

New Dock No. 5

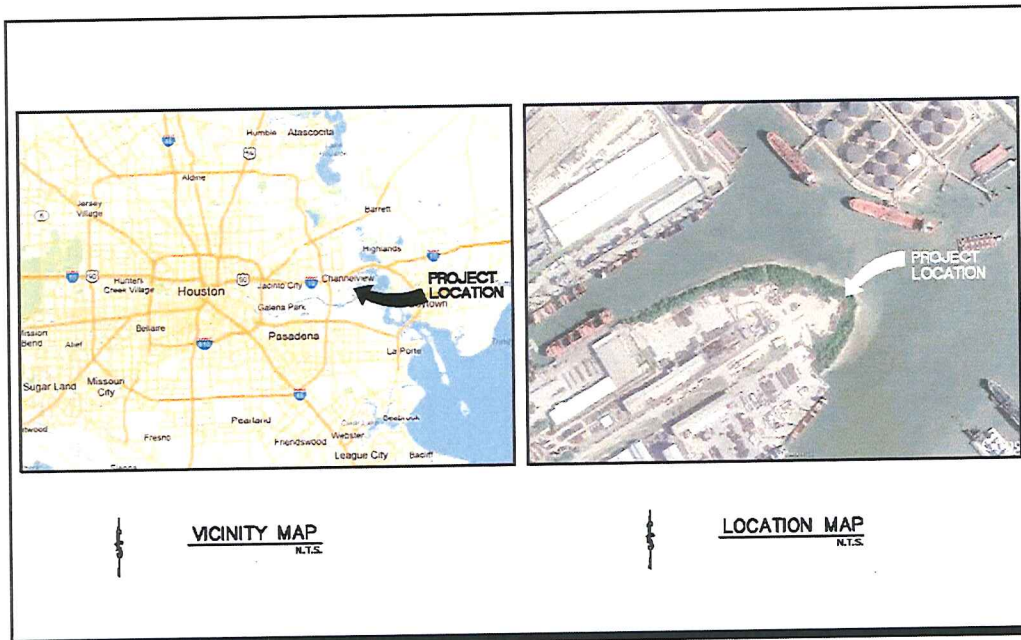
Design - Build Project

For
HFOTCO LLC
(HOUSTON FUEL OIL TERMINAL)
Houston, Texas



INDEX OF DRAWINGS

Sheet No.	Description	Sheet No.	Description
GENERAL		STRUCTURAL - PLATFORM	
C-1	Title Sheet	C-14	Structural Site Plan
C-2	General Notes-1	C-15	Typical Section at Platform
C-3	General Notes-2	C-16	Pile Location Plan
C-4	Structural General Notes	C-17	Front Platform Elevations
C-5	Overall Site Plan	C-18	Side Platform Elevations
DREDGING		STRUCTURAL - PIPE CROSSING	
C-6	Dredge Site Plan	C-19	Pipe Crossing Site Plan
C-7	Dredge Cross Sections-1	C-20	Pipe Crossing Sections
C-8	Dredge Cross Sections-2	C-21	Typical Profile of Work Areas
C-9	Dredge Cross Sections-3	C-22	Pipe Laydown Work Areas
STRUCTURAL - BULKHEAD		C-23	Cross Sections of Work Areas
C-10	Bulkhead Plan-1		
C-11	Bulkhead Plan-2		
C-12	Typical Bulkhead Section		
C-13	Bulkhead Sections and Details		



