



**US Army Corps  
of Engineers**  
Philadelphia District

Wanamaker Building  
100 Penn Square East  
Philadelphia, PA 19107-3390  
ATTN: CENAP-OP-R

# Public Notice

Public Notice No.

**CENAP-OP-R- 2013-0067-46**

Date

**AUG 03 2015**

Application No.

File No.

In Reply Refer to:

**REGULATORY BRANCH**

This District has received an application for a Department of the Army permit pursuant to Section 404 of the Clean Water Act (33 U.S.C. 1344) and Section 10 of the River and Harbors Act of 1889 (33 U.S.C. 403).

The purpose of this notice is to solicit comments and recommendations from the public concerning issuance of a Department of the Army permit for the work described below.

**APPLICANT:** Sunoco Partners Marketing & Terminals, L.P. (SXL)

**AGENT:** S. T. Hudson Engineers, Inc.  
900 Dudley Avenue  
Cherry Hill, New Jersey 08002

**WATERWAY:** Delaware River

**LOCATION:** The proposed project site is located within and along the western shore of the Delaware River at River Mile 79.2, north of the Delaware state line, in Marcus Hook Borough, Delaware County, Pennsylvania.

**ACTIVITY:** The applicant proposes to modify the existing Dock 1A to allow for the on-loading of ethane, butane, and propane to marine vessels in association with the Sunoco Partners Marketing & Terminals, L.P. -Marcus Hook Mariner East 1 project. The work would include the A) demolition of the existing roadway, pipeway, concrete deck platform (including associated steel beams, cross bracings, and "H" piles), one (1) mooring dolphin (12.5' x 15') and associated piles, walkways to the breasting cells and mooring dolphin, and B) construction of a new approachway, roadway and pipeway, concrete deck platform (including associated steel beams, cross-bracings, and concrete-filled steel piles), gangway/crane tower, six (6) mooring dolphins (each 22' x 20' with 14 concrete-filled pilings), three (3) breasting/mooring dolphins (two (2) 21' x 21' and one (1) 21' x 16') with fenders and concrete-filled pilings, and walkway, a concrete containment sump with associated sump pipes, re-ringing of existing breasting cells with new steel sheet piling (each cell re-ringing includes placement of new mooring bollards, new fenders, concrete cap, new fill between old and new sheeting, and six (6) "H" piles), installation of new piping systems on top of the pier, and the installation of structural and fender piles. The demolition activity "Item A" above would be facilitated via waterborne equipment, including cranes mounted on barges and scows used for debris removal and new construction material delivery. Also, a spill boom will be deployed around the demolition area. The demolition involves the removal of two hundred eighteen (218) concrete pilings (1478 square feet of waterway bottom – Item

"A" above). The new construction (Item "B" above) requires the installation of one hundred twenty-nine (129) 16" diameter, 52 12.75" diameter, four (4) 20" diameter, and two hundred forty four (244) 24" diameter steel, concrete-filled pilings. All new work (including three (3) breasting/mooring dolphins, six (6) mooring dolphins, fender additions, cell re-ringing, platform decking, and containment sump) would result in a total of 21,009 square feet of new over water construction (63,256 square feet of structure removal and 84,265 square feet of new structure).

The total square footage of new structural piles would total 1001 square feet. The total fill volume resulting from the concrete piles would total 183.4 cubic yards. As well, re-ringing of the mooring cells would result in the discharge of 604 cubic yards of fill below 544 square feet of waterway below the high tide line. No dredging will be required for this activity.

**PURPOSE:** The applicant's stated purpose for the proposed dock rehabilitation and modifications is to allow for on-loading of propane, ethane, and butane and to support the need to berth vessels for distribution of such materials to local, regional, and international markets.

A preliminary review of this application indicates that the proposed work may affect listed species or their critical habitat pursuant to Section 7 of the Endangered Species Act as amended. Such species include threatened shortnose sturgeon (*Acipenser brevirostrum*) and Atlantic sturgeon (*Acipenser oxyrinchus oxyrinchus*). The applicant has stated that, to attenuate noise impacts to fisheries during pile driving, they would use vibratory hammer drivers where feasible and a cushion block with impact hammer drivers. The Corps of Engineers has made the determination that the project may affect, but is not likely to adversely affect, the shortnose or Atlantic sturgeons. Additionally, this office proposes to include a seasonal restriction of March 15 through June 30 to further minimize impacts to shortnose sturgeon and anadromous fisheries. These determinations may change as a result of consultation with the National Marine Fisheries Service. As the evaluation of this application continues, additional information may become available which could modify this preliminary determination.

The decision whether to issue a permit will be based on an evaluation of the activity's probable impact including its cumulative impacts on the public interest. The decision will reflect the national concern for both protection and utilization of important resources. The benefits which reasonably may be expected to accrue from the work must be balanced against its reasonably foreseeable detriments. All factors which may be relevant to the work will be considered including the cumulative effects thereof; among those are conservation, economics, aesthetics, general environmental concerns, wetlands, cultural values, fish and wildlife values, flood hazards, flood plain values, land use, navigation, shore erosion and accretion, recreation, water supply and conservation, water quality, energy needs, safety, food and fiber production, mineral needs and welfare of the people. A Department of the Army permit will be granted unless the District Engineer determines that it would be contrary to the public interest.

