when the Earth, Moon, and Sun are in a straight line. The combined gravitational force of the Moon and Sun on the Earth's oceans results in the higher-than-usual tide level.

4.11. Areas Likely to Flood

The following are known localized areas of the City that have had flooding issues in the past:

1. Outfall 5 - Flamingo Ditch Basin which affects Flamingo Dr., Gardenia Dr., Villas Dr., and Hibiscus Dr., Everglades Dr., and Poinsettia Dr.
    a. Flamingo Ditch functions as a wet pond with a natural sand berm along the beach controlling the water elevation. The height and length of the sand berm is constantly fluctuating, often needing to be opened manually. The residential neighborhood surrounding and immediately upstream of Flamingo Ditch is topographically depressed. As stormwater runoff fills Flamingo Ditch prior to reaching the crest of the sand berm, conveyance into the systems slows, causing flooding in the low residential area. The flooding is contained within the roadways for most storms.
2. Outfall 10 - Beach Parking Lot

   a. Outfall 10 is a pipe outfall from an undeveloped wetland area to the beach. Due to the low downstream invert, the pipe is usually clogged with sand, leading to flooding in the adjacent parking lot during moderate to severe storms.

3. Outfall 15 – "Park" Streets
   a. The "Park" streets portion of Bayshore Estates and Bayshore Estates Unit 2 is a topographically depressed inland area. The closed basin is drained by a single pipe network fed by roadside swales. The area is an older residential neighborhood where many homes have low finished floor elevations.
4. Intersection of The Esplanade and Tarpon Center Dr.
   a. The area including the intersection of The Esplanade and Tarpon Center Dr extending north along Laguna Dr includes the lowest public roadway elevations in the City of Venice. In some spots, the curb and gutter elevations fall below +2 ft. NAVD. Water from Roberts Bay can backflow into this area via outfall pipe and catch basin during extraordinarily high tides. The roadway is prone to flooding when heavy rainfall corresponds with high tides.
5. Cypress Ave. in North Edgewood
   a. The construction of the North Edgewood residential subdivision included the rerouting of a portion of Hatchett Creek. The portion of the creek that was filled is topographically depressed compared to its surroundings. Flooding is contained within the roadside swales during most storms.
6. 600 Block of Madrid Ave.
   a. The 600 block of Madrid Ave is topographically depressed compared to its surroundings. There are several inlets with lateral connections to a trunk line under the roadway, so flooding is generally only observed during very intense rainfall. The area is an older residential neighborhood where many homes have low finished floor elevations.
7. Venice Myakka River Park
   a. Localized flooding due to the proximity of the City boundary to the Myakka River watershed.

4.13. Future Problems

When floodplains are left intact, they perform many natural functions including providing flood and erosion control, recharging our aquifers, improving surface water quality, and protecting ecologically sensitive areas. They support diverse populations of flora and fauna, providing outdoor areas to educate residents on the importance of protecting this valuable natural resource. In addition, they provide recreation and economic benefits to the community. Approximately 13% of the City is categorized as a wetland, water body or drainage right of way.

As land values have increased, redevelopment of the finite number of privately owned, previously developed coastal properties and properties in floodplains or watersheds has become common. Observed trends include the teardown and reconstruction of single-family residences with larger structures and, often, additional ancillary features such as pools, garages, docks, and patios. These trends have placed new demands and threats on coastal, floodplain, and watershed resources, which are being managed with regulatory and public educational programs. New development must provide their own stormwater discharge, however, increases in overall impervious areas can reduce the effect of drainage and increase inland flooding. However, these trends can also have a positive result: for example, redevelopment results in modernized structures that comply with improved building codes, better enabling the structures to withstand the adverse effects of flooding, hurricanes, and coastal erosion. These improvements will enhance public health, safety, and general welfare and will reduce the need for Bay and Gulf-front coastal armoring.

4.14. Sea Level Rise

The City of Venice, like many coastal communities, has experienced an increase in the frequency and intensity of storm related flooding and other impacts. This increase in flood risk is due in part by rising sea levels. The National Oceanic and Atmospheric Administration (NOAA) maintains tidal gauges which measure long-term water levels. Venice does not have a tidal gauge, but data at the two closest NOAA gauges (in St. Petersburg and Ft. Myers) show a trend of approximately 1 ft of sea level rise over 100 years.

4.15. Other Natural Hazards

The City of Venice has adopted the Sarasota County Local Mitigation Strategy (LMS) that embraces an all-hazards approach to mitigation. The LMS has a comprehensive plan to reduce or eliminate risks associated with both natural and man-made hazards. The plan considers the hazards impact to life and safety of residence, properties, critical facilities, and the economy. It also considers ways to reduce or eliminate these impacts, it provides a guideline for implementing these programs and projects in the community. A committee develops and updates this plan. The members consist of all the municipalities in Sarasota County and public stakeholders. The LMS discusses the hazards that are in Section 4 of this FMP as well as other, less frequent hazards that occasionally occur in the area. These hazards include:

4.16. Coastal Erosion

Coastal erosion is the wearing-away of land and the removal of beach or dune sediments by wave action, tidal currents, wave currents, drainage, or high winds. Waves generated by coastal storms or hurricanes cause coastal erosion, which may take the form of long-term losses of sediment and rocks, or merely the temporary redistribution of coastal sediments. Erosion in one location may result in accretion nearby. Beach erosion is most common in the summer but

can occur during winter cold fronts. The ability of waves to cause erosion depends on several factors, which include:

- Erodibility of the beach, cliff, or rocks;
- Power of the waves to cross the beach;
- Lowering of the beach or shore platform through wave action; and
- Near shore bathymetry.

The beaches and inland waterways of Venice will continue to shift and change over time, presenting an identifiable hazard. Whether or not coastal erosion takes place over a long period of time or by a single incident, coastal erosion is a continued hazard. As beaches are constantly moving, building up here and eroding there, in response to waves, winds, storms, and relative sea level rise, this issue requires long-term analysis and planning. The current beach erosion problem has many causes, including the following items:

- The desire by many to live near the sea.
- A historically rapid rise in average ocean levels, now estimated to be rising at about 25–30 centimeters per century in much of the United States.
- The gradual sinking of coastal land (since the height of the land and the sea are both changing, the “relative sea level rise” is used to describe the rise of the ocean compared to the height of land in a particular location).
- Efforts to reduce erosion that have proved to be ineffective and instead increased it.

The City of Venice has about four miles of Gulf beach shoreline All coastal structures as well as the critical facilities that support these structures could be impacted by coastal erosion. The Florida Enhanced State Hazard Mitigation Plan (SHMP) (2018) references specific areas of coastal erosion and has identified critical areas as defined by the FDEP. Erosion is “critical” if there is a threat to or loss of one of four specific interests – upland development, recreation, wildlife habitat, or important cultural resources.

Jetties are also installed to prevent sediment from filling in these inlets. A consequence of this practice is that the jetties and inlets interrupt the natural flow of sediment along the beach, leading to an accumulation of sediment in the inlet and at jetty on one side of the inlet, and a loss of sediment to beaches on the other side of the inlet. There are many solutions to the major problem of beach erosion, including:

- Beach re-nourishment: Sand is purposefully deposited onto the beaches by humans; however, there is a very high cost associated with the solution.
- Rebuild rivers: Direct rivers back into places with a lack of sediment with the intention that the rivers will push the sediment back into place.

- Breakwaters, sea walls, and groins: While each location has different requirements that drive specific development and construction, these types of structural projects are intended to interfere with erosion. There are however some flaws and issues with these types of projects as they can trap as much sediment as they deposit with down-drift effects.
- Limits on beach development: Limit, restrict, or prohibit development on the impacted beaches.

Figure 17: Venice Beach After Renourishment

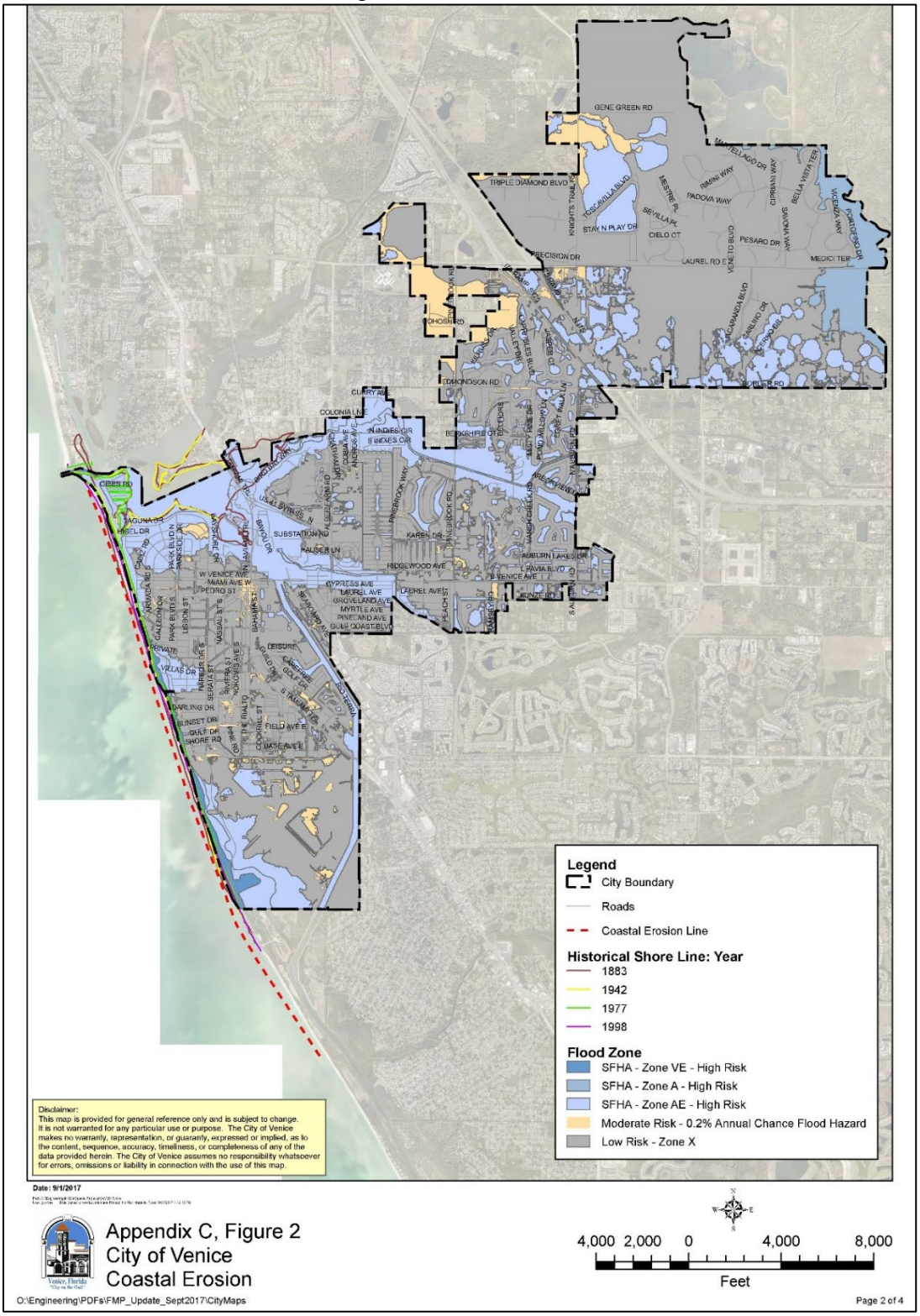
Venice Beach is renourished on a regular basis in order to establish a fixed dune and stabilized beach system to provide flood protection to the coastal community during storm surge events. The most recent beach nourishment was completed in 2015. Additionally, the existing stormwater beach outfalls are regularly evaluated to look for opportunity to improve the function of the drainage system and to verify proper operation of the existing facilities. The project was performed in partnership with the Army Corp of Engineers and the FDEP as funding partners. The next renourishment event is scheduled to be completed in 2025. The wide beach, with a 9' berm (NAVD), created by renourishment is important to help reduce the damage caused by hurricanes and tropical storms. The vegetated dunes also help reduce wind and water erosion.

The City mitigates the effects of erosion within coastal hazard areas by regulating construction on sand dunes through the following ordinances: Chapter 88 Section 6.10.3, Site Improvements, Utilities and Limitations; Chapter 89, Section 2.8 Coastal Waterway Management and Protection; Chapter 88, Section 6.5, Site Plans and Construction Documents; and Chapter 88, Section 6.10 Flood Resistant Development. These regulations permit construction or alteration on or around sand dunes only when approved by the Florida Department of Environmental Protection, and only if the engineering analysis demonstrates that the proposed alteration will not affect the potential for flood damage, is consistent with

the local beach dune morphology, and the vertical clearance is maintained between the top of the sand dune and the lowest horizontal structural member of the building. The City maps the Erosion Control Line (ECL), Coastal Construction Control Line (CCCL) and General Permit Line (GPL) established along our entire coast line. The ECL is used during state permitting, along with the CCCL and GPL, to minimize construction in coastal erosion high hazard areas. Information regarding all three lines is also given as part of every flood zone determination.

The City maps the Coastal Erosion Areas, as established by FDEP in 2014. The City also maps the Historical Shoreline using data from the shoreline change analysis for the USGS National Assessment Project. The data has shorelines from 1883, 1942, 1977 and 1998. Erosion areas and historical shoreline change are crucial elements in studying the vulnerability of the shoreline. This data is updated as new information becomes available. A map of the historical erosion for the city of Venice is included as Figure 16

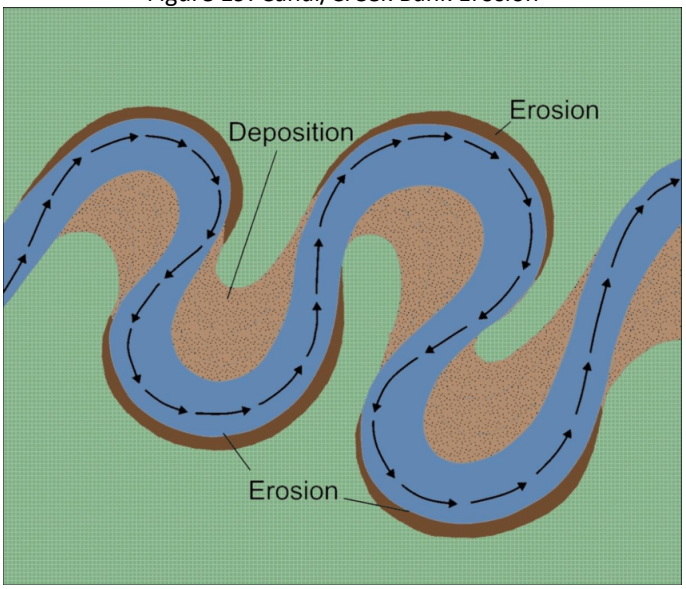
Figure 18: Coastal Erosion



4.17. Canal/Creek Bank Erosion

Streams and canals erode by a combination of direct stream processes, such as down cutting and lateral erosion, and indirect processes, such as mass-wasting accompanied by transportation. When the channel bends, water on the outside of the bend (the cut-bank) flows faster and water on the inside of the bend (the point) flows slower as shown in Figure 17. This distribution of velocity results in erosion occurring on the outside of the bend and deposition occurring on the inside of the bend. Stream bank erosion is a natural process, but acceleration of this natural process leads to a disproportionate sediment supply, stream channel instability, land loss, habitat loss and other adverse effects. Stream bank erosion processes, although complex, are driven by two major components: stream bank characteristics (erodibility) and hydraulic/gravitational forces. When riparian vegetation is changed from a woody species to annual grasses and/or flowering plants, the internal strength is weakened, causing acceleration of mass wasting processes. Stream bank aggradation or degradation is often a response to stream channel instability. Since bank erosion is often a symptom of a larger, more complex problem, the long-term solutions often involve much more than just bank stabilization.

Figure 19: Canal/Creek Bank Erosion



4.18. Hail Storms

Figure 20: Hail

Hail is a form of precipitation that occurs when updrafts in thunderstorms carry raindrops upward into extremely cold areas of the atmosphere where they freeze into balls of ice. Hail can damage aircraft, homes, and cars, and can be deadly to livestock and people. Hail is usually pea-sized to marble-sized, but big thunderstorms can produce larger hail. Hailstorms usually accompany thunderstorms, which are common occurrences in Venice, however, instances of hailstorms are low. According to NOAA, Sarasota County and its jurisdictions have experienced 42 hailstorm events during the period from January 1, 1950 to November 1, 2016. The probability of hailstorm occurrence is low since the freezing level – the elevation at which freezing temperatures occur – in a Florida thunderstorm is so high that hailstones typically melt before they reach the ground.

4.19. Lightning

Figure 21: Lightning

Lightning is a discharge of electrical energy resulting from the buildup of positive and negative charges within a thunderstorm, creating a "bolt" when the buildup of charges becomes strong enough. This flash of light usually occurs within clouds or between clouds and the ground. A bolt of lightning can reach temperatures approaching 50,000° Fahrenheit. Florida is the most lightning-prone area in the United States, with about 90 thunderstorm days per year. Because of this, Florida experiences more lightning deaths than any other state. In fact, in Florida lightning kills more people than do all other weather hazards combined. In the Florida Peninsula, thunderstorm season generally has two periods. Historically, the most dangerous months for lightning strikes are June, July, and August. According to FSU Emergency Management an average of 10 people in Florida are killed by lightning and 40 people are seriously injured every year. Lighting events have been recorded

26 times since 1950 by the NOAA Satellite and Information Service in Sarasota County. Structural damage because of lighting for these recorded events has totaled over $1.17M for an average of $45K per event.

4.20. Freeze

Figure 22: Freeze

A freeze is weather marked by temperatures at or below the freezing point (0° Celsius or 32° Fahrenheit) for a significant period. Freezing temperatures can damage agricultural crops and burst water pipes in homes and buildings. Frost, often associated with freezes, can increase damaging effects. Frost is a layer of ice crystals that is produced by the deposit of water from the air onto a surface that is at or below freezing. The damage that can result from a freeze is typically associated with the agriculture industry, and does not often affect persons, structures, or associated property directly. During extended periods of low temperatures, individuals can suffer hypothermia and frostbite. Venice is most susceptible to freeze events from December through February. Freeze warnings for Venice occur every few years, but severe freezes have occurred statewide. In 1985 and 1989, the freeze was so severe that it wiped out entire groves across the state, killing both mature and young citrus trees. These freezes caused a significant economic impact on the citrus industry.

4.21. Tornado

Figure 23: Tornado

Tornadoes are cyclonic windstorms that usually accompany thunderstorms and hurricanes. While relatively short-lived in duration, tornadoes are intensely focused, making them one of the most destructive natural hazards. The weather conditions that tend to generate this phenomenon are unseasonably warm and humid earth surface air, cold air at the middle atmospheric levels, and strong upper-

level jet stream winds. Waterspouts are weak tornadoes that form over warm water and occasionally move inland to become tornadoes. Florida has two tornado seasons. The summer tornado season runs from June to September and has the highest frequencies of occurrences, with usual intensities of EF0 or EF1 on the Enhanced Fujita Scale. The spring tornado season runs from February to April and is characterized by fewer, but more powerful tornadoes on the Enhanced Fujita Scale.

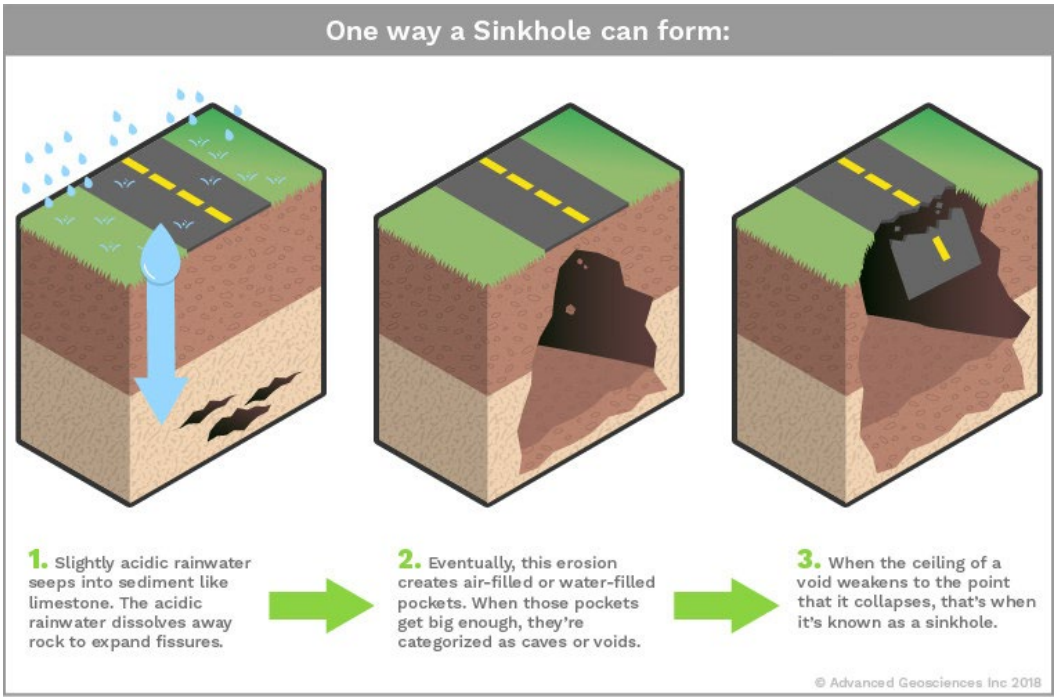
Florida has the second highest record of tornadoes in the United States, although Venice does not have a high incidence of tornado activity. In 1982 a tornado killed 1 person and injured several others just east of the city limits. A wind event occurred on April 8, 2008, when a wind burst caused damage to a restaurant on East Venice Avenue and damage to 15 nearby mobile homes. An EF2 tornado touched down in Siesta Key on January 18th, 2016 with winds estimated to have reached 70mph. An EF1 tornado touched down in Venice on June 4, 2020, causing damage. Following a tornado in June 2013, a National Weather Service survey found a narrow path of damage starting near the coast of Venice and moving northeast towards Highway 41. Damage included a few uprooted trees, including one large oak tree, numerous large branches down, minor roof damage to a couple houses and general light damage to a few car ports, pool cages, and fences. Damage was roughly estimated at $10,000.

4.22. Land Subsidence/ Sinkholes

Land subsidence is the lowering of a portion of the earth's crust and can occur naturally or through human activity. Natural subsidence may occur when limestone, which is easily carved by underground water, collapses, leaving sinkholes on the surface, or due to earthquakes along fault lines. Human activities such as mining or the extraction of oil, gas, or water may also lead to land subsidence. Sinkholes are a common feature of Florida's landscape due to land subsidence. Since July 1981, Venice has only had one sinkhole with less than 10 feet in diameter and centered on a single property, according to USF. Sinkhole probability in Venice is considered by the Florida Geologic Survey to be uncommon, but deep collapse types and small subsidence sinkholes are possible.

Sinkholes are only one of many kinds of karst landforms, which include caves, disappearing streams, springs, and underground drainage systems, all of which occur in Florida. Sinkholes form in karst terrain principally from the collapse of surface sediments into underground cavities in the limestone bedrock. Slightly acidic groundwater slowly dissolves cavities and caves in the limestone over a period of many years. When a cavity enlarges to the point that its ceiling can no longer support the weight of overlying sediments, the earth collapses into the cavity, forming a sinkhole.

Figure 24: Sinkhole



4.23. WILDFIRES

A wildfire is an intense fire that is usually in an uninhabited or sparsely habited area. There have been wildfires in the area in the past, 75% of the county is vulnerable to wildfires. The Venice fire department works closely with fire suppression agencies on fire mitigation and controlled burns. Wildfires impact residents and businesses by threatening physical structures. However, smoke can also have widespread impacts including closure of roadways and evacuations of areas of heavy smoke. This has personal as well as economic impacts, depending on the area affected. Uncontrolled wildfires can also cause severe economic impact to the agricultural industry. The extent of wildfires are measured in the number of acres impacted. Firefighters from multiple jurisdictions extinguished a five-alarm wildfire in Venice on March 18, 2012. Roughly 20 to 30 homes were evacuated, and 3,700 households were without electricity while power lines were shut down as a precaution. The fire burned approximately 12 acres.

Figure 25: Wildfires

SECTION 5- ASSESSMENT OF IMPACT DUE TO HAZARDS

5.1 SUMMARY OF HAZARDS

Coastal and inland flooding, tropical storms, and hurricanes are among the costliest hazards for the City of Venice. Coastal and inland flooding often occur simultaneously as tropical storms or hurricanes and they can bring heavy rain, affecting both coastal and inland communities.

Major flooding in the City would have a significant impact on the population, causing threats to property, the economy, and potentially human life. In addition, floodwaters could cause wastewater treatment facilities to shut down, contaminate local water supplies, and disrupt utilities. Floodwaters could also submerge portions of US-41 and other east-west highways. The loss of these transportation networks would hinder evacuation and relief efforts, making it difficult to provide emergency response services. Furthermore, impact to non-elevated structures could cause a temporary disruption to critical facilities such as hospitals, schools, and shelters.

