JEFFERSON COUNTY DRAINAGE DISTRICT NO. 6
Karen J. Stewart, MBA, CTP Chief Business Officer

6550 Walden Rd., Beaumont, Texas 77707 Phone: 409-842-1818 Fax: 409-842-2729

LEGAL NOTICE
Advertisement for Request for Qualifications

April 28, 2021

Notice is hereby given that sealed Responses will be accepted by Jefferson County Drainage District No. 6's (District) Purchasing Department for (RFQ 21-013/KJS) Professional Engineering Services for Regional Watershed Study in accordance with an awarded Flood infrastructure Fund granted through Texas Water Development Board. **Specifications for this request for qualifications may be obtained from the District's website, http://www.dd6.org.**

Responses are to be sealed and addressed to the Chief Business Officer with the Request number and name marked on the outside of the envelope or box. Firms shall forward an original and four (4) hard copies of their qualifications to the address shown below. Late Responses will be rejected as non-responsive. Responses will be publicly opened and only the firm name will be read aloud in the Jefferson County Drainage District No. 6 Board Room at the time and date below. Responses shall be opened in a manner that avoids disclosure of the contents to competing Firms and maintains the confidentiality of the Responses during negotiations. Responses will be open for public inspection after the award of the contract, except for trade secrets and confidential information. Firms are invited to attend the sealed opening.

REQUEST NAME:	**Professional Engineering Services for Regional Watershed**
REQUEST NO:	**Study RFQ 21-013/KJS**
DUE DATE/TIME:	**2:00 PM CDT, Thursday, May 27, 2021**
MAIL OR DELIVER TO:	**Jefferson County Drainage District No. 6** **Purchasing Department** **6550 Walden Road** **Beaumont, Texas 77707**

Any questions relating to these requirements should be directed to the Purchasing Department 409-842-1818.

The District encourages Disadvantaged Business Enterprises to participate in the qualification's submission process. The District does not discriminate on the basis of race, color, national origin, sex, religion, age or disability in employment or the provisions of services. Individuals requiring special accommodations are requested to contact our office at 409-842-1818 to make arrangements no later than seven (7) calendar days prior to the submittal deadline. The District reserves the right to accept or reject any or all responses, to waive technicalities and to take whatever action is in the best interest of the District.

All interested firms are invited to submit a response in accordance with the terms and conditions stated in this request.

RESPONDENTS ARE STRONGLY ENCOURAGED TO CAREFULLY READ THE ENTIRE INVITATION.

Karen J. Stewart
Chief Business Officer
Jefferson County Drainage District No. 6, Texas
Publish: Beaumont Examiner May 6th and May 13th, 2021
Electronic State Business Daily (ESBD) http://www.txsmartbuy.com/sp/

Request for Statements of Qualification (RFQ 21-013)
Professional Engineering Services for Regional Watershed Study

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Section 1. Introduction:

Jefferson County Drainage District No. 6 (DD6) is seeking professional firms with the experience, capabilities, and qualified available staff to provide professional engineering and related consulting services to conduct Regional Watershed Study for three primary watersheds, Hillebrandt Bayou, Taylor Bayou, and Pine Island Bayou. DD6 was successful in securing a grant from the Texas Water Development Board (TWBD) to conduct this crucial watershed Study. The proposed regional watershed study will update previous study efforts for Taylor Bayou and Hillebrandt Bayou and will develop a new study for the Pine Island watershed. Pine Island has been the source of major flooding from Polk county to Jefferson County encompassing more than 700 square miles. There has never been a comprehensive flood study of the Pine Island watershed to show its impacts to its regional surroundings. The timeframe for completing the Regional Watershed Plan in18 months.

Located in southeast Texas in the Neches River Watershed, The Jefferson County Drainage District No. 6 Master Drainage Plan encompasses the Taylor Bayou Watershed, the Hillebrandt Bayou Watershed, and the Pine Island Bayou Watershed. The three watersheds are comprised of five HUC 10 Regions 1204020101, 1204020102, 1202000701, 1202000702, and 1202000703.

Most of the project service area is within Jefferson County with the next largest portion in Hardin County followed by Liberty County. Small portions of the study area fall within Chambers County and Polk County. The largest metropolitan area within the study boundary is the City of Beaumont. The project service area boundaries were established first by watersheds that encompass the Jefferson County Drainage District No. 6 (DD6) boundaries. To fully account for the contributing area outside of the DD6 boundaries, the recommended project service area was expanded to include the entire regional watershed area. The entire study area is bound by 5 Counties in southeast Texas, Polk, Liberty, Chambers, Orange, and Hardin. The DD6 regional flood planning area is bounded on all sides by water: the Trinity River, the Gulf Intracoastal Water Way, the Gulf of Mexico, the Neches River, and Pine Island Bayou and its tributaries.

(A copy of the Grant Application for the study is included as Attachment A for greater detail on the scope)

Section 2. Expected Scope of Services:

Phase I Grant Management
Grant Management will be handled by Jefferson County Drainage District 6(DD6) “in-house”.
Upon request by DD6, selected firms will submit proposals to perform some or all the following tasks throughout the term of the contract:

Task 2: Data Collection/Surveying
As needed, conduct a detailed field reconnaissance of the study area to determine conditions along the floodplain, types, and numbers of hydraulic and/or flood-control structures, apparent maintenance, or lack thereof of existing hydraulic structures, location of cross sections to be surveyed, and other parameters needed for the hydrologic and hydraulic analyses. Existing survey data or as-built data should be leveraged where possible. Bathometry will be required some channels.

Task 3: Existing Hydrology and Hydraulic Modeling
Perform hydrologic analysis and create a HEC-HMS model for assigned watersheds. Hydrologic analysis activities include the determination of peak flood discharges, the use of rainfall-runoff models, gage analysis, and hydrograph development to support the level of detail required for the project.

Task 4 Phase Iv Evaluation of Potential Areas of Impacts
The hydrologic and hydraulic modeling results will be used to help guide where additional detailed or overland study is required. A precipitation on grid analysis should be performed to determine areas of high

flood hazard. This data will then be used along with flood loss history information to determine where additional hydrologic and hydraulic analysis is needed in an iterative process that will yield additional flood hazard information.

Task 5: Proposed Hydrology and Hydraulics
Perform detailed hydraulic analysis including the establishment and review of regulatory floodways and flood elevations for various return periods. Create an unsteady HEC-RAS model for assigned watersheds. Overbank areas will be modeled in 2D utilizing the latest release of HEC-RAS. Calibration will be performed utilizing provided precipitation data, gauge records, high water mark data, and other information based on historical storm events. Flood water transfer from adjacent will be quantified for developing potential improvement.

Task 6 Recommendations for Improvements
Improvement options will be developed that address structural flooding within each of the watersheds. Project types that will be considered include Diversions, Regional Detention, Channelization, Buyouts, Home Elevations, and solutions such as Ring Levees. Identified projects will be included in a detailed prioritization matrix that accounts for important factors including a benefit to cost ratio, and social and economic impacts.

Section 3. Procedure

Firms are encouraged to submit statements of qualifications and experience. The Chief Business Officer will appoint a selection committee, which will evaluate qualified responses. Fees, price, work hours, or any other cost information will not be considered in the development of the short list. The District reserves the right to request firms, who are added to the short list, present themselves to the District in a face-to-face introduction for further evaluation and consideration for award.

The District will then enter negotiations with the highest qualified firm. The negotiations will first establish the scope, terms and conditions, and time limits for the proposed contract. Once agreement is reached between the District and the selected firm, the District will request a fee proposal from the firm. If agreement is reached, the District will retain the firm and enter into a written contract with it. If an agreement cannot be negotiated with the selected firm, the District will then enter into negotiations with the next most qualified firm. This procedure will continue until agreement is reached and a contract is produced. If the District cannot negotiate an agreement, the procedure will be terminated.

