



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 August 12, 2019, in the City Hall Council Chambers, 604 West Fairmont Parkway, La Porte, Texas, beginning at 5:00 pm to consider the following items of business.

1. **Call to order**
2. **Consent Agenda** *(Approval of Consent Agenda items authorizes each to be implemented in accordance with staff recommendations provided. An item may be removed from the consent agenda and added to the Statutory Agenda for full discussion upon request by a member of the Committee present at this meeting.)*
 - (a) Approve minutes of the meeting held on July 8, 2019. [Jay Martin, Chairman]
3. **Staff Reports**
 - (a) Receive report from Harris County Flood Control District regarding current and future plans relating to flooding in the City of La Porte. [Lorenzo Wingate, P.E., C.F.M., City Engineer]
 - (b) Presentation, discussion, and possible action regarding the status of current drainage projects. [Lorenzo Wingate, P.E., C.F.M., City Engineer]
 - (c) Presentation, discussion, and possible action regarding additional drainage concerns and providing staff with direction. [Lorenzo Wingate, P.E., C.F.M., City Engineer]
4. **Set date for next Drainage and Flooding Committee Meeting**
5. **Committee Member Comments** *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. **Adjournment**

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.

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 August 12, 2019, 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, in compliance with Chapter 551, Texas Government Code.

DATE OF POSTING _____
TIME OF POSTING _____
TAKEN DOWN _____

Lee Woodward, City Secretary

JAY MARTIN
Chairman

DANNY EARP
Vice-Chairman



CHUCK ENGELKEN
Member

STEVE GILLETT
Alternate Member

MINUTES OF DRAINAGE AND FLOODING COMMITTEE MEETING HELD JULY 8, 2019

The Drainage and Flooding Committee of the City of La Porte met on Monday, July 8, 2019, 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, Danny Earp, Chuck Engelken, Steve Gillett

Committee Members absent: None

Council-appointed officers present: Jason Weeks, Assistant City Manager; Lee Woodward, City Secretary

Call to Order - Chairman Martin called the meeting to order at 5:00 p.m.

2. Statutory Agenda

(a) Approve the minutes of the meeting held on May 13, 2019. [Jay Martin, Chairman]

Committee member Engelken moved to approve the minutes of the meeting held on May 13, 2019; the motion was adopted, 3-0.

(b) Receive report from Harris County Flood Control District regarding current and future plans relating to flooding in the City of La Porte. [Lorenzo Wingate, P.E., City Engineer]

Lorenzo Wingate, City Engineer, and Jeremy Ratcliff, Harris County Flood Control District (HCFCD), discussed projects listed, HCFCD's plans for the full watershed, and the Committee's concerns over the prior treatment of the area and the time it is taking to move forward.

(c) Presentation, discussion, and possible action regarding the status of current drainage projects. [Lorenzo Wingate, P.E., City Engineer]

Committee members asked for updates on the Bayside Terrace Drainage Improvements and Little Cedar Bayou/F216/Phase III Improvements, urging that staff keep them as priorities.

(d) Presentation, discussion, and possible action regarding additional drainage concerns and provide staff with direction. [Lorenzo Wingate, P.E., City Engineer]

Vice Chairman Earp asked that answers be provided on the Sens Road/H Street Drainage as to why the ditches fill but not the pond. Without objection, Chair Martin set the item as an action item for the next meeting. Mr. Wingate reported that the outfalls along Roseberry were to be reviewed to see if an increase in pipe size was called for. Chair Martin noted that Fondren Road was tied into the Bayside Terrace project and asked if there were future concerns to be addressed with the new construction on Bay Area Boulevard. Mr. Wingate said water would be moved through a series of ponds before release and that the developer had submitted a drainage report approved by HCFCD.

3. Set date for next Drainage and Flooding Committee Meeting

The next meeting date was set for August 12 at 5:00 p.m.

4. Committee Comments

Members thanked Mr. Ratcliff for his attendance and information.

ADJOURN – The meeting was adjourned without objection at 5:42 p.m.

Lee Woodward, City Secretary



REQUEST FOR DRAINAGE & FLOODING COMMITTEE AGENDA ITEM

Agenda Date Requested: <u>August 12, 2019</u>
Requested By: <u>Lorenzo Wingate, P.E.</u>
Department: <u>Public Works</u>
<input checked="" type="radio"/> Report <input type="radio"/> Resolution <input type="radio"/> Ordinance

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

Exhibits: HCFCD Drainage Network Map
Sens Rd. Construction Drawings

SUMMARY

Receive report regarding Harris County Flood Control District current and future plans relating to flooding in the City of La Porte.

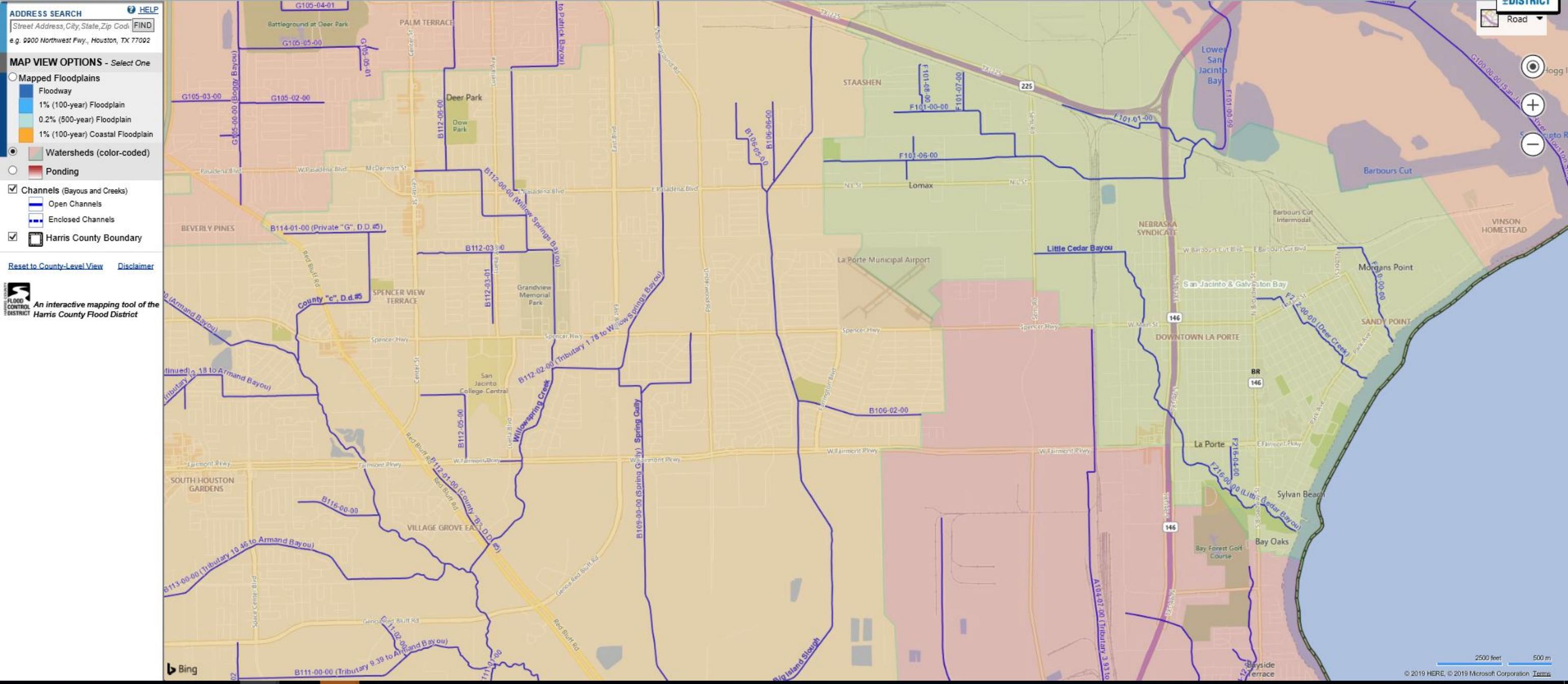
- Harris County Precinct 2 – Discussion of Sens Road drainage issue.
- Harris County Flood Control District Update

RECOMMENDED MOTION

Approved for Drainage Committee Agenda

Corby D. Alexander, City Manager

Date



ADDRESS SEARCH [HELP](#)
Street Address, City, State, Zip Code
e.g. 9900 Northwest Fwy., Houston, TX 77002

MAP VIEW OPTIONS - Select One

- Mapped Floodplains
 - Floodway
 - 1% (100-year) Floodplain
 - 0.2% (500-year) Floodplain
 - 1% (100-year) Coastal Floodplain
- Watersheds (color-coded)
- Ponding
- Channels (Bayous and Creeks)
 - Open Channels
 - Enclosed Channels
- Harris County Boundary

[Reset to County-Level View](#) [Disclaimer](#)

