

JAY MARTIN  
CHAIRMAN, COUNCILPERSON  
MANDI WILLIAMS  
COUNCILPERSON



CHUCK ENGELKEN  
COUNCILPERSON  
BILL BENTLEY  
ALTERNATE, COUNCILPERSON

## **CITY OF LA PORTE DRAINAGE AND FLOODING COMMITTEE MEETING AGENDA**

Notice is hereby given of a meeting of the Drainage and Flooding Committee of the City Council of the City of La Porte, to be held September 13, 2021, in the City Hall Council Chamber, 604 West Fairmont Parkway, La Porte, Texas, beginning at 5:00 pm to consider the following items of business.

Remote participation is available, also. Attend via a screen using the link

<https://us02web.zoom.us/j/88976346506?pwd=UmlkMjhNUVVxY25PdkVDREZxWIhmQT09>.

The meeting ID is 889 7634 6506 and the passcode is 084770. Join by phone at 877-853-5257 or 888-475-4499.

1. **CALL TO ORDER**
2. **CITIZEN COMMENT** *(Generally limited to five minutes per person; in accordance with state law, the time may be reduced if there is a high number of speakers or other considerations.)*
3. **STATUTORY AGENDA**
  - (a) Presentation, discussion, and possible action to approve the minutes of the August 9, 2021, meeting. [Councilperson Martin, Chairman]
  - (b) Presentation, discussion, and possible action regarding recommendation to the La Porte City Council of proposed amendments to the City of La Porte Code of Ordinances Chapter 94-Floods. [Lorenzo Wingate, Asst. Public Works Director]
  - (c) Presentation, discussion, and possible action regarding status of drainage infrastructure project for property near the Pasadena Convention Center, under terms of the interlocal agreement between the City of La Porte and the City of Pasadena. [Lorenzo Wingate, Assistant Director of Public Works]
  - (d) Presentation, discussion, and possible action regarding the Harris County Flood Control District's (HCFCD) and Harris County Precinct 2's current and future plans related to flooding in the City of La Porte. [Lorenzo Wingate, Assistant Director of Public Works]
  - (e) Presentation, discussion, and possible action regarding the status of current drainage projects. [Lorenzo Wingate, Assistant Director of Public Works]
  - (f) Presentation, discussion, and possible action to provide administrative staff of the City with direction, if necessary, regarding additional drainage concerns. [Lorenzo Wingate, Assistant Director of Public Works]
4. **SET NEXT MEETING**

5. **COMMITTEE COMMENT** *Hear announcements concerning matters appearing on the agenda; items of community interest; and/or inquiries of staff regarding specific factual information or existing policy from the Committee members and City staff, for which no formal action will be discussed or taken.*

6. **ADJOURN**

If, during the course of the meeting and discussion of any items covered by this notice, the Drainage and Flooding Committee determines that a Closed or Executive Session of the Committee is required, then such closed meeting will be held as authorized by Texas Government Code, Chapter 551, Section 551.071 - consultation with counsel on legal matters; Section 551.072 - deliberation regarding purchase, exchange, lease or value of real property; Section 551.073 - deliberation regarding a prospective gift; Section 551.074 - personnel matters regarding the appointment, employment, evaluation, reassignment, duties, discipline, or dismissal of a public officer or employee; Section 551.076 - implementation of security personnel or devices; Section 551.087 - deliberation regarding economic development negotiation; Section 551.089 - deliberation regarding security devices or security audits, and/or other matters as authorized under the Texas Government Code. If a Closed or Executive Session is held in accordance with the Texas Government Code as set out above, the Drainage and Flooding Committee will reconvene in Open Session in order to take action, if necessary, on the items addressed during Executive Session.

**Persons with disabilities who plan to attend this meeting and who may need auxiliary aids or services are requested to contact the City Secretary's office (281-470-5019), two working days prior to the meeting for appropriate arrangements.**

Pursuant to Texas Government Code Sec. 551.127, on a regular, non-emergency basis, members may attend and participate in the meeting remotely by video conference. Should that occur, a quorum of the members will be physically present at the location noted above on this agenda.

**Councilmembers may attend in numbers constituting a quorum. This is a Drainage and Flooding Committee Meeting at which there will be no deliberation or formal action taken by City Council as a governmental body.**

**CERTIFICATE**

I, Lee Woodward, City Secretary, do hereby certify that a copy of the September 13, 2021, Drainage and Flooding Committee agenda was posted on the City Hall bulletin board, a place convenient and readily accessible to the general public at all times, and to the City's website, [www.LaPorteTX.gov](http://www.LaPorteTX.gov), in compliance with Chapter 551, Texas Government Code.

DATE OF

POSTING

TIME OF

POSTING

TAKEN DOWN

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*Lee Woodward*

\_\_\_\_\_  
Lee Woodward, City Secretary

JAY MARTIN, CHAIRMAN  
MAYOR PRO TEM

VACANT



CHUCK ENGELKEN  
COUNCILPERSON

BILL BENTLEY, ALTERNATE  
COUNCILPERSON

## MINUTES OF THE DRAINAGE AND FLOODING COMMITTEE MEETING AUGUST 9, 2021

The Drainage and Flooding Committee of the City of La Porte met on Monday, August 9, 2021, at the City Hall Council Chambers, 604 West Fairmont Parkway, La Porte, Texas, at 5:00 p.m. to consider the following items of business:

**Committee Members present:** Jay Martin, Chuck Engelken, Bill Bentley (alternate)

**Committee Members attending remotely:** None

**Committee Members absent:** None

**Council-appointed officers present:** Corby Alexander, City Manager (attended remotely); Lee Woodward, City Secretary; Clark T. Askins, Assistant City Attorney

**CALL TO ORDER** – Chairman Martin called the meeting to order at 5:00 p.m.

- 2. CITIZEN COMMENT** *(Generally limited to five minutes per person, in accordance with state law, the time may be reduced if there is a high number of speakers or other considerations.)*

There were no citizen comments.

### 3. STATUTORY AGENDA

- a. **Presentation, discussion, and possible action to approve the minutes of the June 14, 2021, meeting. [Chairman Martin]**

Member Engelken moved to approve the minutes; the motion was seconded by Member Bentley; the motion was adopted, 3-0.

- b. **Presentation, discussion, and possible action regarding status of drainage infrastructure project for property near the Pasadena Convention Center, under terms of the interlocal agreement between the City of La Porte and the City of Pasadena. [Lorenzo Wingate, Assistant Director of Public Works]**

Lorenzo Wingate, Assistant Public Works Director, said negotiations with the consultant on the proposal have begun and staff review was expected to be complete by the end of the week.

- c. **Presentation, discussion, and possible action regarding the Harris County Flood Control District's (HCFCD) and Harris County Precinct 2's current and future plans related to flooding in the City of La Porte. [Lorenzo Wingate, Assistant Director of Public Works]**

Lorenzo Wingate, Assistant Public Works Director, announced that applications had been submitted to Harris County Precinct 2, regarding a partnership and interlocal agreement on Bayside Terrace and Brookglen, to be considered by the Harris County Commissioners Court in September.

- d. **Presentation, discussion, and possible action regarding the status of current drainage projects. [Lorenzo Wingate, Assistant Director of Public Works]**

Lorenzo Wingate, Assistant Public Works Director, confirmed that he believed the Bayside Terrace and Brookglen agreements were close to resolution and that the first four projects on the list overall were still in progress and waiting on draft interlocal agreements with the County.

- e. Presentation, discussion, and possible action to provide staff with direction, if necessary, regarding additional drainage concerns. [Lorenzo Wingate, Assistant Director of Public Works]**

Chair Martin said he had forwarded concerns from Bay Harbor. Mr. Wingate confirmed it had been addressed previously and that he believes there is a fairly easy resolution to the low area. Member Engelken asked for attention to be paid to the poorly maintained Harris County buyout lots in Brookglen and suggested taking action on the violations to spur maintenance. Mr. Alexander said he would have it addressed by Code Enforcement first thing in the morning. Member Engelken noted Harris County Flood Control District representatives had agreed to attend these meetings but had not done so in some time.

**4. Set next meeting** - The next meeting date was set for September 13, 2021.

**5. Committee Member Comments** – Member Engelken asked that the Pasadena item continue to appear on each agenda.

**ADJOURN** – The meeting was adjourned without objection at 5:14 p.m.

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Lee Woodward, City Secretary



## REQUEST FOR DRAINAGE & FLOODING COMMITTEE AGENDA ITEM

Agenda Date Requested: <u>9/13/21</u>	<b>Appropriation</b>
Requested By: <u>Teresa Evans</u>	Source of Funds: <u>N/A</u>
Department: <u>Planning and Development</u>	Account Number: <u>N/A</u>
<input type="radio"/> Report <input type="radio"/> Resolution <input checked="" type="radio"/> Ordinance	Amount Budgeted: <u>N/A</u>
	Amount Requested: <u>N/A</u>
	Budgeted Item: <input type="radio"/> Yes <input checked="" type="radio"/> No

**Exhibits:** Chapter 94- Floods- SHOWING CHANGES

### SUMMARY

The City of La Porte (City) has participated in the Federal Emergency Management Association's (FEMA) National Flood Insurance Program (NFIP) since 1972. Participation in the NFIP is voluntary and based on a community's agreement to adopt and enforce, at a minimum, the Federal standards for building within a Special Flood Hazard Area (SFHA), also known as the FEMA floodplain or 100-year floodplain. The NFIP is designed so that floodplain management and flood insurance complement and reinforce each other. The partnership is established on the provision that FEMA will make flood insurance available to the citizens of a community, provided that the community implements floodplain management regulations that meet or exceed the Federal minimum requirements.