Section 4. Selection Committee

Because of the diversity of the departments and activities of the District, the Chief Business Officer will appoint the selection committee for this Request for Qualifications. The Chief Business Officer may appoint a chairperson and no less than two (2) other members for the committee. Typically, the committee will consist of at least one professional in the task required, a person knowledgeable about procurement practices, and either a representative of the department requesting the project, or the department executing the project. However, this structure is not binding. Other members may be appointed as necessary and appropriate, but the total number of persons on the selection committee shall not exceed four (4) persons. Committee membership and project requirements will vary from project to project; therefore, a firm rated number one for one project could very well not even be rated for another.

Section 5. Submission Requirements

The purpose of this request for statements of qualifications is to permit the evaluation of the relative professional and technical qualifications of respondents.

The statement of qualifications should be no more than thirty (30) pages in length, including cover letter and resumes of team members. Responses should be organized to address the following categories:

Firm's Experience:

Provide a list of at least (5) clients, with specific contact names and phone numbers, as references for whom the firm has completed, or is performing, work relating generally to flood planning activities.

Additionally, provide the following information:

a. Describe your firm's experience in State and Regional Flood Planning/evaluation

b. Describe your firm's experience with flood resilience modeling in the State of Texas, particularly with identifying existing and future flood risk analysis, flood mitigation strategies, and potential regional planning.

c. Describe your firm's experience in developing or managing flood planning studies.

d. Describe your firm's experience administering and managing TWDB grants and/ or projects.

e. Describe your firm's experience collecting and managing data and information from multiple sources.

f. Describe your firm's experience with data collected both on Terrain & Bathymetry and what type of equipment your firm proposes to utilize on this project.

g. Describe your firm's knowledge of statutory and regulatory policies to facilitate floodplain management and flood mitigation planning and implementation.

h. Describe your firm's experience in Texas Water Law related issues, particularly as it relates to flooding.

i. Describe your firm's familiarity and experience with flood infrastructure financing analysis.

j. Demonstrate your firm's ability to provide Geographic Information System (GIS) database and mapping deliverables.

k. Demonstrate your firm's experience with Hydrology and Hydrologic programs, and which programs your firm would use on this project.

Project Approach:

Describe your firm's approach to executing the work associated with this project. Specifically, address your firm's strategy to meet the requirements and guiding principles outlined in Texas Administrative Code, Title 31, Part 10, Chapter 362, Subchapter A, Rule §362.3. There are thirty-nine (39) specific guiding principles to be addressed/ satisfied by the regional flood plan.

Team Organization:

Provide the following information as it relates to the proposed project team:

a. Provide an organizational chart that identifies location, roles, and responsibilities of individual team members, including any sub-consultants that may be employed as part of the project team.

b. Identify the team's proposed management structure. Include the person that will serve as the point of contact for the scope of services development and negotiations.

c. Identify key staff and team members that will work on this project. Include their professional licenses, certifications, qualifications, and related experience including their respective roles and resumes.

Capacity to Perform:

Provide the following information in order to demonstrate the firm's capacity to perform the work:

a. Describe your firm's resources and capabilities including lead office location, size of staffing offered, and length of lead office's presence along with a plan identifying how the firm will be available.

b. Describe the capability of your firm to commit necessary resources to the project in order to meet the required timeline. (A copy of the Grant Application for the study is included as Attachment A for greater detail on the scope.)

c. Describe your firm's strategy to complete the required work without significant cost escalations or overruns.

Section 6. Evaluation Criteria

The appointed Selection Committee will consider the following criteria in evaluating responses:

Criteria	Maximum Points
1. Firm's Experience	35
2. Project Approach	25
3. Team Organization	20
4. Capacity to Perform	10
5. SOQ Conforms to Requirements	10
Total	100

Section 7. Confidential/Proprietary Information

If any material in the Statement of Qualifications is considered by Respondent to be confidential or proprietary information, Respondent **must** clearly mark the applicable pages of Respondent's Statement of Qualifications to indicate each claim of confidentiality. Additionally, Respondent must include a statement on company letterhead identifying all Statement of Qualifications section(s) and page(s) that have been marked as confidential. The District will protect from public disclosure such portions of a Statement of Qualifications, unless directed otherwise by legal authority, including existing open records acts. Merely making a blanket claim that the entire Statement of Qualifications submission is protected from disclosure because it contains some proprietary information is not acceptable, and will make the entire Statement of Qualifications subject to release under the Texas Public Information Act.

By submitting a Statement of Qualifications, Respondent agrees to reproduction by the District, without cost or liability, of any copyrighted portions of Respondent's Statement of Qualifications submission or other information submitted by Respondent.

Section 8. Funding Source

Project funded partially by Flood Infrastructure Fund Category 1 Grant, administered by the Texas Water Development Board.

Section 9. Terms and Conditions

a. The District reserves the right to request clarification of information submitted and to request additional information of one or more respondents.

b. Any agreement or contract resulting from this RFQ shall be on forms approved by the District and shall contain, at minimum, applicable provisions of this document. The District reserves the right to reject any agreement that does not conform to this document and any District requirements and contracts.

c. The Engineering Firms shall not assign any interest in the contract and shall not transfer any interest in the same without prior written consent of the District.

d. No reports, information, or data given to or prepared by the Engineering Firm under contract shall be made available to any individual or organization by the Engineering Firm without the prior written approval of the District.

e. Vendor Registration: SAM (System for Award Management)

Vendors doing business with Jefferson County Drainage District No. 6 are **required** to be registered with The System for Award Management (SAM), with an "active" status. The System for Award Management (SAM) is the Official U.S. Government system that consolidated the capabilities of CCR/FedReg, ORCA, and EPLS. There is NO fee to register for this site.

Entities may register at no cost directly from the SAM website at: https://www.sam.gov

Respondents are strongly encouraged to review their firm's SAM (System for Award Management) status prior to Qualifications Submission.

f. Awarded Vendor(s): Submission of FORM 1295 (Texas Ethics Commission)

In accordance with House Bill 1295 (passed January 1, 2016), Vendors entering into contracts and professional agreements with Jefferson County Drainage District No. 6 will be required to complete a Certificate of Interested Parties (FORM 1295), unless contract is considered exempt as described below.

In 2017, the Texas legislature amended the law to require Form 1295 to include an "unsworn declaration" which includes, among other things, the date of birth and address of the authorized representative signing the form. The unsworn declaration, including the date of birth and address of the signatory, replaces the notary requirement that applied to contracts entered into before January 1, 2018. The TEC filing application does not capture the date of birth or street address of the signatory and it will not appear on forms that are filed using the TEC filing application.

Changes to the law requiring certain businesses to file a Form 1295 are in effect for contracts entered into or amended on or after January 1, 2018. The changes exempt businesses from filing a Form 1295 for certain types of contracts and replace the need for a completed Form 1295 to be notarized. Instead, the person filing a 1295 needs to complete an "unsworn declaration."

FORM 1295 Exemptions: What type of contracts are exempt from the Form 1295 filing requirement under the amended law? The amended law adds to the list of types of contract exempt from the Form 1295 filing requirement. A completed Form 1295 is not required for:

- a sponsored research contract of an institution of higher education
- an interagency contract of a state agency or an institution of higher education
- a contract related to health and human services if: the value of the contract cannot be determined at the time the contract is executed; and o any qualified vendor is eligible for the contract
- a contract with a publicly traded business entity, including a wholly owned subsidiary of the business entity
- a contract with an electric utility, as that term is defined by Section 31.002, Utilities Code
- a contract with a gas utility, as that term is defined by Section 121.001, Utilities Code

Upon entering into a contract or professional agreement, the Jefferson County Drainage District No. 6 Purchasing Department will submit a request to the Vendor to both:

1. Submit a FORM 1295 online via the Texas Ethics Commission website link below.
Vendors must enter the required information on Form 1295, and print a copy of the completed form. The form will include a certification of filing that will contain a unique certification number.

