



GALVESTON COUNTY ENGINEERING DEPARTMENT

**Change Order No. 01
Bacliff Drainage Improvements**

Owner: Galveston County
Contractor: Lucas Construction Co.
Engineer: Gannett Fleming Transystems

Contract Number: CM25015
Purchase Order Number: F502913
Bid Number: 24-025

Work Being Changed

Adjusting the bid items to accommodate the increase in Item 19 – CL A Concrete (Channel Lining) (8") SY, and to include the addition of four concrete pads over existing storm pipes in lieu of grates with Item 18 - CL A Concrete (Channel Lining) (6") SY.

CHANGE IN CONTRACT PRICE

Original Contract Price: **\$1,698,700.00**
Net Change From
Previous Change Orders: **\$0**
Contract Price Prior To
This Change Order: **\$1,698,700.00**
Net Increase/Decrease Of
This Change Order: **\$0**
Contract Price With All
Approved Change Orders: **\$1,698,700.00**

CHANGE IN CONTRACT TIME

Original Contract Time: **360 Days**
Net Change From
Previous Change Orders: **0 Days**
Contract Time Prior To
This Change Order: **360 Days**
Net Increase/Decrease Of
This Change Order: **0 Days**
Contract Time With All
Approved Change Orders: **360 Days**

RECOMMENDED:

By: Ryan Ramirez *Rmz* Date: 04/17/2025
Engineer (Consultant)

By: *[Signature]* Date: 4/17/2025
Engineer (County Engineer)

APPROVED:

County Of Galveston

By: *[Signature]* Date: April 28, 2025
Mark Henry, County Judge

Attest: Dwight Sullivan, County Clerk

By: *[Signature]* Deputy
Mae Ross

ACCEPTED:

Contractor

By: *[Signature]* Date: 4/17/2025
Contractor (Authorized Signature)

Jimmy McGinnis

Printed Name

GALVESTON COUNTY ENGINEERING DEPARTMENT

Change Order No. 01
Bacliff Drainage Improvement

Pay Item No.	Spec Item No.	DESCRIPTION	UNIT	UNIT PRICE	QUANTITY	ITEM COST	QUANTITY	ITEM COST	OVERRUN/UNDERRUN
19		CL A CONC(CHANNEL LINING)(8")	SY	\$260.00	90.00	\$23,400.00	380.00	\$98,800.00	-\$75,400.00
9		STEEL GRATING	LF	\$600.00	85.00	\$51,000.00	0.00	\$0.00	\$51,000.00
28		Port CTB(FUR and INST)(Low Profile)(TY 1)	LF	\$200.00	40.00	\$8,000.00	0.00	\$0.00	\$8,000.00
29		Port CTB(FUR and INST)(Low Profile)(TY 2)	LF	\$200.00	40.00	\$8,000.00	0.00	\$0.00	\$8,000.00
30		Port CTB(Remove)(Low Profile)(TY 1)	LF	\$100.00	40.00	\$4,000.00	0.00	\$0.00	\$4,000.00
35		Rock Filter Dams(Install)(TY 2)	LF	\$30.00	150.00	\$4,500.00	0.00	\$0.00	\$4,500.00
36		Rock Filter Dams(Remove)	LF	\$30.00	150.00	\$4,500.00	0.00	\$0.00	\$4,500.00
18		CL A CONC(CHANNEL LINING)(6")	SY	\$200.00	440.00	\$88,000.00	463.00	\$92,600.00	-\$4,600.00
		TOTAL							\$0.00



March 26, 2025
Gannett Fleming
3100 Alabama St
Houston, TX 77098
ATTN: Ryan Ramirez
RE: Bacliff Drainage CPR #1 – RFI 01 Low Water Crossing

Mr. Ramirez,

In response to the answer to RFI 01, Lucas Construction Company, Inc. proposes to provide labor, materials, equipment, layout, supervision, and insurance to accomplish the additional work for the following lump sum amount:

-Increase quantity to line 19 by 290 SY for a revised total of 380 SY	\$260/SY	\$75,400
-Remove bid item 9		(\$51,000)
-Add (4) concrete pads over existing storm pipes in lieu of grates	\$1,150/EA	\$4,600
-Remove bid items 28-30 (not needed)		(\$20,000)
-Remove bid items 35 and 36 (we can use silt fence if needed)		(\$9,000)

Net Increase in Base Bid = \$0.00

Exclusions: Engineering, permitting, materials testing, well-pointing, and any utility adjustments/relocations that may be necessary.

Please feel free to call me at 281-316-9990 with any questions or concerns.

Sincerely,

A handwritten signature in black ink, appearing to read "J. McGinnis", is written over a light blue horizontal line.

Jimmy McGinnis
Vice President
Lucas Construction

1. RFI No.: 01
2. Project Name: **Bacliff Drainage Improvements**
3. Contractor: **Lucas Construction Company, Inc.**
4. Specification No.: Low Water Crossing Concrete Quantity
5. Drawing No.: Sheet 29
6. Response Code: (☐) CRITICAL (☒) ROUTINE
7. Date Response Required: **01/22/2024**
8. Information Required:

Items 17-19 of the bid form are for (3) different concrete linings. Item 17 has 160 SY of 5" concrete, which we believe is for the concrete floor between the FW and SW walls. The TXDOT detail shows the floor to be 5" thick. That is the only area of the project we can find 5" concrete. Item 18 has 440 SY of 6" concrete, which we believe is for the concrete channel at the Bayshore outfall. The detail for that concrete on sheet 31 shows 6" concrete and the quantity is very close. That leaves item 19 for the low water crossing shown on sheet 29. Item 19 only has 90 SY of 8" concrete, but if I scale the layout on sheet 29 and take into consideration the 5:1 slope, I get 380 SY of concrete. I cannot locate a detail for the low water crossing, I'm only assuming it is 8" thick because that's the only concrete bid item left that could account for this work. Please advise if this is correct and if we are to overrun bid item 19 or if this will need to be paid differently.

[Handwritten signature]

9. _____ Vice President 01/15/2024
Contractor Signature Title Date

10. RESPONSE:
See below in attached Gannett Fleming document for response.

11. Rmz 01/21/2025
Project Manager Signature Date

12. **If Contractor believes the response given in Item 10 requires an adjustment in Contract Price or Contract Time, Contractor shall submit a timely proposal so as not to delay Contractor's Work.**

END OF DOCUMENT

**REQUEST FOR INFORMATION
CONSTRUCTION
PHASE**

RFI Number: 01

To:	Jimmy McGinnis (Lucas Construction)	Project:	Galveston County ARPA Beddiss Drainage Improvements
	Tim Morrow (Lucas Construction), Nancy Baher (Galveston County), Lisa Butler (Galveston County)		
		Contract:	Project No. ITB 24-026
From:	Donald Stepanik (Gannett Fleming TransSystems)	Reference:	Channel Lining
	Ryan Ramirez (Gannett Fleming TransSystems)	Spec. Section:	
Date:	01/21/2025	Drawing No:	

Request:

Items 17-19 of the bid form are for (3) different concrete linings. Item 17 has 160 SY of 5" concrete, which we believe is for the concrete floor between the FW and SW walls. The TXDOT detail shows the floor to be 5" thick. That is the only area of the project we can find 5" concrete. Item 18 has 440 SY of 6" concrete, which we believe is for the concrete channel at the Bayshore outfall. The detail for that concrete on sheet 31 shows 6" concrete and the quantity is very close. That leaves item 19 for the low water crossing shown on sheet 29. Item 19 only has 90 SY of 8" concrete, but if I scale the layout on sheet 29 and take into consideration the 5:1 slope, I get 380 SY of concrete. I cannot locate a detail for the low water crossing, I'm only assuming it is 8" thick because that's the only concrete bid item left that could account for this work. Please advise if this is correct and if we are to overrun bid item 19 or if this will need to be paid differently.