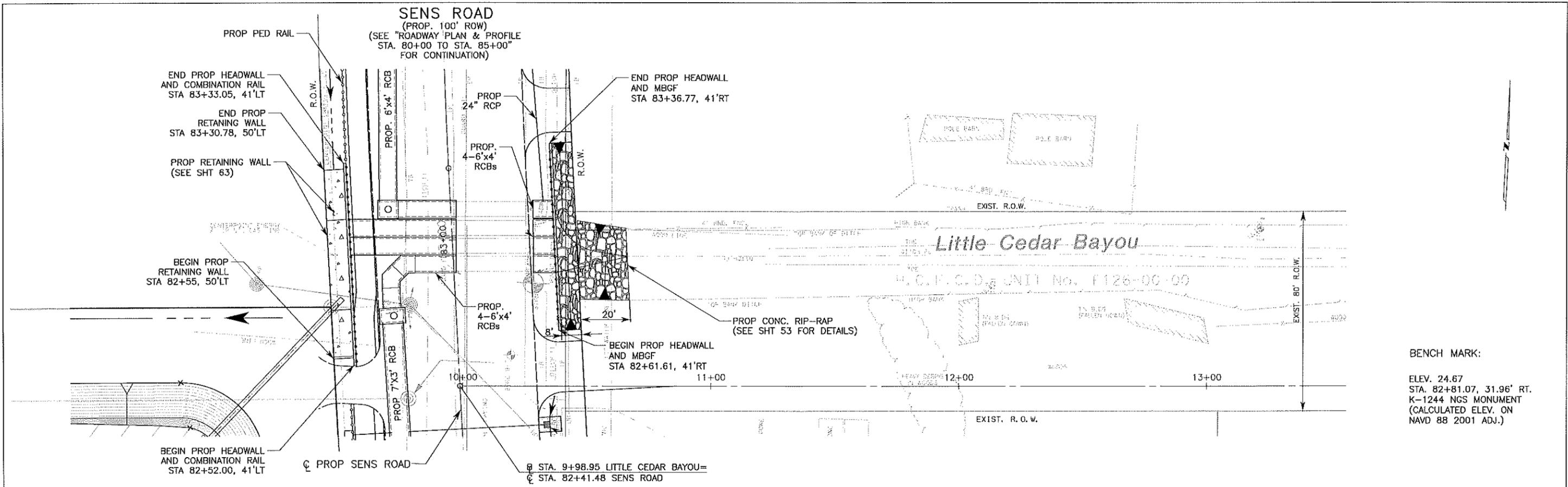
 An interactive mapping tool of the Harris County Flood District



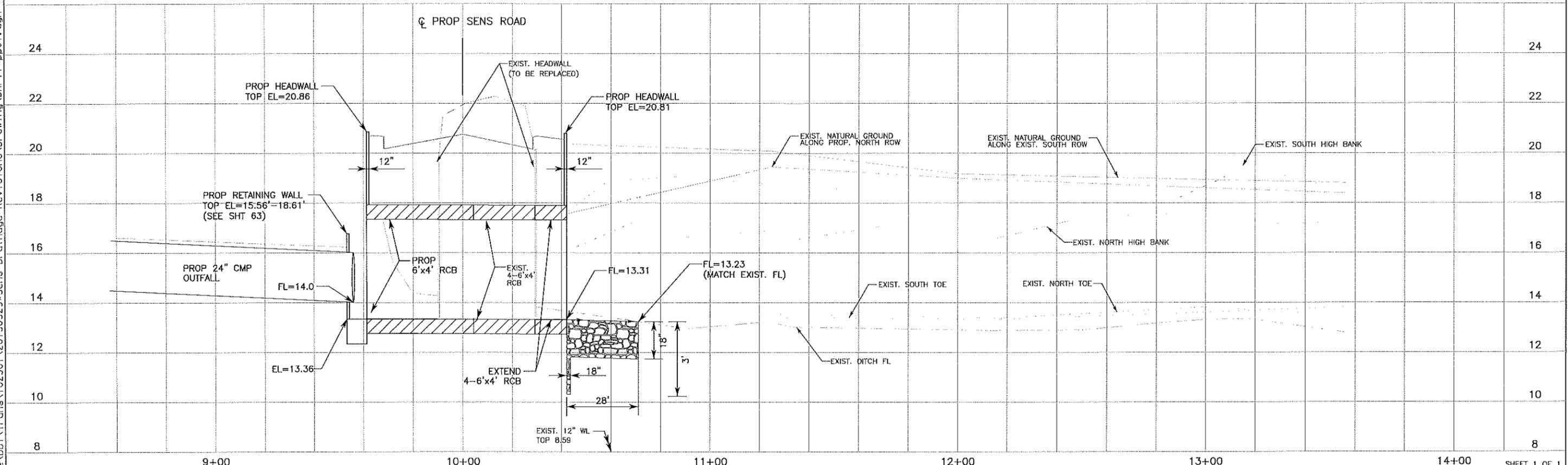
Map navigation controls including a dropdown menu set to 'Road', a 'Heggl' label, and zoom in (+) and zoom out (-) buttons.

SENS ROAD

(PROP. 100' ROW)
(SEE "ROADWAY PLAN & PROFILE"
STA. 80+00 TO STA. 85+00"
FOR CONTINUATION)



BENCH MARK:
ELEV. 24.67
STA. 82+81.07, 31.96' RT.
K-1244 NGS MONUMENT
(CALCULATED ELEV. ON
NAVD 88 2001 ADJ.)



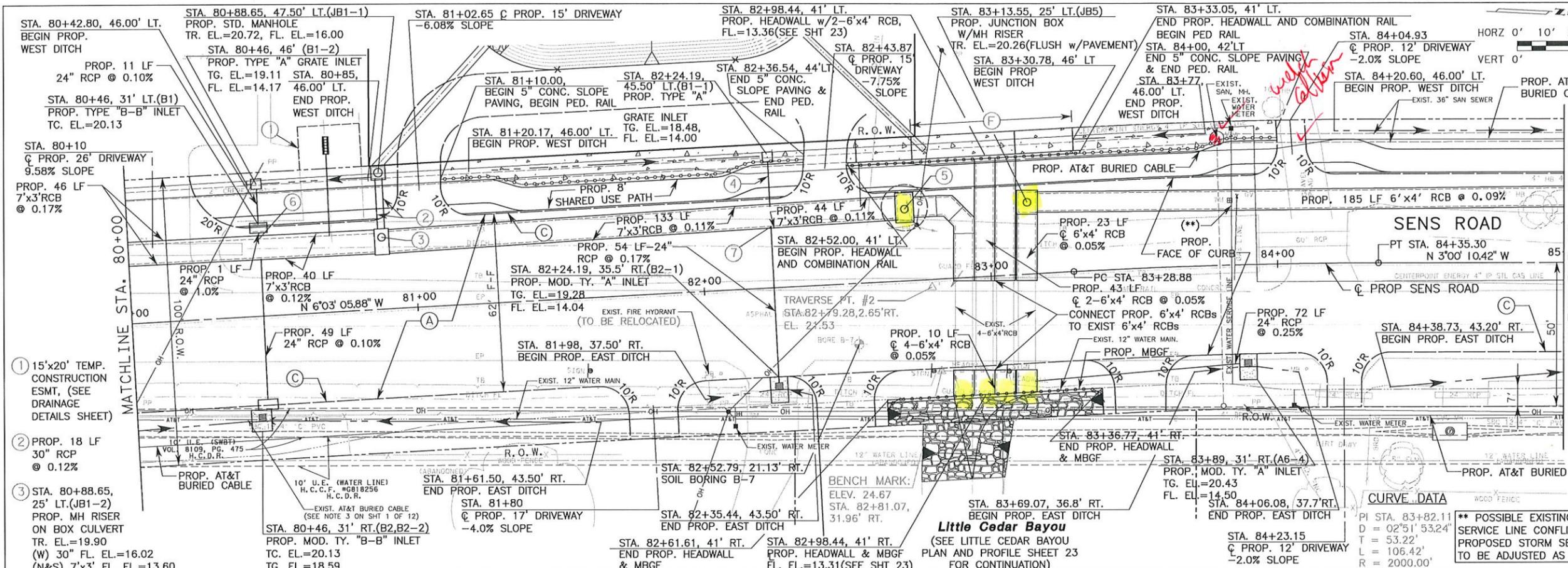
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 11:44:46 AM

Rev.	Date	Description	App.	Approved By:

Job No.: 102301 Date: MAR 2015 Scale:		
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HARRIS COUNTY PUBLIC
 INFRASTRUCTURE DEPARTMENT
 ARCHITECTURE AND
 ENGINEERING DIVISION

LITTLE CEDAR BAYOU HCFC UNIT NO. F126-00-00	Sheet No: 23
PLAN AND PROFILE	
of 268	



BENCH MARK:
 ELEV. 24.67
 STA. 82+81.07, 31.96' RT.
 K-1244 NGS MONUMENT
 (CALCULATED ELEV. ON
 NAVD 88 2001 ADJ.)

LEGEND

- (A) PROP. 10" REINFORCED CONC. PAVEMENT 8" LIME STAB. SUBGRADE
- (B) PROP. 6" BLACK CONC. MEDIAN NOSE
- (C) PROP. 6" CONC. CURB
- (D) PROP. 4" HMAC 10" BLACK BASE 6" LIME STAB. SUBGRADE
- (E) TYPE 7 RAMP
- (F) PROP. RETAINING WALL SECTION. STA. 82+55 TO STA. 83+30.78 SEE PROP. RETAINING WALL SHEET 63

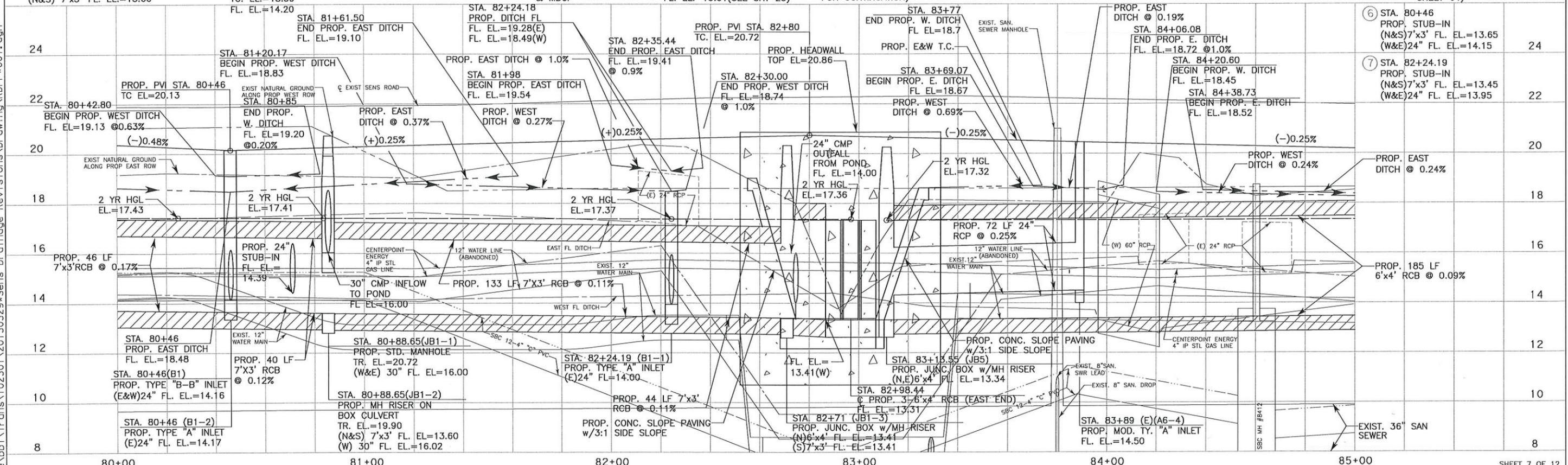
NOTE:

1. SEE "DRIVEWAY DETAILS" FOR ADDITIONAL INFO.
2. ALL TYPE "A" INLETS SHALL HAVE A CONCRETE APRON.
3. SEE SHEET 55A FOR ADDITIONAL HEADWALL INFORMATION
4. PROP. 15 LF 24" RCP @ 0.33%
5. STA. 82+71, 25' LT. (JB1-3) PROP. JUNCTION BOX W/MH RISER TR. EL.=20.31 (N) 6'x4' FL. EL.=13.41 (S) 7'x3' FL. EL.=13.41 (SEE DRAINAGE DETAILS SHEET 64)

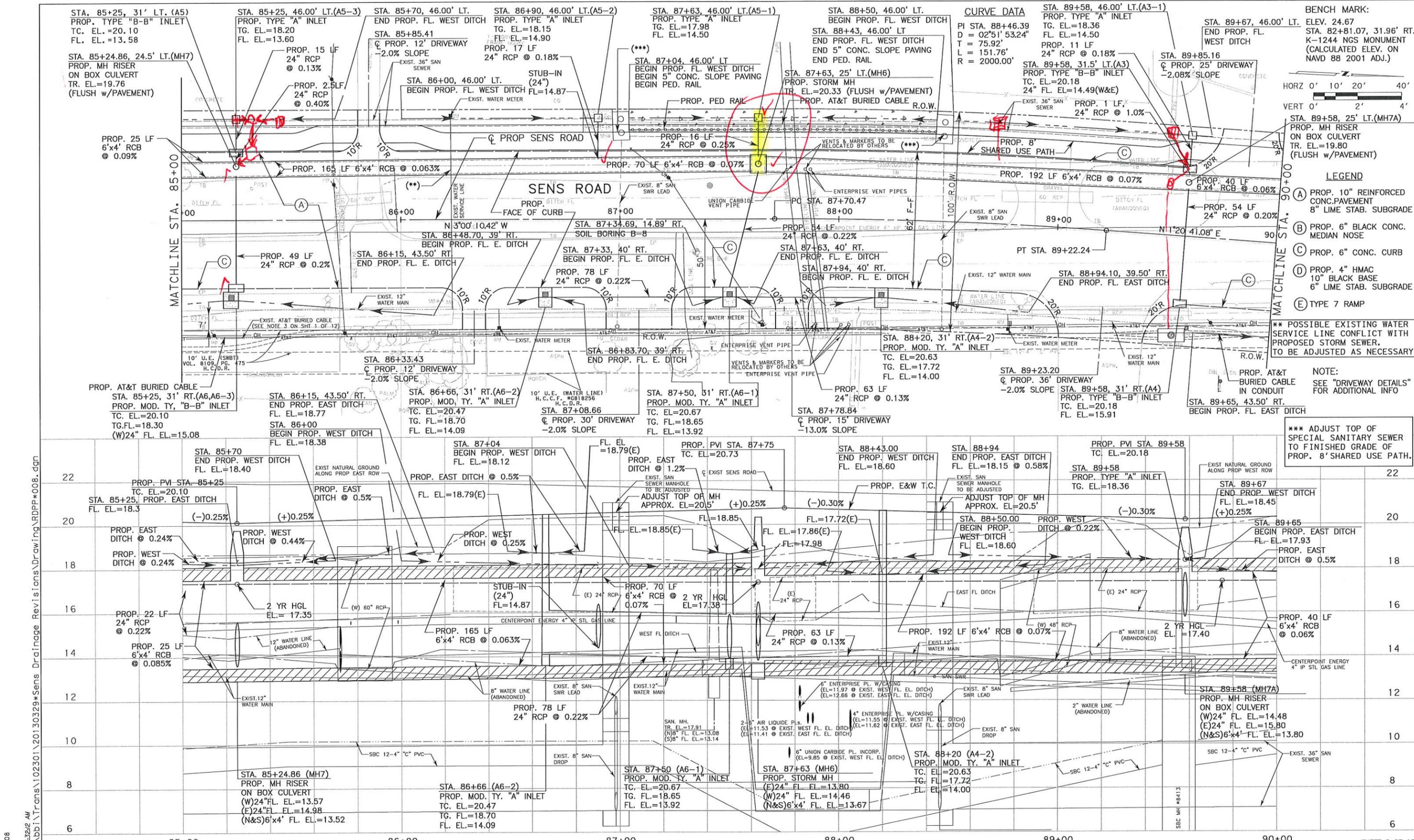
CURVE DATA

PI STA. 83+82.11
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 T = 53.22'
 L = 106.42'
 R = 2000.00'

**** POSSIBLE EXISTING WATER SERVICE LINE CONFLICT WITH PROPOSED STORM SEWER. TO BE ADJUSTED AS NECESSARY.**



<p>HCPID APIN: 0210200008 CADD: tembriz STATUS: 100 percent DATE: 3/20/2015 FILE: \\houf\1\20130329*Sens Drainage Revisions\Drawing\RDPP*007.dgn</p>	<p>Designed By: _____ Drawn By: _____ Checked By: _____</p>	<p>Job No.: 102301 Date: MAR 2015 Scale: _____</p>		<p>Binkley & Barfield, Inc. consulting engineers Texas Registration Number F-257</p>	<p>HARRIS COUNTY PUBLIC INFRASTRUCTURE DEPARTMENT ARCHITECTURE AND ENGINEERING DIVISION</p>	<p>SHEET 7 OF 12</p>
<p>SENS ROAD</p>						
<p>ROADWAY PLAN & PROFILE STA. 80+00 TO STA. 85+00</p>						
					<p>Sheet No: 17 of 268</p>	



BENCH MARK:
 STA. 82+81.07, 31.96' RT.
 K-1244 NGS MONUMENT
 (CALCULATED ELEV. ON
 NAVD 88 2001 ADJ.)
 ELEV. 24.67

CURVE DATA
 PI STA. 88+46.39
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 T = 75.92'
 L = 151.76'
 R = 2000.00'

LEGEND

- (A) PROP. 10" REINFORCED CONC. PAVEMENT
- (B) PROP. 6" BLACK CONC. MEDIAN NOSE
- (C) PROP. 6" CONC. CURB
- (D) PROP. 4" HMAC 10" BLACK BASE 6" LIME STAB. SUBGRADE
- (E) TYPE 7 RAMP

NOTE:
 ** POSSIBLE EXISTING WATER SERVICE LINE CONFLICT WITH PROPOSED STORM SEWER. TO BE ADJUSTED AS NECESSARY.

NOTE:
 SEE "DRIVEWAY DETAILS" FOR ADDITIONAL INFO

***** ADJUST TOP OF SPECIAL SANITARY SEWER TO FINISHED GRADE OF PROP. 8" SHARED USE PATH.**

HCPID APIN: 0210200008
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 DATE: 3/20/2015
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Rev.	Date	Description	App.	Approved By:

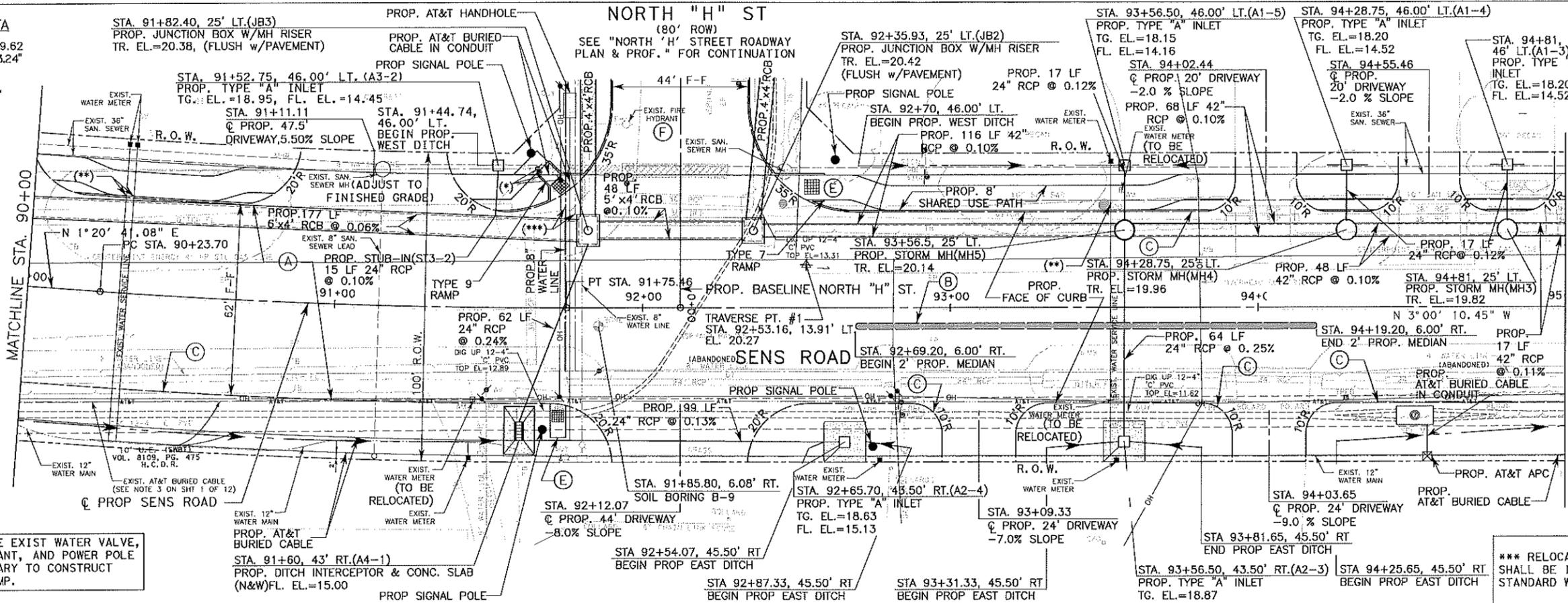
Job No.: 102301
 Date: MAR 2015
 Scale:

Binkley & Barfield, Inc.
 consulting engineers
 Texas Registration Number F-257

HARRIS COUNTY PUBLIC
 INFRASTRUCTURE DEPARTMENT
 ARCHITECTURE AND
 ENGINEERING DIVISION

SHEET 8 OF 12
 SENS ROAD
 ROADWAY PLAN & PROFILE
 STA. 85+00 TO STA. 90+00
 Sheet No: 18
 of 268

CURVE DATA
 PI STA. 90+99.62
 D = 02°51' 53.24"
 T = 75.92'
 L = 151.76'
 R = 2000.00'



BENCH MARK:
 ELEV. 24.67, STA. 82+81.07, 31.96' RT.
 K-1244 NGS MONUMENT (CALCULATED ELEV. ON NAVD 88 2001 ADJ.)

HORIZ 0' 10' 20' 40'
 VERT 0' 2' 4'

LEGEND

- (A) PROP. 10" REINFORCED CONC. PAVEMENT 8" LIME STAB. SUBGRADE
- (B) PROP. 6" BLACK CONC. MEDIAN NOSE
- (C) PROP. 6" CONC. CURB
- (D) PROP. 4" HMAC 10" BLACK BASE 6" LIME STAB. SUBGRADE
- (E) TYPE 7 RAMP
- (F) FH TO BE RELOCATED TO 3 LF FROM PROP. PAVEMENT

NOTE:

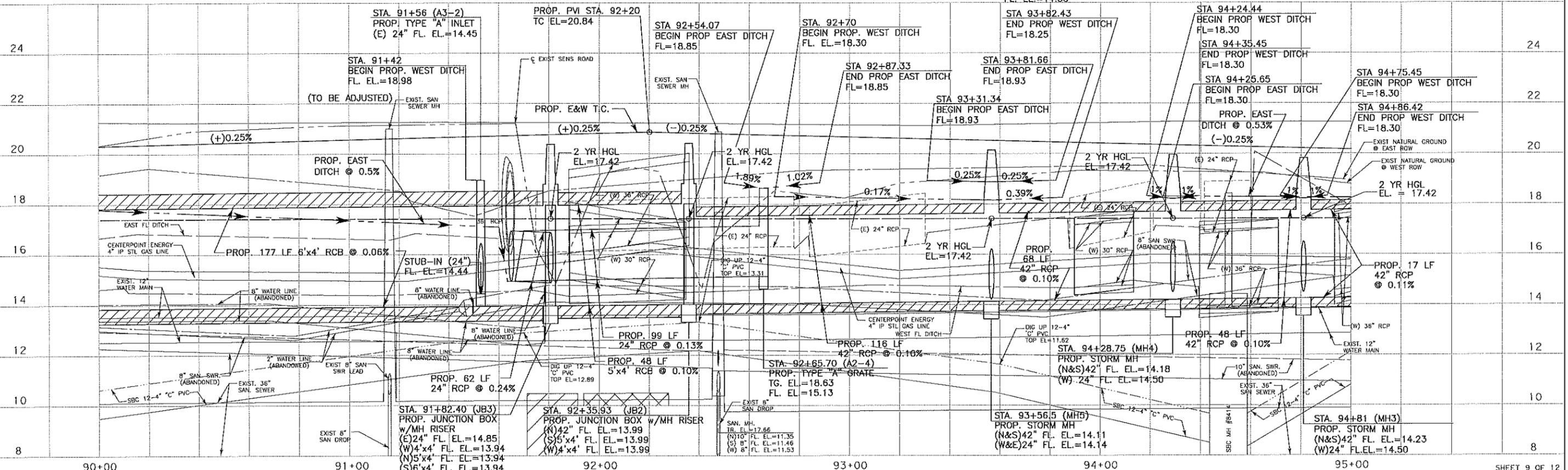
1. SEE "DRIVEWAY DETAILS" FOR ADDITIONAL INFO.
2. ALL TYPE "A" INLETS SHALL HAVE A CONCRETE APRON.

**** POSSIBLE EXISTING WATER SERVICE LINE CONFLICT WITH PROPOSED STORM SEWER. TO BE ADJUSTED AS NECESSARY.**

***** RELOCATE EXISTING WATERLINE. WATERLINE SHALL BE INSTALLED PER CITY OF LA PORTE STANDARD WATERLINE DETAILS, SHEETS 63-63A.**

* RELOCATE EXIST WATER VALVE, FIRE HYDRANT, AND POWER POLE AS NECESSARY TO CONSTRUCT TYPE 9 RAMP.

*** RELOCATE EXISTING WATERLINE. WATERLINE SHALL BE INSTALLED PER CITY OF LA PORTE STANDARD WATERLINE DETAILS, SHEETS 63-63A.



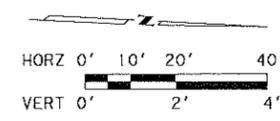
Rev.	Date	Description	App.	Approved By:

Designed By: _____
 Drawn By: _____
 Checked By: _____
 Job No.: 102301
 Date: MAR 2015
 Scale: _____



HARRIS COUNTY PUBLIC
 INFRASTRUCTURE DEPARTMENT
 ARCHITECTURE AND
 ENGINEERING DIVISION

SHEET 9 OF 12
 SENS ROAD
 ROADWAY PLAN & PROFILE
 STA. 90+00 TO STA. 95+00
 Sheet No: 19
 of 268



BENCH MARK:
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 STA. 82+81.07, 31.96' RT.
 K-1244 NGS MONUMENT
 (CALCULATED ELEV. ON
 NAVD 88 2001 ADJ.)

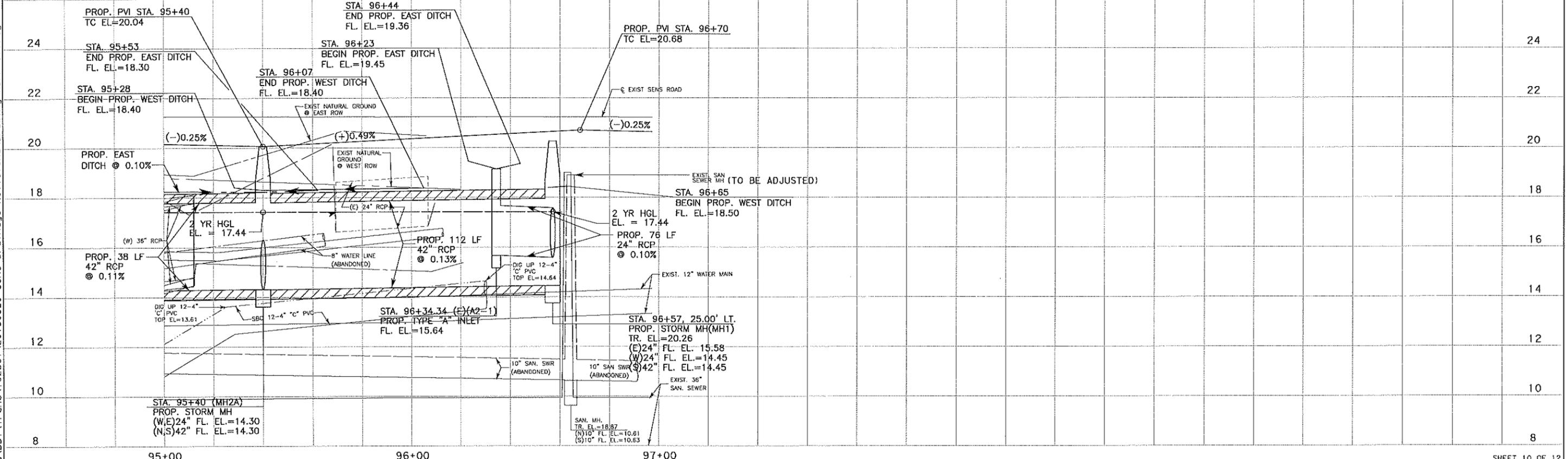
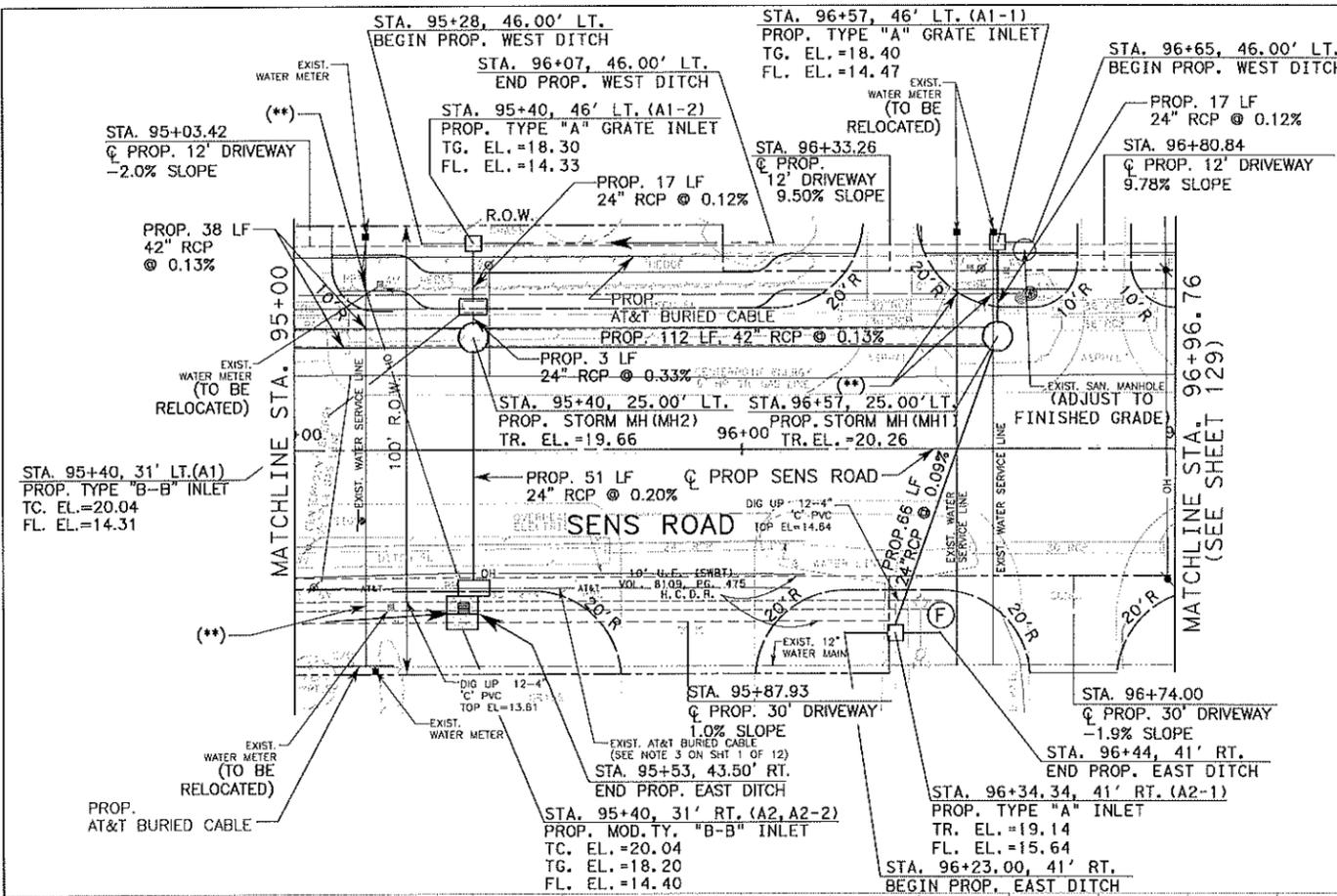
- LEGEND**
- (A) PROP. 10" REINFORCED CONC. PAVEMENT
8" LIME STAB. SUBGRADE
 - (B) PROP. 6" BLACK CONC. MEDIAN NOSE
 - (C) PROP. 6" CONC. CURB
 - (D) PROP. 4" HMAC
10" BLACK BASE
6" LIME STAB. SUBGRADE
 - (E) TYPE 7 RAMP
 - (F) FH TO BE RELOCATED TO
3 LF FROM BOC