2. Submit a FORM 1295 hard copy (completed & signed by an Authorized Agent of the Awarded Vendor), to the Jefferson County Drainage District No. 6 Purchasing Department.

FORM 1295, Completion Instructions, and Login Instructions are available via the Texas Ethics Commission Website at: https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm

Signature Page

By submitting a response to this solicitation, the undersigned certifies that at the time of submission, he/she is not on the Federal Government's list of suspended, ineligible, or debarred contractors. In the event of placement on the list between the time of qualifications submission and time of award, the undersigned will notify the Chief Business Officer. Failure to do so may result in terminating a contract for default.

The undersigned affirms that they are duly authorized to execute the contract, that this company, corporation, firm, partnership or individual has not prepared this Statement of Qualifications in collusion with any other Respondent, and that the contents of this Statement of Qualifications as to prices, terms or conditions of said Statement of Qualifications have not been communicated by the undersigned nor by any employee or agent to any other Respondent or to any other person(s) engaged in this type of business prior to the official opening of this Statement of Qualifications. And further, that neither the Respondent nor their employees nor agents have been for the past six (6) months directly nor indirectly concerned in any pool or agreement or combination to control the price of goods or services on, nor to influence any person to submit a Statement of Qualifications or not submit a Statement of Qualifications thereon.

Firm (Entity Name)	Signature
Street & Mailing Address	Print Name
City, State & Zip	Date Signed
Telephone Number	Fax Number
E-mail Address	

Respondent Shall Return Completed Form with Offer.

Respondent's Certification

I have carefully examined the Request for Statements of Qualifications, and any other documents accompanying or made a part of this Request for Qualifications.

I hereby propose to furnish the services specified in the Request for Qualifications.

I verify that all information contained in this proposal is truthful to the best of my knowledge and belief. I further certify that I am duly authorized to submit this proposal on behalf of the firm as its act and deed and that the firm is ready, willing and able to perform if awarded the contract.

I further certify, under oath, that this proposal is made without prior understanding, agreement, connection, discussion, or collusion with any other person, firm or corporation submitting a proposal for the same product or service: no officer, employee or agent of Jefferson County Drainage District No. 6 or any other Respondent is interested in said proposal: and that the undersigned executed this Respondent's Certification with full knowledge and understanding of the matters therein contained and was duly authorized to do so.

_____
NAME OF BUSINESS

BY:

_____
SIGNATURE

_____
NAME & TITLE, TYPED OR PRINTED

_____
MAILING ADDRESS

_____
CITY, STATE, ZIP CODE

(___)_____
TELEPHONE NUMBER

Sworn to and subscribed before me
this _____day of
_____, 2021

_____
Notary Public

State of _____

My Commission Expires: _____

Texas Water Development Board
P.O. Box 13231, Austin, Texas 78711-3231

Flood Protection Planning for Watersheds – Category 1

Due October 19, 2020 at 5:00 p.m. CST
Email to FIF@twdb.texas.gov Include the Applicant's Name, Abridged Application Number, and Category in the subject line.

Submittal Instructions: Please email one indexed, electronic copy to FIF@twdb.texas.gov using MS Word, Shapefile, Excel, and/or Adobe Acrobat. All Adobe Acrobat PDFs **must be searchable**. Include the Applicant's Name, Abridged Application Number, and Category in the subject line of the email. For applications in excess of 150 MB, please contact FIF@twdb.texas.gov for submission instructions.

For more information, please email FIF@twdb.texas.gov. Include the Applicant's Name, Abridged Application Number, and Category in the subject line of the email.

Example email subject line: Applicant Name, Abridged Application 12345, Category 1

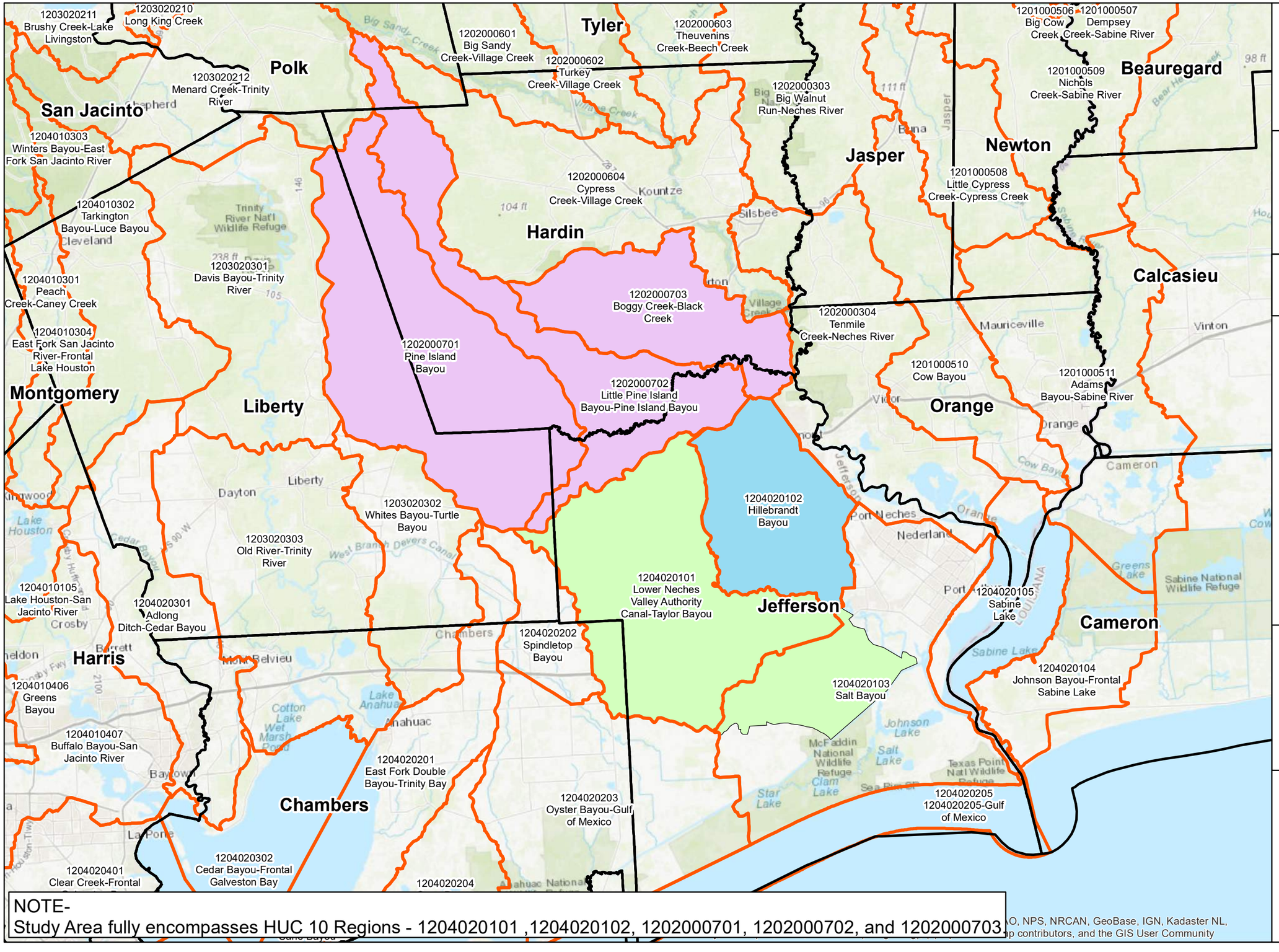
Thank you.

Project information submitted in this application must be consistent with the project's submitted abridged application; any information that is inconsistent with the project's ranking in the prioritization list as approved by the board could result in the project loosing prioritization points to the extent that the project may fall below the board-approved funding line. By submitting this Application, you understand and confirm that the information provided is true and correct to the best of your knowledge and further understand that the failure to submit a complete Application by the stated deadline, or to respond in a timely manner to additional requests for information, may result in the withdrawal of the Application without review.

