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### **LJA Engineering, Inc.**

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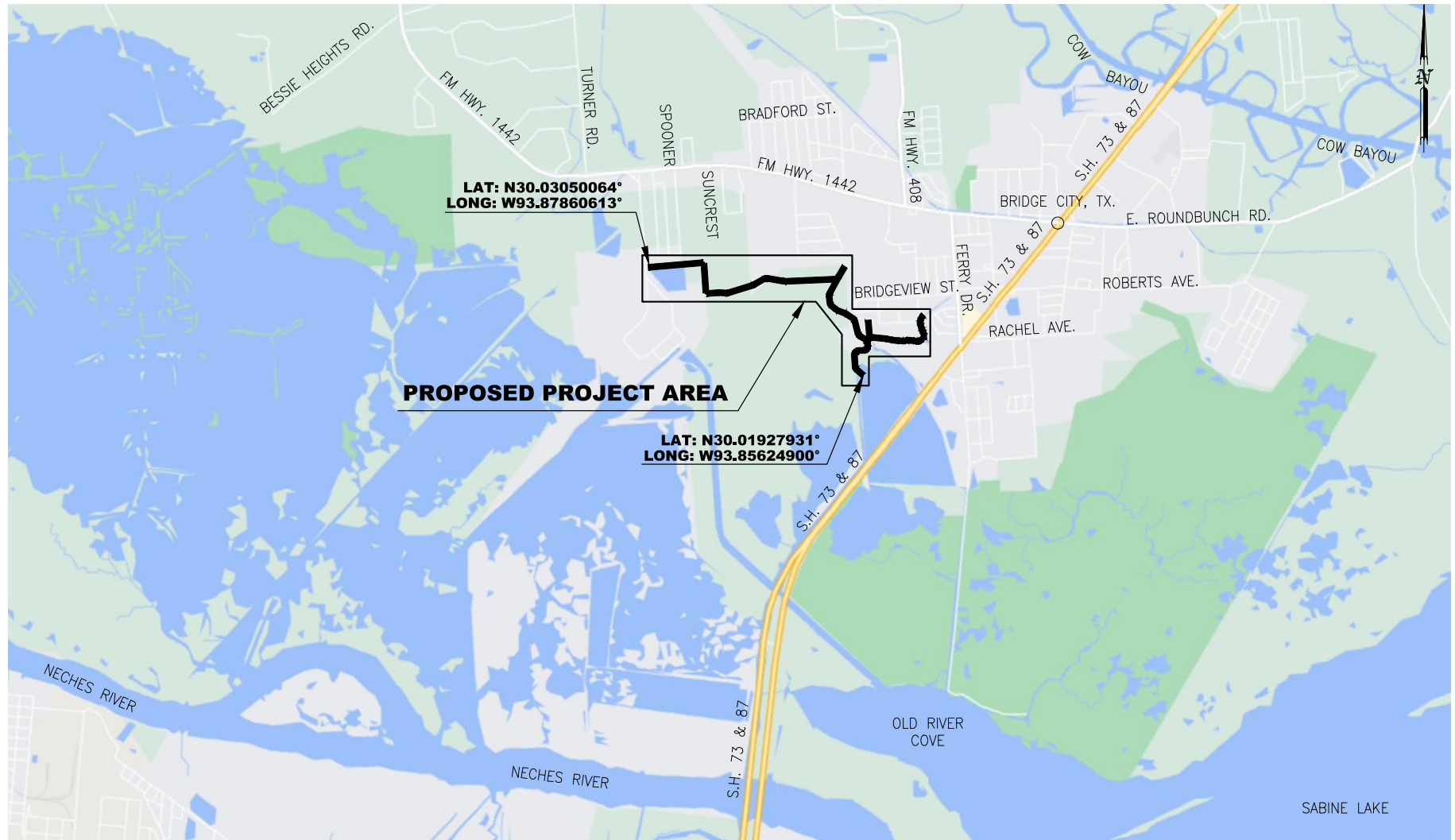
Phone 409.833.3363  
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FRN - F-1386

Plot Date: 9/26/2022

BRIDGE CITY DRAINAGE  
RESTORATION PROJECT  
FEMA, HMGP DR-4332-TX  
BRIDGE CITY, ORANGE COUNTY, TEXAS

### INDEX OF DRAWINGS

Action	Name	Date
Design	DMP	10/31/21
Drawn	BDS	08/26/22
Approved	DMP	08-27-22
Last Revised	-	
Scale	-	
Sheet	<u>1</u> of <u>30</u>	



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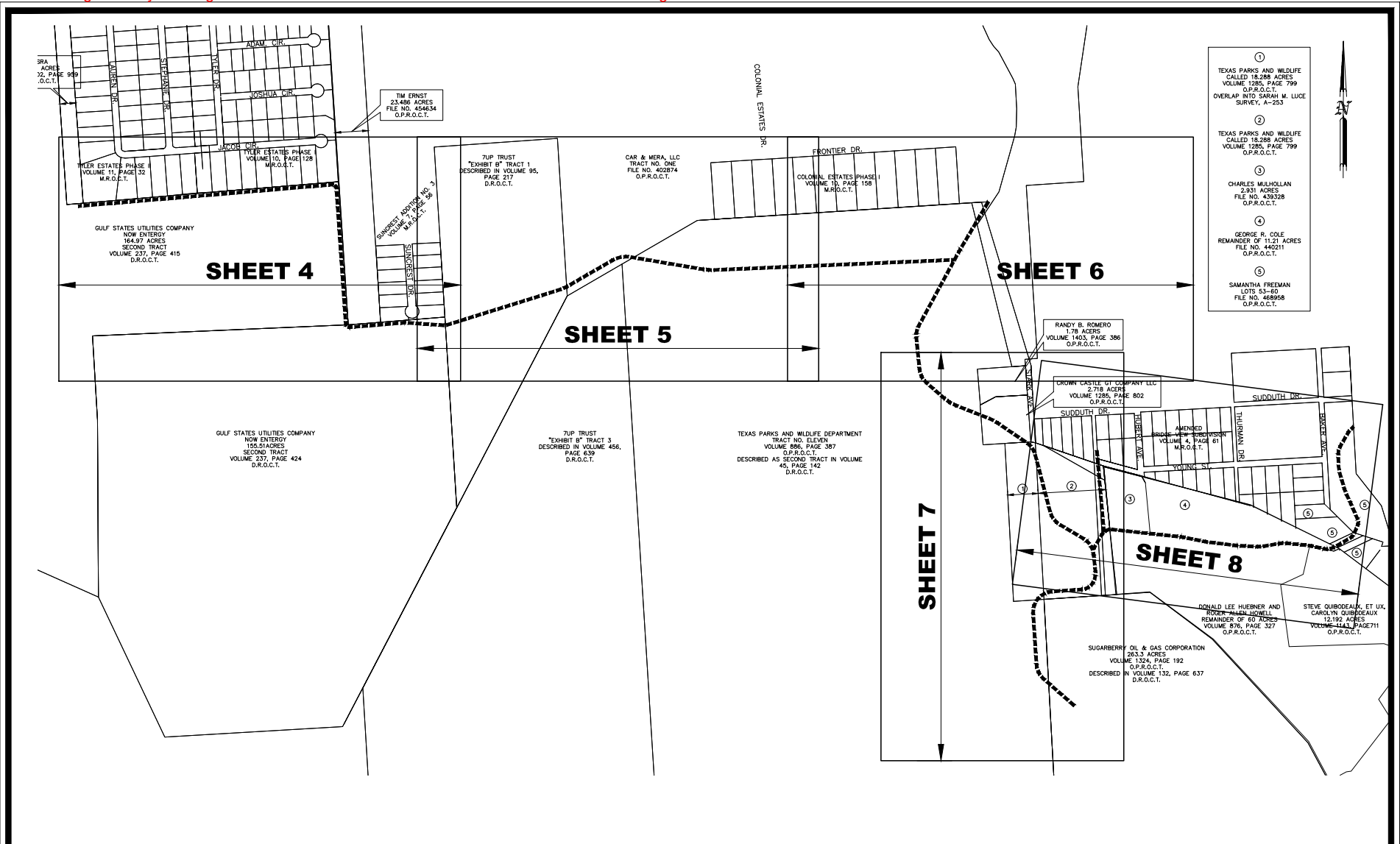
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BRIDGE CITY DRAINAGE  
RESTORATION PROJECT  
FEMA, HMGP DR-4332-TX  
BRIDGE CITY, ORANGE COUNTY, TEXAS

VICINITY MAP

Action	Name	Date
Design	DMP	10/31/21
Drawn	BDS	08/26/22
Approved	DMP	08/27/22
Last Revised	-	
Scale	1" = 5,000'	
Sheet	2 of 30	

O:\PROJECTS\LJA B000 - BXXX\B824 - CITY OF BRIDGE CITY\1015 - DRAINAGE IMPROVEMENTS (HMGP DR-4332-HURRICANE HARVEY)\ACOE PERMIT\02A KEY MAP.DWG



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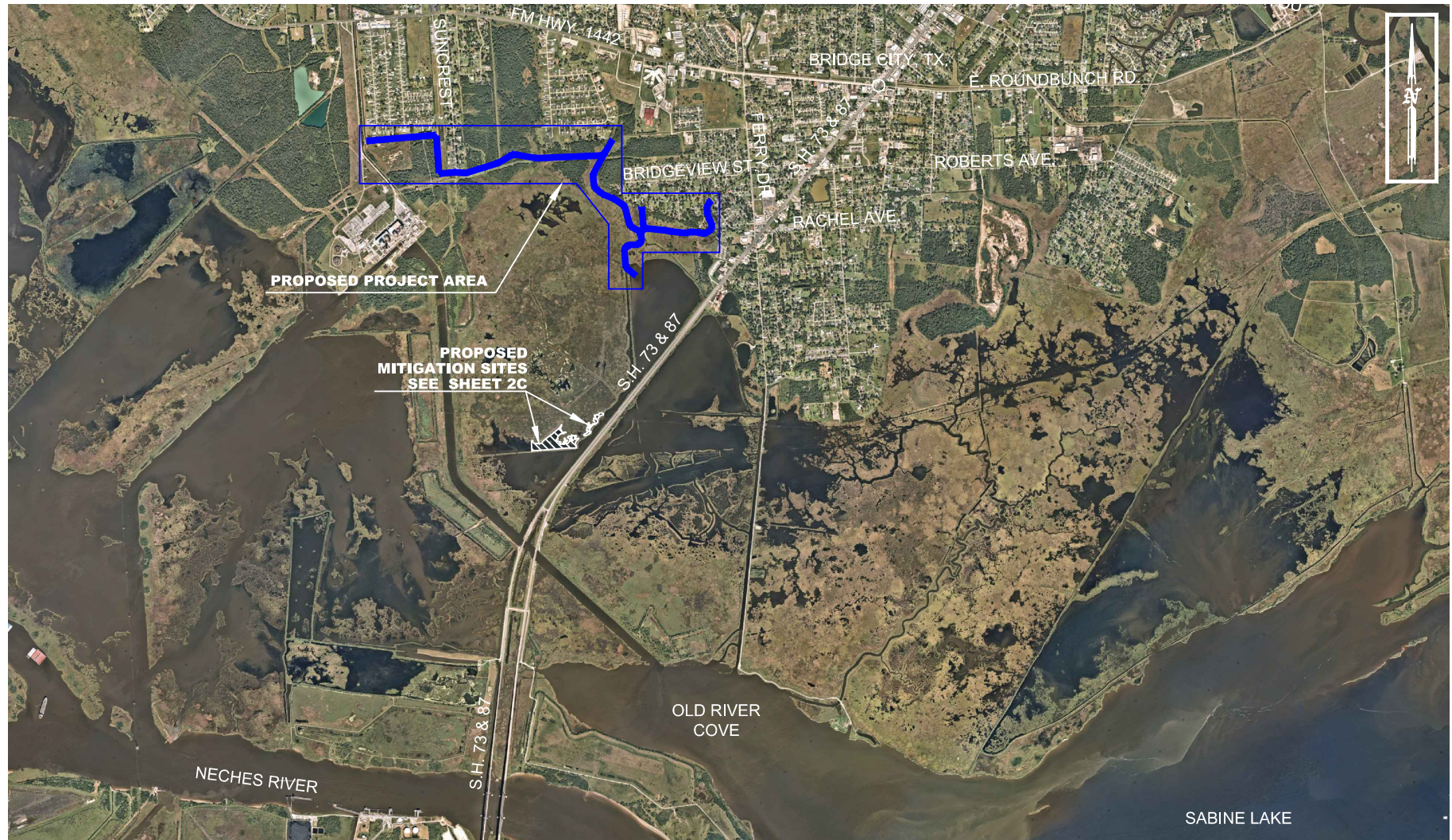
Plot Date: 9/26/2022

BRIDGE CITY DRAINAGE  
RESTORATION PROJECT  
FEMA, HMGP DR-4332-TX  
BRIDGE CITY, ORANGE COUNTY, TEXAS

## PROJECT KEY MAP

Action	Name	Date
Design	DMP	10/31/21
Drawn	JS	12/15/21
Approved	DMP	12/20/21
Last Revised	08/26/22 (BDS)	
Scale	1" = 1,000'	
Sheet	2A of 30	





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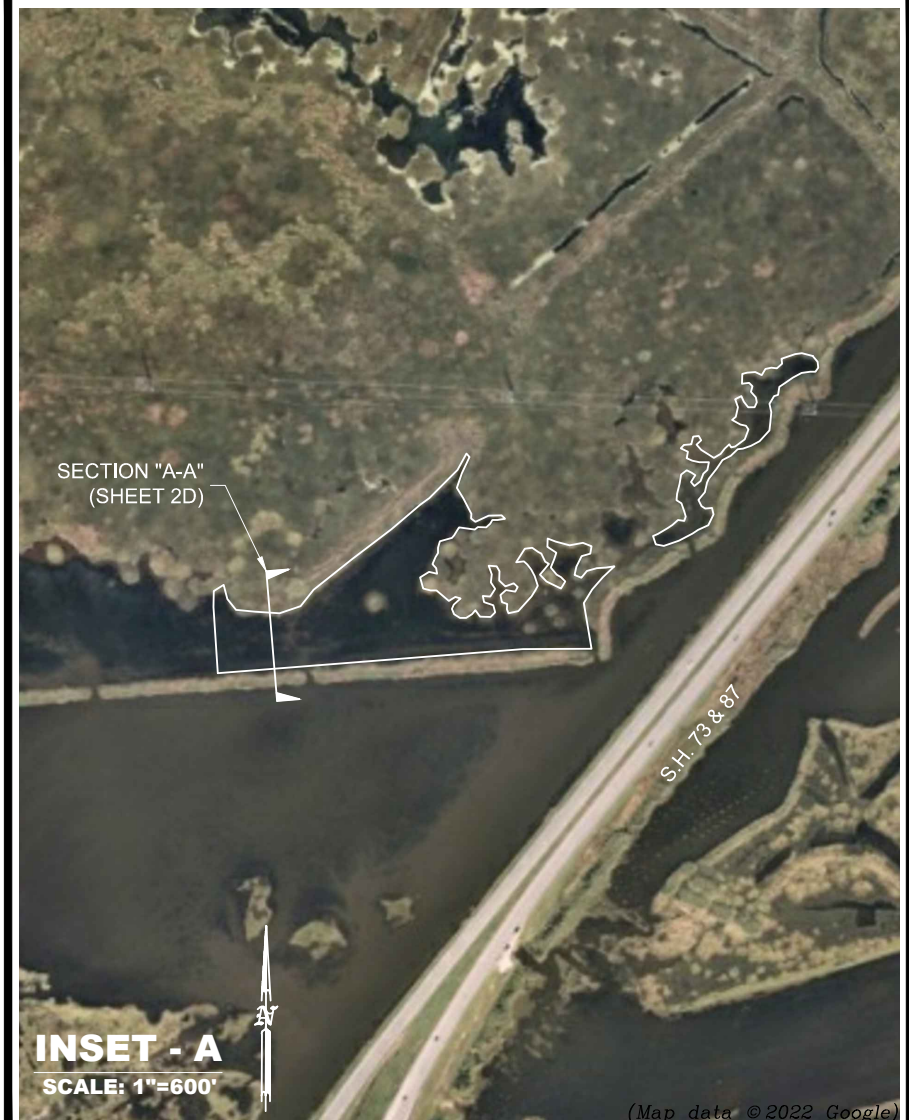
Plot Date: 9/26/2022

