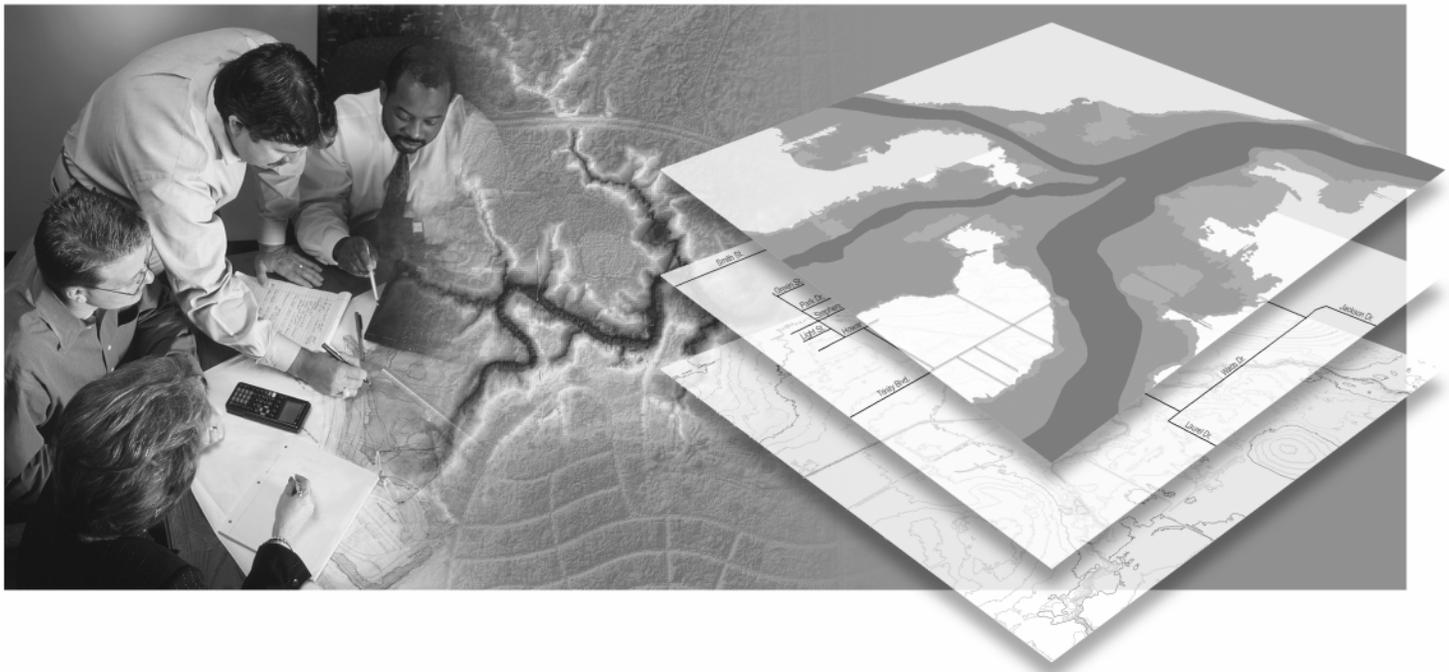


Flood Insurance Study

Harris County, Texas and Incorporated Areas

VOLUME 1 of 8



COMMUNITY NAME

COMMUNITY NO.

Baytown, City of	485456
Bellaire, City of	480289
Bunker Hill Village, City of ¹	480290
Deer Park, City of	480291
El Lago, City of	485466
Galena Park, City of	480293
Hedwig Village, City of ¹	480294
Hilshire Village, City of	480295
Houston, City of	480296
Humble, City of	480297
Hunters Creek Village, City of	480298
Jacinto City, City of	480299
Jersey Village, City of	480300
La Porte, City of	485487
Missouri City, City of	480304
Morgans Point, City of	480305

COMMUNITY NAME

COMMUNITY NO.

Nassau Bay, City of	485491
Pasadena, City of	480307
Pearland, City of	480077
Piney Point Village, City of	480308
Seabrook, City of	485507
Shoreacres, City of	485510
South Houston, City of	480311
Southside Place, City of	480312
Spring Valley, City of	480313
Stafford, City of	480233
Taylor Lake Village, City of	485513
Tomball, City of	480315
Webster, City of	485516
West University Place, City of	480318
Harris County Unincorporated Areas	480287

¹ No Special Flood Hazard Areas identified

This Preliminary FIS report only includes revised Floodway Data tables, revised Flood Profiles, and Addendum 10.4. The unrevised Floodway Data tables, Flood Profiles, and FIS text will appear in the final FIS report.

PRELIMINARY
JULY 29, 2015



FEMA

REVISED:
FLOOD INSURANCE STUDY
NUMBER 48201CV001E

NOTICE TO FLOOD INSURANCE STUDY USERS

Communities participating in the National Flood Insurance Program have established repositories of flood hazard data for floodplain management and flood insurance purposes. This Flood Insurance Study (FIS) may not contain all data available within the repository. It is advisable to contact the community repository for any additional data.

Part or all of this FIS may be revised and republished at any time. In addition, part of this FIS may be revised by the Letter of Map Revision process, which does not involve republication or redistribution of the FIS. It is, therefore, the responsibility of the user to consult with community officials and to check the community repository to obtain the most current FIS components. A listing of Community Map Repositories can be found on the Index Map.

This FIS was revised on [TBD]. Users should refer to Section 10.0, Revision Description, for further information. Section 10.0 is intended to present the most up-to-date information for specific portions of this FIS report. Therefore, users of this FIS report should be aware that the information presented in Section 10.0 supersedes information in Sections 1.0 through 9.0 of this FIS report.

This publication incorporates revisions to the original FIS.

Initial Countywide FIS Effective Date: September 28, 1990

First Revised Countywide FIS Date: September 30, 1992 – to update corporate limits; to decrease Base Flood Elevations; to update map format and roads and road names; and to incorporate previously issued letters of map amendment.

Second Revised Countywide FIS Date: November 6, 1996 – to update corporate limits, map format and roads and road names; to decrease Base Flood Elevations; and to incorporate previously issued letters of map amendment.

Third Revised Countywide FIS Date: April 20, 2000 – to update corporate limits; to add Base Flood Elevations, Special Flood Hazard Areas; to change Base Flood Elevations, Special Flood Hazard Areas, and zone designations; to add road and road names; to reflect updated topographic information; and to incorporate previously issues letters of map revision, and previously issues letters of map amendment.

Fourth Revised Countywide FIS Date: June 18, 2007 – to change Base Flood Elevations, Special Flood Hazard Areas, zone designations, and floodway; and to reflect updated topographic information.

Fifth Revised Countywide FIS Date: October 16, 2013 – to change Base Flood Elevations, Special Flood Hazard Areas, and floodway; and to incorporate previously issued letters of map revision.