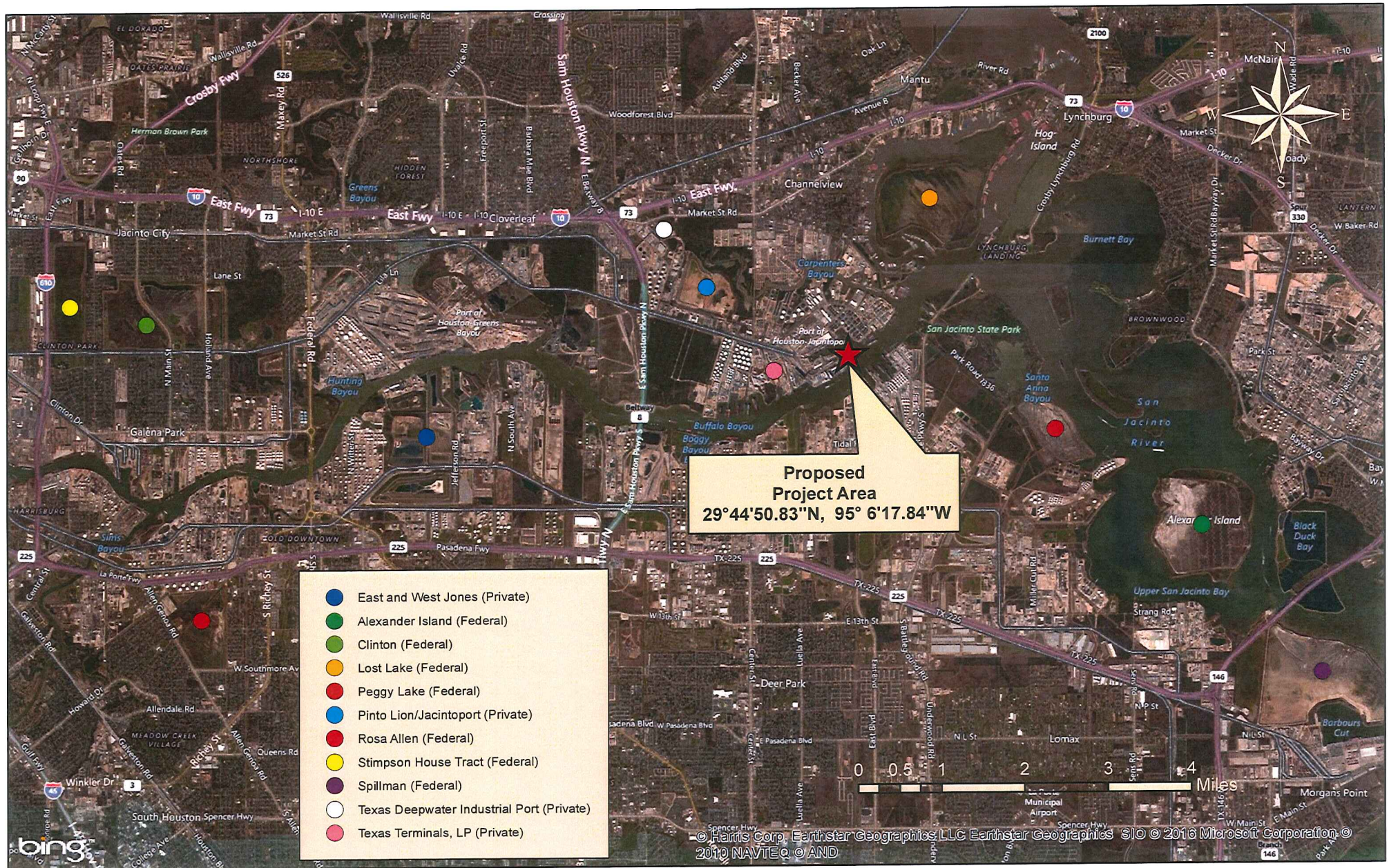


Exhibit A

Vicinity Map with
Potential Placement Areas

HFOTCO LLC Proposed Dock No. 5 Harris County, Texas

Date: June 24, 2016

SCHNEIDER
ENGINEERING & CONSULTING

323 23rd Street
Galveston, Texas 77550
281.925.6084 www.schneiderec.com

7 2016

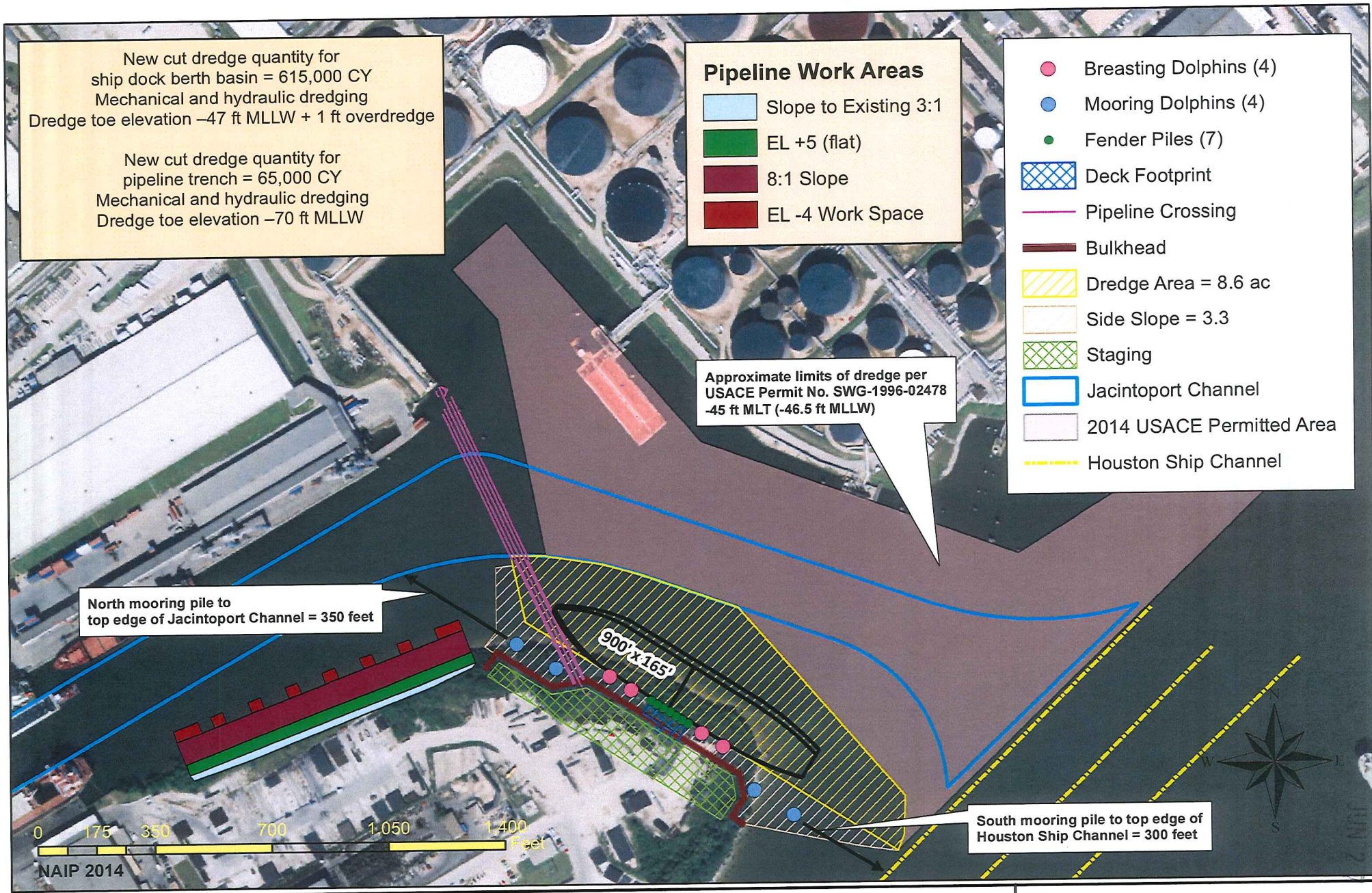


Exhibit B

Project Overview Map

**HFOTCO LLC
Proposed Dock No. 5
Harris County, Texas**

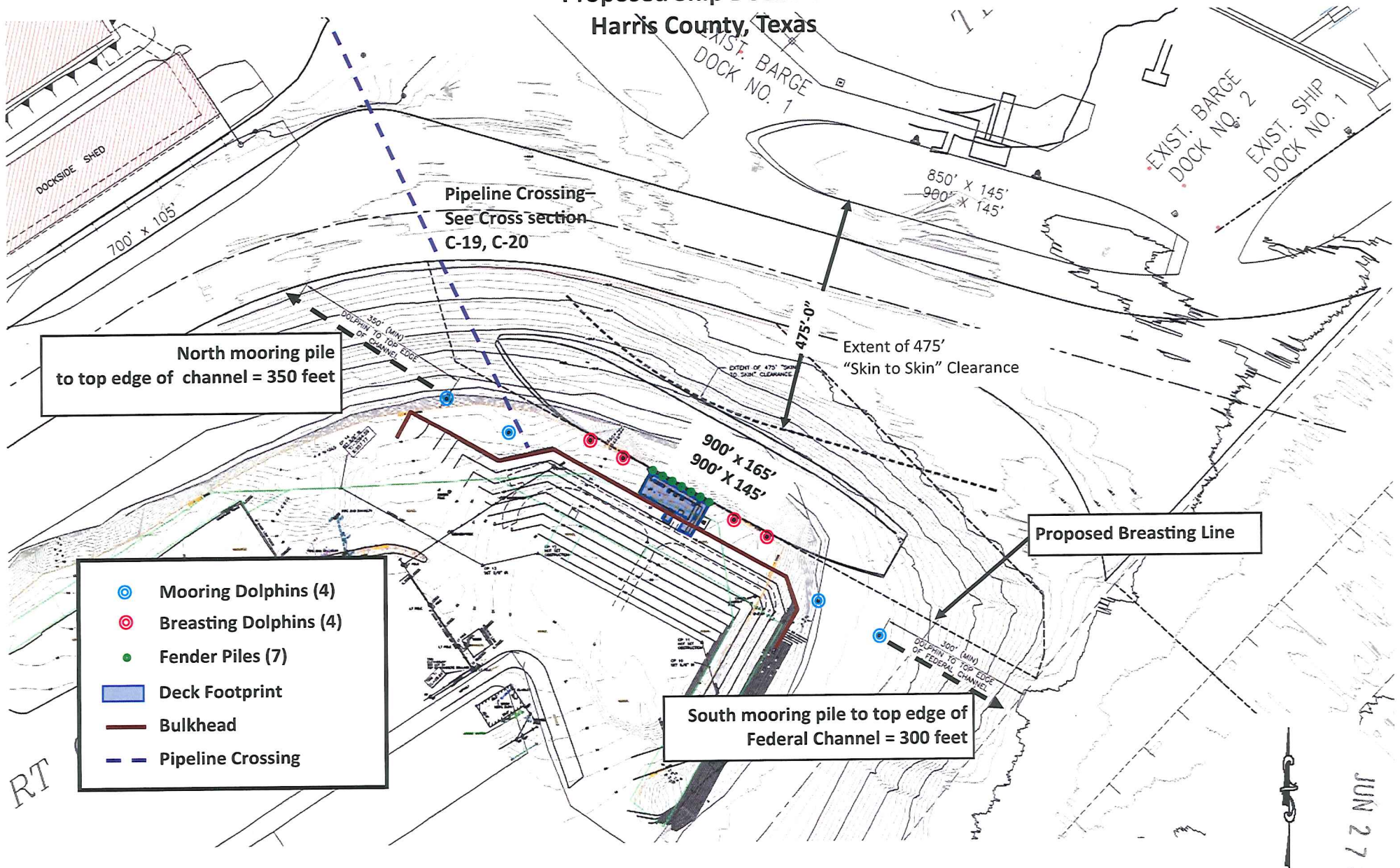
Date: June 17, 2016

SCHNEIDER
ENGINEERING & CONSULTING

323 23rd Street
Galveston, Texas 77550
281.925.6084 www.schneiderec.com

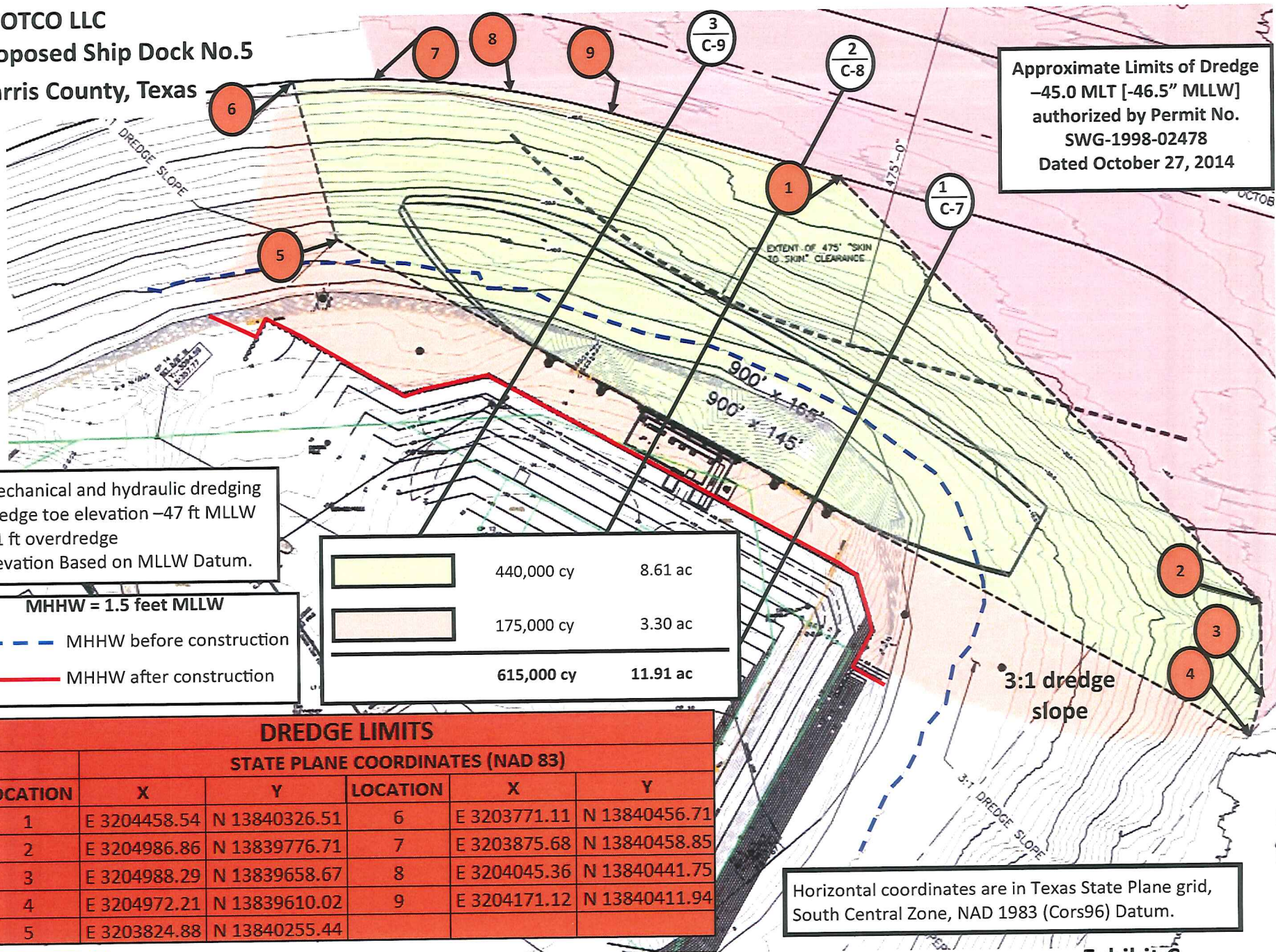
2016

HFOTCO LLC
Proposed Ship Dock No.5
Harris County, Texas



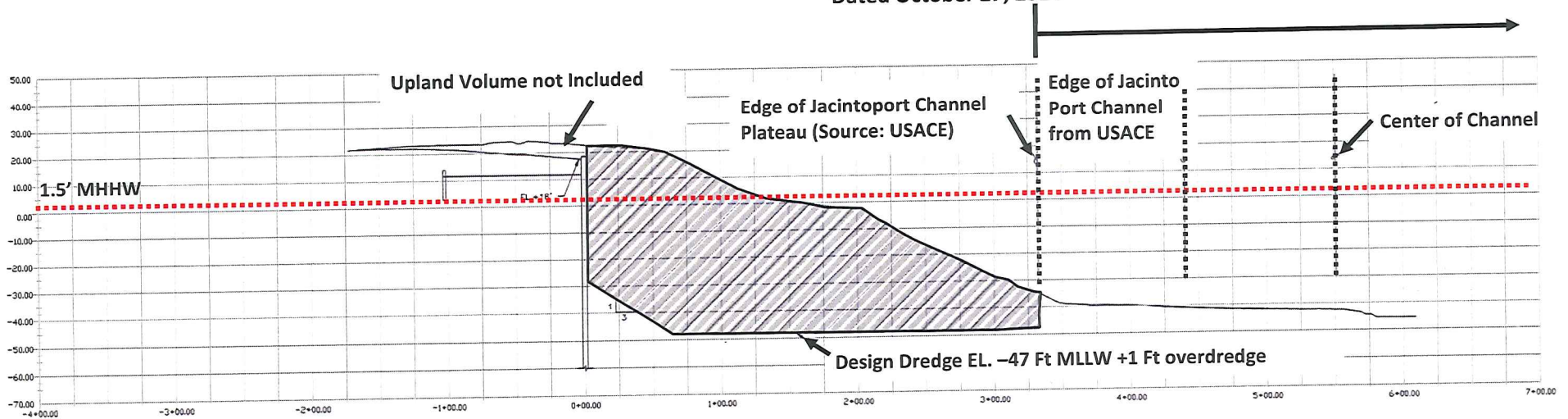
JUN 27 2016

HFOTCO LLC
Proposed Ship Dock No.5
Harris County, Texas



HFOTCO LLC
Proposed Ship Dock No.5
Harris County, Texas

Approximate Limits of Dredge -45.0 MLT [-46.5" MLLW] authorized by
 Permit No. SWG-1998-02478; Nationwide Permit Verification
 Dated October 27, 2014