The Corps of Engineers is soliciting comments from the public; Federal, State, and local agencies and officials; Indian Tribes; and other interested parties in order to consider and evaluate the impacts of this proposed activity. Any comments received will be considered by the Corps of Engineers to determine whether to issue, modify, condition or deny a permit for this proposal. To make this decision, comments are used to assess impacts on endangered species, historic properties, water quality, general environmental effects, and the other public interest factors listed above. Comments are used in the preparation of an Environmental Assessment and/or an Environmental Impact Statement pursuant to the National Environmental Policy Act. Comments are also used to determine the need for a public hearing and to determine the overall public interest of the proposed activity. Comments on the proposed work should be submitted, in writing, within 15 days to the District Engineer, U.S. Army

Corps of Engineers, Philadelphia District, Wanamaker Building, 100 Penn Square East, Philadelphia, Pennsylvania 19107-3390.

Review of the National Register of Historic Places indicates that no registered properties are listed as located within the permit area of the work. However, historic properties eligible for listing on the National Register of Historic Places may be within the permit area. Further assessment and consultation with the SHPO and other consulting parties will be needed in order to evaluate potential impacts.

The Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), requires all Federal agencies to consult with the National Marine Fisheries Service on all actions, or proposed actions, permitted, funded or undertaken by the agency that may adversely affect Essential Fish Habitat (EFH). A preliminary review of the species listed in the "Guide to Essential Fish Habitat Designations in the Northeastern United States, Volume IV: New Jersey and Delaware", dated March 1999, indicates that the proposed work would not have a substantial adverse effect on any managed species. Although the project location is considered to be within the salinity "mixing zone" of the Delaware Bay/River, it does not experience salinity levels within the general habitat parameters for any managed species. However, several prey species of managed species (including winter flounder - *Pseudopleuronectes americanus*) may make use of this area.

Analysis of the Effects: Adverse effects to prey species of EFH may occur primarily as a result of the physical disturbance by the removal and installation of pilings. Significant cumulative impacts are not anticipated since the effects would be mostly temporary except for the actual physical removal and placement of pilings, and the effects would not be more than minimal. The site is not shellfish habitat. No substantial adverse effects on prey species are anticipated.

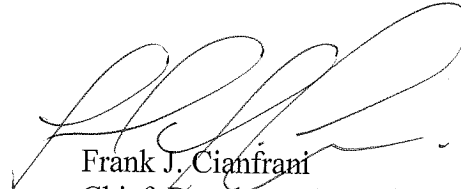
Corps of Engineers View: Based upon the above analysis, the Corps of Engineers has determined that the proposed project would not have a substantial adverse effect (i.e. not more than minimal adverse effect) on the above referenced species, or upon their life stages either individually, cumulatively or synergistically. This includes direct, indirect, site-specific and/or habitat-wide impacts. No conservation recommendations are proposed at this time to further minimize the adverse effect on these species.

In accordance with Section 307(c) of the Coastal Zone Management Act of 1972, applicants for Federal Licenses or Permits to conduct an activity affecting land or water uses in a State's coastal zone must provide certification that the activity complies with the State's Coastal Zone Management Program. The applicant has stated that the proposed activity complies with and will be conducted in a manner