Attachments: RFI PDF**Requested By:** Jimmy McGinnis**Date:** 01/15/25**Please Respond By:** Ryan Ramirez**Response:**

After reviewing the design documents, Item 19 CL A CONC(CHANNEL LINING)(8") is the correct item for the low water crossing. The crossing will have 8-inch concrete on the main driving surface and the channel bottom just upstream and downstream of the crossing, and 6-inch on the side slopes. The original estimate shows the low water crossing quantities in the 5-inch and 8-inch rows; the total was 250 SY. The total area needs to be 415 SY instead of the 250 SY, with 157 SY of 6-inch concrete and 258 SY of 8-inch concrete. The contractor's fee will increase by \$35,080. The 5-inch concrete quantity does not include the headwall apron, as estimated by the contractor. The bid tab shows the headwall as an individual unit and does not require additional estimation of concrete items. This will cause for a change order.

Responded By: Ryan Ramirez**Signed:** *Rmz***Response/Return Date:** 01/21/2025**Copies To:** RFI Log

INDEX OF DRAWINGS

SHEET No. DESCRIPTION

GENERAL

1. COVER SHEET
2. INDEX OF DRAWINGS
3. LEGEND & ABBREVIATIONS
4. CONSTRUCTION NOTES

SURVEY & EXISTING CONDITIONS

5. SURVEY CONTROL - OVERALL
6. SURVEY CONTROL DETAIL SHEET
7. SURVEY CONTROL DETAIL SHEET
8. PROJECT LAYOUT (SHEET 1 OF 2)
9. PROJECT LAYOUT (SHEET 2 OF 2)

DEMO SHEETS

10. DEMO SHEETS (SHEET 1 OF 5)
11. DEMO SHEETS (SHEET 2 OF 5)
12. DEMO SHEETS (SHEET 3 OF 5)
13. DEMO SHEETS (SHEET 4 OF 5)
14. DEMO SHEETS (SHEET 5 OF 5)

PLAN & PROFILE

15. N-16 EAST DITCH (SHEET 1 OF 7) BEGIN TO STA 5+00
16. N-16 EAST DITCH (SHEET 2 OF 7) STA 5+00 TO STA 10+00
17. N-16 EAST DITCH (SHEET 3 OF 7) STA 10+00 TO STA 15+00
18. N-16 EAST DITCH (SHEET 4 OF 7) STA 15+00 TO STA 20+00
19. N-16 EAST DITCH (SHEET 5 OF 7) STA 20+00 TO STA 25+00
20. N-16 EAST DITCH (SHEET 6 OF 7) STA 25+00 TO STA 30+00
21. N-16 EAST DITCH (SHEET 7 OF 7) STA 30+00 TO END
22. N-16 WEST DITCH (SHEET 1 OF 7) BEGIN TO STA 36+00
23. N-16 WEST DITCH (SHEET 2 OF 7) STA 36+00 TO STA 41+00
24. N-16 WEST DITCH (SHEET 3 OF 7) STA 41+00 TO STA 46+00
25. N-16 WEST DITCH (SHEET 4 OF 7) STA 46+00 TO STA 51+00
26. N-16 WEST DITCH (SHEET 5 OF 7) STA 51+00 TO STA 56+00
27. N-16 WEST DITCH (SHEET 6 OF 7) STA 56+00 TO STA 61+00
28. N-16 WEST DITCH (SHEET 7 OF 7) STA 61+00 TO END
29. 10TH STREET CHANNEL (SHEET 1 OF 1) STA 66+00 TO END
30. BAYSHORE OUTFALL STA 89+00 TO END
31. BAYSHORE OUTFALL SLAB DETAIL & N16 EAST OUTFALL DETAIL
32. UTILITY PLAN & PROFILE (SHEET 1 OF 4)
33. UTILITY PLAN & PROFILE (SHEET 2 OF 4)
34. UTILITY PLAN & PROFILE (SHEET 3 OF 4)
35. UTILITY PLAN & PROFILE (SHEET 4 OF 4)

COORDINATE LAYOUTS

36. N-16 EAST DITCH COORDINATE LAYOUT (SHEET 1 OF 2)
37. N-16 EAST DITCH COORDINATE LAYOUT (SHEET 2 OF 2)
38. N-16 WEST DITCH COORDINATE LAYOUT (SHEET 1 OF 2)
39. N-16 WEST DITCH COORDINATE LAYOUT (SHEET 2 OF 2)
40. 10TH STREET CHANNEL COORDINATE LAYOUT
41. COORDINATE AND ELEVATION TABLES

CROSS SECTIONS

42. N-16 EAST CROSS-SECTIONS (SHEET 1 OF 6)
43. N-16 EAST CROSS-SECTIONS (SHEET 2 OF 6)
44. N-16 EAST CROSS-SECTIONS (SHEET 3 OF 6)
45. N-16 EAST CROSS-SECTIONS (SHEET 4 OF 6)
46. N-16 EAST CROSS-SECTIONS (SHEET 5 OF 6)
47. N-16 EAST CROSS-SECTIONS (SHEET 6 OF 6)
48. N-16 WEST CROSS-SECTIONS (SHEET 1 OF 5)
49. N-16 WEST CROSS-SECTIONS (SHEET 2 OF 5)
50. N-16 WEST CROSS-SECTIONS (SHEET 3 OF 5)
51. N-16 WEST CROSS-SECTIONS (SHEET 4 OF 5)
52. N-16 WEST CROSS-SECTIONS (SHEET 5 OF 5)

OFF SITE FILL PLAN

53. FILL PLAN

STORM WATER POLLUTION PREVENTION PLAN

54. STORMWATER POLLUTION PREVENTION PLAN (SHEET 1 OF 2)
55. STORMWATER POLLUTION PREVENTION PLAN (SHEET 2 OF 2)
56. STORMWATER POLLUTION PREVENTION PLAN DETAILS

DETAILS

57. MISCELLANEOUS DETAILS (SHEET 1 OF 2)
58. MISCELLANEOUS DETAILS (SHEET 2 OF 2)
59. RCB 5FT SPAN
60. RCB 6FT SPAN
61. RCB MISC DETAILS
62. CONCRETE WINGWALLS WITH PARALLEL WINGS
63. S.E.T. WITH STRAIGHT WINGS FOR 0' SKEW BOX CULVERTS TYPE 1 ~ CROSS DRAINAGE B-SW-0 (SHEET
64. S.E.T. WITH STRAIGHT WINGS FOR 0' SKEW BOX CULVERTS TYPE 1 ~ CROSS DRAINAGE B-SW-0 (SHEET
65. S.E.T. WITH STRAIGHT WINGS FOR 0' SKEW BOX CULVERTS TYPE 1 ~ CROSS DRAINAGE B-SW-0 (SHEET
66. SET FW-0
67. SET SW-0
68. LOW PROFILE CONCRETE BARRIER PRECAST BARRIER (TYPE 1) (SHEET 1 OF 2)
69. LOW PROFILE CONCRETE BARRIER PRECAST BARRIER (TYPE 2) (SHEET 2 OF 2)
70. PEDESTRIAN RAIL (SHEET 1 OF 2)
71. PEDESTRIAN RAIL (SHEET 2 OF 2)
72. ARTICULATING CONCRETE BLOCKING (SHEET 1 OF 2)
73. ARTICULATING CONCRETE BLOCKING (SHEET 2 OF 2)
- 73B UTILITY CROSSING PAVEMENT AND TRANSITIONS
74. MAINTENANCE OF TRAFFIC NOTES