The three major hazards produced by a hurricane are storm surge, high winds, and rainfall. Storm surge typically poses the greatest threat to life and property for those located within surge-prone areas. The more intense the hurricane, and the more perpendicular its track is in relation to the coastline, the higher the potential storm surge and resulting destruction. Also impacting the height of storm surge is the depth of the water along a threatened coastline. Because of the high shoaling factor (shallow water and gradually sloping Gulf bottom) off the central west coast of Florida, Venice receives higher surges than those indicated in the generalized Saffir/Simpson Hurricane Scale.

High winds can render segments of the population vulnerable to a passing hurricane. Throughout Venice, mobile and manufactured homes would be unable to withstand hurricane-force winds. High winds also impact the timing of an evacuation order, since winds hit the coastline several hours before the eye of the storm makes landfall. All evacuation activities must be completed prior to the arrival of sustained gale-force winds (40 mph with significantly higher gusts). Venice has a large senior population which adds special requirements during evacuations and recovery.

Table 7: Summary of Hazards

Hazard	Probability of Occurrence	Potential Impact
Coastal Flooding	Low to Moderate	Major coastal flooding as result of storm surge and/or high tide in the County can pose a threat to human life.

Hazard	Probability of Occurrence	Potential Impact
Storm Surge	Low to Moderate	Storm surge can be extremely dangerous since water levels can rise quickly potentially causing drowning.
Inland Flooding	Low to Moderate	Floodwaters have the potential to cause drowning. The risk for drowning and physical injury is increased if floodwater is carrying debris. Floodwaters can also hide other hazards for wading pedestrians, such as manhole openings where the covers have been lifted by flood flow.
Tropical Storm/ Hurricane	Low to Moderate	Flooding from tropical storms and hurricanes can be extremely dangerous, since water levels can rise quickly and flood large areas, potentially causing drowning. Additional dangers include flying debris, falling trees, and electrocution from downed power lines.
Dam Failure	None	There are no dams within the City of Venice
Levee	None	There are no levees within the City of Venice
High Tide Flooding	Low to Moderate	Specific areas in the City of Venice are prone to flood during high tide.
Coastal Erosion	High	Coastal erosion accompanying tropical storms or hurricanes has a high potential to cause injury or drowning.
Canal/Creek Bank Erosion	Low	Canal or creek bank erosion along creeks within the City can cause property damage or loss of life.
Hail Storms	Low	Wind-driven hail can tear up siding on houses, break windows and blow into houses, break side windows on cars, and cause severe injury and/or death to people and animals.
Lightning	Low to Moderate	Lightning can cause physical damage as well as loss of life.
Freeze	Low	Freezing temperatures can cause widespread damage to sensitive plants and crops, and inland areas are more prone to colder temperatures.
Tornados	Low to Moderate	Tornados in Florida can occur at all times of the year, but mainly take place during Spring & Summer. Tornados that take place in Spring most likely will happen at night. Florida has a higher frequency of tornados per 10,000 square miles than any other state. Sometimes tornados form within hurricanes. Tornados can cause damage within its path as well as loss of life.

This section describes the impact to life, safety, health, critical facilities and infrastructure, economy, and buildings within the City of Venice from these flood hazards.

5.2 Life Safety

In Florida, common hazards to life safety include coastal and inland flooding, tropical storms, hurricanes, and lightning. Deep, fast flowing, or rapidly rising floodwaters can cause physical injury and loss of life. A mere 6 inches of moving water can sweep a person away. The risk for drowning and physical injury increases when floodwater carries debris. Vehicles, too, can be moved by 6 inches of flowing water. Roads can be washed away. Downed power lines or other energized systems in the water can cause electrocution. In addition, stress to gas lines can lead to a natural gas leak, further putting lives at risk. Flooding from rainfall itself will not usually warrant an emergency evacuation of many residents and visitors.

Storm surge associated with tropical storms or hurricanes poses the greatest threat to life. A Category 3 hurricane has the potential to create a 26 ft surge. Surges can be especially dangerous because water levels can rise quickly and flood large areas. This leaves no time to act and poses a significant threat of drowning. During the peak of a storm surge, it is unlikely that emergency responders will be able to respond to a call for help. Therefore, it is very important for residents and visitors to heed early warnings from officials. A tropical storm or hurricane can leave thousands of homes and businesses without power. Power outages can also result in injuries or death from fires. Storm surge inundation describes the water height above sea level. In Venice, storm surge inundation is explained through heights known as hurricane evacuation zones. The heights range from ground level up to a height of 32 feet. The evacuation zones are classified with letters A through D, with A being more critical than D.

Flooding is one of the most devastating natural disasters in the world. Having a warning system and evacuation plan will reduce injuries and loss of life. A specific evacuation procedure, including zones, routes, shelters, and means of communication helps reduce confusion for Venice residents and visitors, and provide a smooth evacuation out of high-risk areas. The City of Venice uses the Alert Sarasota Notification System to notify residents, businesses, and property owners in cases of emergencies such as tropical storms, hurricanes, and other major flooding issues.

In the event of a community emergency, Sarasota County has 21 emergency shelters for residents and visitors available as a last resort. As of the 2018 hurricane season all shelters are pet friendly. Sarasota County provides a shelter program for those residents requiring special medically related care. Special needs shelters will be available for persons requiring more skilled medical care than available in a public shelter but not requiring an acute care facility such as a hospital.

5.3 Public Health

Flooding is very dangerous to public health. Floodwaters tend to be contaminated with many different pollutants including sewage, human and animal feces, pesticides, insecticides, fertilizer, simple household chemicals, oil, asbestos, rusty building materials and more. They can spread in floodwaters and stick to building materials causing extensive damage and expensive repair. Floods also bring out a lot of animals that can bite like alligators, ants, snakes and more, and they aren't always easy to spot. If the floodwater sits for too long it can provide a breeding ground for mosquitoes. Homes that experienced flooding will likely have mold and mildew growing in them, which can cause or trigger upper respiratory issues and or allergic reactions in humans. Mold grows within only 24-48 hours of exposure to floodwaters, rainwater or leaking pipes or roofs.

Tropical storms or hurricanes can compromise the safety of water supplies and the integrity of sewage disposal. This can cause foodborne and waterborne diseases; and power outages increase this risk from lack of refrigeration. Medical care can also be disrupted as a result of the storm. Restoring medical care for individuals who were injured in the storm or whose care for chronic conditions lapsed when they were cut off from services is a public health priority.

Floods also take a toll on mental health. Exposure to extreme disaster events, including loss or injury of loved ones, home damage, or home destruction can pose a long-term psychological impact on victims. Vulnerable populations such as seniors, the disabled, or those with long-term illnesses are less able than others to cope with floods.

5.4 Critical Facilities and Infrastructure

Critical Facilities provide essential services and functions to a community during and after a disaster. Types of facilities include hospitals, fire stations, police stations, emergency operation centers, hurricane shelters and similar facilities. Taylor Engineering identified 258 publicly owned facilities within the City (2021). All the hazards mentioned in the previous sections have the potential to affect critical facilities, the most common hazards are floods, and high winds associated with tropical storms, hurricanes, and heavy rains. Flooding can cause these facilities become inaccessible, thus posing a threat to the delivery of vital services like police and utilities.

Secondary hazards can be created by power outages, road closures, downed trees and power transmission lines, responder communications issues, school closure, evacuation shelter closures, phone service outages, water distribution issues and public transportation closures. Floodwaters may submerge portions of major roads and bridges like US Highway 41. The loss of transportation networks will affect evacuation and relief efforts and hinder emergency services.

In addition, floodwaters could cause wastewater treatment facilities to shut down, contaminate local water supplies, and disrupt utilities. Flooding of electricity substations can result in a loss of power supply over the affected area. Communications and access can be severed in hard-hit areas and compromise the process of assessing and prioritizing needs for aid.

The Sarasota County Department of Emergency Management maintains a Critical Facilities Inventory (CFI) for the County. Critical facilities in Venice include, but are not limited to: City Hall, fire stations, a police station, water production plant and water storage tanks, distribution / collection center and wastewater plants, sewer lift stations, an airport, a hospital, urgent care facilities and data center. For security purposes, inventory and specifics about each critical facility are available on a secure county database. During a flood event risks to critical facilities, such as assisted living facilities and hospitals, would include communication and evacuation issues caused by phone or power outages and road closures.

Based on historical events, floodwaters in Venice typically range from one to two feet. Impacts to non-elevated structures historically have caused temporary disruptions to critical facilities. There are a few of these facilities located in the SFHA. The City is currently reviewing the flood insurance policies for all City owned buildings to ensure all structures are properly insured. The federal government can withdraw the community's access to federal insurance for both public and private structures if a local government belonging to the National Flood Insurance Program (NFIP) allows development in the floodplain without proper elevation and construction techniques. Assistance is given to states and localities during a declared major disaster or emergency along with insurance claims. In the event of undeclared disasters or emergencies, the local government is required to cover 100%of the costs incurred from the event. The City sets aside enough reserve funds to support operating costs for up to 3 months but major disasters have the potential to quickly deplete this source and negatively affect the City's economy for many months.

An analysis was completed by Taylor Engineering (2021, p. 7), and it used a GIS based-assessment of the City's public infrastructure with respect to sea level rise projections and tropical storm surge (stillwater) elevations (SWEL). The elevations (known or estimated) of publicly owned buildings were compared to future sea level rise thresholds and storms surge inundation scenarios. This analysis can be found in the *Resilience Plan: City of Venice, 2021*. The City has submitted a grant application to update the Resilience Plan with the LIDAR and sea level rise projections. It is anticipated to be updated by the end of 2023. The Utilities Department is in the process of completing a Risk Analysis for their facilities as well, that will include sea level rise as part of the threat evaluation.

5.5 Economy

Flooding is the costliest natural hazard in the United States. The closure of roads and public transportation services can prevent employees from getting to work and employers from providing goods and services. The closure of businesses can affect the economy due to loss of revenue, fixed costs, replacement costs, and other expenses. Many small businesses may never fully recover from a major flood.

Many visitors come to Venice to enjoy the beaches. Businesses along the coast cater to residents and tourists year-round. Some areas are vulnerable to many hazards, including coastal erosion, storm surge, heavy rains, and high winds from tropical storms and hurricanes. The economy of the coastal community would be significantly impacted due to loss of business in a disaster. In addition, long-term erosion and sea level rise represent significant economic risk given their potential impacts. The impacts can be minimized through proper planning and flood mitigation projects identified in the Comprehensive and Emergency Plans.

5.6 Residential and Commercial Buildings

Flooding and wind damage from tropical storms, hurricanes, and heavy rain can cause major losses to residential and commercial buildings. Flooding can cause severe damage to property. Floodwaters can cause structural damages as well as damage to wood furniture, upholstery, electronics, household appliances, and plumbing equipment. Floodwaters can increase the risk of mold, which is expensive to remediate.

Throughout Venice, mobile and manufactured homes will be unable to withstand hurricane-force winds. Strong winds can send debris, signs, roofing material, and items left outside flying, which causes damage to residential and commercial structures. Water can also breach through windows and doors, resulting in mold and mildew.

Significant velocity wave action along the coastal areas can result in structure failure, as well as damage to utilities, enclosures, and accessory structures. Buildings with first-floor elevation lower than the design elevation minimum could sustain more damage from wave action, debris impact, and floodwaters.

Average individual property flood claims for the city of Venice are over $10,000 for the period 1978-2016. Flood losses from a major event can potentially reach millions of dollars for Venice. Tropical storms and hurricanes can exponentially increase that amount depending on the severity of the storm.

A review of the damaged buildings and historical claims indicate that there are areas that have potential to improve flood insurance coverage. A large portion of our residents do not have flood insurance because they tend to pay for a property in cash so it does not have a federally

backed mortgage. The city performed an analysis on where there are NFIP policies and where there are fewer to determine where to target education for coverage improvement.

5.7 HISTORICAL CLAIMS

In the City of Venice, the NFIP has paid approximately $2,551,568. Of these paid losses approximately $2,396,410 were for Pre-FIRM structures, representing 363 claims while post-FIRM structures accounted for 52 claims totaling approximately $155,157. This shows the importance of maintaining accurate flood risk information and the benefits of Venice's floodplain management practices and regulations Tables 8 and 9 describe claim statistics for the City of Venice.

Table 8: Pre-Firm Structure Losses

Pre-FIRM

	Policies in Force	Premium	Insurance in Force	Number of Closed Paid Losses	$ of Closed Paid Losses	Adjustment Expense
A01-30 & AE Zones	1,883	$1,761,616	$340,181,400	209	$1,561,070.11	$98,806.56
A Zones	0	$0	$0	2	$2,181.59	$550.00
AO Zones	0	$0	$0	0	$0.00	$0.00
AH Zones	0	$0	$0	0	$0.00	$0.00
AR Zones	0	$0	$0	0	$0.00	$0.00
A99 Zones	0	$0	$0	0	$0.00	$0.00
V01-30 & VE Zones	4	$3,295	$151,300	72	$324,860.23	$18,900.00
V Zones	0	$0	$0	0	$0.00	$0.00
D Zones	0	$0	$0	0	$0.00	$0.00
B, C & X Zone	848	$391,434	$229,430,400	80	$508,298.44	$48,869.15
Standard	745	$332,266	$195,542,400	61	$261,783.46	$31,769.10
Preferred	103	$59,168	$33,888,000	19	$246,514.98	$17,100.05
Grand Total	2,735	$2,156,345	$569,763,100	363	$2,396,410.37	$167,125.71

Table data from 10/7/22.

Table 9: Post-Firm Structure Losses

Post-FIRM						
	Policies in Force	Premium	Insurance in Force	Number of Closed Paid Losses	$ of Closed Paid Losses	Adjustment Expense
A01-30 & AE Zones	926	$584,021	$197,802,200	19	$16,753.17	$5,145.00
A Zones	3	$1,513	$729,000	0	$0.00	$0.00
AO Zones	0	$0	$0	0	$0.00	$0.00
AH Zones	0	$0	$0	0	$0.00	$0.00
AR Zones	0	$0	$0	0	$0.00	$0.00
A99 Zones	0	$0	$0	0	$0.00	$0.00
V01-30 & VE Zones	1	$613	$87,000	0	$0.00	$0.00
V Zones	0	$0	$0	0	$0.00	$0.00
D Zones	0	$0	$0	0	$0.00	$0.00
B, C & X Zone	1,447	$786,821	$461,263,900	33	$138,404.72	$27,160.00
Standard	1,182	$650,305	$373,715,900	17	$60,222.95	$10,680.00
Preferred	265	$136,516	$87,548,000	16	$78,181.77	$16,480.00
Grand Total	2,377	$1,372,968	$659,882,100	52	$155,157.89	$32,305.00

Table data from 10/7/22.

The City maintains insurance on all its facilities including flood insurance for facilities that are at risk of flooding.

As described in table 8 and 9 there are approximately 2,700 Pre-Firm Structure policies and approximately 2,300 Post-Firm policies in the SFHA. There are many more insurable structures in the high-risk areas, however, flood insurance is not carried on many of them. The reason flood insurance coverage is low is because many of the homes are paid in cash so there is no mortgage.

Structures in the community are at risk of flooding even if they are not in the SFHA. Nearly 40% of all paid losses have been outside the SFHA. Most of the flood insurance policies in the City are for single family homes (2,010 policies) Most of the claims come from this group as well representing approximately $1,458,648 in paid losses.

Table 10: NFIP insured policies and cost of paid losses separated by occupancy type

	Policies in Force	Premium	Insurance in Force	Number of Closed Paid Losses	$ of Closed Paid Losses	Adjustment Expense
Single Family	2,010	$1,324,368	$632,419,700	171	$1,458,648.73	$130,699.36
2-4 Family	306	$278,998	$53,501,900	56	$453,070.40	$25,159.10
All Other Residential	2,651	$1,498,446	$479,694,700	149	$503,214.00	$34,917.25
Non Residential	145	$427,501	$64,028,900	39	$136,635.13	$8,655.00
Total	5,112	$3,529,313	$1,229,645,200	415	$2,551,568.26	$199,430.71

	Policies in Force	Premium	Insurance in Force	Number of Closed Paid Losses	$ of Closed Paid Losses	Adjustment Expense
Condo	3,065	$1,836,475	$548,954,700	107	$673,093.01	$38,973.85
Non Condo	2,047	$1,692,838	$680,690,500	308	$1,878,475.25	$160,456.86
Total	5,112	$3,529,313	$1,229,645,200	415	$2,551,568.26	$199,430.71

Table data from 10/7/22.

5.8 Repetitive Loss Areas

A Repetitive Loss (RL) is any insurable building for which two or more claims of more than $1,000 were paid by the NFIP within any rolling 10-year period, since 1978. Two of the claims paid must be more than 10 days apart but, within 10 years of each other. A repetitive loss property may or may not be currently insured by the NFIP. There are currently 15 repetitive loss structures in the City. A Severe Repetitive Loss (SRL) structure is a residential property that is covered under an NFIP flood insurance policy and (a) has at least four NFIP claim payments (including building and contents) over $5,000 each, and the cumulative amount of such claims payments exceeds $20,000; or (b) at least two separate claims payments (building payments only) have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building. For both (a) and (b) above, at least two of the referenced claims must have occurred within any 10-year period, and must be more than 10 days apart. Venice has 5 severe repetitive loss structures with only one located inland Repetitive loss properties represent 15-20% of all NFIP claims. The City of Venice is a Category B repetitive loss community, which means there are between 1-49 repetitive loss properties in the City.

The City of Venice performed a repetitive loss analysis using the most recent repetitive loss properties data from FEMA. The City has identified 8 areas at an increased risk of flooding based on historical claims data, topographic information, FEMA flood zones, historical flooding complaints, and other information. The goal is to reduce the number of repetitive loss properties in the City. There are 169 insurable structures in these repetitive loss areas. A repetitive loss area is a portion (or portions) of a community that includes buildings on FEMA's list of repetitive losses and any nearby properties that are subject to the same or similar

flooding conditions. Most of these structures are on the island and seem to be due to storm surge. The condos that were affected seemed to only be affected on the first floor. One is located inland due to low elevation and inadequate drainage. See Figure 26 for a map of the repetitive loss areas.

Table 11:Repetitive Loss Claims

	AE, A1-30, AO, AH, A	VE, V1-30, V	B, C, X	TOTAL
RL Buildings (Total)	49	27	9	85
RL Buildings (Insured)	1	0	0	1
RL Losses (Total)	64	42	14	120
RL Losses (Insured)	1	0	0	1
RL Payments (Total)	$833,759.36	$248,236.64	$66,061.08	$1,148,057.08
Building	$680,435.95	$154,878.37	$48,291.40	$883,605.72
Contents	$153,323.41	$93,358.27	$17,769.68	$264,451.36
RL Payments (Insured)	$14,107.41	$.00	$.00	$14,107.41
Building	$14,107.41	$.00	$.00	$14,107.41
Contents	$.00	$.00	$.00	$.00

Table data from 10/7/22.

Since the City is a Class 6 community in the Community Rating System Program, it is required to have a Floodplain Management Plan or area analyses for its repetitive loss areas. The City of Venice Stormwater division and the CRS Coordinator adhere to the data pertaining to SRLs and RLs as protected under the Federal Privacy Act of 1974.

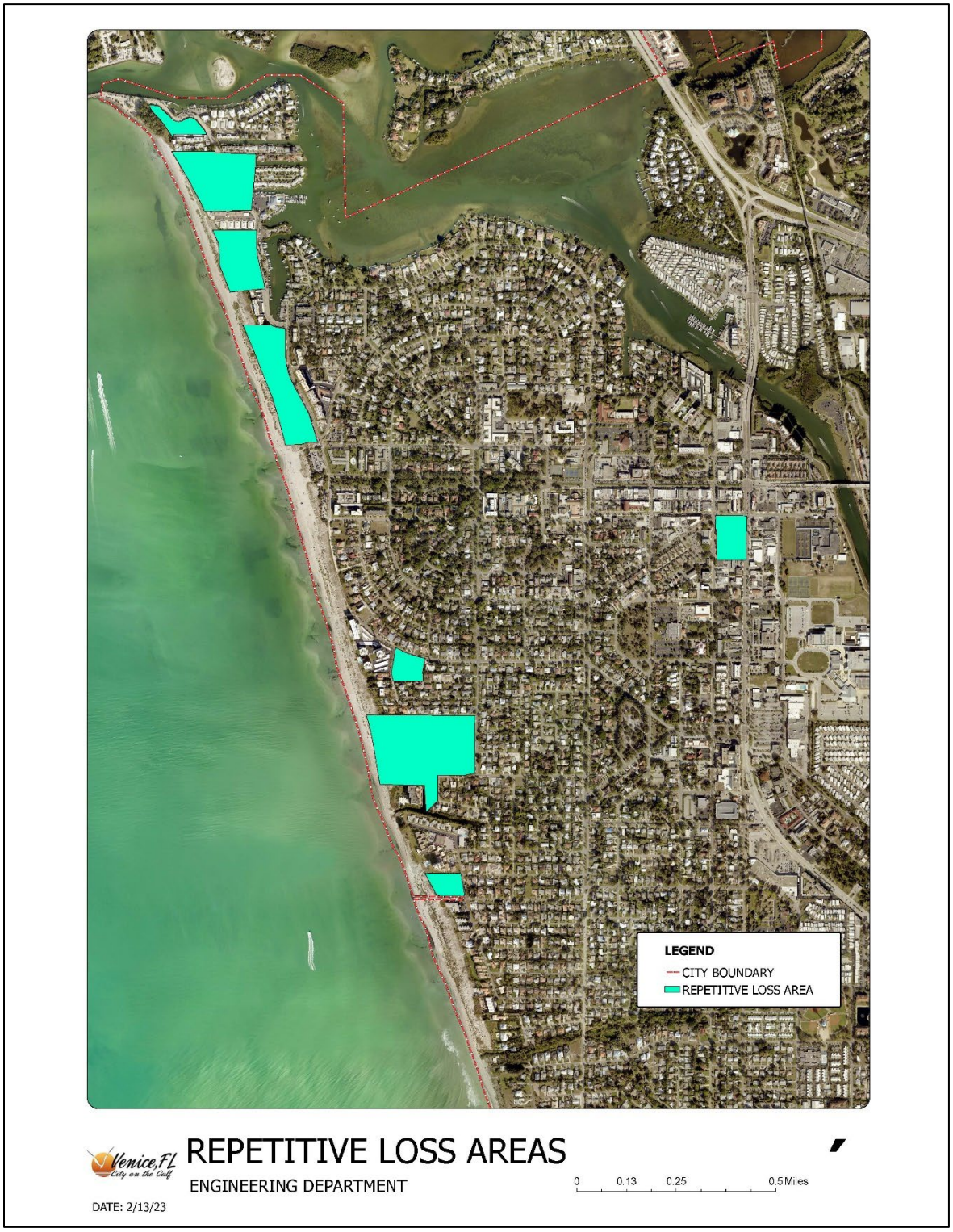
Venice mapped the Repetitive Loss Properties and evaluated nearby properties with the same potential for flooding. The repetitive loss areas include the properties on the repetitive loss list and all nearby properties that may experience similar flooding conditions. The repetitive loss areas were delineated based on compilation of the following data:

- Repetitive loss properties and data (e.g., number of losses and associated cost)
- LiDAR (elevation data, land slope)
- Conveyance system components (e.g., location and size of stormwater pipes, ditches, storage basins, work requests)
- Floodplains (e.g., WMP studies and FIRMs)
- Storm surge areas
- Street view
- Historical flooding complaints

The City continually evaluates the repetitive loss areas, with the most recent evaluation and major update conducted in 2017. The update consisted of a desktop evaluation of existing and potential new repetitive loss areas, and a field investigation of the properties. The RLAA memo

describes the analysis process for evaluating the historical claims data and repetitive loss areas.

Figure 26: Repetitive Loss



5.9 Risk Rating 2.0 – Equity in Action

As of October 1, 2021, FEMA updated the National Flood Insurance Program's pricing methodology to communicate flood risk more clearly, so policyholders can make more informed decisions on the purchase of adequate flood insurance and on mitigation actions to protect against the perils of flooding.

The 21st century rating system, Risk Rating 2.0—Equity in Action, provides actuarially sound rates that are equitable and easy to understand. It transforms a pricing methodology that has not been updated in 50 years by leveraging improved technology and FEMA's enhanced understanding of flood risk. The new methodology allows FEMA to equitably distribute premiums across all policyholders based on the value of their home and the unique flood risk of their property. Currently, many policyholders with lower-value homes were paying more than they should and policyholders with higher-value homes were paying less than they should.

To provide more equity, FEMA now has the capability and tools to address rating disparities by incorporating more flood risk variables. These include flood frequency, multiple flood types—river overflow, storm surge, coastal erosion, and heavy rainfall—distance to a water source and property characteristics such as elevation and the cost to rebuild. The cost to rebuild is key to an equitable distribution of premiums across all policyholders because it is based on the value of their home and the unique flood risk of their property.

In Phase I: New policies that began after October 1, 2021 are subject to the new rating methodology. Also beginning Oct. 1, existing policyholders eligible for renewal will be able to take advantage of immediate decreases in their premiums.

In Phase II: All remaining policies renewing on or after April 1, 2022 will be subject to the new rating methodology.