Sixth Revised Countywide FIS Date: June 9, 2014 – to change Base Flood Elevations, Special Flood Hazard Areas, and floodway; and to incorporate previously issued letters of map revision.

Seventh Revised Countywide FIS Date: May 4, 2015 – to update corporate limits.

Eighth Revised Countywide FIS Date: [TBD] – to change Base Flood Elevations, Special Flood Hazard Areas, zone designations and floodway; to incorporate previously issued letters of map revision; to reflect updated topographic information; and to update roads and road names

This Preliminary FIS report only includes revised Floodway Data tables, revised Flood Profiles, and Addendum 10.4. The unrevised Floodway Data tables, Flood Profiles, and FIS text will appear in the final FIS report.

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Table 8 – Floodway Data (Watersheds A – I)

VOLUME 3

Table 8 – Floodway Data (Watersheds J – W)

EXHIBITS

Exhibit 1 – Flood Profiles – Flood Profiles included in this report are shown in Volumes 4 – 8. See the pages following for a complete listing.

Exhibit 2 – Flood Insurance Rate Map Index and Flood Insurance Rate Map

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Exhibit 1 – Flood Profiles

VOLUME 4 – JUNE 18, 2007

Clear Creek Watershed (A)

<u>HCFC</u> <u>Designation</u>	<u>Stream Name</u>	<u>Panels</u>
A100-00-00	Clear Creek	Panels A01P--A10P
A104-00-00	Taylor Bayou	Panels A11P--A13P
A104-04-00	Tributary 3.10 to Taylor Bayou	Panel A14P
A104-07-00	Tributary 3.93 to Taylor Bayou	Panel A15P
A104-13-00	Tributary 3.36 to Taylor Bayou	Panel A16P
A104-14-00	Taylor Bayou Diversion Channel	Panel A17P
A107-00-00	Cow Bayou	Panels A18P--A19P
A107-03-00	Unnamed Tributary to Cow Bayou	Panel A19P
A111-00-00	Tributary 10.08 to Clear Creek	Panels A20P--A22P
A118-00-00	Cedar Gully	Panel A23P
A119-00-00	Turkey Creek	Panels A24P--A25P
A119-02-00	Tributary 0.16 to Turkey Creek	Panel A26P
A119-05-00	Unnamed Tributary to Turkey Creek	Panels A27P--A28P
A119-07-00	Unnamed Tributary to Turkey Creek	Panel A29P
A119-07-02	Unnamed Tributary to A1 19-07-00	Panels A29P--A30P
A120-00-00	Halls Road Ditch	Panels A31P--A33P

Armand Bayou Watershed (B)

B100-00-00	Armand Bayou	Panels B01P--B03P
B104-00-00	Horsepen Bayou	Panels B04P--B05P
B104-04-00	Tributary 4.51 to Horsepen Bayou	Panel B06P
B104-05-00	Tributary 5.44 to Horsepen Bayou	Panel B07P
B106-00-00	Big Island Slough	Panels B08P--B09P
B109-00-00	Spring Gully	Panel B10P
B109-03-00	B1 12-02-00 Interconnect	Panel B11P
B111-00-00	Tributary 9.39 to Armand Bayou	Panel B12P
B112-00-00	Willow Springs Bayou	Panels B13P--B14P
B112-02-00	Tributary 1.78 to Willow Springs Bayou	Panels B15P--B16P
B112-04-00	Tributary B to Willow Springs Bayou	Panel B 17P
B113-00-00	Tributary 10.46 to Armand Bayou	Panel B18P
B114-00-00	County "C", D.D. #5	Panels B19P--B20P
B114-01-00	Private "G", D.D. #5	Panel B21P
B114-02-00	Unnamed Tributary to B 114-00-00	Panel B22P
B115-00-00	Tributary 12.18 to Armand Bayou	Panel B23P
B115-01-00	Tributary 12.18 to Armand Bayou (continued)	Panel B23P
B204-04-00	Horsepen Bayou Diversion Channel	Panel B24P

TABLE OF CONTENTS (Cont'd)

Exhibit 1 – Flood Profiles

VOLUME 4 (cont'd)

Sims Bayou Watershed (C)

<u>HCFCD</u> <u>Designation</u>	<u>Stream Name</u>	<u>Panels</u>
C100-00-00	Sims Bayou	Panels C01P--C05P
C102-00-00	Plum Creek	Panels C06P--C07P
C103-00-00	Pine Gully	Panels C08P--C09P
C106-00-00	Berry Bayou	Panels C10P--C12P
C106-01-00	Berry Creek	Panels C13P--C14P
C106-01-07	Unnamed Tributary to Berry Creek	Panel C14P
C106-03-00	Tributary 2.00 to Berry Bayou	Panels C15P--C16P
C106-08-00	Tributary 3.31 to Berry Bayou	Panel C17P
C118-00-00	Salt Water Ditch	Panel C18P
C123-00-00	Tributary 10.77 to Sims Bayou	Panel C19P
C223-00-00	Tributary 10.77 to Sims Bayou (continued)	Panel C19P
C127-00-00	Swengel Ditch	Panel C20P
C132-00-00	Tributary 13.83 to Sims Bayou	Panel C21P
C147-00-00	Tributary 20.25 to Sims Bayou	Panels C22P--C23P
C161-00-00	Tributary 17.82 to Sims Bayou	Panel C24P

Brays Bayou Watershed (D)

D100-00-00	Brays Bayou	Panels D01P--D07P
D109-00-00	Harris Gully	Panel D08P
D111-00-00	Poor Farm Ditch	Panels D09P--D10P
D112-00-00	Willow Waterhole Bayou	Panel D11P
D118-00-00	Keegans Bayou	Panels D12P--D13P
D120-00-00	Tributary 20.90 to Brays Bayou	Panels D14P--D15P
D122-00-00	Tributary 21.95 to Brays Bayou	Panels D16P--D17P
D124-00-00	Tributary 22.69 to Brays Bayou	Panel D18P
D126-00-00	Tributary 23.53 to Brays Bayou	Panels D19P--D20P
D129-00-00	Tributary 26.20 to Brays Bayou	Panels D21P--D22P
D132-00-00	Tributary 29.16 to Brays Bayou	Panel D23P
D133-00-00	Bintliff Ditch	Panel D24P
D139-00-00	Chimney Rock Diversion Channel	Panel D25P
D140-00-00	Fondren Diverson Channel	Panel D26P
D140-04-00	Fondren Diverson Channel (continued)	Panel D26P
D142-00-00	Tributary 20.86 to Brays Bayou	Panel D27P
D144-00-00	City Ditch	Panel D28P

TABLE OF CONTENTS (Cont'd)