TRAFFIC CONTROL PLANS

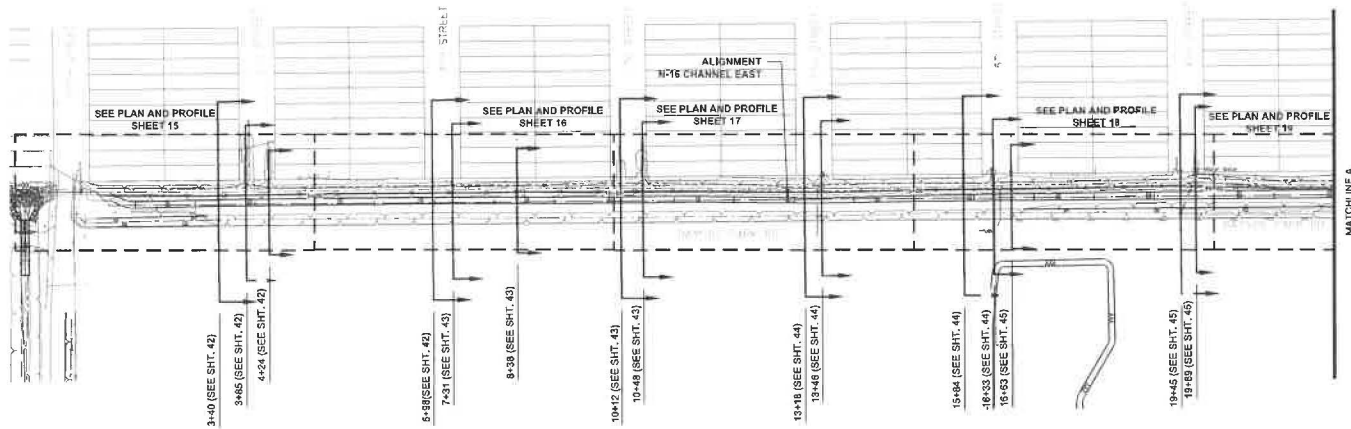
75. TRAFFIC CONTROL DETAILS (1 of 2)
76. TRAFFIC CONTROL DETAILS (2 of 2)
77. PHASE 1 TRAFFIC CONTROL 15TH STREET DETOUR PLAN (1 OF 1)
78. PHASE 2 TRAFFIC CONTROL 10TH STREET DETOUR PLAN (1 OF 1)
79. PHASE 3 TRAFFIC CONTROL PLAN BAYSHORE OUTFALL
80. TRAFFIC CONTROL PLAN PHASE 3 LAYOUT
81. TEMPORARY CONSTRUCTION DRIVEWAY DETAILS
82. TEMPORARY EROSION, SEDIMENT AND WATER POLLUTION CONTROL MEASURES CONSTRUCTION EXITS EC(3) - 16

BORING LOGS

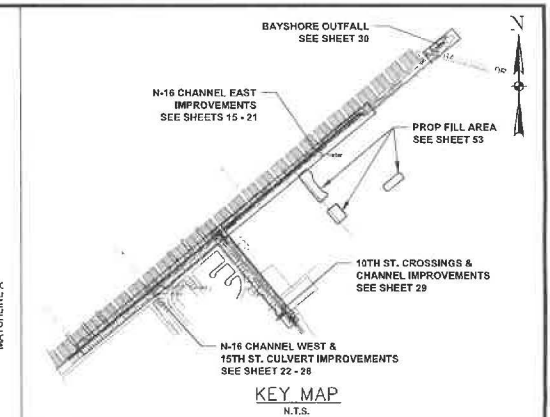
83. BORING LOGS (SHEET 1 OF 4)
84. BORING LOGS (SHEET 2 OF 4)
85. BORING LOGS (SHEET 3 OF 4)
86. BORING LOGS (SHEET 4 OF 4)

 					
2/12/25					
1	2/12/25	ADJUST TOB	GT	MJ	DS
REVISION No.	DATE	REVISION DESCRIPTION	MADE	CHECKED	APPROVED
 GALVESTON COUNTY ENGINEERING DEPARTMENT					
GALVESTON COUNTY ARPA BACLIFF DRAINAGE IMPROVEMENTS					
INDEX OF DRAWINGS					
DESIGN BY: CHW	DATE: 2/12/2025	SHEET No. 2 OF 06			
DRAWN BY: JHC	SCALE: H.T.S	JOB No. 5370-01			
APPROVED: MJ					

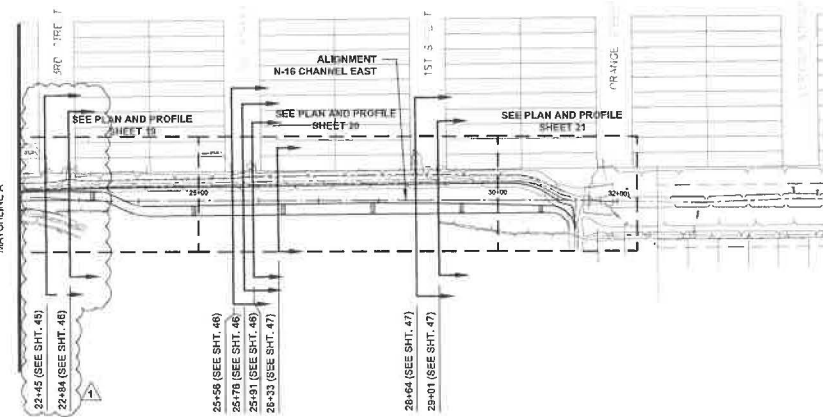
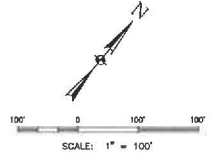
Wednesday, February 12, 2025 11:00:10 AM



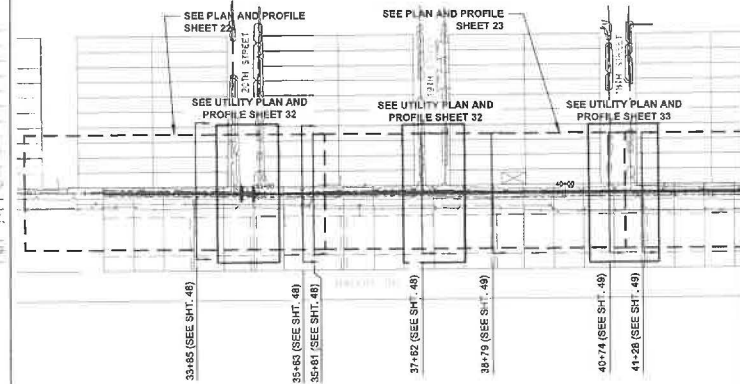
N-16 CHANNEL EAST IMPROVEMENTS



KEY MAP
N.T.S.