Effective October 1999, the City began participating in the NFIP Community Rating System (CRS). The CRS is a voluntary, federal program that rewards communities for exceeding the minimum standards of the NFIP in exchange for lower flood insurance premiums for eligible policy holders. The CRS is based on a points system whereby the number of points documented within the CRS series/activities translates to a flood insurance premium discount percentage. The City's current class 7 rating provides a 15% discount to flood insurance policyholders located in the floodplain, and a 5% discount to those outside the floodplain (excluding Preferred Risk Policies).

Depending on the Class achieved, a community keeps its classification for three or five years. The City of La Porte's 5 year Cycle Verification visit is scheduled for November 2021. Debbie Vascik of Cahoon Consulting is assisting the City with preparing for the 5 year visit, with the additional goal of making a class improvement to a class 6 rating. The goal of the modification is not only to reach 2,000 points for the class 6, but also to

provide a comfortable “credit cushion” in case activities and/or requirements change before the next cycle visit that might result in a loss of points. Cahoon Consulting has been successful in achieving class improvements in modifications or cycle visits for the following communities: City of Seabrook, City of League City, City of Galveston, City of Friendswood, City of Shoreacres, City of College Station, and Village of Tiki Island.

Ms. Vascik has reviewed the City’s floodplain ordinance with the CRS Flood Specialist, the Floodplain Manager (Cobb Fendley), and City staff, and proposes the following amendments to Chapter 94- Floods:

1. Pg. 3 - Relocated "expansion to an existing manufactured home park or subdivision" definition to be in alphabetical order
2. Pg. 4 - Added definition of "Increased Cost of Compliance (ICC)"
3. Pg. 5 - Added definition of "repetitive loss"
4. Pg. 5 - Added "repetitive loss" to definition of "substantial improvement"
5. Pg. 11 - Added requirement of 3 elevation certificates
6. Pg. 13 - Clarified freeboard for lowest floor/HVAC for residential structures (4)
7. Pg. 13 - Added "positive drainage" requirement (8)
8. Pg. 15 - Added non-conversion agreement for enclosures below BFE
9. Pgs. 14-16, 18 - Clarified freeboard

Refer to the attached Flood Ordinance showing changes. The majority of the proposed amendments add and clarify existing definitions and practices already in effect. The single new proposal is to require the filing of a non-conversion agreement with the deed for new and substantially improved structures. Staff will be responsible for the homeowner’s execution of the agreement and recording the instrument upon issuing the certificate of occupancy.

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#### **RECOMMENDED MOTION**

Recommend the proposed amendments to Chapter 94- Floods to City Council for approval.

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**Approved for Drainage Committee Agenda**

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**Corby D. Alexander, City Manager**

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**Date**

## **ORDINANCE 2021-3831**

**AN ORDINANCE AMENDING CHAPTER 94 “FLOODS” OF THE CODE OF ORDINANCES BY ADDING NEW DEFINITIONS AND INCORPORATING UPDATED REGULATIONS RELATED TO FLOOD HAZARDS; PROVIDING A REPEALING CLAUSE; CONTAINING A SEVERABILITY CLAUSE; FINDING COMPLIANCE WITH THE OPEN MEETINGS LAW; PROVIDING THAT ANY PERSON VIOLATING THE TERMS OF THIS ORDINANCE SHALL BE DEEMED GUILTY OF A MISDEMEANOR AND UPON CONVICTION SHALL BE FINED IN A SUM NOT TO EXCEED TWO THOUSAND DOLLARS; PROVIDING FOR THE PUBLICATION OF THE CAPTION HEREOF; AND PROVIDING AN EFFECTIVE DATE HEREOF.**

**BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF LA PORTE, TEXAS:**

**Section 1:** That Chapter 94, “Floods”, of the La Porte, Texas, Code of Ordinances is hereby amended in its entirety and shall hereinafter read as follows:

### **“Chapter 94- FLOODS**

#### **ARTICLE I. - IN GENERAL**

**Secs. 94-1—94-30. - Reserved.**

#### **ARTICLE II. - FLOOD HAZARD REDUCTION**

##### **DIVISION 1. - GENERALLY**

###### **Sec. 94-31. - Definitions.**

Unless specifically defined below, words or phrases used in this chapter shall be interpreted to give them the meaning they have in common usage and to give this ordinance its most reasonable application.

*Alluvial fan flooding* means flooding occurring on the surface of an alluvial fan or similar landform which originates at the apex and is characterized by high-velocity flows; active processes of erosion, sediment transport, and deposition; and unpredictable flow paths.

*Apex* means a point on an alluvial fan or similar landform below which the flow path of the major stream that formed the fan becomes unpredictable and alluvial fan flooding can occur.

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

*Area of moderate flood hazard* is the land between the limits of the base flood and the 0.2-percent annual-chance (or 500-year) flood. They are shown on flood maps as zones labeled with the letters B or X (shaded).

*Area of future conditions flood hazard* means the land area that would be inundated by the one percent annual chance (100-year) flood based on future conditions hydrology.

*Area of shallow flooding* means a designated AO, AH, AR/AO, AR/AH, or VO zone on a community's flood insurance rate map (FIRM) with a one percent or greater annual chance of flooding to an average depth of one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow.

*Area of special flood hazard* is the land in the floodplain within a community subject to a one percent or greater chance of flooding in any given year. The area may be designated as zone A on the flood hazard boundary map (FHBM). After detailed rate making has been completed in preparation for publication of the FIRM, zone A usually is refined into zones A, AO, AH, A1-30, AE, A99, AR, AR/A1-30, AR/AE, AR/AO, AR/AH, AR/A, VO, V1-30, VE or V.

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

*Basement* means any area of the building having its floor subgrade (below ground level) on all sides.

*Breakaway wall* means a wall that is not part of the structural support of the building and is intended through its design and construction to collapse under specific lateral loading forces, without causing damage to the elevated portion of the building or supporting foundation system.

*Coastal AE zone* means the area subject to inundation by the one-percent annual-chance flood event that is also within the area of limited to moderate wave action as shown on the community's FIRM.

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

*Development* means any manmade change to improved and unimproved real estate, including but not limited to buildings or other structures, mining, dredging, filling, grading, paving, excavation or drilling operations or storage of equipment or materials.

*Elevated building* means, for insurance purposes, a non-basement building, which has its lowest elevated floor, raised above ground level by foundation walls, shear walls, posts, piers, pilings, or columns.

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

*Existing manufactured home park or subdivision* means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including, at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed before the effective date of the floodplain management regulations adopted by a community.



Expansion to an existing manufactured home park or subdivision means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).

*Five-hundred (500) year floodplain elevation* means the elevation of surface water resulting from a flood that has a 0.2-percent chance of equaling or exceeding that level in any given year. The 500-year floodplain elevation is shown on the flood insurance rate map for zones B and X (shaded).

~~Expansion to an existing manufactured home park or subdivision means the preparation of additional sites by the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads).~~

*Flood or flooding* means a general and temporary condition of partial or complete inundation of normally dry land areas from:

- (1) The overflow of inland or tidal waters.
- (2) The unusual and rapid accumulation or runoff of surface waters from any source.

*Flood elevation study* means an examination, evaluation and determination of flood hazards and, if appropriate, corresponding water surface elevations, or an examination, evaluation and determination of mudslide (i.e., mudflow) and/or flood-related erosion hazards.

*Flood insurance rate map (FIRM)* means an official map of a community, on which the Federal Emergency Management Agency has delineated both the special flood hazard areas and the risk premium zones applicable to the community.

*Flood insurance study (FIS)*. See "flood elevation study."

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

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

*Floodplain management regulations* means zoning ordinances, subdivision regulations, building codes, health regulations, special purpose ordinances (such as a floodplain ordinance, grading ordinance and erosion control ordinance) and other applications of police power. The term describes such state or local regulations, in any combination thereof, which provide standards for the purpose of flood damage prevention and reduction.

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

*Floodproofing* means any combination of structural and nonstructural additions, changes, or adjustments to structures which reduce or eliminate flood damage to real estate or improved real property, water and sanitary facilities, structures and their contents.

*Floodway*. See "regulatory floodway."

*Functionally dependent use* means a use, which cannot perform its intended purpose unless it is located or carried out in close proximity to water. The term includes only docking facilities, port facilities that are necessary for the loading and unloading of cargo or passengers, and ship building and ship repair facilities, but does not include long-term storage or related manufacturing facilities.

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

*Historic structure* means any structure that is:

- (1) Listed individually in the National Register of Historic Places (a listing maintained by the Department of Interior) or preliminarily determined by the Secretary of the Interior as meeting the requirements for individual listing on the National Register;
- (2) Certified or preliminarily determined by the Secretary of the Interior as contributing to the historical significance of a registered historic district or a district preliminarily determined by the Secretary to qualify as a registered historic district;
- (3) Individually listed on a state inventory of historic places in states with historic preservation programs which have been approved by the Secretary of the Interior; or
- (4) Individually listed on a local inventory or historic places in communities with historic preservation programs that have been certified either:
  - a. By an approved state program as determined by the Secretary of the Interior or;
  - b. Directly by the Secretary of the Interior in states without approved programs.

*Increased Cost of Compliance (ICC)* means coverage that provides payment of up to \$30,000 to substantially damaged properties to help cover the cost of mitigation activities that will reduce the risk of future flood damage to a building if all of the following for the structure are met:

- (1) The structure is covered by an insurance policy through the National Flood Insurance Program (NFIP);
- (2) The structure must have suffered flood damage on at least two occasions in a 10-year period ending on the day of the second loss;
- (3) The cost to repair the flood damage, on average, equals or exceeds 25% of the market value of the building at the time of each of the two flood losses, or cumulatively total 50% of the pre-flood market value (a value less than 50% for substantial damage does not qualify for ICC), as defined by the local floodplain ordinance, and;
- (4) In addition to the claim requesting ICC, the NFIP must have paid a previous qualifying claim.