Exhibit 1 – Flood Profiles

VOLUME 5 - JUNE 9, 2014

White Oak Bayou Watershed (E)

<u>HCFC</u>	<u>Designation</u>	<u>Stream Name</u>	<u>Panels</u>
	E100-00-00	White Oak Bayou	Panels E01P--E11P
	E101-00-00	Little White Oak Bayou	Panels E12P--E13P
	E115-00-00	Brickhouse Gully	Panels E14P--E16P
	E115-04-00	Brickhouse Gully Tributary 1.61	Panel E17P
	E116-00-00	Tributary 10.1 to White Oak Bayou	Panel E18P
	E116-05-00	Tributary 10.1 to White Oak Bayou (continued)	Panel E18P
	E117-00-00	Cole Creek	Panels E19P--E21P
	E121-00-00	Vogel Creek	Panels E22P--E24P
	E122-00-00	Unnamed Tributary to White Oak Bayou	Panels E25P--E26P
	E124-00-00	White Oak Bayou Tributary 15.8	Panel E27P
	E125-00-00	Rolling Fork	Panel E28P
	E127-00-00	Tributary 19.05 to White Oak Bayou	Panel E29P
	E135-00-00	Tributary 19.82 to White Oak Bayou	Panel E30P
	E141-00-00	Beltway Channel	Panels E31P--E32P

Galveston Bay Watersheds (F)

	F216-00-00	Little Cedar Bayou	Panels F01P--F02P
	F220-00-00	Pine Gully	Panel F03P
	F220-03-00	Pine Gully (continued)	Panel F03P

San Jacinto River Watershed (G)

	G100-00-00	San Jacinto River, Houston Ship Channel	Panel G01P
	G100-00-00	Buffalo Bayou, Houston Ship Channel	Panels G02P--G04P
	G103-00-00	San Jacinto River	Panels G05P--G08P
	G103-01-00	Unnamed Tributary to San Jacinto River	Panels G09P--G10P
	G103-07-00	Unnamed Tributary to San Jacinto River	Panels G11P--G14P
	G103-00-00	Lake Houston	Panels G15P--G17P
	G103-00-00	West Fork San Jacinto River	Panels G18P--G21P
	G103-33-00	Bens Branch	Panels G22P--G24P
	G103-43-00	Jordan Gully	Panel G25P
	G103-44-00	TxDOT Ditch #4	Panel G26P
	G103-48-00	Blacks Branch	Panel G27P
	G103-80-00	Lake Houston (continued)	Panels G17P & G28P
	G103-80-00	East Fork San Jacinto River	Panels G29P--G34P
	G103-80-03	Caney Creek	Panel G35P
	G103-80-03.1	White Oak Creek	Panels G36P--G37P

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Exhibit 1 – Flood Profiles

VOLUME 5 (cont'd)

San Jacinto River Watershed (G) (cont'd)

HCFC	<u>Designation</u>	<u>Stream Name</u>	<u>Panels</u>
	G103-80-03.1A	Mills Branch	Panel G38P
	G103-80-03.1B	Taylor Gully	Panels G39P--G40P
	G104-00-00	Patrick Bayou	Panels G41P--G43P
	G104-08-00	E. 13th St. Outfall Channel	Panels G44P--G45P
	G105-00-00	Boggy Bayou	Panels G46P--G47P
	G108-00-00	Glenmore Ditch	Panel G48P
	G109-00-00	Tributary 6.77 to Buffalo Bayou	Panel G49P
	G110-00-00	Cotton Patch Bayou	Panel G50P
	G112-00-00	Panther Creek	Panel G51P

Hunting Bayou Watershed (H)

	H100-00-00	Hunting Bayou	Panels H01P--H06P
	H103-00-00	Wallisville Outfall	Panels H07P--H09P
	H110-00-00	Tributary 12.70 to Hunting Bayou	Panel H10P
	H112-00-00	Schramm Gully	Panel H11P
	H118-00-00	Tributary 12.05 to Hunting Bayou	Panels H12P--H13P

Vince Bayou Watershed (I)

	I100-00-00	Vince Bayou	Panels I01P--I03P
	I101-00-00	Little Vince Bayou	Panels I04P--I05P

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Exhibit 1 – Flood Profiles

VOLUME 6

Spring Creek Watershed (J)

<u>HCFCID</u>	<u>Stream Name</u>	<u>Panels</u>
J100-00-00	Spring Creek	Panels J01P--J29P
J109-00-00	Bender Lake	Panel J30P
J109-01-00	Continuation of Bender Lake	Panels J30P--J31P
J121-00-00	Tributary 21.08 to Spring Creek	Panel J32P
J131-00-00	Boggs Gully	Panels J33P--J36P
J131-01-00	Tributary 1.25 to Boggs Gully	Panel J37P
J158-00-00	Kickapoo Creek	Panels J38P--J40P

Cypress Creek Watershed (K)

K100-00-00	Cypress Creek	Panels K01P--K11P
K111-00-00	Turkey Creek	Panels K12P--K14P
K111-03-00	Tributary to Turkey Creek	Panel K15P
K112-00-00	Wild Cow Gulch	Panel K16P
K116-00-00	Schultz Gully	Panel K17P
K120-00-00	Lemm Gully	Panels K18P--K19P
K120-01-00	Senger Gully	Panels K20P--K21P
K120-03-00	Wunsche Gully	Panel K22P
K124-00-00	Seals Gully	Panels K23P--K24P
K124-02-00	Kothman Gully	Panels K25P--K26P
K131-00-00	Spring Gully	Panels K27P--K28P
K131-02-00	Theiss Gully	Panels K29P--K30P
K131-02-04	Tributary to Theiss Gully	Panel K30P
K131-03-00	Tributary 2.1 to Spring Gully	Panel K31P
K131-04-00	Tributary to Spring Gully	Panel K32P
K133-00-00	Dry Gully	Panels K33P--K34P
K140-00-00	Pillot Gully	Panels K35P--K36P
K142-00-00	Faulkey Gully	Panels K37P--K39P
K145-00-00	Dry Creek	Panels K40P--K41P
K150-00-00	Tributary 36.6 to Cypress Creek	Panels K42P--K43P
K150-01-00	Tributary 36.6-A to Cypress Creek	Panel K44P
K152-00-00	Tributary 37.1 to Cypress Creek	Panel K45P
K155-00-00	Tributary 40.7 to Cypress Creek	Panels K46P--K47P
K157-00-00	Tributary 42.7 to Cypress Creek	Panels K48P--K49P
K159-00-00	Channel A to Cypress Creek	Panels K50P--K51P
K159-01-00	Channel D to Channel A to Cypress Creek	Panel K52P
K160-00-00	Rock Hollow	Panels K53P--K55P
K160-01-00	Tributary 1.63 to Rock Hollow	Panels K56P--K58P