NOTES:

1. ADDITIONAL RIGHT OF WAY FOR THIS WORK TO BE ACQUIRED BY HARRIS COUNTY AS PART OF THE VAN DE WIELE ENGINEERING, INC. PLANS FOR IMPROVEMENT TO SENS ROAD.
2. SEE "DRIVEWAY DETAILS" FOR ADDITIONAL INFORMATION.
3. REFER TO VDW PLANS FOR DRAINAGE CALCULATIONS.
4. SEE "DRIVEWAY DETAILS" FOR ADDITIONAL INFO.
5. ALL TYPE "A" INLETS SHALL HAVE A CONCRETE APRON.

* POSSIBLE CONFLICT WITH EXISTING FIRE HYDRANT. TO BE RELOCATED AS NECESSARY.

** POSSIBLE EXISTING WATER SERVICE LINE CONFLICT WITH PROPOSED STORM SEWER. TO BE ADJUSTED AS NECESSARY.



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Rev.	Date	Description	App.	Approved By:

Job No.: 102301
 Date: MAR 2015
 Scale:

**HARRIS COUNTY PUBLIC
 INFRASTRUCTURE DEPARTMENT**
 ARCHITECTURE AND
 ENGINEERING DIVISION

Sens Road
 ROADWAY PLAN & PROFILE
 STA. 95+00 TO STA. 96+96.76
 Sheet No: 20
 of 268





REQUEST FOR DRAINAGE & FLOODING COMMITTEE AGENDA ITEM

Agenda Date Requested: <u>August 12, 2019</u>
Requested By: <u>Lorenzo Wingate, P.E.</u>
Department: <u>Public Works</u>
<input checked="" type="radio"/> Report <input type="radio"/> Resolution <input type="radio"/> Ordinance

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

Exhibits: Project Map
Project update chart
Harris County Drainage Network Map

SUMMARY

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

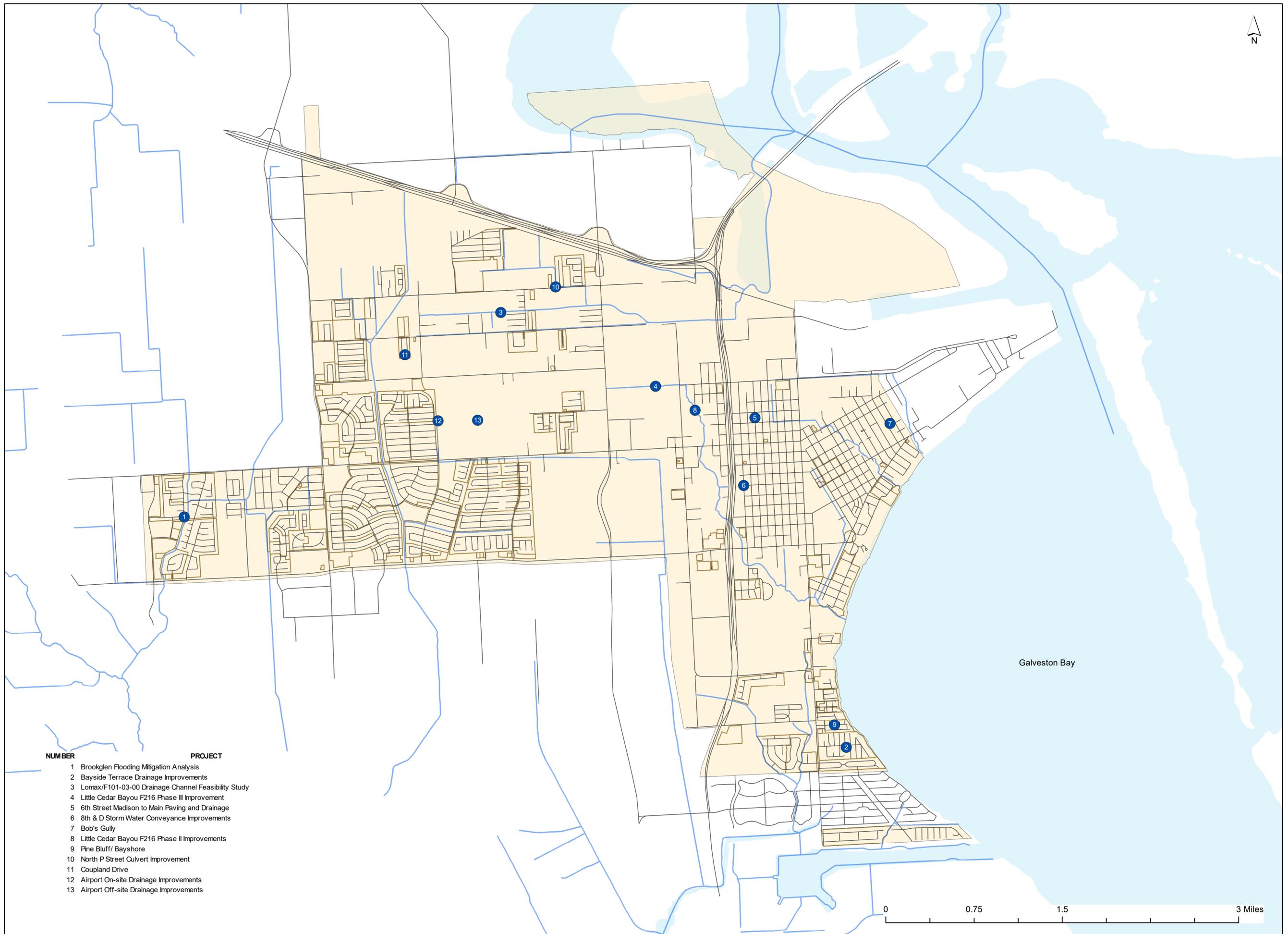
RECOMMENDED MOTION

Approved for Drainage Committee Agenda

Corby D. Alexander, City Manager

Date

The City of La Porte Drainage Projects 2019



DRAINAGE PROJECTS

NO.	PROJECT	DESCRIPTION	Status	Potential Grant Funding	Potential COLP Cost Share	COLP Budgeted	Estimated Completion Date
1	Brookglen Flooding Mitigation Analysis	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.	Staff working with HCFCD to develop regional solution. HCFCD currently finalizing Technical Update. Staff submitted HMGP grant application for supplemental funding on October 17, 2018. Application pending TDEM selection. Awarded projects are anticipated to begin as early as January 2020.	\$4,000,021.50	\$1,000,005.38	\$275,000.00	March 2022
2	Bayside Terrace Drainage Improvements	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.	Staff submitted HMGP grant application for supplemental funding on November 26, 2018. Application pending TDEM selection. Awarded projects are anticipated to begin as early as January 2020.	\$2,200,000.00	\$550,000.00	\$100,000.00	March 2022
3	Lomax/F101-03-00 Drainage Channel Improvements	Harris County Flood Control District's (HCFCD) 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.	Staff submitted HMGP grant application for supplemental funding on November 26, 2018. Application pending TDEM selection. Awarded projects are anticipated to begin as early as January 2020. HCFCD finalizing Technical Update. Staff to receive status update from HCFCD on 7/3/19.	\$3,200,155.00	\$800,038.75	\$150,000.00	March 2022
4	Little Cedar Bayou F216 Phase III Improvements	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 HCFCD 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.	Staff submitted HMGP grant application for supplemental funding on December 20, 2018. Application pending TDEM selection. Awarded projects are anticipated to begin as early as January 2020.	\$2,500,000.00	\$625,000.00	\$825,000.00	March 2022
5	6th Street Madison to Main Paving and Drainage	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.	Executed contract with GLO effective March 9, 2019 through August 5, 2021. Staff currently negotiating scope of work for design phase services with engineering consultant. Agenda request including recommendation to award preliminary engineering services contract has been prepared for July 8th Council meeting.	\$325,775.30 & \$3,472,757.00	\$125,000.00	\$1,140,000.00	August 2021
6	8th & D Storm Water Conveyance Improvements	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.	Proposed improvements to be completed in phases in-house, contingent upon available funding.	N/A			March 2025
7	Bob's Gully	Obtained drainage easement along East B Street ROW in Morgans Point from Boys and Girls Harbor. Coordinate with Harris County Flood Control & the Army Corp of Engineers to determine maintenance responsibilities. Consultant to provide technical memo analyzing channel capacity.	Notice to Proceed is expected to be issued the 1st week of July.	N/A		\$50,000.00	September 2019