N-16 CHANNEL EAST IMPROVEMENTS



N-16 CHANNEL WEST IMPROVEMENTS

DEC ENGINEERING EXCELLENCE
12000 GALVESTON AVENUE, SUITE 100, GALVESTON, TEXAS 77550-1000

STATE OF TEXAS
MOURIKAJELLA
145004
PROFESSIONAL ENGINEER

2/12/25

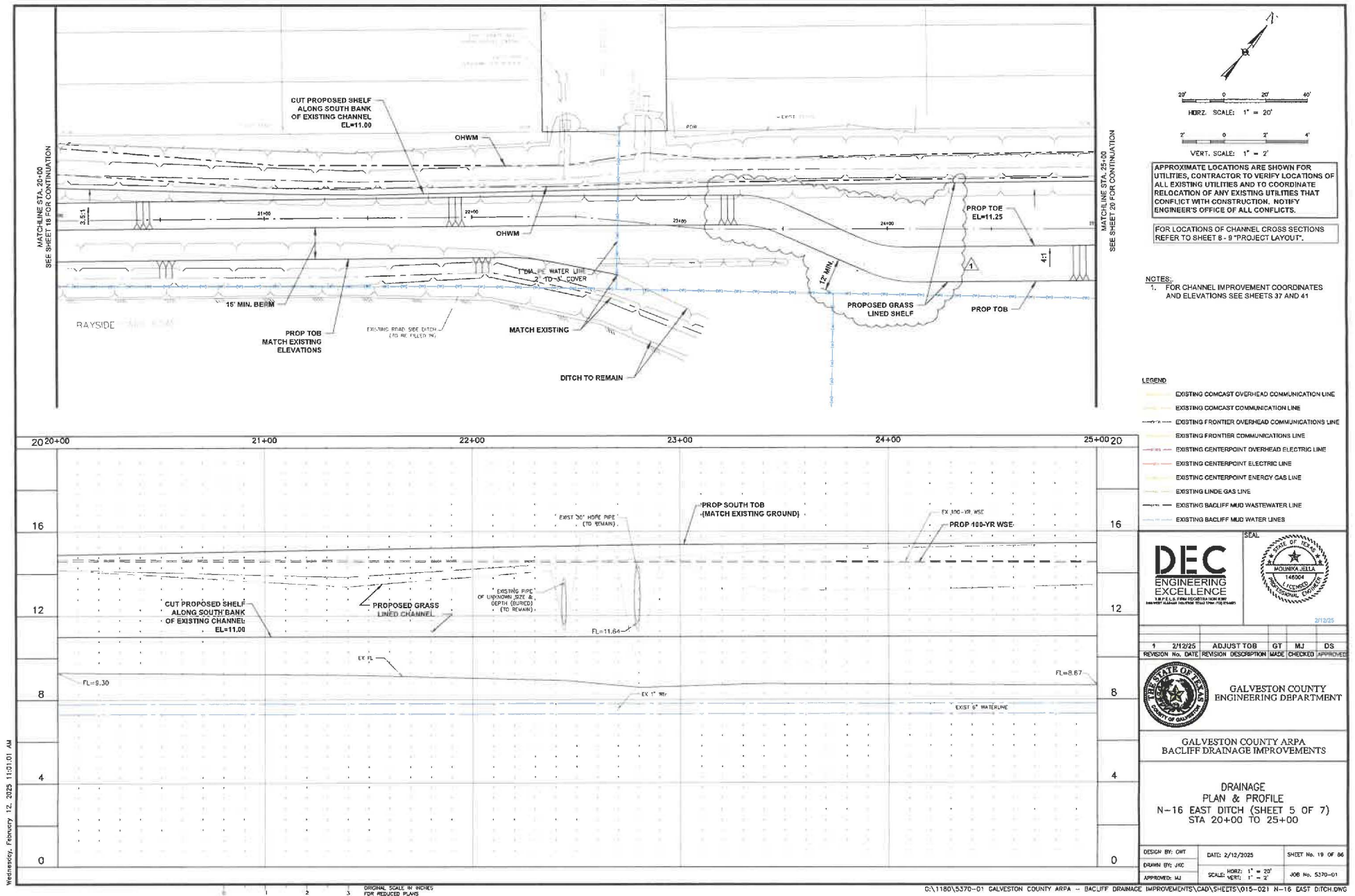
1	2/12/25	ADJUST TO B	GT	MJ	DS
REVISION No.	DATE	REVISION DESCRIPTION	MADE	CHECKED	APPROVED

GALVESTON COUNTY
ENGINEERING DEPARTMENT

GALVESTON COUNTY ARPA
BACLIFF DRAINAGE IMPROVEMENTS

PROJECT LAYOUT
(SHEET 1 OF 2)

DESIGN BY: CNT	DATE: 2/12/2025	SHEET No. 8 OF 86
DRAWN BY: JNC		
APPROVED: JNC	SCALE: 1" = 100'	JOB No. 5370-01



Wednesday, February 12, 2025 11:01:01 AM

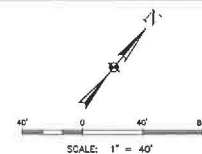
G:\1180\5370-01 GALVESTON COUNTY ARPA - BACLIFF DRAINAGE IMPROVEMENTS\CAD\SHEETS\015-021 N-16 EAST DITCH.DWG

Wednesday, February 12, 2025 11:02:21 AM

MATCHLINE STA. 20+00
SEE SHEET 35 FOR CONTINUATION

MATCHLINE STA. 30+00

MATCHLINE STA. 30+00



NOTES:
1. FOR CHANNEL IMPROVEMENT COORDINATES
AND ELEVATIONS SEE SHEET 41

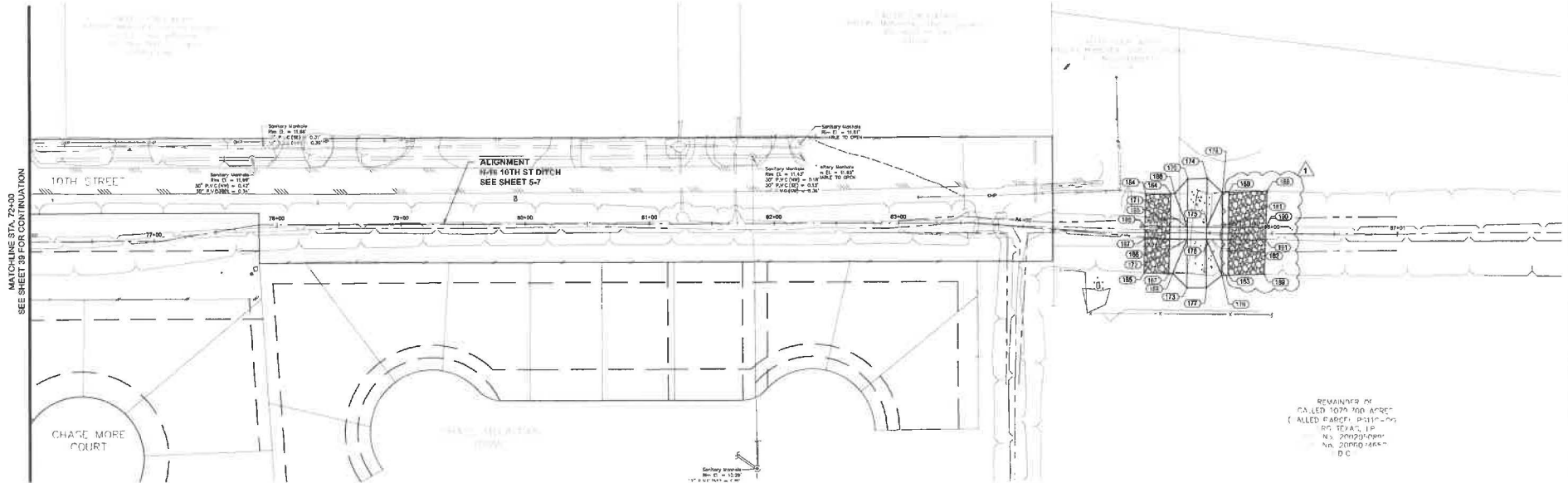
CAUTION!
OVERHEAD POWER
LINES IN THE AREA