5.10 VULNERABLE PROPERTIES

All properties within the City are considered vulnerable to flooding, however, certain sections of the City represent a higher risk due to location, type of use, or topography. Areas adjacent to the coastline or other water bodies such as Roberts Bay, the Intracoastal Waterway, Hatchett Creek, Curry Creek, Myakka River or Blackburn Canal are more vulnerable to the risks of storm surge and riverine flooding. Areas of low topography may experience ponding or localized flooding during rain events.

The Hatchett Creek Master Basin Plan identified 2 commercial buildings as vulnerable structures. The Curry Creek Master Basin Plan identified 1 residential property and 1 multi-family property as vulnerable structures. 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. Chapter 88 in the Venice City Code of Ordinance regulates development activities.

The potential dollar loss of vulnerable structures is estimated at $200,000 for the Hatchett Creek basin, $300,000 for the Curry Creek basin, and between $15 and $20 million for the Island of Venice basin. Reviews of the flood insurance claims show that the properties most affected by flooding are Coastal areas near Roberts Bay and the Gulf of Mexico.

Road and low-lying areas along Curry Creek are known to have past flood problems. The areas include Bay Indies Mobile Home Park, and Roberts Bay Estates. As redevelopment occurs, the new construction and substantial improvements are required to comply with the City floodplain ordinance and construct above the 100-year floodplain elevations. The Southwest Florida Water Management District (SWFWMD) also requires that floodplain compensation calculations be completed to reduce any off-site floodplain impacts.

Flooding from Hatchett Creek generally occurs from the East Gate subdivision to the West and adjacent to the Myakka River in the northeaster section of the City. 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 which are very deep, very poorly drained, slowly permeable soils. Soils in East Gate are poorly drained and have a seasonal high-water table at 6 to 18 inches, for 1 to 3 months of the year, and within 40 inches for 2 to 6 months of the year. Properties that have been developed adjacent to the Myakka River have been designed based on a flood study performed by Kimley Horn Engineering Consultants, and the region has been designed to account for modeled flood stages. Residential structures and the community center in this area have been elevated above the required flood elevation and

an extensive drainage system has been constructed to meet the 100-year flood stage conditions.

Twenty-six (26) structures in the SFHA were demolished between 2020 and 2022. Five (5) structures were mobile homes, eleven (11) of the structures were residential, four (4) of these structures were commercial, and six (6) of these structures were multi-use structures. These structures were replaced by the property owners with compliant structures sufficiently elevated to meet the minimum FFE and reduce potential flood losses.

Future Flooding

5.11 Climate Change and Sea Level Rise

Over the last century the global sea level has been rising, and has increased its rate in the last few decades. There are 2 major causes of sea level rise, thermal expansion and melting land-based ice. Thermal expansion is a physical property of all molecules, when the temperature rises molecules get more excited and expand while still in a liquid state. Glaciers and Ice Sheets are also melting due to rising temperatures and the albedo effect. As they melt the water makes its way to the oceans causing the rise in water levels.

As sea levels rise, low lying coastal areas become increasingly prone to coastal and inland flooding, especially during spring high tide and during seaward storms, strong offshore winds or other factors that contribute to storm surge.

Storm surge and wave heights during a hurricane are predicted to increase as the sea level rises. Hurricanes are also predicted to have a greater damage impact on coastal areas. Sea level rise will also reduce the effectiveness of the stormwater system because they are currently mostly gravity-feed. This will lead to an increase in sunny day flooding and more flooding in low –lying areas during rain events. Sea level rise will also exacerbate coastal flooding, beaches may erode differently and potentially shift the beach profile. Dunes may become lower in elevation or completely erode.

According to NOAA, the pace of global sea level rise almost doubled from 1.7 mm/year throughout most of the 20th century to 3.2 mm/year since 1993. The USACE developed the Sea Level Change Curve Calculator to provide guidance in evaluating future coastal projects with respect to changes in sea level.

Sea Level rise makes coastal communities more vulnerable to flooding and may flood them more frequently. Areas that do not currently experience flooding might flood in the future. Consequently, the risk of flood damage to coastal infrastructure is likely to increase in parallel with sea level rise (U.S. Global Change Research Program, 2009). Infrastructure such as beach

facilities, roads, bridges, residential properties, and other structures that must be located at or near the water line are very likely to be at gradually increased risk of damage from flooding, hydrodynamic pressure from storm surge, and wave impact because of sea level rise. Sea level rise will stress infrastructure physically, since salinity changes may affect the structural integrity and/or functionality of physical materials that compose the features of roads, ports, airports, and rail systems. Even roads farther inland may be threatened because road drainage systems become less effective as sea levels rise. Even if coastal and riverside properties themselves are elevated enough not to flood, the roads and infrastructure leading to them could be inundated on a regular basis in the future. For more information on Sea Level Rise see the *Resilience Plan City of Venice, 2021*.

5.12 Future Conditions Model

The City of Venice uses the SLOSH model to determine where sea level rise will affect in the future. The Comprehensive plan even mentions development or redevelopment in an area at high risk for sea level rise will need to incorporate building design specifications, engineering solutions, site development techniques, and management practices that may reduce risk and losses due to flooding

Other available studies regarding climate change and sea level rise are periodically evaluated with assistance from the Florida Floodplain Managers Association, through publications and information provided at the annual conference.

The City of Venice is in the process of receiving new flood maps from FEMA. The preliminary maps were sent to the city on December 31, 2019. The Official FEMA Preliminary Maps appeal/comments period ran from March 3, 2021 to June 1, 2021. The next step is for FEMA to review all appeals and comments, then they will follow up with the communities. This map update was not a total revision of the entire county, it focused on new coastal models and flood prediction in the areas closer to the coast. The LiMWA is an informational line that can be found on flood maps for some coastal areas. On a flood map, it is shown as a black line with black arrows that point to areas where wave heights are between 1.5 and 3 feet. It also marks the inland limit of the Coastal A Zone. Coastal A Zone is the area landward of a V Zone, or landward of an open coast without mapped V Zones. In a Coastal A Zone, the principal source of flooding will be astronomical tides and storm surges.

5.13 Past Studies

In order to prepare for future conditions, it helps to look to past studies as well as future studies. A series of basin plan studies were conducted in 2002. These studies were used to evaluate flooding in areas other than the RL areas, and listed structures below the finished

flood elevation. Past council meetings, public workshops and newspaper articles were also analyzed in preparation of this plan. Riverine basin studies were conducted by SWFWMD, funded by FEMA, and adopted by Sarasota County, in 2009, and the City of Venice, in 2010.

A study of portions of the Myakka River basin was completed by SWFWMD and, in December 2014, FEMA posted digital copies of the proposed preliminary Flood Insurance Rate Map and Flood Insurance Study report for Sarasota County. These maps and studies have been adopted by the City of Venice, and became effective on November 4th, 2016.

SECTION 6 – GOALS

6.1 GOALS

The goals of the City of Venice's Floodplain Management Plan are to:

1. Minimize the loss of life and property due to flood hazards.
2. Protect public health and safety.
3. Improve identification of high flood risk areas.
4. Increase public awareness of risks associated with flooding.
5. Improve the City's emergency response to flood hazards.

These goals include developing activities to address the flood-related hazards through preventative measures, property protection, natural resource protection, emergency services, structural projects, and public information activities.

6.2 REVIEW OF POSSIBLE FLOODPLAIN MANAGEMENT ACTIVITIES

Venice has identified a variety of activities to achieve the goals of the floodplain management plan. Depending on available resources, Venice will develop a prioritized action plan to implement these activities. The types of activities implemented are included in the sections below.

6.3 PREVENTATIVE ACTIVITIES

The most beneficial and cost-effective approach to reduce damage due to flood is to prevent or reduce the risk before the event happens by identifying and mitigating issues before a flood. Many of the preventative activities are administered by the building, planning, and zoning and engineering department's review process. The City uses the SFHA, detailed watershed models, and regulatory standards that exceed the minimum NFIP criteria. Many of these higher standards are set out by the CRS program. Venice's codes and ordinances are evaluated to address flood risk and ensure that building codes meet NFIP requirements or higher. Flood zone determinations are completed by a Certified Floodplain Manager. Permits received by the City are reviewed by building official who are also Certified Floodplain Manager. These permits are also reviewed by City engineers using the City's most up-to-date stormwater model for the area of interest and required to have a Stormwater Site Drainage Plan certified by a professional engineer. These regulations and measures, in conjunction with the requirement of new developments to be consistent with the City's Future Land Use Map, help the City ensure that developments do not exacerbate existing flood issues or lead to problems related to future conditions.

Coastal areas are regulated by the Coastal Barrier Resources act, the Coastal Construction Control Line, Erosion Control Line, LIMWA, and building codes that apply to V zones and Coastal

A Zone (CAZ) flood zones. Extensive review of all building permits proposed seaward of the CCCL or ECL line is conducted by FDEP Beaches & Coastal Systems to verify compliance with the stringent state administrative code (City permits require an approved CCCL permit or exemption prior to approving building permits for properties located seaward of the CCCL).

All sites are required by the City to provide a yearly site inspection report verifying that privately owned stormwater management systems are operating as originally designed, and receiving appropriate maintenance. Any sites that are 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 all other applicable city codes. These regulations include setback requirements, special infrastructure design, and prohibited uses. Further evaluation from SWFWMD related to floodplain compensation natural system impacts and post-development stormwater regulating increase the effectiveness of the City codes. The USACE further reviews impact to protected wetlands, and the FWC and FDEP review impacts to protected species.

Additionally, Venice will continue to implement preventative measures that will reduce the risk of flood damage to life and property through activities such as:

- Conducting activities consistent with the City's Comprehensive Plan.
- Periodic evaluation and maintenance of major drainage systems.
- Proper planning and zoning to reduce flood risks.
- Preservation of open space through acquisition and zoning ordinances.
- Regulating building and development in the floodplain, especially for new or substantially improved construction
- Velocity zone certificates, non-conversion agreements and elevation certificates are required on new or substantially improved construction within the SFHA
- Enforcing post-development volume and rate requirements to reduce adverse impact downstream.

SECTION 7 – ACTIVITIES

7.1 FUTURE DEVELOPMENT IN THE WATERSHED

Rapid growth of the City and the reduction of vacant land available for development, coupled with less than average rainfall for several years, have encouraged people to settle in flood hazard areas. As development and redevelopment have spread around the City, large amounts of land have been covered with impermeable surface such as parking lots, roofs, driveways and streets. A greater number of teardowns and rebuilds have elevated structures within the floodplain, however, they also have tended towards bigger homes with maximum allowed lot coverage. Not only have these manmade structures covered previously absorbent surfaces, they have also removed much of the existing vegetation. The additional lot coverage impacts have the potential to increase runoff from the lots for properties that are not required to obtain either SWFWMD permits or provide pre-development versus post-development runoff calculations. These properties that are not required to meet SWFWMD are required to submit signed and sealed drainage plans to the city building department as part of the review process. Residential and commercial development will continue in this area within the next 5-10 years. As the development plans are submitted, they will be carefully reviewed for negative impacts on the watershed, natural resources, and natural floodplain.

The City of Venice is characterized by several land use categories shown on the Future Land Use Map which reflects the projected growth of Venice through time. By law, all land use regulations and capital improvements must be consistent with the Future Land Use Map. There are some commercial areas and pocket parks around the city and some higher density zoning near the coast.

Changes in future development will influence the peak discharge of floods by modifying how rainfall is stored on and/or run off the land into tributaries. As mentioned later in this the floodplains have numerous beneficial functions that decrease as the area is developed. There is more and faster runoff than natural areas due to lack of permeable areas. Dense networks of ditches and culverts in cities reduce the distance that runoff must travel overland or through subsurface flow paths to reach streams and rivers. As the City continues to grow, the stormwater system will be expanded to meet the demands. The system functions successfully in most areas, however some localized flooding still occurs. Flooding issues are being addressed through implementation of the stormwater master plan, administered by the Stormwater Management Division.

Venice's stormwater management division is a part of the Engineering department. A stormwater management plan was created and adopted in 1995 to better manage stormwater runoff. The Stormwater Management Plan is currently being updated and the city is performing

a stormwater utility study. All stormwater controls in the city are required to be designed for a 25-year storm.

More homes and lives may be more at risk of flooding as the city becomes larger and more developed, especially areas in the Special Flood Hazard Areas (SFHA). For urbanized areas, in order to prevent and reduce loss due to flooding, the City has taken proactive steps to identifying risk and developing projects to prevent or reduce damages in the future. Other areas of the SFHA and other areas prone to flooding are preserved for their natural beneficial functions.

The goal of the redevelopment projects is to revitalize the areas and improve the quality of life for residents. In addition to requiring new buildings to meet the current building standards (for hurricane, fire, wind, etc.), all redevelopment in the SFHA in the city is required to comply with the current floodplain management regulations, as though it were new construction, if the renovations to the property meet or exceed 50% of the market value of the original structure. This includes elevating the home one foot above the base flood elevation. New construction and substantial improvement require submittal of an Elevation Certificate while under construction and at finished construction. The ECs are reviewed by a Certified Floodplain Manager (CFM) prior to approval of certificate of occupancy (CO). If construction is in a velocity zone or Coastal A Zone, the applicants' certification of construction must be signed and sealed by a Florida licensed engineer and submitted to the city. If the structure is elevated with an enclosure below the base flood elevation, a statement of non-conversion must be provided by the property owner prior to final CO.

The City Coordinates Floodplain Management efforts with the Southwest Florida Regional Planning District and the committees responsible for creating the City of Venice 2021 Comprehensive Emergency Management Plan (CEMP), the City of Venice Evaluation and Appraisal Report, the Stormwater Management Plan, and the Sarasota County Unified Local Mitigation Strategy (LMS). These were all used as resources for this Floodplain Management Plan.

A comprehensive evaluation of the stormwater management system is underway. Through this assessment, in conjunction with the adoption of the FIRMS, the city intends to expand the capital improvement program with a priority of more effective stormwater system operation and flood reduction. Currently, funding is allocated from the Stormwater Enterprise Fund to respond to on-going system maintenance needs

7.2 Areas that Provide Natural Floodplain Functions

Floodplains are low areas of land adjacent to rivers, lakes, marshes and oceans that periodically experience flooding during high water events. Floodplains left intact, perform many natural functions including providing flood and erosion control, recharging our aquifers, improving surface water quality and protecting ecologically sensitive areas. They support diverse populations of flora and fauna, providing outdoor areas to educate residents on the importance of protecting this valuable natural resource. In addition, they provide recreation and economic benefits to the community. Approximately 13% of the City is categorized as a wetland, water body or drainage right of way.

Federal, state, county and local regulations provide combined protection of the natural floodplain function. The Army Corp of Engineers, Fish and Wildlife Commissions, FDEP, and SWFWMD all regulate development within wetland and natural waterways. Some local regulations include, Chapter 88 Section 6- Permits of city code limits development within the floodway and also requires that lots and street be designed to maximize the preservation of natural features, trees, tree masses, unusual rock formations, watercourses and sites which have historical significance. The City Comprehensive Plan also preserves open space. It states that the city will maintain a minimum of 7 acres of open space in the form of a park or preserve per 1,000 acres of functional space.

7.3 Natural Flood Storage and Erosion Control

Floodplains (like Venice Myakka River Park Shown below) provide areas for the river, rainwater or storm surge to spread out when flooding starts and temporarily store the floodwaters. This reduces the peak flood stages. The storage area also reduces the peak velocity of the floodwaters therefore decreasing the erosion rate of the water. Natural floodplains in urban and suburban areas can store water and reduce the runoff carried overland that would usually flood the street or neighborhood. Due to the mostly flat topography in Venice, flood reduction is an important function of the floodplain. Reduction is particularly important in low lying areas that may experience flooding with small storms. One acre of floodplain that is flooded by 1 foot of water can hold approximately 330,000 gallons of water. Vegetated floodplains (like areas with mangroves) are especially useful because plants can hinder water movement and slow the flow rate before it can reach the main water body be it a river, bay or the gulf. Slower velocity also means more erosion protection and stability to channel banks or beach dunes. Mangroves are also protected by the FDEP.

Figure 27: Venice Myakka River Park

7.4 Water Quality and Aquifer Recharge

Natural floodplains also improve water quality and can help recharge the aquifer. Water quality is improved by reducing the number of contaminants including unnatural levels of pollutants, nutrients and other chemicals from reaching the main water bodies. This happens by allowing the water to flow across the land and vegetation and allowing sediments and other debris to sink and settle within the floodplain. The slower velocity of the water also allows more time for the water to seep into the ground and replenish the aquifer. As it makes its way to the aquifer through the soil natural purification of the water can take place.

7.5 Fish and Wildlife Habitat

Natural Floodplains support a wide variety of plants and animals. While different habitats vary in vegetation from aquatic grasses to forests all floodplains have a wet and dry period. The length of time between dry and wet may also vary amongst the different habitats. Floodplains and associated wetlands provide food and shelter for terrestrial, avian, and aquatic life. Wetlands tend to have more biodiversity than uplands and are home to endangered species like the Sandhill crane and sea turtles' eggs. The City works diligently with the FWC, Mote Marine, and other agencies and non-profit organizations to protect the endangered species, while maintaining a level of service to our residents and visitors through education and code enforcement.

7.6 Wildlife and Habitat Protection Assessment

One set of animals and plants deserving special protection are threatened and endangered species. Because of their declining numbers, these species have been listed by the US Fish & Wildlife Services (FWS) or the National Marine Fisheries Service (NMFS) as needing protection under the provisions of the Endangered Species Act. They "are the esthetic, ecological, education, historical, recreational and scientific value of the Nation and its people" (Endangered Species Act of 1973).

A Wildlife and Habitat Protection Assessment (WHPA) shall be required for all development petitions that include new development of areas larger than five (5) acres. This assessment shall be included in the binding master plans for rezoning to Planned Districts, as well as the applications for preliminary plats and site and development plans. The objective of this assessment is to identify, if applicable, any impacts of development on unique habitats and protected, endangered, or threatened species. Where a project has completed a WHPA through prior petitions or applications, the date of the WHPA is not older than one (1) year, and the conditions of the subject properties have not changed, a new WHPA shall not be required. This language is from the City of Venice Ordinances Code Section 89 Section 2.2

The Venice City Code of Ordinances Chapter Section 2.3 states that the City recognizes the importance of identifying and maintaining habitats unique to the City and Florida. Unique habitats shall be protected and maintained in accordance with this Chapter, the LDC, and the Comprehensive Plan. Additionally, it is important to identify and provide mitigation from development when certain protected species and their habitats are identified on the site.

Types of Unique Habitats. The following unique habitats have been identified for protection in the Comprehensive Plan and shall be protected as required in this Chapter.

- Marine Habitats.
- Manatee Habitat Protection Zones.
- Marine Turtle Habitats.
- Beach and Dune Habitats.
- Florida Scrub Jay, Gopher Tortoise, and Other Protected Species Habitats.
- Threatened, Endangered Species, or Other Protected Species Habitats.
- Mangroves.

If a WHPA or any development application identifies that unique habitats or protected species are located on the property, the following protection methods are required:

- Impact to unique habitats and protected species shall be avoided whenever possible. When impact is unavoidable, the application shall document the reasons why. Development documents shall include language detailing how the habitat will be preserved and maintained and shall reference best management practices for their maintenance.
- Where the preservation of habitat will be compromised by the removal of invasive species, a design alternative may be proposed to maintain the invasive species to the extent necessary to protect such habitat.
- Applicable mitigation shall be required for State and/or Federally protected habitats and protected in compliance with the latest State/Federal regulatory standards in place at the time of the proposed impact.
- Unique habitats shall be clearly marked using silt barrier fencing or similar fencing protection to ensure the undisturbed protection of the unique habitat during construction activities on the site. Unique habitats occupied by Threatened, Endangered, or Other Protected Species may warrant a more restrictive buffer area defined and regulated by the USFWS or FWC.

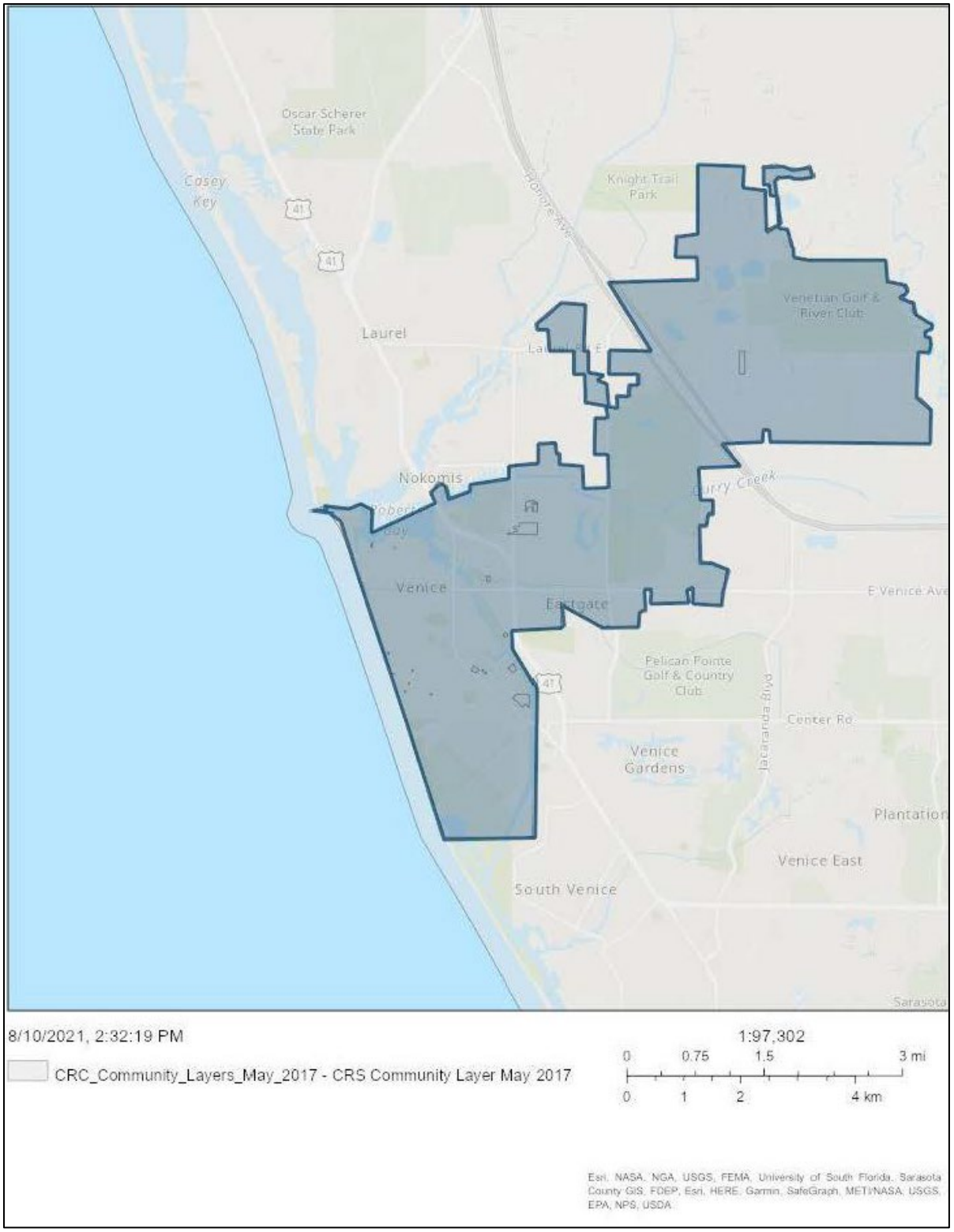
For proposed development of property containing five (5) or fewer acres, a resource management plan shall be required for review and approval by the City prior to a site and development plan or preliminary plat. The applicant shall pay for and have a resource

management plan prepared by an environmental professional. The resource management plan shall contain at a minimum:

- Responsible party information for who will be maintaining the habitat;
- List of prohibited actions including items such as excavation, alteration, and removal of unique or native vegetation
- Identification of permitted activities within habitat areas;
- Best practice methods to be implemented to protect the unique habitat, protected species, or native species and the integrity of these areas;
- An assessment of each habitat type to include a list of existing vegetation and percent coverage of exotics or invasive species; and
- A plan for monitoring reports for maintaining unique habitats that shall be conducted annually and made available to the City upon request.

Refer to the Endangered Species Map and table for a list of endangered species.