GENERAL INFORMATION

Entity Name
Jefferson County Drainage District Number 6
Entity Type
Conservation and Reclamation
A citation of the law under which the political subdivision operates and was created
Section 59 Article XVI, Texas Constitution
Physical Address
6550 Walden Road Beaumont TX 77707-5510
Mailing Address
6550 Walden Road Beaumont TX 77707-5510

Primary Contact Please list the primary project contact for day to day project implementation	**Name**	Wallace R. Wilson
	Title	Senior Engineer



NOTE-
Study Area fully encompasses HUC 10 Regions - 1204020101 ,1204020102, 1202000701, 1202000702, and 1202000703

DRAINAGE DISTRICT NO. 6 — DD6 — JEFFERSON COUNTY, TEXAS

TWDB

FLOOD INTENDED USE PLAN

DRAINAGE DISTRICT NO. 6

Legend

- US COUNTY
- HUC 10 BOUNDARY
- Hillebrandt Bayou DA
- Taylor Bayou DA
- Pine Island Bayou DA

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STATE OF TEXAS
WALLACE R. WILSON
84857
LICENSED
PROFESSIONAL ENGINEER

Wallace R. Wilson P.E.

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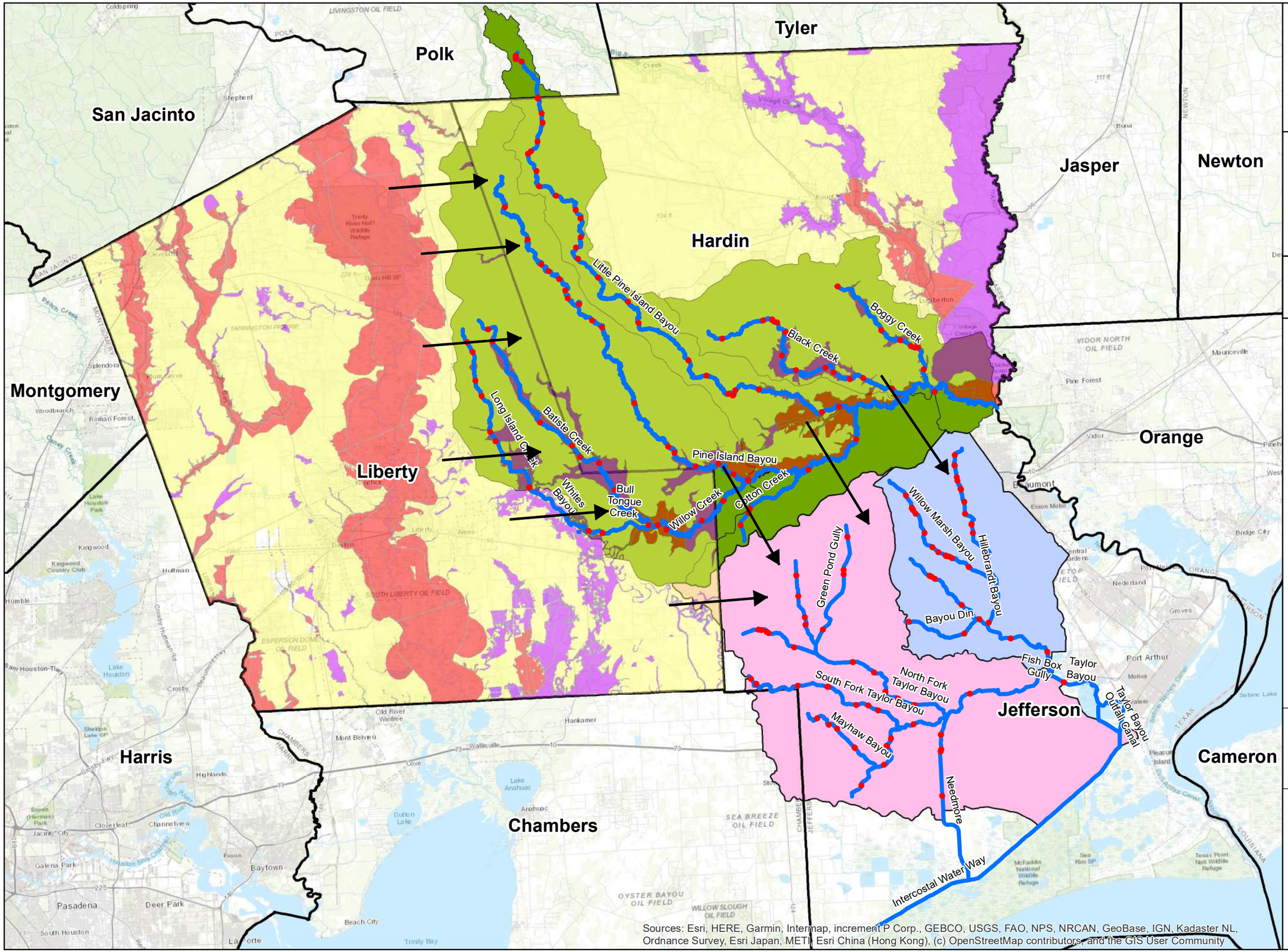

DRAINAGE DISTRICT NO. 6 — JEFFERSON COUNTY, TEXAS — DD6

TWDB

FLOOD INTENDED USE PLAN

DRAINAGE DISTRICT NO. 6

R R

Legend

- Channel Crossings
- Inter-Basin Flow Direction
- Study Channel Centerline

FEMA Flood Zone

- A
- AE
- X
- US COUNTY
- Hillebrandt Bayou DA
- Taylor Bayou DA
- Pine Island Bayou DA

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POLITICAL SUBDIVISIONS

ENTITY NAME	ENTITY TYPE	DATE SENT
Chambers	County	October 12, 2020
Hardin	County	October 12, 2020
Jefferson	County	October 12, 2020
Liberty	County	October 12, 2020
Orange	County	October 12, 2020
Polk	County	October 12, 2020
San Jacinto	County	October 12, 2020
Beaumont	City	October 12, 2020
Bevil Oaks	City	October 12, 2020
China	City	October 12, 2020
Daisetta	City	October 12, 2020
Devers	City	October 12, 2020
Hardin	City	October 12, 2020
Lumberton	City	October 12, 2020
Nome	City	October 12, 2020
Port Arthur	City	October 12, 2020
Rose Hill Acres	City	October 12, 2020
Sour Lake	City	October 12, 2020
Taylor Landing	City	October 12, 2020
Angelina & Neches River Authority	Water District	October 12, 2020
Beaumont Municipal Management District 1	Water District	October 12, 2020
Cardinal Meadows Improvement District	Water District	October 12, 2020
Chambers-Liberty Counties Navigation District	Water District	October 12, 2020
Gulf Coast Waste Disposal Authority	Water District	October 12, 2020
Hardin County WCID 1	Water District	October 12, 2020
Hull FWSD	Water District	October 12, 2020
Jefferson County Drainage District 3	Water District	October 12, 2020
Jefferson County Drainage District 6	Water District	October 12, 2020
Jefferson County Drainage District 7	Water District	October 12, 2020
Jefferson County Navigation District	Water District	October 12, 2020
Jefferson County WCID 14	Water District	October 12, 2020
Liberty County Drainage District	Water District	October 12, 2020
Lower Neches Valley Authority	Water District	October 12, 2020
Lumberton MUD	Water District	October 12, 2020
Meeker Municipal Water District	Water District	October 12, 2020
Northwest Forest MUD	Water District	October 12, 2020
Port Of Beaumont Navigation District	Water District	October 12, 2020
Port of Port Arthur Navigation District	Water District	October 12, 2020
Sabine-Neches Navigation District of Jefferson County	Water District	October 12, 2020
Sabine Pass Port Authority	Water District	October 12, 2020
Smith Road WCID 1 of Jefferson County	Water District	October 12, 2020
Southeast Texas Agricultural Development District	Water District	October 12, 2020
Trinity Bay Conservation District	Water District	October 12, 2020
Trinity River Authority of Texas	Water District	October 12, 2020
West Jefferson County Municipal Water District	Water District	October 12, 2020

TWDB-0171
9/8/2020

Flood Application
Affidavit (Category 1)

Attachment 4

THE STATE OF TEXAS §

COUNTY OF Jefferson §

APPLICANT Jefferson County Drainage District No.6 §

BEFORE ME, the undersigned, a Notary Public in and for the State of Texas, on this day personally appeared Doug Canant as the Authorized Representative of the Jefferson County Drainage District No. 6, who being by me duly sworn, upon oath says that:

1. in accordance with the 2020 Flood Intended Use Plan, the District (city, county, district, authority) has acted cooperatively with other political subdivisions to address flood control needs in the area in which the eligible political subdivisions are located; and
2. in accordance with the 2020 Flood Intended Use Plan, all eligible political subdivisions substantially affected by the proposed flood project have participated in the process of developing the proposed flood project.

