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**NOTES:**

1. AERIAL IMAGERY DATED 2016 WAS OBTAINED FROM THE TEXAS NATURAL RESOURCES INFORMATION SYSTEM.
2. COORDINATES SHOWN ARE IN U.S. FEET AND ARE REFERENCED TO U.S. STATE PLANE TEXAS SOUTH CENTRAL ZONE 4204, NAD83.

N. 13,700,000

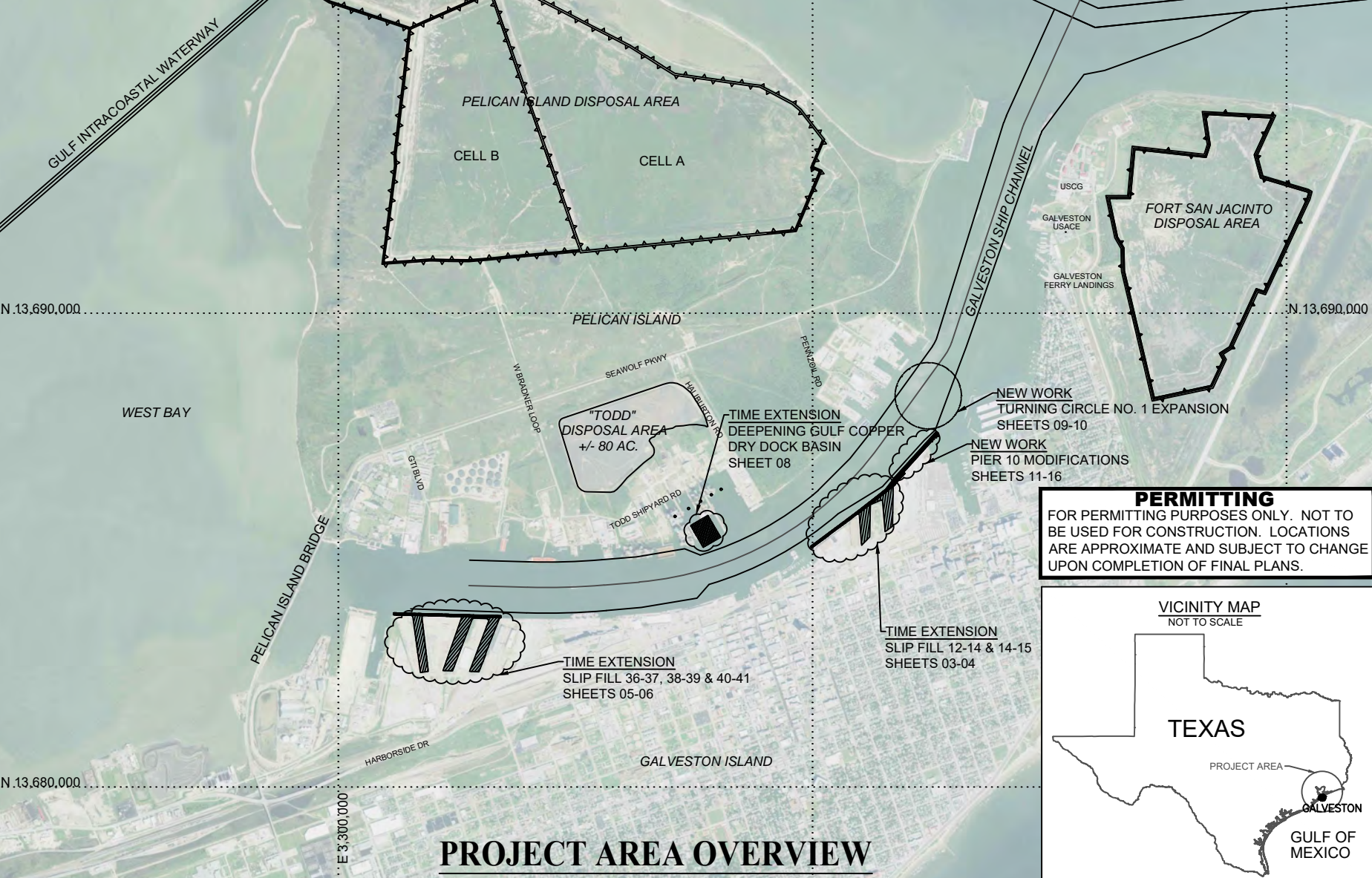
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N. 13,680,000

E. 3,310,000

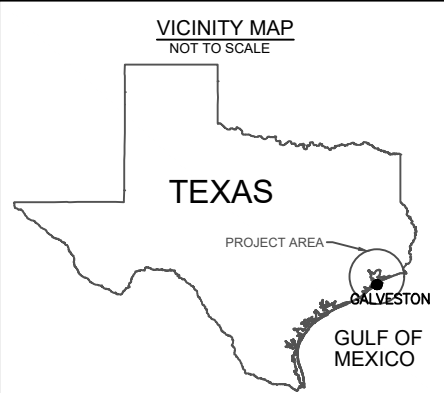
E. 3,300,000

E. 3,300,000



**PROJECT AREA OVERVIEW**

**PERMITTING**  
 FOR PERMITTING PURPOSES ONLY. NOT TO BE USED FOR CONSTRUCTION. LOCATIONS ARE APPROXIMATE AND SUBJECT TO CHANGE UPON COMPLETION OF FINAL PLANS.



FOR COE USE ONLY

Permit Applicant #:



Applicant Name:

SCALE: 1" = 3,000'

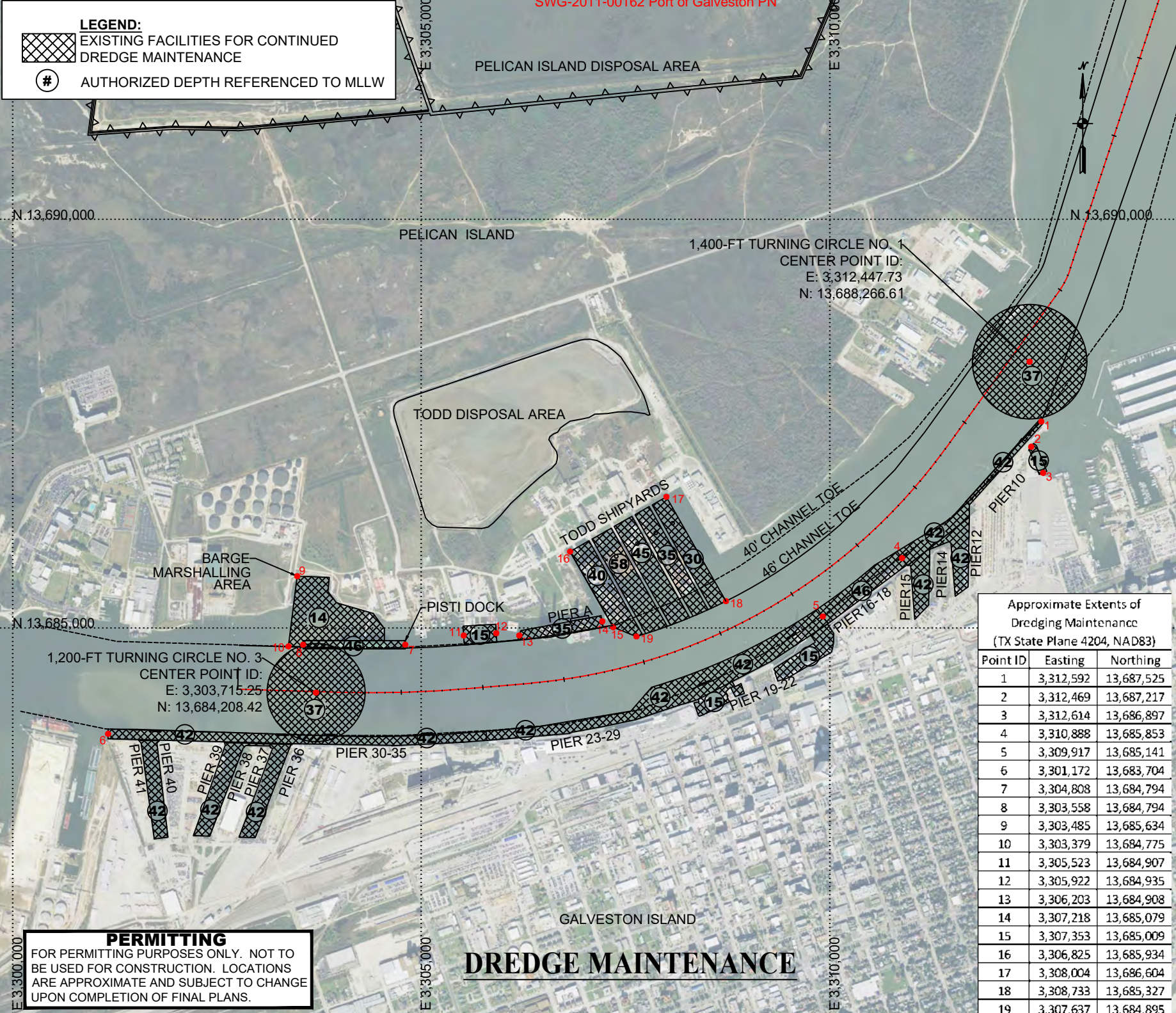
SHEET 01 of 16

**GIBA**  
**ENGINEERS & SURVEYORS**  
 GAHAGAN & BRYANT ASSOCIATES, INC.  
 9330 KIRBY DRIVE, SUITE 100  
 HOUSTON, TEXAS 77054  
 TEL: 832.377.4800  
 FAX: 832.377.4802  
 TX REGISTERED ENGINEERING FIRM NO. F-408

|   |                                       |                   |      |
|---|---------------------------------------|-------------------|------|
| APPLICANT: GALVESTON WHARVES (PORT OF GALVESTON)  | SEPTEMBER 03, 2020                    | COUNTY: GALVESTON | REV. |
| PROJECT: PERMIT EXTENSION REQUEST (SWG-2011-00162)<br>GALVESTON CHANNEL AT PELICAN ISLAND<br>COUNTY OF GALVESTON, TEXAS | FILE: 200626-SWG-2011-00162-Amend.dwg |                   |      |

**LEGEND:**  
 EXISTING FACILITIES FOR CONTINUED DREDGE MAINTENANCE  
 AUTHORIZED DEPTH REFERENCED TO MLLW

SWG-2011-00162 Port of Galveston PN



Approximate Extents of Dredging Maintenance (TX State Plane 4204, NAD83)

| Point ID | Easting   | Northing   |
|----------|-----------|------------|
| 1        | 3,312,592 | 13,687,525 |
| 2        | 3,312,469 | 13,687,217 |
| 3        | 3,312,614 | 13,686,897 |
| 4        | 3,310,888 | 13,685,853 |
| 5        | 3,309,917 | 13,685,141 |
| 6        | 3,301,172 | 13,683,704 |
| 7        | 3,304,808 | 13,684,794 |
| 8        | 3,303,558 | 13,684,794 |
| 9        | 3,303,485 | 13,685,634 |
| 10       | 3,303,379 | 13,684,775 |
| 11       | 3,305,523 | 13,684,907 |
| 12       | 3,305,922 | 13,684,935 |
| 13       | 3,306,203 | 13,684,908 |
| 14       | 3,307,218 | 13,685,079 |
| 15       | 3,307,353 | 13,685,009 |
| 16       | 3,306,825 | 13,685,934 |
| 17       | 3,308,004 | 13,686,604 |
| 18       | 3,308,733 | 13,685,327 |
| 19       | 3,307,637 | 13,684,895 |