Figure 28: Venice Endangered Species Map



USFWS Critical Habitat - Polygon Features (Proximity)

singlmultl	comname	scIname	DISTANCE
SINGLE	Aboriginal Prickly-apple	Harrisia (=Cereus) aboriginum (=gracilis)	6.72 Miles (approximate)
SINGLE	Loggerhead sea turtle	Caretta caretta	181.32 Miles (approximate)

USFWS Critical Habitat - Polygon Features

comname	scIname	listing_st
Aboriginal Prickly-apple	Harrisia (=Cereus) aboriginum (=gracilis)	Endangered
Loggerhead sea turtle	Caretta caretta	Threatened

USFWS - Critical Habitat - Linear Features (Proximity)

singlmultl	comname	scIname	DISTANCE
SINGLE	Loggerhead sea turtle	Caretta caretta	181.88 Miles (approximate)

USFWS - Critical Habitat - Linear Features

comname	scIname	listing_st
Loggerhead sea turtle	Caretta caretta	Threatened

Threatened and Endangered Species Ranges November 2019 (Proximity)

COMNAME	SCINAME	STATUS_ABB 2	DISTANCE
Aboriginal Prickly-apple	Harrisia (=Cereus) aboriginum (=gracilis)	Endangered	24.87 Miles (approximate)
American chaffseed	Schwalbea americana	Endangered	45.9 Miles (approximate)
Miami tiger beetle	Cicindelidia floridana	Endangered	45.9 Miles (approximate)
Audubon's crested caracara	Polyborus plancus audubonii	Threatened	58.59 Miles (approximate)
West Indian Manatee	Trichechus manatus	Threatened	58.68 Miles (approximate)
Everglade snail kite	Rostrhamus sociabilis plumbeus	Endangered	58.76 Miles (approximate)
Florida scrub-jay	Aphelocoma coerulescens	Threatened	63.76 Miles (approximate)
Gray bat	Myotis grisescens	Endangered	75.96 Miles (approximate)
Florida panther	Puma (=Felis) concolor coryi	Endangered	75.96 Miles (approximate)
Pygmy fringe-tree	Chionanthus pygmaeus	Endangered	77.52 Miles (approximate)
Florida bonamia	Bonamia grandiflora	Threatened	85.2 Miles (approximate)
Eastern indigo snake	Drymarchon corais couperi	Threatened	157.84 Miles (approximate)
Wood stork	Mycteria americana	Threatened	245.51 Miles (approximate)
Loggerhead sea turtle	Caretta caretta	Endangered	392.16 Miles (approximate)
Eastern Black rail	Laterallus jamaicensis ssp. jamaicensis	Proposed Threatened	605.22 Miles (approximate)
Red knot	Calidris canutus rufa	Threatened	854.15 Miles (approximate)
Piping Plover	Charadrius melodus	Endangered	889.24 Miles (approximate)
Leatherback sea turtle	Dermochelys coriacea	Endangered	1850.36 Miles (approximate)
Hawksbill sea turtle	Eretmochelys imbricata	Endangered	4448.57 Miles (approximate)

Threatened and Endangered Species Ranges November 2019

COMNAME	SCINAME	STATUS_ABB 2
Aboriginal Prickly-apple	Harrisia (=Cereus) aboriginum (=gracilis)	Endangered
American chaffseed	Schwalbea americana	Endangered
Miami tiger beetle	Cicindelidia floridana	Endangered
Audubon's crested caracara	Polyborus plancus audubonii	Threatened
West Indian Manatee	Trichechus manatus	Threatened
Everglade snail kite	Rostrhamus sociabilis plumbeus	Endangered
Florida scrub-jay	Aphelocoma coerulescens	Threatened
Gray bat	Myotis grisescens	Endangered
Florida panther	Puma (=Felis) concolor coryi	Endangered
Pygmy fringe-tree	Chionanthus pygmaeus	Endangered
Florida bonamia	Bonamia grandiflora	Threatened
Eastern indigo snake	Drymarchon corais couperi	Threatened
Wood stork	Mycteria americana	Threatened
Loggerhead sea turtle	Caretta caretta	Endangered
Eastern Black rail	Laterallus jamaicensis ssp. jamaicensis	Proposed Threatened
Red knot	Calidris canutus rufa	Threatened
Piping Plover	Charadrius melodus	Endangered
Leatherback sea turtle	Dermochelys coriacea	Endangered
Hawksbill sea turtle	Eretmochelys imbricata	Endangered

This geospatial mapping tool is designed to help communities identify areas within their floodplains where threatened and endangered species and their critical habitat (if applicable) may occur. These maps do not guarantee a species will occur within an area, nor do they preclude the presence of an unexpected species; however, they are a good indicator of species (and critical habitat where applicable) that could be affected by activities within the area. If you have a specific development project or land use decision that may affect Endangered Species Act (ESA) listed species or critical habitat within your community, we recommend that you contact your local National Marine Fisheries Service (for marine species) or U.S. Fish and Wildlife Service (FWS) office with any questions regarding ESA compliance. Additionally, for FWS species, you can utilize the Information for Planning and Consultation (IPaC) https://ecos.fws.gov/ipac/ project planning tool to assist you in starting your environmental review.

7.7 RECREATION

Most of the natural floodplains and surrounding natural areas of Venice provide many recreational opportunities including hiking, bicycling, fishing, boating and wildlife viewing. Several commercial and game fish utilize these areas as hatcheries. Preserving these natural resources is critical for the fishing industry's economy. There are 34 parks in the city.

Table 12: List of parks with addresses and their natural function asset.

No.	Park Name	Address	Natural Functions Asset
1	Brohard Park	Harbor Dr S.	Beaches, Dunes
2	Centennial Park	200 W Venice Ave	Uplands
3	Chauncy Howard Park	601 The Esplanade N.	Beaches, Dunes

No.	Park Name	Address	Natural Functions Asset
4	Chuck Reiter Park	250 Fort St	Uplands
5	City Hall Park	401 W Venice Ave	Uplands
6	Dr. Fred Albee Park	245 St. Augustine Ave	Uplands
7	East Blalock Park	300 S. Nokomis Ave	Uplands
8	East Gate Park	1221 Poplar Dr.	Uplands
9	Fountain Park	Ponce De Leon Ave and Miami Ave	Uplands
10	Graser Park	740 Barcelona Ave	Uplands
11	Hecksher Park	450 W. Venice Ave	Uplands
12	Heritage Park	727 W. Venice Ave	Uplands
13	Higel Marine Park	1330 Tarpon Center Dr.	Estuarine and Marine
14	Humphris Park	2000 Tarpon Center Dr.,	Estuarine and Marine
15	John Nolen Park	425 Palmetto Court	Uplands
16	Legacy Park	395 E. Venice Ave	Uplands, Riverine, Freshwater Emergent Wetland
17	Marina Park and Boat Ramp	301 E. Venice Ave	Riverine, Estuarine and Marine
18	Maxine Barritt Park	1800 S. Harbor Dr.	Freshwater pond, Estuarine and Marine
19	Michael Biel Park	100 W. Tampa Ave	Uplands
20	Mundy Park	830 Groveland Ave	Uplands
21	Patriots Park	800 Venetia Bay Blvd	Freshwater Emergent Wetland, Riverine, Pond, Upland
22	Paw Park	1850 S. Harbor Dr.	Beaches, Dunes
23	Pinebrook Park	1251 Pinebrook Rd	Freshwater Emergent Wetland, Freshwater Forested Shrub, Riverine
24	Ponce De Leon Park	Ponce De Leon and Pedro Streets	Uplands

No.	Park Name	Address	Natural Functions Asset
25	Prentiss French Park	500 Manatee Court	Uplands
26	Ruscelletto Park	115 U.S. 41 Bypass N.	Pond, Riverine, Upland
27	Service Club Park	1190 S. Harbor Dr.	Beaches, Dunes
28	Venetian Trail	301 E. Venice Ave	Riverine, Estuarine
29	Venezia Park	450 Nassau St	Uplands
30	Venice Beach	101 The Esplanade	Beaches, Dunes
31	Venice Fishing Pier	1600 S. Harbor Dr.	Beaches, Dunes
32	Venice Myakka River Park	7501 E. Laurel Rd Nokomis	Riverine, Freshwater Pond, Freshwater Forested Shrub, Part of the Myakka River Protection Zone
33	Wellfield Park	1251 Pinebrook Rd	Uplands
34	West Blalock Park	401 Pensacola Rd	Uplands
35	Northeast Park	3560 E Laurel Rd	

7.8 Economic Benefit

Not only does the fishing industry bring money into the area, but so does the ecotourism. Venice is well known for its natural beauty, bringing people from around the world to visit, especially for our beaches. Natural floodplains also have an economic value in the reduction of flood and storm damage to infrastructure.

7.9 Protecting our Natural Floodplains

Poor planning and management of development in the flood plain can degrade water quality, cause habitat loss, property value loss, erosion, and an increase in frequency and duration of future floods. The city's Comprehensive Plan provides strategies to address the protection of natural floodplains.

Venice implements these measures in many ways including but not limited to: water quality management, policies intended to protect environmentally sensitive lands, and regulations that protect wetlands. These regulations can be found in Subpart B Chapter 88 of the City Code of Ordinances.

The City of Venice has an inventory of wetlands and parks that provide natural functions and benefits. The National Wetland Inventory (NWI) is created by Fish and Wildlife Service. This describes all of the wetlands in the city. A link to the mapper is available on our website. The City maintains the inventory for our parks with the objective of managing and preserving these natural resources and their beneficial functions to the community.

7.10 WETLANDS

Wetlands are areas where water covers the soil, or is present either at or near the surface of the soil all year or for varying periods of time during the year, including during the growing season. Water saturation (hydrology) largely determines how the soil develops and the types of plant and animal communities living in and on the soil. Wetlands may support both aquatic and terrestrial species. The prolonged presence of water creates conditions that favor the growth of specially adapted plants (hydrophytes) and promote the development of characteristic wetland (hydric) soils. Wetlands vary widely because of regional and local differences in soils, topography, climate, hydrology, water chemistry, vegetation, and other factors, including human disturbance (*"What is a Wetland", 2021).*

Wetlands function as natural sponges that trap and slowly release surface water, rain, groundwater, and flood waters. Trees, root mats and other wetland vegetation also slow the speed of flood waters and distribute them more slowly over the floodplain. This combined water storage and braking action lowers flood heights and reduces erosion (*"What is a Wetland", 2021).*

Wetlands within and downstream of urban areas are particularly valuable, counteracting the greatly increased rate and volume of surface- water runoff from pavement and buildings. The holding capacity of wetlands helps control floods and prevents water logging of crops. Preserving and restoring wetlands together with other water retention can often provide the level of flood control otherwise provided by expensive dredge operations (*"What is a Wetland", 2021).*

Coastal/tidal wetlands, are found along the Gulf coast. They are closely linked to our nation's estuaries where sea water mixes with fresh water to form an environment of varying salinities. The salt water and the fluctuating water levels (due to tidal action) combine to create a rather difficult environment for most plants. Consequently, many shallow coastal areas are unvegetated mud flats or sand flats. Some plants, however, have successfully adapted to this environment. Mangrove swamps, with salt-loving shrubs or trees, are common in tropical climates. Some tidal freshwater wetlands form beyond the upper edges of tidal salt marshes where the influence of salt water ends (*"What is a Wetland", 2021).*

The City of Venice Code of Ordinances Chapter 89 Section 2.6 refers to the protection and preservation of wetlands. As described in the City of Venice 2017-2027 Comprehensive Plan,

the City shall protect and preserve wetlands and wetland buffers. Properties identified as having wetlands shall ensure that development must minimize impact and then mitigate for impacts to wetlands when impacts are unavoidable. Where such impacts are proposed, the applicant is required to prove that no other reasonable alternative exists other than disrupting the natural system.

Prior to submitting new development, an applicant proposing to alter wetlands, surface waters, and/or shorelines shall meet with City staff and provide the following: a delineation of the wetland and/or surface water in accordance with Chapter 63-340. Florida Administrative Code (as amended) and Army Corps of Engineers Wetland Delineation Manual (Technical Report Y-87-1) and the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Atlantic and Gulf Coast Plain Region (2008); proposed wetland and/or surface water impacts, all minimization and avoidance measures; and proposed wetland mitigation when impacts are unavoidable.

The applicant shall follow the below principles in a proposal to affect wetlands, surface waters, and/or shorelines:

- Avoid damage to the natural system to the greatest extent possible and practicable
- Protect wetland, surface waters, and shorelines from secondary impacts by providing an average twenty-five (25) foot (minimum fifteen (15) foot) buffer around each feature.
- Minimize impacts where avoidance is not possible; impacts shall be limited to the minimum necessary to allow the reasonable use of the property
- Limit activities and uses that are known to adversely impact wetlands, surface waters, and shorelines.
- Coordinate with Federal and State review agencies on wetland designation, mitigation policies, and regulations.

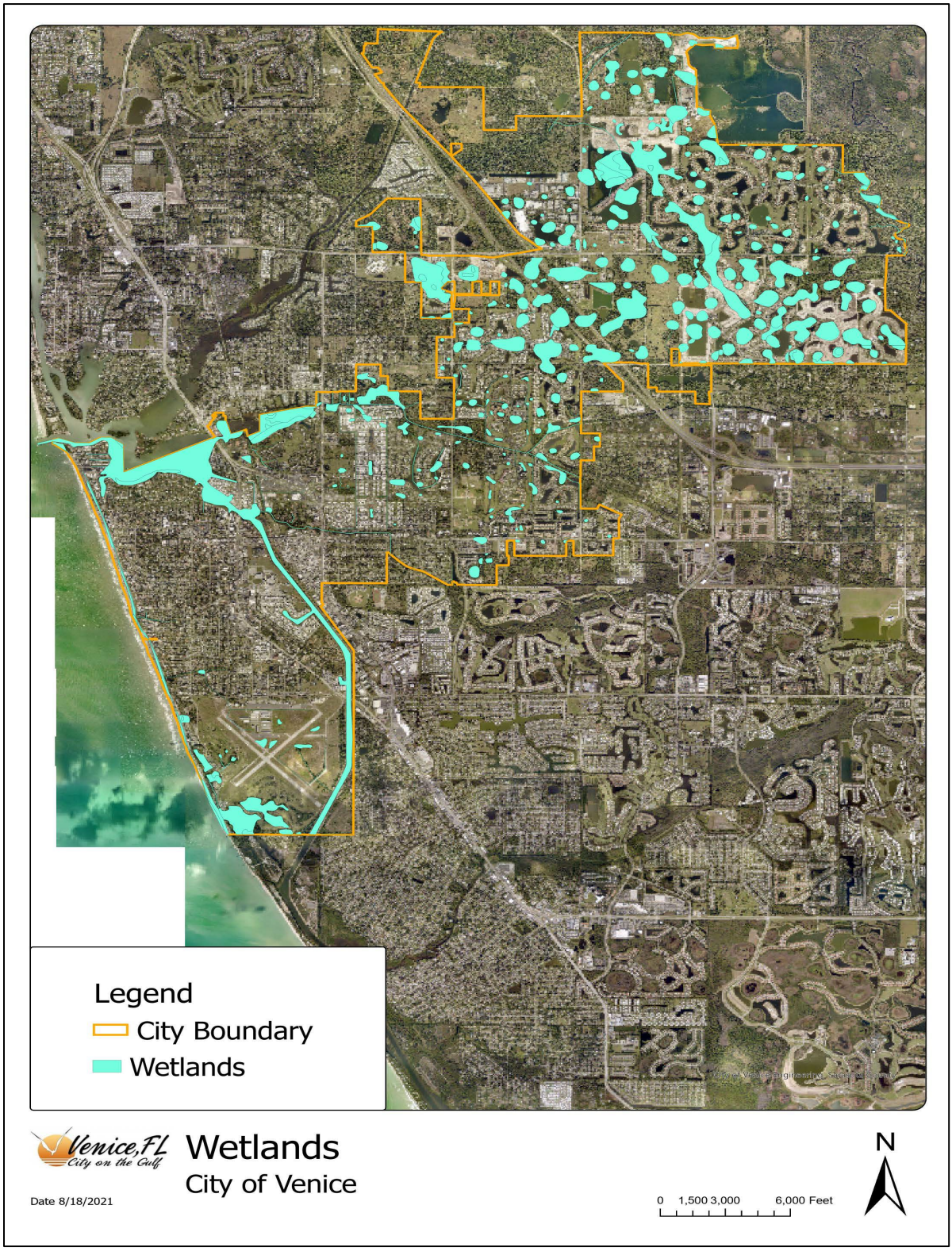
No new development shall impact wetlands, surface waters, and shorelines within the City without approved mitigation. Any development which requires site and development approval shall evaluate natural drainage features, man-made drainage structures, and any potential impact to wetlands, surface waters, and shorelines. Applicants must demonstrate that new developments will avoid impacts to wetlands, surface waters, and shorelines. The City shall promote wetland, surface water, and shoreline preservation by requiring the following standards:

- Any proposed development shall identify and delineate wetland, waterway, shorelines, and aquifer recharge area boundaries based upon an on-site field survey by a professional biologist or registered engineer, as appropriate, provided by the applicant with final wetland delineations to be reviewed and approved by the applicable Federal and State environmental agencies.

- Applicants for development along estuarine shorelines shall submit, as part of the permitting process, plans that demonstrate how the development shall incorporate features designed to protect against potential adverse to shoreline vegetation, including grass beds, and shoreline stabilization; water quality; native habitat, including seagrass beds and wetland habitats; and other living marine resources.

Wetland Mitigation Plan Requirements. If impacts to wetlands are proposed, or if onsite or offsite wetland enhancement or creation is proposed, the applicant shall comply with all State and Federal wetland mitigation requirements.

Figure 29: Wetlands Map



7.11 City Ordinances Relating to Flood Hazards and Development

In 1984, the City of Venice adopted the Flood Damage Prevention Ordinance. This ordinance established 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 was updated significantly in 2006, with all revisions reviewed by the Florida Department of Emergency Management (FDEM). Minor updates were completed in 2010.

Ordinances 2006-34 and 2012-18 were adopted in 2006 and 2012, respectively, to include stormwater management and flood related requirements as part of Chapter 86 Division 2, Subdivision Design Standards. Section 86-232 required proper disposal of surface water, maintenance of natural watercourses, and preservation of historic drainage patterns from adjacent properties. In addition, Section 86-233 applied the standard that no net encroachment into the floodplain, up to that encompassed by the 100-year event, which will adversely affect conveyance, storage, water quality or adjacent lands will be allowed. Any required compensatory storage shall be equivalently provided between the seasonal high-water elevation and the 100-year flood level to allow storage function during lesser flood events. Section 86-233(n) further defined that the post-development run-off shall not exceed the pre-development runoff for a 25-year, 24-hour storm event including the requirement for drainage calculations to support compliance. Section 86-233(n) further required that the proposed development runoff may not impact areas of existing flooding or ponding nor negatively impact adjacent property. Section 86-233(n) also includes inspection requirements for private facilities with stormwater systems to ensure proper functionality of these systems in accordance to their original designs. Any sites that are neglected or not in compliance are reported to SWFWMD and brought to the City's code enforcement board for enforcement. Chapter 88 Section 2.2 of City Code is still relevant to the flood protection aspect of subdivision design. This section requires the finished floor elevation of all structures be built a minimum of 15 inches above the crown of the adjacent road.

In 2013, Ordinance 2013-27 amended Chapter 98-Floods, in its entirety. Chapter 98 encompasses all things flood related and is cross referenced with associated chapters dealing with the environment (chapter 34), stormwater management (chapter 74), and buildings and building regulations (chapter 90). The Florida Building Codes adoption have been adopted in Section 90-20 of the city Code of Ordinances. In addition, Section 98-48 was updated to incorporate all the flood related elements specifically into the city Code of Ordinances by Ordinance 2013-27. Chapter 98 has subsequently been amended by Ordinance 2017-11, dated 6/13/2017. This ordinance reduces the time period of Cumulative costs for Substantial

Improvement from ten (10) years to one (1) year. All revisions have been reviewed by Florida Department of Emergency Management (FDEM) to verify that the local flood ordinance complies with state and federal requirements.

In 2021, Ordinance 2021-24 abolished the Board of Construction and Appeals and reserved Chapter 90-171. Ordinance 2021-24 amended Chapter 98-37, Variances and Appeals, which revised all mention of "Construction Board of Adjustment and Appeals", to "Special Magistrate". Ordinance 2021-24 amended Chapter 98- 44. Manufactured Homes, which adopted the NFIP CRS Class 8 prerequisite that all manufactured homes installed or replaced in special flood hazard areas, must be elevated such that the lower floors are at or above the base flood elevation, plus one additional foot for freeboard. Ordinance 2021-24 amended Chapter 98-35. Site Plans and Construction Documents, Chapter 98-41. Buildings and Structures, Chapter 98-43. Site Improvements, utilities and limitations, and Chapter 98-46. Tanks, which modified the City Code to apply coastal high hazard area requirements to buildings and structures located in Coastal A Zones for the purpose of continuing to participate in the NFIP's CRS Program. Ordinance 2021-24 added definitions under Chapter 98-40, Definitions.

In 2022, Ordinance 2022-15 changed Chapter 98 to Chapter 88, to be consistent with the update of the entire land development regulations.

7.12 PROPERTY PROTECTION

Property protection activities help reduce the risk of damage to structures and land property through activities such as:

- Acquiring high-risk land, particularly if the lands also represent environmentally sensitive lands or natural systems that can be preserved.
- Elevating structures.
- Retrofitting.
- Maintaining proper flood insurance on structures.

The City requires that all buildings and structures in flood hazard areas not designated as Coastal A Zones shall have the lowest floors elevated to or above the design flood elevation. In areas of shallow flooding (Zone AO), buildings and structures shall have the lowest floor (including basement) elevated at least as high above the highest adjacent grade as the depth number specified in feet on the FIRM, or at least two feet (48 inches) if a depth number is not specified.

In the event of a hurricane with plenty of warning residents are encouraged to protect their property from wind and flood damage. Sandbag stations are made available when appropriate.

The City of Venice staff provide outreach to educate residents about ways to protect their property and available financial assistance. The city offers this information through personal contact with current homeowners or potential buyers. Residents can contact the city for a property consultation or site visit to evaluate drainage and retrofitting options. A flyer is mailed out twice annually with the utility bill advertising these services and encourages flood insurance. The information is also available via the city website and the City newsletter. Residents in repetitive loss areas are notified in a separate mailing about their options for flood insurance, retrofitting, mitigation and flood preparation.

7.13 Natural Resource Protection

As mentioned in a previous section, natural floodplains provide the city with many benefits including: storing surface runoff, recharging our aquifers, improving water quality, supporting a biologically diverse population, and may other functions. Protecting this resource is essential for a successful floodplain management plan. Activities to protect natural resources include:

- Adopting and implementing floodplain management policies that reduce impact to natural systems.
- Preserving natural areas.
- Restoring natural areas.
- Protecting wetlands.
- Preventing pollution of natural systems.
- Improving water quality.
- Preventing erosion and sedimentation in water ways.

Venice also protects natural resources through acquisition of land as well as implementing capital improvement projects aimed at improving the water quality and protecting the water resources within the City. Examples of recent natural resource protection activities include:

- In 2009 the City acquired a 10-acre abandoned cement plant property along Hatchett Creek near the ICW. This property was reclaimed as open space and is now Legacy Park. Concrete debris and invasive species were removed to allow restoration of the natural state including wetland restoration. The site had several structures with finished floors below the required minimum elevation within the SFHA that were vulnerable to flooding. These structures were demolished and the area converted to open space, and were replaced with compliant public restrooms, picnic pavilions, a multi-use trail,

playground, and parking amenities, to allow this area to function as a public recreation area.

- The Venice Avenue Drainage project was completed in 2010. As part of this project, the City acquired a 1.43-acre site with an existing commercial structure with a finished floor below the required minimum elevation. The structure was demolished and a pond was created to increase stormwater storage and improve water quality prior to discharge to Hatchett Creek This site is now a pocket park with a sidewalk for residents to walk and bike around a stormwater pond that is home to numerous water birds and other wildlife. The community park has a shaded picnic area, benches and limited parking spaces, and is now better known as Ruscelletto Park.

- The larger combined Venice Avenue Drainage Project increased the capacity of the stormwater system to remove routine flooding within the critical evacuation route, and address the issue of street flooding that routinely threatened the commercial businesses along the corridor. This project was funded by SWFWMD and FEMA through a HMGP. Additional CIPs to protect vulnerable structures and evacuation routes have been included in the LMS project list, and the City will continue to look for funding opportunities to complete these high priority mitigation projects.

- Venice Beach is re-nourished on a regular basis in order to establish a fixed dune and stabilized beach system to provide flood protection to the coastal community during storm surge events. The most recent beach renourishment was completed in 2015. Additionally, the existing stormwater beach outfalls are regularly evaluated to look for opportunity to improve the function of the drainage system and to verify proper operation of the existing facilities. This project is being performed in partnership with the Army Corp of Engineers and the FDEP as funding partners. The next re-nourishment event is scheduled to be completed in 2024-2025.

- Hatchett Creek Restoration: This natural waterway had become seriously clogged with silt and invasive vegetation. In order to restore the effective function of this waterway and to restore the creek's natural function, the silt, exotic and overgrown vegetation and debris were removed. Native vegetation was planted to reestablish the natural ecosystem and secure the shoreline.

- Impacts to wetlands are reviewed as part of the construction plan process implemented by the Engineering department. The process ensures proper mitigation and evaluates natural floodplain function impacts. In addition, tree permits through Sarasota County

Natural Resources are required prior to removing existing trees, and wetland impacts are evaluated by SWFWMD with mitigation required. The City also participates in the Charlotte Harbor National Estuary Program to restore and protect natural estuary systems in the region.

- In August of 2018 a wooden structure was removed from Flamingo Ditch. The removal of the structure restored a more natural flow through the channel instead of the restricting structure. The new channel is also draining easier and has reduced flooding in nearby areas after heavy rains. Native dune vegetation was also planted to reduce erosion.

7.14 EMERGENCY SERVICES

The Sarasota County Emergency Management Department coordinates warning and response activities with other municipalities within the County during a large-scale event like a hurricane. They administer hurricane preparedness planning through the Comprehensive Emergency Management Plan (CEMP), which establishes procedures for coordination with the other municipalities. Certain members from Venice go to the Emergency Operations Center (EOC) during an emergency. The EOC has access to on-line meteorological services, is equipped with an emergency satellite communication system, and can deliver television feed to local area communities.