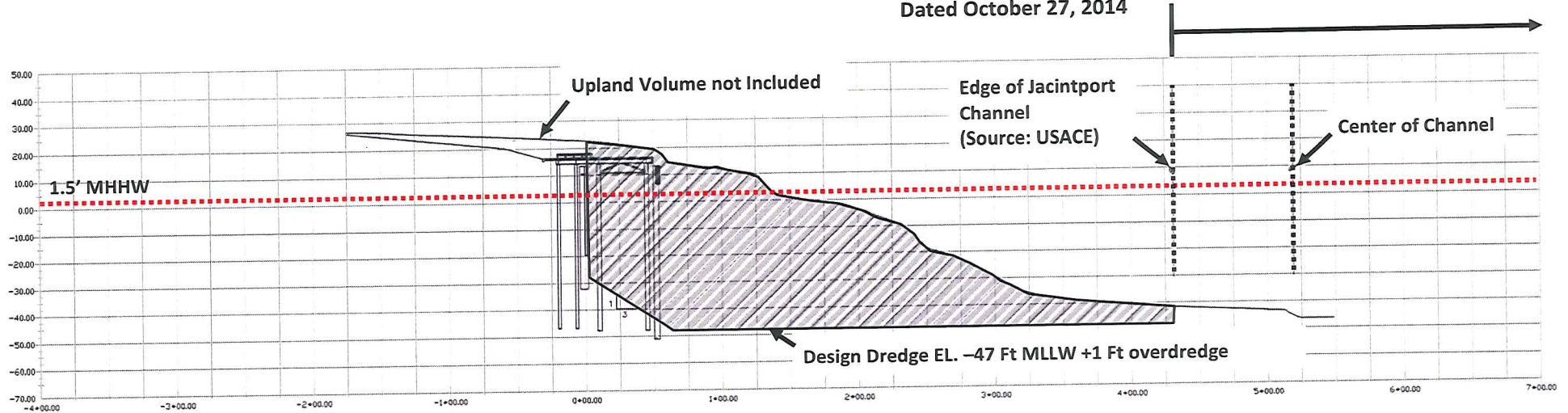
1
C-6

New cut dredge quantity for ship dock berth
 basin = 615,000 CY
 Mechanical and hydraulic dredging

 Dredge toe elevation -47 ft MLLW
 + 1 ft overdredge
 Elevation Based on MLLW Datum

HFOTCO LLC
Proposed Ship Dock No.5
Harris County, Texas

Approximate Limits of Dredge -45.0 MLT [-46.5" MLLW] authorized
by Permit No. SWG-1998-02478; Nationwide Permit Verification
Dated October 27, 2014



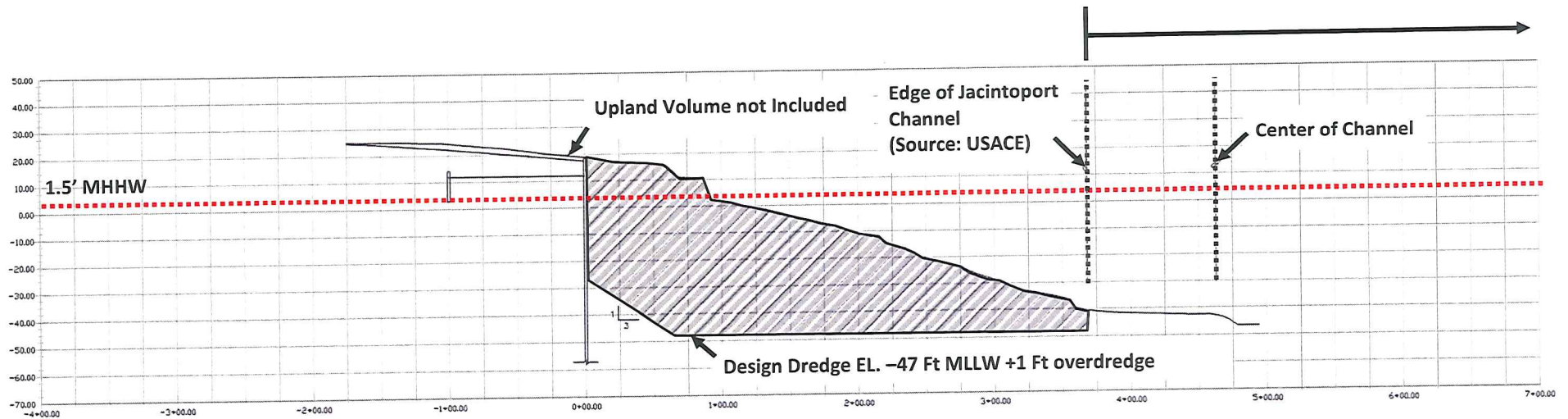
2
C-6

New cut dredge quantity for ship dock berth
basin = 615,000 CY
Mechanical and hydraulic dredging

Dredge toe elevation -47 ft MLLW
+ 1 ft overdredge
Elevation Based on MLLW Datum

HFOTCO LLC
Proposed Ship Dock No.5
Harris County, Texas

Approximate Limits of Dredge -45.0 MLT [-46.5" MLLW] authorized
by Permit No. SWG-1998-02478; Nationwide Permit Verification
Dated October 27, 2014