BRIDGE CITY DRAINAGE  
RESTORATION PROJECT  
FEMA, HMGP DR-4332-TX  
BRIDGE CITY, ORANGE COUNTY, TEXAS

MITIGATION SITE & BENEFICIAL  
USE PLACEMENT LOCATION MAP

Action	Name	Date
Design	DMP	10/31/21
Drawn	BDS	08/26/22
Approved	DMP	08/27/22
Last Revised	-	
Scale	1" = 4,000'	
Sheet	2B of 30	





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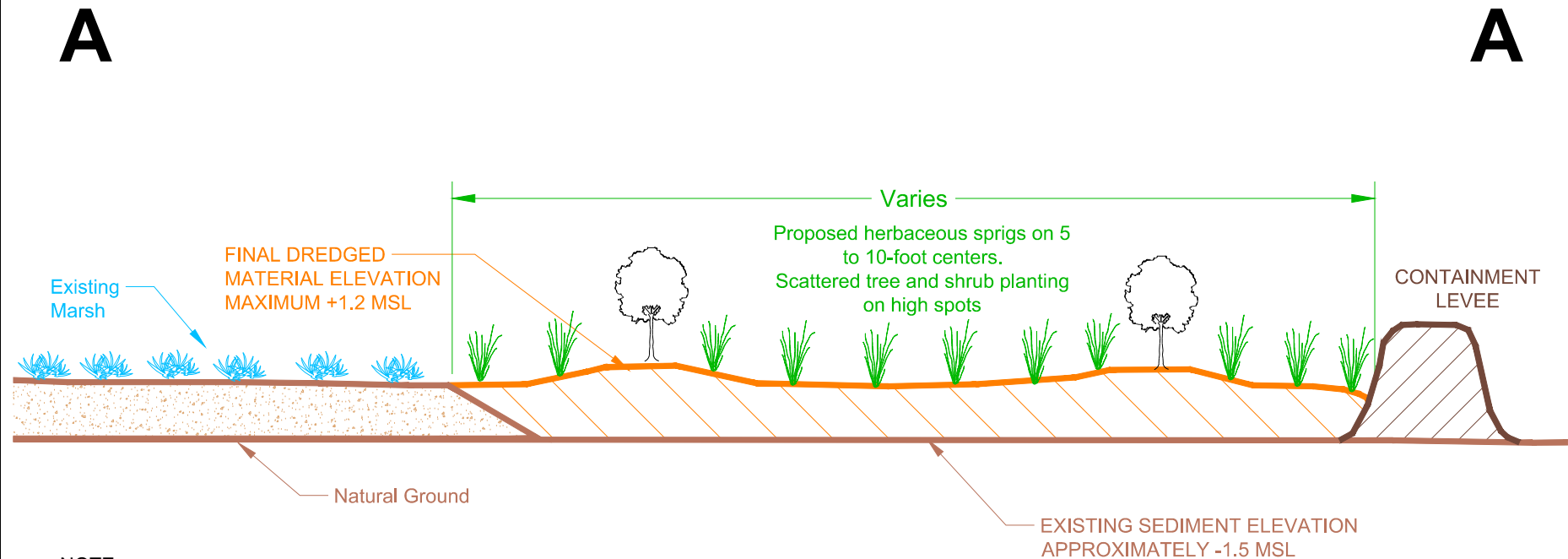
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BRIDGE CITY DRAINAGE  
RESTORATION PROJECT  
FEMA, HMGP DR-4332-TX  
BRIDGE CITY, ORANGE COUNTY, TEXAS  
MITIGATION SITE & BENEFICIAL  
USE PLACEMENT ENLARGED  
LOCATION DETAIL

Action	Name	Date
Design	DMP	10/31/21
Drawn	BDS	08/26/22
Approved	DMP	08/27/22
Last Revised	-	
Scale	AS SHOWN	
Sheet	2C	Of 30

O:\PROJECTS\LJA\_B000 - BXXX\B824 - CITY OF BRIDGE CITY\1015 - DRAINAGE IMPROVEMENTS  
(HMGP DR-4332\_HURRICANE HARVEY)\ACOE PERMIT\02D MITIGATION SITE XSEC.DWG



**NOTE:**

DREDGED MATERIAL WILL BE HYDRAULICALLY DISCHARGED IN THE MITIGATION AREA TO ACHIEVE AN UNDULATING SURFACE WITH A MAXIMUM FINAL ELEVATION OF +1.2' MSL. LOW AREAS IN THE MATERIAL DISPOSAL WILL DEVELOP SHALLOW OPEN WATER AND TIDAL CHANNELS WILL DEVELOP AS THE AREA IS EXPOSED TO PERIODIC HIGH WATER CONDITIONS.

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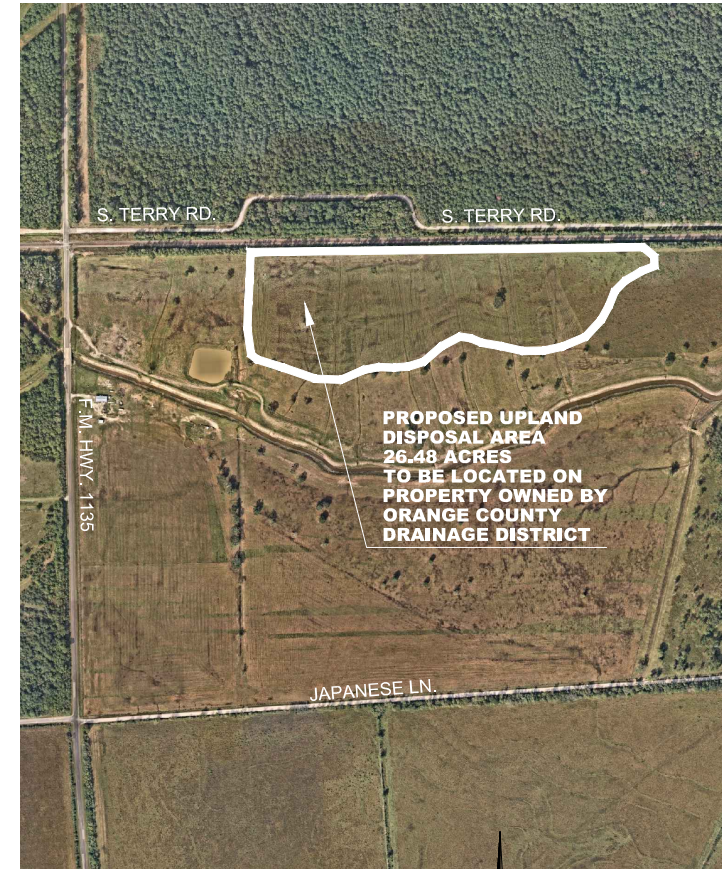
Plot Date: 9/26/2022



BRIDGE CITY DRAINAGE  
RESTORATION PROJECT  
FEMA, HMGP DR-4332-TX  
BRIDGE CITY, ORANGE COUNTY, TEXAS  
TYPICAL PLANTING  
MITIGATION AREA  
SECTION "A-A"

Action	Name	Date
Design	DMP	10/31/21
Drawn	BDS	08/26/22
Approved	DMP	08/27/22
Last Revised	-	
Scale	N.T.S.	
Sheet	2D of 30	





**INSET - A**  
SCALE: 1"=1,000'

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BRIDGE CITY DRAINAGE  
RESTORATION PROJECT  
FEMA, HMGP DR-4332-TX  
BRIDGE CITY, ORANGE COUNTY, TEXAS

## UPLAND DISPOSAL AREA MAP

Action	Name	Date
Design	DMP	10/31/21
Drawn	BDS	08/26/22
Approved	DMP	08/27/22
Last Revised	-	
Scale	AS SHOWN	
Sheet	2C	Of 30

WATERS_NAME	SHEET NO.	COWADIN_CODE	HGM_CODE	AREA (ACRES)	LINEAR (FT)	WATERS TYPES	LATITUDE DD (NAD83)	LONGITUDE DD (NAD83)	LOCAL_WATERWAY
WAA1	5	E2EM1P	ESTUARINEF	0.029	21	TNWW	30.02804	-93.86862	SABINE RIVER
WAA2	5	PFO1A	ESTUARINEF	0.036	2	TNWW	30.02808	-93.86842	SABINE RIVER
WAA3	5	E1UBL	ESTUARINEF	0.420	777	TNW	30.02867	-93.86568	SABINE RIVER
WAA4	5	E2EM1P	ESTUARINEF	0.879	645	TNWW	30.02851	-93.86360	SABINE RIVER
WAA5	6	E2EM1P	ESTUARINEF	1.294	1,380	TNWW	30.02847	-93.85895	SABINE RIVER
WAA6	6	E2EM1P	ESTUARINEF	0.060	107	TNWW	30.02909	-93.85725	SABINE RIVER
WAA7	6	E1UBL	ESTUARINEF	1.000	1,380	TNW	30.02796	-93.85872	SABINE RIVER
WAA8	6	E2EM1P	ESTUARINEF	0.697	1,064	TNWW	30.02757	-93.85867	SABINE RIVER
WAA9	7	E2EM1P	ESTUARINEF	1.205	1,902	TNWW	30.02438	-93.85655	SABINE RIVER
WAA10	7	E2EM1P	ESTUARINEF	0.163	432	TNWW	30.02106	-93.85645	SABINE RIVER
WAA11	7	E1UBL	ESTUARINEF	0.408	100	TNW	30.01963	-93.85648	SABINE RIVER
WAA12	7	E2EM1P	ESTUARINEF	1.646	3,114	TNWW	30.02333	-93.85685	SABINE RIVER
WAA13	7	E1UBL	ESTUARINEF	3.641	3,236	TNW	30.02340	-93.85655	SABINE RIVER
WAA14	8	E2EM1P	ESTUARINEF	0.690	1,866	TNWW	30.02276	-93.85261	SABINE RIVER
WAA15	8	E2EM1P	ESTUARINEF	0.295	701	TNWW	30.02385	-93.84992	SABINE RIVER
WAA16	8	E2EM1P	ESTUARINEF	0.142	473	TNWW	30.02291	-93.84929	SABINE RIVER
WAA17	8	E2EM1P	ESTUARINEF	0.558	1,627	TNWW	30.02203	-93.85232	SABINE RIVER
WAA18	8	E1UBL	ESTUARINEF	2.812	2,863	TNW	30.02227	-93.85176	SABINE RIVER
WAA19	4	PFO1A	ORGSOILFLT	0.003	20	RPWWN	30.03048	-93.87309	SABINE RIVER
WAA20	4	PSS1C	ORGSOILFLT	0.096	190	RPWWN	30.02769	-93.87144	SABINE RIVER
WAA21	4	PAB3	ORGSOILFLT	0.003	65	RPWWN	30.02774	-30.02774	SABINE RIVER

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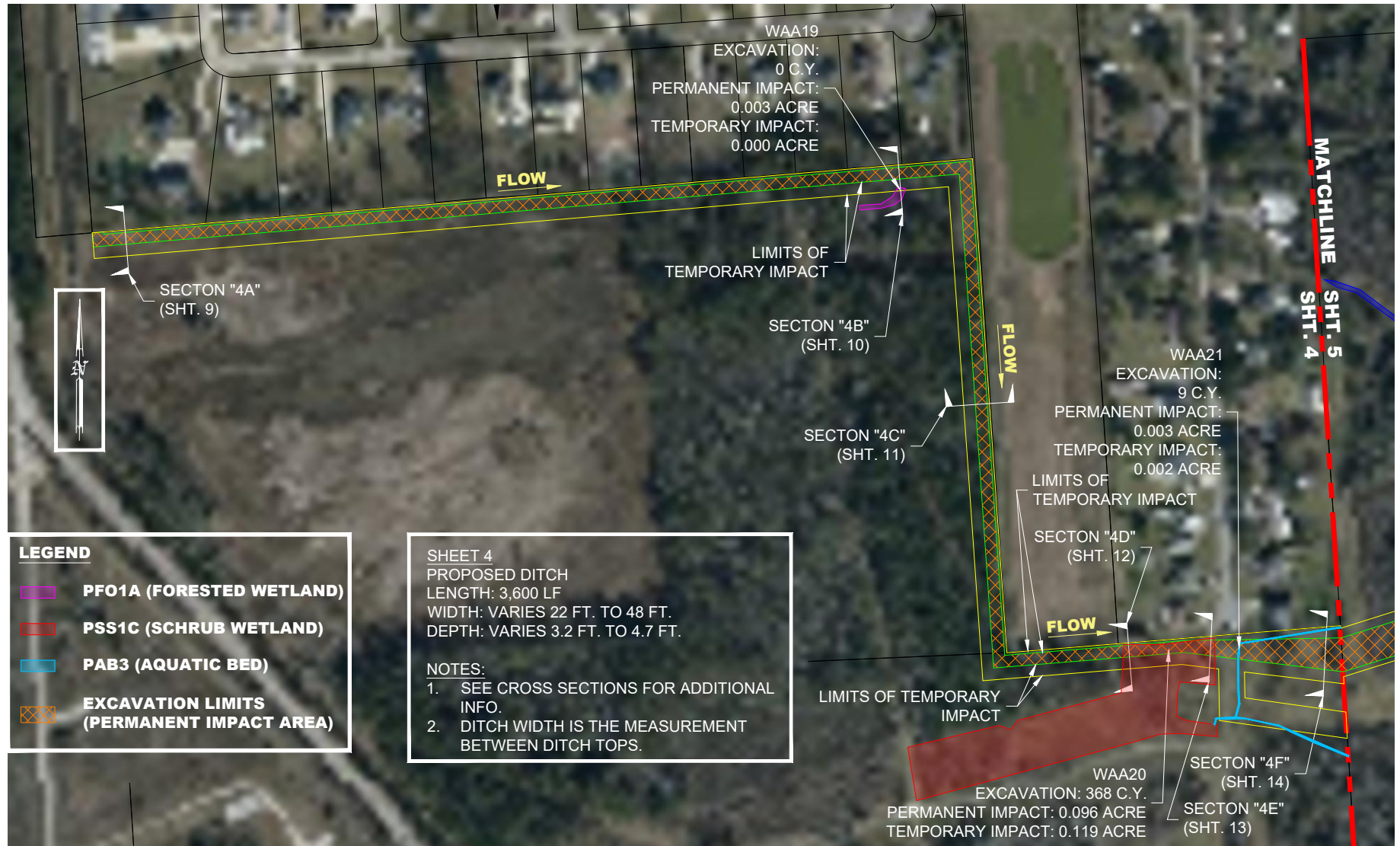
BRIDGE CITY DRAINAGE  
RESTORATION PROJECT  
FEMA, HMGP DR-4332-TX  
BRIDGE CITY, ORANGE COUNTY, TEXAS

WATERS UPLOAD SHEET

Action	Name	Date
Design	DMP	10/31/21
Drawn	BDS	08/26/22
Approved	DMP	08/27/22
Last Revised	-	
Scale	-	
Sheet	3	Of 30



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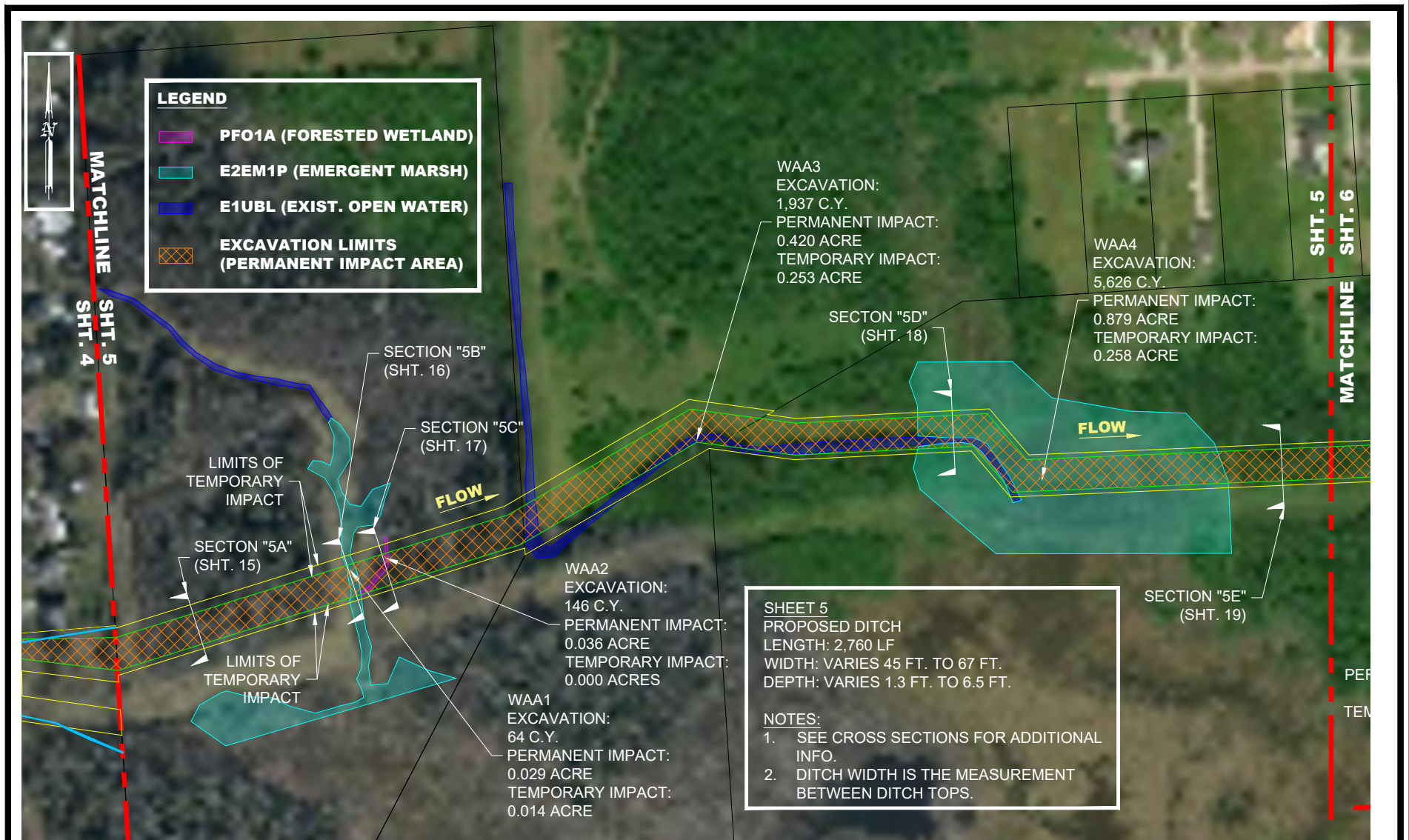
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BRIDGE CITY DRAINAGE  
RESTORATION PROJECT  
FEMA, HMGP DR-4332-TX  
BRIDGE CITY, ORANGE COUNTY, TEXAS