**DREDGE MAINTENANCE**

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FOR COE USE ONLY

Permit Applicant #:

Applicant Name:

SCALE: 1" = 1,500'

SHEET 02 of 16



**GABA**  
 ENGINEERS & SURVEYORS  
 GAHAGAN & BRYANT ASSOCIATES, INC.  
 9330 KIRBY DRIVE, SUITE 100  
 HOUSTON, TEXAS 77054  
 TEL: 832.377.4800  
 FAX: 832.377.4802  
 TX REGISTERED ENGINEERING FIRM NO. F-408




APPLICANT: GALVESTON WHARVES (PORT OF GALVESTON)

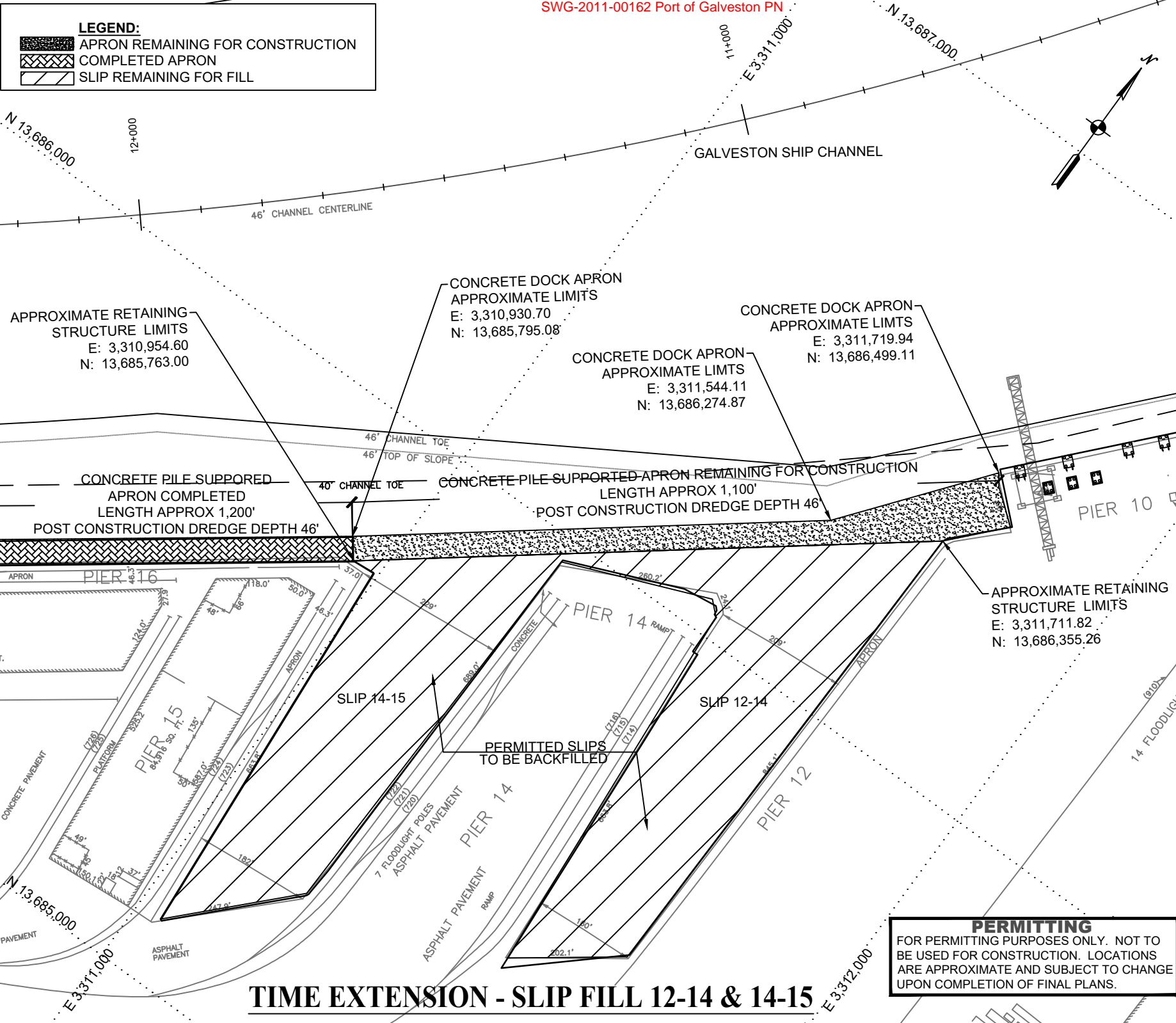
PROJECT: PERMIT EXTENSION REQUEST (SWG-2011-00162)  
 GALVESTON CHANNEL AT PELICAN ISLAND  
 COUNTY OF GALVESTON, TEXAS

SEPTEMBER 03, 2020 COUNTY: GALVESTON REV.

FILE: 200626-SWG-2011-00162-Amend.dwg

**LEGEND:**

-  APRON REMAINING FOR CONSTRUCTION
-  COMPLETED APRON
-  SLIP REMAINING FOR FILL



**TIME EXTENSION - SLIP FILL 12-14 & 14-15**

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Permit Applicant #:

Applicant Name:

SCALE: 1" = 200'

SHEET 03 of 16



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 GAHAGAN & BRYANT ASSOCIATES, INC.  
 9330 KIRBY DRIVE, SUITE 100  
 HOUSTON, TEXAS 77054  
 TEL: 832.377.4800  
 FAX: 832.377.4802

TX REGISTERED ENGINEERING FIRM NO. F-408

APPLICANT: GALVESTON WHARVES (PORT OF GALVESTON)

PROJECT: PERMIT EXTENSION REQUEST (SWG-2011-00162)

GALVESTON CHANNEL AT PELICAN ISLAND  
 COUNTY OF GALVESTON, TEXAS

SEPTEMBER 03, 2020

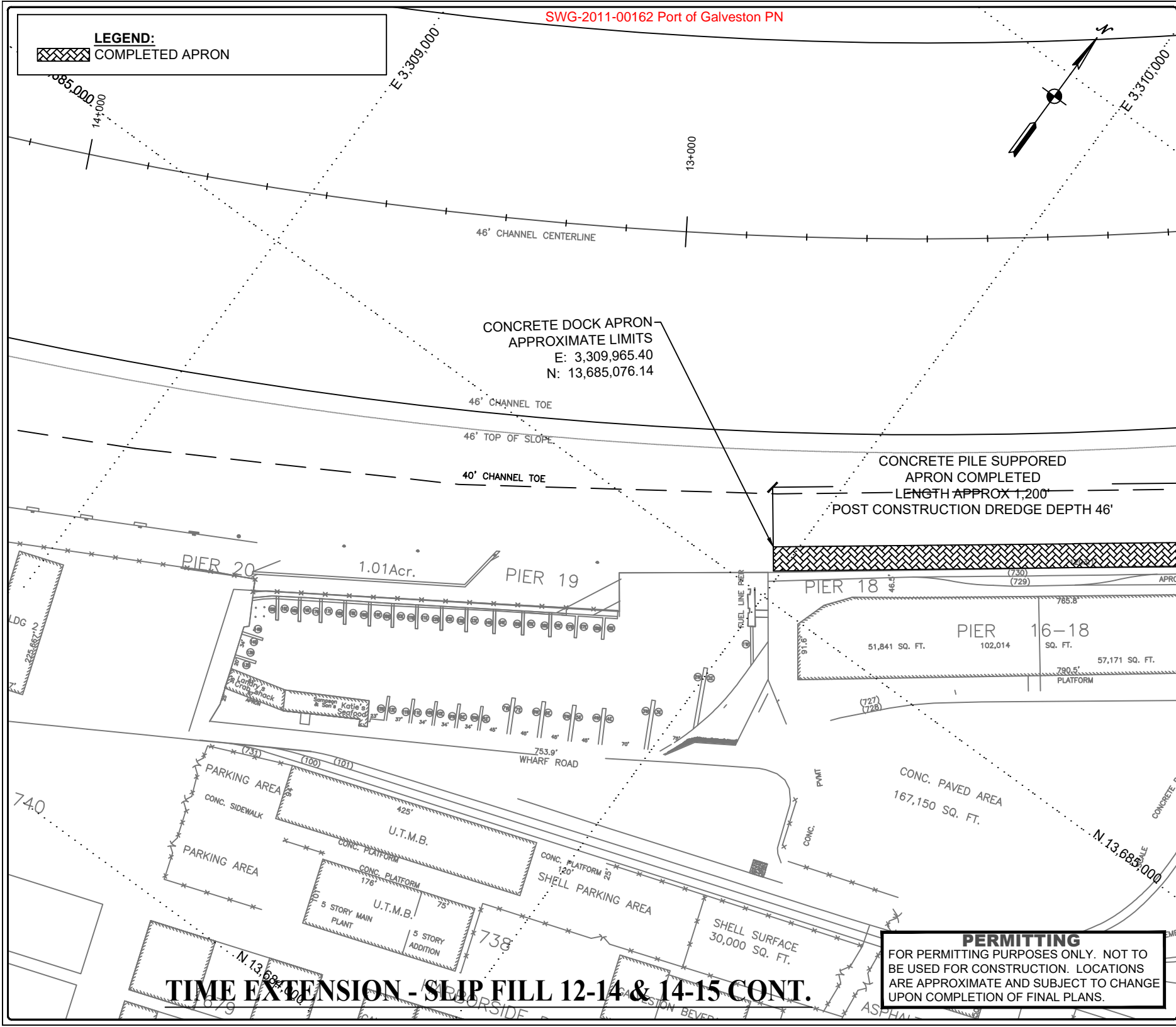
COUNTY: GALVESTON

REV.