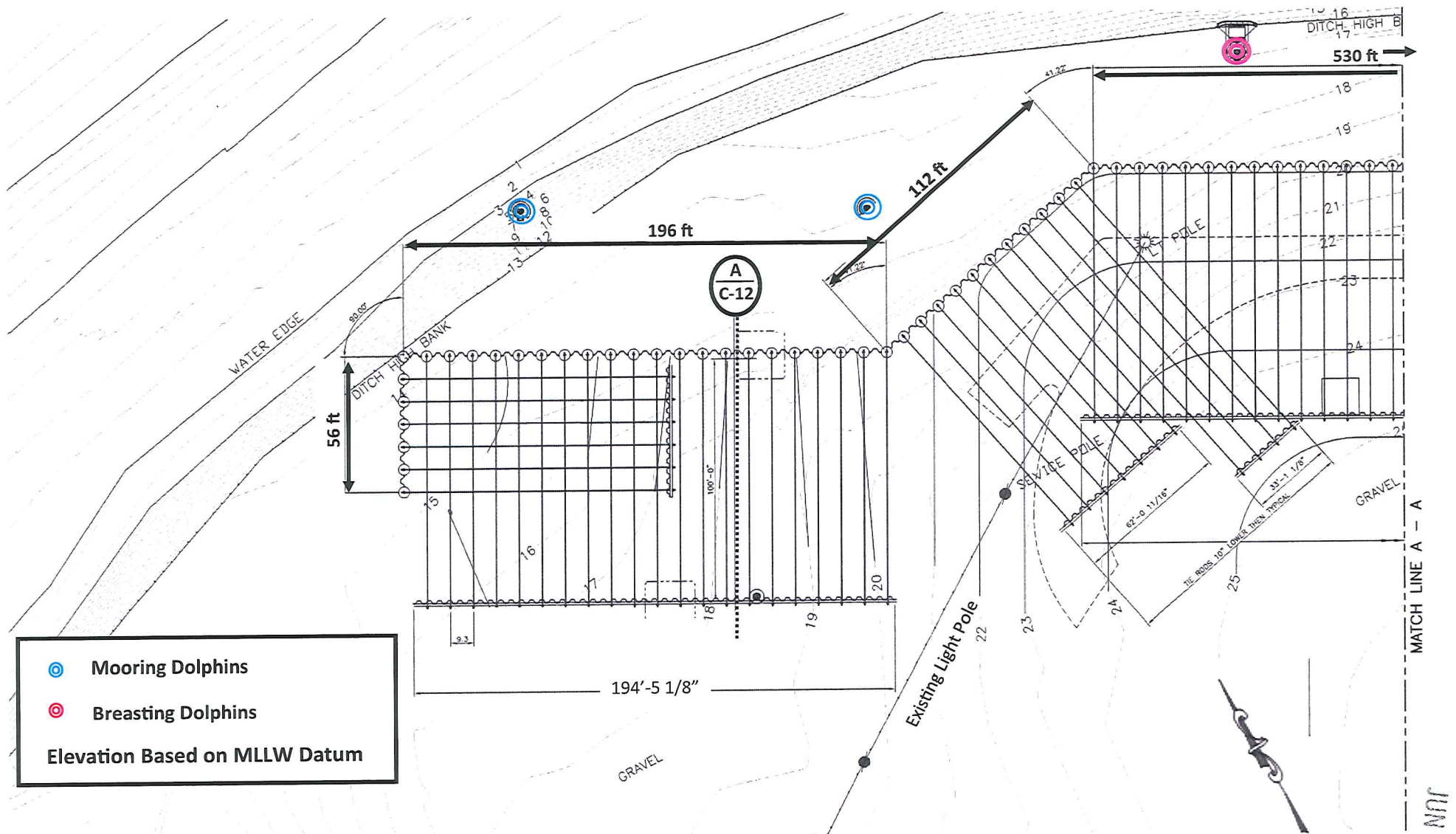


3
C-6

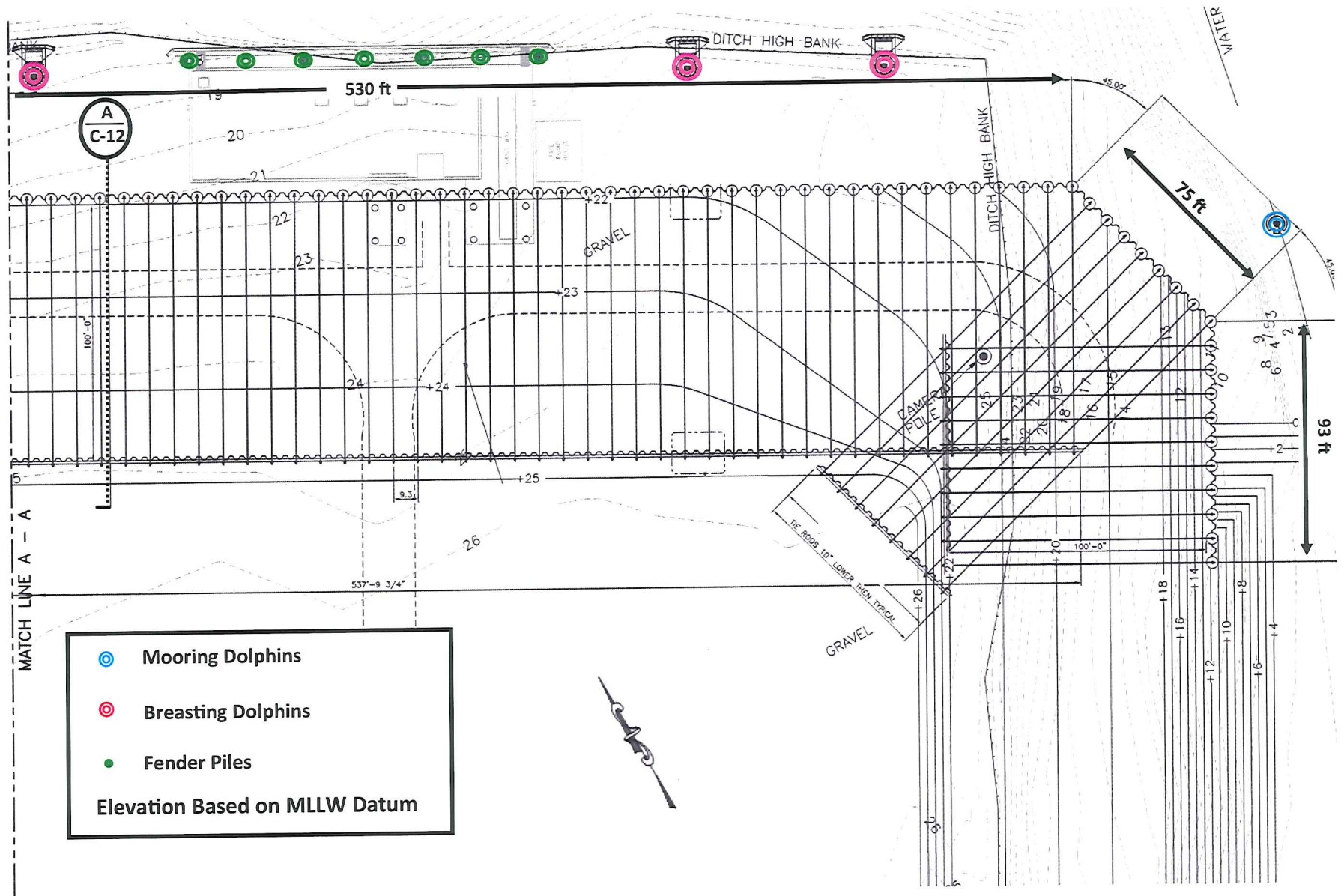
New cut dredge quantity for ship dock
berth basin = 615,000 CY
Mechanical and hydraulic dredging

Dredge toe elevation -47 ft MLLW
+ 1 ft overdredge
Elevation Based on MLLW Datum

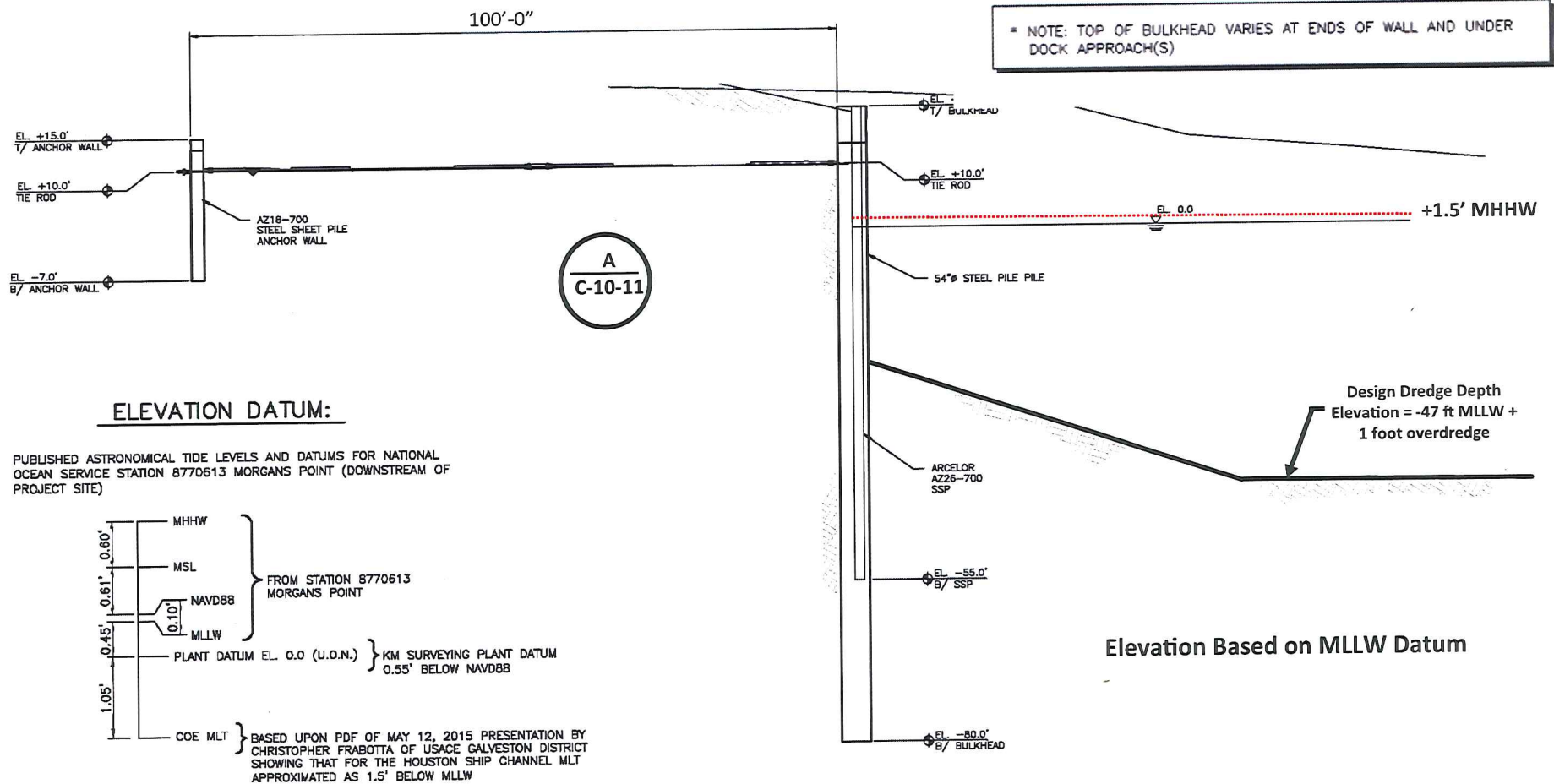
HFOTCO LLC
Proposed Ship Dock No.5
Harris County, Texas



HFOTCO LLC
Proposed Ship Dock No.5
Harris County, Texas

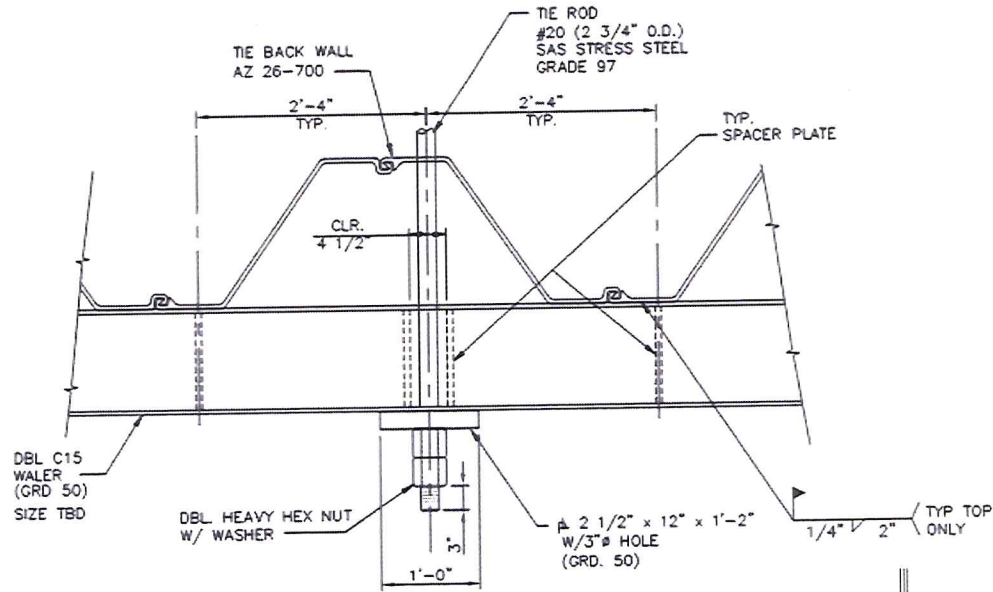


HFOTCO LLC
Proposed Ship Dock No.5
Harris County, Texas

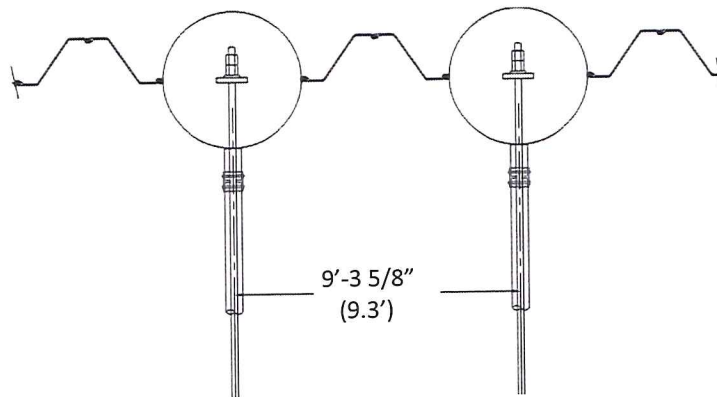


NOTE: DATA LISTED IS BASED UPON ASTRONOMICAL TIDES AT THE STATION. ACTUAL WATER LEVELS MAY VARY DUE TO METEOROLOGICAL EFFECTS AND SEASONAL VARIATIONS. ADDITIONAL VARIATIONS BETWEEN THE STATION AND PROJECT SITE MAY BE CAUSED BY TOPOGRAPHIC AND HYDROGRAPHIC EFFECTS BETWEEN THE LOCATIONS. DURING SCHEDULING OF CONSTRUCTION WORKS, ATTENTION SHALL BE PAID TO KNOWN SEASONAL VARIATIONS AND METEOROLOGICAL EFFECTS.