PLAN SHEET

Action	Name	Date
Design	DMP	10/31/21
Drawn	JS	12/15/21
Approved	DMP	12/20/21
Last Revised	08/27/22 (BDS)	
Scale	1" = 300'	
Sheet	4 of 30	

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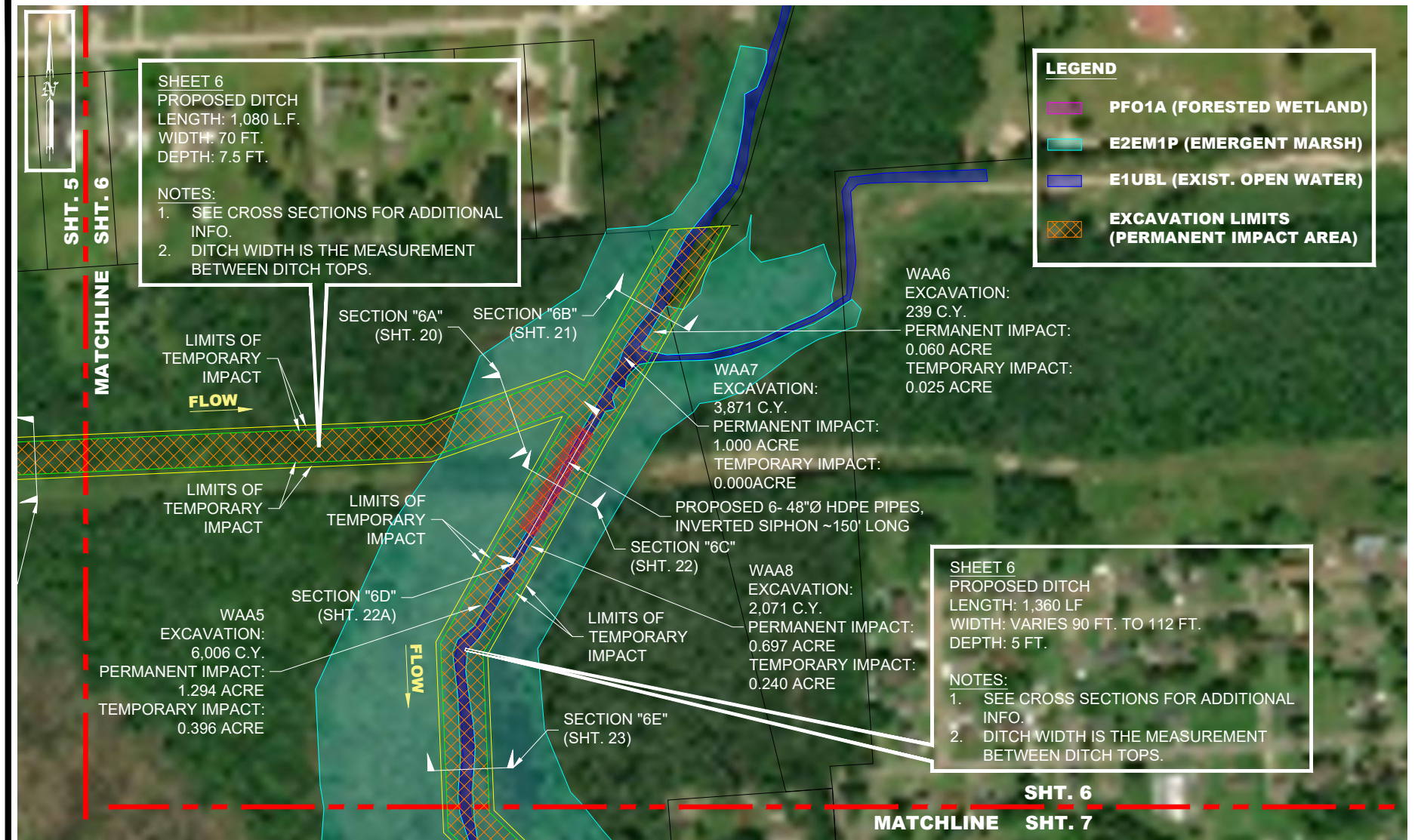
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BRIDGE CITY DRAINAGE  
RESTORATION PROJECT  
FEMA, HMGP DR-4332-TX  
BRIDGE CITY, ORANGE COUNTY, TEXAS

## PLAN SHEET

Action	Name	Date
Design	DMP	10/31/21
Drawn	JS	12/15/21
Approved	DMP	12/20/21
Last Revised	08/27/22 (BDS)	
Scale	1" = 300'	
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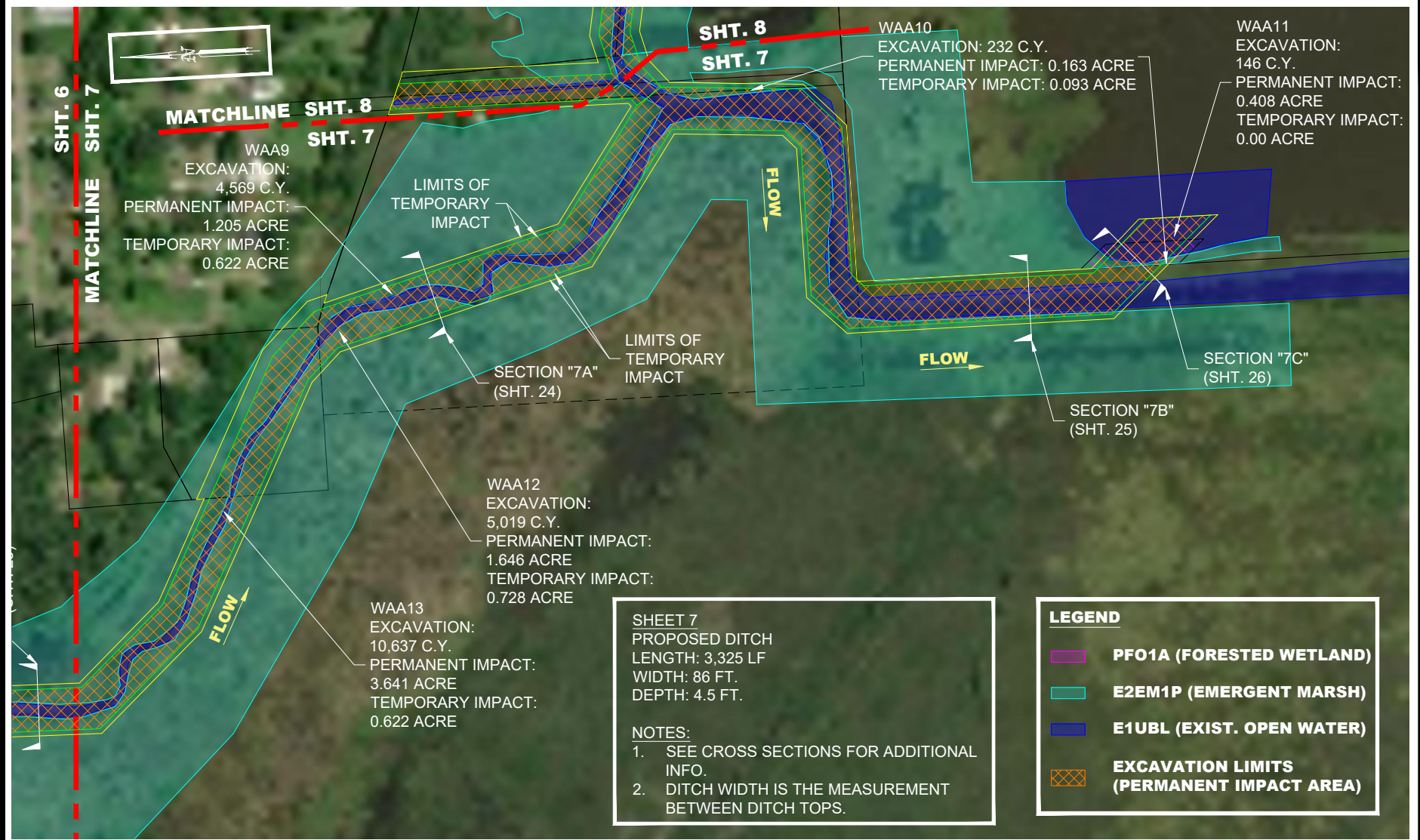
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Plot Date: 12/2/2022

BRIDGE CITY DRAINAGE  
RESTORATION PROJECT  
FEMA, HMGP DR-4332-TX  
BRIDGE CITY, ORANGE COUNTY, TEXAS

PLAN SHEET

Action	Name	Date
Design	DMP	10/31/21
Drawn	JS	12/15/21
Approved	DMP	12/20/21
Last Revised	11/17/22 (BDS)	
Scale	1" = 300'	
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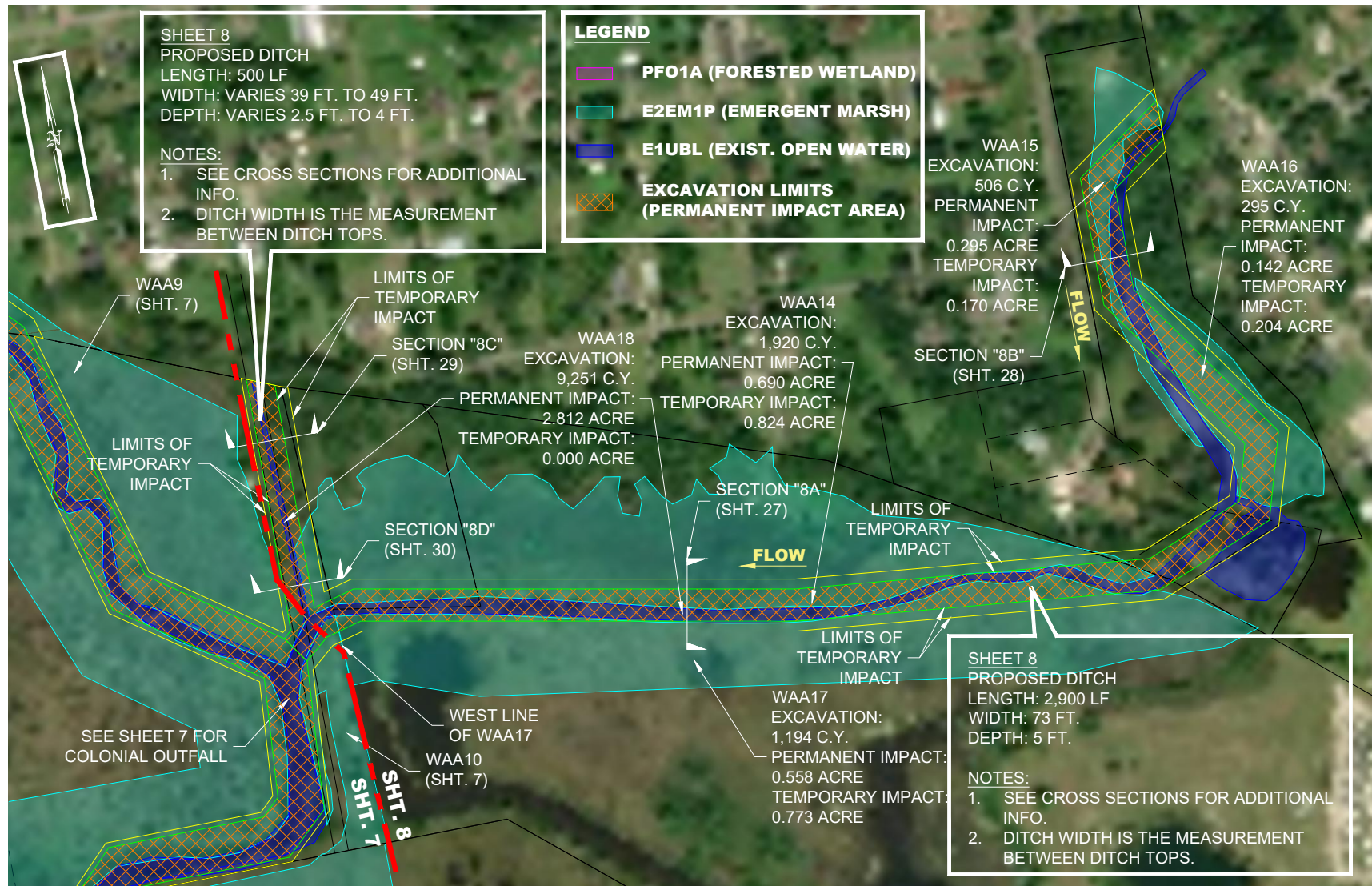
Plot Date: 11/17/2022

BRIDGE CITY DRAINAGE  
RESTORATION PROJECT  
FEMA, HMGP DR-4332-TX  
BRIDGE CITY, ORANGE COUNTY, TEXAS

PLAN SHEET

Action	Name	Date
Design	DMP	10/31/21
Drawn	JS	12/15/21
Approved	DMP	12/20/21
Last Revised	11/17/22 (BDS)	
Scale	1" = 300'	
Sheet	7 of 30	





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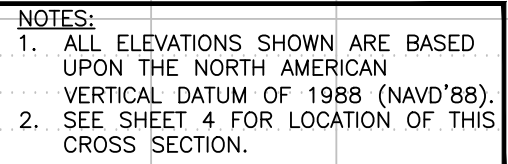
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FEMA, HMGP DR-4332-TX  
BRIDGE CITY, ORANGE COUNTY, TEXAS