FILE: E:\200626\SWG-2011-00162-Amend.dwg

**LEGEND:**

COMPLETED APRON



**TIME EXTENSION - SLIP FILL 12-14 & 14-15 CONT.**

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Applicant Name:

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SHEET 04 of 16



GAHAGAN & BRYANT ASSOCIATES, INC.  
 9330 KIRBY DRIVE, SUITE 100  
 HOUSTON, TEXAS 77054  
 TEL: 832.377.4800  
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 TX REGISTERED ENGINEERING FIRM NO. F-408

APPLICANT: GALVESTON WHARVES (PORT OF GALVESTON)



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 GALVESTON CHANNEL AT PELICAN ISLAND  
 COUNTY OF GALVESTON, TEXAS

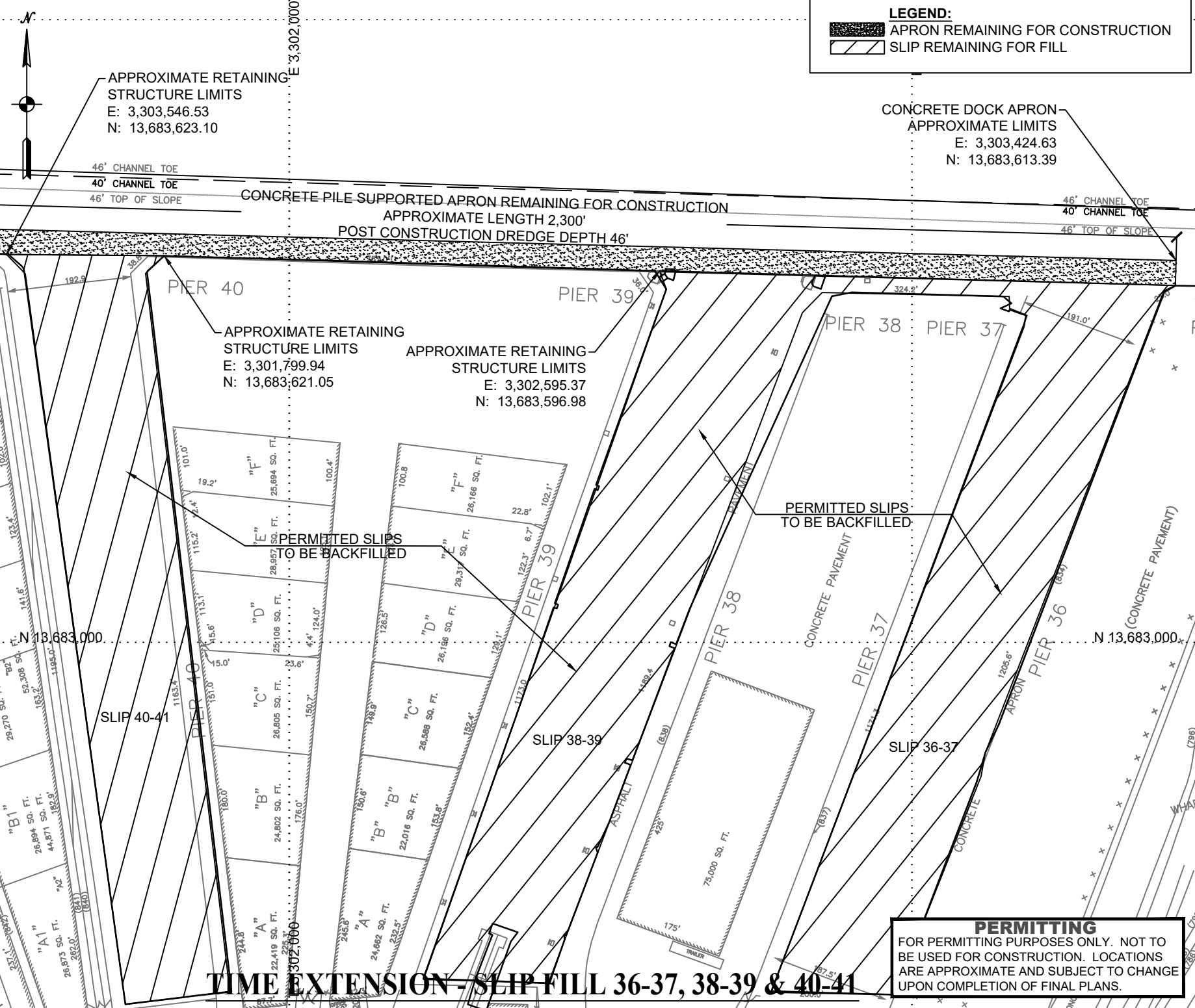
SEPTEMBER 03, 2020

COUNTY: GALVESTON

REV.

FILE: 200626-SWG-2011-00162-Amend.dwg

**LEGEND:**  
 APRON REMAINING FOR CONSTRUCTION  
 SLIP REMAINING FOR FILL



APPROXIMATE RETAINING  
STRUCTURE LIMITS  
E: 3,303,546.53  
N: 13,683,623.10

CONCRETE DOCK APRON  
APPROXIMATE LIMITS  
E: 3,303,424.63  
N: 13,683,613.39

CONCRETE PILE SUPPORTED APRON REMAINING FOR CONSTRUCTION  
APPROXIMATE LENGTH 2,300'  
POST CONSTRUCTION DREDGE DEPTH 46'

APPROXIMATE RETAINING  
STRUCTURE LIMITS  
E: 3,301,799.94  
N: 13,683,621.05

APPROXIMATE RETAINING  
STRUCTURE LIMITS  
E: 3,302,595.37  
N: 13,683,596.98

N 13,683,000

N 13,683,000

**TIME EXTENSION - SLIP FILL 36-37, 38-39 & 40-41**

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FOR COE USE ONLY

Permit Applicant #:

Applicant Name:

SCALE: 1" = 200'



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9330 KIRBY DRIVE, SUITE 100  
HOUSTON, TEXAS 77054  
TEL: 832.377.4800  
FAX: 832.377.4802  
TX REGISTERED ENGINEERING FIRM NO. F-408

APPLICANT: GALVESTON WHARVES (PORT OF GALVESTON)

PROJECT: PERMIT EXTENSION REQUEST (SWG-2011-00162)

GALVESTON CHANNEL AT PELICAN ISLAND

COUNTY OF GALVESTON, TEXAS

SEPTEMBER 03, 2020

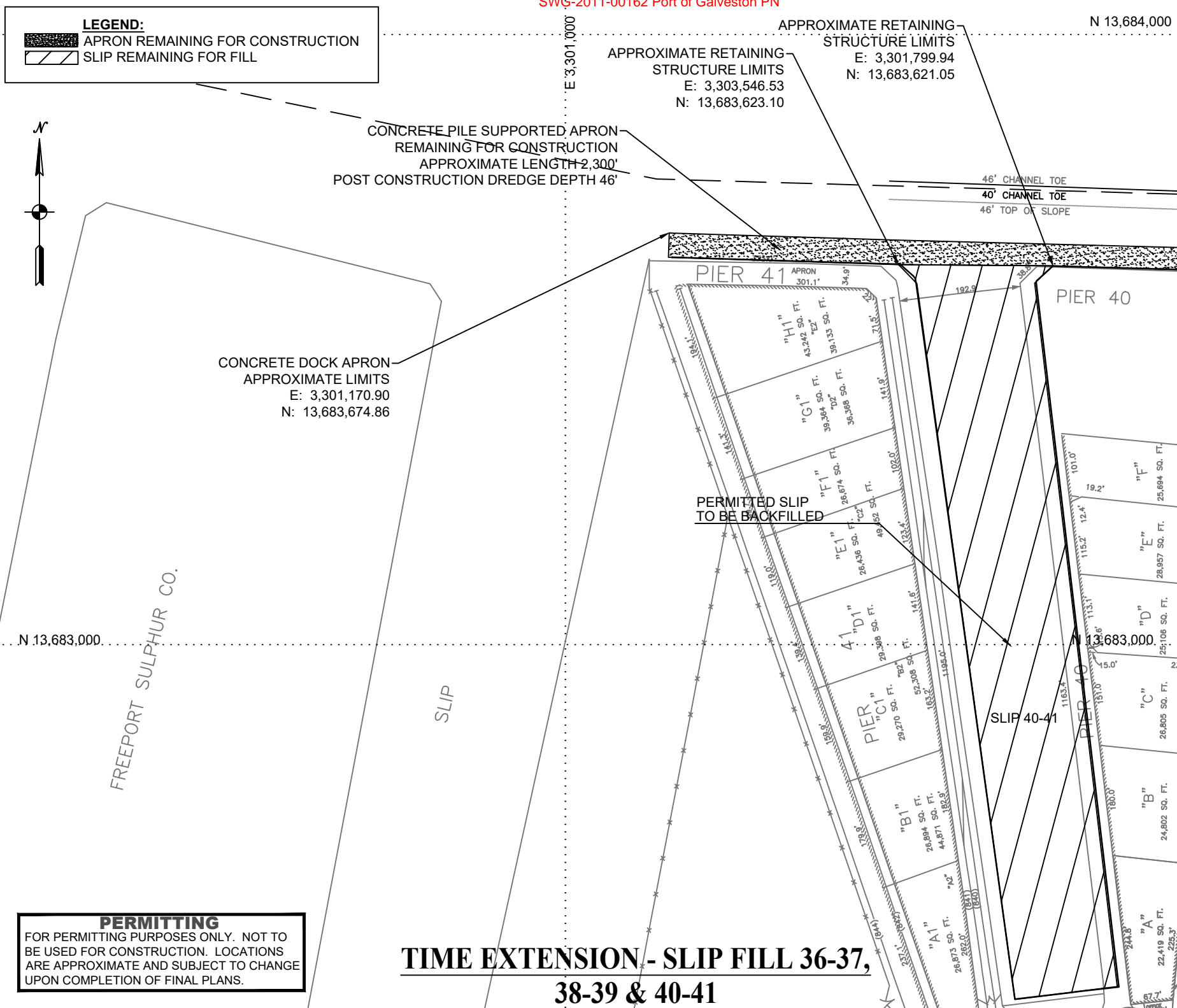
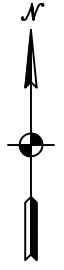
COUNTY: GALVESTON

REV.

FILE: 200626-SWG-2011-00162-Amend.dwg

**LEGEND:**

- APRON REMAINING FOR CONSTRUCTION
- SLIP REMAINING FOR FILL



CONCRETE PILE SUPPORTED APRON  
REMAINING FOR CONSTRUCTION  
APPROXIMATE LENGTH 2,300'  
POST CONSTRUCTION DREDGE DEPTH 46'

APPROXIMATE RETAINING  
STRUCTURE LIMITS  
E: 3,303,546.53  
N: 13,683,623.10

APPROXIMATE RETAINING  
STRUCTURE LIMITS  
E: 3,301,799.94  
N: 13,683,621.05

N 13,684,000

46' CHANNEL TOE  
40' CHANNEL TOE  
46' TOP OF SLOPE

CONCRETE DOCK APRON  
APPROXIMATE LIMITS  
E: 3,301,170.90  
N: 13,683,674.86

PERMITTED SLIP  
TO BE BACKFILLED

N 13,683,000

FREEPORT SULPHUR CO.