The City is a 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 present specific requests to City Council. Mutual aid can also include cooperation from federal entities.

Depending on the seriousness of the emergency for localized events, the City of Venice incident commander may choose an alternate local site for the emergency operations center (EOC) from a number of mobile or fixed locations.

Emergency Services activities conducted by the Venice Police Department, Fire Department and the Sarasota County Emergency Management include:

- Developing a flood response plan
- Establishing and monitoring evacuation routes
- Notification and orderly evacuation of citizens and visitors from affected zones
- Performing annual readiness training and drills
- Monitoring the early warning system via ARMS coastal and riverine gauges

The city of Venice uses the Alert Sarasota Notification System – an ultra-high-speed telephone communication service – for emergency notifications. Users must register for this service. This system allows us to send critical communications to all or targeted areas within the city limits in case of a situation that requires immediate action. This system is capable of dialing the entire city within minutes. It delivers a recorded message from Venice describing the situation and any instructions for immediate or future action. Venice also can communicate internally and with other agencies via an 800 MHz Truck Radio System. All directors are able to communicate via city cell phone as long as the towers are still standing

The Southwest Florida Regional Planning Council completed a Hurricane Evacuation Study in 2010. 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. The study can be found at http://www.swfrpc.org/evac_study.html.

7.15 Outside Funding sources

The FEMA Hazard Mitigation Grant Program (HMGP) provides grants to states and local governments to implement long-term hazard mitigation measures after a major disaster declaration. The purpose of the HMGP is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the immediate recovery from a disaster. The HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act. Using HMGP funds, the Venice Community Center was hardened to meet hurricane standards and upgraded for use as a special needs shelter. The Venice Community Center generator project was completed in 2013 as an HMGP project. Hurricane shutters were installed on City Hall as a past HMGP project, and the Venice Avenue Drainage project, which provided upsizing of the stormwater system and additional storage during rain events, was completed to protect an important evacuation route and to protect adjacent properties from flooding impacts. Funding was provided through FEMA HMGP grants and the FDEP. The Westgate Drainage project was completer using an HMGP grant. To improve emergency and post-disaster recovery responses, the City has obtained an HMGP Grant in 2019 to install an emergency generator for City Hall and Fire Station #1. Fire Station #1 was reconstructed to meet current building code standards and to allow emergency responders to remain on the island during storm events for expedited emergency response. The generator was installed in summer 2021. In addition to regularly meeting with the Countywide CRS Committee, the City periodically discusses mitigation strategies with Sarasota County, the SWFWMD and FEMA. Additionally, the City occasionally receives mitigation funding through

grants or Capital Improvement Programs (CIPs) from these same agencies. Maps or other information are also prepared by these other agencies and available for use by the city.

7.16 Structural Projects

The One-Cent Voted Sales Tax, approved by city voters, funds many major structure projects. Additionally, stormwater projects are funded through the Stormwater Enterprise Fund and often supplemented with different grant programs such as FEMA HMGP, SWFWMD and State grants. The available funds are dispersed to prioritized and ranked projects in the city annual budget approved by the City Council. Projects placed on the LMS project list are reviewed and ranked by the LMS Work Group. Such projects in the program include:

- Structural Projects

- Other Improvements: A comprehensive evaluation of the stormwater management system is underway. Through this assessment, in conjunction with the adoption of the FIRMS, the city intends to expand the capital improvement program with a priority of more effective stormwater system operation and flood reduction. Currently, funding is allocated from the Stormwater Enterprise Fund to respond to on-going system maintenance needs.

7.17 Public Information

Public information activities advise residents, property owners, potential property owners, and visitors about the hazards, ways to protect people and property from the hazards, and the beneficial functions of natural floodplains. The City of Venice implements these activities using a variety of mediums, including digital, audio/visual, and printed media. All digital media is ADA accessible including social media and web documents available on the city website. Activities identify target audiences and deliver specific messages about the risks that affect them.

Table 13: Public Outreach

Target groups for our public outreach and what messages they receive.

No.	Target Group	Topic #	Message #
1	Repetitive Loss area	All	All
2	Homeowners Associations	All	All
3	Realtors	All	All
4	Insurance Agents	2-10	All
5	Spanish Speaking population	2, 5	All
6	Condo Residents	All	All
7	All Residents	All	All

Public information activities include:

- Real estate disclosure programs
- Map information
- Mailings
- Social media
- City Newsletter
- City website
- News media
- Public outreach events, including advertising the county's library workshops
- Technical assistance
- Hurricane safety awareness videos posted on city website

The City of Venice currently implements the above types of activities that aim to protect the life, safety, health and property of its residents. The Venice website was recently updated to be more comprehensive of all of our outreach goals and ADA compatible. Our social media presence has also been updated with memes to convey a variety of messages. They are more engaging and attention grabbing for viewers on various social media platforms than only text.

Venice joined the multi-jurisdictional Program for Public Information. This group includes members from Sarasota County, the city of Sarasota, the city of North Port, the town of Longboat Key and the city of Venice as well as members of the public representing realtors, insurance agents, lenders, and developers. The group organizes their messages so the community as a whole hears the same message from each jurisdiction.

The City reviews possible floodplain management activities on a regular basis through periodic evaluations of this Floodplain Management Plan, the City's Comprehensive Plan, and other initiatives related to flood protection and preservation of natural systems. The review process begins with evaluating existing projects and initiatives. It is important to know what the City is currently doing for floodplain management in order to effectively plan for future projects. This can indicate areas or goals that are lacking that this committee should address. The review includes evaluating whether the projects meet the specific goals of the FMP and if they can be updated, for example, to be more efficient or provide consistent messaging of floodplain management topics. It describes existing activities that were reviewed that aim to reduce the risk associated with flooding in Venice. Overall, the city of Venice implements activities that cover all of the major activity types and goals set forth in this FMP. Many of the activities are ongoing or were recently completed. However, some of the activities should be periodically revisited or updated, and there will be opportunities to improve a study, streamline the information about flood risk, or better protect the health, safety and property of the Venice residents.

Activities to monitor and consider for future update include:

1. Local Mitigation Strategy – The LMS and this FMP should be monitored for consistency in flood topics, goals and activities.

2. Codes & Ordinances – The codes and ordinances need to be periodically reviewed for changes in building codes, NFIP and CRS requirements.

3. Drainage Maintenance – There may be opportunities here to streamline or integrate requirements for NPDES and CRS. This can also be potentially improved through better GIS integration.

4. Flood Warning and Response Plan – This plan should be updated based on lessons learned from flooding events.

In addition to the projects identified above to evaluate and monitor, the CRS committee also reviewed other possible floodplain management activities that can be implemented.

7.18 Coordination with the Comprehensive Plan

The comprehensive plan has an Emergency Management Element which includes the following policies that are directly relevant to floodplain management and mitigation planning. The Comprehensive Emergency Management Plan was recently updated in 2021 the preparation of this plan represents another implementation of the policy

Strategy OS 1.9.9 - Post-Disaster Redevelopment Plan

- The City shall coordinate with Sarasota County for post disaster redevelopment planning. The City should develop a post-disaster recovery and redevelopment plan which minimizes or eliminates the future risk to human life, including public and private property from natural disasters. Priorities shall be given to the following:

1. Reestablish public infrastructure service delivery first to those areas where it will serve the most people and/or to areas where there may be significant threats to health, safety, and welfare (e.g. contaminated potable water)
2. Suspend local government development review/permitting fees, and implement abbreviated development review procedures to expedite rebuilding in accordance with state law and Florida Building Code
3. Permit the development of temporary, modular housing that meets City codes to serve displaced residents
4. Open public buildings and grounds to provide shelter for the homeless and distribution centers for goods and services
5. Permit rebuilding pre-existing, conforming uses back to the original densities/intensities and uses only if it can be done to meet current FEMA flood

damage control regulations and Florida Building Code

Strategy OS 1.9.10 - Hurricane Shelter Space

- The City shall coordinate with Sarasota County, Southwest Florida Regional Planning Council and other communities to identify hurricane shelter space. Proposed development and redevelopment in the Coastal Planning Areas, including the CHHA and similar areas that increase the number of residential units, shall mitigate the impact on shelter space demands based on the shelter space LOS. The LOS standard for shelter space shall be 20 square feet per person seeking public shelter. Populations seeking public shelter shall be calculated at 20 percent of the total potential evacuees.

7.19 Integration with Post Disaster Redevelopment Plan

In addition, the City coordinated with Sarasota County on the preparation of a Sarasota County Post Disaster Redevelopment Plan. As part of the planning process the City held meetings with representatives from outside agencies, including the Red Cross, SWFWMD, FDEP, Florida Fish and Wildlife (FWC) and the Coastal and Heartland National Estuary Partnership. The representatives provided input and support to the City's long-term comprehensive plan goals and objectives. The plan was complete in 2021.

7.20 Integration with Sarasota County Multi-Jurisdictional Local Mitigation Strategy

The City of Venice participates with the Sarasota County Unified Local Hazard Mitigation plan by participating with the multi-jurisdictional local mitigation strategy (LMS). The purpose of the Countywide LMS is to establish a mitigation plan to reduce disaster losses that may cross jurisdictional boundaries. The list combines pre-disaster and post-disaster mitigation projects. All types of mitigation projects are covered, not just flooding. A mitigation project is defined as having elements that reduce the natural hazard impact to the community.

Action items identified under this FMP will be coordinated with projects identified in the LMS. The CRS Coordinator will meet with the LMS committee to evaluate and share information. As a result, many of the action items identified in this plan will also be updated in the pertinent sections of the LMS plan. The floodplain management plan is incorporated into the LMS document as an appendix. The LMS project list and Venice Floodplain Management Plan portions of the LMS were updated by adoption of Resolution 2014-35 approved by the City Council 9/9/14. Resolution 2014-39, adopted on December 9, 2014, approved and adopted a combined Floodplain Management Plan that incorporates the Program for Public Information and flood insurance Coverage Improvement Plan into the document and the LMS. This process of adopting the LMS project list and Venice Floodplain Management Plan portions of the LMS will continue annually; the 5-Year FMP update was approved by City Council on July 14, 2020.

The city coordinates its disaster management practices with Sarasota County Emergency Management under the LMS. The purpose of the LMS is to coordinate with participating

jurisdictions to identify and prioritize projects and initiatives that are mitigating in nature. Sarasota County and each municipality within the County - the cities of North Port, Venice, Sarasota, and the Town of Longboat Key, have approved the plan. The project list for 2022 has been updated for incorporation into the LMS and is attached as Appendix D.

For the purpose of this Floodplain Management Plan, only the flood related goals and objectives of the LMS plan are addressed here:

7.21 LMS Work Group Goals

1. Reduce Structural Flooding
   The City will continue to assess RL areas and find ways to decrease the impact of riverine and coastal flooding through Capital Improvement Projects (CIPs).
2. Reduce Flooding on Major Roadways
   The City will construct projects that reduce flooding to major roadways and evacuation routes
3. Preserve Natural Habitats
   a. The City will undertake projects that reduce impacts to natural habitats while controlling flooding.
   b. The city will minimize developments in floodplains and wetlands.
4. Protect People from Flooding
   a. Ensure residents, visitors, and businesses are given adequate warning of flood potentials.
   b. Plan projects that protect lives and property.
5. LMS Plan
   The City will work with the LMS Working Group to adopt, routinely update and implement the LMS Plan.

7.22 LMS Work Group Objectives

1. The LMS work group will evaluate and review ongoing mitigation practices as stated above.
2. The LMS work group will ensure that public funds are used in the most efficient manner by:
   a. Evaluating and prioritizing mitigation projects, starting with those sites facing the greatest threat to life, health and property.
   b. Utilizing public funding to protect public services and critical facilities
   c. Utilizing public funding for projects on private property, where the benefits to the community exceed the cost.
   d. Determining ways to maximize the use of outside funding sources.
   e. Maximizing owner participation in mitigation efforts to protect their own properties
   f. Encouraging property owner self-protection measures in preparing for storms and other hazards.
3. The Repetitive Loss area will be evaluated:

a. All property owners in the RL area shall be advised that an analysis will be conducted, and their input requested, on the hazard and recommended actions.
b. The City will coordinate with agencies or organizations that may have plans or studies that could affect the cause of impacts of flooding such as the SWFWMD mapping, FEMA D-FIRM update and FEMA Coastal A Risk mapping.
c. Each building in the RL will be visited and basic data collected. Protection measures, or drainage improvements, will be reviewed to determine whether alternate approaches are feasible.
d. The findings of the review will be documented, with a separate analysis for each area.
e. An annual evaluation of the RL activities is to be conducted, with an update of the RL areas every 5 years.

7.23 Integration with County Multi-Jurisdictional Program for Public Information

The City of Venice, City of Sarasota, City of Northport, Town of Longboat Key and Sarasota County have come together to create a multijurisdictional Program for Public Information (PPI). Public Information activities like social media messages are shared with the intent to have one message across the different municipalities about floods. While not all outreach is a group effort, it is beneficial to coordinate our messages to increase their impact and reduce confusion.

7.24 Other Resources

Other resources for the FMP include the Southwest Florida Regional Planning District, the committees responsible for creating the City of Venice Comprehensive Emergency Management Plan (CEMP), the City of Venice Evaluation and Appraisal Report and the Stormwater Management Plan.

SECTION 8 - FLOODPLAIN MANAGEMENT ACTION PLAN

8.1 ACTION PLAN

This Floodplain Management Plan seeks to incorporate the best available information from all City resources and preventive activities. The FMP Committee reviewed the activities in section 8 and 9. These activities included preventative, property protection, natural resource protection, emergency services, structural projects, and public information. Some of these activities were previously completed, while others are still ongoing. In reviewing the projects, the committee updated the list and considered recommendations for new projects as well as updating existing projects.

The FMP committee sets priorities for each of the recommended projects. The committee considered factors that included the benefits to the community, the audience the project can reach, whether the project was a one-time effort or would require periodic monitoring and/or maintenance, the amount of effort and resources the project will require, and the availability of staff and funds to implement the project. Projects that offer high benefits and are relatively inexpensive to implement received a high priority rating while others may receive either a medium or low rating if it did not offer a large benefit or reached a smaller audience. Projects that may qualify for grants or cooperative funding from the Southwest Florida Water Management District, regional, state or federal agencies also ranked higher.

Table 14 describes the action plan for the activities to implement. The committee periodically evaluates and updates this project list.

Table 14: Action Items

Action Item	Goal 1. Protect Critical Facilities and Utilities	Goal 2. Protect Lives and Health	Goal 3. Protect homes, businesses and schools	Goal 4. Minimize the costs to the City and property owners	Goal 5. Ensure that new construction supports these goals	Deadline
Administrative Action Items						
1. Plan Adoption	X	X	X	X	X	Summer 2023
2. Monitoring and Reporting	X	X	X	X	X	Summer Annually
3. Community Rating System	X	X	X	X	X	CRS Visit
Program Action Items						
4. Drainage Improvements	X	X	X	X		Ongoing
5. Drainage System Maintenance	X	X	X			CRS Visit
6. Property Protection Funding	X	X	X	X		As needed
7. Regulatory Review	X		X		X	CRS Visit
8. NFIP Administration	X	X	X		X	Ongoing
9. CFMs	X	X	X		X	Ongoing
10. BCEGS	X	X	X		X	Ongoing
11. Flood Response Plan	X	X	X			Ongoing
Public Information Action Items						
12. Annual Mailing (utility bill inserts)		X	X		X	Ongoing
13. Technical References		X	X		X	CRS Visit
14. Public Information Projects		X	X		X	Ongoing
15. Public Information Messages		X	X		X	Ongoing

8.2 Coordination with Other Initiatives

As part of this FMP's action plan, it will be necessary to coordinate the efforts of this committee with those of other City strategies and plans to ensure consistency. The CRS committee will also

regularly coordinate with the Sarasota County LMS committee to evaluate potential updates to the LMS or this FMP based on decisions and projects identified between these initiatives. In addition to this FMP being incorporated as an appendix to the LMS, the CRS committee will also evaluate and make recommendations for action items for mitigation of other types of hazards that are described in the LMS.

8.3 Post Disaster Mitigation

Mitigation from flooding and other hazards such as wind, fire or surge is handled on a county wide basis. Sarasota County Emergency Management is the primary agency charged with post-disaster mitigation assessment. The Emergency Management Chief or designee has the primary responsibility for assessing mitigation needs in the post-disaster environments. The Sarasota County Property Appraiser, Sarasota County Public Works Business Center, Sarasota County Planning and Development Business Center and Municipalities are the supporting agencies that work closest with Sarasota County Emergency Management in post-disaster mitigation assessment. The rest of this section describes the roles of these various groups.

Sarasota County Emergency Management Department is the coordinating organization for all post-disaster mitigation activities. The Emergency Management chief is the one responsible for coordinating the activities. They are responsible for coordinating all equipment and resources necessary for mitigation assessment are available when needed. Much of the work involves identifying opportunities for possible mitigation activities and is carried out during the pre-disaster mitigation phase (e.g. during the mitigation project identification process carried out by the Sarasota County LMS Work Group). Opportunities for mitigation are also discovered during the initial and preliminary damage assessments and throughout the public assistance processes.

The Emergency Management Chief or designee also serves as the point of contact for providing information to residents of the county describing how they can minimize damage from future disasters. Priority will be also given to identifying mitigation opportunities for any public infrastructure damaged by the disaster. These mitigation measures are eligible for funding under the Public Assistance grant program. The Emergency Management Chief or designee will coordinate on an as needed basis with the Bureau of Recovery and Mitigation at the Florida Division of Emergency Management. Although Sarasota County Emergency Management does not have any formal agreements with agencies to assist in post-disaster mitigation activities, there is an annual agreement in place with the Southwest Florida Regional Planning Council to coordinate mitigation planning activities. Local agencies within the county have historically worked together as needed in the aftermath of disasters.

Local agencies involvement may vary based on the specifics of each event. Emergency Management staff will contact all agencies for post-disaster mitigation activities and notify them as to their role in these operations. Notifications can be made via telephone using the Sarasota County Emergency Management Notification Directory located in the EOC. Most agencies will be represented at the EOC as the post-disaster operations continue. The Sarasota County Emergency Management Chief or designee will be responsible for coordinating mitigation activities with the municipalities and the State EOC. The City Managers or designee will be updated throughout the response, recovery and mitigation phases of the event. During non-event periods, meetings will be held quarterly or as required. During events, briefing meetings will be held daily or as determined based on the situation.

After a disaster the supporting municipalities document damage to public infrastructure, businesses and residences working in conjunction with Emergency Management. The Sarasota County LMS Work Group then considers the information gathered during the recovery phase, and determinations are made regarding potential mitigation projects

The Sarasota County Property Appraiser will support the Sarasota County Emergency Management by providing technical expertise regarding property values, damages and losses to properties as a result of a disaster.

The Sarasota County Planning and Development Business Center along with the similar municipal departments will provide support to Emergency Management in identifying mitigation activities that could reduce the vulnerability of public infrastructure, businesses and housing stock to damage and loss from natural and manmade disasters.
The Sarasota County Public Works Business Center and the Municipal Public Works Departments will assist the Emergency Management in identifying potential road, bridge, culvert and water and sewer mitigation projects.

Equipment, vehicles and supplies necessary for mitigation activity are located throughout the county and cities either in stations, assigned to individual personnel, or readily accessible to department personnel.

Personnel involved in mitigation activities will receive on-going training according to their individual needs. Sarasota County Emergency Management will work with all mitigation assessment team members to ensure that all training needs are met. The primary source for mitigation training is the Florida Division of Emergency Management. This training is available for members of the local jurisdictions as well.

SECTION 9 – ADOPTION OF THE 2023-2028 FLOODPLAIN MANAGEMENT PLAN – RESOLUTION 2023-XX

Section 10- Plan Implementation, Evaluation, and Revision

This FMP serves as an appendix to Sarasota County's LMS, which is a state-approved multi-jurisdictional, multi-hazard plan. It adopted annually with the inclusion of the updated City of Venice Project list and replacement of the Floodplain Management Plan in the LMS with the newly adopted version. This version of the LMS, 5-Year Update of the FMP and City of Venice Project List update will be presented to City Council on July 14, 2020, at a public meeting.

The all annual and 5-year updates of the FMP are available for comments at our CRS Committee Meetings which are open to the public. In addition, the draft and final FMP is available on the city's website in ADA compatible format. Hard copies may also be reviewed in the Engineering Department at Venice City Hall, 401 W. Venice Ave., Venice, FL 34285

The CRS committee meets quarterly every year to evaluate the Coverage Improvement Plan, the Program for Public Information activities, and this Floodplain Management Plan. They will evaluate the effectiveness and clarity of the messages and make updates as necessary. Potential revisions may include, updates to the GIS information, addition of new city staff and CRS committee members, Target area revisions development of new projects and revisions to existing projects.

To implement and update the FMP:

1. The County's CRS Specialist will review the FMP to evaluate what sections and data require an update for that year.
2. The CRS Specialist will be responsible to get each project's status.
3. After the status information is gathered, the CRS Specialist prepares a summary of required changes to the FMP and project updates for review by the CRS Committee.
4. The CRS Committee will conduct a meeting (noticed and open to the public) to review the progress and recommend additional changes to the FMP.
5. The CRS Specialist assigns the revision items to members of the committee or designated staff.
6. The CRS Committee will conduct a meeting (noticed and open to the public) to review the draft document.
7. The draft document will be presented to the City Council for adoption
8. The updated plan will be posted on the City website, released to the media and made generally available to the public. The flood-related outreach activities will be presented and educate the public about the revised FMP.

10.1 Annual Progress Report

An annual evaluation report will be submitted with the City's annual CRS recertification to indicate progress of the plan implementation. The plan itself will be updated at least every five years. In the last five years one of the city's biggest accomplishments for the floodplain

management was the introduction of more effective outreach efforts including: more eye-catching graphics for print and digital media, more responses on the annual flood questionnaire, and joining with the county for a multijurisdictional PPI.

The FMP for this 5-year update was completely rewritten to emulate the Sarasota County Floodplain Management Plan in order to increase the clarity and flow for the reader. This plan will be reviewed by the Florida Department of Emergency Management. It will also be available for review by the public prior to a public meeting. The plan will then be adopted by the City Council and sent to ISO for review. An annual report will be delivered to City Council. The next update to the plan is anticipated in 2028.

Section 11 – References

City of Venice Finance. “Budget Book”. 2022.

City of Venice Finance. *Annual Comprehensive Financial Report.* 2022. p. 22

Environmental Protection Agency. (2021, March 31). *What is a Wetland*. EPA. Retrieved September 15, 2021, from https://www.epa.gov/wetlands/what-wetland.

Kimley-Horn & Associates. “Inventory of Existing Land Uses.” *City of Venice Comprehensive Plan 2017-2027.* 2017

Sarasota County Property Appraiser. *Sarasota County Property Appraiser 2021 Annual Report.* 2021, pp. 6-8.

Sarasota County Local Mitigation Strategy Committee. “*Sarasota County Unified Local Mitigation Strategy*”. 2021

Taylor Engineering, Inc. *Resilience Plan City of Venice, FL.* 2021, May 25.

APPENDIX

APPENDIX A: MEMBERS OF THE CRS COMMITTEE

Name	Department/Industry	Activity
Gillian Beck	Business Owner	Member
Rick Hopkins	Deputy Building Official	Building Code
Frank Butry	From Village on the Isle, Major Employer	Member
Mary Elizabeth Petty	Flood Insurance Industry	Member
Anthony Pinzone	Resident in Floodplain	Member
Nicole Tremblay	Planning & Zoning	Land Development Code
Kathleen Weeden	Engineering/Stormwater	Stormwater/Floodplain Management

Supporting Staff

Name	Position
Ed Lavallee	City Manager
Christina Rimes	CRS Coordinator
Lorraine Anderson	Public Information Officer

APPENDIX B: AGENDAS AND MINUTES FROM PUBLIC MEETINGS

Venice, Florida "City on the Gulf"

City of Venice
401 W. Venice Ave.
Venice, FL 34285

AGENDA
CRS FLOODPLAIN MANAGEMENT PLAN COMMITTEE
WORKSHOP
MAY 4, 2021 AT 8:30 A.M. – ZOOM VIRTUAL MEETING

Instructions on How to Watch and/or Participate in the Virtual Meeting – See Page 2

I. Call to Order

II. Roll Call

III. Audience Participation (five-minute limit per speaker)

IV. New Business

1. Welcome new member Ms. Elke von Oertzen
2. Floodplain Management Plan (FMP) Update for May 2022
3. CRS Program Current Update
4. CRS 5 Year Cycle Verification update
5. CRS Annual Recertification
6. New FEMA FIRM Map Update
7. Sarasota County
8. Vacant Board Positions

V. Board Discussion

VI. Adjournment

If you are disabled and need assistance, please contact the City Clerk's office at least 24 hours prior to the meeting.

NOTE: No stenographic record by a certified court reporter is made of this meeting. Accordingly, any person who may seek to appeal any decision involving the matters noticed herein will be responsible for making a verbatim record of the testimony and evidence at this meeting upon which any appeal is to be based.