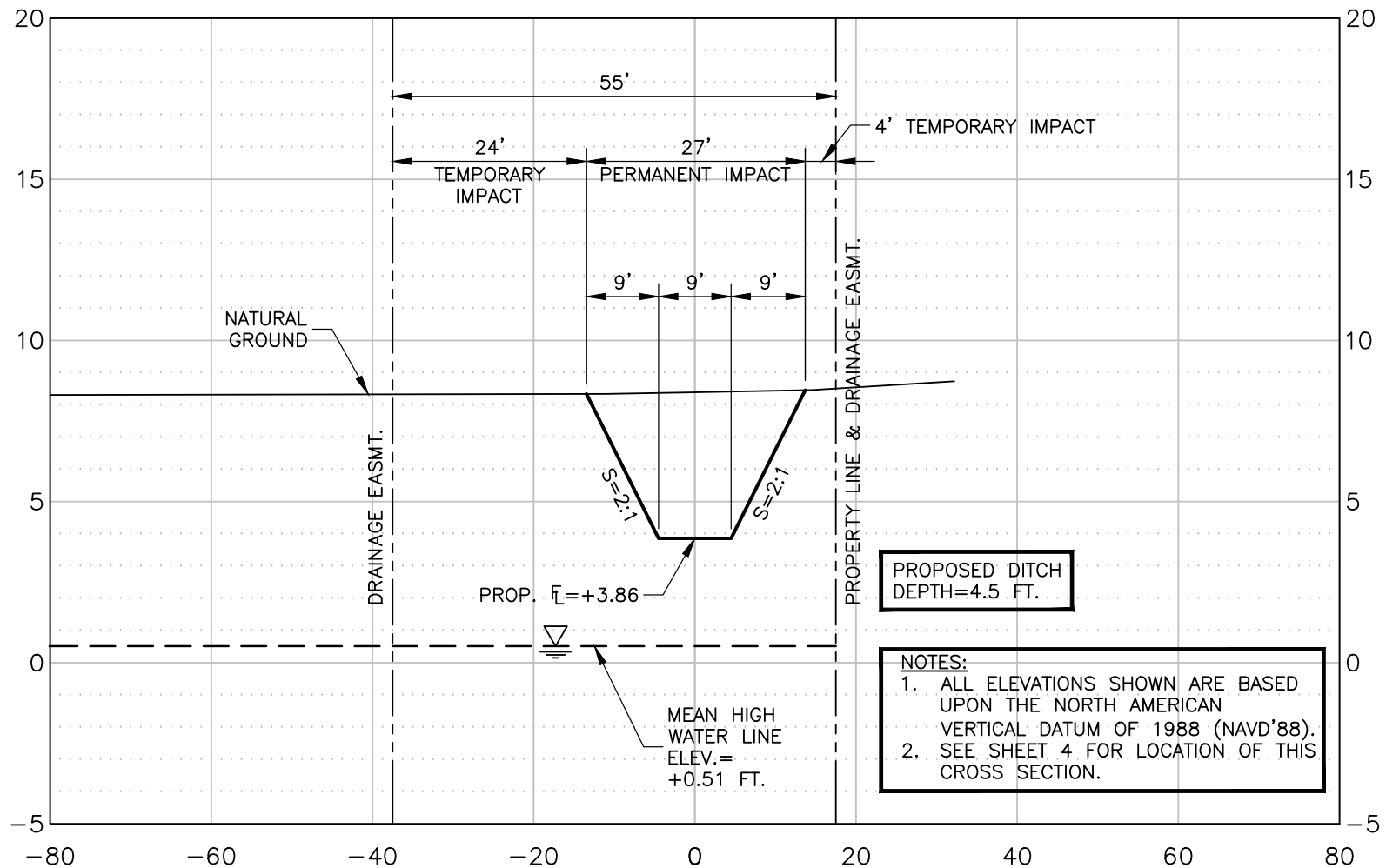
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Action	Name	Date
Design	DMP	10/31/21
Drawn	JS	12/15/21
Approved	DMP	12/20/21
Last Revised	08/27/22 (BDS)	
Scale	1" = 300'	
Sheet	8 of 30	



Action	Name	Date
Design	DMP	10/31/21
Drawn	BDS	08/27/22
Approved	DMP	08/27/22
Last Revised	-	
Scale	HOR.: 1"=20', VERT. 1"=5'	
Sheet	9	Of 30





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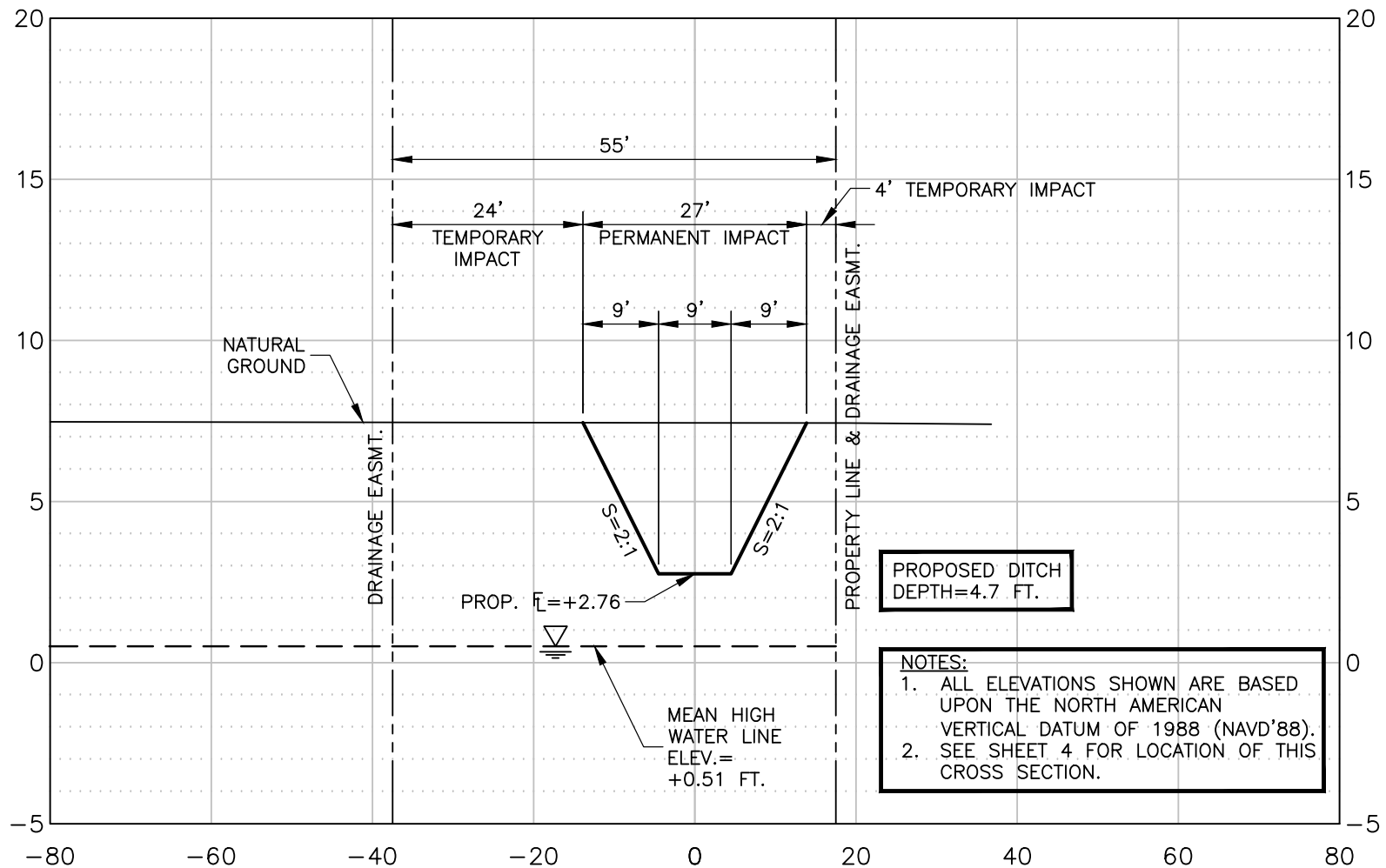
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BRIDGE CITY DRAINAGE  
RESTORATION PROJECT  
FEMA, HMGP DR-4332-TX  
BRIDGE CITY, ORANGE COUNTY, TEXAS

SECTION "4B"  
LAT: N30.03062780°  
LONG: W93.87306003°

Action	Name	Date
Design	DMP	10/31/21
Drawn	BDS	08/27/22
Approved	DMP	08/27/22
Last Revised	-	
Scale	HOR: 1"=20', VERT: 1"=5'	
Sheet	10 of 30	



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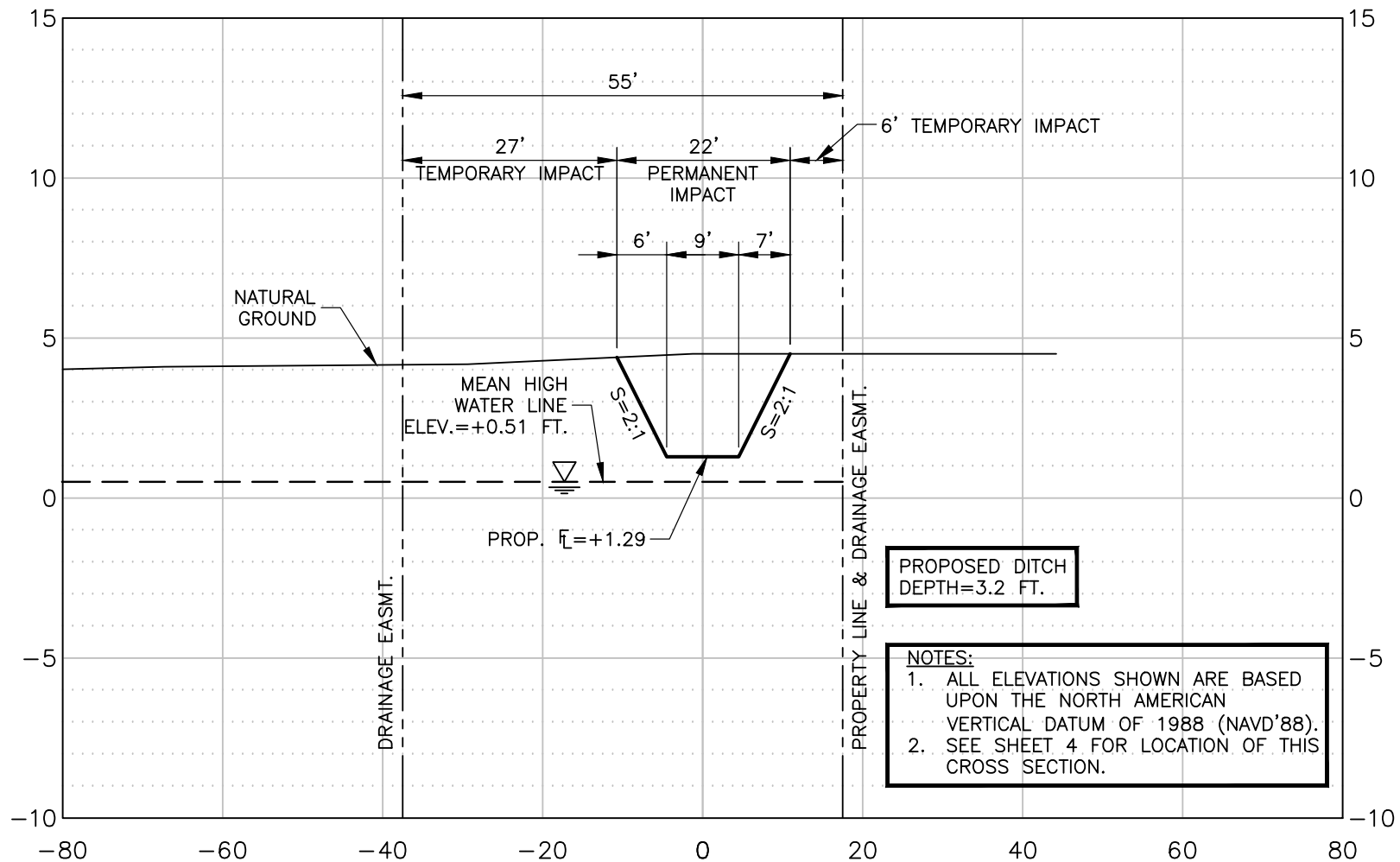
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BRIDGE CITY DRAINAGE  
RESTORATION PROJECT  
FEMA, HMGP DR-4332-TX  
BRIDGE CITY, ORANGE COUNTY, TEXAS  
SECTION "4C"  
LAT: N30.02925362°  
LONG: W93.87259925°

Action	Name	Date
Design	DMP	10/31/21
Drawn	BDS	08/27/22
Approved	DMP	08/27/22
Last Revised	-	
Scale	HOR: 1"=20', VERT: 1"=5'	
Sheet	11 of 30	





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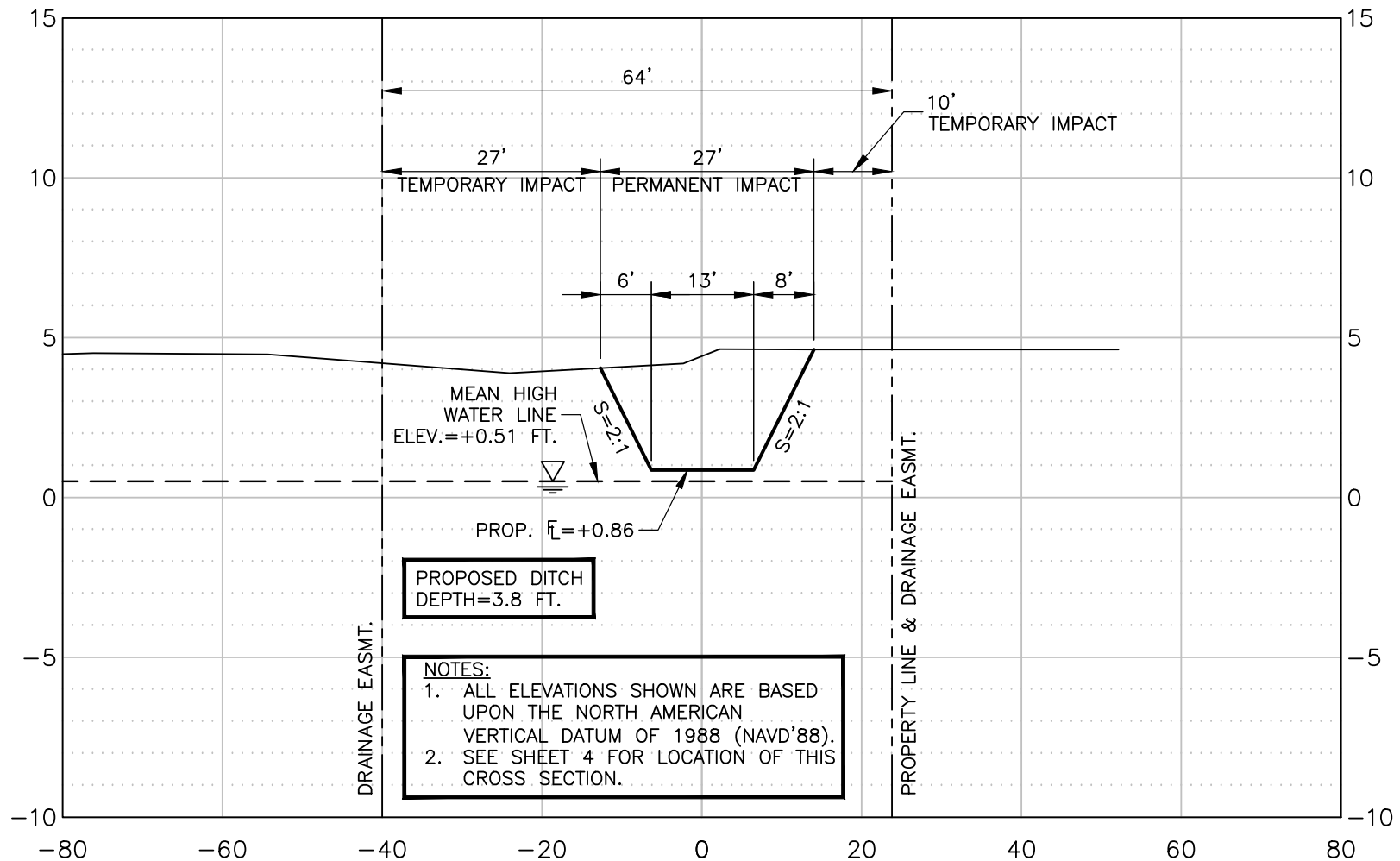
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Plot Date: 9/26/2022

BRIDGE CITY DRAINAGE  
RESTORATION PROJECT  
FEMA, HMGP DR-4332-TX  
BRIDGE CITY, ORANGE COUNTY, TEXAS

SECTION "4D"  
LAT: N30.02776251°  
LONG: W93.87170525°

Action	Name	Date
Design	DMP	10/31/21
Drawn	BDS	08/27/22
Approved	DMP	08/27/22
Last Revised	-	
Scale	HOR: 1"=20', VERT: 1"=5'	
Sheet	12 of 30	