SLIP

SLIP 40-41

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**TIME EXTENSION - SLIP FILL 36-37,  
38-39 & 40-41**

FOR COE USE ONLY

Permit Applicant #:

Applicant Name:

SCALE: 1" = 200'



**ENGINEERS & SURVEYORS**  
GAHAGAN & BRYANT ASSOCIATES, INC.  
9330 KIRBY DRIVE, SUITE 100  
HOUSTON, TEXAS 77054  
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TX REGISTERED ENGINEERING FIRM NO. F-408

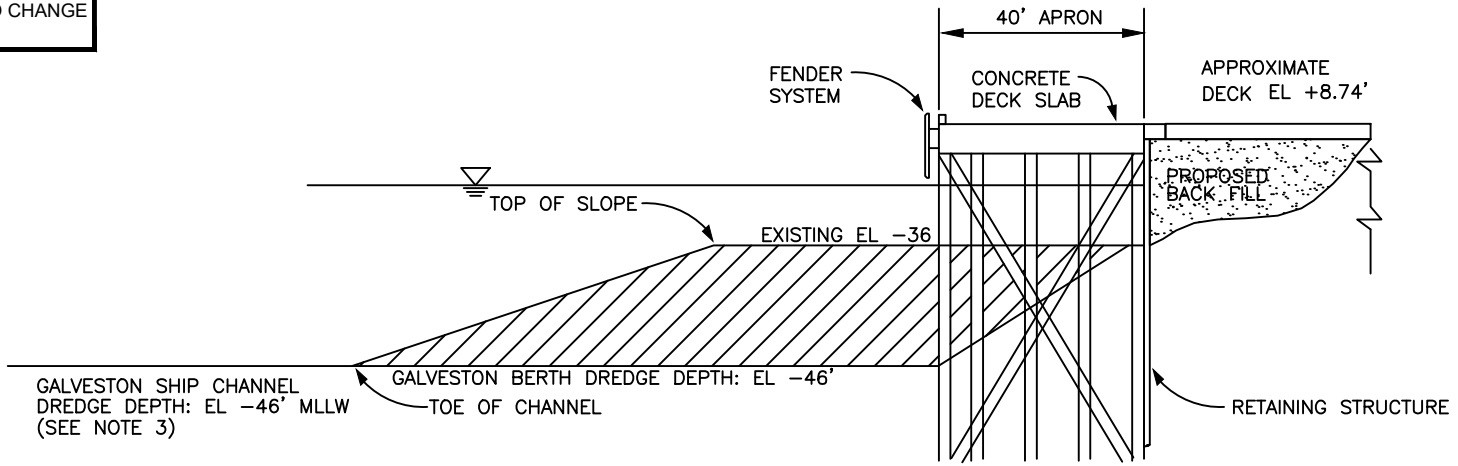
APPLICANT: GALVESTON WHARVES (PORT OF GALVESTON)

PROJECT: PERMIT EXTENSION REQUEST (SWG-2011-00162)  
GALVESTON CHANNEL AT PELICAN ISLAND  
COUNTY OF GALVESTON, TEXAS

SEPTEMBER 03, 2020 COUNTY: GALVESTON REV.

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TYPICAL CROSS SECTION OF PROPOSED RETAINING STRUCTURE

| SLIP ELEVATIONS (MLLW) |                     |                      |                       |
|------------------------|---------------------|----------------------|-----------------------|
| AREA                   | EXISTING GRADE ELEV | PROPOSED DREDGE ELEV | APPROXIMATE DOCK ELEV |
| SLIP 12-15             | -36' TO -41'        | -46'                 | +8.74'                |
| SLIP 36-37             | -36'                | -46'                 | +8.74'                |
| SLIP 38-39             | -36'                | -46'                 | +8.74'                |
| SLIP 40-41             | -36'                | -46'                 | +8.74'                |

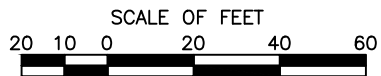
| SLIP AREA AND VOLUME                     |                             |                        |
|--|-----------------------------|------------------------|
| AREA                                     | TOTAL AREA, FT <sup>2</sup> | TOTAL FILL VOLUME, CYD |
| SLIP 12-15                               | 382,614 / 8.8 AC            | 870,000                |
| SLIP 36-37<br>COUPLED WITH<br>SLIP 38-39 | 489,572 / 11.2 AC           | 1,200,000              |
| SLIP 40-41                               | 218,078 / 5.0 AC            | 500,000                |
| TOTALS                                   | 1,090,264 / 25.0 AC         | 2,570,000              |

**LEGEND**

|  |  |
|--|--|
|  | PROPOSED BACK FILL   |
|  | EXISTING BERTH GRADE   |
|  | BERTH DREDGE DEPTH<br>(TO BE DREDGED DURING CHANNEL DEEPENING) |

**NOTES:**

- HARBOR LINE IS ESTABLISHED. A 40' OFFSET APRON IS ESTABLISHED
- ALL ELEVATIONS ARE IN FEET AND REFERENCED TO MLLW.
- GALVESTON SHIP CHANNEL DEEPENING PROJECT HAS BEEN COMPLETED.
- BACKFILL WILL BE CLEAN STRUCTURAL FILL.
- DREDGE MATERIALS WILL BE PLACED IN THE APPROVED DISPOSAL AREAS.



FOR COE USE ONLY

Permit Applicant #:

Applicant Name:

NOT TO SCALE

SHEET 07 of 16

**GBA**  
**ENGINEERS & SURVEYORS**  
 GAHAGAN & BRYANT ASSOCIATES, INC.  
 9330 KIRBY DRIVE, SUITE 100  
 HOUSTON, TEXAS 77054  
 TEL: 832.377.4800  
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 TX REGISTERED ENGINEERING FIRM NO. F-408


APPLICANT: GALVESTON WHARVES (PORT OF GALVESTON)

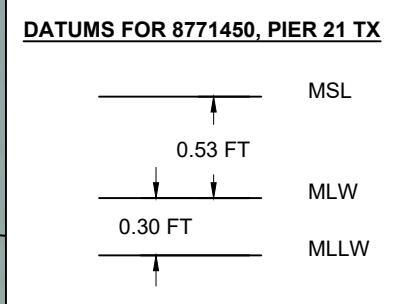
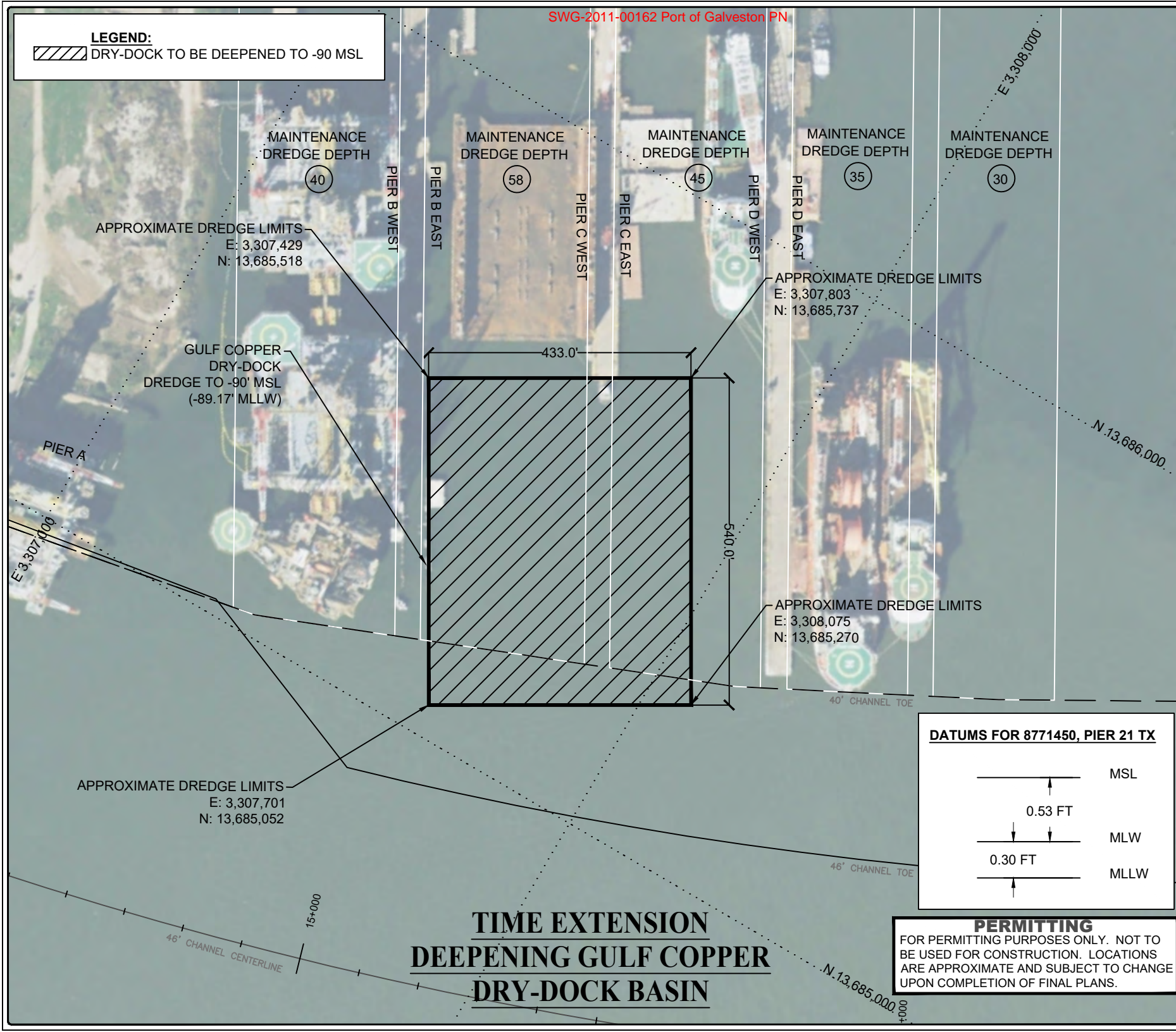
PROJECT: PERMIT EXTENSION REQUEST (SWG-2011-00162)  
 GALVESTON CHANNEL AT PELICAN ISLAND  
 COUNTY OF GALVESTON, TEXAS

SEPTEMBER 03, 2020 COUNTY: GALVESTON REV.

FILE: 200826-SWG-2011-00162-Amend.dwg

**LEGEND:**

 DRY-DOCK TO BE DEEPEMED TO -90 MSL



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**TIME EXTENSION  
 DEEPEMED GULF COPPER  
 DRY-DOCK BASIN**

FOR COE USE ONLY

Permit Applicant #:

Applicant Name:

SCALE: 1" = 200'

SHEET 08 of 16

**GBA**  
**ENGINEERS & SURVEYORS**  
 GAHAGAN & BRYANT ASSOCIATES, INC.  
 9330 KIRBY DRIVE, SUITE 100  
 HOUSTON, TEXAS 77054  
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APPLICANT: GALVESTON WHARVES (PORT OF GALVESTON)

PROJECT: PERMIT EXTENSION REQUEST (SWG-2011-00162)  
 GALVESTON CHANNEL AT PELICAN ISLAND

COUNTY OF GALVESTON, TEXAS

SEPTEMBER 03, 2020

COUNTY: GALVESTON

REV.