Doug Canant
Official Representative

Title: District Engineer

SWORN TO AND SUBSCRIBED BEFORE ME, by Doug Canant,

on this 15th day of October, 2020.

(NOTARY'S SEAL)

PAULA C. KARASEK
Notary Public, State of Texas
Comm. Expires 12-07-2021
Notary ID 1248215

Paula Karasek
Notary Public, State of Texas

Attachment 6

Description of In-Kind to be Provided by Drainage District Number 6

Jefferson County Drainage District Number 6 (DD6) established their Engineering department in 1999. Since forming the department DD6 has included a surveying and Right of Way.

DD6 has continually updated and utilized the most current state of the art equipment. DD6 utilizes the most current CAD/GIS software packages to model ditches and terrains to develop 3D models to use in the Hydrologic and Hydraulic programs required.

DD6's had added Drone Surveying to its most current investment. We have in-house licensed drone operators and all the equipment and software to develop accurate 3D terrain models. The addition of this tool enables us to collect and process projects that would usually take weeks, now only days. Another benefit of this tool is we can get current aerial photos of the projects instead of relying on outdated data from other sources.

This project will include 430 miles of streams and 181 crossings to be surveyed. DD6's familiarity with the watersheds along with the state-of-the-art equipment, gives DD6 an advantage to making this a successful project.

DD6 will be providing surveying for in-kind services to develop the Jefferson County DD6 Regional Watershed Plan.

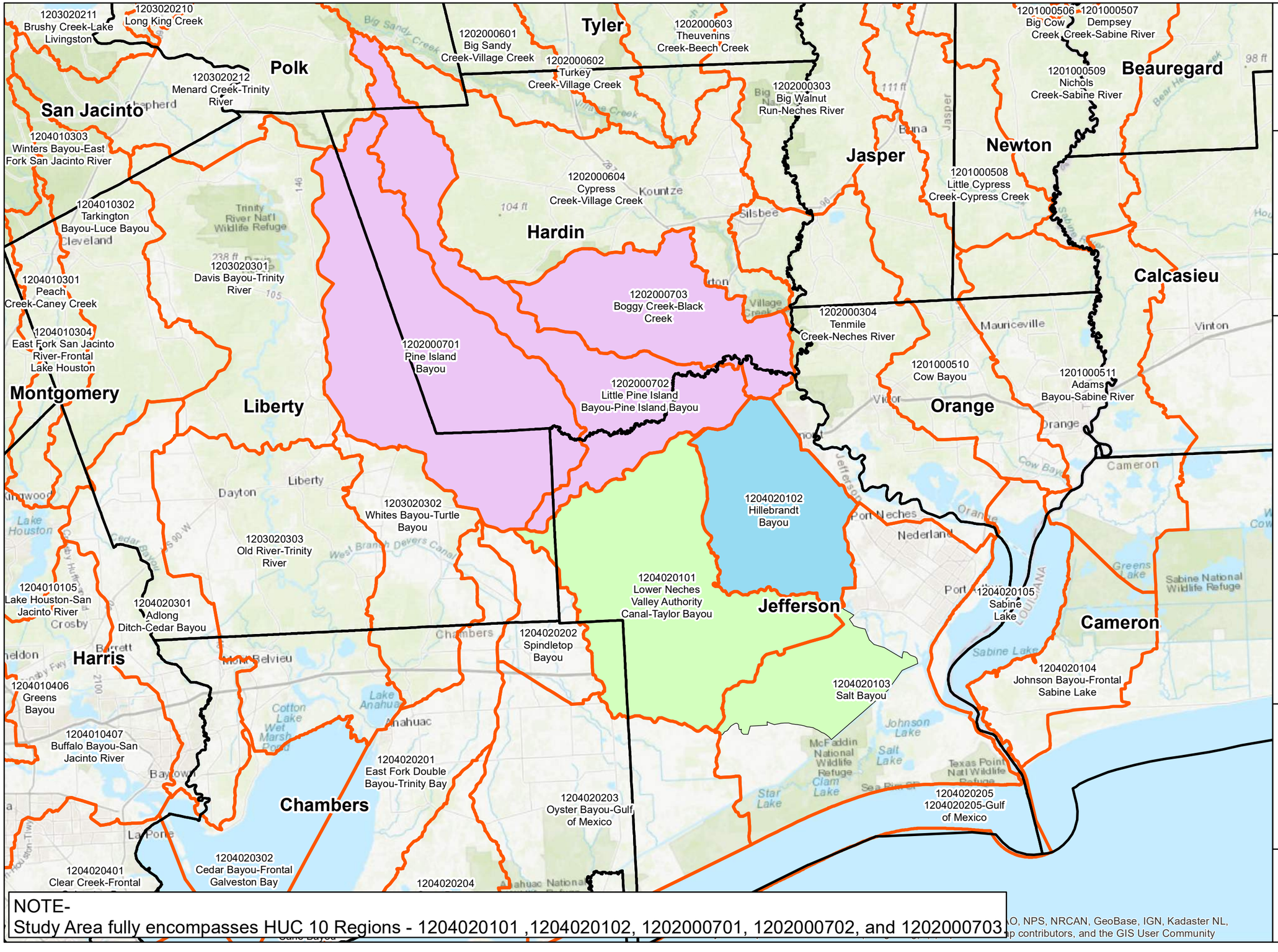
Attachment 7

Description of the degree to which proposed planning duplicates previous or ongoing flood plans

In response to a long history of flooding events that date back much further than the recent significant events, DD6 commissioned drainage studies of two of their three primary watersheds that drain their district, Taylor Bayou, and Hillebrandt Bayou. These studies were completed over 20 years ago and have provided a road map for improvements that DD6 has followed dutifully.

A cross section of the flood mitigation improvements constructed over the last 20 years includes 22 regional detention facilities, diversion channels, and major storm sewer trunk line improvements through downtown Beaumont. The improvements have undoubted saved thousands of homes from flooding.

Currently there are no duplicate previous or on-going flood plans in Jefferson County. The proposed Jefferson County DD6-Regional Watershed Plan has never been done for this area. Not only does it incorporate watersheds inside DD6 jurisdiction but includes watersheds that affect Jefferson County.