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

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

*Lowest floor* means the lowest floor of the lowest enclosed area (including basement). An unfinished or flood resistant enclosure, usable solely for parking or vehicles, building access or storage in an area other than a basement area is not considered a building's lowest floor; provided that such enclosure is not built so as to render the structure in violation of the applicable non-elevation design requirement of Section 60.3 of the National Flood Insurance Program regulations.

*Manufactured home* means a structure transportable in one or more sections, which is built on a permanent chassis and is designed for use with or without a permanent foundation when connected to the required utilities. The term "manufactured home" does not include a "recreational vehicle".

*Manufactured home park or subdivision* means a parcel (or contiguous parcels) of land divided into two or more manufactured home lots for rent or sale.

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

*Moderate flood hazard area.* See "area of moderate flood hazard."

*New construction* means, for the purpose of determining insurance rates, structures for which the "start of construction" commenced on or after the effective date of an initial FIRM or after December 31, 1974, whichever is later, and includes any subsequent improvements to such structures. For floodplain management purposes, "new construction" means structures for which the "start of construction" commenced on or after the effective date of a floodplain management regulation adopted by a community and includes any subsequent improvements to such structures.

*New manufactured home park or subdivision* means a manufactured home park or subdivision for which the construction of facilities for servicing the lots on which the manufactured homes are to be affixed (including at a minimum, the installation of utilities, the construction of streets, and either final site grading or the pouring of concrete pads) is completed on or after the effective date of floodplain management regulations adopted by a community.

*Primary frontal dune* means a continuous or nearly continuous mound or ridge of sand with relatively steep seaward and landward slopes immediately landward and adjacent to the beach and subject to erosion and overtopping from high tides and waves during major coastal storms. The inland limit of the primary frontal dune occurs at the point where there is a distinct change from a relatively steep slope to a relatively mild slope.

*Recreational vehicle* means a vehicle which is (i) built on a single chassis; (ii) 400 square feet or less when measured at the largest horizontal projections; (iii) designed to be self-propelled or permanently towable by a light duty truck; and (iv) designed primarily not for use as a permanent dwelling but as temporary living quarters for recreational, camping, travel, or seasonal use.

*Regulatory floodway* means the channel of a river or other watercourse and the adjacent land areas that must be reserved in order to discharge the base flood without cumulatively increasing the water surface elevation more than a designated height.

*Repetitive loss* means flood-related damage sustained by a structure on two separate occasions during a 10-year period for which the cost of repairs at the time of each such event, is over \$1,000 or, on the average, equals or exceeds 25% of the market value of the structure before the damage occurred.

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

*Sand dunes* mean naturally occurring accumulations of sand in ridges or mounds landward of the beach.

*Special flood hazard area.*" See "area of special flood hazard."

*Start of construction* (For other than new construction or substantial improvements under the Coastal Barrier Resources Act (Pub. L. 97-348)), includes substantial improvement and means the date the building permit was issued, provided the actual start of construction, repair, reconstruction, rehabilitation, addition placement, or other improvement was within 180 days of the permit date. The actual start means either the first placement of permanent construction of a structure on a site, such as the pouring of slab or footings, the installation of piles, the construction of columns, or any work beyond the stage of excavation; or the placement of a manufactured home on a foundation. Permanent construction does not include land preparation, such as clearing, grading and filling; nor does it include the installation of streets and/or walkways; nor does it include excavation for basement, footings, piers or foundations or the erection of temporary forms; nor does it include the installation on the property of accessory buildings, such as garages or sheds not occupied as dwelling units or not part of the main structure. For a substantial improvement, the actual start of construction means the first alteration of any wall, ceiling, floor, or other structural part of a building, whether or not that alteration affects the external dimensions of the building.

*Structure* means, for floodplain management purposes, a walled and roofed building, including a gas or liquid storage tank, that is principally above ground, as well as a manufactured home.

*Substantial damage* means damage of any origin sustained by a structure whereby the cost of restoring the structure to its before damaged condition would equal or exceed 50 percent of the market value of the structure before the damage occurred.

*Substantial improvement* means any reconstruction, rehabilitation, addition, or other improvement of a structure, the cost of which equals or exceeds 50 percent of the market value of the structure before "start of construction" of the improvement. This term includes structures which have incurred "substantial damage" or "repetitive loss", regardless of the actual repair work performed. The term does not, however, include either: (1) Any project for improvement of a structure to correct existing violations of state or local health, sanitary, or safety code specifications which have been identified by the local code enforcement official and which are the minimum necessary to assure safe living conditions or (2) any alteration of a "historic structure", provided that the alteration will not preclude the structure's continued designation as a "historic structure."

*Variance* means a grant of relief by a community from the terms of a floodplain management regulation. (For full requirements see Section 60.6 of the National Flood Insurance Program regulations.)

*Violation* means the failure of a structure or other development to be fully compliant with the community's floodplain management regulations. A structure or other development without the

elevation certificate, other certifications, or other evidence of compliance required in Section 60.3(b)(5), (c)(4), (c)(10), (d)(3), (e)(2), (e)(4), or (e)(5) is presumed to be in violation until such time as that documentation is provided.

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

**Sec. 94-32. - Statutory authorization.**

The Legislature of the State of Texas has in Article 8280-13 V.T.C.S. delegated the responsibility of local governmental units to adopt regulations designed to minimize flood losses.

**Sec. 94-33. - Findings of fact.**

(1) The flood hazard areas of La Porte, Texas are subject to periodic inundation, which results in loss of life and property, health and safety hazards, disruption of commerce and governmental services, and extraordinary public expenditures for flood protection and relief, all of which adversely affect the public health, safety and general welfare.

(2) These flood losses are created by the cumulative effect of obstructions in floodplains which cause an increase in flood heights and velocities, and by the occupancy of flood hazard areas by uses vulnerable to floods and hazardous to other lands because they are inadequately elevated, floodproofed or otherwise protected from flood damage.

**Sec. 94-34. - Statement of purpose.**

It is the purpose of this article to promote the public health, safety and general welfare and to minimize public and private losses due to flood conditions in specific areas by provisions designed to:

- (1) Protect human life and health;
- (2) Minimize expenditure of public money for costly flood control projects;
- (3) Minimize the need for rescue and relief efforts associated with flooding and generally undertaken at the expense of the general public;
- (4) Minimize prolonged business interruptions;
- (5) Minimize damage to public facilities and utilities such as water and gas mains, electric, telephone and sewer lines, streets and bridges located in floodplains;
- (6) Help maintain a stable tax base by providing for the sound use and development of flood-prone areas in such a manner as to minimize future flood blight areas; and
- (7) Insure that potential buyers are notified that property is in a flood area.

**Sec. 94-35. - Lands to which this article applies.**

The article shall apply to all areas of special flood hazard and moderate flood hazard within the jurisdiction of City of La Porte, Texas.

**Sec. 94-36. - Compliance.**

No structure or land shall hereafter be located, altered, or have its use changed without full compliance with the terms of this article and other applicable regulations.

**Sec. 94-37. - Interpretation.**

In the interpretation and application of this article, all provisions shall be; (1) considered as minimum requirements; (2) liberally construed in favor of the governing body; and (3) deemed neither to limit nor repeal any other powers granted under state statutes.

**Sec. 94-38. - Basis for establishing the areas of special flood hazard and moderate flood hazard.**

The areas of special flood hazard and moderate flood hazard identified by the Federal Emergency Management Agency in the current scientific and engineering report entitled, "The Flood Insurance Study (FIS) for City of La Porte, Texas" dated June 18, 2007, with accompanying flood insurance rate maps and/or flood boundary-floodway maps (FIRM and/or FBFM) dated June 18, 2007, and any revisions thereto are hereby adopted by reference and declared to be a part of this article. A true and correct copy of said study and maps is on file in the office of the City Engineer of the City of La Porte.

**Sec. 94-39. - Methods of reducing flood losses.**

In order to accomplish its purposes, this article uses the following methods:

- (1) Restrict or prohibit uses that are dangerous to health, safety or property in times of flood, or cause excessive increases in flood heights or velocities;
- (2) Require that uses vulnerable to floods, including facilities which serve such uses, be protected against flood damage at the time of initial construction;
- (3) Control the alteration of natural floodplains, stream channels, and natural protective barriers, which are involved in the accommodation of flood waters;
- (4) Control filling, grading, dredging and other development which may increase flood damage;



- (5) Prevent or regulate the construction of flood barriers which will unnaturally divert flood waters or which may increase flood hazards to other lands.

**Sec. 94-40. - Abrogation and greater restrictions.**

This article is not intended to repeal, abrogate, or impair any existing easements, covenants, or deed restrictions. However, where this article and another ordinance, easement, covenant, or deed restriction conflict or overlap, whichever imposes the more stringent restrictions shall prevail.

**Sec. 94-41. - Warning and disclaimer of liability.**

The degree of flood protection required by this article is considered reasonable for regulatory purposes and is based on scientific and engineering considerations. On rare occasions greater floods can and will occur and flood heights may be increased by manmade or natural causes. This article does not imply that land outside the areas of special flood hazards or uses permitted within such areas will be free from flooding or flood damages. This article shall not create liability on the part of the community or any official or employee thereof for any flood damages that result from reliance on this article or any administrative decision lawfully made hereunder.

**DIVISION 2. - ADMINISTRATION**

**Sec. 94-61. - Designation of the floodplain administrator.**

The city engineer or his/her designated appointee is hereby appointed the floodplain administrator to administer and implement the provisions of this ordinance and other appropriate sections of 44 CFR (Emergency Management and Assistance - National Flood Insurance Program Regulations) pertaining to floodplain management.