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Exhibit 1 – Flood Profiles

VOLUME 6 (cont'd)

Cypress Creek Watershed (K) (cont'd)

<u>HCFC</u> <u>Designation</u>	<u>Stream Name</u>	<u>Panels</u>
K166-00-00	Mound Creek	Panels K59P--K62P
K166-01-00	East Fork Mound Creek	Panels K63P--K64P
K166-02-00	Little Mound Creek	Panels K65P--K66P
K166-03-00	Tributary 7.62 to Mound Creek	Panel K67P
K185-00-00	Tributary 44.5 to Cypress Creek	Panel K68P
K172-00-00	Tributary 44.5 to Cypress Creek (continued)	Panels K68P--K70P

Little Cypress Creek Watershed (L)

L100-00-00	Little Cypress Creek	Panels L01P--L09P
L109-00-00	Tributary 9.36 to Little Cypress Creek	Panel L10P
L112-00-00	Tributary 10.99 to Little Cypress Creek	Panel L11P
L114-00-00	Tributary 13.92 to Little Cypress Creek	Panels L12P--L13P
L114-01-00	Tributary 0.12 to Tributary 13.92 to Little Cypress	Panels L14P--L16P

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Exhibit 1 – Flood Profiles

VOLUME 7 – JUNE 9, 2014

Willow Creek Watershed (M)

<u>HCFC</u> <u>Designation</u>	<u>Stream Name</u>	<u>Panels</u>
M100-00-00	Willow Creek	Panels M01P--M09P
M101-00-00	Tributary 0.26 to Willow Creek	Panel M10P
M102-00-00	Tributary 1.77 to Willow Creek	Panel M11P
M104-00-00	Tributary 2.44 to Willow Creek	Panels M12P--M13P
M108-00-00	Hughes Gully	Panel M14P
M109-00-00	Cannon Gully	Panel M15P
M109-01-00	Metzler Creek	Panel M16P
M112-00-00	Tributary 6.52 to Willow Creek	Panels M17P--M18P
M116-00-00	Tributary 8.16 to Willow Creek	Panels M19P--M20P
M124-00-00	Tributary 13.50 to Willow Creek	Panels M21P--M23P
M129-00-00	Continuation of Willow Creek	Panel M09P

Carpenters Bayou Watershed (N)

N100-00-00	Carpenters Bayou	Panels N01P--N03P
N100-00-00	Sheldon Reservoir	N/A
N104-00-00	Tributary 3.33 to Carpenters Bayou	Panel N04P
N117-00-00	Tributary 11.715 to Carpenters Bayou	Panel N05P

Goose Creek Watershed (O)

O100-00-00	Goose Creek	Panels O01P--O03P
O105-00-00	East Fork Goose Creek	Panels O04P--O05P
O200-00-00	Spring Gully	Panels O06P--O07P
O208-00-00	Spring Gully Diversion Channel	Panel O08P

Greens Bayou Watersheds (P)

P100-00-00	Greens Bayou	Panels P01P--P 18P
P107-00-00	Big Gulch	Panels P19P--P21P
P109-00-00	Sulphur Gully	Panel P22P
P110-00-00	Spring Gully	Panels P23P--P24P
P114-00-00	Unnamed Tributary to Greens Bayou	Panel P25P
P118-00-00	Halls Bayou	Panels P26P--P34P

TABLE OF CONTENTS (Cont'd)

Exhibit 1 – Flood Profiles

VOLUME 7 (cont'd)

Greens Bayou Watersheds (P) (cont'd)

<u>HCFC</u> <u>Designation</u>	<u>Stream Name</u>	<u>Panels</u>
P118-14-00	Tributary 6.71 to Halls Bayou	Panel P35P
P118-23-00	Tributary 11.96 to Halls Bayou	Panel P36P
None	Unnamed Tributary to Halls Bayou	Panel P37P
P125-00-00	Tributary 14.27 to Greens Bayou	Panels P38P--P39P
P125-04-00	Tributary 14.27 to Greens Bayou (continued)	Panel P39P
P126-00-00	Tributary 14.82 to Greens Bayou	Panels P40P--P41P
P130-00-00	Garners Bayou	Panels P42P--P45P
P130-02-00	Williams Gully	Panels P46P--P47P
P130-02-02	Tributary 2.01 to Williams Gully	Panel P48P
P130-03-00	Tributary 3.19 to Garners Bayou	Panel P49P
P130-03-01	Tributary 0.55 to Tributary 3.19 to Garners Bayou	Panel P50P
P130-05-00	Reinhardt Bayou	Panels P51P--P52P
P133-00-00	Tributary 20.88 to Greens Bayou	Panel P53P
P138-00-00	Tributary 24.97 to Greens Bayou	Panels P54P--P55P
P140-00-00	Tributary 26.64 to Greens Bayou -- Hoods Bayou	Panel P56P
P140-04-00	Continuation of Tributary 26.64 to Greens Bayou	Panels P56P--P57P
P140-04-03	Continuation of Tributary 26.64 to Greens Bayou	Panels P57P--P58P
P145-00-00	North Fork Greens Bayou	Panels P59P--P60P
P145-03-00	Tributary 1.95 to North Fork Greens Bayou	Panels P61P--P62P
P146-00-00	Tributary 32.23 to Greens Bayou	Panel P63P
P147-00-00	Unnamed Tributary to Greens Bayou	Panels P64P--P65P
P148-00-00	Tributary 34.60 to Greens Bayou	Panel P66P
P155-00-00	Unnamed Tributary to Greens Bayou	Panels P67P--P68P
P156-00-00	Unnamed Tributary to Greens Bayou	Panel P69P

TABLE OF CONTENTS (Cont'd)

Exhibit 1 – Flood Profiles

VOLUME 8

Cedar Bayou Watershed (O)

<u>HCFC</u> <u>Designation</u>	<u>Stream Name</u>	<u>Panels</u>
Q100-00-00	Cedar Bayou	Panels Q01P--Q09P
Q101-00-00	Pine Gully	Panel Q10P
Q112-00-00	Cary Bayou	Panels Q11P--Q12P
None	Horsepen Bayou (City of Baytown)	Panel Q13P
Q114-00-00	McGee Gully	Panels Q14P--Q15P
Q122-00-00	Clawson Ditch	Panels Q16P--Q17P
Q128-00-00	Adlong Ditch	Panels Q18P--Q20P
Q130-00-00	Unnamed Tributary to Cedar Bayou	Panels Q21P--Q22P
Q200-00-00	Cedar Bayou Diversion Channel	Panel Q23P

Jackson Bayou Watershed (R)