City of Venice
401 W. Venice Ave.
Venice, FL 34285

Venice, Florida
"City on the Gulf"

MINUTES
CRS FLOODPLAIN MANAGEMENT PLAN COMMITTEE
WORKSHOP
MAY 4, 2021 AT 8:30 A.M. – ZOOM VIRTUAL MEETING

I. Ms. Weeden called the meeting to order at 8:34 a.m.

Present: Mr. Frank Conorozzo, City of Venice Building Department, Ms. Mary Petty, Ms. Kathleen Weeden City of Venice Engineer, Mr. Mark Hawkins, Mr. Robert Yoho

Absent: Ms. Nicole Tremblay, City of Venice Planning & Zoning Division and Ms. Elke von Oertzen.

II. No one signed up to speak for audience participation.

III. New Business

Kathleen introduced Christina Rimes, the new CRS Coordinator. Christina discussed the CRS program, how it affects the community, the status of the current review cycle, recent complete activities for the program, and the changes that were implemented with the new 2021 addendum. She also discussed the update to the Floodplain Management Plan that the committee will begin working on at the next meeting. The FMP will be broken down into four sections, so one section per quarter will be reviewed. Christina discussed the FEMA preliminary FIRMs and the process for the appeal process, which can be found online.

Donna discussed the status of the Sarasota County Unified Program for Public Information annual evaluation report.

IV. Kathleen discussed City Council's action to abolish the Construction Board of Appeals, so the variance appeal process will go through a special magistrate. The FMP will need to be updated to add information about the required 1' of freeboard for mobile homes, and the new Coastal A zones.

V. The meeting was adjourned at 8:34 a.m.

City of Venice
401 W. Venice Ave.
Venice, FL 34285

Venice, Florida
"City on the Gulf"

AGENDA
CRS FLOODPLAIN MANAGEMENT PLAN COMMITTEE
AUGUST 3, 2021 AT 8:30 A.M. – CONFERENCE ROOM 106

I. Call to Order

II. Roll Call

III. Approval of Minutes
   1. August 4, 2020
   2. May 4, 2021

IV. Audience Participation (five-minute limit per speaker)

V. New Business
   1. Welcome new member Ms. Tish Murphy
   2. Floodplain Management Plan (FMP) Update Draft
      a. Discussion of update schedule
      b. Discussion of Table of Contents and Introduction
      c. Discussion of Sections 1-4

VI. Old Business
   1. CRS Program Current Update
   2. CRS 5 Year Cycle Verification update
   3. New FEMA FIRM Map Update
   4. Sarasota County
   5. Vacant Board Positions

VII. Board Discussion

VIII. Adjournment

If you are disabled and need assistance, please contact the City Clerk's office at least 24 hours prior to the meeting.

NOTE: No stenographic record by a certified court reporter is made of this meeting. Accordingly, any person who may seek to appeal any decision involving the matters noticed herein will be responsible for making a verbatim record of the testimony and evidence at this meeting upon which any appeal is to be based.

City of Venice
401 W. Venice Ave.
Venice, FL 34285

MINUTES
CRS FLOODPLAIN MANAGEMENT PLAN COMMITTEE
AUGUST 3, 2021 AT 8:30 A.M. – CONFERENCE ROOM 106

Members Present: Kathleen Weeden, Stephen Beckman, and Mary Elizabeth Petty

Absent: Tish Murphy, Elke Von Oertzen, Robert Yoho, Nicole Tremblay, and Mark Hawkins

Non-Members Present: Christina Rimes, Darlene Culpepper, and Amy Nelson (for Nicole Tremblay)

Discussion/Action:

Meeting called to order at 8:40 a.m.

Ms. Rimes discussed the Floodplain Management Plan update draft and presented to the committee. She has added definitions, acronyms, graphics, photos, and maps to help make the plan more user friendly. She requested that the members email her comments on the draft plan and she will reach out to the members not present to share the draft as well.

Ms. Rimes discussed the CRS class 5 requirements, including sending out letters to contractors on the mechanical equipment requirements. Ms. Weeden mentioned that Sarasota County would be updating their insurance compliance soon. Ms. Rimes discussed the new FEMA FIRM Map and the update should be in Fall of 2022.

Sarasota County CRS position currently vacant.

CRS Floodplain Management Plan Committee has a vacant position for Community Business Industry

There were no public comments or additional discussion.

The meeting was adjourned at 9:06 a.m.

City of Venice
401 W. Venice Ave.
Venice, FL 34285

AGENDA
CRS FLOODPLAIN MANAGEMENT PLAN COMMITTEE
OCOTBER 5, 2021 AT 8:30 A.M. – CONFERENCE ROOM 106

I. Call to Order

II. Roll Call

III. Approval of Minutes
   1. August 4, 2020
   2. May 4, 2021
   3. August 3, 2021

IV. Audience Participation (five-minute limit per speaker)

V. New Business
   1. Floodplain Management Plan (FMP) Update Draft
      a. Discussion of update schedule
      b. Discussion of Section 5

VI. Old Business
   1. New FEMA FIRM Map Update
   2. Sarasota County
   3. Vacant Board Positions

VII. Board Discussion

VIII. Adjournment

If you are disabled and need assistance, please contact the City Clerk's office at least 24 hours prior to the meeting.

NOTE: No stenographic record by a certified court reporter is made of this meeting. Accordingly, any person who may seek to appeal any decision involving the matters noticed herein will be responsible for making a verbatim record of the testimony and evidence at this meeting upon which any appeal is to be based.

City of Venice
401 W. Venice Ave.
Venice, FL 34285

Venice, Florida
"City on the Gulf"

MINUTES
CRS FLOODPLAIN MANAGEMENT PLAN COMMITTEE
OCTOBER 5, 2021 AT 8:30 A.M. – CONFERENCE ROOM 106

Members Present: Kathleen Weeden, Stephen Beckman, Nicole Tremblay, Mark Hawkins and Mary Petty

Members Not Present: Tish Murphy

Non-Members Present: Christina Rimes

Meeting called to order at 8:32 am

Meeting minutes from the last 3 meetings approved. Motion from Mr. Hawkins, second from Ms. Tremblay

No audience participation.

Old Business: Looking in to requirements for new members as we have 3 resignations. No update from Sarasota County as the person in the CRS position has left.

Discussion: The CRS discount is 20% across the board. Email comments to Ms. Rimes regarding section 5.

The meeting was adjourned at 9:06am

City of Venice
401 W. Venice Ave.
Venice, FL 34285

AGENDA
CRS FLOODPLAIN MANAGEMENT PLAN COMMITTEE
AUGUST 2, 2022 AT 8:30 A.M.
FIRE DEPARTMENT CONFERENCE ROOM

I. Call to Order

II. Roll Call

III. Approval of Minutes

1. October 5, 2021

IV. Audience Participation (five-minute limit per speaker)

V. Old Business

1. Committee Overview
    i. CRS Program overview
    ii. Risk Rating 2.0
    iii. Outreach
    iv. Elevation Certificates
2. New FEMA FIRM Map Update – one appeal
3. Sarasota County
4. Vacant Board Position

VI. New Business

1. Floodplain Management Plan (FMP) Update Draft
    a. Discussion of update to schedule
    b. Discussion of chapters 1-5
    c. Discussion of Chapters 6-7

VII. Board Discussion

VIII. Adjournment

If you are disabled and need assistance, please contact the City Clerk's office at least 24 hours prior to the meeting.

NOTE: No stenographic record by a certified court reporter is made of this meeting. Accordingly, any person who may seek to appeal any decision involving the matters noticed herein will be responsible for making a verbatim record of the testimony and evidence at this meeting upon which any appeal is to be based.

MINUTES
CRS FLOODPLAIN MANAGEMENT PLAN COMMITTEE REGULAR MEETING
AUGUST 2, 2022 AT 8:30 AM – FIRE STATION CONFERENCE ROOM

Members Present: Kathleen Weeden, Stephen Beckman, Nicole Tremblay, Gillian Beck, Anthony Pinzone, and Frank Butry

Members Not Present:

Non-Members Present: Christina Rimes

Meeting called to order at: 8:30 AM

Discussion:
There was discussion of the update to the CRS Floodplain Management Plan. If anyone is seeking further information on flood zones, they can visit the website or call Christina Rimes. The purpose of the CRS committee is designed for helping the public be informed about flood issues, risks and plans. Flood zones are different than evacuation zones. There was discussion on the endangered species map.

Vacant Spots: Realtor/Contractor/Mortgage Lender

Next Meeting: November 1, 2022

The meeting was adjourned at 9:06am

City of Venice
401 W. Venice Ave.
Venice, FL 34285

AGENDA
CRS FLOODPLAIN MANAGEMENT PLAN COMMITTEE
NOVEMBER 1, 2022 AT 8:30 A.M.
FIRE DEPARTMENT CONFERENCE ROOM

I. Call to Order

II. Roll Call

III. Approval of Minutes

1. August 2, 2022

IV. Audience Participation (five-minute limit per speaker)

V. Old Business

1. Committee Overview
    i. Public Outreach Presentations
2. New FEMA FIRM Map Update – one appeal
3. Sarasota County
4. Vacant Board Position

VI. New Business

1. Floodplain Management Plan (FMP) Update Draft
    a. Discussion of chapters 8-10

VII. Board Discussion

VIII. Adjournment

If you are disabled and need assistance, please contact the City Clerk's office at least 24 hours prior to the meeting.

NOTE: No stenographic record by a certified court reporter is made of this meeting. Accordingly, any person who may seek to appeal any decision involving the matters noticed herein will be responsible for making a verbatim record of the testimony and evidence at this meeting upon which any appeal is to be based.

City of Venice
401 W. Venice Ave.
Venice, FL 34285

MINUTES
CRS FLOODPLAIN MANAGEMENT PLAN COMMITTEE
NOVEMBER 1, 2022 AT 8:30 A.M.
FIRE DEPARTMENT CONFERENCE ROOM

I. The meeting was called to order at 8:30 am.

Members Present: Kathleen Weeden, Stephen Beckman, Nicole Tremblay, Gillian Beck, Frank Butry

Members Not Present: Anthony Pinzone

Non-Members Present: Christina Rimes

II. There was no audience participation.

III. Ms. Rimes has been conducting presentations to realtors throughout the community and the audiences have been very receptive. The new FEMA maps are still pending one appeal. The final letter of determination should be sent out January 19, 2023. This letter will state when the maps are effective.

IV. There was discussion on chapters 8-10 of the Floodplain Management Plan draft. The draft shows the current projects that staff is working on. Ms. Rimes is going to put together the complete plan, one with tracked changes and one without.

V. There was discussion about hurricane Ian and staff only knows of 5 houses that flooded from the storm.

VI. The meeting was adjourned at 8:51 am.

City of Venice
401 W. Venice Ave.
Venice, FL 34285

AGENDA
CRS FLOODPLAIN MANAGEMENT PLAN COMMITTEE
FEBRUARY 7, 2023 AT 8:30 A.M.
CONFERENCE ROOM 106

I. Call to Order

II. Roll Call

III. Approval of Minutes

1. November 1, 2022

IV. Audience Participation (five-minute limit per speaker)

V. Old Business

1. New FEMA FIRM Map Update
2. Vacant Board Position

VI. New Business

1. Floodplain Management Plan (FMP) Update Draft
   a. Discussion of full plan
   b. Discussion of flood insurance polices

VII. Board Discussion

VIII. Adjournment

If you are disabled and need assistance, please contact the City Clerk's office at least 24 hours prior to the meeting.

NOTE: No stenographic record by a certified court reporter is made of this meeting. Accordingly, any person who may seek to appeal any decision involving the matters noticed herein will be responsible for making a verbatim record of the testimony and evidence at this meeting upon which any appeal is to be based.

City of Venice
401 W. Venice Ave.
Venice, FL 34285

MINUTES
CRS FLOODPLAIN MANAGEMENT PLAN COMMITTEE
FEBRUARY 7, 2023 AT 8:30 A.M.
CONFERENCE ROOM 106

I. The meeting was called to order at 8:30 am.

Members Present: Kathleen Weeden, Anthony Pinzone, Rick Hopkins, Nicole Tremblay, Gillian Beck, Frank Butry

Non-Members Present: Christina Rimes, Lorraine Anderson, and Jerry Spurgeon

II. The meeting was called to order at 8:30 am.

III. Minutes approved from the last meeting. There was no audience participation. New FEMA maps may come out Summer 2023. Floodplain management was approved by the committee and will be presented before City Council for adoption. When speaking to residents, it is important to recommend flood insurance even if they are in a low-risk zone. There was discussion about hurricane Ian and staff only knows of 5 houses that flooded from the storm. Flood awareness week is in the first week of March.

IV. The meeting was adjourned at 8:38 am.

APPENDIX C: PUBLICITY FOR THE UPDATE OF FMP

PRESS RELEASE: Revision of the City of Venice Floodplain Management Plan

The purpose of the City of Venice Floodplain Management Plan is to protect people and property, to ensure federal flood insurance is available, to save tax dollars, and to avoid liability and lawsuits. Implementing floodplain management regulations reduces vulnerability to future flood risk. Learning about vulnerabilities, such as low-lying land that may flood from time to time, assists in making well informed decisions to help protect our families, homes, and businesses. The latest update to the plan was June 2020. The CRS Committee will hold a noticed public meeting on Tuesday, October 5, 2021 at 8:30 a.m. at City Hall to discuss updates to the plan. For more information and to view the drafts of the plan visit https://www.venicegov.com/government/engineering/floodplain-management-information/floodplain-management-plan-update.

Christina Rimes

From: Lorraine Anderson
Sent: Thursday, July 22, 2021 8:43 AM
Subject: City of Venice Floodplain Management Plan update

Categories: CRS, EC

The purpose of the City of Venice Floodplain Management Plan is to protect people and property, to ensure federal flood insurance is available, to save tax dollars, and to avoid liability and lawsuits. Implementing floodplain management regulations reduces vulnerability to future flood risk. Learning about vulnerabilities, such as low-lying land that may flood from time to time, assists in making well-informed decisions to help protect our families, homes and businesses.

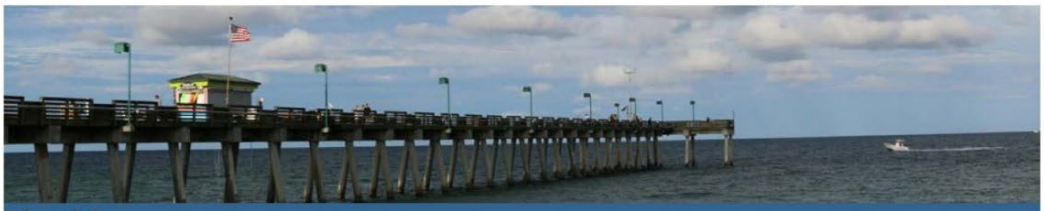
The latest update to the plan was June 2020. The CRS Committee will hold noticed public meetings in 2021-2022 at City Hall to discuss updates to the plan.

For more information and to view drafts of the plan, visit https://www.venicegov.com/government/engineering/floodplain-management-information/floodplain-management-plan-update.

Lorraine Anderson
City of Venice Public Information Officer
401 West Venice Avenue
Venice, FL 34285
Via City Hall Switchboard: (941) 486-2626 ext. 7401
Direct: (941) 882-7401
Email: landerson@venicefl.gov
www.venicegov.com

APPENDIX D: SOCIAL MEDIA FOR THE UPDATE OF THE FMP

APPENDIX E: ONLINE SURVEY



Flood Survey

Save Progress

1. Do you know how to find your flood zone?

- ○ Yes
- ○ No

Visit the Current Flood Map to find your flood zone or call (941)882-7412.

2. What is your flood zone?

- ○ VE
- ○ A
- ○ AE
- ○ AE Floodway
- ○ AH
- ○ AO
- ○ X
- ○ X Shaded

3. Do you have flood insurance?

- ○ Yes, Contents Coverage
- ○ Yes, Building Coverage
- ○ Yes, Building and Contents Coverage
- ○ No, I do not have flood insurance

If no, why don't you have flood insurance?

Did you know City of Venice residents receive a discount on flood insurance? The City participates in the Community Rating System which provides a 20% discount on flood insurance. The discount does not apply to write your own policies and Preferred Rate Policies. See your local agent for more information or call (941)882-7412.

4. If there was a flood tomorrow, would you feel prepared to handle it?

- ○ Yes
- ○ No

5. What is your plan to prepare for a flood event?

Sign up for Sarasota County's alert system at AlertSarasota.com. To find out more information on how to prepare your family for a flood visit Floodsready.gov. To find out more information on hurricane preparedness visit fema.gov.

6. What neighborhood or street do you live in/on?

7. Do you have flooding issues on your property?

- ○ Yes
- ○ No

8. If yes, please explain.

Did you know City of Venice residents receive a discount on flood insurance? The City participates in the Community Rating System which provides a 20% discount on flood insurance. The discount does not apply to write your own policies and Preferred Rate Policies. See your local agent for more information or call (941)882-7412.

4. If there was a flood tomorrow, would you feel prepared to handle it?

- ○ Yes
- ○ No

5. What is your plan to prepare for a flood event?

Sign up for Sarasota County's alert system at AlertSarasota.com. To find out more information on how to prepare your family for a flood visit Floodsready.gov. To find out more information on hurricane preparedness visit fema.gov.

6. What neighborhood or street do you live in/on?

7. Do you have flooding issues on your property?

- ○ Yes
- ○ No

8. If yes, please explain.

APPENDIX F: PUBLIC WEBSITE FOR UPDATE OF THE FMP

Government » Engineering » Floodplain Management Information »

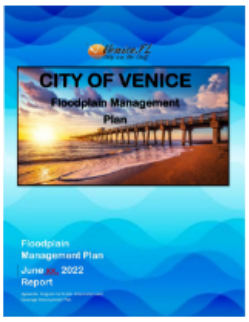
Floodplain Management Plan Update

Print Feedback Share & Bookmark Font Size:

The City of Venice's Floodplain Management Plan was updated in June 2020. Download the current Floodplain Management Plan. The plan is currently being reviewed for the 2022 update.

The 2020 Floodplain Management Plan is scheduled for the 2022 update. The purpose of the plan update is the following:

1. To assess flood hazards that affect the City
2. To assess the problems brought about by flood hazards.
3. To define floodplain management goals
4. To review possible floodplain management activities
5. To develop an action plan
6. To review the effectiveness of existing programs
7. To plan the annual update and adoption



The CRS Committee (Community Rating System) was created in order to address specific target audiences in order to more effectively evaluate the current outreach activities and to recommend areas of improvement to be incorporated into the plan documents. This Committee is in charge of updating the plan for 2021. The Committee is made up of staff and public stakeholders. Input from the public is also welcomed during the update. Submit your comments in writing or by using the form below.

CRS Committee Meetings and Minutes will be posted on this page during the update. All members of the public are encouraged to attend and provide feedback. The tentative schedule is as follows:

- Tuesday, May 3, 2021 at 8:30 AM *Minutes*
- Tuesday, August 3, 2021 at 8:30 AM *Minutes*
- Tuesday, October 5, 2021 at 8:30 AM *Minutes not available yet.*
- Tuesday, August 2, 2022 at 8:30 AM *Minutes not available yet.*
- Tuesday, November 1, 2022 at 8:30 AM
- Tuesday, February 7, 2023 at 8:30 AM

To sign up for eNotices, enter your information below.

If you have any questions, please contact Christina Rimes, CRS Coordinator.

DOCUMENTS

- Draft FMP - Table of Contents, Introduction and Sections 1-4. ADA
- Draft FMP - Section 5
- Draft FMP - Sections 6-7
- Draft FMP Sections 8-10

Free viewers are required for some of the attached documents.
They can be downloaded by clicking on the icons below.

eNotification Signup | Change eNotification Preferences

Email Address *

Retype Email Address *

First Name *

Last Name *

APPENDIX G: MAPS

Disclaimer: Every reasonable effort has been made to assure the accuracy of this map. It is provided for general reference, is subject to change, and is not warranted for any particular use or purpose. The City of Venice makes no warranty, representation, or guaranty as to the content, sequence, accuracy, timeliness, or completeness of any of the data provided herein. The user of this map should not rely on the data provided herein for any reason. The City of Venice does not assume responsibility for errors or omissions contained herein. The City of Venice shall assume no liability for any decisions made or actions taken or not taken by the user of the map in reliance upon any information or data furnished hereunder.

List of Maps:

Figure 2: Venice Aerial Map

Figure **5**: Flood Zones and FIRM Panels Map

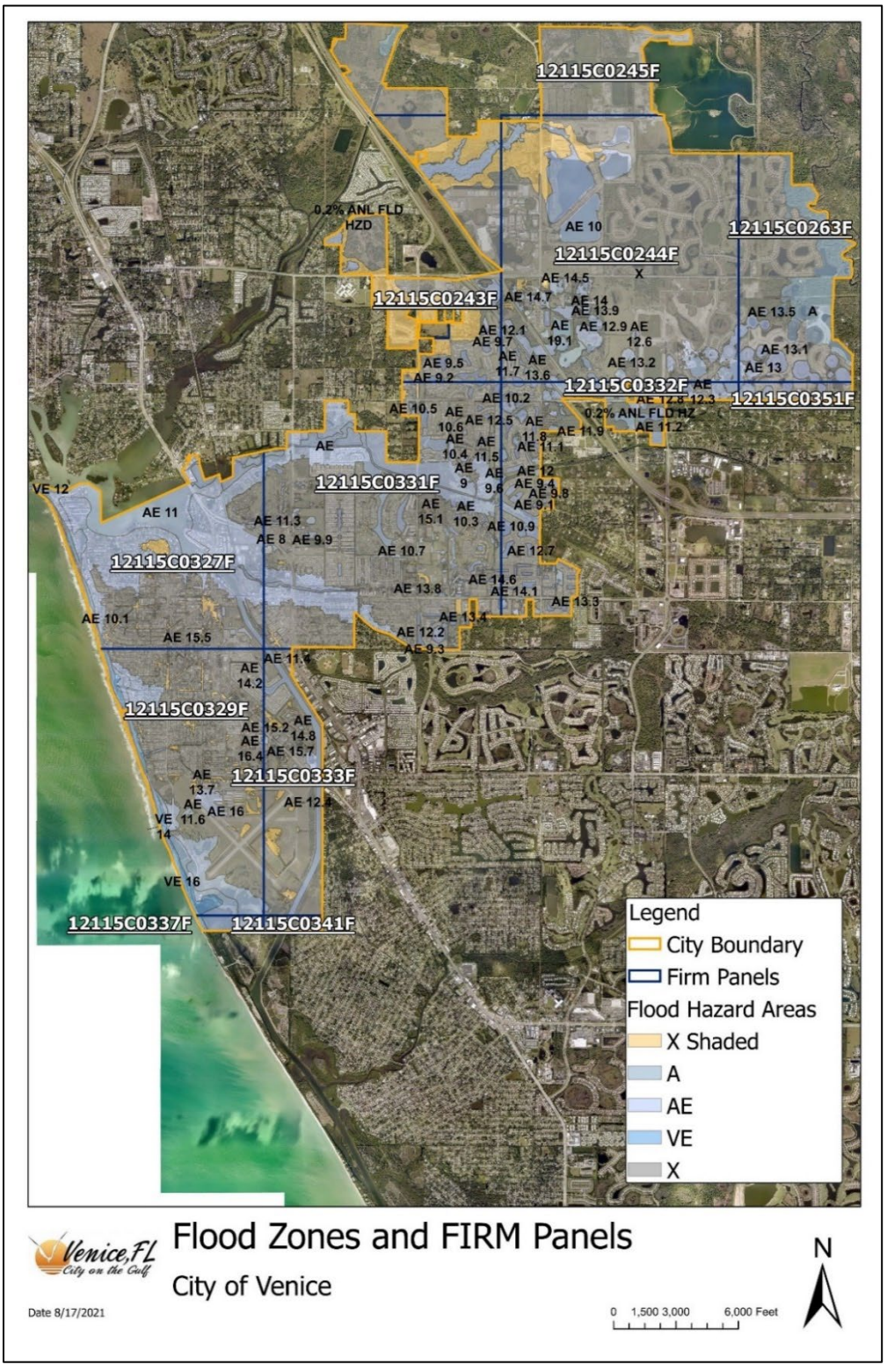


Figure 7: Coastal High Hazard Area (CHHA) Map

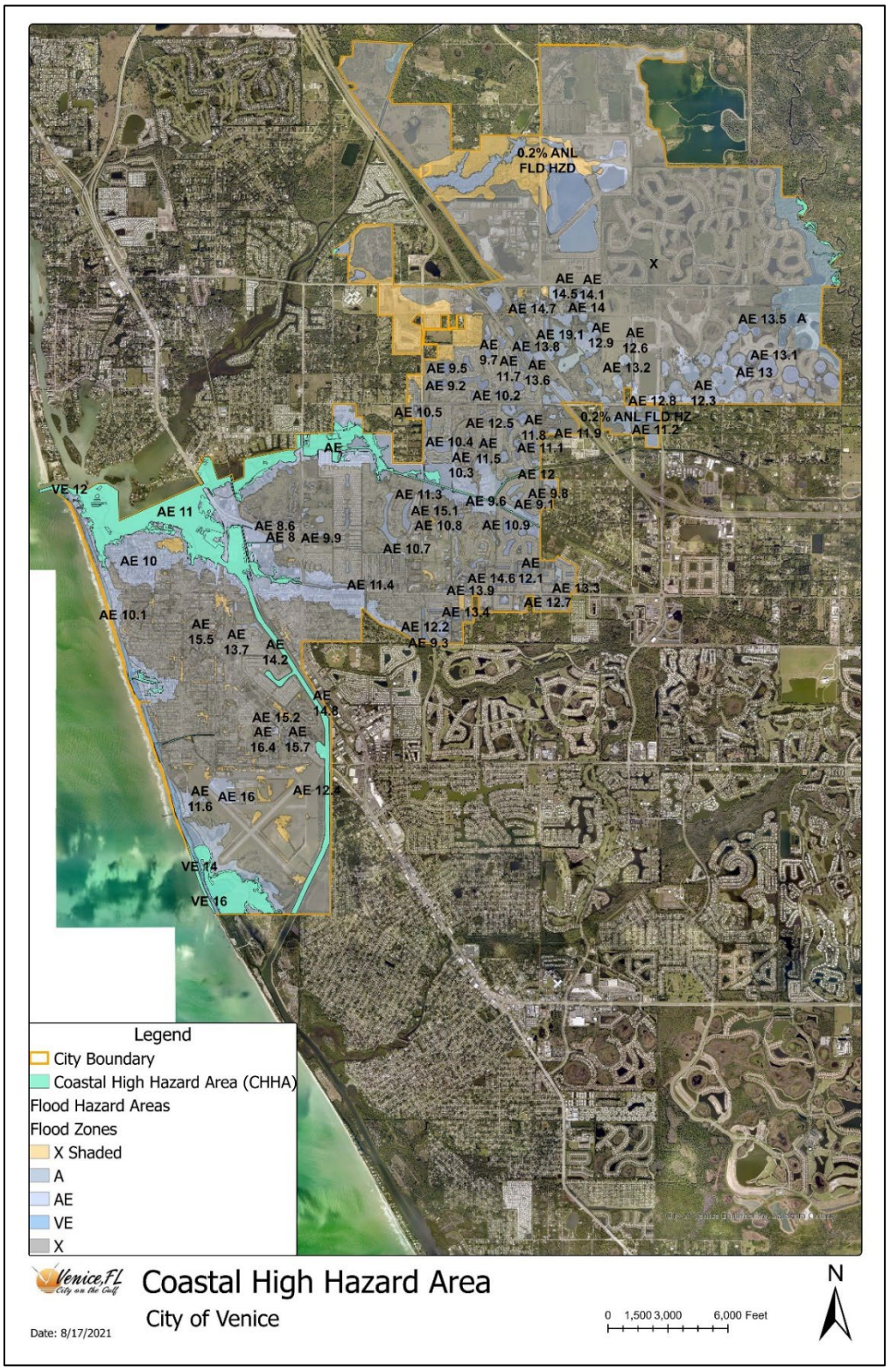


Figure 13: Watersheds within Venice Map

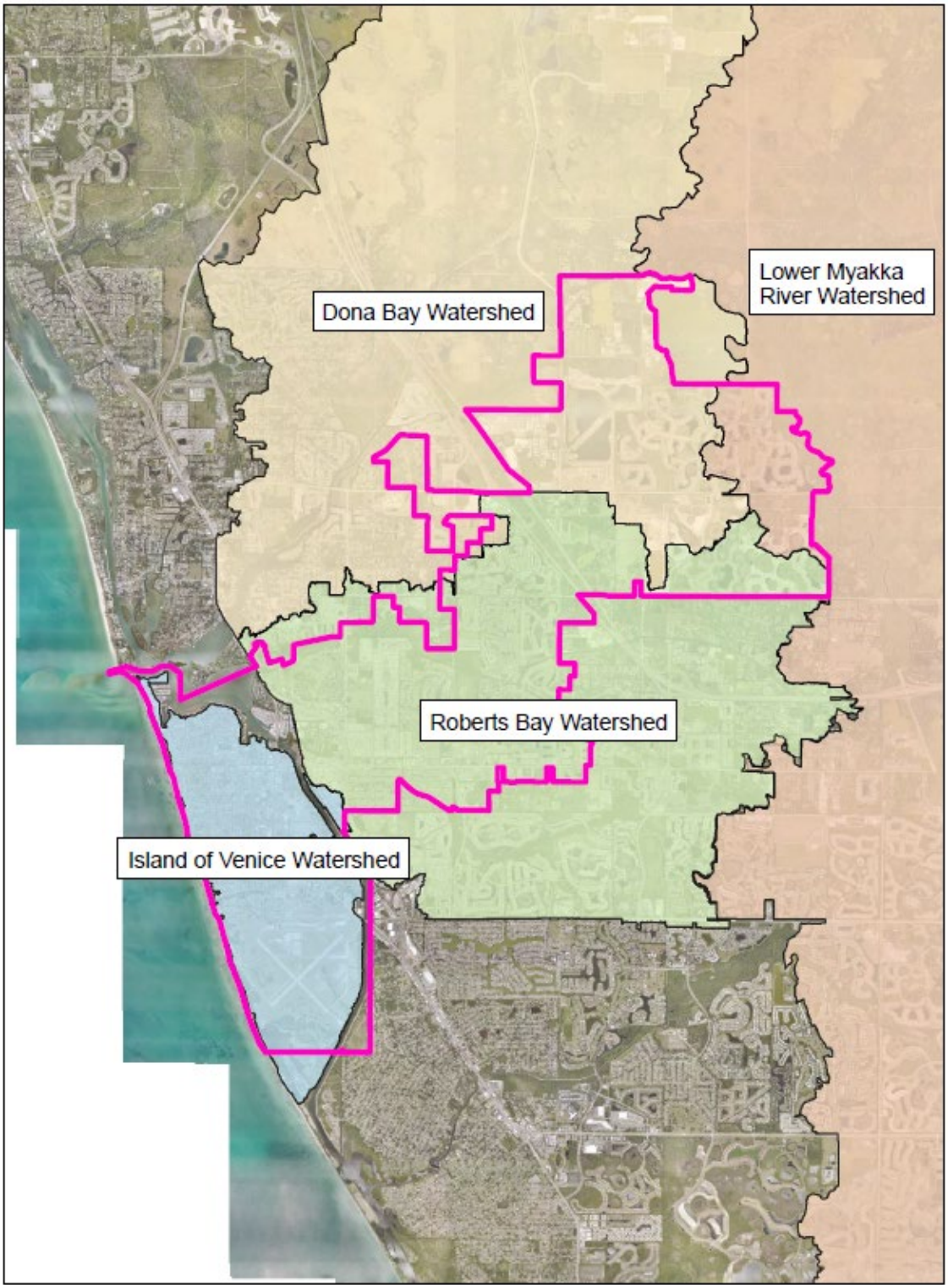


Figure14: Lower Myakka River Watershed Map

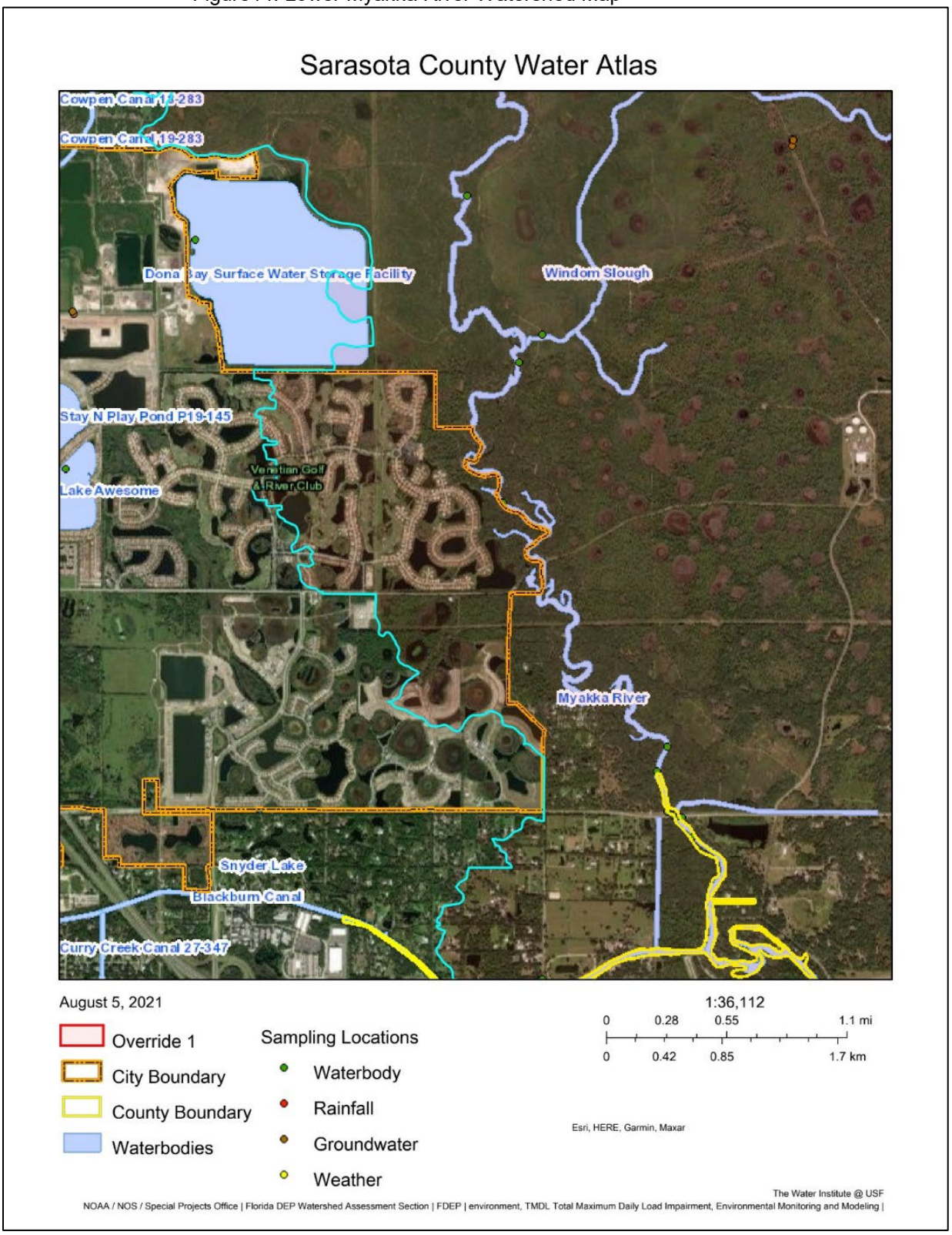


Figure18: Coastal Erosion Map

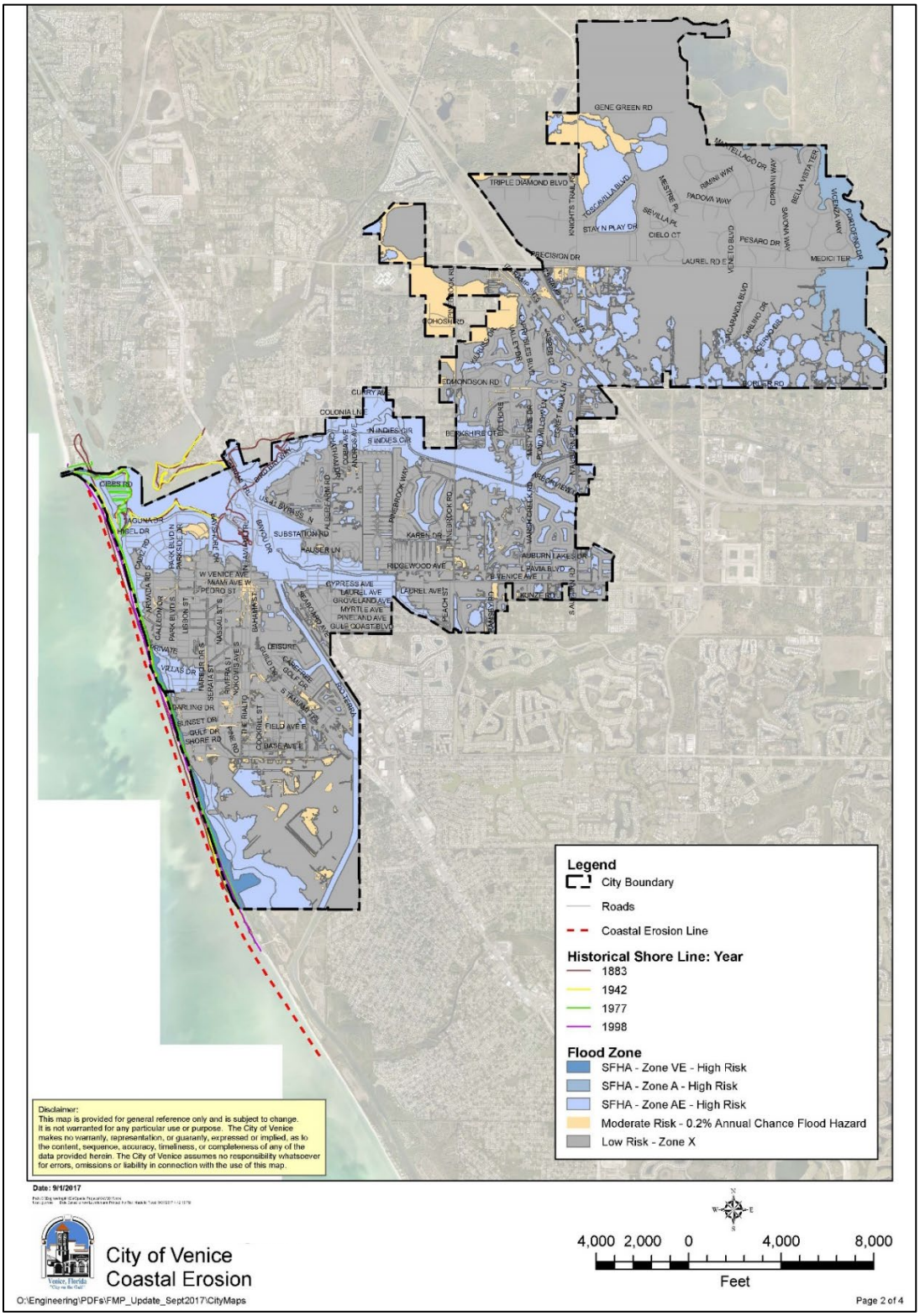


Figure 26: Repetitive Loss Areas Map

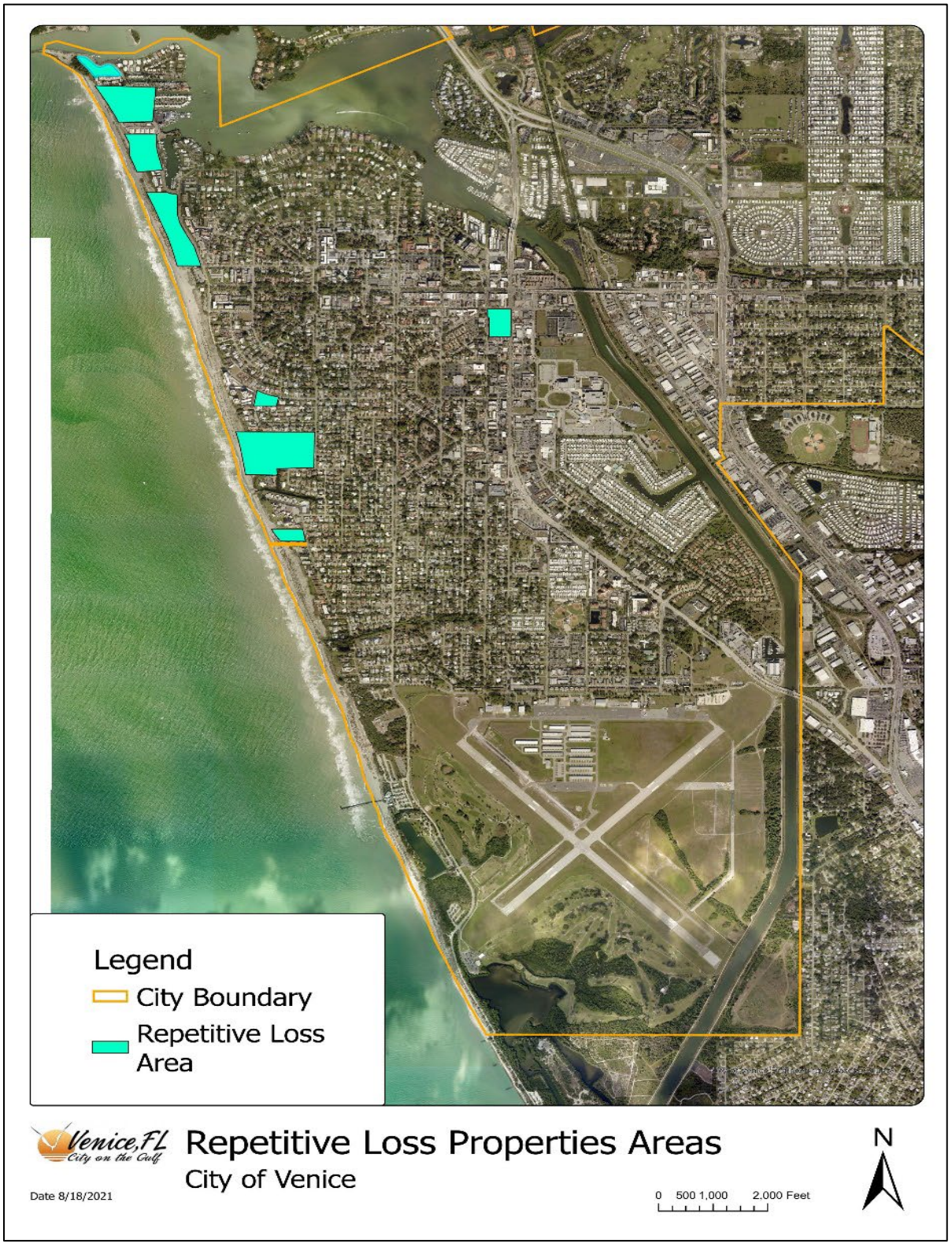


Figure 28: Venice Endangered Species Map

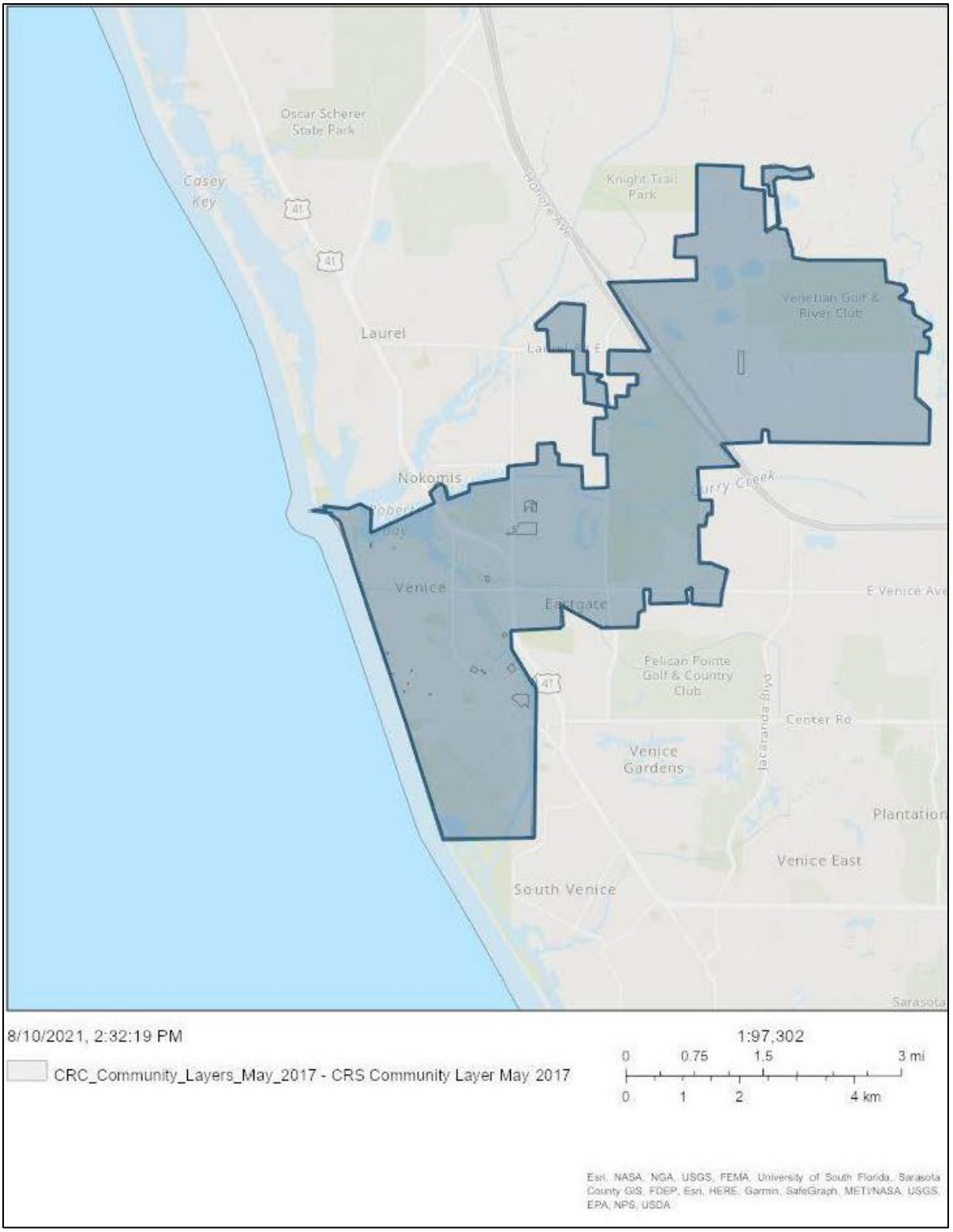
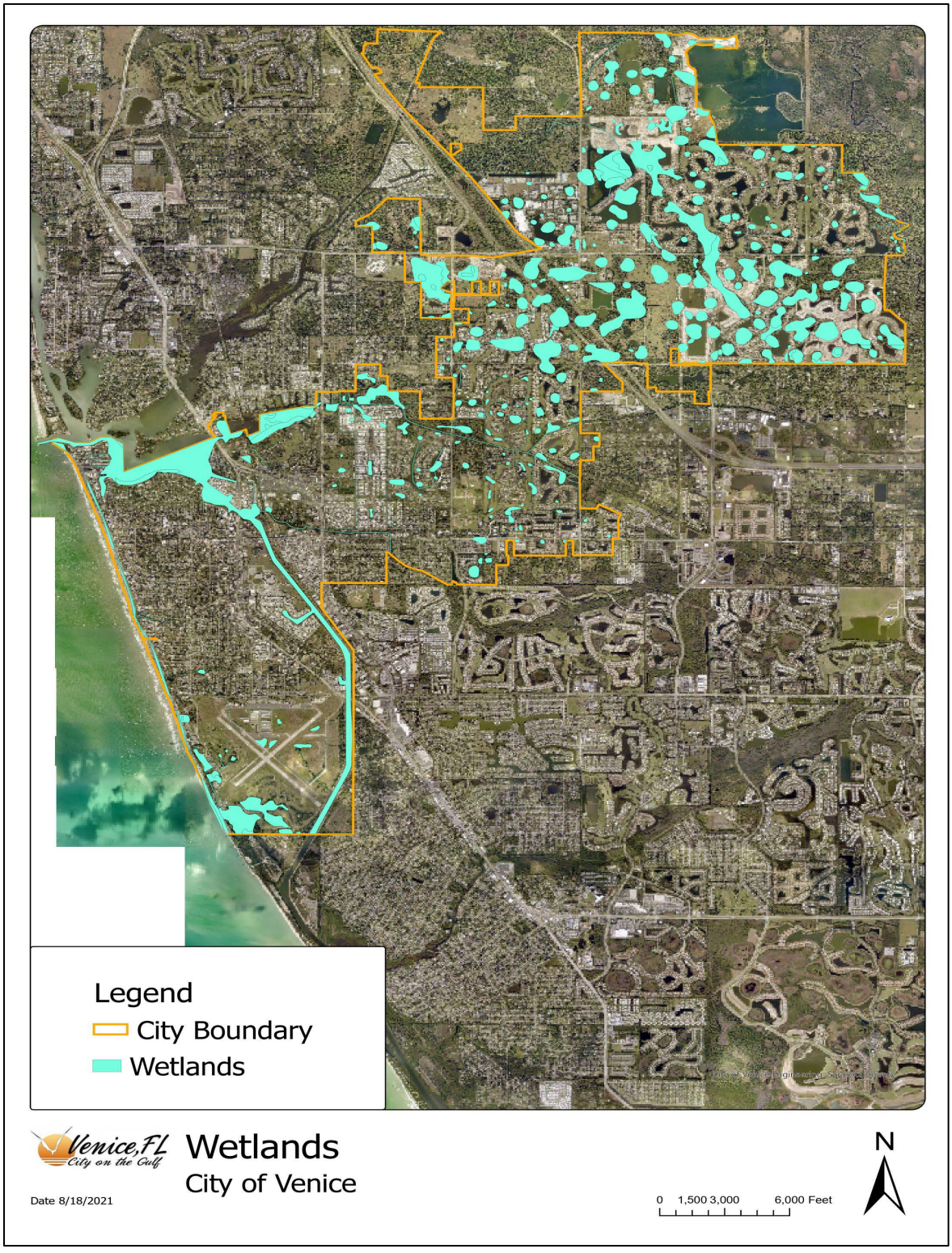