**Sec. 94-62. - Duties and responsibilities of the floodplain administrator.**

Duties and responsibilities of the floodplain administrator shall include, but not be limited to, the following:

- (1) Maintain and hold open for public inspection all records pertaining to the provisions of this article.
- (2) Review permit application to determine whether to ensure that the proposed building site project, including the placement of manufactured homes, will be reasonably safe from flooding.
- (3) Review, approve or deny all applications for development permits required by adoption of this article.

- (4) Review permits for proposed development to assure that all necessary permits have been obtained from those federal, state or local governmental agencies (including Section 404 of the Federal Water Pollution Control Act Amendments of 1972, 33 U.S.C. 1334) from which prior approval is required.
- (5) Where interpretation is needed as to the exact location of the boundaries of the areas of special flood hazards (for example, where there appears to be a conflict between a mapped boundary and actual field conditions) the floodplain administrator shall make the necessary interpretation.
- (6) Notify, in riverine situations, adjacent communities and the state coordinating agency which is Texas Commission on Environmental Quality, prior to any alteration or relocation of a watercourse, and submit evidence of such notification to the Federal Emergency Management Agency.
- (7) Assure that the flood carrying capacity within the altered or relocated portion of any watercourse is maintained.
- (8) When base flood elevation data has not been provided in accordance with section 94-38, the floodplain administrator shall obtain, review and reasonably utilize any base flood elevation data and floodway data available from a federal, state or other source, in order to administer the provisions of division 3.
- (9) When a regulatory floodway has not been designated, the floodplain administrator must require that no new construction, substantial improvements, or other development (including fill) shall be permitted within zones A1—30 and AE on the community's FIRM, unless it is demonstrated that the cumulative effect of the proposed development, when combined with all other existing and anticipated development, will not increase the water surface elevation of the base flood more than one foot at any point within the community.
- (10) Under the provisions of 44 CFR\_Chapter 1, Section 65.12, of the National Flood Insurance Program regulations, a community may approve certain development in zones A1-30, AE, AH, on the community's FIRM which increases the water surface elevation of the base flood by more than one foot, provided that the community first completes all of the provisions required by Section 65.12.

**Sec. 94-63. - Establishment of development permit.**

A floodplain development permit shall be required to ensure conformance with the provisions of this article.

**Sec. 94-64. - Permit procedures.**

- (1) Application for a floodplain development permit shall be presented to the floodplain administrator on forms furnished by him/her and may include, but not be limited to, plans in duplicate drawn to scale showing the location, dimensions, and elevation of proposed



landscape alterations, existing and proposed structures, including the placement of manufactured homes, and the location of the foregoing in relation to areas of special flood hazard or moderate flood hazard. Additionally, the following information is required:

(a) Elevation (in relation to mean sea level), of the lowest floor (including basement) of all new and substantially improved structures per a FEMA elevation certificate submitted at all three stages of development (construction drawings, building under construction, and finished construction);

(b) Elevation in relation to mean sea level to which any nonresidential structure shall be floodproofed;

(c) A certificate from a registered professional engineer or architect that the nonresidential floodproofed structure shall meet the floodproofing criteria of **section 94-87(2)**;

(d) Description of the extent to which any watercourse or natural drainage will be altered or relocated as a result of proposed development;

(e) Maintain a record of all such information in accordance with section 94-62(1);

(2) Approval or denial of a floodplain development permit by the floodplain administrator shall be based on all of the provisions of this ordinance and the following relevant factors:

(a) The danger to life and property due to flooding or erosion damage;

(b) The susceptibility of the proposed facility and its contents to flood damage and the effect of such damage on the individual owner;

(c) The danger that materials may be swept onto other lands to the injury of others;

(d) The compatibility of the proposed use with existing and anticipated development;

(e) The safety of access to the property in times of flood for ordinary and emergency vehicles;

(f) The costs of providing governmental services during and after flood conditions including maintenance and repair of streets and bridges, and public utilities and facilities such as sewer, gas, electrical and water systems;

(g) The expected heights, velocity, duration, rate of rise and sediment transport of the floodwaters and the effects of wave action, if applicable, expected at the site;

(h) The necessity to the facility of a waterfront location, where applicable;

(i) The availability of alternative locations, not subject to flooding or erosion damage, for the proposed use.

#### **Sec. 94-65. - Variance procedures.**

(1) The appeal board, as established by the community, shall hear and render judgment on requests for variances from the requirements of this article.

(2) The appeal board shall hear and render judgment on an appeal only when it is alleged there is an error in any requirement, decision, or determination made by the floodplain administrator in the enforcement or administration of this article.

- (3) Any person or persons aggrieved by the decision of the appeal board may appeal such decision in the courts of competent jurisdiction.
- (4) The floodplain administrator shall maintain a record of all actions involving an appeal and shall report variances to the Federal Emergency Management Agency upon request.
- (5) Variances may be issued for the reconstruction, rehabilitation or restoration of structures listed on the National Register of Historic Places or the state inventory of historic places, without regard to the procedures set forth in the remainder of this article.
- (6) Variances may be issued for new construction and substantial improvements to be erected on a lot of one-half acre or less in size contiguous to and surrounded by lots with existing structures constructed below the base flood level, providing the relevant factors in section 94-64(2) have been fully considered. As the lot size increases beyond the one-half half acre, the technical justification required for issuing the variance increases.
- (7) Upon consideration of the factors noted above and the intent of this article, the appeal board may attach such conditions to the granting of variances as it deems necessary to further the purpose and objectives of this article (section 94-34).
- (8) Variances shall not be issued within any designated floodway if any increase in flood levels during the base flood discharge would result.
- (9) Variances may be issued for the repair or rehabilitation of historic structures upon a determination that the proposed repair or rehabilitation will not preclude the structure's continued designation as a historic structure and the variance is the minimum necessary to preserve the historic character and design of the structure.
- (10) Prerequisites for granting variances:
- (a) Variances shall only be issued upon a determination that the variance is the minimum necessary, considering the flood hazard, to afford relief.
  - (b) Variances shall only be issued upon: (i) showing a good and sufficient cause; (ii) a determination that failure to grant the variance would result in exceptional hardship to the applicant, and (iii) a determination that the granting of a variance will not result in increased flood heights, additional threats to public safety, extraordinary public expense, create nuisances, cause fraud on or victimization of the public, or conflict with existing local laws or ordinances.
  - (c) Any application to which a variance is granted shall be given written notice that the structure will be permitted to be built with the lowest floor elevation below the base flood elevation, and that the cost of flood insurance will be commensurate with the increased risk resulting from the reduced lowest floor elevation.
- (11) Variances may be issued by a community for new construction and substantial improvements and for other development necessary for the conduct of a functionally dependent use provided that (i) the criteria outlined in section 94-65(1)—(9) are met, and (ii) the structure or other development is protected by methods that minimize flood damages during the base flood and create no additional threats to public safety.

**Secs. 94-66—94-85. - Reserved.**

## DIVISION 3. - STANDARDS

### Sec. 94-86. - General standards.

In all areas of special flood hazards and moderate flood hazards the following provisions are required for all new construction and substantial improvements:

- (1) All new construction or substantial improvements shall be designed (or modified) and adequately anchored to prevent flotation, collapse or lateral movement of the structure resulting from hydrodynamic and hydrostatic loads, including the effects of buoyancy;
- (2) All new construction or substantial improvements shall be constructed by methods and practices that minimize flood damage;
- (3) All new construction or substantial improvements shall be constructed with materials resistant to flood damage;
- (4) All residential new construction or substantial improvements shall be constructed with electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities that are designed to be elevated at least one foot above the base flood elevation, or at or above the riverine 500-year floodplain elevation, whichever is higher, so as to prevent water from entering or accumulating within the components during conditions of flooding;
- (5) All new and replacement water supply systems shall be designed to minimize or eliminate infiltration of flood waters into the system;
- (6) New and replacement sanitary sewage systems shall be designed to minimize or eliminate infiltration of flood waters into the system and discharge from the systems into flood waters; and,
- (7) On-site waste disposal systems shall be located to avoid impairment to them or contamination from them during flooding.
- (8) Require within all zones adequate drainage paths around structures on slopes to guide flood waters around and away from proposed structures.
- (9) Enclosures below the base flood elevation are useable solely for parking of vehicles, building access, or storage. Owner(s) of new and substantially improved buildings will be required to sign a non-conversion agreement that must be filed with the deed. Enclosures shall be subject to inspection at any time with notice.
- (810) Compensating floodplain mitigation will be required for any fill placed below the riverine base flood elevation and/or riverine 500-year floodplain elevation for any new construction or substantial improvements, including fill placed in a Coastal AE zone that is below the riverine 100- or 500-year water surface elevations.

### Sec. 94-87. - Specific standards.

In all areas of special flood hazards and moderate flood hazards where base flood elevation and/or riverine 500-year floodplain elevation data has been provided as set forth in (i) section 94-38, (ii) subsection 94-62(8), or (iii) subsection 94-88(3), the following provisions are required:

(1) *Residential construction.* New construction and substantial improvement of any residential structure shall have the lowest floor (including basement), elevated at least one foot above the base flood elevation or at or above the riverine 500-year floodplain elevation, whichever is higher. A registered professional engineer, architect, or land surveyor shall submit a certification to the floodplain administrator that the standard of this subsection as proposed in section 94-64(1)(a), is satisfied.

(2) *Nonresidential construction.* New construction and substantial improvements of any commercial, industrial or other nonresidential structure shall either have the lowest floor (including basement) elevated to or above the base flood elevation or at or above the riverine 500-year floodplain elevation, whichever is higher, or together with attendant utility and sanitary facilities, be designed so that below the base flood elevation or the riverine 500-year floodplain elevation, whichever is higher; the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads and effects of buoyancy. A registered professional engineer or architect shall develop and/or review structural design, specifications, and plans for the construction, and shall certify that the design and methods of construction are in accordance with accepted standards of practice as outlined in this subsection. A record of such certification which includes the specific elevation (in relation to mean sea level) to which such structures are floodproofed shall be maintained by the floodplain administrator.