R100-00-00	Jackson Bayou	Panels R01P--R02P
R102-00-00	Gum Gully	Panels R03P--R04P
R102-03-00	Tributary 2.70 to Gum Gully	Panel R05P
R102-03-01	Tributary 2.70 to Gum Gully (continued)	Panel R05P
R102-13-00	Tributary 3.08 to Gum Gully	Panel R06P

Luce Bayou Watershed (S)

S100-00-00	Luce Bayou	Panels S01P--S04P
S110-00-00	Shook Gully	Panels S05P--S06P
S114-00-00	Mexican Gully	Panel S07P

Barker Reservoir Watershed (T)

T100-00-00	Upper Buffalo Bayou / Cane	Panel not printed
T100-00-00	Cane Island Branch	Panels T01P--T03P
T101-00-00	Mason Creek	Panels T04P--T06P
T101-03-00	Tributary 4.96 to Mason Creek	Panels T07P--T08P
T101-10-00	Unnamed Tributary to Mason Creek	Panel T06P
T103-00-00	Tributary 52.9 to Upper Buffalo Bayou / Cane	Panels T09P--T10P
T103-01-00	Tributary 2.17 to Tributary 52.9 to Upper Buffalo Bayou / Cane	Panel T11P

TABLE OF CONTENTS (Cont'd)

Exhibit 1 – Flood Profiles

VOLUME 8 (cont'd)

Addicks Reservoir Watershed (U)

<u>HCFC</u> <u>Designation</u>	<u>Stream Name</u>	<u>Panels</u>
U100-00-00	Langham Creek	Panels U01P--U06P
U101-00-00	South Mayde Creek	Panels U07P--U12P
U101-07-00	Tributary 9.4 to South Mayde Creek	Panels U14P--U15P
U101-22-00	Tributary 9.6 to South Mayde Creek	Panels U12P--U13P
U102-00-00	Bear Creek	Panels U16P--U20P
U102-01-00	Unnamed Tributary to Bear Creek	Panels U21P--U22P
U106-00-00	Horsepen Creek	Panels U23P--U25P
U120-00-00	Dinner Creek	Panels U26P--U27P
U200-00-00	Addicks Reservoir Diversion Channel	Panel U01P
U202-01-00	Bear Creek Diversion Channel	Panel U16P
W167-01-00	Tributary 3.9 to Turkey Creek	Panel U28P

Buffalo Bayou Watershed (W)

W100-00-00	Buffalo Bayou	Panels W01P--W14P
W140-00-00	Spring Branch	Panels W15P--W16P
W140-01-00	Briar Branch	Panels W17P--W18P
W141-00-00	Soldiers Creek	Panels W19P--W20P
W142-00-00	Bering Ditch	Panel W21P
W156-00-00	Rummel Creek	Panels W22P--W23P
W157-00-00	Unnamed Tributary to Buffalo Bayou	Panels W24P--W25P
W167-00-00	Turkey Creek	Panel W26P
W167-04-00	Continuation of Turkey Creek	Panels W26P--W29P
W167-01-00	Tributary 3.9 to Turkey Creek (See Addicks Watershed)	N/A
W170-00-00	Unnamed Tributary to Buffalo Bayou	Panels W30P--W32P
W190-00-00	Clodine Ditch	Panels W33P--W34P

Table 16. Letters of Map Revision - Sixth Revision (Cont'd)

Case Number	Date Issued	Project Identifier	Revised Map Panels	Revised Floodway Data Tables	Revised Profiles
10-06-1715X	4/30/2010	Northwest Park Colony	48201C0465M	N/A	E24P
11-06-2873P	7/26/2011	Little White Oak Bayou Floodway Revision	48201C0660M	E101-00-00	N/A
12-06-1071P	5/30/2012	Buffalo Bayou	48201C0670M	N/A	W05P
12-06-3003P	3/7/2013	Tributary 34.6 to Greens Bayou	48201C0465M	N/A	N/A

Case number 07-06-1889P also includes revision to the “Summary of Discharges” table, as shown in Table 15.

10.3 Seventh Revision – May 4, 2015

This PMR revises map panels associated with the City of Baytown. The portions of the City of Baytown within Chambers County that were previously shown on the Harris County and Incorporated Areas FIRMs and FIS Report are now shown separately on the Chambers County and Incorporated Areas FIRMs and FIS Report. See the separately published countywide FIS Reports and FIRMs for NFIP applications and purposes for the City of Baytown in areas outside of Harris County.

10.4 Eighth Revision – [TBD]

This PMR is a joint effort between FEMA and its Cooperating Technical Partner (CTP), the Harris County Flood Control District (HCFCD). The CTP Agreement was established under FEMA contract No. EMT-2010-CA-0014, with Mapping Activity Statement (MAS) 16. This PMR incorporates updated hydrology and hydraulic models for approximately 59.4 stream miles that have been updated to reflect key changes in the Addicks Reservoir Watershed (HCFCD Unit # U100-00-00). These changes include approved Letters of Map Revision (LOMRs), extensive development with its associated on-site detention resulting in land use and other watershed parameter changes, and updated hydrology and hydraulics from the adjacent Cypress Creek Watershed (HCFCD Unit # K100-00-00) overflows to the Addicks Reservoir Watershed and updated floodplain boundaries for Addicks Reservoir as a result of more up-to-date topographic information. The study also incorporates changes to T101-00-00 (Mason Creek), T101-13-00 (Diversion Channel to Mason Creek), and T101-10-00 (Unnamed Tributary to Mason Creek) from previously approved LOMR 08-06-1677P, for which the Addicks Reservoir Watershed portions have been superseded. Under contract No. HSFEHQ-09-D-0369, FY13, TO1 to FEMA, the Risk Assessment, Mapping, and Planning Partners (RAMPP) incorporated the Addicks Reservoir Watershed study into the FIRMs and FIS. This work was completed in May 2015.

Base map used for this PMR was provided in digital format by the Harris Galveston Area Council and was revised and enhanced by Harris County.

For this PMR, an initial kickoff meeting for the Addicks Reservoir Watershed study was held on October 1, 2010, and attended by representatives from HCFCD, Lockwood, Andrews and Newnam, Inc., Grounds Anderson, Sirrus, Brooks and Sparks, and West Belt Surveying. A final CCO meeting was held on [TBD] and attended by representatives of [insert after meeting happens]. [Once study completed add: All concerns and issues raised at that meeting have been addressed in this study.]

The Addicks Reservoir watershed covers an area approximately 137 square miles in west Harris County and includes six primary streams: Langham Creek (U100-00-00), South Mayde Creek (U101-00-00), Bear Creek (U102-00-00), Horsepen Creek (U106-00-00), Dinner Creek (U120-00-00) and Turkey Creek (W167-00-00), with additional smaller streams. The Addicks Reservoir watershed is located north of Interstate (IH-10), south of U.S. Highway (US) 290, west of Beltway (BW) 8, and east of the Harris County line with Waller County. Approximately 1 square mile of the Addicks Reservoir watershed is within Waller County. The majority of the watershed is located in unincorporated areas of Harris County with only the Addicks Reservoir in the City of Houston.