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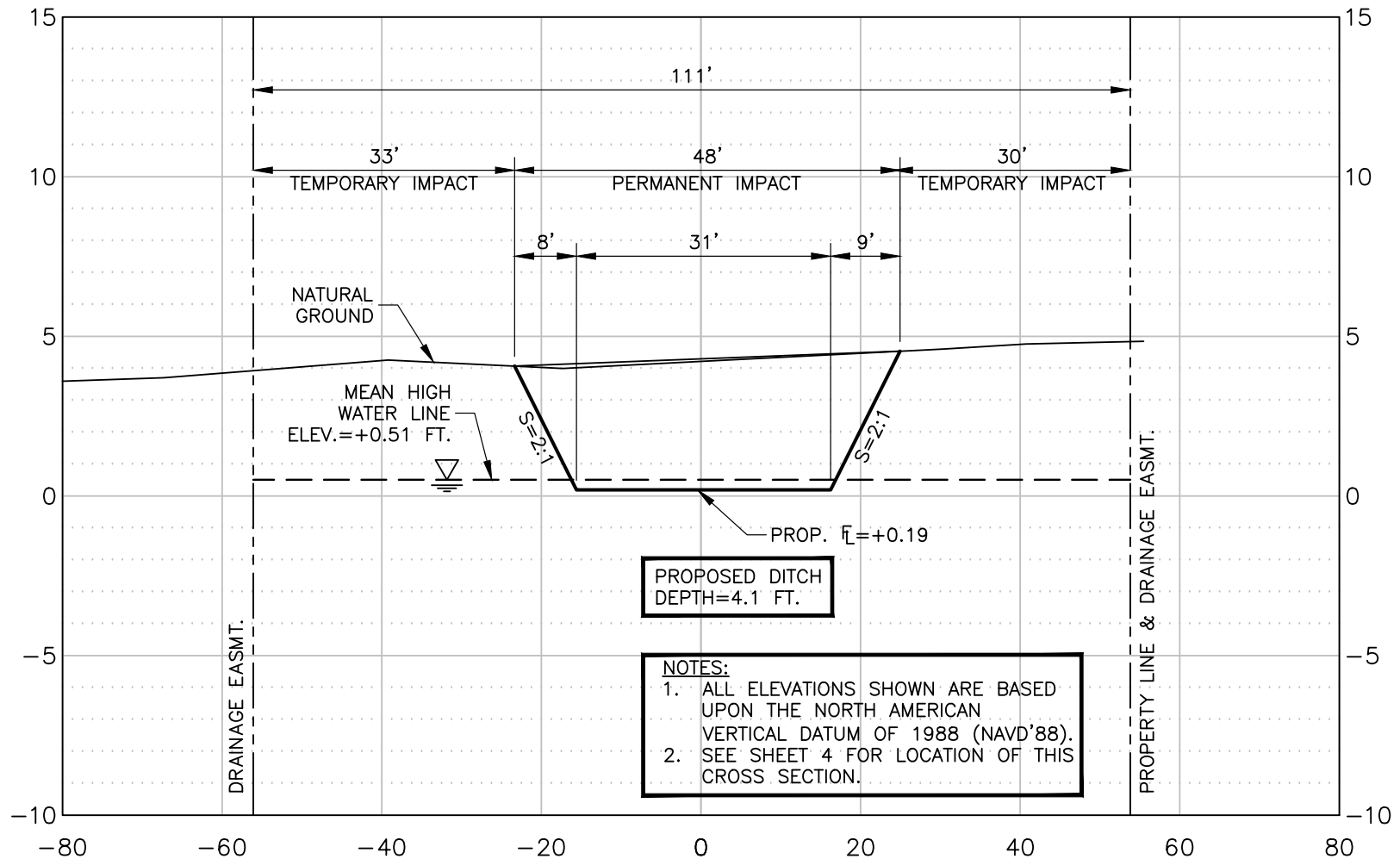
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Plot Date: 9/26/2022

BRIDGE CITY DRAINAGE  
RESTORATION PROJECT  
FEMA, HMGP DR-4332-TX  
BRIDGE CITY, ORANGE COUNTY, TEXAS

SECTION "4E"  
LAT: N30.02776651°  
LONG: W93.87115580°

Action	Name	Date
Design	DMP	10/31/21
Drawn	BDS	08/27/22
Approved	DMP	08/27/22
Last Revised	-	
Scale	HOR: 1"=20', VERT: 1"=5'	
Sheet	13 of 30	



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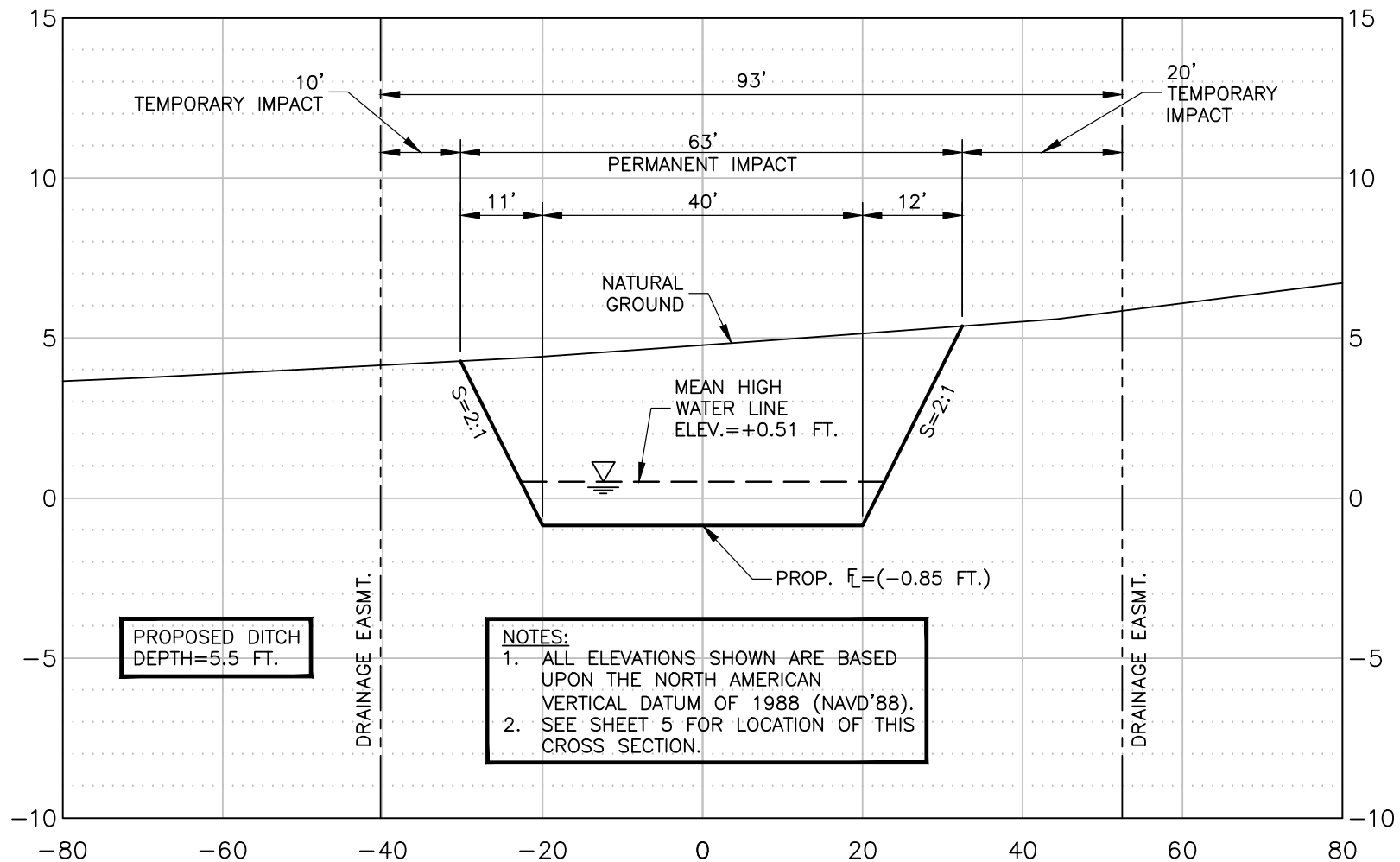
Plot Date: 9/26/2022

BRIDGE CITY DRAINAGE  
RESTORATION PROJECT  
FEMA, HMGP DR-4332-TX  
BRIDGE CITY, ORANGE COUNTY, TEXAS

SECTION "4F"  
LAT: N30.02768285°  
LONG: W93.87039069°

Action	Name	Date
Design	DMP	10/31/21
Drawn	BDS	08/27/22
Approved	DMP	08/27/22
Last Revised	-	
Scale	HOR: 1"=20', VERT: 1"=5'	
Sheet	14 of 30	





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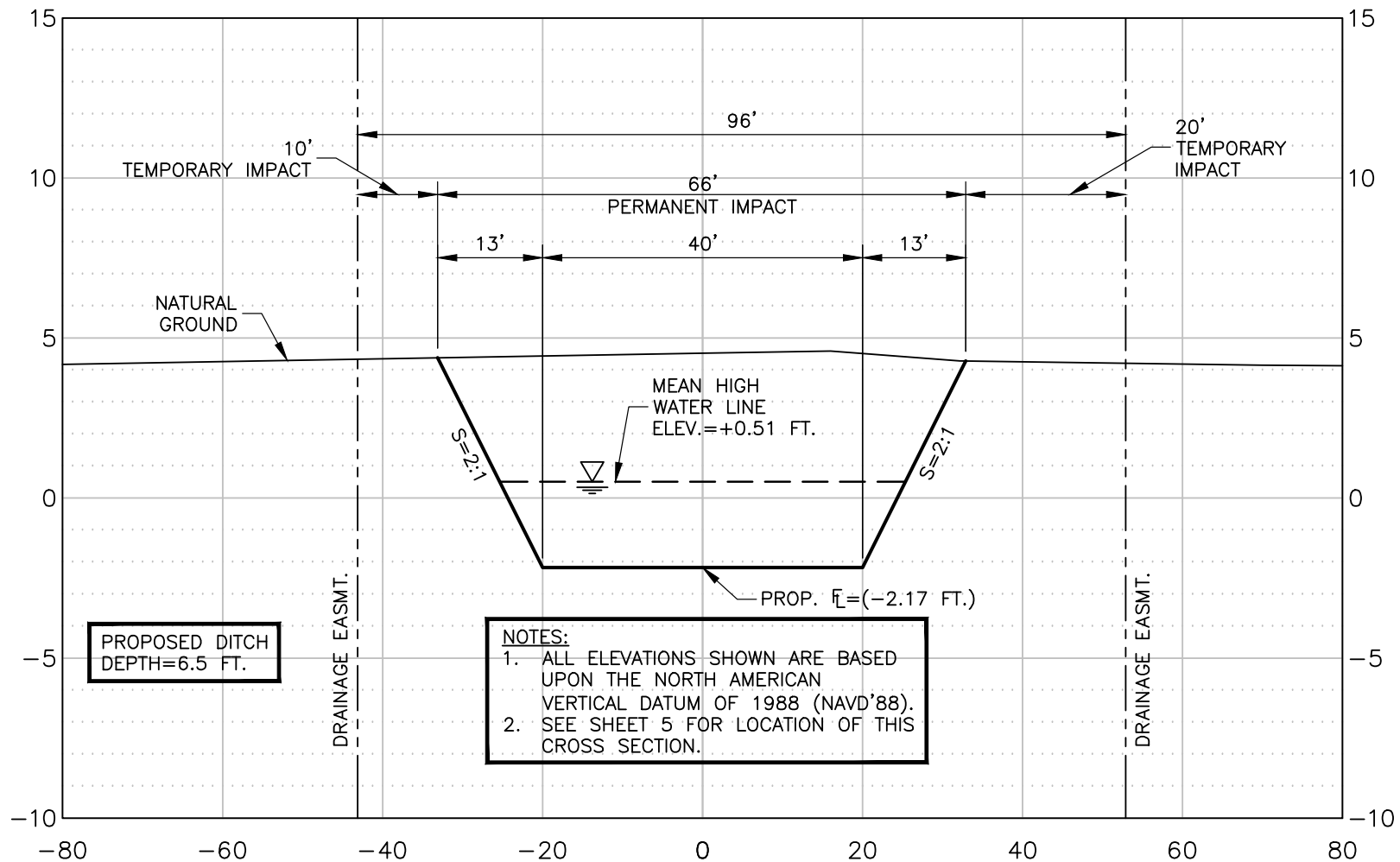
BRIDGE CITY DRAINAGE  
RESTORATION PROJECT  
FEMA, HMGP DR-4332-TX  
BRIDGE CITY, ORANGE COUNTY, TEXAS

SECTION "5A"  
LAT: N30.02779570°  
LONG: W93.86975515°

Action	Name	Date
Design	DMP	10/31/21
Drawn	BDS	08/27/22
Approved	DMP	08/27/22
Last Revised	-	
Scale	HOR: 1"=20', VERT. 1"=5'	
Sheet	15 of 30	



Action	Name	Date
Design	DMP	10/31/21
Drawn	BDS	08/27/22
Approved	DMP	08/27/22
Last Revised	-	
Scale	HOR.: 1"=20', VERT. 1"=5'	
Sheet	16	Of 30



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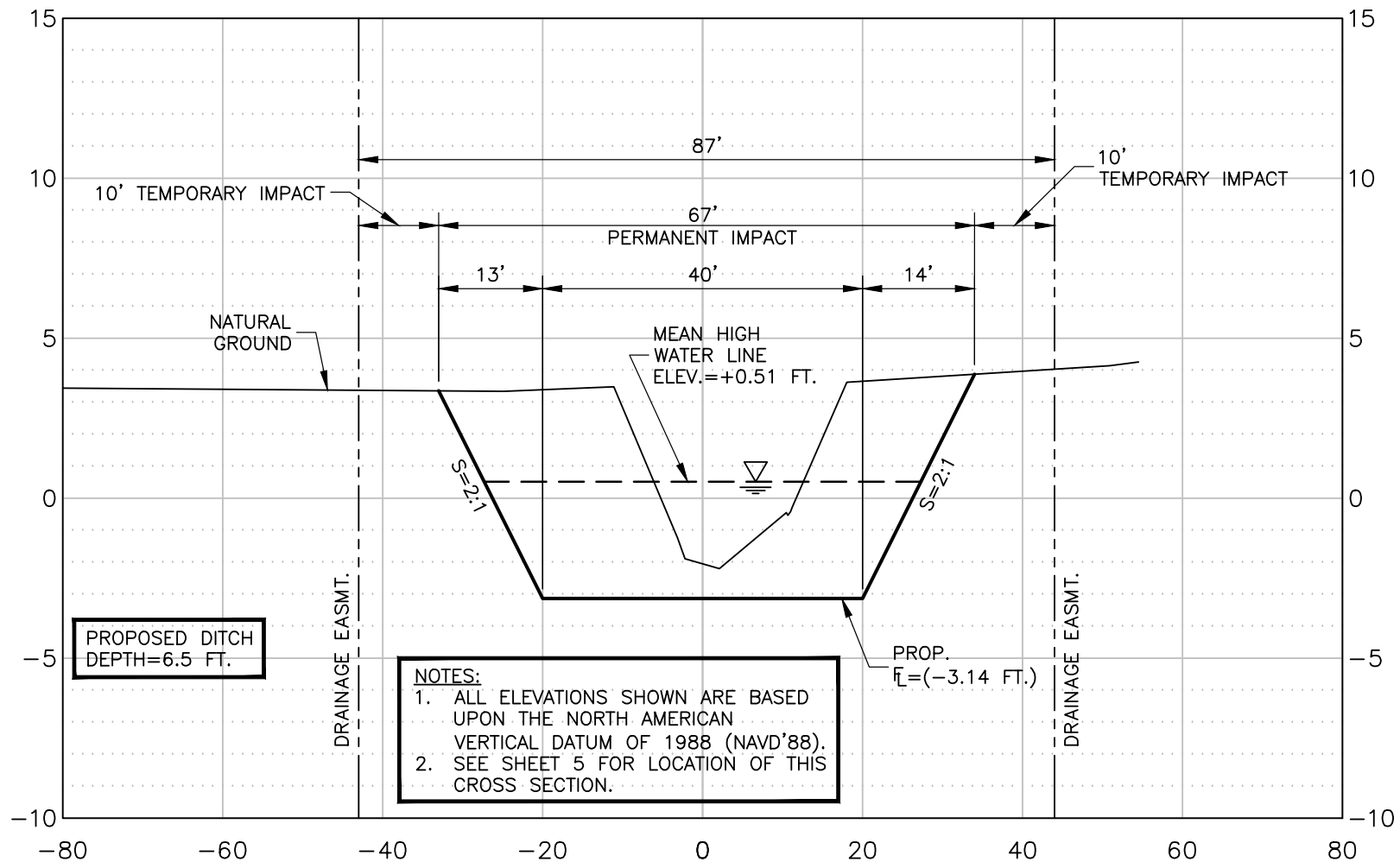
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BRIDGE CITY DRAINAGE  
RESTORATION PROJECT  
FEMA, HMGP DR-4332-TX  
BRIDGE CITY, ORANGE COUNTY, TEXAS

SECTION "5C"  
LAT: N30.02809121°  
LONG: W93.86838861°

Action	Name	Date
Design	DMP	10/31/21
Drawn	BDS	08/27/22
Approved	DMP	08/27/22
Last Revised	-	
Scale	HOR: 1"=20', VERT: 1"=5'	
Sheet	17 of 30	