DEC ENGINEERING EXCELLENCE 1800 GALVESTON AVENUE GALVESTON, TEXAS 77550-1200		 2/12/25			
1	2/12/25	ADJUST TOB	GT	MJ	DS
REVISION No.		DATE	REVISION DESCRIPTION	MADE	CHECKED
 GALVESTON COUNTY ENGINEERING DEPARTMENT		GALVESTON COUNTY ARPA BACILIFF DRAINAGE IMPROVEMENTS			
N-16 EAST DITCH COORDINATE LAYOUT (SHEET 2 OF 2)					
DESIGN BY: CWT	DATE: 2/12/2025	SHEET No. 37 OF 86			
DRAWN BY: JWC	SCALE: 1" = 40'	JOB No. 5370-01			
APPROVED: MJ					

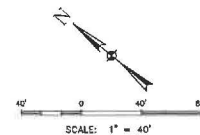
THE COORDINATES SHOWN HEREON ARE SURFACE
COORDINATES AND MAY BE BROUGHT TO GRID BY
MULTIPLYING BY THE COMBINED SCALE FACTOR OF
0.99987684.

ORIGINAL SCALE IN INCHES
FOR REDUCED PLANS

G:\1180\5370-01 GALVESTON COUNTY ARPA - BACILIFF DRAINAGE IMPROVEMENTS\CAD\SHEETS\036-041-CHANNEL COORDINATE LAYOUT.DWG



THE COORDINATES SHOWN HEREON ARE SURFACE COORDINATES AND MAY BE BROUGHT TO GRID BY MULTIPLYING BY THE COMBINED SCALE FACTOR OF 0.99987084.



- NOTES:
1. FOR CHANNEL IMPROVEMENT COORDINATES AND ELEVATIONS SEE SHEET 41

CAUTION!
 UNDER GROUND POWER LINES IN THE AREA

CAUTION!
 UNDER GROUND TELEPHONE LINES IN THE AREA

CAUTION!
 OVERHEAD POWER LINES IN THE AREA

CAUTION!
 GAS LINES IN THE AREA

2/12/25			
1	2/12/25	ADJUST TOB	GT MJ DS
REVISION No. DATE REVISION DESCRIPTION MADE CHECKED APPROVED			
		GALVESTON COUNTY ENGINEERING DEPARTMENT	
GALVESTON COUNTY ARPA BACLIFF DRAINAGE IMPROVEMENTS			
10TH STREET CHANNEL COORDINATE LAYOUT			
DESIGN BY: CHW	DATE: 2/12/2025	SHEET No. 40 OF 86	
DRAWN BY: JED	SCALE: 1" = 40'	JOB No. 5370-01	
APPROVED: MJ			

Wednesday, February 12, 2025 11:02:39 AM

N16 EAST CHANNEL COORDINATE AND ELEVATIONS				
Point #	Elevation	Northing	Eastng	Description
1	14.46	1375349.51	3246095.31	TOB *
2	14.46	13753655.00	3246104.44	TOB *
3	14.46	13753659.54	3246114.68	TOB *
4	14.46	13753662.05	3246124.16	TOB *
5	14.45	13753666.83	3246135.59	TOB *
6	14.42	13753673.85	3246145.58	TOB *
7	14.30	13753752.64	3246236.71	TOB *
8	14.37	13753784.56	3246250.26	TOB *
9	14.52	13753883.12	3246402.52	TOB *
10	14.67	13754023.26	3246596.83	TOB *
11	14.33	13754150.54	3246711.14	TOB *
12	13.76	13754229.82	3246864.41	TOB *
13	13.26	13754405.03	3247018.82	TOB *
14	14.37	13754534.71	3247170.82	TOB *
15	14.49	13754607.38	3247257.83	TOB *
16	14.48	13754627.31	3247281.34	TOB *
17	15.51	13755041.26	3247775.42	TOB *
18	15.94	13755046.98	3247783.91	TOB *
19	15.79	13755050.83	3247793.38	TOB *
20	15.94	13755063.76	3247837.71	TOB *
21	15.79	13755088.44	3247849.19	TOB *
22	15.72	13755075.37	3247859.45	TOB *
23	14.21	13755497.35	3248363.07	TOB *
24	13.94	13755508.16	3248375.97	TOB *
25	13.79	13755515.06	3248397.73	TOB *
26	13.72	13755504.65	3248418.05	TOB *
27	14.66	13753820.50	3246108.92	TOB *
28	13.94	13753741.30	3246246.52	TOB *
29	14.90	13753609.25	3246116.19	TOB *
30	14.37	13753736.82	3246271.42	TOB *
31	14.86	13754615.87	3247291.05	TOB *
32	15.25	13754959.25	3247700.31	TOB *
33	15.27	13754965.28	3247708.27	TOB *
34	15.28	13754970.48	3247716.79	TOB *
35	15.40	13754986.41	3247746.07	TOB *
36	14.23	13753614.89	3246111.56	TOE *
37	12.74	13753745.86	3246263.02	TOE *
38	11.00	13753655.18	3246096.57	TOE *
39	11.21	13753665.80	3246104.29	TOE *
40	11.25	13753671.10	3246114.22	TOE *
41	11.26	13753676.61	3246130.38	TOE *
42	11.25	13753681.07	3246136.70	TOE *
43	11.25	13753697.55	3246283.96	TOE *
44	11.25	13753901.51	3246395.43	TOE *
45	11.25	13753987.98	3246498.10	TOE *
46	11.25	13754103.03	3246636.67	TOE *
47	11.29	13754192.36	3246744.32	TOE *
48	11.25	13754286.08	3246859.21	TOE *
49	11.25	13754382.09	3246976.92	TOE *
50	11.25	13754472.23	3247083.76	TOE *