The Addicks Reservoir and Dam were constructed in the late 1940's under the authorization of the United States Army Corps of Engineers (USACE) to provide flood damage protection to the City of Houston and other downstream communities by reducing downstream flooding of Buffalo Bayou (HCFCD Unit # W100-00-00). The Addicks Dam is located on the north side of IH-10 and comprised of five 8-foot by 6-foot gated outlet box conduits.

Table 17. Scope of Revision – [TBD] Revision

<u>Stream</u>	<u>Limits of Revised or New Detailed Study</u>
T101-00-00 (Mason Creek)	From approximately 4,000 feet downstream of Peek Road South to approximately 4,600 feet upstream of Franz Road
T101-10-00 (Unnamed Tributary to Mason Creek)	From the confluence with T101-00-00 (Mason Creek) to approximately 1,700 feet upstream of the confluence with T101-00-00
T101-08-00*	From the confluence with T101-00-00 (Mason Creek) to approximately 5,700 feet upstream
T101-13-00 (South Diversion Channel to Mason Creek)	From the confluence with T101-00-00 (Mason Creek) to just upstream of Morton Road
U100-00-00 (Langham Creek)	From approximately 38,300 feet upstream of the confluence with W100-00-00 (Buffalo Bayou) to approximately 450 feet upstream of South of House Hail Road

*Area went from Zone AO to Zone X (unshaded)

Table 17. Scope of Revision – [TBD] Revision (continued)

<u>Stream</u>	<u>Limits of Revised or New Detailed Study</u>
U101-00-00 (South Mayde Creek) and U101-22-00 (Unnamed Tributary to South Mayde Creek)	From approximately 19,300 feet upstream of the confluence with U100-00-00 (Langham Creek) within Addicks Reservoir to approximately 10,500 feet upstream of Katy Hockley Road
U101-07-00 (Tributary 9.4 to South Mayde Creek)	From the confluence with U101-00-00 (South Mayde Creek) to approximately 3,300 feet upstream of the confluence with U101-00-00 (South Mayde Creek)
U101-08-00 (Tributary 9.6 to South Mayde Creek)	From the confluence with U101-00-00 (South Mayde Creek) to approximately 11,200 feet upstream of the confluence with U101-00-00 (South Mayde Creek)
U102-00-00 (Bear Creek) and U202-01-00 (Bear Creek Diversion Channel)	From approximately 10,800 feet downstream of Barker Cypress Road to approximately 3,900 feet upstream of Longenbaugh Road
U102-01-00 (Unnamed Tributary to Bear Creek)	From the confluence with U102-00-00 (Bear Creek) to approximately 9,275 feet upstream of the confluence with U102-00-00 (Bear Creek)
U106-00-00 (Horsepen Creek)	From the confluence with U200-00-00 (Addicks Reservoir Diversion Channel) to approximately 6,000 feet upstream of Queenston Boulevard
U120-00-00 (Dinner Creek)	From the confluence with U100-00-00 (Langham Creek) to approximately 3,100 feet upstream of Fry Road
W167-01-00 (Tributary 3.9 to Turkey Creek)	From the confluence with W167-01-00 (Turkey Creek) to approximately 2,050 feet upstream of Acacia Arbor

In addition to the Addicks Reservoir Watershed study, this revision also incorporated the following LOMRs. These changes are also reflected in Table 8, “Floodway Data,” and Exhibit 1, “Flood Profiles”. Case number 14-06-1080P also includes revisions to the “Summary of Discharges” table, as shown in Table 18.

Case Number	Date Issued	Project Identifier	Revised Map Panels	Revised Flood Data Tables	Revised Profiles
14-06-1080P	October 10, 2014	524-Acre Stone Creek Ranch Development	48201C0195N & 48201C0385N	K155-00-00	K46P & K47P
13-06-4636P	August 21, 2014	Mason Creek Corporate – Merchants Way Bridge	48201C0595M	N/A	T05P & T06P
14-06-1079P	September 15, 2013	T101-00-00 (Mason Creek)	N/A ¹	T101-00-00	N/A
13-06-0262P	May 20, 2013	T101-00-00 (Mason Creek)	N/A ¹	T101-00-00	N/A
11-06-3712P	September 6, 2011	Centerpoint Energy Bridge Replacement Over HCFCD Unit No. W167-04-00	N/A ²	N/A	W28P

¹ N/A = Not Applicable. No revision to the Flood Insurance Rate Map (FIRM) panel 48201C0615M, Flood Insurance Study (FIS) report revision only.

² N/A = Not Applicable. No revision to FIRM panel 48201C0630M, FIS report revision only.

Topographic information used for basin delineation was derived from LiDAR data flown between February and March 2008 under authority from the Houston-Galveston Area Council (H-GAC) and HCFCD. One-foot contours were developed from the 2008 LiDAR for HCFCD by Merrick & Company. Differential subsidence has occurred across Harris County from 2001 to 2008 varying from less than 0.1 foot in the southeast portion of the county to approximately 0.6 foot in the west. In order to remove the effects of subsidence on the 2008 LiDAR, HCFCD used information provided by the Harris Galveston Subsidence District and the United States Geological Survey. This information provided an accurate approximation of the overall subsidence across the county between 2001 and 2008 at various locations. A more detailed summary of the process and data used can be found in Appendix C, Addicks Reservoir (U100-00-00) Hydraulic Update, 2013 (Reference 10.4.1).

The hydrologic model was updated to reflect current conditions in the Addicks Reservoir Watershed. These updates included changing the modeling version used, from the USACE, Hydrologic Engineering Center (HEC) HEC-HMS, version 3.1.0, to HEC-HMS, version 3.4. The watershed parameters were also updated based on the changes in the land use with associated on-site detention, subbasin delineation, and known improvement projects. The land use parameters (percent urban development and percent impervious) were also updated to reflect 2008 ground conditions. This is consistent with the time period for the capture of the primary topographic resource, the 2008 LiDAR (one-foot contours). Other watershed parameters, such as watershed lengths (L) or percent channel improvement (DCI), were updated where necessary to address known improvement projects or other updates to the watershed. Watershed parameters in the effective model were also updated to ensure consistency with current HCFCD methodology (Reference 10.4.2).

The storage volume that represents the flow attenuation through the overflow area between Cypress Creek and Addicks Reservoir in the effective hydrologic model was approximated during the Tropical Storm Allison Recovery Project. The latest Cypress Creek model was updated in the Harris County, Texas and Incorporated Areas Fifth Revision dated October 16, 2013, which resulted in an update of the overflow characteristics. The updated hydrologic model for the Addicks Reservoir includes this updated overflow from Cypress Creek.