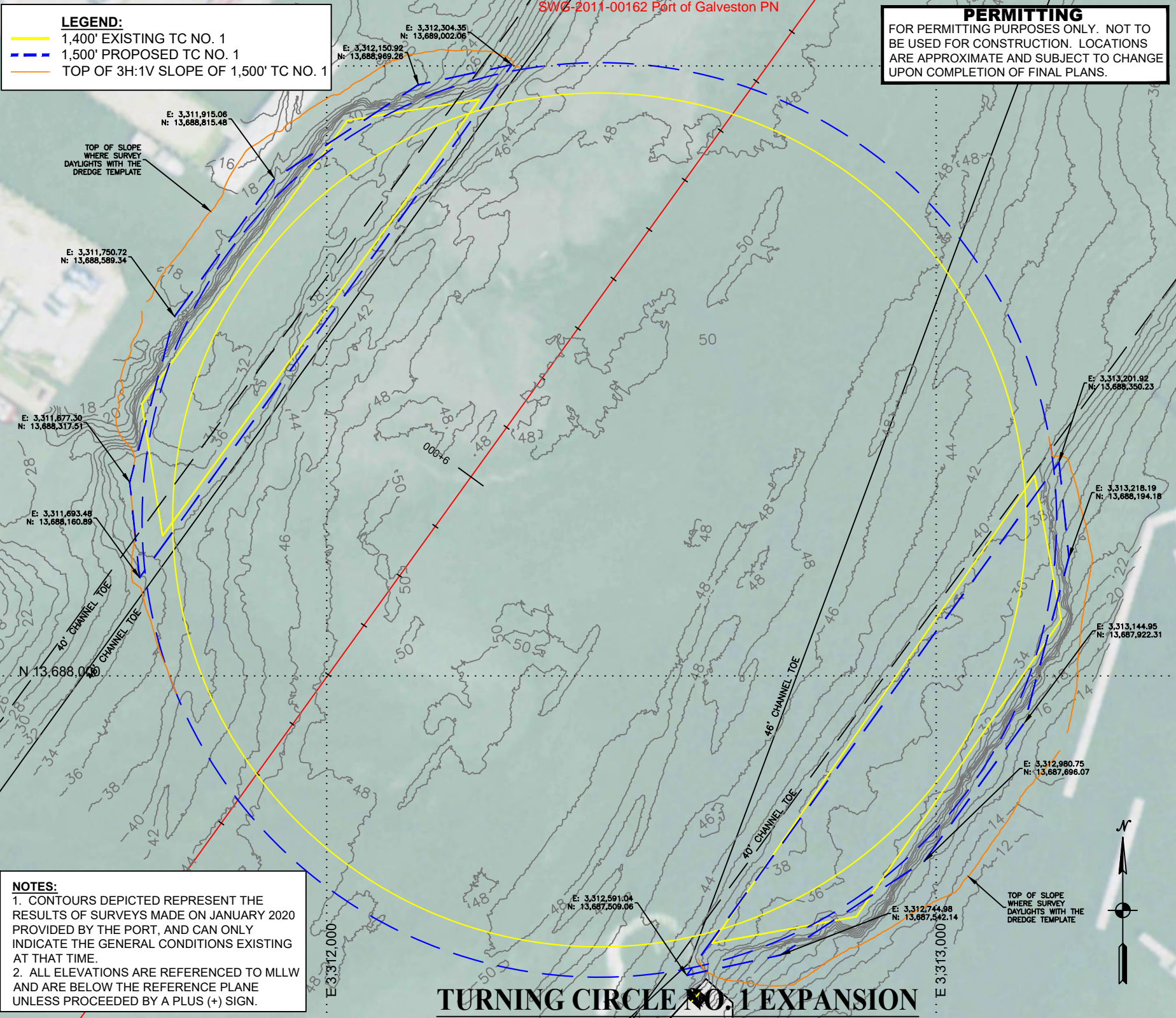
FILE: 200626-SWG-2011-00162-Amend.dwg



**LEGEND:**

- 1,400' EXISTING TC NO. 1
- - - 1,500' PROPOSED TC NO. 1
- TOP OF 3H:1V SLOPE OF 1,500' TC NO. 1

**PERMITTING**  
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**NOTES:**  
 1. CONTOURS DEPICTED REPRESENT THE RESULTS OF SURVEYS MADE ON JANUARY 2020 PROVIDED BY THE PORT, AND CAN ONLY INDICATE THE GENERAL CONDITIONS EXISTING AT THAT TIME.  
 2. ALL ELEVATIONS ARE REFERENCED TO MLLW AND ARE BELOW THE REFERENCE PLANE UNLESS PRECEDED BY A PLUS (+) SIGN.

**TURNING CIRCLE NO. 1 EXPANSION**

FOR COE USE ONLY

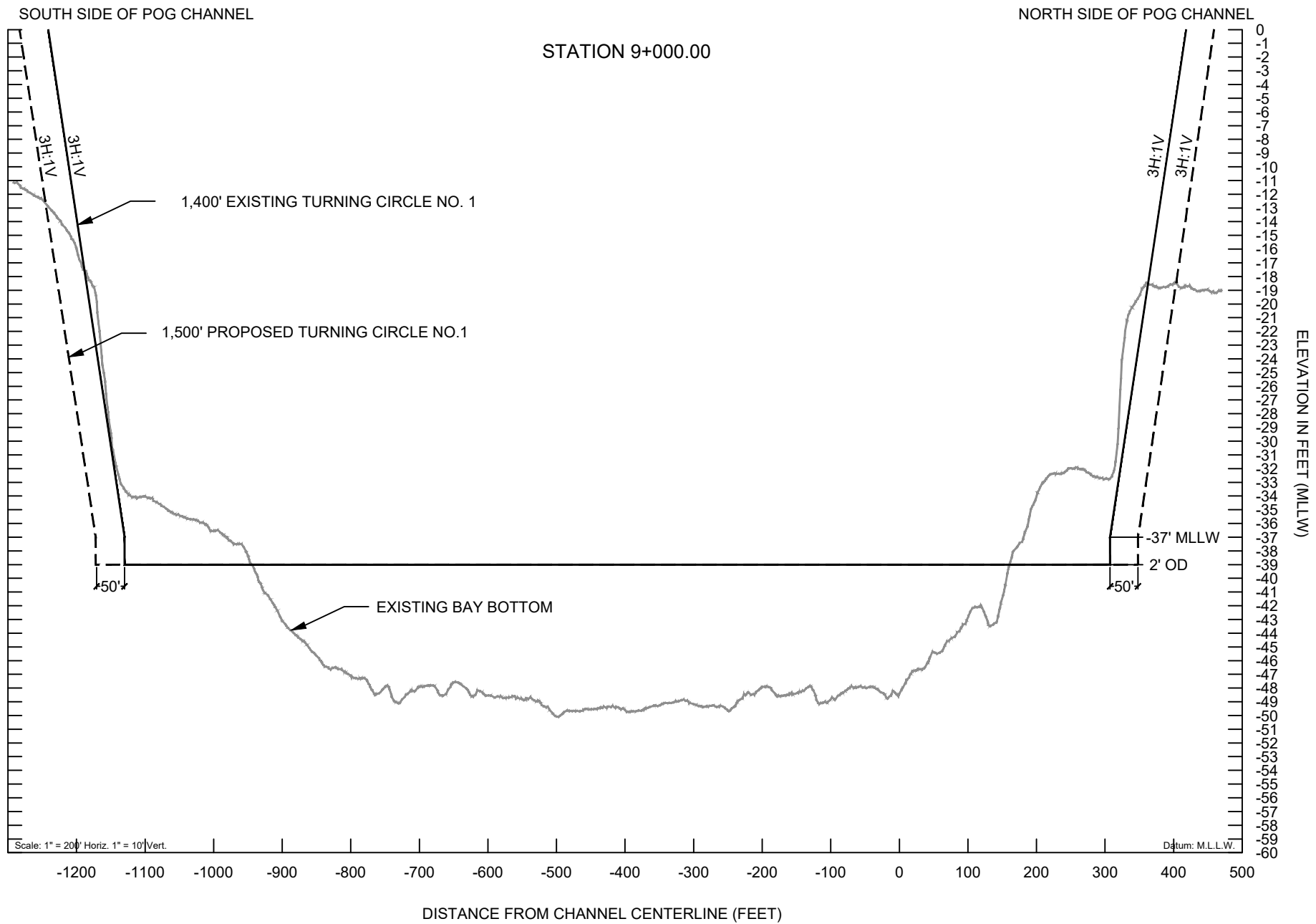
Permit Applicant #:

Applicant Name:

SCALE: 1" = 200'

**GBA**  
**ENGINEERS & SURVEYORS**  
 GAHAGAN & BRYANT ASSOCIATES, INC.  
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 HOUSTON, TEXAS 77054  
 TEL: 832.377.4800  
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|   |                   |
|---|-------------------|
| APPLICANT: GALVESTON WHARVES (PORT OF GALVESTON)  | REV.              |
| PROJECT: PERMIT EXTENSION REQUEST (SWG-2011-00162)<br>GALVESTON CHANNEL AT PELICAN ISLAND<br>COUNTY OF GALVESTON, TEXAS |                   |
| SEPTEMBER 03, 2020  | COUNTY: GALVESTON |
| FILE: 200626-SWG-2011-00162-Amend.dwg   |                   |



- PROFILE LEGEND:**
- 1,400' EXISTING TC NO. 1
  - - - 1,500' PROPOSED TC NO. 1
  - ~ EXISTING BAY BOTTOM (SURVEY JANUARY 2020)

**PERMITTING**  
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## TURNING CIRCLE NO. 1 TYPICAL SECTION

FOR COE USE ONLY  
 Permit Applicant #:  
 Applicant Name:  
 SCALE: 1" = 200'

**GBA**  
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 PROJECT: PERMIT EXTENSION REQUEST (SWG-2011-00162)  
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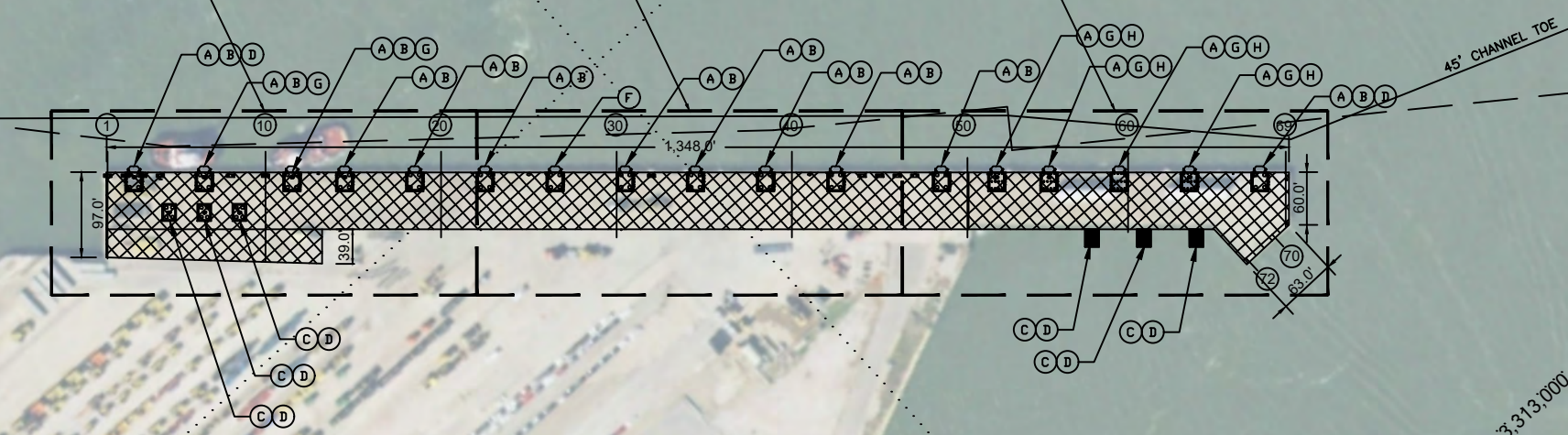
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**LEGEND:**  
[Cross-hatched box] EXISTING FOOTPRINT OF BERTH 10  
[Solid black box] THREE PILE MOORING DOLPHINS OUTSIDE

SEE SHEETS 12 & 14

SEE SHEETS 12 & 14

SEE SHEETS 13 & 15



**KEYED NOTES:**

- (A) NEW FOAM FENDERS, 17 PLACES.
- (B) NEW FOUR PILE BREASTING DOLPHIN, 13 PLACES.
- (C) NEW FOUR PILE MOORING DOLPHIN, 6 PLACES.
- (D) NEW 200 TON T-HEAD BOLLARDS, 8 PLACES.
- (E) DEMOLISH AND REMOVE EXISTING CAST-IN-PLACE TOPPING AND EXISTING DECK UNITS, 20 PLACES.
- (F) REMOVE EXISTING DOUBLE BITT BOLLARD, 22 PLACES.
- (G) NEW 100 TON T-HEAD BOLLARD, 6 PLACES.
- (H) NEW 12 PILE DOLPHIN, 4 PLACES.