N16 EAST CHANNEL COORDINATE AND ELEVATIONS				
Point #	Elevation	Northing	Eastng	Description
51	11.25	13754576.83	3247205.13	TOE *
52	11.25	13754600.35	3247326.94	TOE *
53	11.25	13754770.86	3247433.97	TOE *
54	11.25	13754861.56	3247540.40	TOE *
55	11.25	13754965.11	3247662.38	TOE *
56	11.25	13755052.61	3247766.99	TOE *
57	11.25	13755959.69	3247777.64	TOE *
58	11.25	13755964.38	3247789.58	TOE *
59	11.25	13755973.83	3247824.69	TOE *
60	11.25	13755977.88	3247834.72	TOE *
61	11.25	13755983.88	3247843.89	TOE *
62	11.25	13756135.61	3247995.20	TOE *
63	11.25	13756239.49	3248028.82	TOE *
64	11.25	13756329.45	3248133.19	TOE *
65	11.25	13756430.31	3248257.42	TOE *
66	11.25	13756504.56	3248352.68	TOE *
67	11.25	13756516.87	3248368.44	TOE *
68	11.25	13756525.62	3248399.35	TOE *
69	11.25	13756551.07	3248425.56	TOE *
70	11.00	13756662.88	3248600.01	SHELF *
71	11.00	13756686.06	3248610.71	SHELF *
72	11.00	13756731.33	3248617.74	SHELF *
73	11.00	13756759.28	3248621.25	SHELF *
74	11.00	13756798.77	3248623.76	SHELF *
75	11.00	13756811.72	3248627.00	SHELF *
76	11.00	13756863.54	3248639.95	SHELF *
77	11.00	13756907.04	3248639.84	SHELF *
78	11.00	13756992.48	32486492.66	SHELF *
79	11.00	13756403.97	3246538.88	SHELF *
80	11.00	13754043.98	3246554.39	SHELF *
81	11.00	13754108.63	3246636.70	SHELF *
82	11.00	13754146.43	3246677.29	SHELF *
83	11.00	13754171.59	3246708.09	SHELF *
84	11.00	13754197.19	3246738.82	SHELF *
85	11.00	13754292.81	3246853.55	SHELF *
86	11.00	13754350.52	3246923.96	SHELF *
87	11.00	13754388.54	3246970.37	SHELF *
88	11.00	13754418.51	3247007.14	SHELF *
89	11.00	13754479.11	3247077.98	SHELF *
90	11.00	13754531.24	3247138.58	SHELF *
91	11.00	13754583.18	3247199.64	SHELF *
92	11.00	13754673.23	3247305.81	SHELF *
93	11.00	13754777.83	3247427.91	SHELF *
94	11.00	13754803.82	3247458.23	SHELF *
95	11.00	13754828.67	3247489.51	SHELF *
96	11.00	13754905.81	3247536.84	SHELF *
97	11.00	13754896.51	3247568.33	SHELF *
98	11.00	13754915.25	3247599.79	SHELF *
99	11.00	13754940.46	3247630.85	SHELF *
100	11.00	13754986.54	3247661.18	SHELF *

N16 EAST CHANNEL COORDINATE AND ELEVATIONS				
Point #	Elevation	Northing	Eastng	Description
101	11.00	13754892.71	3247691.44	SHELF
102	11.00	13755010.55	3247712.03	SHELF
103	11.00	13756038.68	3247745.33	SHELF
104	11.00	13755655.87	3247764.00	SHELF
105	11.00	13756107.25	3247824.50	SHELF
106	11.00	13756158.43	3247885.09	SHELF
107	11.00	13755209.49	3247946.69	SHELF
108	11.00	13756261.39	3248007.57	SHELF
109	11.00	13755352.11	3248114.20	SHELF
110	11.00	13755455.21	3248236.56	SHELF
111	11.00	13755483.86	3248282.62	SHELF
112	11.00	13755566.41	3248298.63	SHELF
113	11.00	13755517.64	3248314.72	SHELF
114	11.00	13755525.39	3248334.31	SHELF
115	11.00	13755526.53	3248338.62	SHELF
116	11.00	13755528.84	3248357.51	SHELF
117	11.00	13755530.95	3248377.44	SHELF
118	11.00	13755584.10	3248384.94	SHELF
119	11.00	13755538.50	3248392.89	SHELF
120	11.00	13755538.56	3248393.27	SHELF
121	11.00	13755536.95	3248399.55	SHELF
122	11.00	13755636.11	3248401.36	SHELF
123	11.00	13755523.99	3248413.81	SHELF
124	11.00	13755514.28	3248423.83	SHELF
125	11.00	13755511.46	3248426.00	SHELF

N16 WEST CHANNEL COORDINATE AND ELEVATIONS				
Point #	Elevation	Northing	Eastng	Description
126	9.49	13751480.46	3243482.54	DESILT
127	9.49	13751487.92	3243483.82	DESILT
128	9.24	13751627.16	3243650.70	DESILT
129	9.24	13751625.61	3243651.98	DESILT
130	9.97	13751635.93	3243659.94	DESILT
131	9.84	13751632.06	3243662.21	DESILT
132	9.55	13751649.93	3243676.13	DESILT
133	9.48	13751646.06	3243679.39	DESILT
134	8.77	13751654.85	3243684.47	DESILT
135	8.77	13751653.31	3243685.75	DESILT
136	8.70	13751707.71	3243747.79	DESILT
137	8.70	13751706.17	3243749.07	DESILT
138	8.66	13751740.52	3243785.53	DESILT
139	8.88	13751737.45	3243788.69	DESILT
140	8.10	13752173.48	3244394.17	DESILT
141	8.10	13752170.41	3244396.73	DESILT
142	7.54	13752203.48	3244822.89	DESILT
143	7.54	13752200.38	3244825.44	DESILT
144	7.52	13752222.28	3244839.80	DESILT
145	7.52	13752213.48	3244847.19	DESILT
146	7.50	13752248.40	3244879.95	DESILT
147	7.50	13752239.59	3244878.34	DESILT
148	7.50	13752260.30	3244893.78	DESILT
149	7.48	13752255.61	3244897.52	DESILT
150	7.47	13752368.45	3246005.33	DESILT
151	6.60	13753549.45	3245968.17	DESILT
152	6.57	13753573.84	3246018.74	DESILT
153	6.57	13753543.97	3245983.37	DESILT
154	6.47	13753497.92	3246066.19	DESILT
155	6.47	13753484.20	3246049.84	DESILT
156	7.69	13753476.29	3246079.30	DESILT
157	7.57	13753466.85	3246068.06	DESILT
158	9.23	13751634.00	3243680.82	WINGWALL
159	8.78	13751646.00	3243677.71	WINGWALL
160	7.52	13752617.87	3244843.50	WINGWALL
161	7.50	13752641.43	3244876.79	WINGWALL
162	6.55	13753542.40	3246014.94	WINGWALL
163	6.48	13753506.96	3246044.68	WINGWALL

N16 10TH ST. CHANNEL COORDINATE AND ELEVATIONS				
Point #	Elevation	Northing	Eastng	Description
164	9.52	13752177.52	3247205.28	CONC
165	3.05	13752101.12	3247194.51	CONC
166	3.05	13752154.92	3247176.66	CONC
167	10.03	13752138.06	3247155.31	CONC
168	9.53	13752175.29	3247207.30	CONC
169	10.03	13752135.68	3247157.14	CONC
170	10.94	13752174.69	3247222.94	CONC
171	3.03	13752150.31	3247193.36	CONC
172	3.03	13752143.97	3247185.83	CONC
173	10.29	13752119.76	3247156.12	CONC
174	10.26	13752163.03	3247233.39	CONC
175	3.01	13752138.31	3247203.19	CONC
176	3.01	13752131.98	3247195.45	CONC
177	10.23	13752107.81	3247165.91	CONC
178	9.73	13752146.32	3247232.50	CONC
179	10.04	13752104.55	3247181.60	CONC
180	9.88	13752142.53	3247235.77	CONC
181	1.02	13752124.85	3247214.21	CONC
182	1.02	13752116.51	3247206.48	CONC
183	10.87	13752100.73	3247184.82	CONC
184	9.35	13752192.47	3247191.89	RIPRAP
185	10.34	13752153.77	3247143.19	RIPRAP
186	3.08	13752176.61	3247171.82	RIPRAP
187	3.07	13752170.38	3247164.00	RIPRAP
188	9.75	13752116.74	3247256.56	RIPRAP
189	9.88	13752079.00	3247203.78	RIPRAP
190	1.30	13752101.69	3247233.18	RIPRAP
191	1.31	13752095.68	3247235.38	RIPRAP

