



- 2.9 LEGEND
- DRAINAGE BOUNDARY
 - WATERCOURSE
 - MAJOR HIGHWAY

- NOTES:
- AS SHOWN ON FEMA FIRM PANEL 48000C0000X, DATED JUNE 29, 2014, THIS CROSSING IS NOT LOCATED IN A MAPPED FLOODPLAIN OR SPECIAL FLOOD HAZARD AREA.
 - SEE "FM 4167 AT BETTIS CREEK HYDROLOGIC AND HYDRAULIC ANALYSIS REPORT" BY RANDOM ENGRS, INC. DATED FEBRUARY 29, 2024, FOR ADDITIONAL INFORMATION.

x REFERENCE ITEM ON PBLR H&H CHECKLIST

RUNOFF COMPUTATIONS FOR LARGE WATERSHEDS (NRCS METHOD) 3														
DA ID	AREA		Tc	LAG TIME		COMPOSITE RCN	%	INITIAL ABSTRACTION	24-HR PRECIPITATION (IN)					
	(AC)	(SQ MI)	(HR)	(HR)	(MINUTES)		IMPERVIOUS	(IN)	2-YR	5-YR	10-YR	25-YR	50-YR	100-YR
BETTIS	10177.8	15.90	5.96	3.58	214.56	65	0.5	1.068	3.6	4.6	5.5	6.8	7.9	9.1

SUMMARY OF FLOWS (CFS)					
2-YR	5-YR	10-YR	25-YR*	50-YR	100-YR
1099	1960	2854	4281	5516	6902

*DENOTES DESIGN EVENT

- NRCS METHOD MODELED IN HEC-HMS VERSION 4.3.
- PRECIPITATION DATA FOR SH 16 DERIVED FROM NOAA ATLAS 14, VOLUME 11, VERSION 2 CRESSON, LAT: 32.4867° LONG: -98.5197° FROM THE NOAA PRECIPITATION FREQUENCY SERVER.
- SOILS DATA OBTAINED FROM NRCS WEB SOIL SURVEY UTILITY.
- LAND USE DATA OBTAINED FROM AERIAL PHOTOGRAMMETRY.

NOTE TO DESIGNER: BRIDGE HYDRAULIC DATA SHEETS FOLLOW THE SAME FORMAT AS FOR GAGED WATERSHEDS; ONLY THE PRESENTATION OF HYDROLOGIC DATA DIFFERS.

**FM 4167 AT
BETTIS CREEK**

DRAINAGE AREA MAP

©2024 TxDOT

SHEET 1 OF 1

FED. RD DIV. No.	CONTROL No.	SECTION No.	JOB No.	HIGHWAY No.
6	9898	88	202	
STATE	DISTRICT	COUNTY	SHEET No.	
TEXAS	IDK	HODGE		