NO.	PROJECT	DESCRIPTION	Status	Potential Grant Funding	Potential COLP Cost Share	COLP Budgeted	Estimated Completion Date
8	Little Cedar Bayou F216 Phase II Improvements	Improvements to Little Cedar Bayou, from Madison Street to 450 feet south of Spencer Highway. Work of the Contract includes, but is not limited to, excavating and disposing off-site approximately 25,984 CY of soil as required for the new channel alignment. Clearing and grubbing, demolition of existing structures, erosion control, and site restoration for approximately 7 acres and planting approximately 400 3-gallon trees. Construction contract awarded to Paskey.	Project is substantially complete.	\$1,337,422.22			June 2019
9	Pine Bluff/ Bayshore	Pine Bluff Subdivision Improvements project includes the reconstruction of streets and storm facilities along Bay Shore Drive, Pine Bluff Street and the lettered streets (A thru F) within the Pine Bluff Subdivision. Construction contract awarded to Angel Bros.	Project is substantially complete.	N/A			April 2019
10	North P Street Culvert Improvement	Using the January 2009 City Wide Drainage Study prepared by Klotz Associates, Inc., Klotz Associates, Inc. provided a report in 2011 analyzing flooding in the Battleground Estates which indicated that flows within segments of the F101 Channel, north of N 'P' Street, rise to a level creating capacity limitations which produce frequent out of banks occurrences. The unimproved upstream channel flows into two forty-two inch (42") corrugated metal pipes (CMP), which feed into the improved two 8' x 10' reinforced concrete boxes downstream. LJA Engineering, Inc. provided Engineering Design Services for the recommended improvements of removing the two upstream forty-two inch (42") corrugated metal pipes and extending the dual 8' x 10' reinforced concrete boxes across N 'P' Street. Construction contract awarded to Paskey.	Project is substantially complete. Pending HCFCO inspection/approval.	N/A			April 2019
11	Coupland Drive	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.	HDR is awaiting comments from TWDB before beginning 60% design. Construction to be incorporated into Lomax Lift Station Consolidation Project.	N/A		\$1,110,000.00	July 2022
12	Airport Off-site Drainage Improvements	Evaluation of the performance of airport drainage system at the west and north boundaries of the airport to address concerns that the airport drainage system may be overwhelmed, in extreme events, leading to stormwater flowing into neighborhoods adjacent to the airport.	Drainage report completed. Report identified on-site improvements anticipated to reduce off-site runoff.	N/A			December 2019
13	Airport On-site Drainage Improvements	On-site and offsite study determined there is no impact from airport drainage run off to the area north(Lomax) of the airport. The study determined there is impact to the Glen Meadows Subdivision. Onsite detention and increased capacity will be designed to mitigate the impact on Glen Meadows.	Design phase has been completed. Pre-bid meeting scheduled for July 9, 2019.	N/A			December 2019

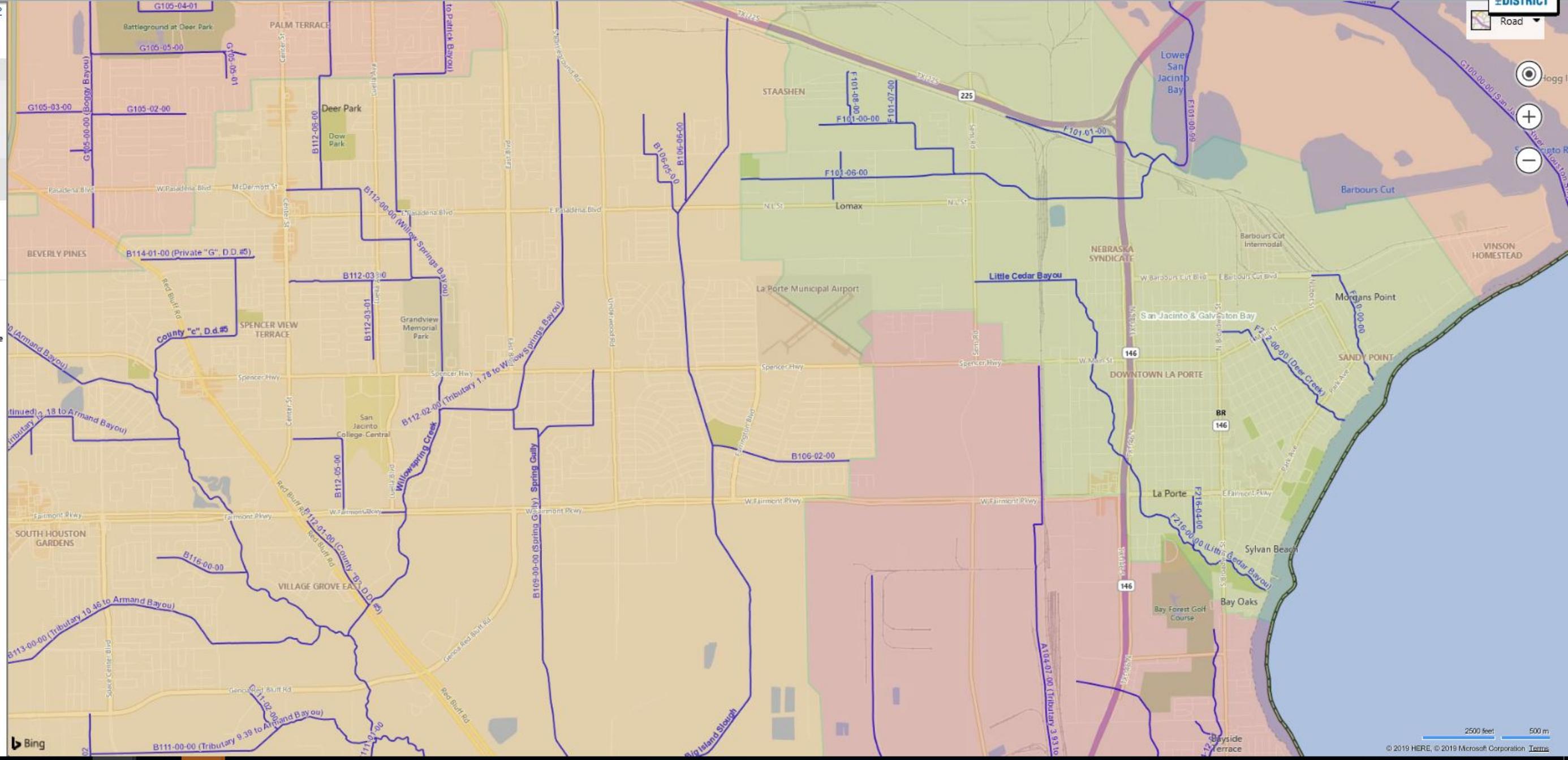
ADDRESS SEARCH [HELP](#)
Street Address, City, State, Zip Code
e.g. 9900 Northwest Fwy., Houston, TX 77092

MAP VIEW OPTIONS - Select One

- Mapped Floodplains
 - Floodway
 - 1% (100-year) Floodplain
 - 0.2% (500-year) Floodplain
 - 1% (100-year) Coastal Floodplain
- Watersheds (color-coded)
- Ponding
- Channels (Bayous and Creeks)
 - Open Channels
 - Enclosed Channels
- Harris County Boundary

[Reset to County-Level View](#) [Disclaimer](#)

 An interactive mapping tool of the Harris County Flood District





REQUEST FOR DRAINAGE & FLOODING COMMITTEE AGENDA ITEM

Agenda Date Requested: <u>August 12, 2019</u>
Requested By: <u>Lorenzo Wingate, P.E.</u>
Department: <u>Public Works</u>
<input checked="" type="radio"/> Report <input type="radio"/> Resolution <input type="radio"/> Ordinance

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

Exhibits: Roseberry Flooding and Damage Map
Rainfall Data from 7-22-19
Precipitation Frequency Estimates
Carlow at Roseberry Images (1,2,3)