For T-101-00-00 (Mason Creek) and associated tributaries, HEC-HMS was used for developing the hydrologic model as a part of LOMR 08-06-1677P. The LOMR has been superseded due to the Addicks Reservoir update, however the hydrology associated with T-101-00-00 (Mason Creek) and associated tributaries remains valid and has been incorporated in this study. The parameters were updated based on the changes in the land use with associated on-site detention, subbasin delineation, and known improvement projects. The land use parameters (percent urban development and percent impervious) were also updated to reflect 2008 ground conditions. This is consistent with the time period for the capture of the primary topographic resource, the 2008 LiDAR (one-foot contours). Other parameters, such as watershed lengths (L) or percent channel improvement (DCI), were updated where necessary to address know improvement projects or other updates.

Table 18. Revised Summary of Discharges – [TBD] Revision

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES (cfs)			
		Percent Annual Chance			
		10- percent	2- percent	1- percent	0.2- percent
K155-00-00					
(Tributary 40.7 to Cypress Creek)					
At mouth	4.17	342	717	963	1,796
At stream mile 1.43	3.03	177	371	499	930
At stream mile 2.32	2.35	167	349	469	874
At stream mile 3.44	1.43	138	289	389	725
T101-00-00					
(Mason Creek)					
At mouth	16.37	4,774	7,666	9,234	13,655
At Fry Road	13.95	3,974	6,402	7,712	11,363
Downstream of Kingsland Boulevard	10.64	2,880	4,644	5,570	8,238
At IH 10	8.76	2,260	3,641	4,366	6,457
At Mason Road	7.71	1,979	3,191	3,824	5,659
Downstream of Colonial Parkway	6.16	1,565	2,528	3,027	4,485
Downstream of Confluence with T101-08-00	4.86	1,563	2,519	3,015	3,481
Downstream of Peek Road	3.38	1,109	1,797	2,163	3,275
Downstream of Franz Road	2.40	724	1,168	1,404	2,133

Table 18. Revised Summary of Discharges – [TBD] Revision (continued)

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES (cfs) Percent Annual Chance			
		10- percent	2-percent	1-percent	0.2- percent
T101-03-00 (South Diversion Channel To Mason Creek) At Mouth	1.99	417	676	809	1,264
U100-00-00 (Langham Creek)					
At Addicks Dam Road	136.76	21,628	35,767	43,220	64,101
At confluence of U101-00-00 (South Mayde Creek)	125.98	19,066	31,755	38,478	57,237
At confluence of U102-00-00 (Bear Creek)	85.94	14,814	24,511	29,581	43,452
At Clay Road	46.26	10,194	16,688	20,052	28,915
At confluence of U118-00-00	21.44	4,575	7,362	8,760	12,590
At confluence of U120-00-00 Dinner Creek	18.56	3,338	5,332	6,378	9,378
At Longenbaugh Road	11.67	1,365	2,330	2,882	4,629
At Househahl Road	0.00	--	57	153	646
U101-00-00 (South Mayde Creek)					
At confluence with U100-00-00 (Langham Creek)	40.04	5,072	8,775	10,551	15,941
At confluence of U101-03-00	31.09	5,017	7,814	9,153	13,120
At confluence with U101-08-00 (Tributary 9.6 to South Mayde Creek)	23.10	3,237	5,211	6,267	9,693
At Stockdick School Road	14.36	1,930	3,197	3,912	6,464
At Katy Hockley Cut Off Road	8.25	1,555	2,543	3,077	4,662
U101-07-00 (Tributary 9.4 to South Mayde Creek)					
At mouth	0.33	33	95	132	255
Just upstream of Elrod Road	0.19	86	150	187	244
Just downstream of Grand Parkway	0.18	68	106	124	181
Just downstream of Porter Road	0.00	--	4	20	40
U101-08-00 (Tributary 9.6 to South Mayde Creek)					
At mouth	2.47	476	724	870	1,353
At Grand Parkway	1.70	255	393	465	700

-- Data Not Available

Table 18. Revised Summary of Discharges – [TBD] Revision (continued)

FLOODING SOURCE AND LOCATION	DRAINAGE AREA (sq. miles)	PEAK DISCHARGES (cfs) Percent Annual Chance			
		10- percent	2-percent	1-percent	0.2- percent
U101-22-00 (Unnamed Tributary to South Mayde Creek)					
Downstream of Pitts Road	0.00	452	1,106	1,572	3,036
U102-00-00 (Bear Creek)					
Upstream of State Highway 6	30.80	3,647	6,243	7,601	11,741
Downstream of Fry Road	20.60	2,202	3,882	4,694	6,697
At Grand Parkway	13.61	1,453	2,904	4,568	12,136
Downstream of Katy Hockley Cut Off Road	6.17	1,749	4,728	6,845	14,237
U102-01-00 (Unnamed Tributary to Bear Creek)					
Downstream of Clay Road	2.93	1,463	2,196	2,542	3,597
U106-00-00 (Horsepen Creek)					
At mouth	18.99	4,610	7,480	8,919	12,737
At State Highway 6 (FM 1960)	13.95	3,261	5,194	6,251	9,224
At confluence of U106-13-00	10.32	1,663	2,695	3,250	4,817
At confluence of U106-10-00	4.85	530	818	980	1,437
Downstream of Baker Cypress Road	2.99	420	714	883	1,380
U120-00-00 (Dinner Creek)					
Downstream of Barker Cypress Road	5.01	1,213	1,905	2,270	3,350
U200-00-00 (Addicks Reservoir Diversion Channel)					
At confluence of U106-00-00 (Horsepen Creek)	43.70	9,892	16,013	19,258	27,615
W167-01-00 (Tributary 3.9 to Turkey Creek)					
At mouth	4.06	1,219	1,872	2,198	3,129
At West Little York Road	1.74	901	1,313	1,507	2,103

The hydraulic models were updated to reflect the current conditions in the Addicks Reservoir Watershed. These updates included changing the modeling version used, from HEC-RAS, version 3.0.1, to HEC-RAS, version 4.1. Modeled flows were based on the updated hydrology of the watershed that reflects current conditions. One-foot contours, derived from LiDAR, were used as the topographic surface to update the overbank topography in the hydraulic models. New field survey data was used, for 27 structures constructed after the development of the effective models or significantly modified since the effective models were developed), to reflect current ground conditions within the channel banks. The hydraulic models also evaluated the geometric components of the effective hydraulic models, such as cross sections, n-values, and streams centerlines for potential inconsistencies with HCFCO methodology. Some of these inconsistencies included the routing step used and the impacts on peak flows due to updated storage models for the watershed.