(3) *Enclosures.* New construction and substantial improvements, with fully enclosed areas below the lowest floor that are usable solely for parking of vehicles, building access or storage in an area other than a basement and which are subject to flooding shall be designed to automatically equalize hydrostatic flood forces on exterior walls by allowing for the entry and exit of floodwaters. Designs for meeting this requirement must either be certified by a registered professional engineer or architect or meet or exceed the following minimum criteria:

- a. A minimum of two openings on separate walls having a total net area of not less than one square inch for every square foot of enclosed area subject to flooding shall be provided.
- b. The bottom of all openings shall be no higher than one foot above grade.
- c. Openings may be equipped with screens, louvers, valves, or other coverings or devices provided that they permit the automatic entry and exit of floodwaters.

d. Enclosures below the base flood elevation are useable solely for parking of vehicles, building access, or storage. Owner(s) of new and substantially improved buildings will be required to sign a non-conversion agreement that must be filed with the deed. Enclosures shall be subject to inspection at any time with notice.

(4) *Manufactured homes.*

a. Require that all manufactured homes to be placed within zone A on a community's FHBM or FIRM shall be installed using methods and practices which minimize flood damage. For the purposes of this requirement, manufactured homes must be elevated at least one foot above the base flood elevation and anchored to resist flotation, collapse, or lateral movement. Methods of anchoring may include, but are not limited to, use of over-the-top or frame ties to ground anchors. This requirement is in addition to applicable state and local anchoring requirements for resisting wind forces.

b. Require that manufactured homes that are placed or substantially improved within zones A1-30, AH, and AE on the community's FIRM on sites (i) outside of a manufactured home park or subdivision, (ii) in a new manufactured home park or subdivision, (iii) in an expansion to an existing manufactured home park or subdivision, or (iv) in an existing manufactured home park or subdivision on which a manufactured home has incurred "substantial damage" as a result of a flood, be elevated on a permanent foundation such that the lowest floor of the manufactured home, as well as any electrical, heating, ventilation, plumbing, and air conditioning equipment and other service facilities affixed thereto, is elevated at least one foot above the base flood elevation or at ~~least one foot or~~ above the riverine 500-year floodplain elevation, whichever is higher, and be securely anchored to an adequately anchored foundation system to resist flotation, collapse, and lateral movement.

c. Require that manufactured homes be placed or substantially improved on sites in an existing manufactured home park or subdivision with zones A1-30, AH and AE on the community's FIRM that are not subject to the provisions of paragraph (4) of this section be elevated so that the lowest floor of the manufactured home is elevated at least one foot above the base flood elevation or at or above the riverine 500-year floodplain elevation, whichever is higher.

(5) *Recreational vehicles.* Require that recreational vehicles placed on sites within zones A1-30, AH, and AE on the community's FIRM either (i) be on the site for fewer than 180 consecutive days, or (ii) be fully licensed and ready for highway use, or (iii) meet the permit requirements of section 94-64(1), and the elevation and anchoring requirements for "manufactured homes" in paragraph (4) of this section. A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions.

#### **Sec. 94-88. - Standards for development proposals.**

- (1) All subdivision proposals including the placement of manufactured home parks and subdivisions shall be consistent with sections 94-33, 94-34, and 94-39.
- (2) All proposals for the development of subdivisions including the placement of manufactured home parks and subdivisions shall meet floodplain development permit requirements of section 94-63; section 94-64; and the provisions of division 3 of this ordinance.
- (3) Base flood elevation and/or riverine 500-year floodplain elevation data shall be generated for subdivision proposals and other proposed development including the placement of manufactured home parks and subdivisions which is greater than 50 lots or five acres, whichever is lesser, if not otherwise provided pursuant to section 94-38 or subsection 94-62(8) of this article.
- (4) All subdivision proposals including the placement of manufactured home parks and subdivisions shall have adequate drainage provided to reduce exposure to flood hazards.
- (5) All subdivision proposals including the placement of manufactured home parks and subdivisions shall have public utilities and facilities such as sewer, gas, electrical and water systems located and constructed to minimize or eliminate flood damage.

#### **Sec. 94-89. - Standards for areas of shallow flooding.**

Located within the areas of special flood hazard established in section 94-38, are areas designated as shallow flooding. These areas have special flood hazards associated with flood depths of one to three feet where a clearly defined channel does not exist, where the path of flooding is unpredictable, and where velocity flow may be evident. Such flooding is characterized by ponding or sheet flow; therefore, the following provisions apply:

- (1) All new construction and substantial improvements of residential structures shall have the lowest floor (including basement) elevated at least to one foot above the base flood elevation or at or above the riverine 500-year floodplain elevation, whichever is higher, or one foot above the ~~or the~~ highest adjacent grade at least as high as the depth number specified in feet on the community's FIRM (at least ~~two-three~~ feet if no depth number is specified).
- (2) All new construction and substantial improvements of nonresidential structures shall have ;
  - a. ~~Have~~ the lowest floor (including basement) elevated at least to one foot above the base flood elevation, or one foot above the highest adjacent grade at least as high as the depth number specified in feet on the community's FIRM (at least ~~two~~ three feet if no depth number is specified), whichever is higher, or
  - b. Together with attendant utility and sanitary facilities be designed so that below one foot above the base specified flood depth in an AO zone, or below one foot



above the base flood elevation in an AH zone, ~~level~~ the structure is watertight with walls substantially impermeable to the passage of water and with structural components having the capability of resisting hydrostatic and hydrodynamic loads of effects of buoyancy.

(3) A registered professional engineer or architect shall submit a certification to the floodplain administrator that the standards of this section, as proposed in section 94-63 are satisfied.

~~(4) Require within zones AH or AO adequate drainage paths around structures on slopes, to guide flood waters around and away from proposed structures.~~

#### **Sec. 94-90. - Floodways.**

Located within areas of special flood hazard established in section 94-38 of this chapter are areas designated as floodways. Since the floodway is an extremely hazardous area due to the velocity of flood waters which carry debris, potential projectiles and erosion potential, the following provisions shall apply:

(1) Encroachments are prohibited, including fill, new construction, substantial improvements and other development within the adopted regulatory floodway unless it has been demonstrated through hydrologic and hydraulic analyses performed in accordance with standard engineering practice that the proposed encroachment would not result in any increase in flood levels within the community during the occurrence of the base flood discharge.

(2) If section 94-90(1) above is satisfied, all new construction and substantial improvements shall comply with all applicable flood hazard reduction provisions of division 3.

(3) Under the provisions of 44 CFR Chapter 1, Section 65.12, of the National Flood Insurance Program Regulation, a community may permit encroachments within the adopted regulatory floodway that would result in an increase in base flood elevations, provided that the community first completes all of the provisions required by Section 65.12.

#### **Sec. 94-91. - Coastal high hazard areas.**

Located within the areas of special flood hazard established in section 94-38 of this chapter are areas designated as coastal high hazard areas (zones V1-30, VE, and/or V). These areas have special flood hazards associated with high velocity waters from tidal surges and hurricane wave wash; therefore, in addition to meeting all provisions outlined in this chapter, the following provisions must also apply:

(1) Obtain the elevation (in relation to mean sea level) of the bottom of the lowest structural member of the lowest floor (excluding pilings and columns) of all new and substantially improved structures, and whether or not such structures contain a basement. The floodplain administrator shall maintain a record of all such information.

(2) All new construction shall be located landward of the reach of mean high tide.

(3) All new construction and substantial improvements shall be elevated on pilings and columns so that:

(i) The bottom of the lowest horizontal structural member of the lowest floor (excluding the pilings or columns) is elevated to at least one foot or above the base flood level or at or above the riverine 500-year floodplain elevation, whichever is higher.

(ii) The pile or column foundation and structure attached thereto is anchored to resist flotation, collapse and lateral movement due to the effects of wind and water loads acting simultaneously on all building components. Water loading values used shall be those associated with the base flood. Wind loading values used shall be those required by applicable state or local building standards. A registered professional engineer or architect shall develop or review the structural design, specifications and plans for the construction, and shall certify that the design and methods of construction to be used are in accordance with accepted standards of practice for meeting the provisions of (3)(i) and (ii) of this section.

(4) Provide that all new construction and substantial improvements have the space below the lowest floor either free of obstruction or constructed with non-supporting breakaway walls, open wood lattice-work, or insect screening intended to collapse under wind and water loads without causing collapse, displacement, or other structural damage to the elevated portion of the building or supporting foundation system.

For the purpose of this section, a breakaway wall shall have a design safe loading resistance of not less than ten and no more than 20 pounds per square foot. Use of breakaway walls which exceed a design safe loading resistance of 20 pounds per square foot (either by design or when so required by local or state codes) may be permitted only if a registered professional engineer or architect certifies that the designs proposed meet the following conditions:

(i) Breakaway wall collapse shall result from a water load less than that which would occur during the base flood; and

(ii) The elevated portion of the building and supporting foundation system shall not be subject to collapse, displacement, or other structural damage due to the effects of wind and water loads acting simultaneously on all building components (structural and nonstructural). Water loading values used shall be those associated with the base flood. Wind loading values used shall be those required by applicable state or local building standards.



Such enclosed space shall be useable solely for parking of vehicles, building access, or storage. Such space shall not be used for human habitation.

(5) Prohibit the use of fill for structural support of buildings.

(6) Prohibit manmade alteration of sand dunes and mangrove stands that increase potential flood damage.