Figure 29: Wetlands Map



Local Mitigation Strategy (LMS) Project List - Venice

Priority	Name of Project	Description of Project	Hazards Mitigated	Hazard Mitigation Strategy	Mitigation Goals Achieved	Funding Source	Jurisdiction Project Benefit	Jurisdiction Project Owner	Jurisdiction Project #	Agency Responsible for Implementation	Estimated Cost	Project Status (NEW)	Timeframe for Project Completion	Long or Short Term Goals	Mitigate New or Existing
High	Fire Station #2 Relocation - Hazard Mitigation including Safe Room, Code Plus Protection, Undergrounding of Utilities and Generator with Fueling Facility and Lightning	Safe Room, Undergrounding Electrical Lines, hazard mitigation improvements, Emergency Generator, Emergency Response elements	11 12 15 2 7 8 9	2	5	HMGP	ALL	Venice	113V	Fire	$6,000,000.00	TRUE	FY2024	Short-term (Less than 2-Years)	N (New)
High	Resilient and Redundant Island Network Connections	Remove single point of failures and protect continuing operations		5	1 2	HMGP IT Project Funding	ALL	Venice	112V	IT	$322,000.00	TRUE	FY2024	Short-term (Less than 2-Years)	N (New)
High	Venice Fire Station 3 Wind Mitigation	Upgrade roof and openings for wind mitigation and water intrusion/flood protection. Upgrade lightning protection. Add additional protection for database security.	11 12 14 15 2 7 8 9	5	5	HMGP	ALL	Venice	92V	Fire	$400,000.00		2025	Short-term (Less than 2-Years)	E (Existing)
High	Lift Station #3 and Stormwater Pumping Station #1 Generator Installation and fuel tank with Lightning Protection	Continuing Operations during Storm Preparation, Storm Event and Post-Storm Response	11 12 15 2 7 8 9	2	5	HMGP	ALL	Venice	114V	PW	$100,000.00	TRUE	FY2025	Short-term (Less than 2-Years)	E (Existing)
High	Generators for Production Well and Lift Station	Provide emergency back up power outage	11 12 15 2 7 8 9	5	1	HMGP Utilities Revenue	ALL	Venice	84V	Utilities	$200,000.00			Long-term (+2-Years)	E (Existing)
High	Harden Public Works Facility (Former PD Bldg.) including wind & flood mitigation, generator and fueling facility upgrades, lighting protection, safe room and opening replacement/protection	Replace windows, harden structure and safe room	11 12 15 2 7 8 9	2	5	HMGP	ALL	Venice	115V	PW	$800,000.00	TRUE	FY2025	Short-term (Less than 2-Years)	E (Existing)
High	Lightning and Surge Protection Various Locations	Purchase and install lightning protection for critical facilities	11 12 15 2 7 8 9	2	1 4	HMGP	ALL	Venice	111V	PW	$250,000.00	TRUE	FY2024	Short-term (Less than 2-Years)	E (Existing)
High	Emergency Radios and Base Station - Utilities	Radios and base stations replacement to provide critical emergency communications	11 12 15 2 7 8 9	5	5	Grants	ALL	Venice	116V	Utilities	$880,000.00	TRUE	FY2025	Short-term (Less than 2-Years)	E (Existing)
High	Emergency Radios and Base Station - Emergency Response Fire, Police, Public Works & Stormwater	Radios and base stations replacement to provide critical emergency communications	11 12 15 2 7 8 9	5	5	Grants	ALL	Venice	21V	Fire	$2,100,000.00		2024	Short-term (Less than 2-Years)	E (Existing)
High	Outfall #14 - Osprey Street	Improve drainage facility to reduce flooding and improve water quality	11 2 7 9	6	2	CIP Grants	3	Venice	103V	Stormwater	$300,000.00	TRUE		Short-term (Less than 2-Years)	E (Existing)
High	Relocate Fire Station #2	Construct new fire station outside flood zone	11 12 15 2 7 8 9	2	5	CIP Grants	ALL	Venice	3V	Fire	$15,000,000.00			Short-term (Less than 2-Years)	E (Existing)

Local Mitigation Strategy (LMS) Project List - Venice

Priority	Name of Project	Description of Project	Hazards Mitigated	Hazard Mitigation Strategy	Mitigation Goals Achieved	Funding Source	Jurisdiction Project Benefit	Jurisdiction Project Owner	Jurisdiction Project #	Agency Responsible for Implementation	Estimated Cost	Project Status (NEW)	Timeframe for Project Completion	Long or Short Term Goals	Mitigate New or Existing
High	Relocate RO Water Plant	Construct facility out of the flood zone	11 2 7 9	2	5	N/A	ALL	Venice	42V	Utilities	$100,000,000.00			Long-term (+2-Years)	E (Existing)
High	Ajax property 2.0-3.0MGD booster station	Provide service to east side of town, construct interconnect with county	11 12 15 2 7 9	2	5	State Revolving Fund Utilities Revenue	ALL	Venice	44V	Utilities	$20,000,000.00		2022	Long-term (+2-Years)	E (Existing)
High	New Solid Waste and Recycling Complex	Relocate facility east and construct to hurricane codes	11 12 15 2 7 8 9	2	5	N/A	ALL	Venice	62V	Public Works	$3,000,000.00			Long-term (+2-Years)	E (Existing)
High	2nd sanitary force main under I-75	Add a secondary force main to add to secondary redundancy	2 7 9	5	5	State Revolving Fund Utilities Revenue	ALL	Venice	70V	Utilities	$5,000,000.00		2023	Short-term (Less than 2-Years)	E (Existing)
High	Reinforce Airport Hangars	Reinforce existing airport to meet hurricane standards	11 12 15 2 7 9	2	2 5	Airport / Grants	ALL	Venice	75V	Airport	$1M			Long-term (+2-Years)	E (Existing)
High	Construct New T-Hangars	Construct new T-Hangars meeting hurricane standards	11 12 15 2 7 9	5	2	Airport / Grants	ALL	Venice	76V	Airport	$1.5M			Long-term (+2-Years)	E (Existing)
High	Airport Avenue Drainage Project	Upgrade existing drainage facilities to mitigate flood in evacuation route	11 2 7 9	6	2	Airport / Grants	ALL	Venice	79V	Airport	$350K			Long-term (+2-Years)	E (Existing)
High	Nokomis Ave. South Stormwater	Upsize existing stormwater pipes to reduce flooding	11 2 7 9	6	2	CIP	3	Venice	81V	Stormwater	$1,100,000.00			Long-term (+2-Years)	E (Existing)
High	Mobile Command Unit	Design and Purchase a Mobile Command Unit for use during special events and emergencies.	11 12 15 2 7 8 9	2	5	Grants	ALL	Venice	87V	Police	$500,000.00			Short-term (Less than 2-Years)	N (New)
High	Water Plant Generator & Switchgear	Purchase new generator for water plant for backup power	11 12 15 2 7 8 9	2	1	CIP	ALL	Venice	95V	Utilities	$5,200,000.00		2023	Short-term (Less than 2-Years)	E (Existing)
Medium	Hatchett Creek Improvements	Restore drainage facility to reduce flooding and improve water quality	11 2 7 9	6	2	CIP Grants	3	Venice	100V	Stormwater	$300,000.00			Long-term (+2-Years)	E (Existing)
Medium	Seaboard Area Outfall Improvements	Improve drainage facility to reduce flooding and improve water quality	11 2 7 9	6	2	CIP Grants	3	Venice	101V	Stormwater	$500,000.00			Long-term (+2-Years)	E (Existing)
Medium	North Nokomis Outfall Improvements	Improve drainage facility to reduce flooding and improve water quality	11 2 7 9	6	2	CIP Grants	3	Venice	102V	Stormwater	$200,000.00			Long-term (+2-Years)	E (Existing)
Medium	Outfall #10 Drainage Improvement and Wetland Restoration	Improve drainage facility to reduce flooding and improve water quality	11 2 7 9	6	2	CIP Grants	3	Venice	104V	Stormwater	$125,000.00			Long-term (+2-Years)	E (Existing)
Medium	Outfall #1 & #2 Drainage Improvement and Water Quality Treatment Expansion	Improve drainage facility to reduce flooding and improve water quality	11 2 7 9	6	2	CIP Grants	3	Venice	105V	Stormwater	$500,000.00			Long-term (+2-Years)	E (Existing)

Local Mitigation Strategy (LMS) Project List - Venice

Priority	Name of Project	Description of Project	Hazards Mitigated	Hazard Mitigation Strategy	Mitigation Goals Achieved	Funding Source	Jurisdiction Project Benefit	Jurisdiction Project Owner	Jurisdiction Project #	Agency Responsible for Implementation	Estimated Cost	Project Status (NEW)	Timeframe for Project Completion	Long or Short Term Goals	Mitigate New or Existing
Medium	Park Blvd. North Drainage Improvements	Improve drainage facility to reduce flooding and improve water quality	11 2 7 9	6	2	CIP Grants	3	Venice	106V	Stormwater	$150,000.00			Long-term (+2-Years)	E (Existing)
Medium	Airport Area IntraCoastal Waterway Outfall Improvements	Improve drainage facility to reduce flooding and improve water quality	11 2 7 9	6	2	CIP Grants	ALL	Venice	107V	Stormwater	$350,000.00			Long-term (+2-Years)	E (Existing)
Medium	Tarpon Center Stormwater Upgrades	Improve drainage facility to reduce flooding and improve water quality	11 2 7 9	6	2	CIP Grants	3	Venice	108V	Stormwater	$450,000.00		2025	Short-term (Less than 2-Years)	E (Existing)
Medium	Valencia Rd. Flood Improvements	Improve drainage facility to reduce flooding and improve water quality	11 2 7 9	6	2	CIP Grants	3	Venice	109V	Stormwater	$850,000.00			Long-term (+2-Years)	E (Existing)
Medium	Venezia Park Stormwater Upgrades	Improve drainage facility to reduce flooding and improve water quality	11 2 7 9	6	2	CIP Grants	3	Venice	110V	Stormwater	$850,000.00			Long-term (+2-Years)	E (Existing)
Medium	Coastal Land Acquisition Program	Purchase properties and preserve for open space	11 2 7 9	1	4	N/A	ALL	Venice	36V	Engineering	$425K			Long-term (+2-Years)	E (Existing)
Medium	Hurricane Louvers for Water Plant	Secure building for hurricanes	15 9	2	5	N/A	ALL	Venice	65V	Utilities	$32,000.00			Long-term (+2-Years)	E (Existing)
Medium	2nd sanitary force main under Intracoastal	Add a secondary force main to add to secondary redundancy	2 7 9	5	5	State Revolving Fund Utilities Revenue	ALL	Venice	69V	Utilities	$3,000,000.00		2024	Long-term (+2-Years)	E (Existing)
Medium	Directional signs for island evacuation	Acquire four signs for three bridges and roadways	11 12 15 2 7 8 9	5	4	NA	ALL	Venice	6V	Public Works	$60,000.00			Long-term (+2-Years)	E (Existing)
Medium	Relocate Airport Maintenance Facility	Relocate existing Airport Maint. Facility to meet hurricane stds.	11 12 15 2 7 9	5	2	Airport / Grants	ALL	Venice	78V	Airport	$650K			Long-term (+2-Years)	E (Existing)
Medium	Live Oak Dr. Stormwater Improvements	Upsize existing stormwater pipes to reduce flooding	11 2 7 9	6	2	SRF	3	Venice	80V	Stormwater	$600,000.00				E (Existing)
Medium	Outfall 9 Improvement	Study the drainage basin and increase the infiltration pond size	11 2 7 9	6	2	CIP Grants	3	Venice	82V	Stormwater	$100,000.00			Long-term (+2-Years)	E (Existing)
Medium	Osprey Ditch Stormwater Improvements	Upsize existing stormwater pipes to reduce flooding	11 2 7 9	6	2	CIP Grants	3	Venice	83V	Stormwater	$750,000.00			Long-term (+2-Years)	E (Existing)
Medium	Beach Erosion Hot Spot Alternatives	Alternate erosion evaluation and construction	1 2 7 9	5	5	Grants	ALL	Venice	86V	Engineering	$4M			Long-term (+2-Years)	E (Existing)
Medium	Valencia Rd. Stormwater Improvements	Upsize existing stormwater pipes to reduce flooding	12 2 7 9	6	2	CIP Grants	3	Venice	88V	Stormwater	$850,000.00			Long-term (+2-Years)	E (Existing)
Medium	Circle Drive Drainage Improvement	Upsize existing stormwater pipes to reduce flooding	11 2 7 9	6	2	CIP Grants	3	Venice	89V	Stormwater	$400,000.00			Long-term (+2-Years)	E (Existing)
Medium	Church St. Drainage Improvement	Upsize existing stormwater pipes to reduce flooding	11 2 7 9	6	2	CIP Grants	3	Venice	90V	Stormwater	$400,000.00			Long-term (+2-Years)	E (Existing)
Medium	Parkdale & Parkside Dr. Drainage Improvement	Upsize existing stormwater pipes to reduce flooding	11 2 7 9	6	2	CIP Grants	3	Venice	91V	Stormwater	$750,000.00			Long-term (+2-Years)	E (Existing)

Local Mitigation Strategy (LMS) Project List - Venice

Priority	Name of Project	Description of Project	Hazards Mitigated	Hazard Mitigation Strategy	Mitigation Goals Achieved	Funding Source	Jurisdiction Project Benefit	Jurisdiction Project Owner	Jurisdiction Project #	Agency Responsible for Implementation	Estimated Cost	Project Status (NEW)	Timeframe for Project Completion	Long or Short Term Goals	Mitigate New or Existing
Medium	Lightning and Surge Protection - Secondary Structures	Provide Lightning and Surge Protection to provide protection to City Technology and infrastructure.	11 12 14 15 2 7 8 9	5	5	NA	ALL	Venice	93V	Fire	$105K			Long-term (+2-Years)	E (Existing)
Medium	Construct 8E production well	Enhance system reliability	2 7 9	5	1 4	State Revolving Fund	ALL	Venice	94V	Utilities	$1,500,000.00		2021	Short-term (Less than 2-Years)	N (New)
Medium	Fire Station #2 Hardening	Harden Facility for Storm Protection	11 12 14 15 2 7 8 9	5	5	NA	ALL	Venice	96V	Fire	$250K				E (Existing)
Medium	Curry Creek Improvements	Restore drainage facility to reduce flooding and improve water quality	11 2 7 9	6	2	CIP Grants	3	Venice	97V	Stormwater	$300,000.00			Long-term (+2-Years)	E (Existing)
Medium	Deertown Gully Upgrades	Restore drainage facility to reduce flooding and improve water quality	11 2 7 9	6	2	CIP Grants	3	Venice	98V	Stormwater	$575,000.00			Long-term (+2-Years)	E (Existing)
Medium	Golf Drive Stormwater Improvements	Improve drainage facility to reduce flooding and improve water quality	11 2 7 9	6	2	CIP Grants	3	Venice	99V	Stormwater	$450,000.00			Long-term (+2-Years)	E (Existing)
Low	Relocate water plant elevated tank	Upgrade support system to prevent against flood and wind	12 2 7 9	2	5	N/A	ALL	Venice	26V	Utilities	$725,000.00			Long-term (+2-Years)	E (Existing)
Low	Upgrade Chuck Reiter elevated tank	Upgrade support system to prevent against flood and wind	11 12 15 2 7 9	2	5	N/A	ALL	Venice	27V	Utilities	$76,000.00			Long-term (+2-Years)	E (Existing)
Low	Modify Pinebrook booster station	Waterproof and upgrade communication system	11 12 15 2 7 8 9	2	5	N/A	ALL	Venice	28V	Utilities	$100,000.00			Long-term (+2-Years)	E (Existing)
N/A	Police Dept. Relocate and EOC construction	Reconstruct PD facility to include City Command EOC	11 12 15 2 7 8 9	2	5	Revenue Bonds	ALL	Venice	1V	Police	$16,000,000.00				E (Existing)
N/A	Second House Program	Partner coastal with inland residents during emergencies	11 12 15 2 7 8 9	5	1	N/A	3	Venice	23V	City Hall	$10K			Long-term (+2-Years)	E (Existing)
N/A	Coastal Area Redevelopment Study	Post disaster study	11 12 15 2 7 8 9	5	2	N/A	ALL	Venice	29V	Dev. Service				Long-term (+2-Years)	E (Existing)
N/A	Coastal Compliance Program	Public education for retrofit and construction activities	11 12 15 2 7 8 9	5	3	N/A	3	Venice	30V	Building	$30K			Long-term (+2-Years)	E (Existing)

Local Mitigation Strategy (LMS) Project List - Venice

Priority	Name of Project	Description of Project	Hazards Mitigated	Hazard Mitigation Strategy	Mitigation Goals Achieved	Funding Source	Jurisdiction Project Benefit	Jurisdiction Project Owner	Jurisdiction Project #	Agency Responsible for Implementation	Estimated Cost	Project Status (NEW)	Timeframe for Project Completion	Long or Short Term Goals	Mitigate New or Existing
N/A	Venice Evacuation Study	Study to address the need for hurricane shelters in city.				N/A	ALL	Venice	50V	Planning				Long-term (+2-Years)	E (Existing)
N/A	Fire Station 1 Replacement	Upgrade facility to meet current storm criteria	11 12 15 2 7 9	3	5	N/A	ALL	Venice	55V	Fire	$5M		2022		E (Existing)
N/A	Relocate PW to PD after new PD complete	Harden Structure & retrofit for PW Admin.	11 12 15 2 7 8 9	2	5	N/A	ALL	Venice	57V	Public Works	$750,000.00				E (Existing)
N/A	Hurricane Tolerant Handbook	Update the 1994 hurricane study				N/A	ALL	Venice	61V	Planning				Long-term (+2-Years)	E (Existing)
N/A	City Hall Reroof	Roof not built to code and condition is deteriorating	11 12 15 2 7 9	2	5	N/A	ALL	Venice	66V	Public Works	$600,000.00			Long-term (+2-Years)	E (Existing)
N/A	Fire Station #51 and City Hall generator	Emergency operations for city communications	11 12 15 2 7 8 9	2	5	HMGP	ALL	Venice	7V	City Hall	$1.175M		Under construction		E (Existing)

APPENDIX I: RESOLUTION NO. 2014-27

Prepared by: Engineering and City Clerk Offices

RESOLUTION NO. 2014-27

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF VENICE, FLORIDA, ESTABLISHING A COMMITTEE TO CREATE AN ACTION PLAN COMBINING A FLOODPLAIN MANAGEMENT PLAN, PROGRAM FOR PUBLIC IMPROVEMENT PLAN, AND FLOOD INSURANCE COVERAGE IMPROVEMENT PLAN, AS PERTAINS TO CRITERIA FOR THE NATIONAL FLOOD INSURANCE PROGRAM (NFIP) COMMUNITY RATINGS SYSTEM (CRS), AND PROVIDING AN EFFECTIVE DATE.

WHEREAS, the City of Venice desires to establish a committee responsible for creating a plan to assess its natural flood hazards, the associated problems with flooding, possible solutions, flood insurance coverage of its residents and create public outreach programs to inform and engage residents on flood hazards, preparation, insurance and mitigation.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF VENICE, FLORIDA, as follows:

Section 1. Established. There is hereby established a joint CRS Floodplain Management Plan (FMP), Program for Public Information Plan (PPI) and Coverage Information Plan (CIP) Committee, hereafter referred to as the "Committee." The city engineer shall appoint the members and determine the terms of office.

Section 2. Duties and Responsibilities. The Committee shall provide opportunities for the public to comment on the plan; coordinate with other agencies; assess local flood hazards; assess local flooding problems; set goals and draft an action plan; review possible activities that could reduce or prevent the severity of local flood hazards; present the action plan to the Venice City Council for adoption; implement, evaluate and suggest revisions to the plan on an ongoing basis; write an annual evaluation report on the progress of the plan; and update the plan and submit the updated plan to city council for adoption by October 1 every five years. An initial action plan is to be completed and adopted by City Council by September 16, 2014.

Section 3. Composition. The Committee shall be comprised of nine members, with one representative from a local insurance agency, one representative from a local bank or lender, a minimum of two additional local stakeholders, the city's marketing and communications officer and one representative from each of the following city departments: planning and zoning, building, and engineering.

Section 4. Compensation. Members shall receive no compensation for their service on the Committee.

Section 5. Meetings. The Committee shall initially have six meetings to: (1) assess the natural flood hazards in the city; (2) assess the associated flood problems and flood insurance coverage; (3) set quantifiable goals to improve information outreach and insurance coverage; (4) review possible activities; (5) draft a plan of action to be adopted by city council; and (6) evaluate progress and recommend changes. After these initial meetings, the Committee shall meet quarterly to evaluate the plan and revise as needed. Meetings of the Committee shall be called and scheduled by the city engineer. The Committee shall comply with all applicable requirements of Florida's Sunshine Law, Public Records laws, the Code of Ethics and all city policies for public representatives. If, at any meeting, the number of representatives from city departments is greater than half of the total in attendance, that meeting shall be cancelled and rescheduled.

Section 6. Removal. Members serve at the pleasure of the city engineer and may be removed from the Committee by the city engineer at any time with or without cause.

Section 7. Effective Date. This resolution shall take effect immediately.

APPROVED AND ADOPTED AT A REGULAR MEETING OF THE VENICE CITY COUNCIL HELD ON THE 12TH DAY OF AUGUST 2014.

John W. Holic, Mayor

ATTEST

Lori Stelzer, MMC, City Clerk

APPENDIX J: RESOLUTION NO. 2021-33

Prepared by: City Engineer and City Clerk's Office

RESOLUTION NO. 2021-33

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF VENICE, FLORIDA, REVISING AND RESTATING THE DESCRIPTION OF THE COMMUNITY RATING SYSTEM COMMITTEE; SUPERSEDING RESOLUTION NO. 2014-27; AND PROVIDING AN EFFECTIVE DATE

WHEREAS, Resolution No. 2014-27 established the Community Rating System Committee ("Committee") to create a plan to assess the City's natural flood hazards, the associated problems with flooding, possible solutions, flood insurance coverage of its residents and create public outreach programs to inform and engage residents on flood hazards, preparation insurance and mitigation; and

WHEREAS, the City desires to revise the membership and meeting requirements for the Committee and restate all other Committee requirements.

NOW, THEREFORE, BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF VENICE, FLORIDA, as follows:

Section 1. The above Whereas clauses are ratified and confirmed as true and correct.

Section 2. Established. The Community Rating System Committee is established as a joint Community Rating System Floodplain Management Plan, Program for Public Information Plan, and Coverage Information Plan Committee, hereafter referred to as the "Committee".

Section 3. Duties and Responsibilities. The Committee shall provide opportunities for the public to comment on the plan; coordinate with other agencies; assess local flood hazards; assess local flooding problems; set goals and draft an action plan; review possible activities that could reduce or prevent the severity of local flood hazards; present the action plan to the Venice City Council for adoption; implement, evaluate and suggest revisions to the plan on an ongoing basis; write an annual evaluation report on the progress of the plan; and update the plan by October 1 every five years and submit the updated plan to city council for adoption.

Section 4. Membership. The Committee shall be comprised of eight members. Five shall be members from the public, meeting at least one of the following criteria: a city resident, business owner, property owner, or tenant located within the special flood hazard area; a stakeholder within the community such as an emergency/disaster responder, member of the chamber of commerce or other business group, representative of a utility company, real estate office, insurance agency, developer/contractor, civic group, environmental organization, academia, non-profit organization, or major local employer; or staff from other governmental agencies such as the local housing authority, Natural Resources Conservation Service, or the National Weather Service. There shall be one representative from each of the following city departments: planning and zoning, building, and engineering. The city must also be represented

at meetings by someone from a publicity, communications, or marketing office, who need not be a member of the Committee. The city engineer shall appoint all members and determine the terms of office.

Section 5. Compensation. Members shall receive no compensation for their service on the committee.

Section 6. Meetings. The Committee shall meet quarterly as scheduled by the city engineer. The Committee shall comply with all applicable requirements of Florida's Sunshine Law, Public Records laws, the Code of Ethics and all city policies for public representatives. If, at any meeting, the number of representatives from city departments is greater than half of the total in attendance, that meeting shall be cancelled and rescheduled.

Section 7. Removal. Members serve at the pleasure of the city engineer and may be removed from the Committee by the city engineer at any time with or without cause.

Section 8. Conflict. This Resolution shall supersede and replace in its entirety Resolution No. 2014-27.

Section 9. Effective Date. This resolution shall take effect immediately upon its adoption.

APPROVED AND ADOPTED AT A REGULAR MEETING OF THE VENICE CITY COUNCIL HELD ON THE 16TH DAY OF NOVEMBER 2021.

Ron Feinsod, Mayor

ATTEST

for Lori Stelzer, MMC, City Clerk
Mercedes Barcia, Deputy City Clerk

APPENDIX K: SARASOTA COUNTY MULTI-JURISDICTIONAL PROGRAM FOR PUBLIC INFORMATION

SARASOTA COUNTY
MULTI-JURISDICTIONAL
PROGRAM FOR PUBLIC INFORMATION

Sarasota County | October 2018

Sarasota County