**PIER 10 OVERALL SITE PLAN**

FOR COE USE ONLY

Permit Applicant #:

Applicant Name:

SCALE: 1" = 200'

TX REGISTERED ENGINEERING FIRM NO. F-408



**G&B A ENGINEERS & SURVEYORS**  
GAHAGAN & BRYANT ASSOCIATES, INC.  
9330 KIRBY DRIVE, SUITE 100  
HOUSTON, TEXAS 77054  
TEL: 832.377.4800  
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APPLICANT: GALVESTON WHARVES (PORT OF GALVESTON)

PROJECT: PERMIT EXTENSION REQUEST (SWG-2011-00162)

GALVESTON CHANNEL AT PELICAN ISLAND  
COUNTY OF GALVESTON, TEXAS

SEPTEMBER 03, 2020

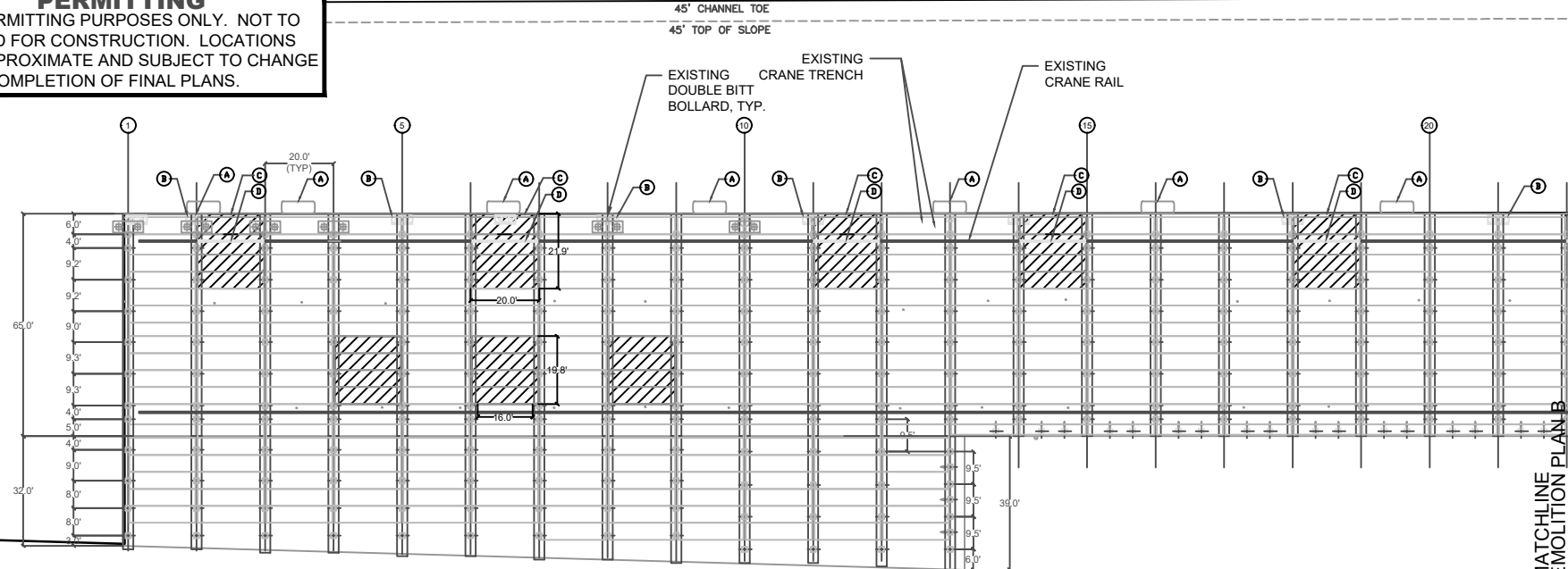
COUNTY: GALVESTON

REV.

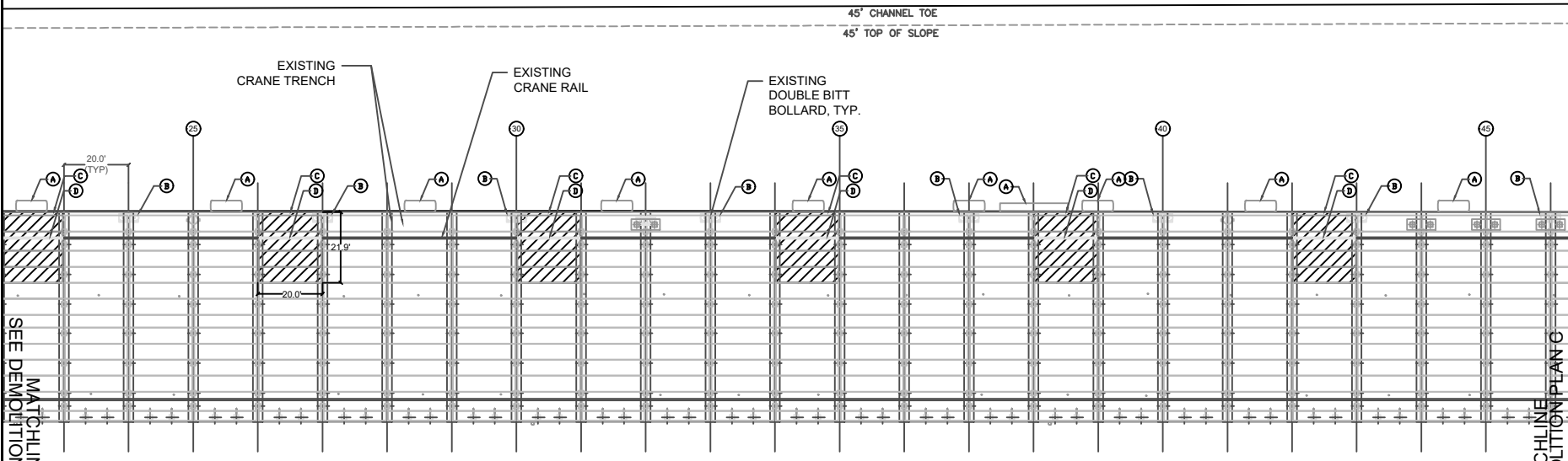
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SHEET 11 of 16

**PERMITTING**  
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**PIER 10 DEMOLITION PLAN A**  
 1" = 50'



**PIER 10 DEMOLITION PLAN B**  
 1" = 50'

- DEMOLITION KEYED NOTES:**  
 ALL ITEMS INDICATED TO BE REMOVED/DEMOLISHED SHALL BE DISPOSED OFFSITE (OUTSIDE PORT PROPERTY) BY CONTRACTOR. ITEMS TO BE SALVAGED ARE NOTED. OWNER WILL INDICATE THE STORAGE LOCATION.
- (A) REMOVE EXISTING TIRE AND FOAM FENDER. PATCH HOLES AND REPAIR ANY DAMAGE TO PIER FACE WITH GROUT FOR SMOOTH AND LEVEL FINAL SURFACE.
  - (B) REMOVE EXISTING DOUBLE BITT BOLLARD AND PATCH DECK WITH GROUT TO PROVIDE LEVEL FINAL SURFACE. FINISH TO MATCH EXISTING.
  - (C) REMOVE EXISTING CIP TOPPING AND PRECAST DECK UNITS.
  - (D) CUT AND REMOVE EXISTING CRANE RAIL BEAM.

FOR COE USE ONLY

Permit Applicant #:

Applicant Name:

SCALE: 1" = 50'

SHEET 12 of 16



**ENGINEERS & SURVEYORS**  
 GAHAGAN & BRYANT ASSOCIATES, INC.  
 9330 KIRBY DRIVE, SUITE 100  
 HOUSTON, TEXAS 77054  
 TEL: 832.377.4800  
 FAX: 832.377.4802  
 TX REGISTERED ENGINEERING FIRM NO. F-408

APPLICANT: GALVESTON WHARVES (PORT OF GALVESTON)

PROJECT: PERMIT EXTENSION REQUEST (SWG-2011-00162)