The effective cross sections were the basis for the updated cross sections. Cross sections were compared with the one-foot contours and survey and modified where needed. These modifications included reorienting cross sections to better represent the overall stream flood wave, lengthening or shortening, relocating to avoid bridge abutments or to better follow surveyed elevation points.

Starting water surface elevations for Langham Creek, Bear Creek, South Mayde Creek, and Tributary 3.9 to Turkey Creek were set at known water surface elevations from the static pool elevations of Addicks Reservoir. These static pool elevations were based on the report "Static Pool Water Surface Elevation in Addicks (U100-00-00) and Barker (T100-00-00) Reservoirs" prepared December 2013 by Brown and Gay Engineers, Inc. The starting water surface elevations for Tributary 9.4 to South Mayde Creek, Tributary 9.6 to South Mayde Creek, Tributary 4.5 to Bear Creek, Horsepen Creek, and Dinner Creek were based on the normal depth method.

Overflows out of the Cypress Creek Watershed contribute significant flow into the Addicks Reservoir Watershed. A coupled 1D/2D model was developed as part of the Cypress Creek Overflow Management Study to better understand the overflow phenomenon and evaluate potential flood mitigation measures. In the model, Cypress and Addicks Watersheds were modeled together. Flow Hydrographs from the Cypress Creek PMR HEC-HMS output were used as 2D model flow input. The channel area of Cypress Creek in Cypress Creek Watershed and South Mayde, Bear and Langham Creeks in the Addicks Watershed were modeled in 1D and the overbank areas in 2D. H-GAC 2008 LiDAR based topographic data with 5 ft resolution was used to develop the 1D cross-sections. The cross-sections were placed and named the same as in the effective HEC-RAS model. A 70 ft grid cell size was used for the overbank area 2D computations. The various berms and elevated roadways in the project area were digitized into the model to better define the high points in the area that would have been subdued by the 70 ft grid cell. All culverts were coded into the model using data from effective PMR HEC-RAS model. Bridges were modeled using rating curves developed from the PMR HEC-RAS model. The manning's "n" roughness coefficients for the 1D channel area were also from the PMR HEC-RAS model. The roughness co-efficient in the 2D overbank area were developed based on the Land Use and Land Cover (LULC) data provided by HCFCO and H-GAC. The LULC data had similar classification as the HCFCO data, but for Agricultural area which was further divided to highlight lands no longer being cultivated. The roughness values varied from 0.22 in dense undeveloped areas to 0.08 for

open lands.

Figure 12, “AE Overflow Base Flood Elevation Map,” may be used to estimate BFEs in an area defined by the results from a 2D modeling analysis. More precise results are available as output from the effective model. Shown on the map are points spaced 630 feet apart connected by gridlines and labeled with the BFEs (in feet) for each point location. The gridlines and points form grid squares. For points within grid squares, take a distance-weighted average of the four points at the corners of the square. For points along a gridline, take a distance-weighted average of the elevations of the two points at either end of the gridline.

Gaps in the points within the 2D modeling Limit indicate locations where the ground elevation is higher than the BFE. **For BFEs in the mapped floodplain near these areas**, use a conservative estimate of the highest BFE of the 2 or 3 nearest points.

For T-101-00-00 (Mason Creek) and associated tributaries, a HEC-RAS model was developed as a part of LOMR 08-06-1677P. The LOMR has been superseded due to the Addicks Reservoir update, however the hydraulic modeling associated with T-101-00-00 (Mason Creek) and associated tributaries remains valid and has been incorporated in this study.

Overbank Manning’s “n” Values were developed with the aid of aerial photography following the HCFCD Policy, Criteria, and Procedures Manual criteria. The channel and overbank “n” values for the streams listed below are shown in Table 19. “Revised Manning’s “n” Values – [TBD] Revision.” For the streams not listed below the Manning’s “n” Values have not been revised, please refer to Section 3.2, “Hydraulic Analyses.”

Table 19. Revised Manning’s “n” Values – [TBD] Revision

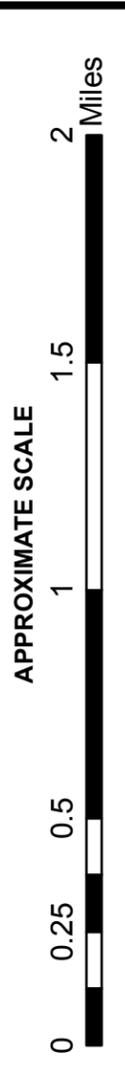
<u>Stream</u>	<u>Channel “n”</u>	<u>Overbank “n”</u>
U100-00-00 (Langham Creek)	0.04-0.055	0.07-0.15
U101-00-00 (South Mayde Creek)	0.015-0.06	0.05-0.15
U101-07-00 (Tributary 9.4 to South Mayde Creek)	0.04	0.07-0.15
U101-08-00 (Tributary 9.6 to South Mayde Creek)	0.015-0.04	0.07-0.15
U102-00-00 (Bear Creek)	0.015-0.06	0.07-0.15
U102-01-00 (Unnamed Tributary to Bear Creek)	0.04-0.06	0.07-0.15
U106-00-00 (Horsepen Creek)	0.015-0.04	0.07-0.15
U120-00-00 (Dinner Creek)	0.015-0.04	0.07-0.15
W167-01-00 (Tributary 3.9 to Turkey Creek)	0.015-0.04	0.07-0.15

Floodplain boundaries were delineated topographic information derived from LiDAR data flown between February and March 2008 under authority from the H-GAC and HCFCD as described previously for this revision.

Table 8, “Floodway Data,” and Exhibit 1, “Flood Profiles,” were revised to reflect changes as a result of this restudy.

10.4.1 Addicks Reservoir (U100-00-00) Hydraulic Update, Harris County Flood Control District, Houston, Texas, June 19, 2013.

10.4.2 Addicks Reservoir (U100-00-00) Hydrology Update, Harris County Flood Control District, Houston, Texas, June 19, 2013.



AE OVERFLOW BASE FLOOD ELEVATION MAP

For Areas Outside of the 2D Modeling Grid Please see FIS Report for Flood Profiles

For Areas Outside of the 2D Modeling Grid Please see FIS Report for Flood Profiles

Legend

- Cross Section
- 2D Modeling Limit
- - - Transportation

Flood Hazards

- SPECIAL FLOOD HAZARD AREAS
- FLOODWAY AREAS IN ZONE AE
- OTHER FLOOD AREAS: ZONE X

Extent:
Harris County
Unincorporated Areas
480847
FIRM Panels
0385, 0390, 0395

FEDERAL EMERGENCY MANAGEMENT AGENCY

HARRIS COUNTY, TX AND INCORPORATED AREAS

FIGURE 12