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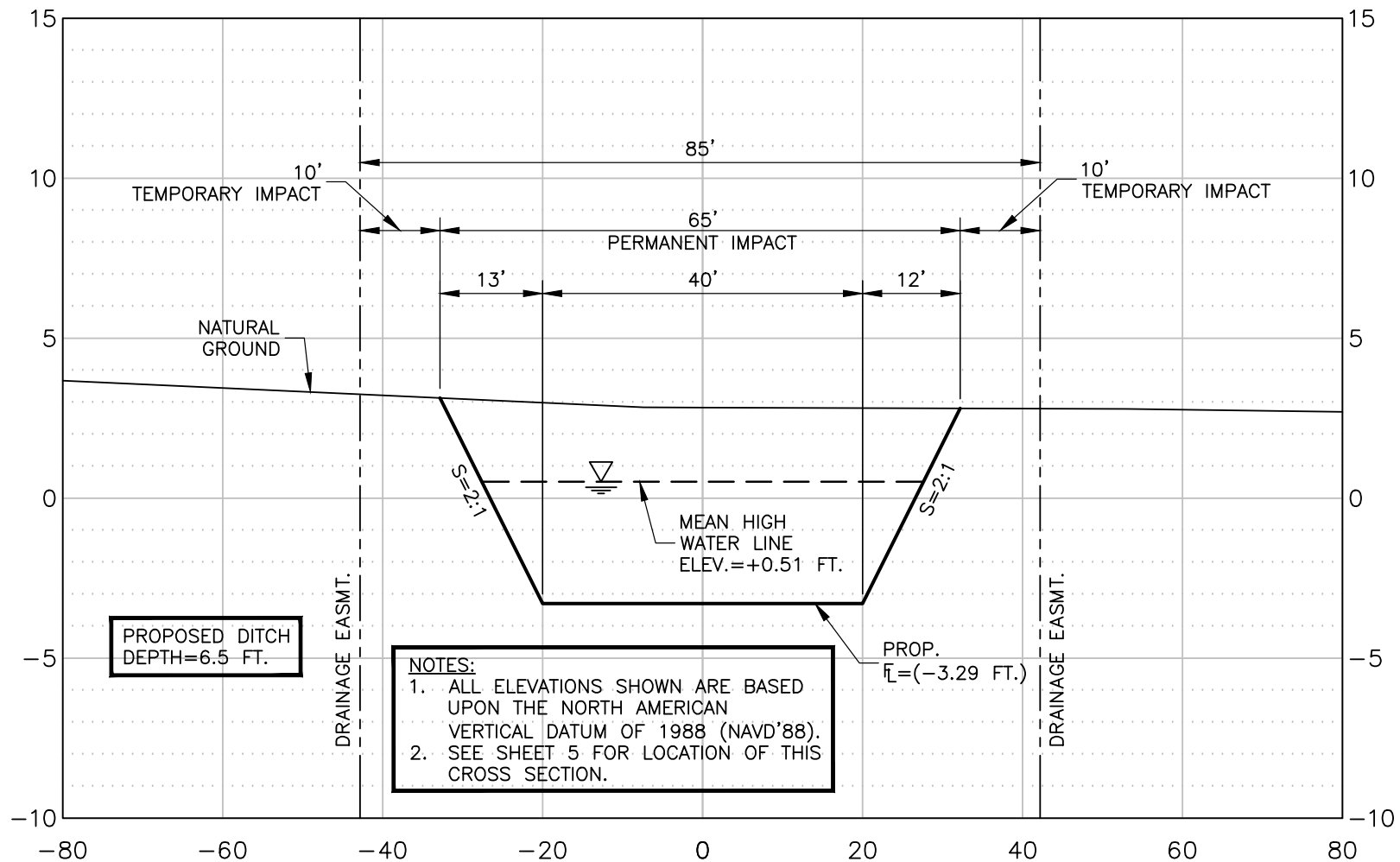
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BRIDGE CITY DRAINAGE  
RESTORATION PROJECT  
FEMA, HMGP DR-4332-TX  
BRIDGE CITY, ORANGE COUNTY, TEXAS

SECTION "5D"  
LAT: N30.02870570°  
LONG: W93.86442812°

Action	Name	Date
Design	DMP	10/31/21
Drawn	BDS	08/27/22
Approved	DMP	08/27/22
Last Revised	-	
Scale	HOR: 1"=20', VERT: 1"=5'	
Sheet	18 of 30	



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BRIDGE CITY DRAINAGE  
RESTORATION PROJECT  
FEMA, HMGP DR-4332-TX  
BRIDGE CITY, ORANGE COUNTY, TEXAS

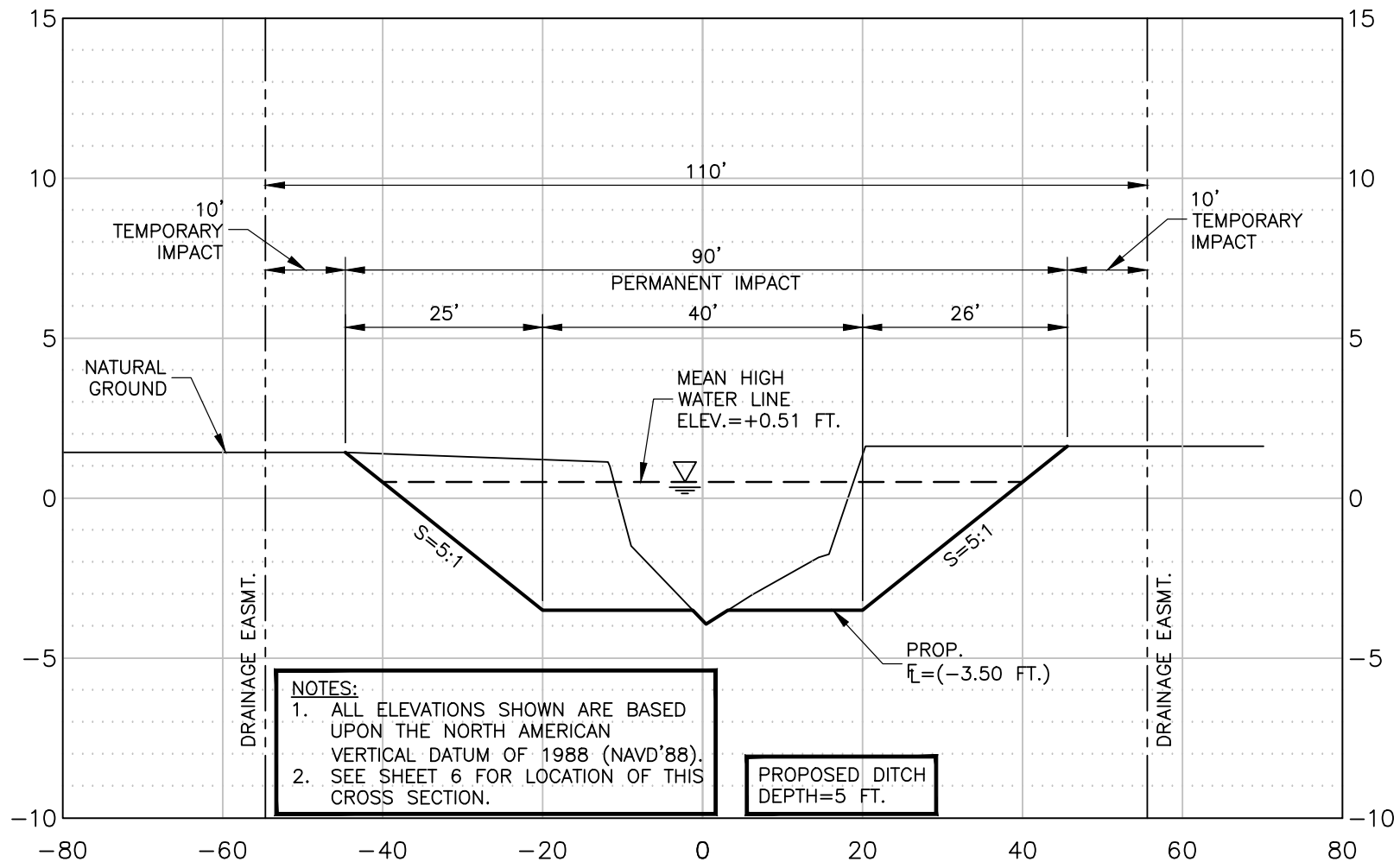
SECTION "5E"  
LAT: N30.02838907°  
LONG: W93.86217731°

Action	Name	Date
Design	DMP	10/31/21
Drawn	BDS	08/27/22
Approved	DMP	08/27/22
Last Revised	-	
Scale	HOR: 1"=20', VERT. 1"=5'	
Sheet	19 of 30	

**LJA**

Action	Name	Date
Design	DMP	10/31/21
Drawn	BDS	08/27/22
Approved	DMP	08/27/22
Last Revised	—	
Scale	HOR.: 1"=20', VERT. 1"=5'	
Sheet	<u>20</u>	Of <u>30</u>





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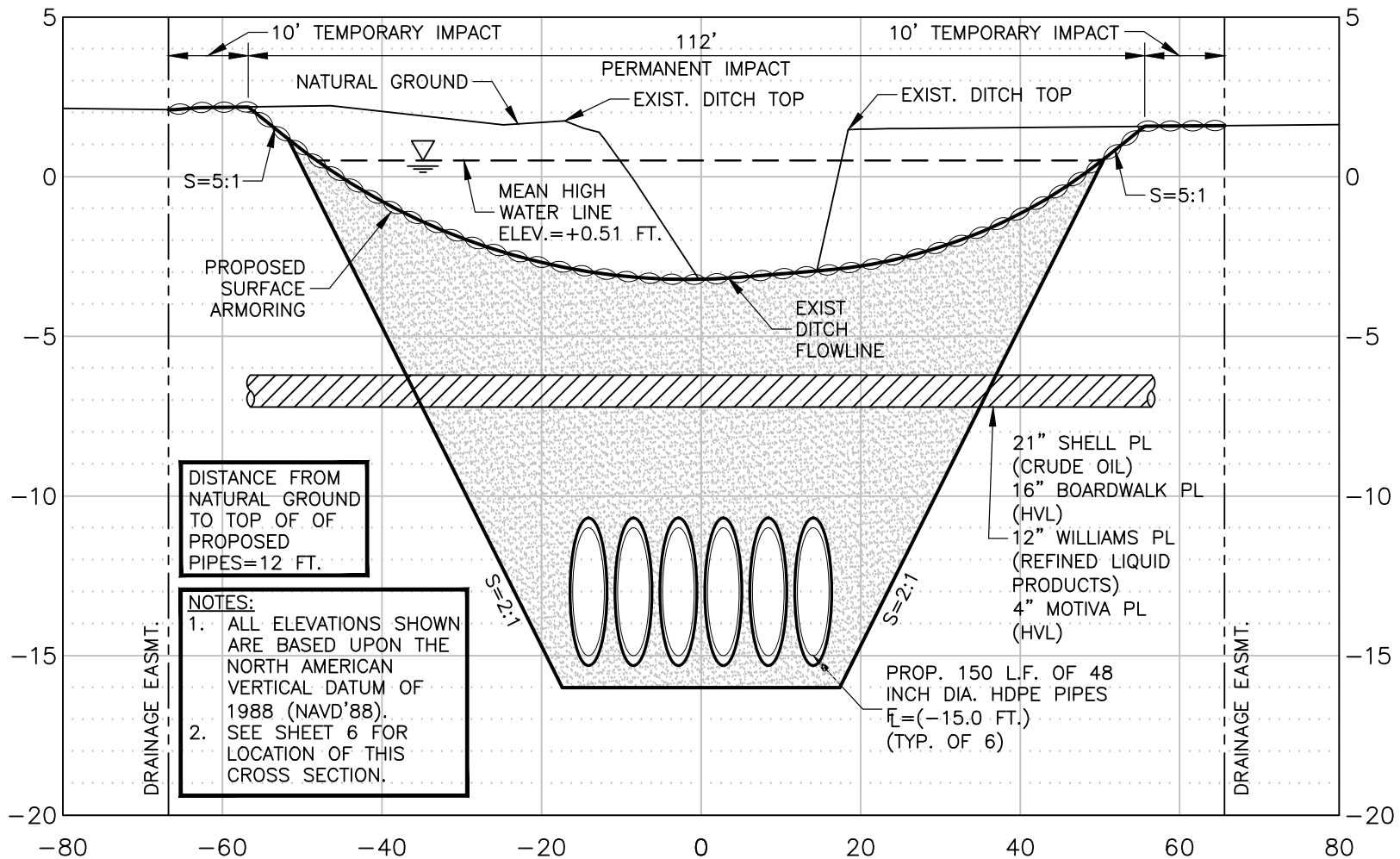
2615 Calder Avenue, Suite 500  
Beaumont, Texas 77702

Phone 409.833.3363  
Fax 409.833.0317  
FRN - F-1386

Plot Date: 9/26/2022

BRIDGE CITY DRAINAGE  
RESTORATION PROJECT  
FEMA, HMGP DR-4332-TX  
BRIDGE CITY, ORANGE COUNTY, TEXAS  
SECTION "6B"  
LAT: N30.02904366°  
LONG: W93.85792774°

Action	Name	Date
Design	DMP	10/31/21
Drawn	BDS	08/27/22
Approved	DMP	08/27/22
Last Revised	-	
Scale	HOR: 1"=20', VERT: 1"=5'	
Sheet	21 of 30	



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Plot Date: 9/26/2022

BRIDGE CITY DRAINAGE  
RESTORATION PROJECT  
FEMA, HMGP DR-4332-TX  
BRIDGE CITY, ORANGE COUNTY, TEXAS

SECTION "6C"  
LAT: N30.02805618°  
LONG: W93.85865898°

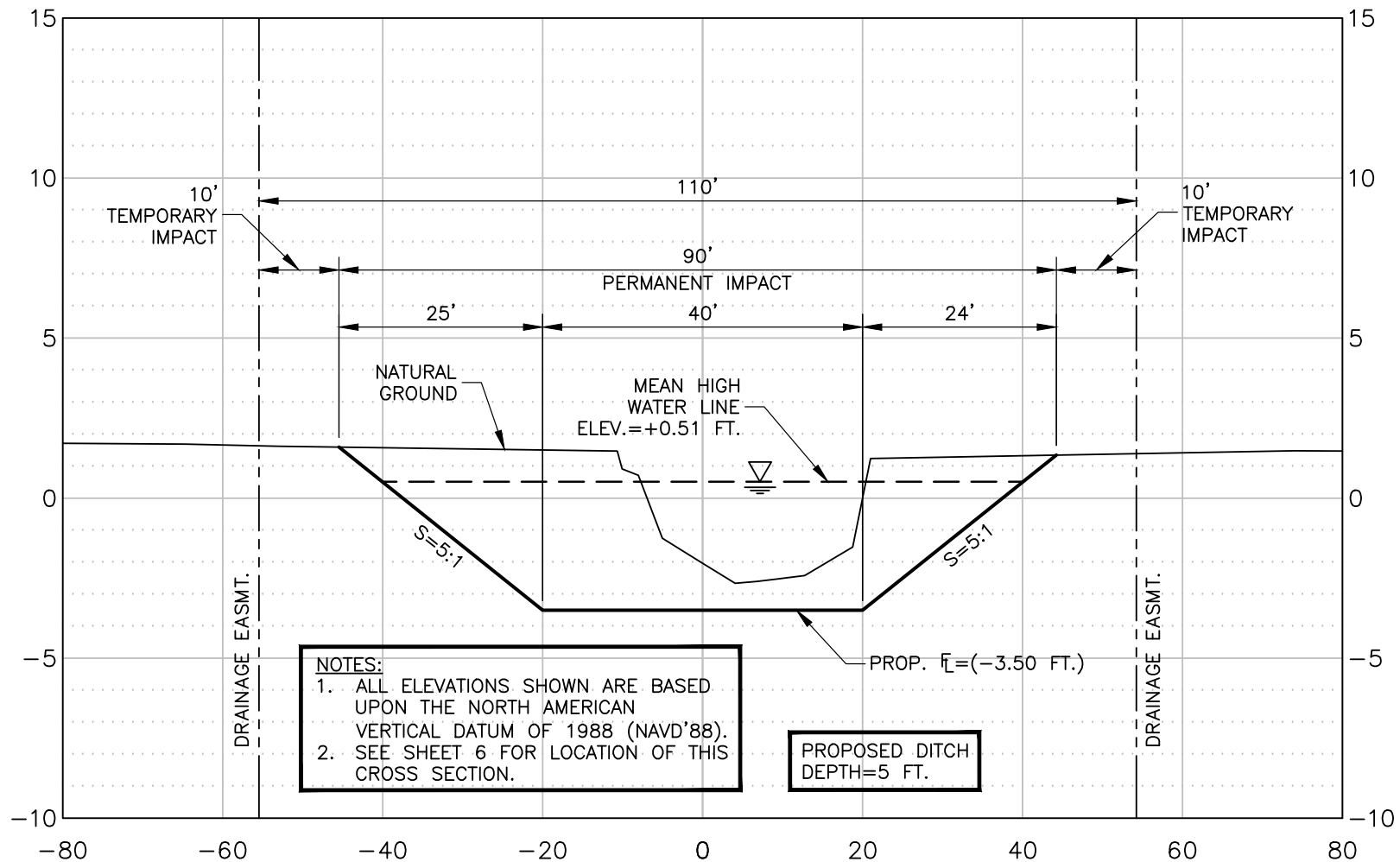
Action	Name	Date
Design	DMP	10/31/21
Drawn	BDS	08/27/22
Approved	DMP	08/27/22
Last Revised	-	
Scale	HOR: 1"=20', VERT: 1"=5'	
Sheet	22 of 30	