SUMMARY

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

- Outfalls along Roseberry

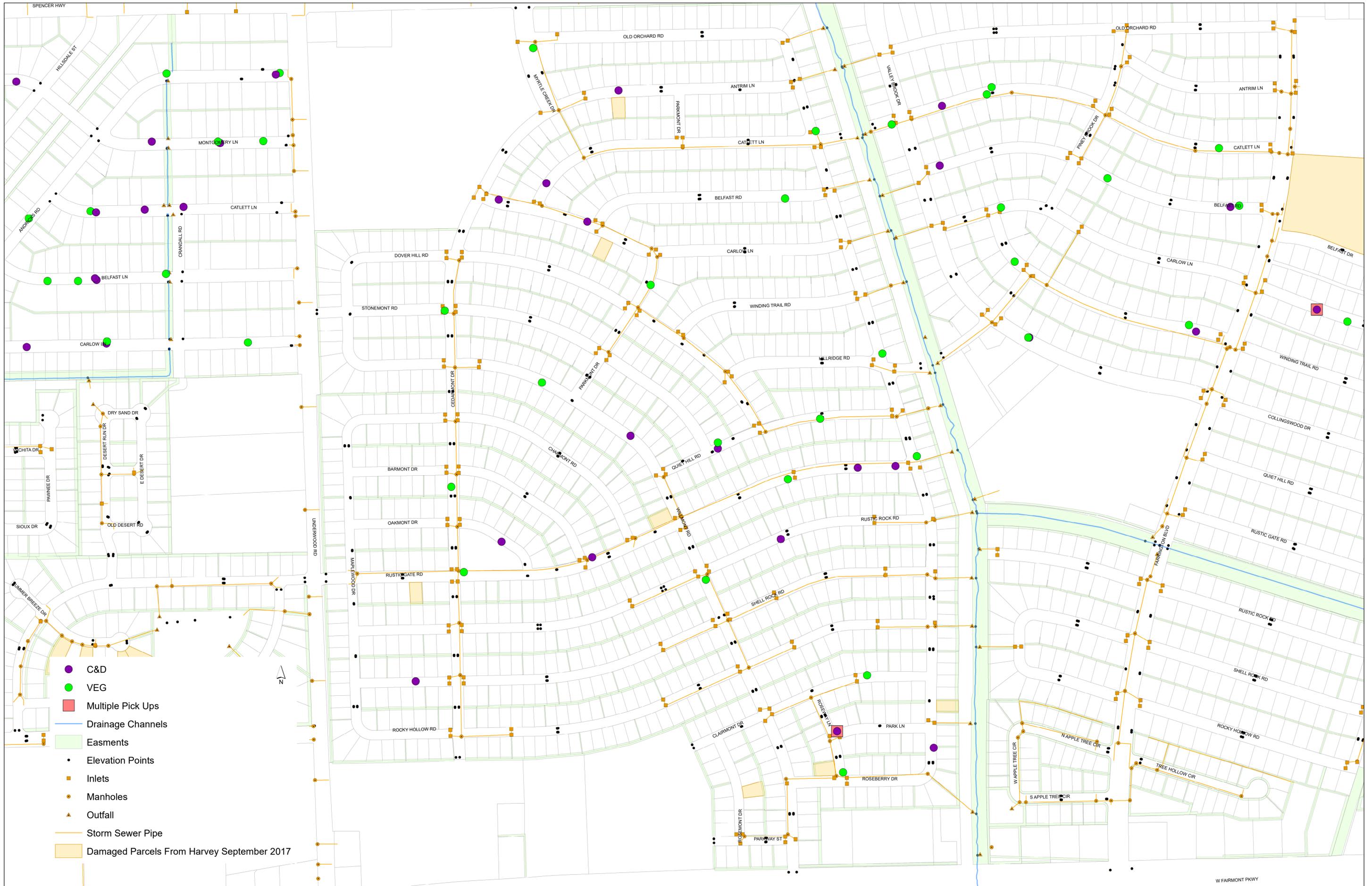
RECOMMENDED MOTION

Approved for Drainage Committee Agenda

Corby D. Alexander, City Manager

Date

Heavy Trash Pick Ups Post Harvey





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Agency

Location

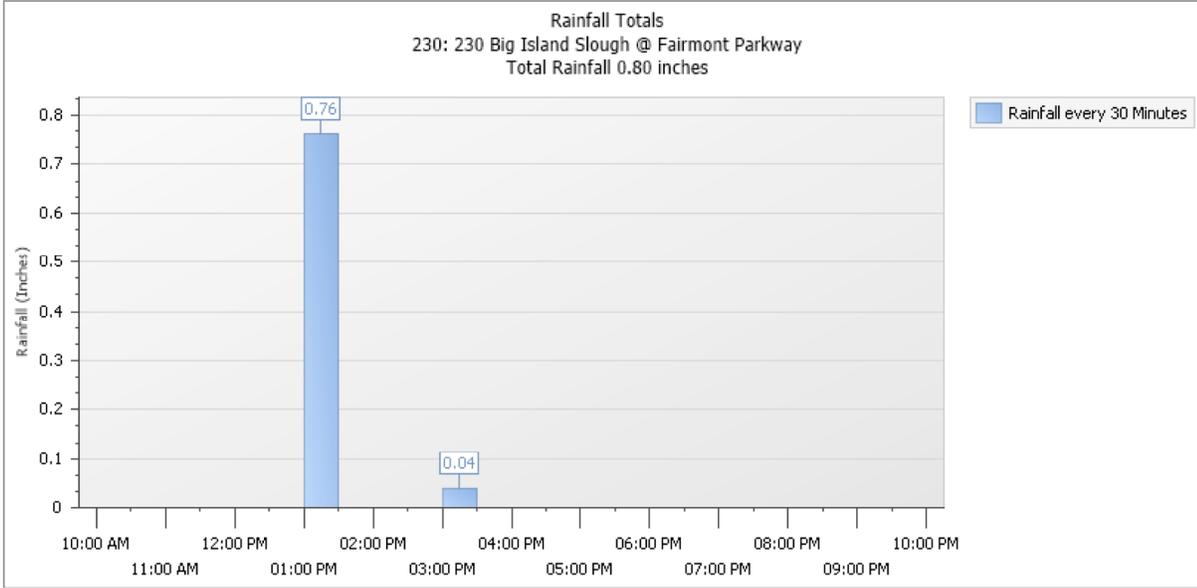
Last Reported from

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[Stream Elevation](#) [Rainfall](#) [Weather](#)

Showing rainfall totals from 7/22/2019 10:00 AM to 7/22/2019 10:00 PM CDT



The following detail shows the rainfall that has fallen by the selected time span. The default selection matches the Rainfall totals in the graph above.

[Export to Excel](#)

Reading Date From	Reading Date To	Rain
7/22/2019 9:30 PM	7/22/2019 10:00 PM	0.00"
7/22/2019 9:00 PM	7/22/2019 9:30 PM	0.00"
7/22/2019 8:30 PM	7/22/2019 9:00 PM	0.00"
7/22/2019 8:00 PM	7/22/2019 8:30 PM	0.00"
7/22/2019 7:30 PM	7/22/2019 8:00 PM	0.00"
7/22/2019 7:00 PM	7/22/2019 7:30 PM	0.00"
7/22/2019 6:30 PM	7/22/2019 7:00 PM	0.00"
7/22/2019 6:00 PM	7/22/2019 6:30 PM	0.00"
7/22/2019 5:30 PM	7/22/2019 6:00 PM	0.00"
7/22/2019 5:00 PM	7/22/2019 5:30 PM	0.00"
7/22/2019 4:30 PM	7/22/2019 5:00 PM	0.00"
7/22/2019 4:00 PM	7/22/2019 4:30 PM	0.00"
7/22/2019 3:30 PM	7/22/2019 4:00 PM	0.00"
7/22/2019 3:00 PM	7/22/2019 3:30 PM	0.04"
7/22/2019 2:30 PM	7/22/2019 3:00 PM	0.00"
7/22/2019 2:00 PM	7/22/2019 2:30 PM	0.00"
7/22/2019 1:30 PM	7/22/2019 2:00 PM	0.00"
7/22/2019 1:00 PM	7/22/2019 1:30 PM	0.76"
7/22/2019 12:30 PM	7/22/2019 1:00 PM	0.00"
7/22/2019 12:00 PM	7/22/2019 12:30 PM	0.00"
7/22/2019 11:30 AM	7/22/2019 12:00 PM	0.00"
7/22/2019 11:00 AM	7/22/2019 11:30 AM	0.00"
7/22/2019 10:30 AM	7/22/2019 11:00 AM	0.00"
7/22/2019 10:00 AM	7/22/2019 10:30 AM	0.00"



NOAA Atlas 14, Volume 11, Version 2
Location name: La Porte, Texas, USA*
Latitude: 29.6587°, Longitude: -95.0761°
Elevation: 18.85 ft**
 * source: ESRI Maps
 ** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sandra Pavlovic, Michael St. Laurent, Carl Trypaluk, Dale Unruh, Orian Wilhite

NOAA, National Weather Service, Silver Spring, Maryland

[PF tabular](#) | [PF graphical](#) | [Maps & aerials](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)
 1