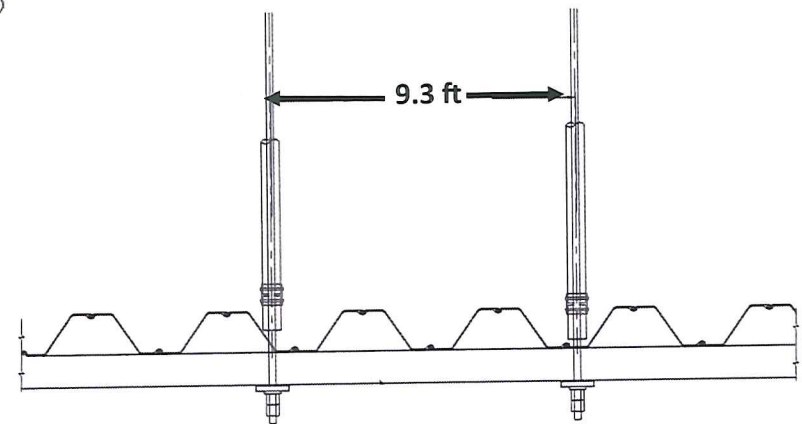
HFOTCO LLC
Proposed Ship Dock No.5
Harris County, Texas



ANCHOR WALL PLAN
 1" = 1'-0"



TYPICAL BULKHEAD WALL
 1/2" = 1'-0"



TYPICAL ANCHOR WALL
 1/2" = 1'-0"

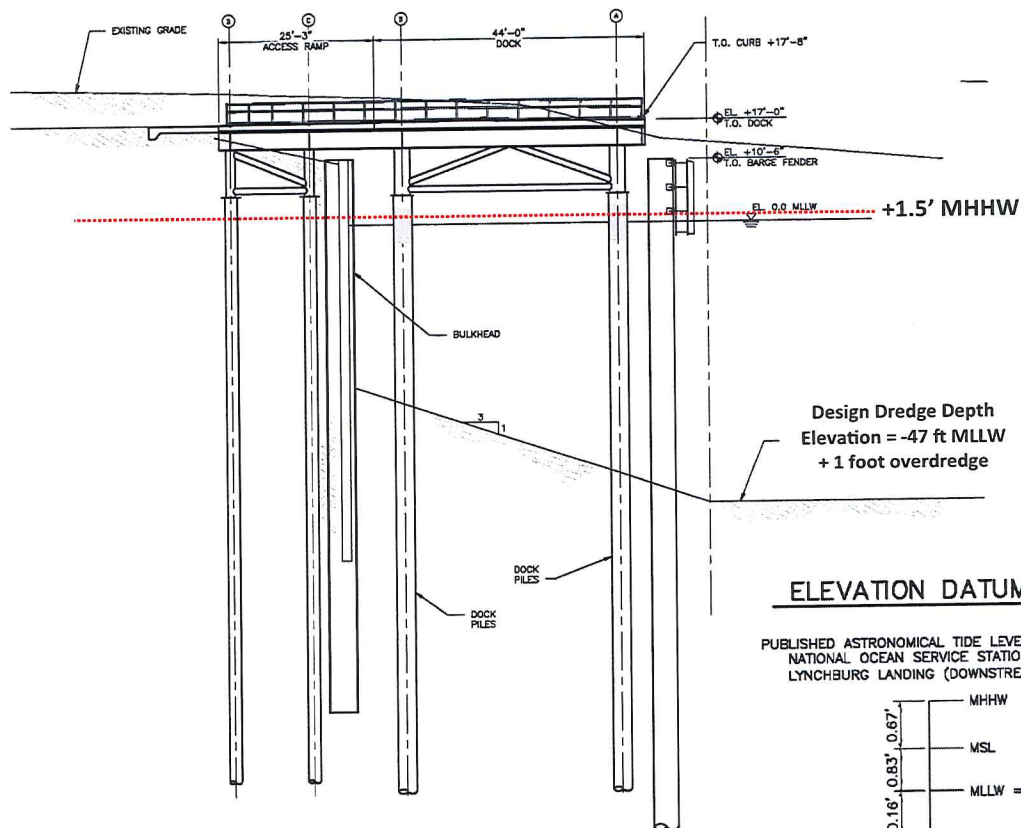
C-14

0 40' 80'

SCALE: 1" = 40'-0"

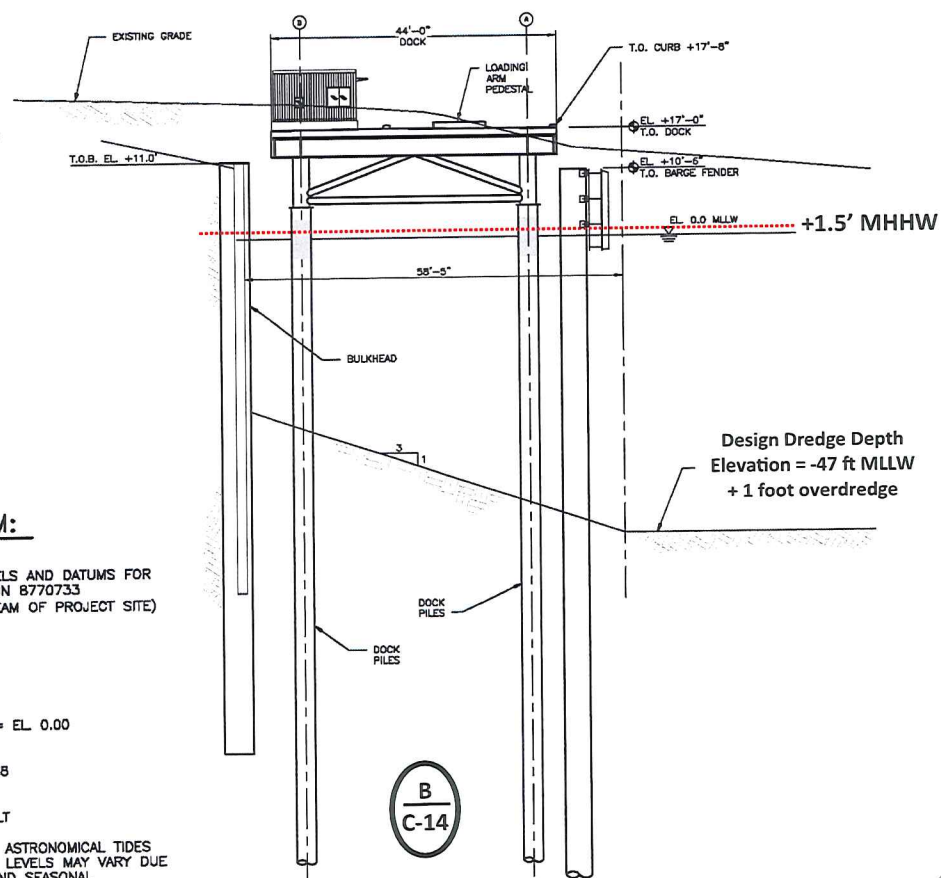
JUN 27 2016

HFOTCO LLC
Proposed Ship Dock No.5
Harris County, Texas



A
C-14

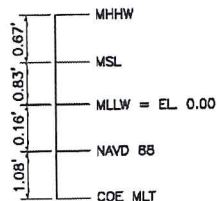
Elevation Based on MLLW Datum



B
C-14

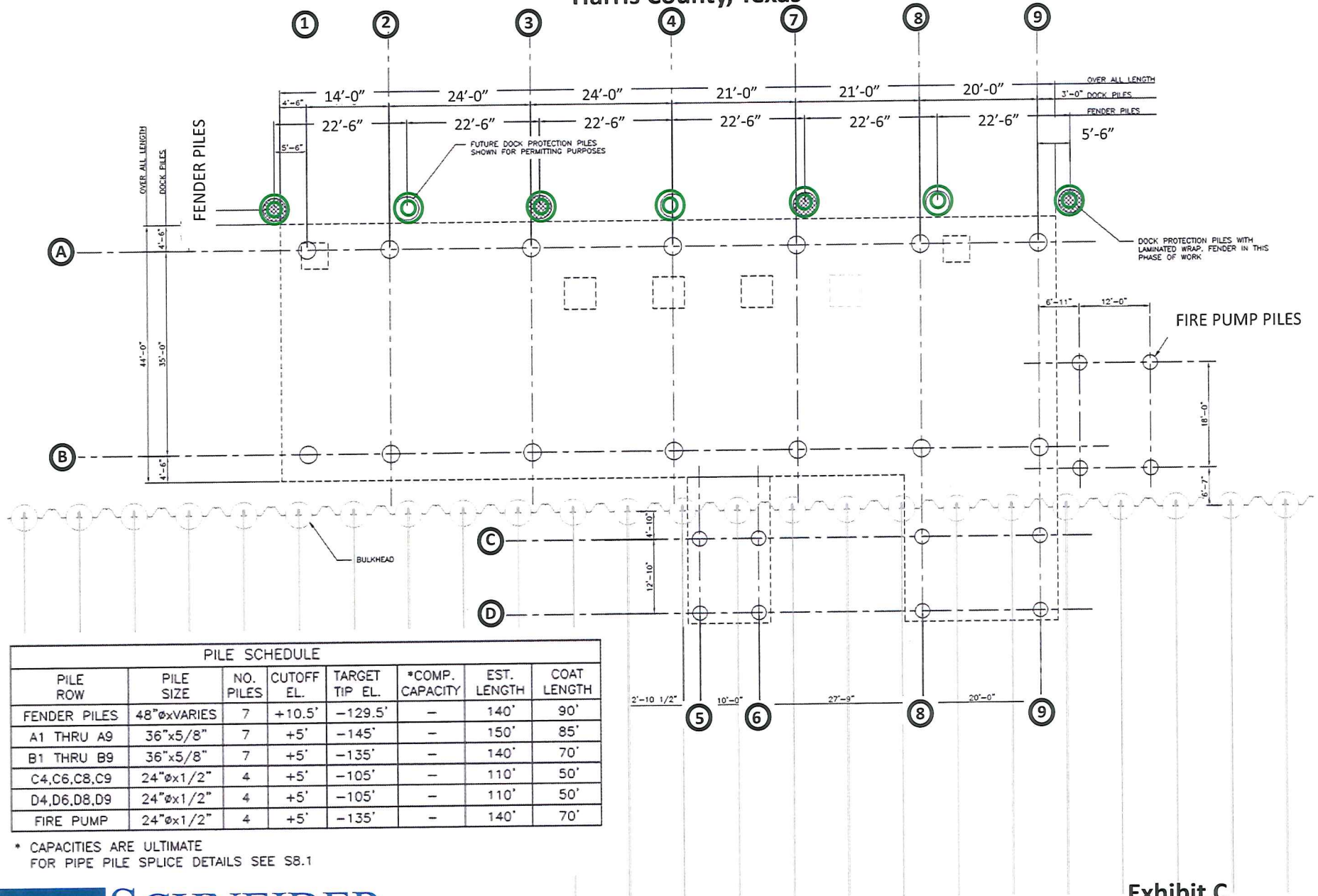
ELEVATION DATUM:

PUBLISHED ASTRONOMICAL TIDE LEVELS AND DATUMS FOR
 NATIONAL OCEAN SERVICE STATION 8770733
 LYNCHBURG LANDING (DOWNSTREAM OF PROJECT SITE)



NOTE: DATA LISTED IS BASED UPON ASTRONOMICAL TIDES AT THE STATION. ACTUAL WATER LEVELS MAY VARY DUE TO METEOROLOGICAL EFFECTS AND SEASONAL VARIATIONS. ADDITIONAL VARIATIONS BETWEEN THE STATION AND PROJECT SITE MAY BE CAUSED BY TOPOGRAPHIC AND HYDROGRAPHIC EFFECTS BETWEEN THE LOCATIONS (I.E. MLT IS APPROXIMATELY 1.7 FEET BELOW MLLW AT THE PROJECT SITE). DURING SCHEDULING OF CONSTRUCTION WORKS, ATTENTION SHALL BE PAID TO KNOWN SEASONAL VARIATIONS AND METEOROLOGICAL EFFECTS.

HFOTCO LLC
Proposed Ship Dock No.5
Harris County, Texas



Harris County, Texas

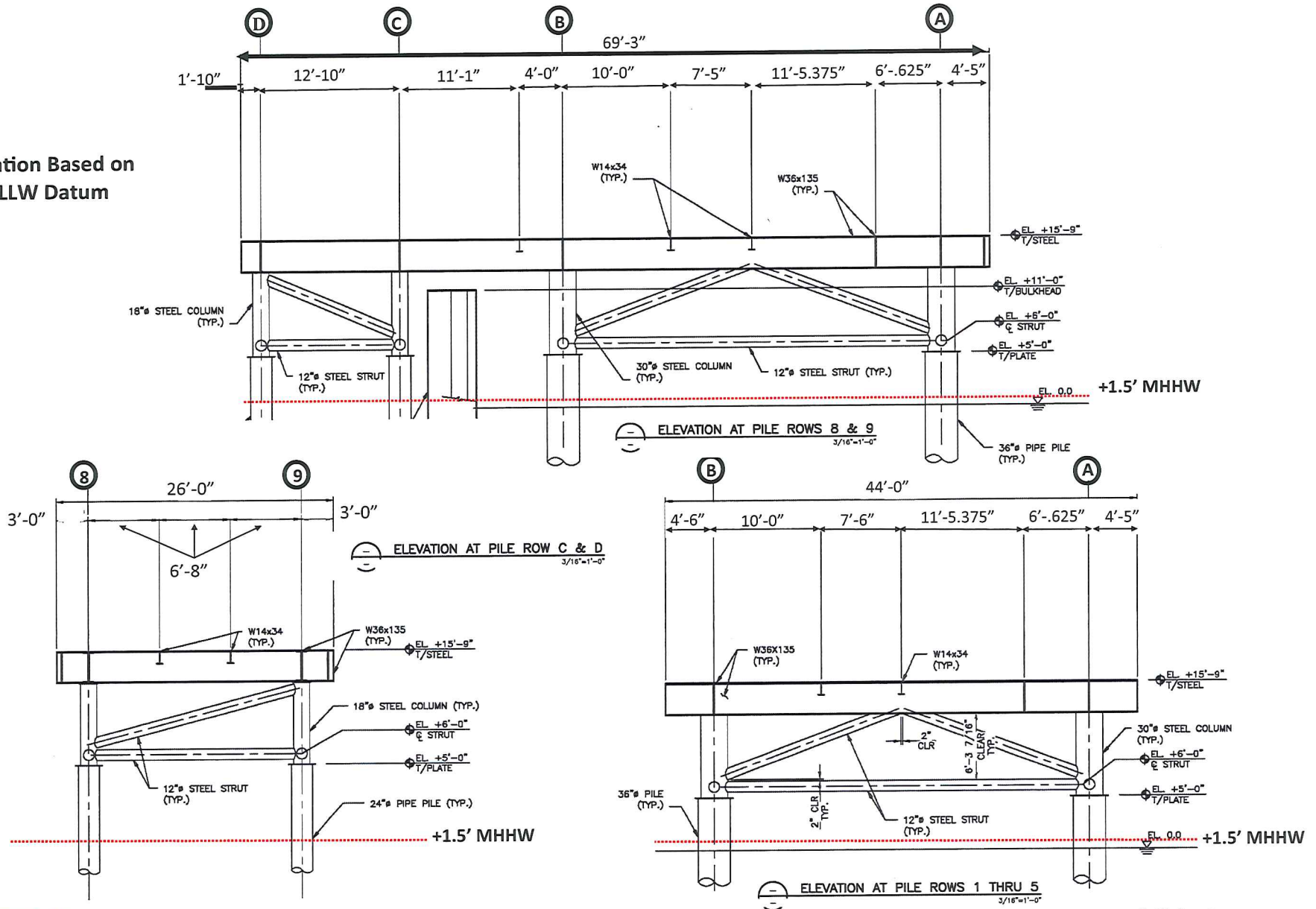


Exhibit C

Front Platform Elevations

HFOTCO LLC
Proposed Ship Dock No.5
Harris County, Texas

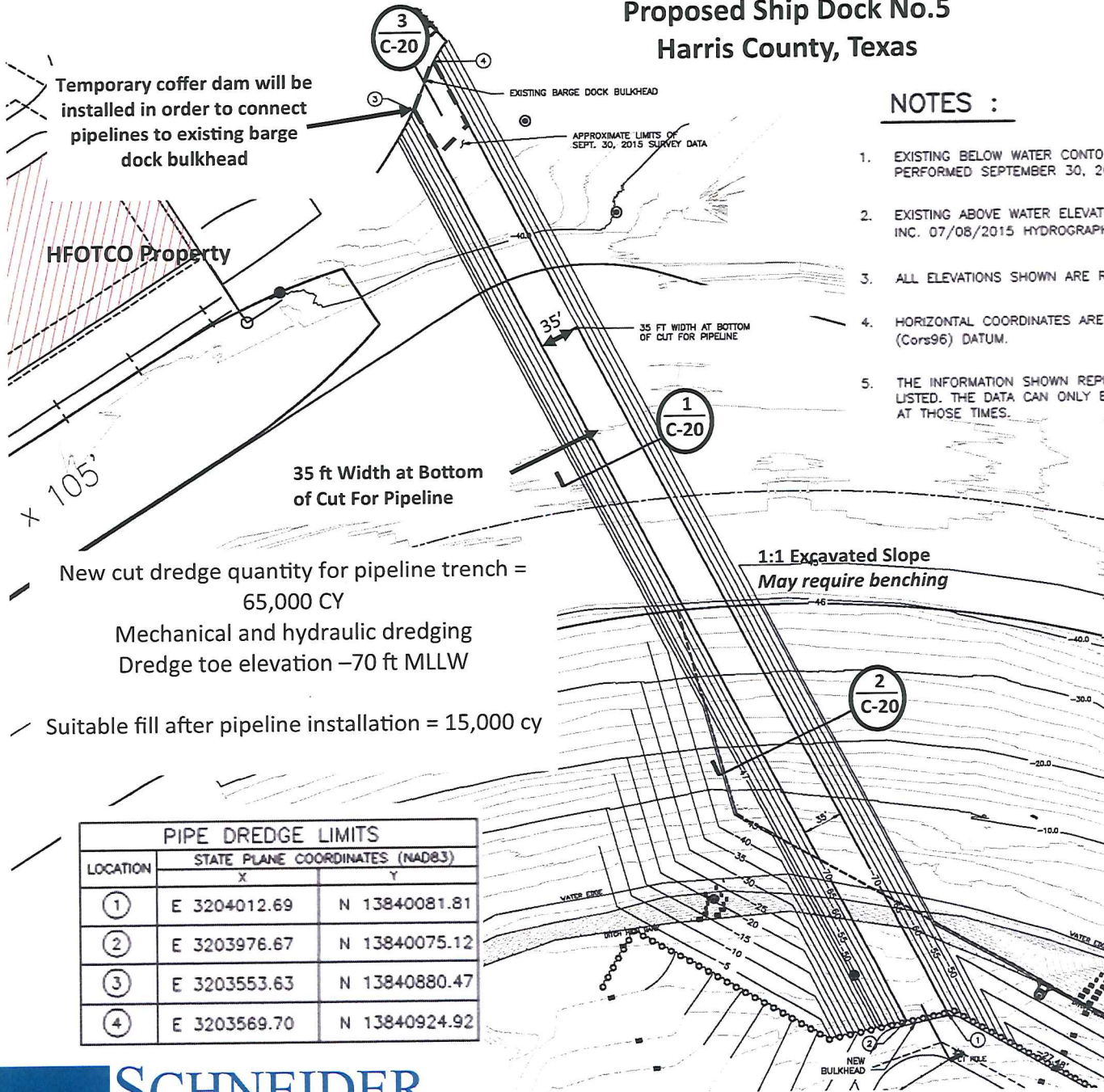
Elevation Based on
MLLW Datum



HFOTCO LLC
Proposed Ship Dock No.5
Harris County, Texas

NOTES :

1. EXISTING BELOW WATER CONTOURS ARE BASED UPON ORION MARINE HYDROGRAPHIC SURVEY PERFORMED SEPTEMBER 30, 2015.
2. EXISTING ABOVE WATER ELEVATION CONTOURS ARE BASED UPON CHRIS RANSOME & ASSOCIATES, INC. 07/08/2015 HYDROGRAPHIC SURVEY.
3. ALL ELEVATIONS SHOWN ARE RELATIVE TO USACE MEAN LOWER LOW WATER (MLLW).
4. HORIZONTAL COORDINATES ARE IN TEXAS STATE PLANE GRID, SOUTH CENTRAL ZONE, NAD 1983 (Cors96) DATUM.
5. THE INFORMATION SHOWN REPRESENTS THE RESULTS OF THE SURVEYS EXECUTED ON THE DATES LISTED. THE DATA CAN ONLY BE CONSIDERED AS INDICATING THE GENERAL CONDITIONS PRESENT AT THOSE TIMES.