(7) Manufactured homes. Require that manufactured homes placed or substantially improved within zone V1-30, V, and VE on the community's FIRM on sites (i) outside of a manufactured home park or subdivision, (ii) in a new manufactured home park or subdivision, (iii) in an expansion to an existing manufactured home park or subdivision, or (iv) in an existing manufactured home park or subdivision on which a manufactured home has incurred "substantial damage" as the result of a flood, meet the standards of paragraphs (1) through (6) of this section and that manufactured homes placed or substantially improved on other sites in an existing manufactured home park or subdivision within zones V1-30, V, and VE on the community's FIRM meet the requirements of subsection 94-87(4) of this article.

(8) Recreational vehicles. Require that recreational vehicles placed on sites within zones V1-30, V, and VE on the community's FIRM either (i) be on the site for fewer than 180 consecutive days, or (ii) be fully licensed and ready for highway use, or (iii) meet the requirements in section 94-63 of this article and paragraphs (1) through (6) of this section. A recreational vehicle is ready for highway use if it is on its wheels or jacking system, is attached to the site only by quick disconnect type utilities and security devices, and has no permanently attached additions.

#### **Sec. 94-92. - Coastal AE zone.**

Located within the special flood hazard area established in section 94-87 of this article are areas within the AE flood zone designated for limited to moderate wave action. These areas have special flood hazards associated with high velocity waters from tidal surges and hurricane wave wash; therefore, all development must meet the criteria set forth in section 94-91 and subsection 94-87(3) of this article.

#### **Sec. 94-93. - Penalties for noncompliance.**

No structure or land shall hereafter be constructed, located, extended, converted, or altered without full compliance with the terms of this article and other applicable regulations. Violation of the provisions of this article by failure to comply with any of its requirements (including violations of conditions and safeguards established in connection with conditions) shall constitute a misdemeanor. Any person who violates this article or fails to comply with any of its requirements shall upon conviction thereof be fined not more than \$2,000.00 for each violation, with each day constituting a separate violation, and in addition shall pay all costs and expenses involved in the

case. Nothing herein contained shall prevent City of La Porte from taking such other lawful action as is necessary to prevent or remedy any violation.

**Section 2.** Any person, as defined in Section 1.07 (27), Texas Penal Code, who shall violate any provision of the ordinance, shall be deemed guilty of a misdemeanor and upon conviction shall be punished by a fine not to exceed TWO THOUSAND DOLLARS (\$500.00).

**Section 3.** Each and every provision, paragraph, sentence and clause of this Ordinance has been separately considered and passed by the City Council of the City of La Porte, Texas, and each said provision would have been separately passed without any other provision, and if any provision hereof shall be ineffective, invalid or unconstitutional, for any cause, it shall not impair or affect the remaining portion, or any part thereof, but the valid portion shall be in force just as if it had been passed alone.

**Section 4.** All ordinances or parts of ordinances in conflict herewith are hereby repealed to the extent of such conflict only.

**Section 5.** The City Council officially finds, determines, recites and declares that a sufficient written notice of the date, hour, place and subject of this meeting of the City Council is posted at a place convenient to the public at the City Hall of the city for the time required by law preceding this meeting, as required by Chapter 551, Tx. Gov't Code; and that this meeting has been open to the public as required by law at all times during which this ordinance and the subject matter thereof has been discussed, considered and formally acted upon. The City Council further ratifies, approves and confirms such written notice and the contents and posting thereof.

**Section 6.** This ordinance shall be effective fourteen (14) days after its passage and approval. The City Secretary shall give notice of the passage of this ordinance by causing the caption hereof to be published in the official newspaper of the City of La Porte at least once within ten (10) days after the passage of this ordinance.

PASSED AND APPROVED this the \_\_\_\_\_ day of \_\_\_\_\_, 2021.

CITY OF LA PORTE, TEXAS

\_\_\_\_\_  
Louis R. Rigby, Mayor

ATTEST:

APPROVED AS TO FORM:

\_\_\_\_\_  
Lee Woodward, City Secretary

\_\_\_\_\_  
Clark T. Askins, Assistant City Attorney



## REQUEST FOR DRAINAGE & FLOODING COMMITTEE AGENDA ITEM

Agenda Date Requested: September 13, 2021

Requested By: Lorenzo Wingate, Asst. Director

Department: Public Works

☒ Report   ☐ Resolution   ☐ Ordinance

**Exhibits:**

### Appropriation

Source of Funds: N/A

Account Number: N/A

Amount Budgeted: N/A

Amount Requested: N/A

Budgeted Item:   ☐ Yes   ☐ No

### SUMMARY & RECOMMENDATION

City of La Porte staff and City of Pasadena coordinated to renegotiate terms of the inter-local agreement related to Ordinance No. 2012-3421, for detention capacity located near the Pasadena Convention Center. Staff is reviewing a proposal, provided by Halff Associates, Inc., to provide engineering services related to this project.

### ACTION REQUIRED BY DRAINAGE AND FLOODING COMMITTEE

Receive report, and provide staff with direction, as necessary.

**Approved for Drainage Committee Agenda**

\_\_\_\_\_  
Corby D. Alexander, City Manager

\_\_\_\_\_  
Date



## REQUEST FOR DRAINAGE & FLOODING COMMITTEE AGENDA ITEM

Agenda Date Requested: September 13, 2021  
Requested By: Lorenzo Wingate, Asst. Director  
Department: Public Works  
☒ Report   ☐ Resolution   ☐ Ordinance

**Exhibits:** HCFCD Project Update

Appropriation	
Source of Funds:	<u>N/A</u>
Account Number:	<u>N/A</u>
Amount Budgeted:	<u>N/A</u>
Amount Requested:	<u>N/A</u>
Budgeted Item:	<input type="radio"/> Yes <input type="radio"/> No

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### SUMMARY & RECOMMENDATION

Receive report regarding Harris County Flood Control District's (HCFCD) and Harris County Precinct 2's current and future plans related to flooding in the City of La Porte.

- City staff is currently reviewing inter-local agreements with HCFCD for: Bayside Terrace Subdivision Improvement Project; Brookglen Subdivision Drainage Improvement Project; and F216 Drainage Improvement Project - Phase III.
- HCFCD representative is expected to participate in this meeting to provide additional details on HCFCD projects.

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### ACTION REQUIRED BY DRAINAGE AND FLOODING COMMITTEE

Receive report, and provide staff with direction, as necessary.

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**Approved for Drainage Committee Agenda**

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Corby D. Alexander, City Manager

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Date

# MEMORANDUM



9900 Northwest Freeway  
Houston, TX 77092  
713-684-4000

**DATE:** August 25, 2021

**TO:** Lorenzo Wingate P.E., C.F.M.  
Assistant Director of Public Works

**FROM:** Jeremy Ratcliff  
Precinct Coordinator

**RE:** Status of District Projects for the City of La Porte

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This memo summarizes current work efforts by the District relevant to the City of La Porte.

## **PLANNING DIVISION**

### **Armand Bayou Watershed Study (B100-00-00-P003, Bond ID F-96)**

Goal / Purpose	A watershed wide study to document significant problem areas, identify appropriate candidate projects for 2018 Bond funds and recommend an implementation strategy for future projects.
Budget / Funding	Primarily funded by Community Development Block Grant Program for \$1,000,000
Recent Accomplishments	Project is complete and study posted to HCFCD website
Next Actions	Recommended projects for use of allocated 2018 Bond funds have been reviewed by Engineering and are scheduled for initiation next year subject to continued availability of 2018 Bond funds.
Other Information	Study is complete and a copy has been shared with La Porte staff .

**Galveston Bay Watershed Study (F100-00-00-P002, Bond ID F-101)**

Goal / Purpose	A watershed wide study to document significant problem areas, identify appropriate candidate projects for 2018 Bond funds and recommend an implementation strategy for future projects.
Budget / Funding	Primarily funded by Community Development Block Grant Program for \$450,000
Recent Accomplishments	Study is complete and has been posted on the HCFCD website
Next Actions	Recommended projects for use of allocated 2018 Bond funds have been reviewed by Engineering and are scheduled for initiation next year subject to continued availability of 2018 Bond funds.
Other Information	Study is complete and has been shared with City of La Porte staff

**Channel F216-00-00 Feasibility Study (F216-00-00-E001, Bond ID C-57)**

Goal / Purpose	Identification of alternatives to reduce the risk and severity of flooding for areas adjacent to the F216-00-00 channel (Little Cedar Bayou)
Budget / Funding	<ul style="list-style-type: none"><li>· City of La Porte and the District cost sharing the feasibility study 50/50</li><li>· 2018 Bond funding up to \$10,000,000 identified for this project</li></ul>
Recent Accomplishments	Interlocal Agreement being finalized for signature by Commissioners Court and City of La Porte.
Next Actions	Study effort expected to start in March timeframe.
Other Inf	Study duration estimated to be 12 months.