DRAINAGE DISTRICT NO. 6 — DD6 — JEFFERSON COUNTY, TEXAS

TWDB

FLOOD INTENDED USE PLAN

DRAINAGE DISTRICT NO. 6

8a

HUC 10 OVERLAY

Legend

- US COUNTY
- HUC 10 BOUNDARY
- Hillebrandt Bayou DA
- Taylor Bayou DA
- Pine Island Bayou DA

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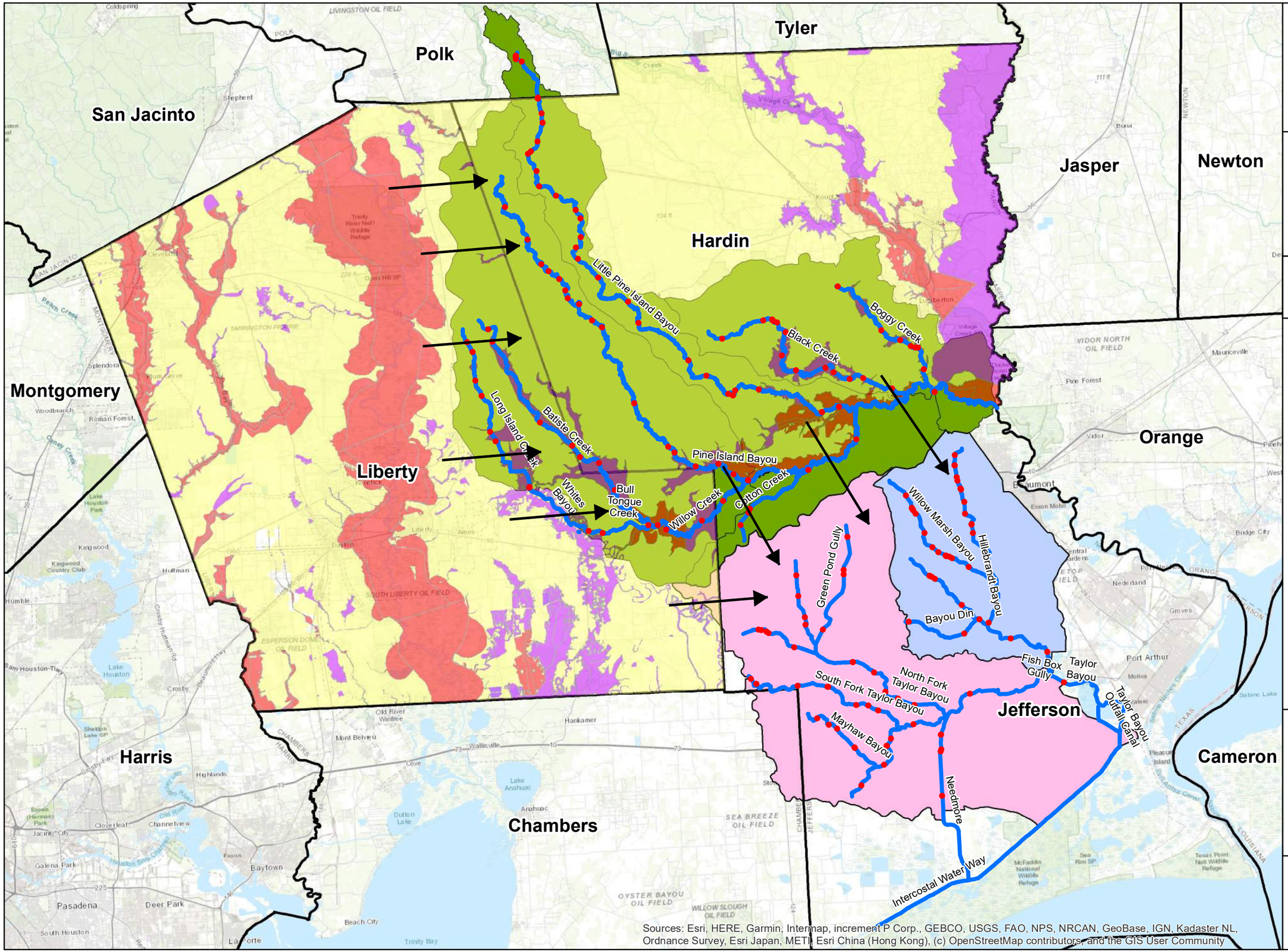
NOTE-
Study Area fully encompasses HUC 10 Regions - 1204020101 ,1204020102, 1202000701, 1202000702, and 1202000703.



DRAINAGE DISTRICT NO. 6 — JEFFERSON COUNTY, TEXAS — DD6

TWDB

FLOOD INTENDED USE PLAN

DRAINAGE DISTRICT NO. 6

8b

R R R

Legend

- Channel Crossings
- Inter-Basin Flow Direction
- Study Channel Centerline

FEMA Flood Zone

- A
- AE
- X
- US COUNTY
- Hillebrandt Bayou DA
- Taylor Bayou DA
- Pine Island Bayou DA

N

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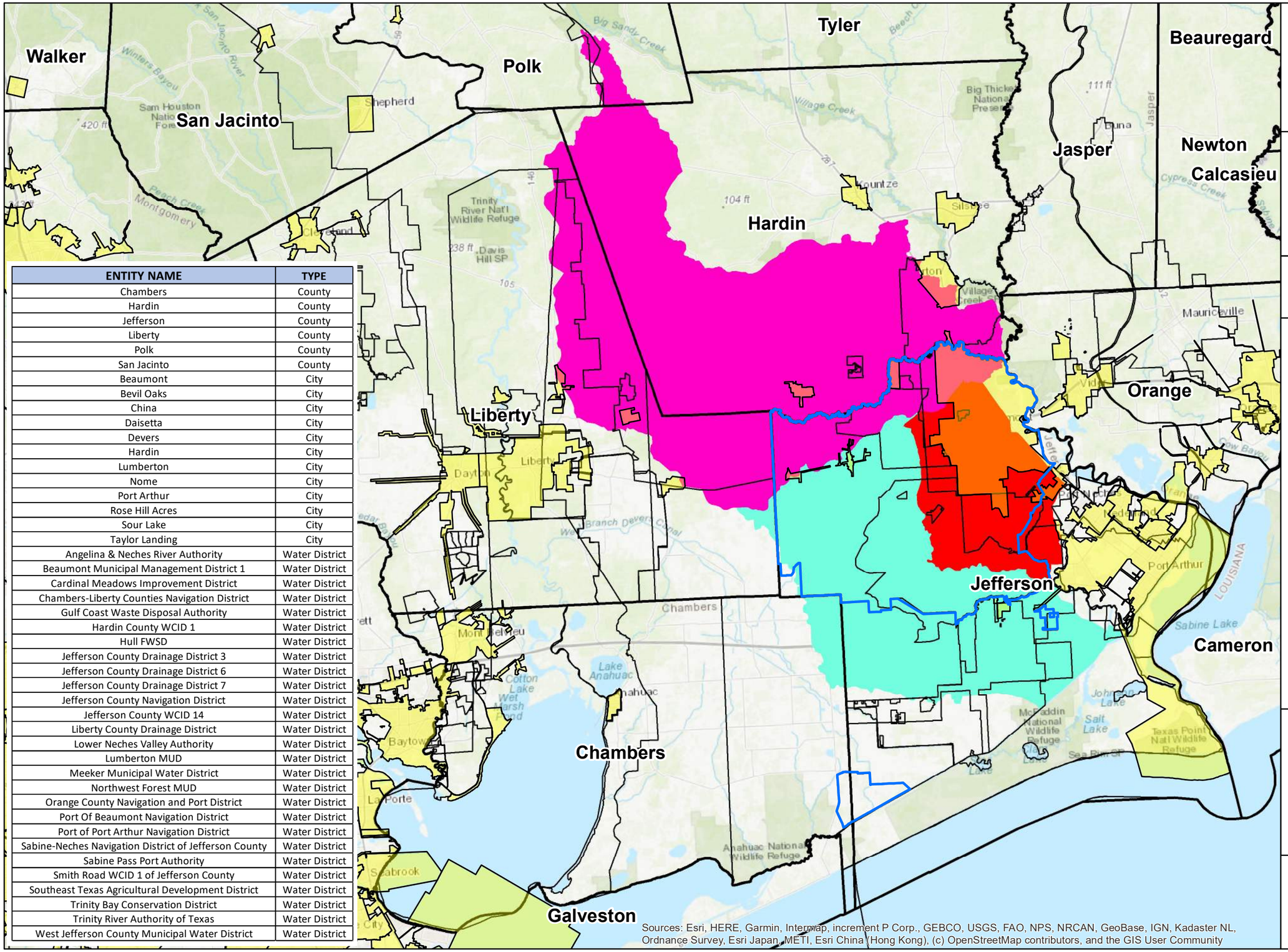
Miles