*Plot Date:* 9/26/2022

Action	Name	Date
Design	DMP	10/31/21
Drawn	BDS	08/27/22
Approved	DMP	08/27/22
Last Revised	—	
Scale	HOR.: 1"=50', VERT. 1"=5'	
Sheet	22A	Of 30





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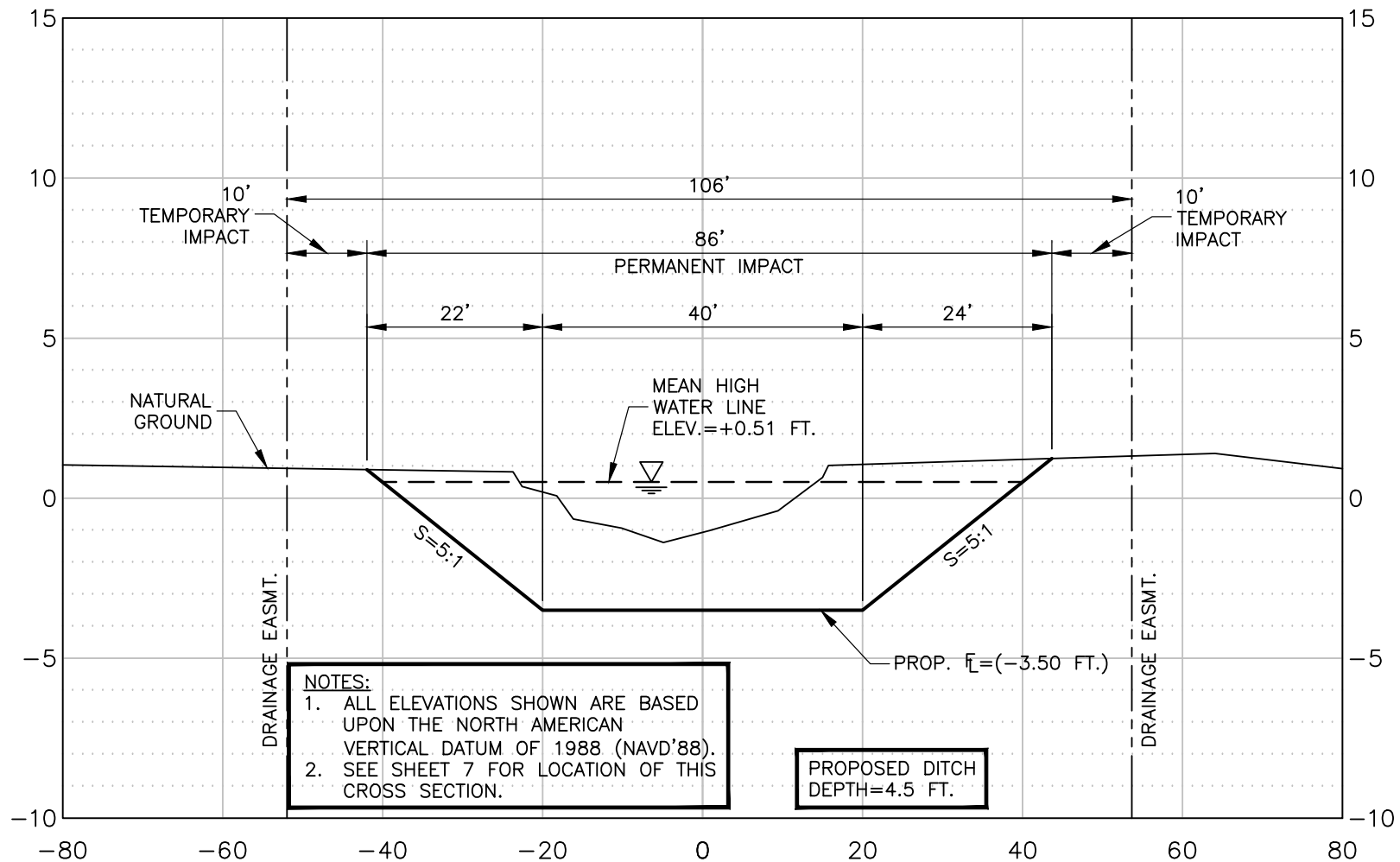
Phone 409.833.3363  
Fax 409.833.0317  
FRN - F-1386

Plot Date: 9/26/2022

BRIDGE CITY DRAINAGE  
RESTORATION PROJECT  
FEMA, HMGP DR-4332-TX  
BRIDGE CITY, ORANGE COUNTY, TEXAS

SECTION "6E"  
LAT: N30.02641703°  
LONG: W93.85938467°

Action	Name	Date
Design	DMP	10/31/21
Drawn	BDS	08/27/22
Approved	DMP	08/27/22
Last Revised	-	
Scale	HOR: 1"=20', VERT: 1"=5'	
Sheet	23 of 30	



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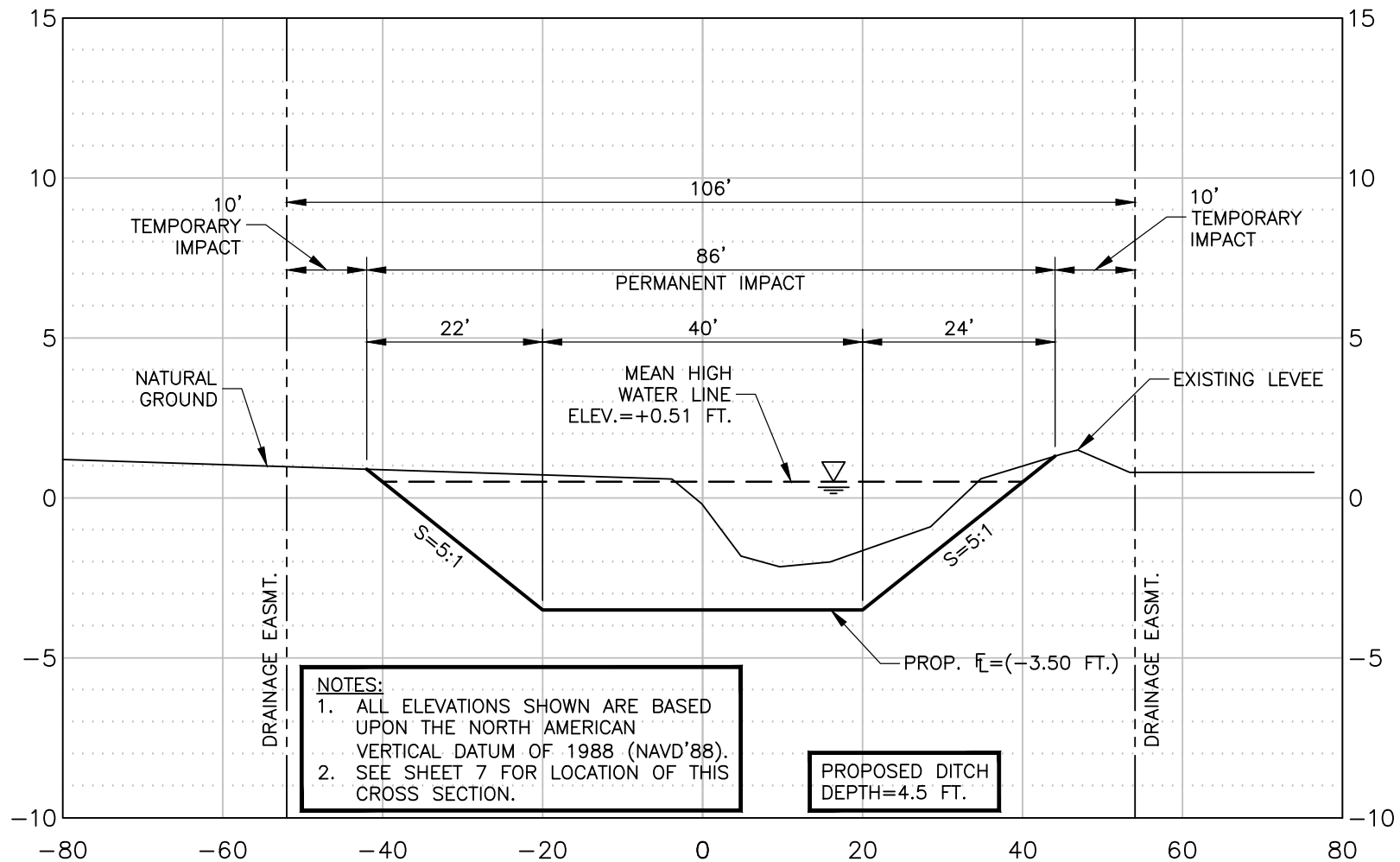
Phone 409.833.3363  
Fax 409.833.0317  
FRN - F-1386

Plot Date: 9/26/2022

BRIDGE CITY DRAINAGE  
RESTORATION PROJECT  
FEMA, HMGP DR-4332-TX  
BRIDGE CITY, ORANGE COUNTY, TEXAS

SECTION "7A"  
LAT: N30.02395631°  
LONG: W93.85671847°

Action	Name	Date
Design	DMP	10/31/21
Drawn	BDS	08/27/22
Approved	DMP	08/27/22
Last Revised	-	
Scale	HOR: 1"=20', VERT. 1"=5'	
Sheet	24 of 30	



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Plot Date: 9/26/2022

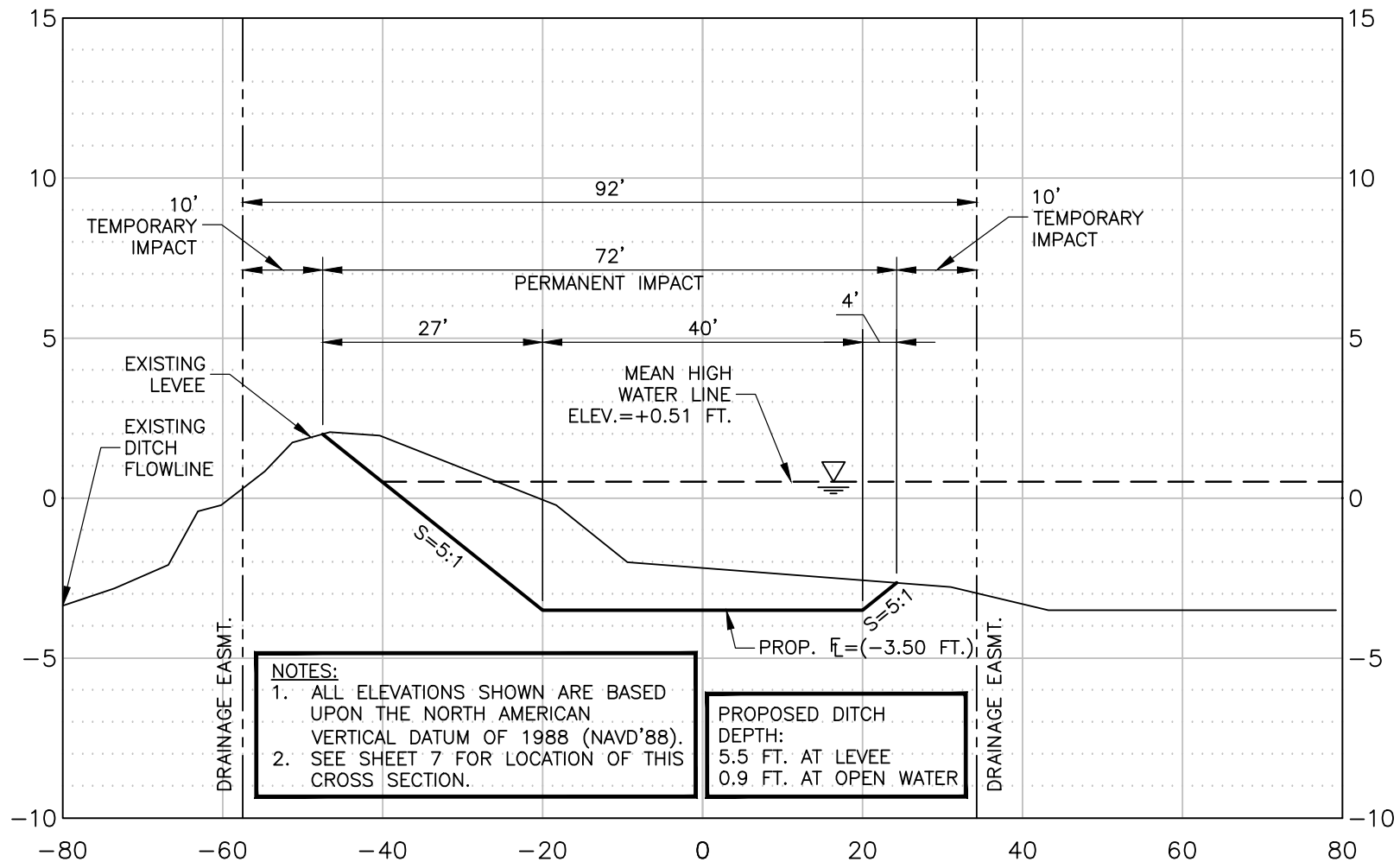
BRIDGE CITY DRAINAGE  
RESTORATION PROJECT  
FEMA, HMGP DR-4332-TX  
BRIDGE CITY, ORANGE COUNTY, TEXAS

### SECTION "7B"

LAT: N30.02044737°  
LONG: W93.85707111°

Action	Name	Date
Design	DMP	10/31/21
Drawn	BDS	08/27/22
Approved	DMP	08/27/22
Last Revised	-	
Scale	HOR: 1"=20', VERT. 1"=5'	
Sheet	25 of 30	





**NOTES:**

1. ALL ELEVATIONS SHOWN ARE BASED UPON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD'88).
2. SEE SHEET 7 FOR LOCATION OF THIS CROSS SECTION.