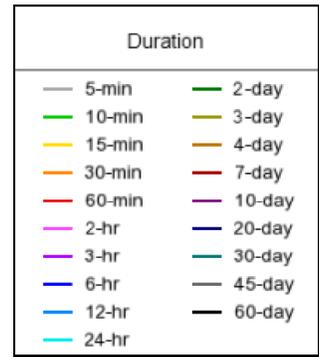
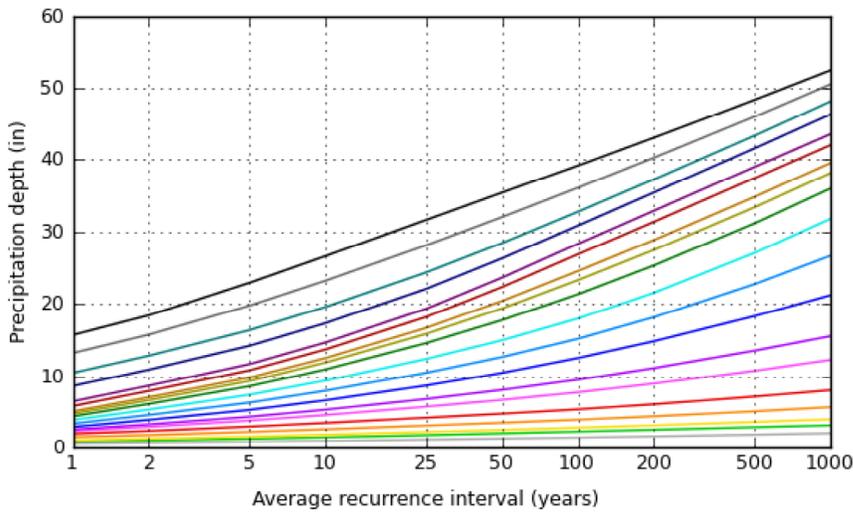
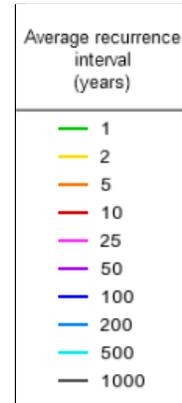
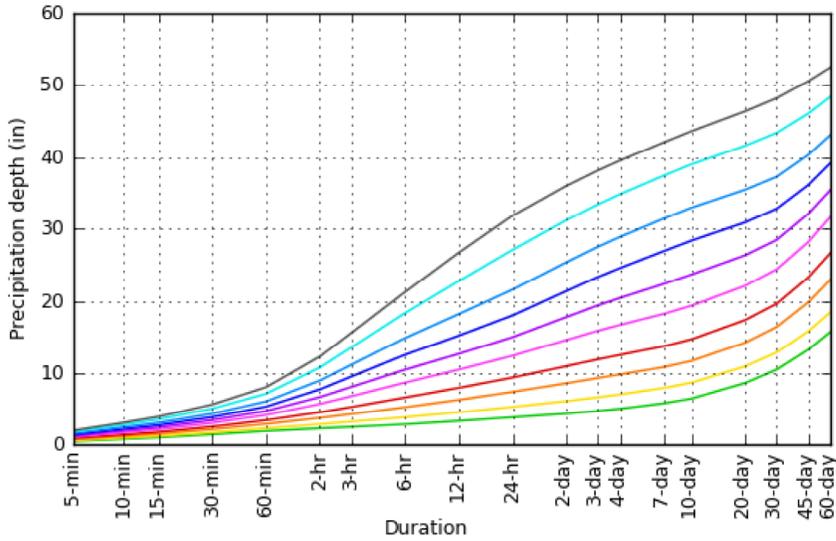
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	0.501 (0.379-0.662)	0.601 (0.457-0.781)	0.759 (0.578-0.996)	0.894 (0.671-1.19)	1.09 (0.788-1.49)	1.23 (0.873-1.74)	1.39 (0.959-2.02)	1.56 (1.05-2.32)	1.80 (1.17-2.77)	1.99 (1.26-3.14)
10-min	0.792 (0.600-1.05)	0.952 (0.724-1.24)	1.21 (0.917-1.58)	1.42 (1.07-1.90)	1.73 (1.26-2.38)	1.97 (1.40-2.78)	2.22 (1.53-3.22)	2.48 (1.67-3.69)	2.83 (1.84-4.36)	3.10 (1.96-4.90)
15-min	1.01 (0.768-1.34)	1.21 (0.921-1.58)	1.53 (1.16-2.00)	1.79 (1.34-2.39)	2.17 (1.57-2.97)	2.46 (1.74-3.47)	2.77 (1.91-4.01)	3.10 (2.08-4.61)	3.57 (2.32-5.50)	3.94 (2.49-6.22)
30-min	1.47 (1.11-1.93)	1.74 (1.32-2.26)	2.17 (1.66-2.85)	2.54 (1.91-3.39)	3.06 (2.22-4.19)	3.46 (2.44-4.88)	3.89 (2.68-5.63)	4.37 (2.94-6.50)	5.07 (3.29-7.82)	5.65 (3.57-8.92)
60-min	1.93 (1.46-2.55)	2.31 (1.76-3.00)	2.92 (2.22-3.83)	3.44 (2.58-4.58)	4.17 (3.02-5.70)	4.73 (3.34-6.66)	5.34 (3.69-7.75)	6.06 (4.08-9.03)	7.13 (4.63-11.0)	8.03 (5.08-12.7)
2-hr	2.31 (1.75-3.03)	2.89 (2.18-3.68)	3.76 (2.87-4.90)	4.55 (3.43-6.04)	5.71 (4.17-7.82)	6.67 (4.74-9.39)	7.73 (5.35-11.2)	8.95 (6.03-13.3)	10.8 (7.00-16.5)	12.3 (7.79-19.3)
3-hr	2.50 (1.91-3.28)	3.23 (2.42-4.06)	4.30 (3.28-5.57)	5.29 (4.00-7.01)	6.79 (4.98-9.30)	8.06 (5.76-11.4)	9.50 (6.59-13.7)	11.1 (7.51-16.4)	13.5 (8.83-20.7)	15.5 (9.90-24.4)
6-hr	2.87 (2.20-3.76)	3.86 (2.88-4.77)	5.26 (4.03-6.77)	6.61 (5.01-8.71)	8.67 (6.40-11.8)	10.5 (7.51-14.7)	12.5 (8.72-18.0)	14.8 (10.1-21.8)	18.3 (12.0-28.0)	21.2 (13.6-33.2)
12-hr	3.34 (2.56-4.34)	4.56 (3.41-5.59)	6.29 (4.83-8.05)	7.94 (6.05-10.4)	10.5 (7.74-14.2)	12.6 (9.10-17.7)	15.2 (10.6-21.7)	18.2 (12.3-26.6)	22.7 (14.9-34.6)	26.7 (17.1-41.6)
24-hr	3.85 (2.97-4.99)	5.31 (3.99-6.48)	7.39 (5.70-9.42)	9.37 (7.16-12.2)	12.4 (9.19-16.7)	15.0 (10.8-20.8)	18.0 (12.6-25.6)	21.5 (14.7-31.5)	27.1 (17.8-41.1)	31.8 (20.5-49.4)
2-day	4.37 (3.38-5.63)	6.11 (4.59-7.39)	8.57 (6.64-10.9)	10.9 (8.40-14.2)	14.6 (10.9-19.7)	17.7 (12.9-24.7)	21.3 (15.0-30.3)	25.3 (17.3-36.8)	31.2 (20.6-47.0)	36.0 (23.2-55.7)
3-day	4.74 (3.68-6.10)	6.64 (4.99-8.00)	9.31 (7.22-11.8)	11.9 (9.15-15.4)	15.8 (11.9-21.5)	19.4 (14.2-26.9)	23.3 (16.5-33.0)	27.5 (18.8-39.8)	33.4 (22.1-50.2)	38.2 (24.7-58.9)
4-day	5.06 (3.93-6.50)	7.04 (5.30-8.45)	9.81 (7.62-12.4)	12.5 (9.64-16.2)	16.7 (12.6-22.6)	20.4 (15.0-28.4)	24.6 (17.4-34.7)	28.9 (19.8-41.7)	34.8 (23.1-52.3)	39.6 (25.6-61.0)
7-day	5.81 (4.53-7.43)	7.92 (5.96-9.46)	10.8 (8.43-13.6)	13.7 (10.6-17.7)	18.2 (13.8-24.6)	22.3 (16.5-31.0)	26.9 (19.1-37.8)	31.4 (21.6-45.2)	37.4 (24.9-55.9)	42.1 (27.4-64.7)
10-day	6.46 (5.05-8.25)	8.65 (6.54-10.4)	11.7 (9.11-14.7)	14.7 (11.4-18.9)	19.3 (14.7-26.1)	23.6 (17.5-32.8)	28.3 (20.1-39.8)	32.9 (22.7-47.3)	39.0 (26.0-58.1)	43.6 (28.4-66.9)
20-day	8.61 (6.77-11.0)	10.9 (8.41-13.3)	14.2 (11.2-17.8)	17.3 (13.5-22.2)	22.1 (16.8-29.5)	26.3 (19.4-36.1)	30.9 (22.0-43.2)	35.4 (24.6-50.8)	41.6 (27.9-61.9)	46.4 (30.3-70.9)
30-day	10.5 (8.24-13.3)	12.8 (10.0-15.8)	16.4 (12.9-20.5)	19.6 (15.3-25.1)	24.4 (18.5-32.4)	28.4 (21.0-38.8)	32.8 (23.4-45.8)	37.3 (25.9-53.4)	43.4 (29.2-64.4)	48.2 (31.6-73.5)
45-day	13.2 (10.4-16.7)	15.8 (12.5-19.6)	19.8 (15.7-24.8)	23.2 (18.2-29.6)	28.1 (21.3-37.1)	32.0 (23.6-43.5)	36.1 (25.9-50.3)	40.3 (28.1-57.7)	46.1 (31.1-68.3)	50.5 (33.2-76.9)
60-day	15.7 (12.4-19.8)	18.4 (14.7-23.1)	22.9 (18.3-28.8)	26.6 (20.9-33.9)	31.6 (24.0-41.5)	35.4 (26.1-47.9)	39.2 (28.2-54.5)	43.1 (30.2-61.6)	48.4 (32.7-71.7)	52.5 (34.5-79.7)

¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).
 Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%.
 Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.
 Please refer to NOAA Atlas 14 document for more information.

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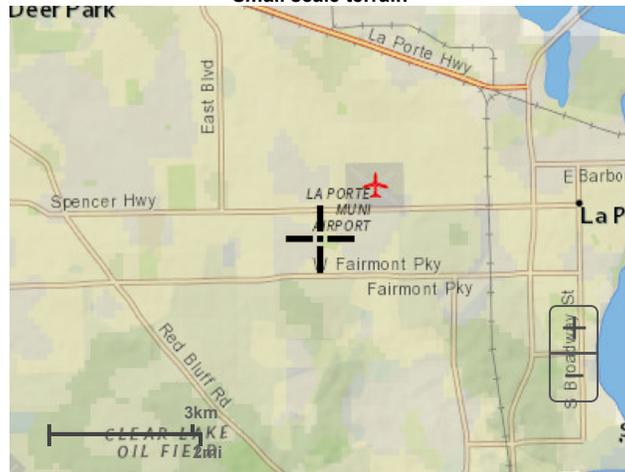
PF graphical

PDS-based depth-duration-frequency (DDF) curves
 Latitude: 29.6587°, Longitude: -95.0761°



Maps & aeri

Small scale terrain



Large scale terrain



Large scale map



Large scale aerial



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