ENTITY NAME	TYPE
Chambers	County
Hardin	County
Jefferson	County
Liberty	County
Polk	County
San Jacinto	County
Beaumont	City
Bevil Oaks	City
China	City
Daisetta	City
Devers	City
Hardin	City
Lumberton	City
Nome	City
Port Arthur	City
Rose Hill Acres	City
Sour Lake	City
Taylor Landing	City
Angelina & Neches River Authority	Water District
Beaumont Municipal Management District 1	Water District
Cardinal Meadows Improvement District	Water District
Chambers-Liberty Counties Navigation District	Water District
Gulf Coast Waste Disposal Authority	Water District
Hardin County WCID 1	Water District
Hull FWSD	Water District
Jefferson County Drainage District 3	Water District
Jefferson County Drainage District 6	Water District
Jefferson County Drainage District 7	Water District
Jefferson County Navigation District	Water District
Jefferson County WCID 14	Water District
Liberty County Drainage District	Water District
Lower Neches Valley Authority	Water District
Lumberton MUD	Water District
Meeker Municipal Water District	Water District
Northwest Forest MUD	Water District
Orange County Navigation and Port District	Water District
Port Of Beaumont Navigation District	Water District
Port of Port Arthur Navigation District	Water District
Sabine-Neches Navigation District of Jefferson County	Water District
Sabine Pass Port Authority	Water District
Smith Road WCID 1 of Jefferson County	Water District
Southeast Texas Agricultural Development District	Water District
Trinity Bay Conservation District	Water District
Trinity River Authority of Texas	Water District
West Jefferson County Municipal Water District	Water District



DRAINAGE DISTRICT NO. 6 — DD6 — JEFFERSON COUNTY, TEXAS

TWDB

FLOOD INTENDED USE PLAN

DRAINAGE DISTRICT NO 6

8b

Legend

- DD6 Boundary
- City Boundaries
- TCEQ Water Districts
- US COUNTY
- Pine Island Bayou DA
- Taylor Bayou DA
- Hillebrandt Bayou DA

N

0 5 10

Miles

Attachment 8c

Historical Flooding and Flood Damages

Two of the most recent devastating storms in History for our region was Tropical Storm. Harvey on August 30, 2017- and Tropical Storm Imelda on September 18, 2019.

Tropical Storm Harvey – 2017 – 60.58 inches

Harvey made landfall in Southeast Texas on the morning of August 30th, up to five feet of rain fell across Southeast Texas. Widespread flooding occurred and a new rainfall record was set regarding the total for a tropical cyclone in the United States.

Harvey produced a storm total rainfall over 40 inches across a large portion of the region. The highest rainfall totals in Jefferson County were 60.58 inches 1.5 miles southwest of Nederland and 60.54 inches 1.3 miles north of Groves. This resulted inn over 64,000 homes being flooded. The hardest hit areas were Port Arthur, Groves, Bevil Oaks, Hampshire, China, and northeast Beaumont. Several refineries in the county also received flood waters and were offline for an extended period.

Tropical Storm Imelda – 2019 – 44.29 -inches

Imelda moved over Southeast Texas including the Beaumont-Port Arthur area for over a day producing a storm total of 44.29 inches at a station near Fannett. The same station received over 30 inches in 12 hours which produced widespread flooding across Jefferson County. This amount of rainfall ranks Imelda as the 4th wettest tropical cyclone to affect the lower 48.

Imelda drifted across the interior section the Southeast Texas during the 18th. The first report of flooding was from the Jefferson County Sheriff's Department with major street flooding in the City of Beaumont and water was entering several homes. Due to the rate at which the rain fell, flooding depth was worse than Harvey at some locations throughout the region. Over 5100 homes were flooded, and numerous high-water rescues were conducted throughout the region. Three people drowned in Jefferson County during Tropical Storm Imelda.

Attachment 8d

Existing or potential flood hazards this project intends to address including how the proposed planning will address those hazards

Our region has many hazards to address. During Tropical Storm Harvey every watershed we are studying was cut off by the surrounding water. The only way to get into Beaumont was by air or boat. This made a very dangerous situation for emergencies. Hospitals were inaccessible, along with no access to food and water. The supply of water was shut down due to flooded pumps. During Tropical Storm Imelda there was more than 500 vehicles stranded on Interstate 10, some up to 3 days. Our challenges can only be overcome by looking at our region.as a whole. We had flood waters from each watershed combining, overwhelming the outfalls.

Improvement options will be developed that address structural flooding. Project types that will be considered include Diversions, Regional Detention, Channelization, Buyouts, Home Elevations, and Ring Levees.

Identified projects will be included in a detailed prioritization matrix that accounts for important factors including a benefit to cost ratio, and social and economic impacts

Attachment 9

Description of In-Kind to be Provided by

Drainage District Number 6

The proposed study will update previous study efforts for Taylors Bayou and Hillebrandt Bayou and will develop a new study for the Pine Island watershed. The Cities of Beaumont, Bevil Oaks, Lumberton, Sour Lake, China, and others along with outlying communities including Pinewood, Countrywood

The Pine Island has been the source of major flooding from Polk county to Jefferson County encompassing more than 700 square miles. There has never been a comprehensive flood study of the Pine Island watershed to show its impacts to its regional surroundings.

Taylors Bayou and Hillebrandt Bayou were originally studied by FEMA with an effective FEMA flood insurance study (FIS) dated of 2002. Jefferson County Drainage District #6 developed a master plan of improvements for Taylors Bayou and Hillebrandt Bayou in 2001. The master plan included detailed modeling using the US Army Corps of Engineers HEC-HMS and HEC-RAS software. Several improvements form the master plan have been constructed and the plan has reached the end of its useful life.

A complete restudy of the 2 watersheds and a new study for the Pine Island Watershed would be tremendously beneficial to local government officials to fully understand their flood risk. The study will also guide public officials by developing a series of master planned improvements designed to reduce flood risk and increase resiliency.

Attachment 9

Description of areas identified for flood risk evaluation including hydrologic and hydraulic modeling, mapping, and proposed method of evaluation.

The proposed study will update previous study efforts for Taylor Bayou and Hillebrandt Bayou and will develop a new study for the Pine Island watershed. The Cities of Beaumont, Bevil Oaks, Lumberton, Sour Lake, China, and others along with outlying communities including Pinewood, Countrywood and others are partially included in the study limits.

The Pine Island has been the source of major flooding from Polk county to Jefferson County encompassing more than 700 square miles. There has never been a comprehensive flood study of the Pine Island watershed to show its impacts to its regional surroundings.

Taylors Bayou and Hillebrandt Bayou were originally studied by FEMA with an effective FEMA flood insurance study (FIS) dated of 2002. Jefferson County Drainage District #6 developed a master plan of improvements for Taylor Bayou and Hillebrandt Bayou in 2001. The master plan included detailed modeling using the US Army Corps of Engineers HEC-HMS and HEC-RAS software. Several improvements form the master plan have been constructed and the plan has reached the end of its useful life.

A complete restudy of the 2 watersheds and a new study for the Pine Island Watershed would be tremendously beneficial to local government officials to fully understand their flood risk. The study will also guide public officials by developing a series of master planned improvements designed to reduce flood risk and increase resiliency.