GALVESTON CHANNEL AT PELICAN ISLAND  
 COUNTY OF GALVESTON, TEXAS

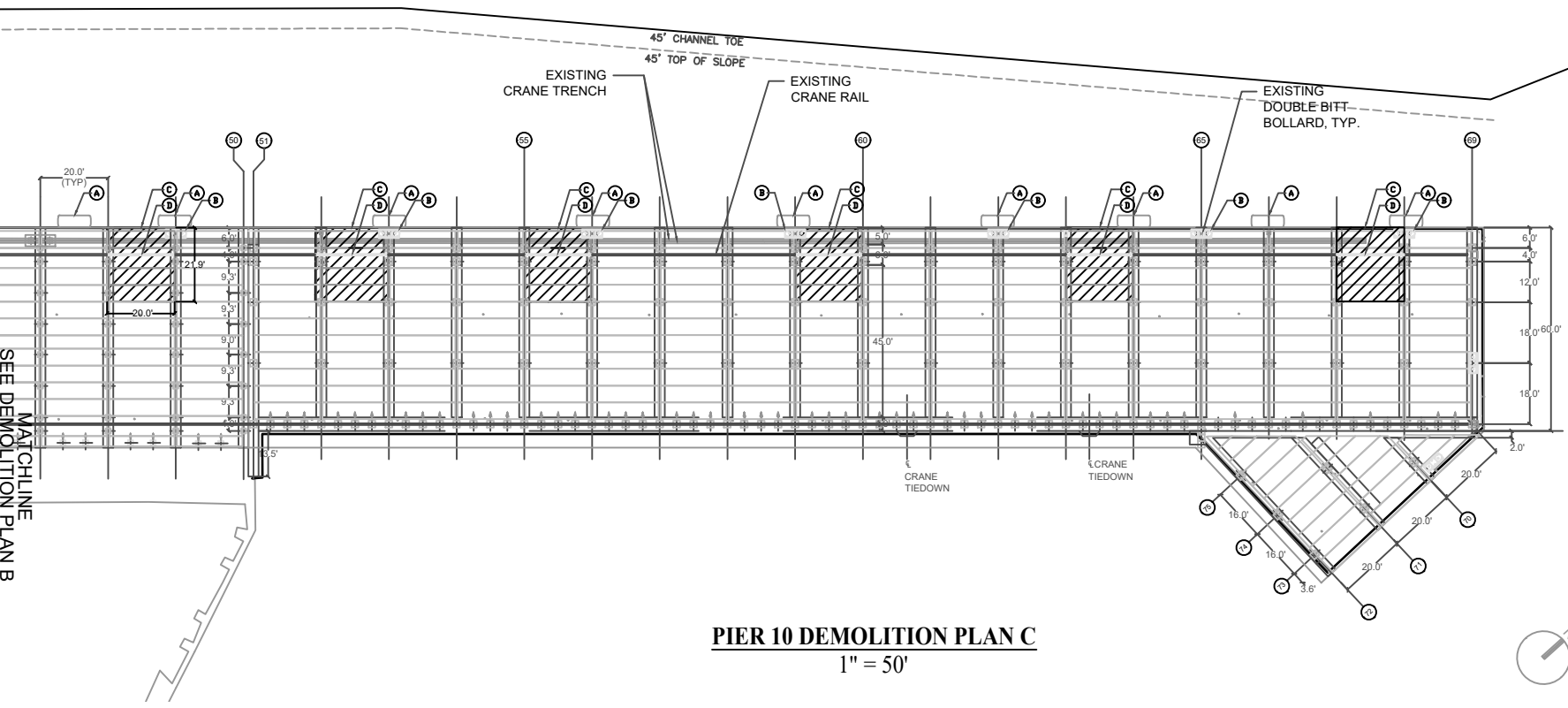
SEPTEMBER 03, 2020

COUNTY: GALVESTON

REV.

FILE: 200626-SWG-2011-00162-Amend.dwg

**PERMITTING**  
 FOR PERMITTING PURPOSES ONLY. NOT TO BE USED FOR CONSTRUCTION. LOCATIONS ARE APPROXIMATE AND SUBJECT TO CHANGE UPON COMPLETION OF FINAL PLANS.



**PIER 10 DEMOLITION PLAN C**  
 1" = 50'

- DEMOLITION KEYED NOTES:**  
 ALL ITEMS INDICATED TO BE REMOVED/DEMOLISHED SHALL BE DISPOSED OFFSITE (OUTSIDE PORT PROPERTY) BY CONTRACTOR. ITEMS TO BE SALVAGED ARE NOTED. OWNER WILL INDICATE THE STORAGE LOCATION.
- (A) REMOVE EXISTING TIRE AND FOAM FENDER. PATCH HOLES AND REPAIR ANY DAMAGE TO PIER FACE WITH GROUT FOR SMOOTH AND LEVEL FINAL SURFACE.
  - (B) REMOVE EXISTING DOUBLE BITT BOLLARD AND PATCH DECK WITH GROUT TO PROVIDE LEVEL FINAL SURFACE. FINISH TO MATCH EXISTING.
  - (C) REMOVE EXISTING CIP TOPPING AND PRECAST DECK UNITS.
  - (D) CUT AND REMOVE EXISTING CRANE RAIL BEAM.

FOR COE USE ONLY

Permit Applicant #:

Applicant Name:

SCALE: 1" = 50'

SHEET 13 of 16



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SEPTEMBER 03, 2020

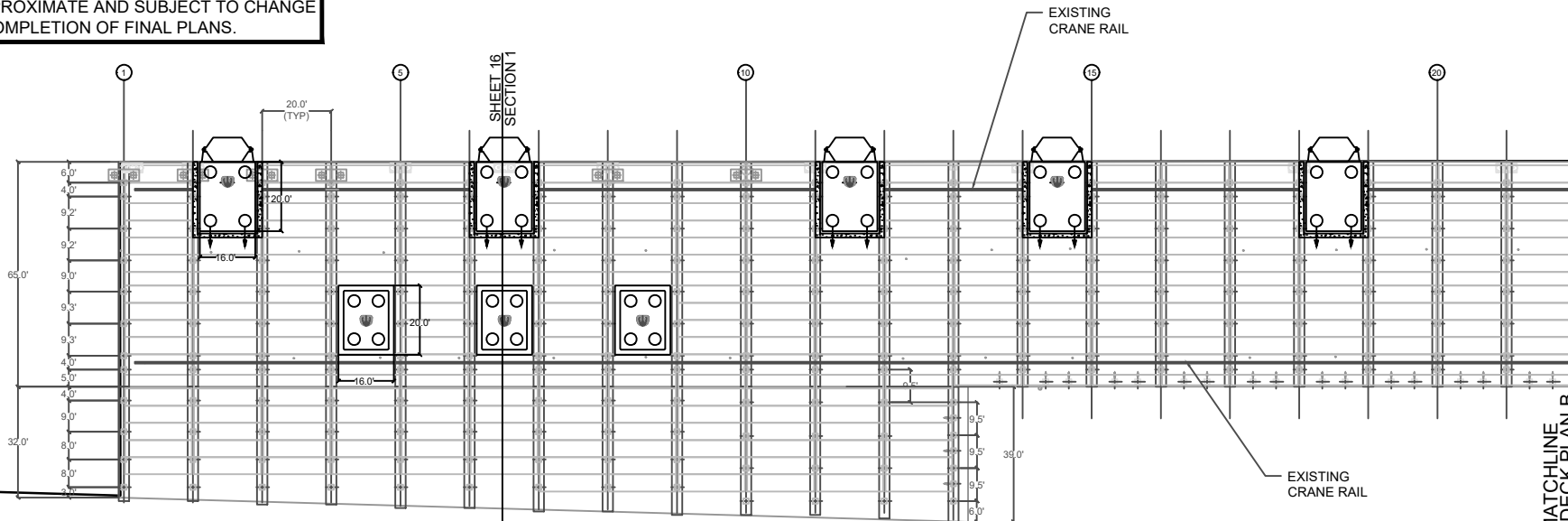
COUNTY: GALVESTON

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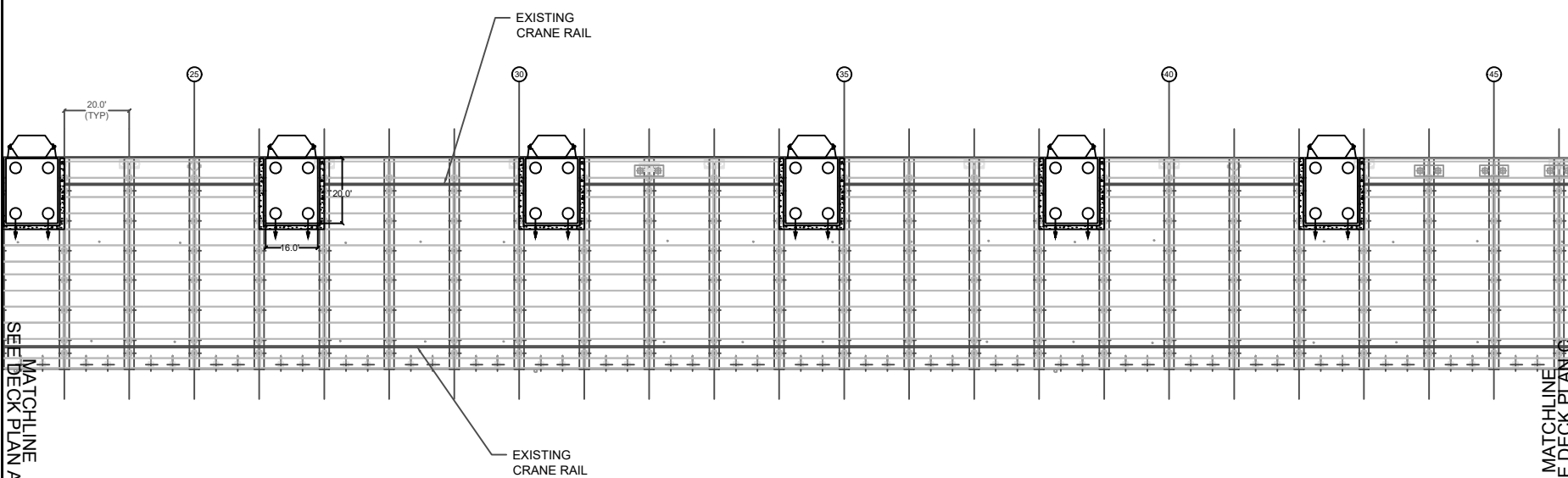
45° CHANNEL TOE  
45° TOP OF SLOPE



**PIER 10 DECK PLAN A**  
1" = 50'

MATCHLINE  
SEE DECK PLAN B

45° CHANNEL TOE  
45° TOP OF SLOPE



**PIER 10 DECK PLAN B**  
1" = 50'

MATCHLINE  
SEE DECK PLAN C

- NOTES:  
1. TYPICAL SECTION 1 PROVIDED ON SHEET 16  
2. PILING REQUIREMENTS:  
○ INDICATES VERTICAL PILES, OPEN ENDED  
◐ INDICATES BATTERED PILE, OPEN ENDED

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Permit Applicant #:

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SCALE: 1" = 50'