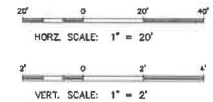
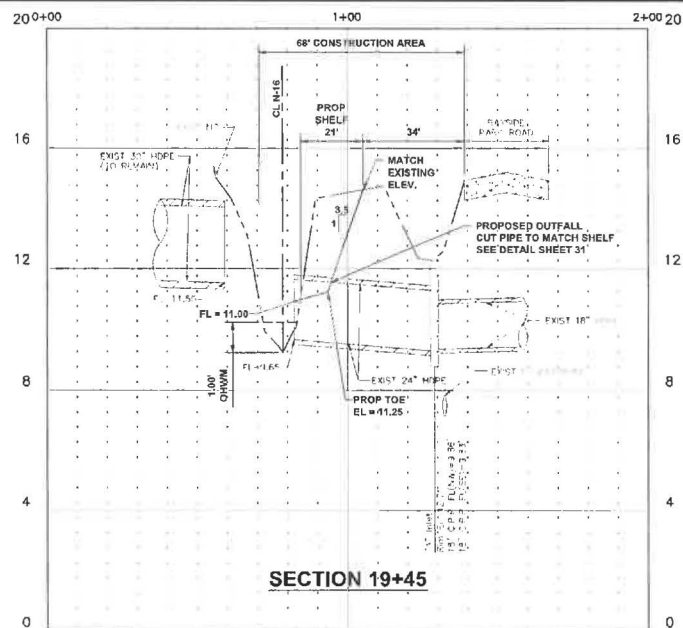
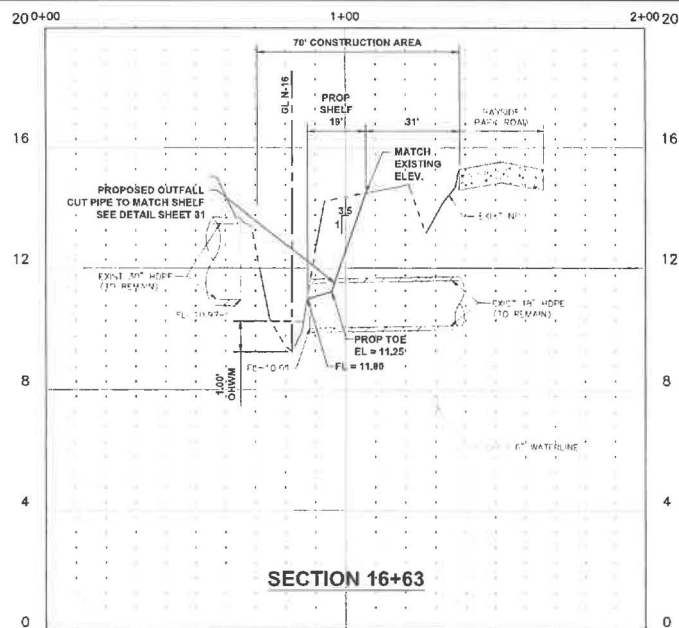
LEGEND

TOB TOP OF BANK
TOE TOP OF SLOPE
SHELF DAY LIGHT LINE AT EXISTING CHANNEL
DESILT ELEVATION OF CHANNEL CLEANING
* MATCH NS

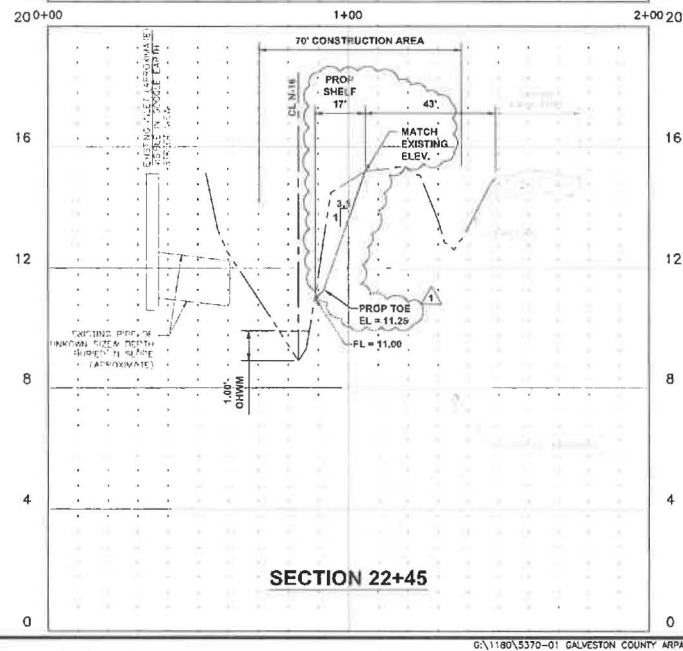
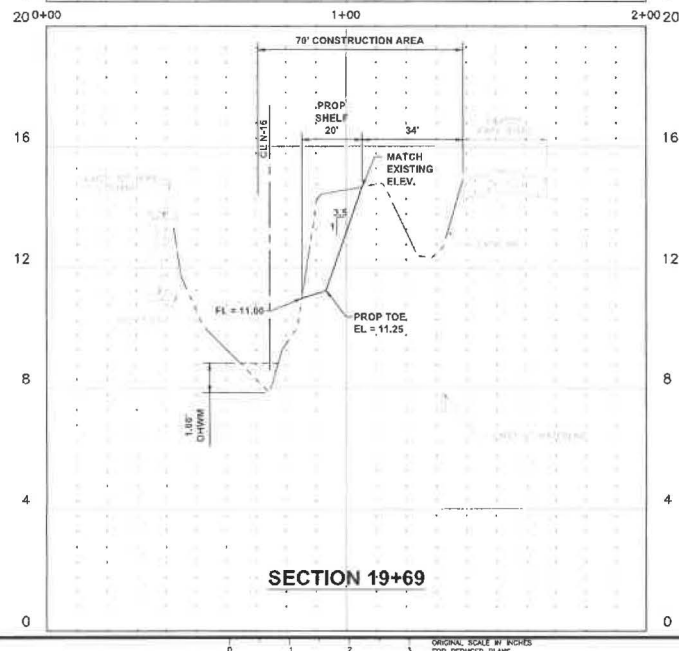
THE COORDINATES SHOWN HEREON ARE SURFACE
COORDINATES AND MAY BE BROUGHT TO GRID BY
MULTIPLYING BY THE COMBINED SCALE FACTOR OF
0.99957064.