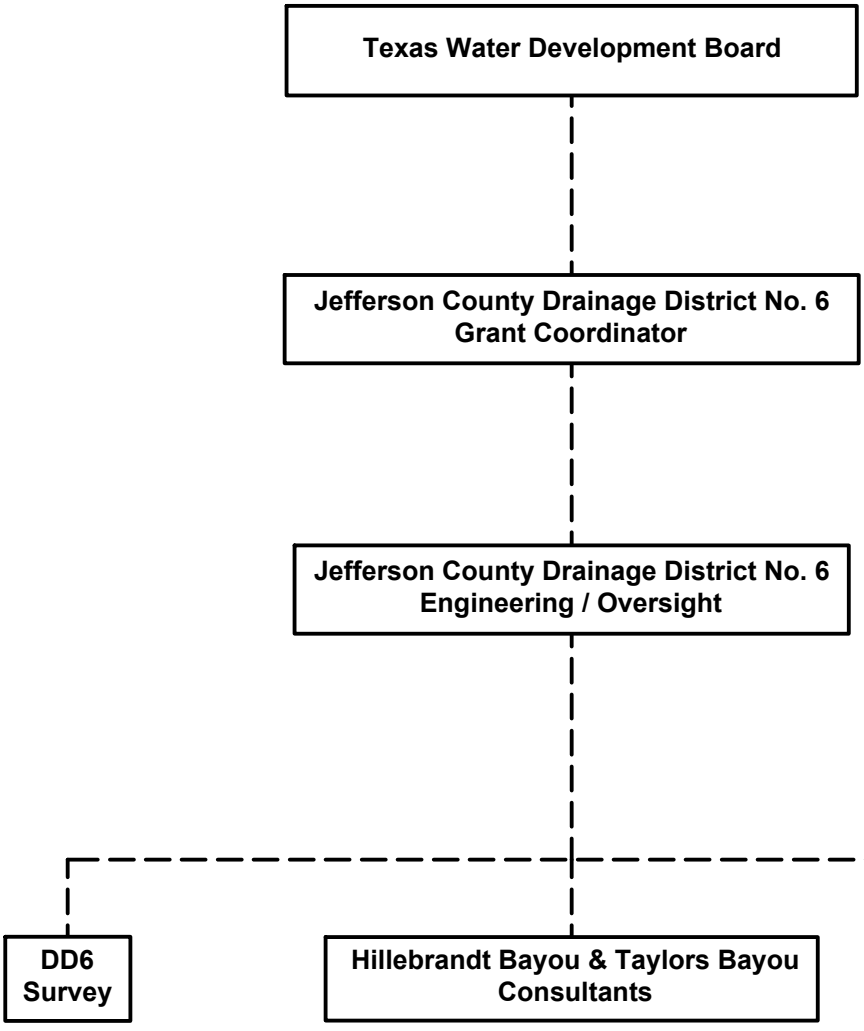
Attachment 10

Description of the proposed method for estimating the benefits and costs of potential solutions to identified flooding problems

Detailed hydraulic models will be developed to current industry standards as part of the proposed study. Jefferson County and the surrounding area is relatively flat and experiences significant watershed flow transfer during large storm events.

Storm water runoff tends to leave watersheds and cascade into adjacent watersheds. To fully understand this phenomenon and the resulting impact of flooding, the proposed studies will utilize 2-Dimensional (2D) modeling. This approach has the added benefit of quantifying potential structural inundation outside the traditional special flood hazard area. The combination of the traditional riverine floodplain and the extended 2D floodplain will greatly assist with establishing pre- and post-project damages.

Appraisal district files and inundation files will be used with benefit determination tools such as FEMA's HAZUS to determine the financial impact of the different project scenarios and the subsequent benefit.



Attachment 11a

Organizational Chart

Attachment 11b

Description of how flood protection needs of the entire watershed will be considered

Each watershed in the Jefferson County DD6 Regional Watershed Plan are uniquely tied together. The Pine Island watershed North of Jefferson County flows southerly into Jefferson County, while both Taylor and Hillebrandt are affected by the interbasin transfer from the west.

For the regional watershed plan to be successful we need to involve all the affected subdivisions.

Every entity that will benefit from this study will be involved in the decisions that are made. Without cooperation we will not achieve our goals.

DD6 is committed to helping the entire region make our area a safer flood free environment.

Attachment 11c

Identification of Tasks

Task 1 – Phase 1 Grant Coordination

- Coordinating all activities between DD6 and TWDB
- Coordinating all activities between DD6 and Consultant

Task 1 - Phase I Data Collection

- Collect existing and historical flood data (from all sources)
- Collect, consolidate, and review FEMA, Red Cross, and other related governmental data
- Collect existing aerial mapping
- Collect existing topographic data (DEM data)
- Collect DD6 rain gauge and level gauge data
- Collect existing soil data for study area
- Research future development in proposed planning area
- Survey all ditches, structures, and terrain (utilizing drone technology)

Task 2 - Phase II Existing Hydrology and Hydraulic

- Determine existing sub-watershed physical characteristics, drainage area, basin slope, soil parameters, impervious conditions, infiltration loss, etc.
- Build an accurate precipitation model from historical events
- Build a precipitation model with I yr., 2 yr., 5 yr., 10 yr., 25 yr., 50 yr., 100 yr. and 500 yr. events
- Construct an integrated model with applicable channels utilizing the current HEC RAS techniques
- Combine precipitation and basin models to provide runoff for actual and design precipitation events
- Build an integrated model utilizing 1HEC HMS and HEC RAS
- Balance flows HMS and volumes RAS for existing conditions to assure models are accurate
- Utilize historical and field data for verification of existing model

Task 3 - Phase III Evaluation of Potential Areas of Improvements

- Evaluate existing models during historical events and design storms
- Determine the areas of flooding
- Determine the impacts to the areas that are flooding
- Evaluate different alternatives of improvements including detention, channel improvements, structure upgrades, ring levee's and diversions
- Evaluate non-structural alternatives such as: flood plain management, acquisition, and elevation

Task 4 - Phase IV Proposed Hydrology and Hydraulic Modeling

- Apply future drainage area coefficients, such as proposed impervious conditions that could accelerate runoff
- Construct a proposed integrated model with improvements to each system such as detention, channel improvements, structure upgrades, diversions.
- Each mitigation alternative will be evaluated individually to quantify the individual effect on the system
- Evaluate the system with all the mitigation alternatives to determine the overall improvements to the watershed and to verify how each mitigation alternative affects the other improvements
- Determine a sequence for implementing the different recommended mitigation alternatives

Task 5 - Phase V Recommendation for Improvements

- This phase will consist of compiling the study into a formal report. The report will be compiled with inputs from all the entities that will be involved in the required projects for improvements. The consultants will work closely with DD6 and the various participating stakeholders, considering areas at risk, cost to implement, availability of funds, etc., in order to recommend specific mitigation alternatives and the sequences of implementation a Regional Watershed Plan.

Attachment 11gf

Potential benefits of the project

The potential benefits to this project will be determining projects including, detention, diversion, structure upgrades, ring levees, and even pump stations that will remove thousands of homes from flood events that are catastrophic.

The millions of dollars that are saved due to the damages alone will be better spent upgrading and building our current infrastructure instead of tearing it down or rebuilding it.

Farmers that grow rice and ranchers that raise cattle are continuously fighting flood waters in our counties to provide a service to all of us and to support their families.

Transportation and Emergency systems are severely interrupted when you cannot drive down Interstate because there is 4 feet of water covering the highway

Lives from first responders who risk their lives saving flooded victims could be avoided. Utility workers that are always in harm's way when flood events happen will be lessened.

Organizations that are taxed such as FEMA and Red Cross, that tirelessly spend their time going back to the same locations can be alleviated.

One life we save by improving the drainage in our region will be worth it all. We owe it to our communities to make their life safer.

Attachment 12f

Description of why state funding assistance is needed

Jefferson County Drainage District Number 6 (DD6) could not fund this project alone. For DD6 to fund this project would mean neglecting maintenance activities and delaying existing projects. This is not an option because our area already suffers from non-identified flooding from outside our jurisdiction.

DD6 is excited and more than willing to take on a regional study that can identify solutions not only for our County, and the surrounding Counties affected. By these unprecedented events and to update to the new Atlas 14 standards.

For us to complete the study to find solutions that will benefit the region, we need to finish this study as soon as possible. If we were to try to fund this study with our resources and our partners affected, it would take years.

If we continue live with our current issues without doing our best to resolve them, we will be doing all our region a disservice.