PROPOSED DITCH  
DEPTH:  
5.5 FT. AT LEVEE  
0.9 FT. AT OPEN WATER

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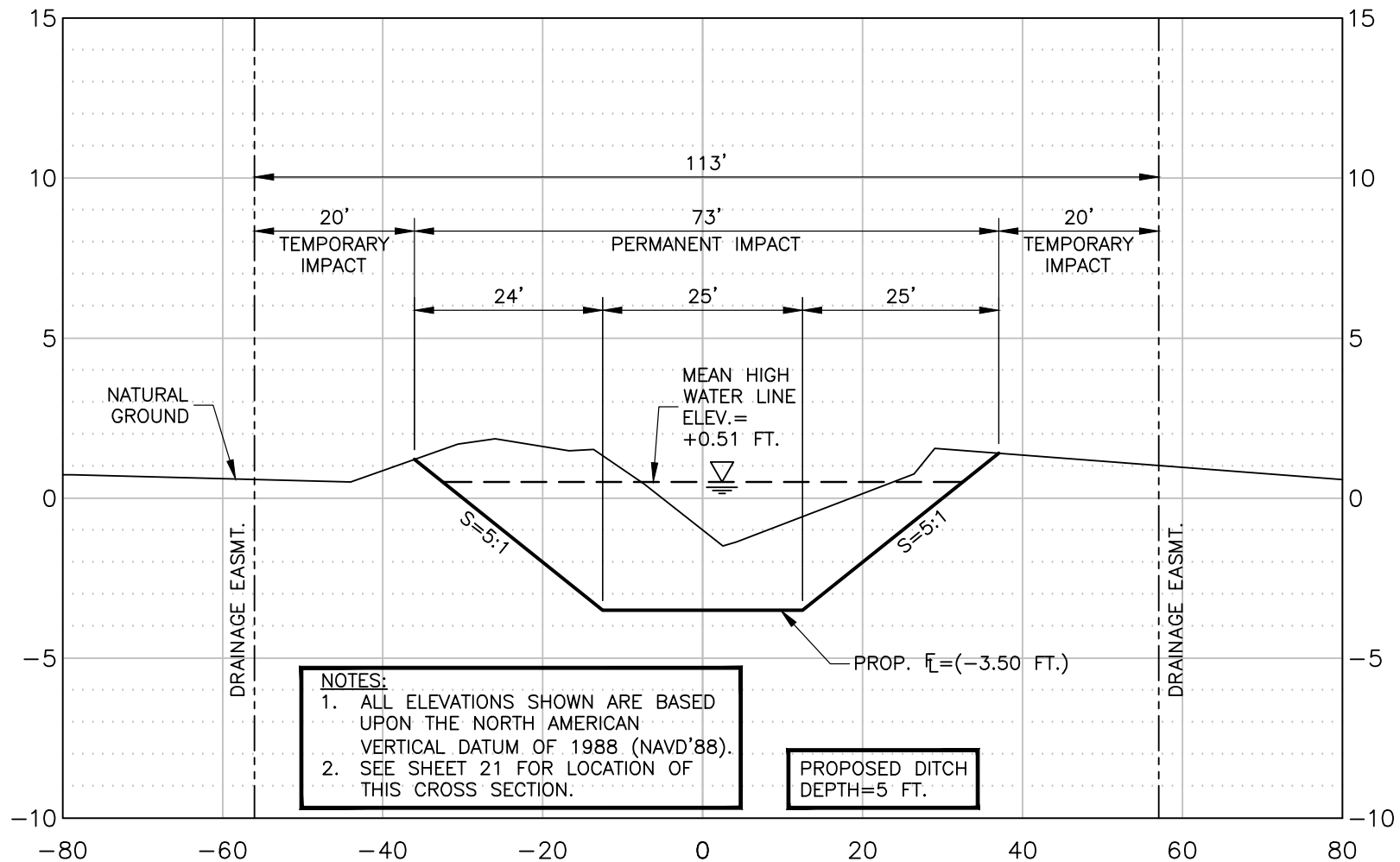
Phone 409.833.3363  
Fax 409.833.0317  
FRN - F-1386

Plot Date: 9/26/2022

BRIDGE CITY DRAINAGE  
RESTORATION PROJECT  
FEMA, HMGP DR-4332-TX  
BRIDGE CITY, ORANGE COUNTY, TEXAS

SECTION "7C"  
LAT: N30.01976579°  
LONG: W93.85681459°

Action	Name	Date
Design	DMP	10/31/21
Drawn	BDS	08/27/22
Approved	DMP	08/27/22
Last Revised	-	
Scale	HOR: 1"=20', VERT. 1"=5'	
Sheet	26 of 30	



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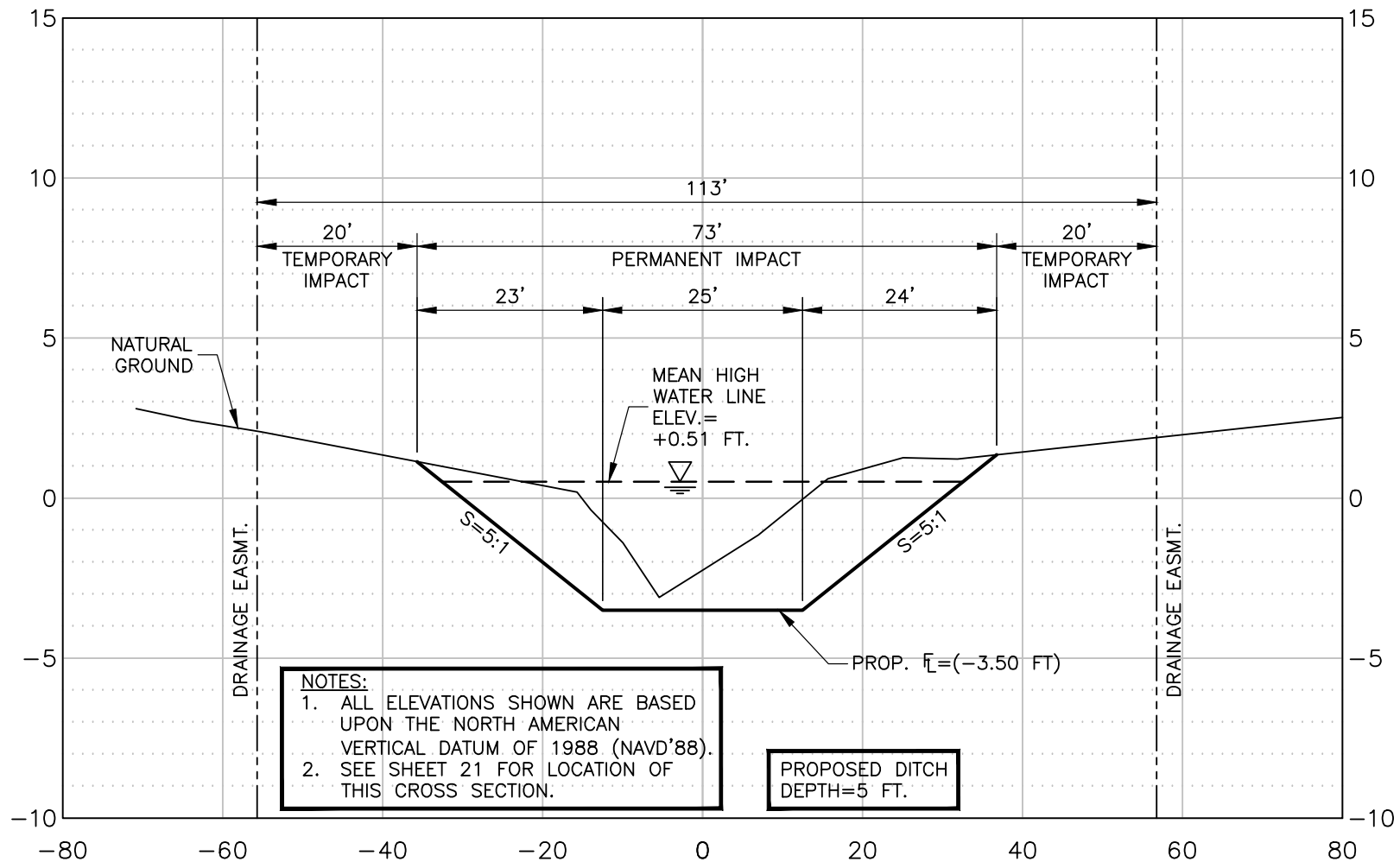
Phone 409.833.3363  
Fax 409.833.0317  
FRN - F-1386

Plot Date: 9/26/2022

BRIDGE CITY DRAINAGE  
RESTORATION PROJECT  
FEMA, HMGP DR-4332-TX  
BRIDGE CITY, ORANGE COUNTY, TEXAS

SECTION "8A"  
LAT: N30.02242208°  
LONG: W93.85296854°

Action	Name	Date
Design	DMP	10/31/21
Drawn	BDS	08/27/22
Approved	DMP	08/27/22
Last Revised	-	
Scale	HOR: 1"=20', VERT: 1"=5'	
Sheet	27 of 30	



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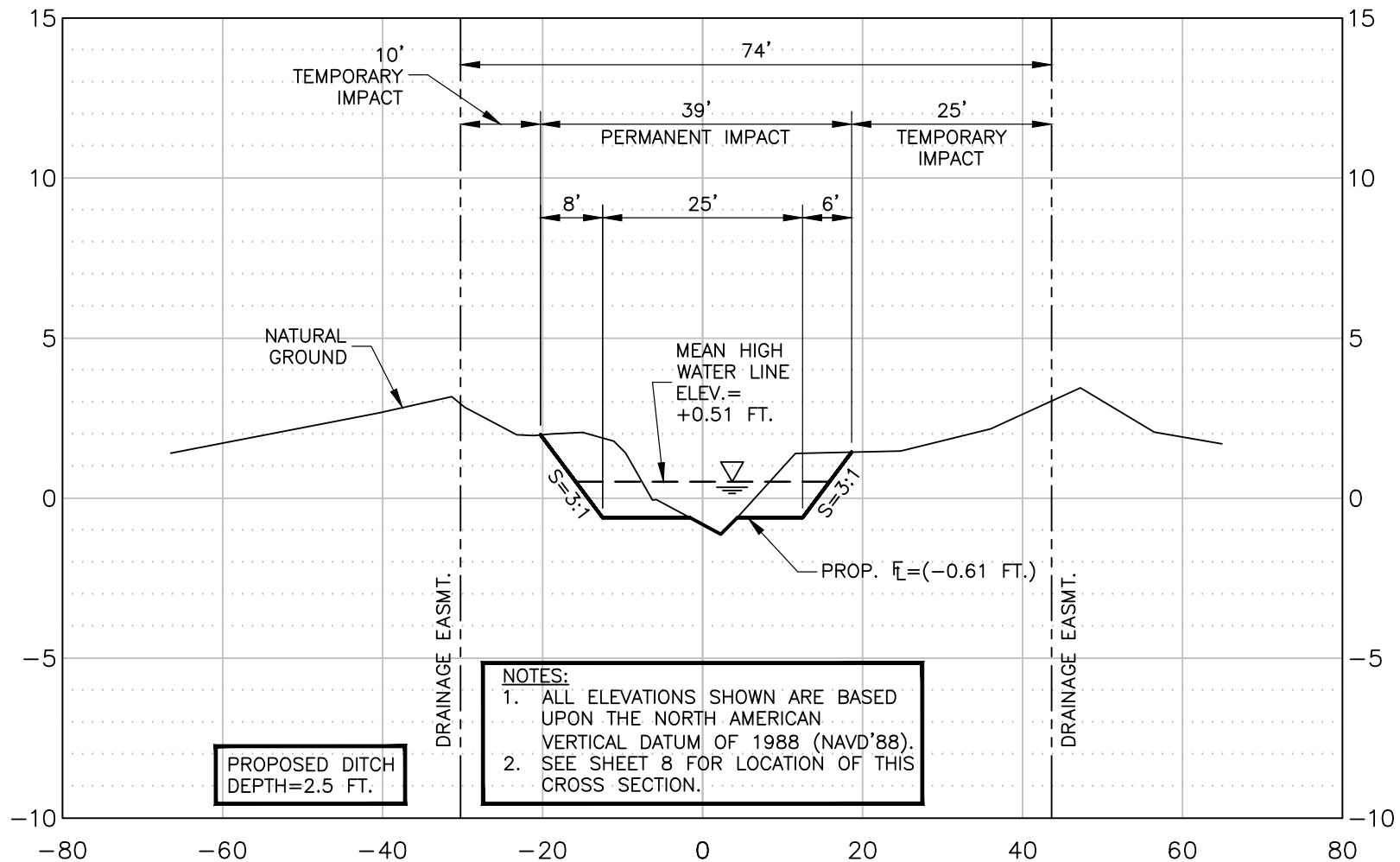
Phone 409.833.3363  
Fax 409.833.0317  
FRN - F-1386

Plot Date: 9/26/2022

BRIDGE CITY DRAINAGE  
RESTORATION PROJECT  
FEMA, HMGP DR-4332-TX  
BRIDGE CITY, ORANGE COUNTY, TEXAS  
SECTION "8B"  
LAT: N30.02390956°  
LONG: W93.84981332°

Action	Name	Date
Design	DMP	10/31/21
Drawn	BDS	08/27/22
Approved	DMP	08/27/22
Last Revised	-	
Scale	HOR: 1"=20', VERT: 1"=5'	
Sheet	28 of 30	





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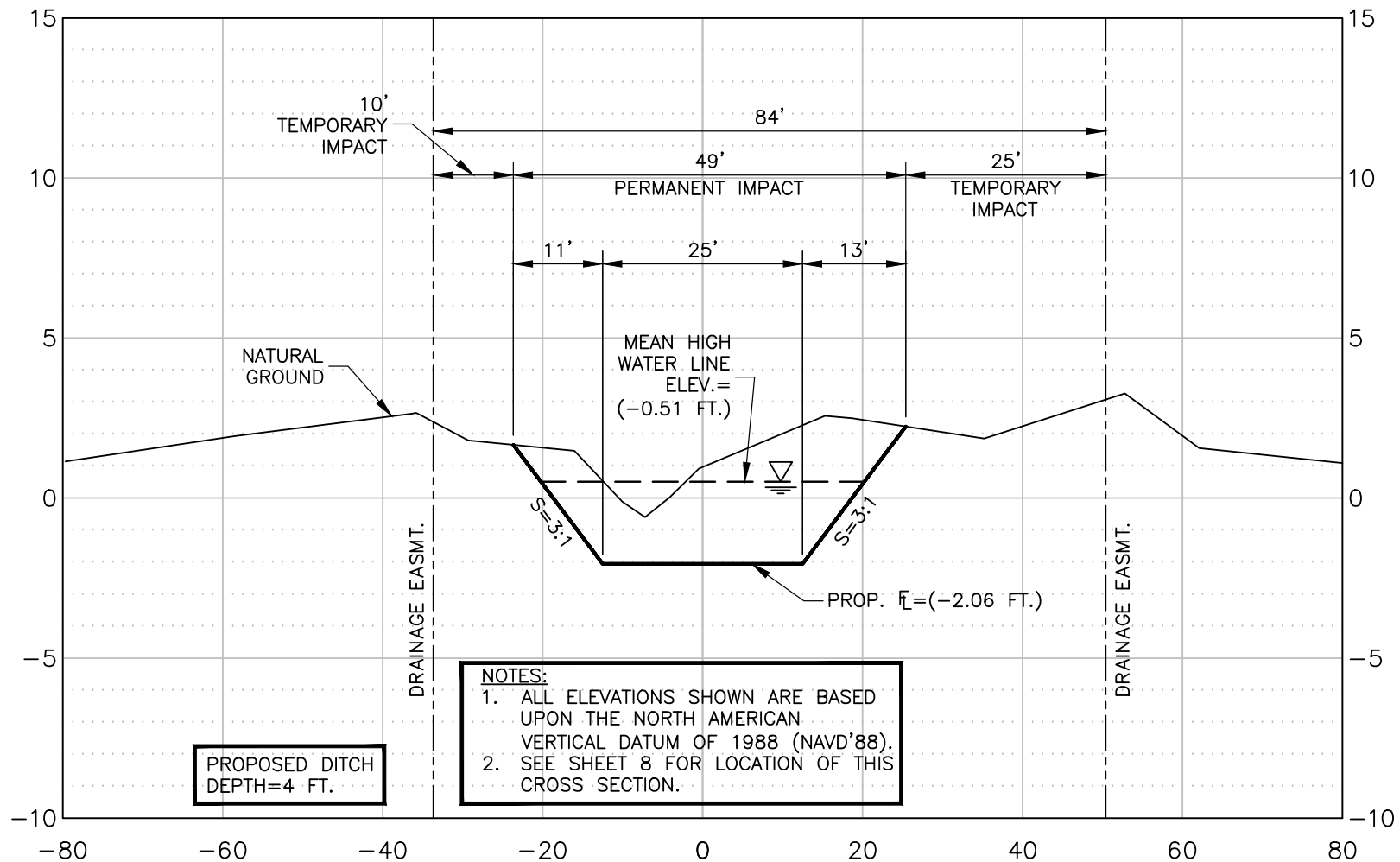
2615 Calder Avenue, Suite 500  
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Plot Date: 9/26/2022

BRIDGE CITY DRAINAGE  
RESTORATION PROJECT  
FEMA, HMGP DR-4332-TX  
BRIDGE CITY, ORANGE COUNTY, TEXAS  
SECTION "8C"  
LAT: N30.02378323°  
LONG: W93.85536413°

Action	Name	Date
Design	DMP	10/31/21
Drawn	BDS	08/27/22
Approved	DMP	08/27/22
Last Revised	-	
Scale	HOR: 1"=20', VERT: 1"=5'	
Sheet	29 of 30	



NOTES:

1. ALL ELEVATIONS SHOWN ARE BASED UPON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD'88).
2. SEE SHEET 8 FOR LOCATION OF THIS CROSS SECTION.

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*Plot Date:* 9/26/2022

BRIDGE CITY DRAINAGE  
RESTORATION PROJECT  
FEMA, HMGP DR-4332-TX  
BRIDGE CITY, ORANGE COUNTY, TEXAS

SECTION "8D"

LAT: N30.02296477°  
LONG: W93.85533694°

Action	Name	Date
Design	DMP	10/31/21
Drawn	BDS	08/27/22
Approved	DMP	08/27/22
Last Revised	—	
Scale	HOR.: 1"=20', VERT. 1"=5'	
Sheet	<u>30</u>	Of <u>30</u>