			
2/12/25			
1	2/12/25	ADJUST TOB	GT MJ

Wednesday, February 12, 2025 11:03:26 AM



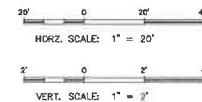
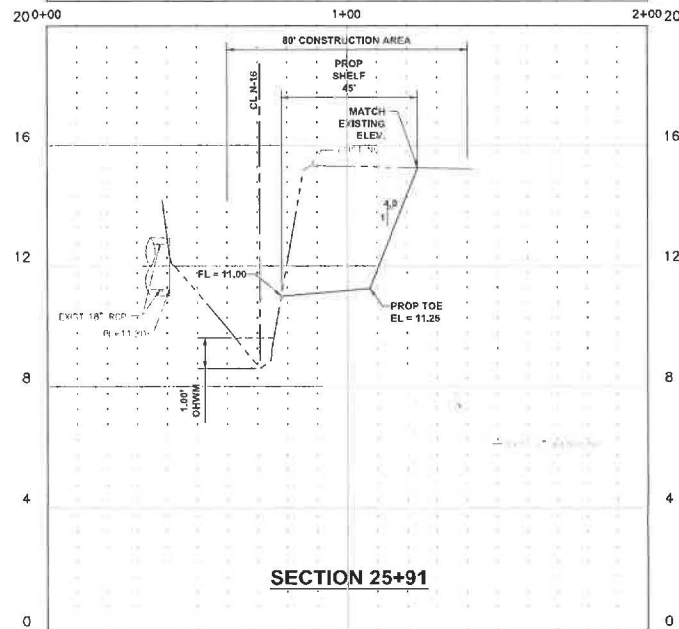
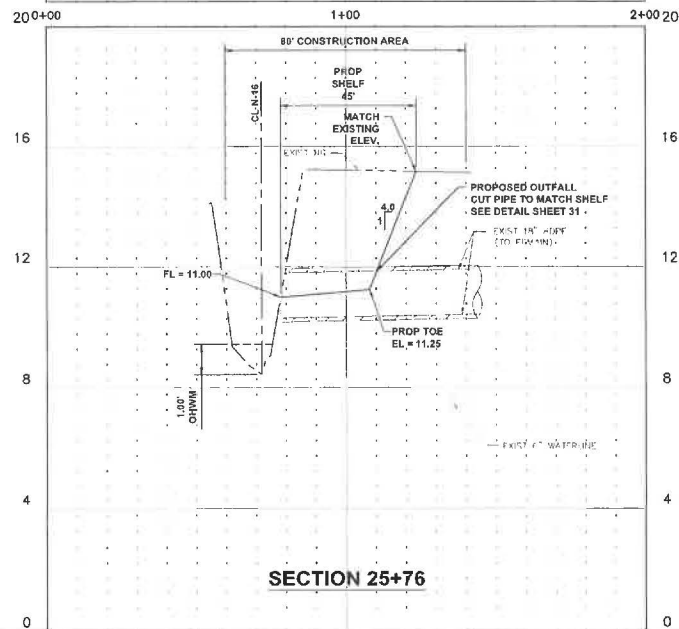
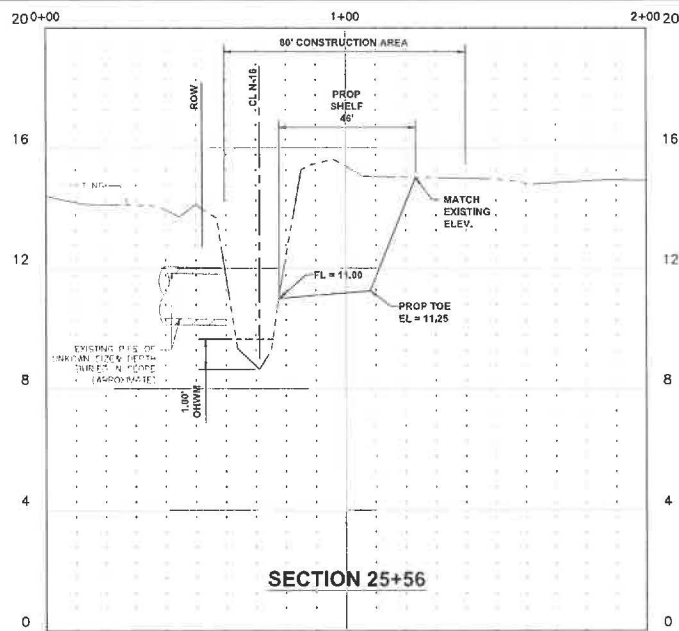
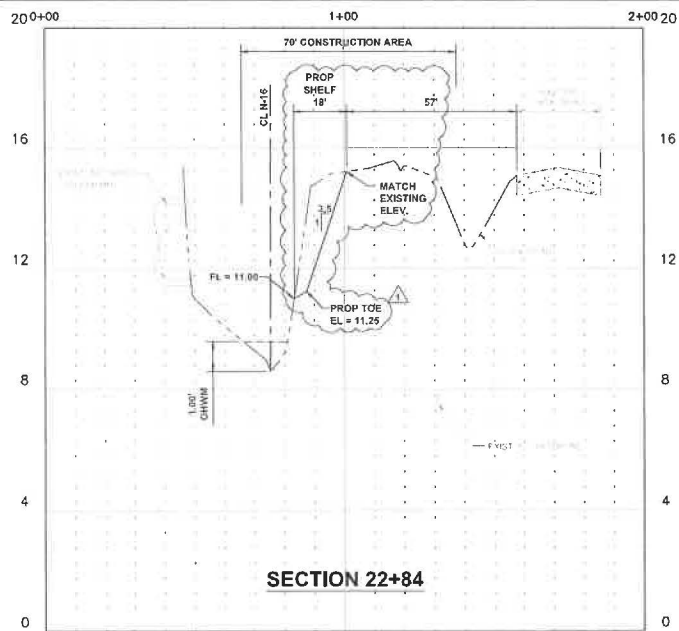
NOTES:
1. FOR MH DETAILS SEE SHEET 68



DEC ENGINEERING EXCELLENCE 14604 REGISTERED ENGINEER		STATE OF TEXAS MOUNIKA JELLA 14604 REGISTERED ENGINEER	
2/12/25			
1	2/12/25	ADJUST TOB	GT MJ DS
REVISION No. DATE REASON DESCRIPTION MADE		CHECKED	APPROVED
 GALVESTON COUNTY ENGINEERING DEPARTMENT			
GALVESTON COUNTY ARPA BACLIFF DRAINAGE IMPROVEMENTS			
N-16 EAST CROSS-SECTIONS (SHEET 4 OF 6)			
DESIGN BY: DWT	DATE: 2/12/2025	SHEET No. 45 OF 66	
DRAWN BY: JXC			
APPROVED: MJ	SCALE: HORIZ: 1" = 20' VERT: 1" = 2'	JOB No. 5370-01	

G:\1180\5370-01 GALVESTON COUNTY ARPA - BACLIFF DRAINAGE IMPROVEMENTS\CAD\SHEETS\042-047-N-16 EAST CROSS-SECTIONS.DWG

Wednesday, February 12, 2025 11:03:54 AM



NOTES:
1. FOR MH DETAILS SEE SHEET 58

DEC ENGINEERING EXCELLENCE			
2/12/25			
1	2/12/25	ADJUST TOB	GT MJ DS
REVISION No.	DATE	REVISION DESCRIPTION	MADE CHECKED APPROVED
		GALVESTON COUNTY ENGINEERING DEPARTMENT	
GALVESTON COUNTY ARPA BACLIFF DRAINAGE IMPROVEMENTS			
N-16 EAST CROSS-SECTIONS (SHEET 5 OF 6)			
DESIGN BY: CWT	DATE: 2/12/2025	SHEET No. 48 OF 86	
DRAWN BY: JHC	SCALE: HORIZ: 1" = 20'	JOB No. 5370-01	
APPROVED: MJ	SCALE: VERT: 1" = 2'		

G:\1180\5370-01 GALVESTON COUNTY ARPA - BACLIFF DRAINAGE IMPROVEMENTS\CAD\SHEETS\042-047-N-16 EAST CROSS-SECTIONS.DWG