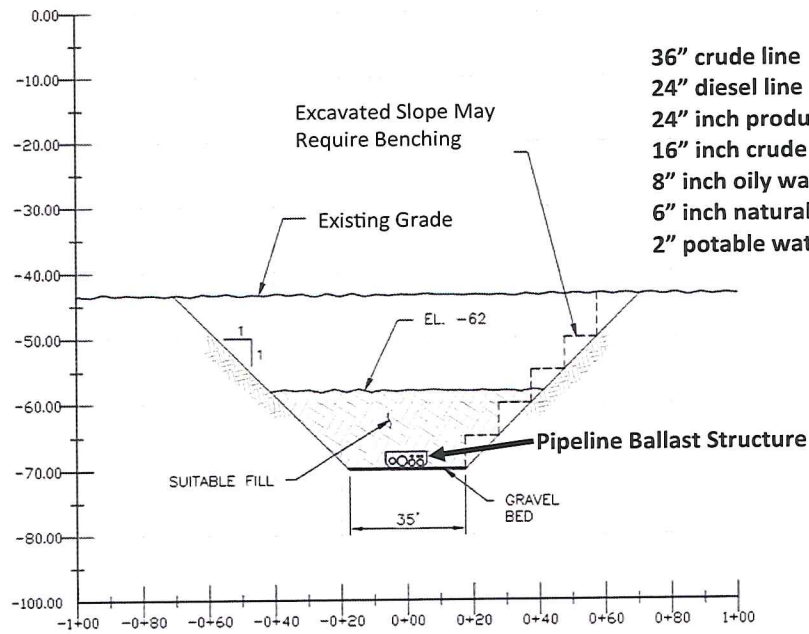


- 36" crude line
- 24" diesel line
- 24" inch products
- 16" inch crude transfer line
- 8" inch oily water line
- 6" inch natural gas line
- 2" potable water line
- Fiber optics and utility conduit

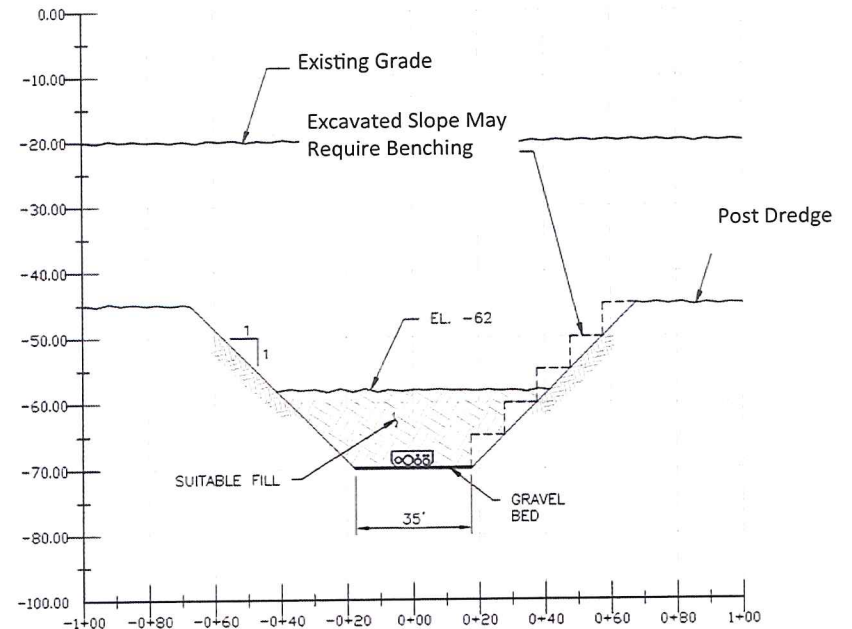
New cut dredge quantity for pipeline trench = 65,000 CY
 Mechanical and hydraulic dredging
 Dredge toe elevation -70 ft MLLW
 Suitable fill after pipeline installation = 15,000 cy

PIPE DREDGE LIMITS		
LOCATION	STATE PLANE COORDINATES (NAD83)	
	X	Y
①	E 3204012.69	N 13840081.81
②	E 3203976.67	N 13840075.12
③	E 3203553.63	N 13840880.47
④	E 3203569.70	N 13840924.92

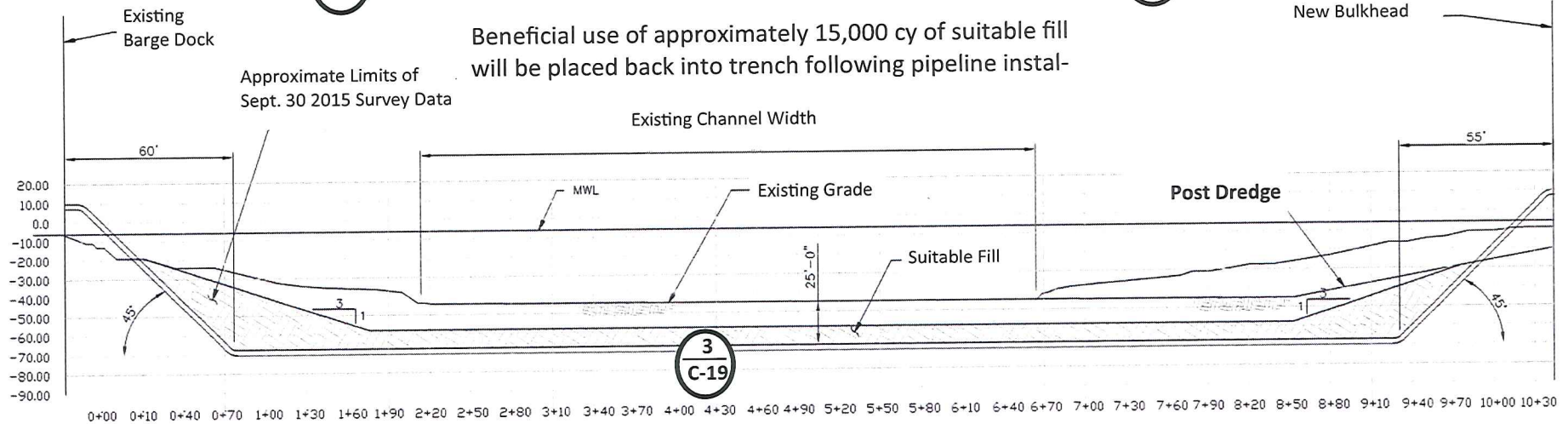
HFOTCO LLC
Proposed Ship Dock No.5
Harris County, Texas



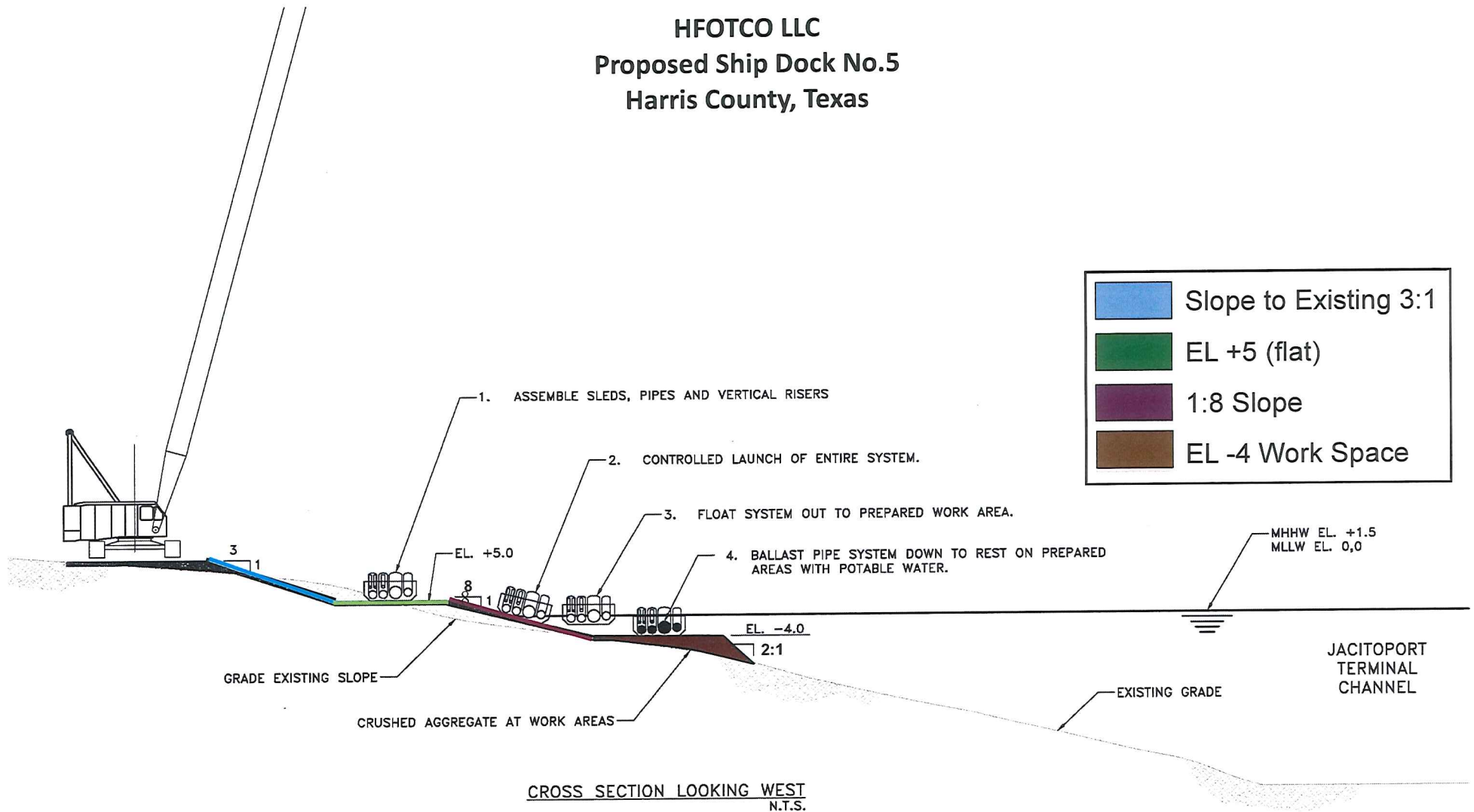
1
C-19
 CROSS SECTION
 1"=20'-0"