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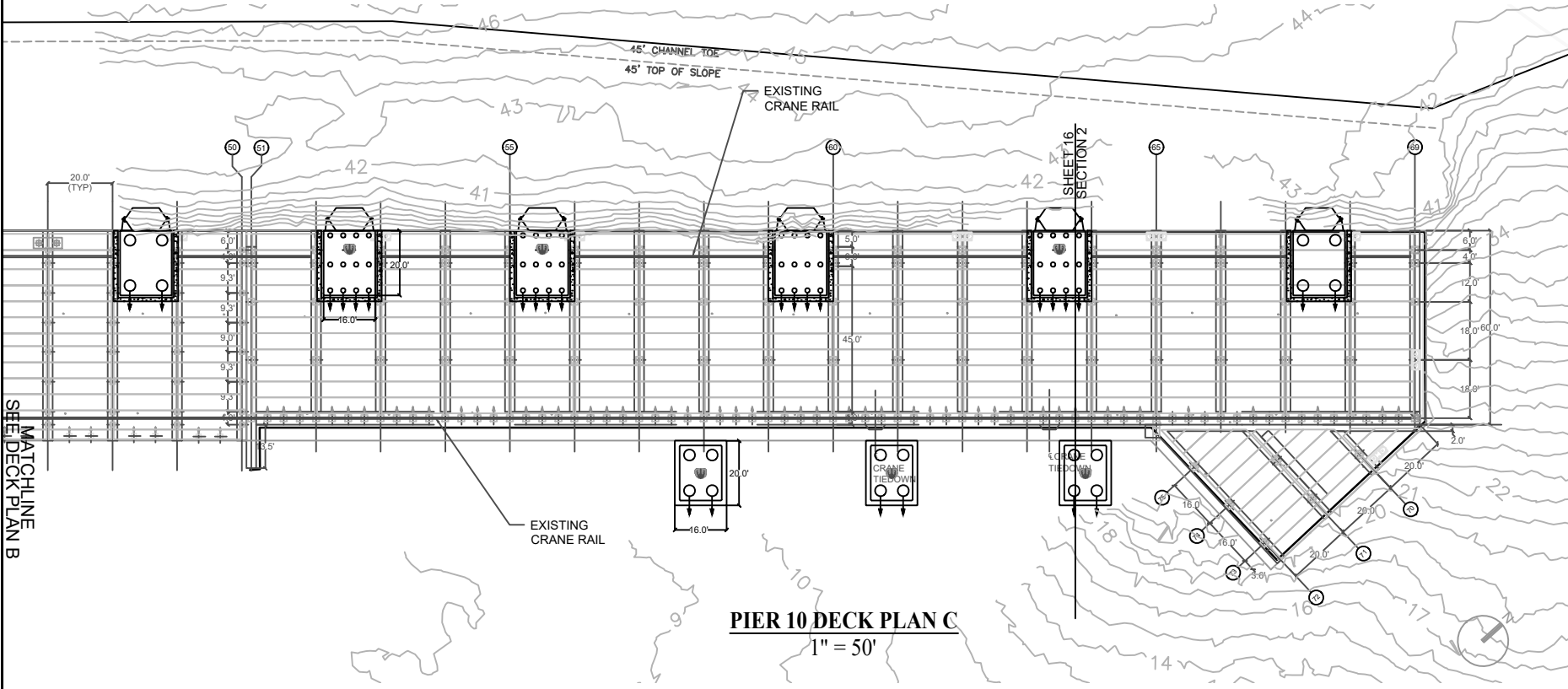
APPLICANT: GALVESTON WHARVES (PORT OF GALVESTON)

PROJECT: PERMIT EXTENSION REQUEST (SWG-2011-00162)  
GALVESTON CHANNEL AT PELICAN ISLAND  
COUNTY OF GALVESTON, TEXAS

SEPTEMBER 03, 2020 COUNTY: GALVESTON REV.

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**PIER 10 DECK PLAN C**  
 1" = 50'

- NOTES:**
1. TYPICAL SECTION 2 PROVIDED ON SHEET 16
  2. PILING REQUIREMENTS:  
 ○ INDICATES VERTICAL PILES, OPEN ENDED  
 ⊕ INDICATES BATTERED PILE, OPEN ENDED
  3. CONTOURS DEPICTED REPRESENT THE RESULTS OF SURVEYS MADE ON JANUARY 2020 PROVIDED BY THE PORT, AND CAN ONLY INDICATE THE GENERAL CONDITIONS EXISTING AT THAT TIME.
  4. ALL ELEVATIONS ARE REFERENCED TO MLLW AND ARE BELOW THE REFERENCE PLANE UNLESS PROCEEDED BY A PLUS (+) SIGN.

FOR COE USE ONLY

Permit Applicant #:

Applicant Name:

SCALE: 1" = 50'

SHEET 15 of 16



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APPLICANT: GALVESTON WHARVES (PORT OF GALVESTON)

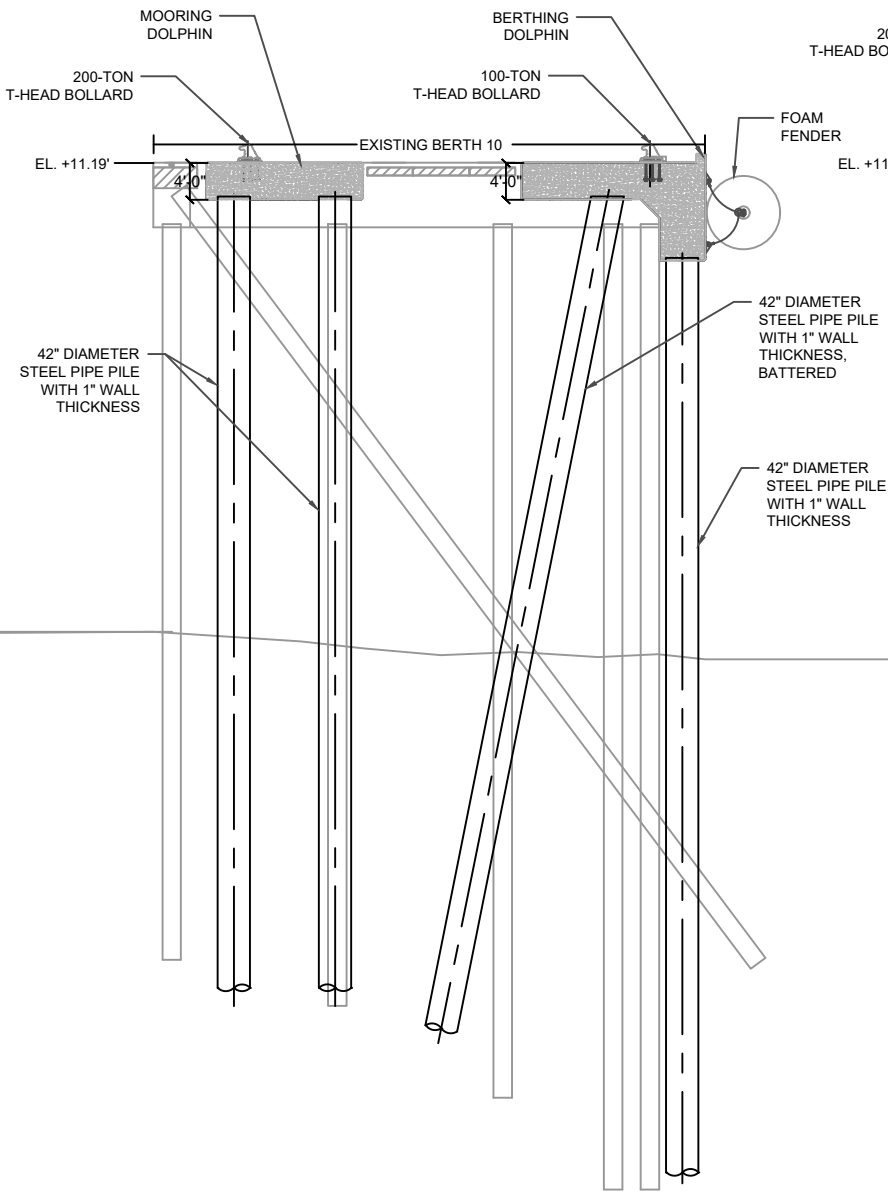
PROJECT: PERMIT EXTENSION REQUEST (SWG-2011-00162)  
 GALVESTON CHANNEL AT PELICAN ISLAND  
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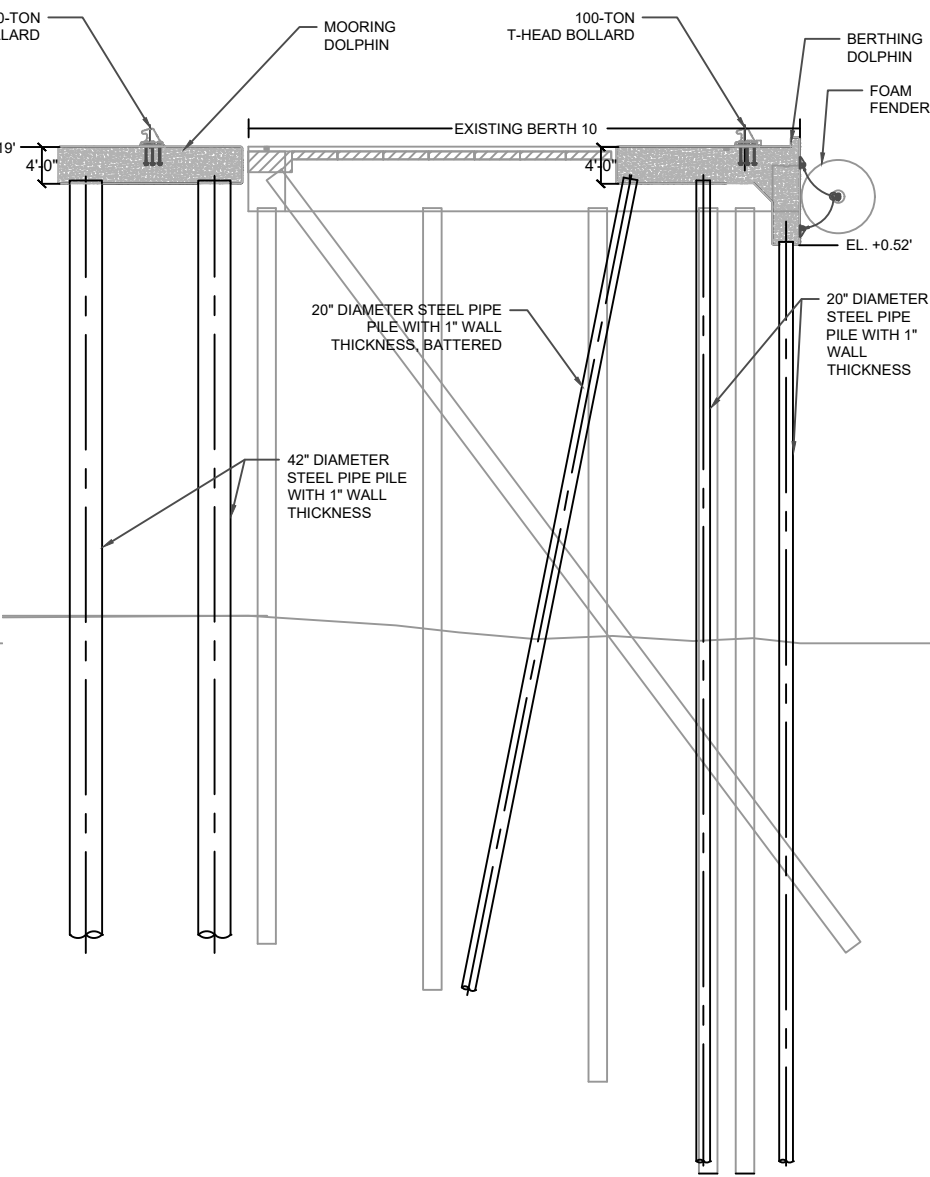
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SECTION NOTES:  
 1. ALL ELEVATION VALUES ARE BASED ON NAVD88 REF. DATUM.



**PIER 10 TYPICAL SECTION 1**

NTS



**PIER 10 TYPICAL SECTION 2**

NTS

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Permit Applicant #:

Applicant Name:

SCALE: 1" = NTS

SHEET 16 of 16



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GALVESTON CHANNEL AT PELICAN ISLAND

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SEPTEMBER 03, 2020 COUNTY: GALVESTON REV.

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