**Design & Construction of B509-04 Stormwater Detention Basin (B509-04-00-E001, Bond ID C-07)**

Goal / Purpose	Reduce water surface elevations along B109-00-00 and provide mitigation volume identified in the Recommended Plan for Brookglen associated with changes to B112-02-00 channel. Benefits of the basin also occur along Armand Bayou (B100-00-00).
Budget / Funding	<ul style="list-style-type: none"><li>· 2018 Bond funding up to \$3,750,000 identified for this project.</li><li>· Partnership funding has not been identified at this time.</li></ul>
Recent Accomplishments	<ul style="list-style-type: none"><li>· Consultant selection</li><li>· Scoping meeting and Scope development</li></ul>
Next Actions	<ul style="list-style-type: none"><li>· Finalize scope</li><li>· Execute consultant agreement</li><li>· Design phase work expected complete in 2021</li></ul>
Other Information	

**Design & Construction of F101-06 (F101-06-00-E002, Bond ID C-58)**

Goal / Purpose	To reduce the risk and severity of flooding in the area around Valley View Drive to the confluence of F101-06-00 and F101-00-00 channels.
Budget / Funding	<ul style="list-style-type: none"><li>· 2018 Bond funding up to \$16,000,000 identified for this project</li><li>· PER estimated cost is \$500,000</li><li>· Design Phase estimated cost is \$500,000</li><li>· Construction has a preliminary estimate of \$4,000,000 plus</li><li>· <del>ROW Acquisition estimation of costs have not been completed</del></li></ul>
Recent Accomplishments	<ul style="list-style-type: none"><li>· PER is underway. 30% Design drawings have been completed.</li></ul>
Next Actions	<ul style="list-style-type: none"><li>· SUE effort underway to address pipeline issues.</li></ul>
Other Information	<ul style="list-style-type: none"><li>· Interlocal Agreement with City of La Porte has not been finalized.</li><li>·</li></ul>





## REQUEST FOR DRAINAGE & FLOODING COMMITTEE AGENDA ITEM

Agenda Date Requested: September 13, 2021  
Requested By: Lorenzo Wingate, Asst. Director  
Department: Public Works  
☒ Report   ☐ Resolution   ☐ Ordinance

**Exhibits:** Project map; Project update chart and Harris County Drainage Network Map

Appropriation	
Source of Funds:	<u>N/A</u>
Account Number:	<u>N/A</u>
Amount Budgeted:	<u>N/A</u>
Amount Requested:	<u>N/A</u>
Budgeted Item:	<input type="radio"/> Yes <input type="radio"/> No

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### SUMMARY & RECOMMENDATION

Refer to attached exhibit(s) for updates on various drainage projects throughout the City.

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### ACTION REQUIRED BY DRAINAGE AND FLOODING COMMITTEE

**Receive report, and provide staff with direction, as necessary.**

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Approved for Drainage Committee Agenda

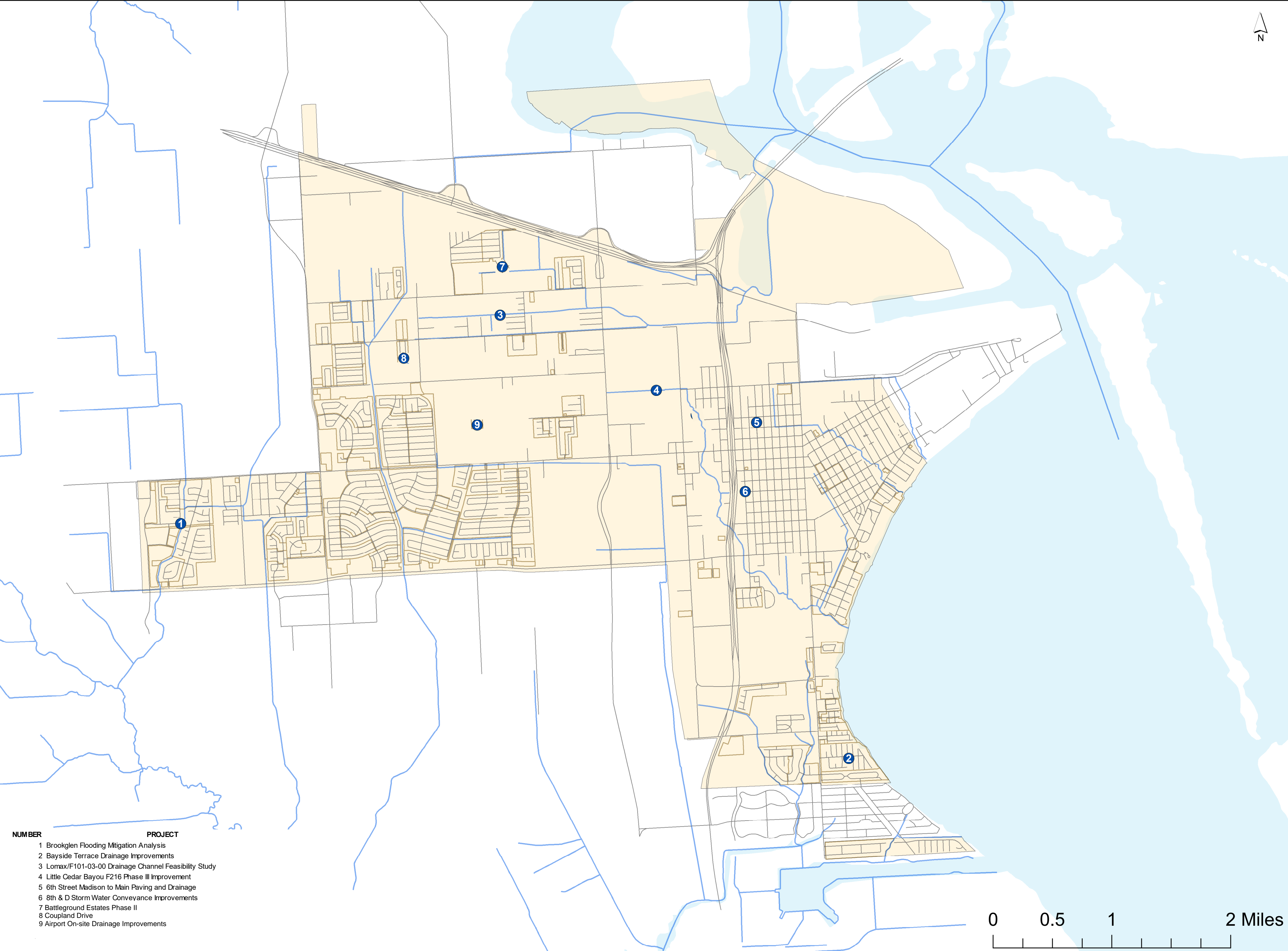
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Corby D. Alexander, City Manager

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Date

# The City of La Porte Drainage Projects 2019

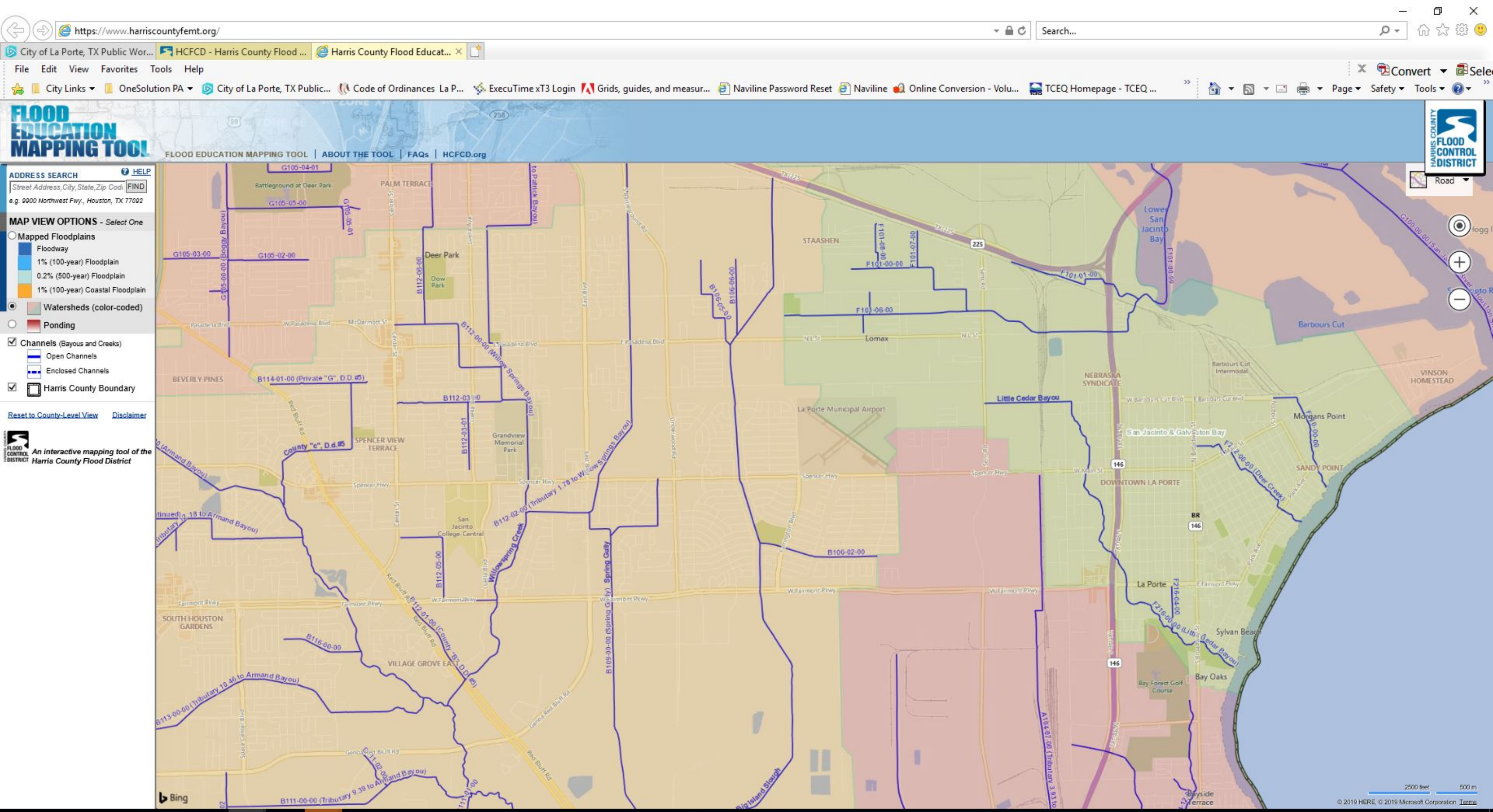


DRAINAGE PROJECTS

\*Estimated completion date references total project completion.  
\*\*% complete references percent completion of current project phase.