2
C-19
 CROSS SECTION
 1"=20'-0"

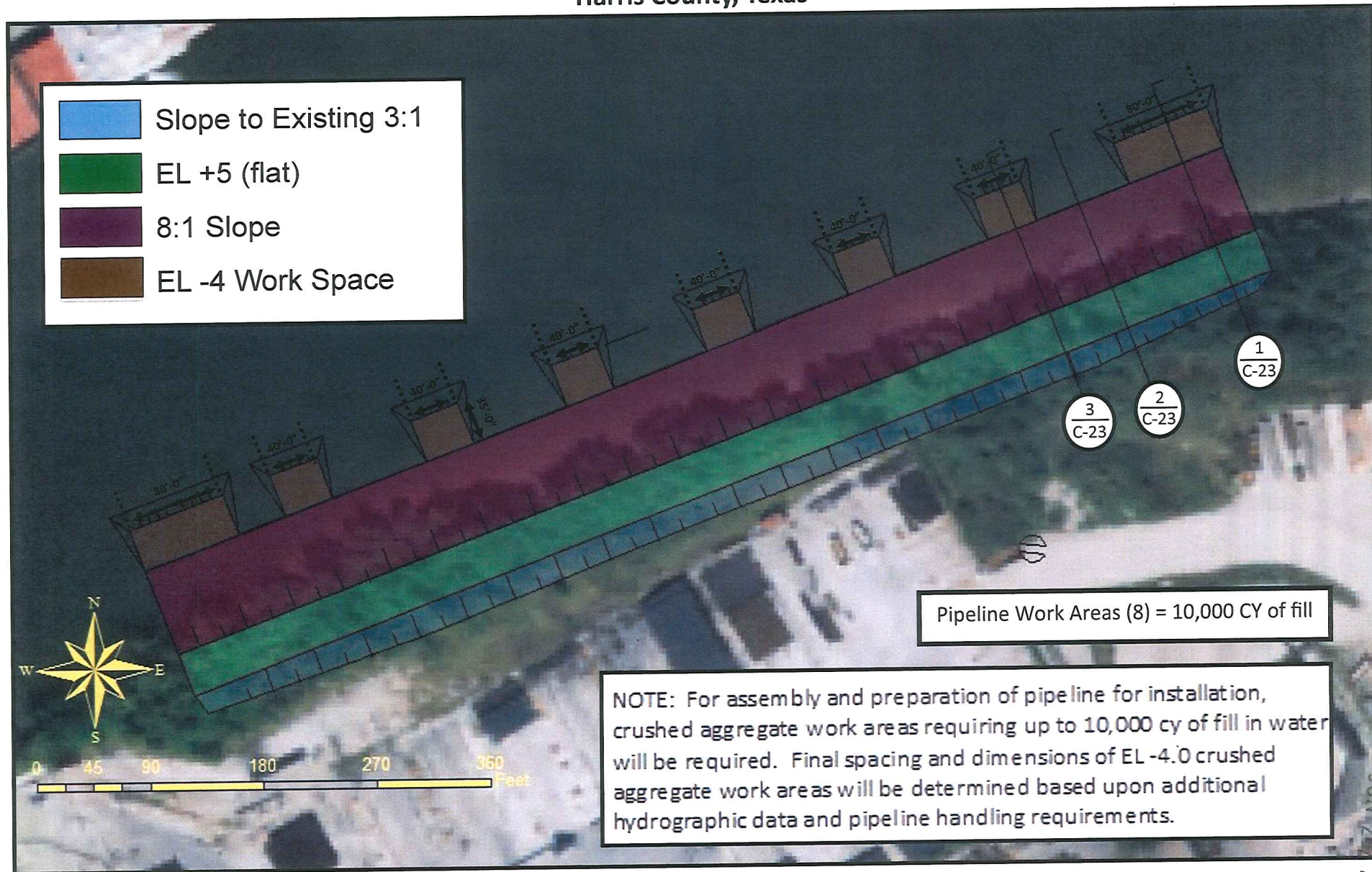


HFOTCO LLC
Proposed Ship Dock No.5
Harris County, Texas

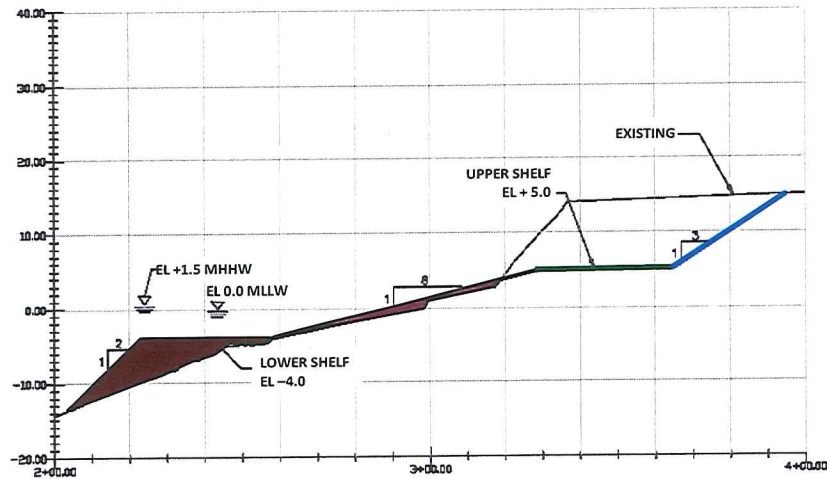


NOT SHOWN
 5. LIFT SYSTEM WITH WINCHES ON SECTIONAL BARGE.
 6. MOVE SYSTEM TO TRENCH.
 7. LOWER SYSTEM TO BOTTOM OF PREPARED TRENCH.

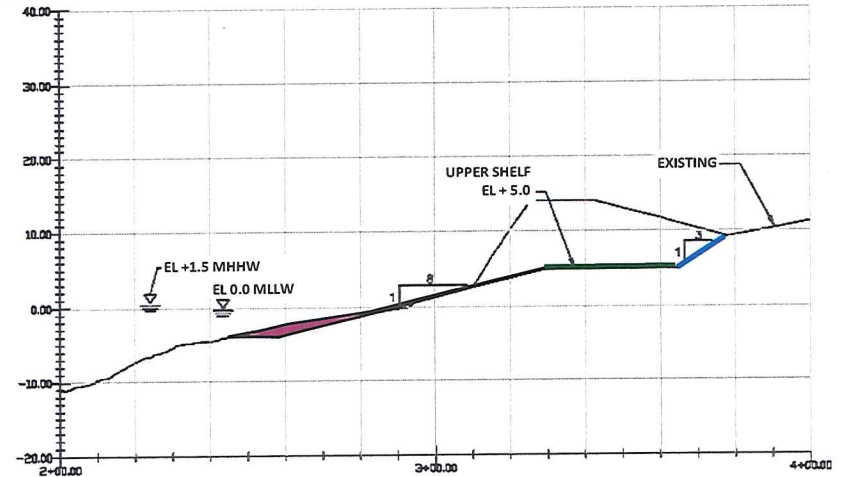
HFOTCO LLC
Proposed Ship Dock No.5
Harris County, Texas



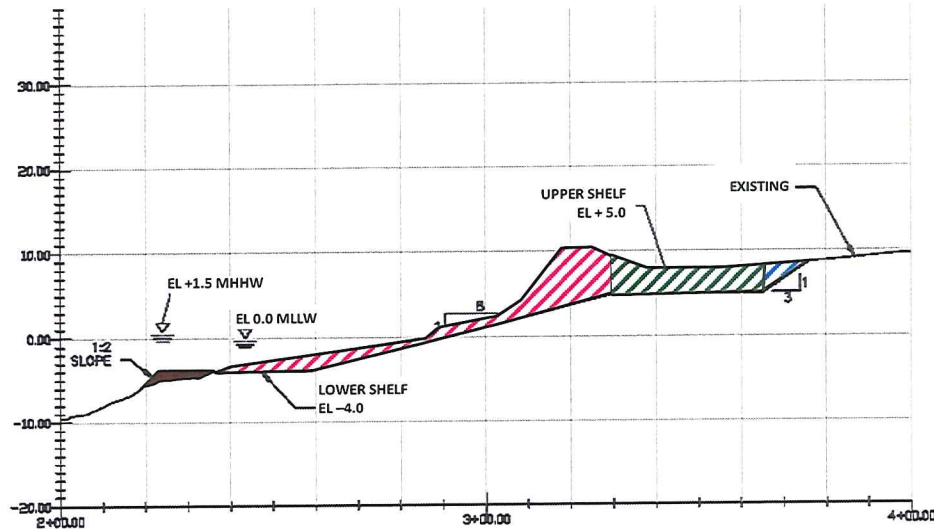
HFOTCO LLC
Proposed Ship Dock No.5
Harris County, Texas



1
C-22 CROSS SECTION
VERTICAL: 1"=10'-0"
HORIZONTAL: 1"=20'-0"



2
C-22 CROSS SECTION
VERTICAL: 1"=10'-0"
HORIZONTAL: 1"=20'-0"



3
C-23 CROSS SECTION
VERTICAL: 1"=10'-0"
HORIZONTAL: 1"=20'-0"

C-23