NO.	PROJECT	PROJECT MANAGER	DESCRIPTION	PROJECT PHASE (Feasibility/Preliminary Design/Final Design/Bidding/Construction)	Status	Anticipated Construction Cost	Potential Grant Funding	Potential COLP Cost Share	COLP Budgeted Amount	Estimated Completion Date	% Complete (Phase)	On Schedule
1	Brookglen Flooding Mitigation Analysis	HCFCF / Public Works	The 2009 City-wide Drainage Study identifies the Brookglen subdivision as an area with significant drainage/flooding problems, attributed to a mixture of inadequate sewerage and insufficient channel capacity within the B112-00-00 Channel. Compounded improvements recommended within the City-wide Drainage Study could reduce the flood risk within the Brookglen area. This analysis would expand upon the recommendations provided within 2009 study.	HCFCF (NCRS) - Preliminary Design; HCFCF (Bond) - Feasibility; COLP - Pending	Staff is working with Grant Administrator to prepare an application for GLO-Supplemental grant program, which the COLP was invited to apply for. Staff and Grant Administrator are working with GLO to prepare the application. Staff has also submitted partnership project application to Precinct 2 for additional funding. Staff is coordinating with Harris County to draft an interlocal agreement for partnership funds.	\$11,400,010.00	NCRS - N/A; COLP - TBD; Pct 2 Partnership - TBD; ARPA - TBD;	NCRS - N/A; Bond - TBD; COLP - N/A	NCRS - N/A; Bond - TBD; COLP - \$2,500,000	NCRS - March 2022; Bond - TBD; COLP - TBD	NCRS - 10%; Bond - 85%; COLP - 0%	NCRS - Yes Bond - No COLP - TBD
2	Bayside Terrace Drainage Improvements	Public Works	Approximately 800 linear feet of RCP pipe, ranging in size from 15" to 24", exists within the Bayside Terrace Subdivision, which has not been properly maintained due to access issues attributed to limited access to infrastructure, provided within a five foot utility easement. Portions of Hamilton Street and Fondren Street utilize this system to convey stormwater to its outfall point of Galveston Bay. The system fails to function properly, causing flooding within the adjacent portion(s) of the subdivision. A proposed drainage study would discuss feasibility of rerouting this flows from the 800 feet of RCP, towards Bayside Dr. and utilizing the existing system within Bayside Dr. to convey the storm water within the existing system.	Final Design	At the January 25th, 2021 Council Meeting, Council authorized staff to move forward with the consultant's recommendation of option 2, without a flap valve on the outfall. Consultant has provided 60% construction plans for staff review. Staff also submitted partnership project application to Precinct 2 for additional funding. Staff is coordinating with Harris County to draft an interlocal agreement for partnership funds.	\$6,600,000.00	Pct 2 Partnership	N/A	\$2,650,000.00	March 2022	60%	Yes
3	Lomax/F101-03-00 Drainage Channel Improvements	HCFCF	Harris County Flood Control District's (HCFCF) F101-06-00 Channel system conveys storm water runoff from the Lomax area and ultimately outfalls into Lower San Jacinto Bay. The downstream section of the channel has been improved to ultimate capacity. An existing pipeline corridor, containing several pipelines located at depths ranging from approximately 2' to 18', cross the channel, limiting the depth of potential channel improvements. Moderate/heavy rain events, compounded with backwater conditions from this section of the channel, contributes to wide-spread flooding within the Lomax Area.	Final Design	PER was finalized in and presented to Harris County Commissioners' in late May. Final design has been initiated. Potential for ARPA funds to be utilized to supplement project funding.	\$3,400,000.00	HCFCF Bond; ARPA - TBD	50/50	\$950,000.00	January 2023	0%	Yes
4	Little Cedar Bayou F216 Phase III Improvements	HCFCF / Public Works	Phase I and Phase II Improvements to Little Cedar Bayou, from Hwy 146 to Madison, have either been completed or are currently awarded for construction. Phase I and Phase II improvements include, but are not limited to, excavating and disposing off- site soil as required for the new channel alignment, clearing and grubbing, demolition of existing structures, erosion control, and site restoration for approximately 5,533 LF of channel.  Approximately 4,680 LF of channel remains unimproved upstream, with those improvements slated to be included within this project, to be considered Phase III. Survey data has been collected on this most upstream section. Routine maintenance of clearing overgrowth, trees, and obstructions; minor erosion control and slope stabilization; and desilting is planned to maintain existing conveyance capacity. Those maintenance operations are projected to begin late 4th quarter 2018 or early 1st quarter 2019 (calendar year).  The following Phase III mitigation action is proposed, as recommended within the Hydraulic Analysis for Little Cedar Bayou Watershed HCFCF Unit F216-00-00: lowering the flow line of the Bayou 1 - 2 feet, from W. Madison to Sens Rd. Current channel side slopes would be modified to achieve 3:1 side slopes from W Madison St. to Sens Rd. An estimated 200,000 cubic yards are to be excavated from the channel. Over excavation is provided to yield sufficient storage volume in the pond after siltation and build-up in the pond bottom.	Feasibility	Staff is coordinating with Harris County to draft an interlocal agreement for partnership funds. HCFCF is expected to present an ILA to Commissioner's Court in October 2021 for the 50/50 cost share of the F216 scope of work. Drainage report is expected to be completed October 2021. Consultant is reviewing models provided by HCFCF developing preliminary conditions model. Potential for ARPA funds to be utilized to supplement project funding.	TBD	HCFCF Bond; ARPA - TBD	N/A	\$1,555,232.00	March 2023	15%	Yes
5	6th Street Madison to Main Paving and Drainage	Public Works	The segment of 6th St from W. Madison St to W. Main St is considered part of Old La Porte, which was generally noted in the City-Wide Drainage Study as not having sufficient storm sewer capacity due to undersized storm sewer, undersized storm inlets, or not enough storm inlets. RPS-Klotz provided an analysis of the existing storm sewer system and identified problem areas within the project limits. Additional analysis is required to determine most efficient improvement alternative.	Phase 1 - Construction; Phase 2 - Final Design	Executed contract with GLO effective March 9, 2019 through August 5, 2021. Staff received executed agreement with Harris County for \$3.4M allocation in early January. Phase I was awarded Tandem Services. Phase 1 construction to begin July 5th. Staff reviewed 30% plans for Phase 2 and returned comments to consultant in late May. Consultant is currently obtaining additional survey data needed to design detention ponds.	Phase 1 - \$325,000; Phase 2 - \$3,400,000	Phase 1 - \$325,775.30; Phase 2 - \$3,472,757	\$125,000.00	\$1,140,000.00	Phase 1 - August 2021; Phase 2 - August 2022	Phase 1 - 0%; Phase 2 - 30%	Phase 1 - Yes Phase 2 - Yes
6	8th & D Storm Water Conveyance Improvements	Public Works	The area generally bounded by 8th Street to the west, Main Street to the north, 5th Street to the east, and D Street to the south experiences flooding during heavy rain events due to undersized culverts within the area. Increasing culvert sizes within the area will provide additional conveyance capacity within the existing open ditch system.	Construction	This project has been incorporated into the 7th Street Rehabilitation Project. Bids were received on June 29th. Pre-construction meeting held on August 26th.	\$4,800,000.00	N/A	N/A	\$4,867,000.00	October 2022	0%	Yes
7	Battleground Estates Phase II	Public Works	A proposed conditions hydraulic model was developed during the preliminary design for the N P Street Culvert Improvement Project, which recommended replacing the upstream portion of the existing composite structure at N P Street, with structures matching the downstream portion of the composite structure. That project allows for full utilization of the structure's capacity, as well as protect the channel during rainfall events that produce higher amounts of runoff. Per the recommendations of the Phase 1 report, a more detailed Phase 2 engineering analysis of segments F101-00-00 and F101-08-00, that are upstream of N P Street, as well as an evaluation of the roadside ditch drainage conduits within Battleground Estates should be performed to identify necessary improvements to address structural flooding within the area. The more detailed study would evaluate the impacts of culverts located upstream of N P Street, along F-101-00-00 resulting from the 10-, 50-, and 100-year rain event. Channel improvements, and increasing culvert sizes to provide sufficient capacity within culverts along the roadside ditches are the anticipated mitigation efforts.	Feasibility	Staff has completed the review of responses to RFQ. Staff has identified potential design consultant and anticipates initiating preliminary engineering phase in October. Potential for ARPA funds to be utilized to supplement project funding.	TBD	ARPA - TBD	50/50	\$65,000.00	August 2023	0%	No
8	Coupland Drive	Public Works	The proposed storm sewer improvements include re-sloping Coupland Drive to drain towards inlets located throughout the subdivision. The inlets will drain into proposed storm sewer ranging in size from 24" to 30" RCP. This storm sewer will then flow underneath the existing roadside ditch along L Street to a combined outfall with the existing roadside ditch to Big Island Slough. The proposed storm sewer underneath the existing ditch on L Street will be 42" RCP and the combined outfall will need to be a 60" RCP. These improvements will result in no net fill within the Big Island Slough 100-year floodplain. The proposed storm sewer was sized for the 5 year storm event, per the City of La Porte drainage criteria.	Final Design	Harris County has required the design to be updated to include Atlas 14 rainfall intensity. Design update expected complete. Bid phase to be integrated into Lomax Lift Station Project.	\$1,550,000.00	N/A	N/A	\$1,310,000.00	November 2022	100%	Yes







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Account Number:	<u>N/A</u>
Amount Budgeted:	<u>N/A</u>
Amount Requested:	<u>N/A</u>
Budgeted Item:	<input type="radio"/> Yes <input type="radio"/> No

Exhibits:

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### SUMMARY & RECOMMENDATION

Opportunity to discuss any drainage concerns not covered by previous items.

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### ACTION REQUIRED BY DRAINAGE AND FLOODING COMMITTEE

Receive report, and provide staff with direction, as necessary.

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Approved for Drainage Committee Agenda

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Corby D. Alexander, City Manager

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Date