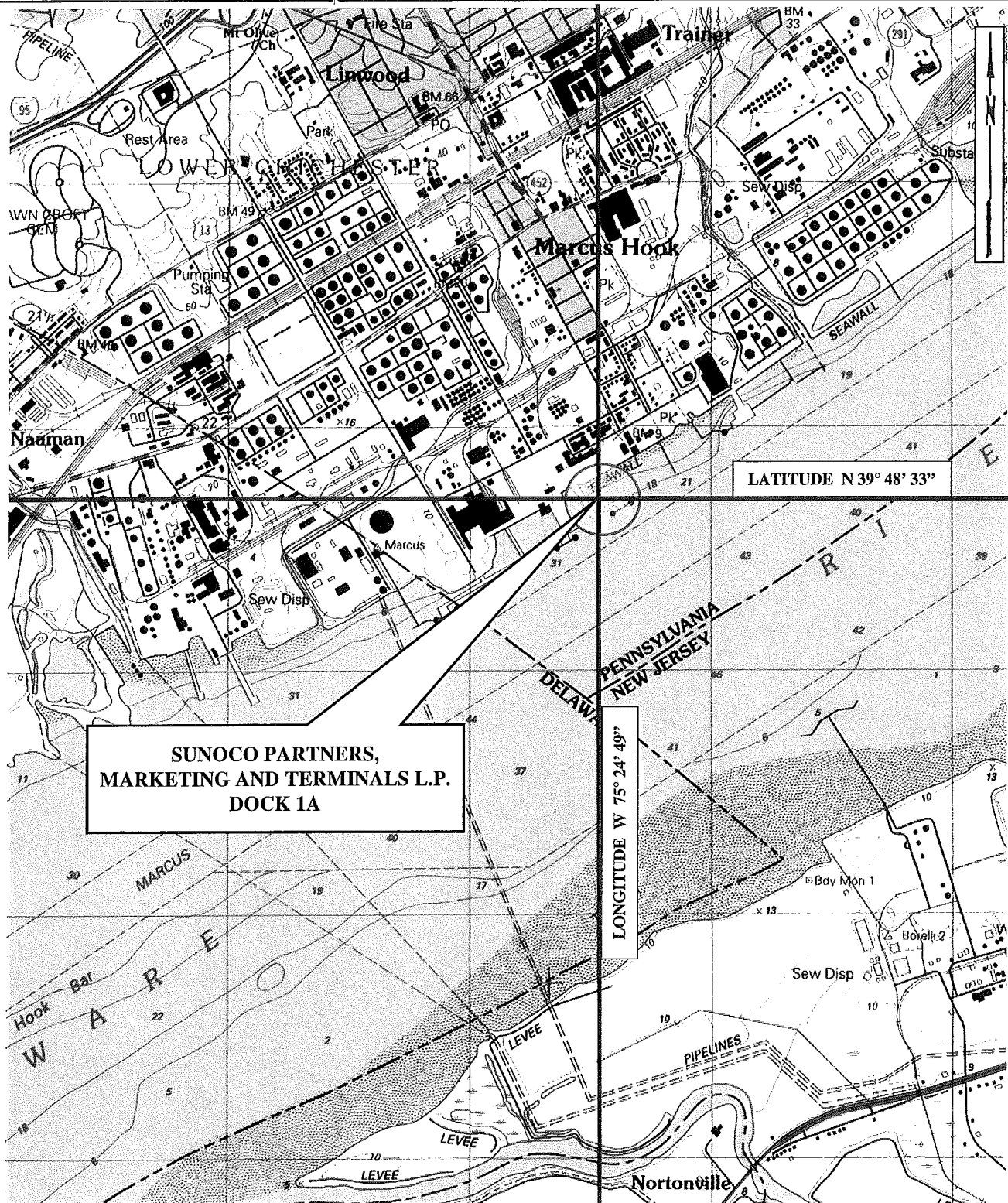
that is consistent with the approved State Coastal Zone Management (CZM) Program. No permit will be issued until the State has concurred with the applicant's certification or has waived its right to do so. Compensatory Mitigation: The applicant has stated that all possible measures to avoid and minimize impacts to waters of the U.S. have been implemented in the design of the dock modifications. Given the minimal impact (an increase in 0.035 acre of open waters that would be filled for steel piles) and temporary disturbance associated with the proposed scope of work as described above, the applicant states that compensatory mitigation pursuant to 33 C.F.R. Part 332 should not be required. As such, compensatory mitigation has not been proposed.

Any person may request, in writing, to the District Engineer, within the comment period specified in this notice, that a public hearing be held to consider this application. Requests for a public hearing shall state in writing, with particularity, the reasons for holding a public hearing.

Additional information concerning this permit application may be obtained by contacting David Caplan at 215-656-6731, by electronic mail to [David.J.Caplan@usace.army.mil](mailto:David.J.Caplan@usace.army.mil), or by writing to this office at the above address.



Frank J. Cianfrani  
Chief, Regulatory Branch



## PROJECT SITE LOCATION MAP

UNITED STATES GEOLOGIC SURVEY QUADRANGLE

MARCUS HOOK, PENNSYLVANIA

SCALE 1:24000

MARCUS HOOK INDUSTRIAL COMPLEX

H-7094-01



S. T. HUDSON ENGINEERS, INC.

### ADJACENT PROPERTY OWNERS:

- ① GENERAL CHEMICAL CORPORATION
- ② DEPARTMENT OF THE U.S. ARMY

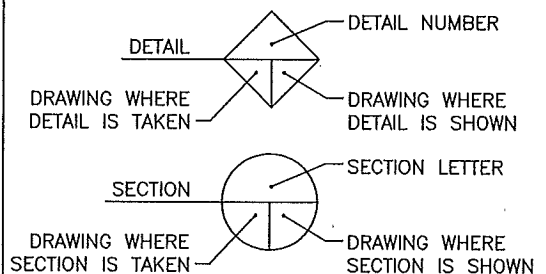
### DATUM CHART

HIGH TIDE LINE	+5.7
MEAN HIGH WATER	+5.3
MEAN LOW WATER	0.0

### OVERALL PLAN

SCALE: 1"=600'

### CROSS REFERENCE LEGEND



FILE No. Sa-2200  
CONTRACT No. H-7094-01

DATE 4/15/2015

SHEET No. 1 of 26

Rev.1 06-02-15

PROPOSED: REHABILITATION OF DOCK 1A

AT: MARCUS HOOK, PENNSYLVANIA

COUNTY OF: DELAWARE COUNTY

APPLICATION BY: SUNOCO PARTNERS MARKETING & TERMINALS LP

NOTE: FINAL DESIGN REQUIRED FOR CONSTRUCTION

**S.T. HUDSON ENGINEERS, INC.**  
PROFESSIONAL ENGINEERS & CONSULTANTS

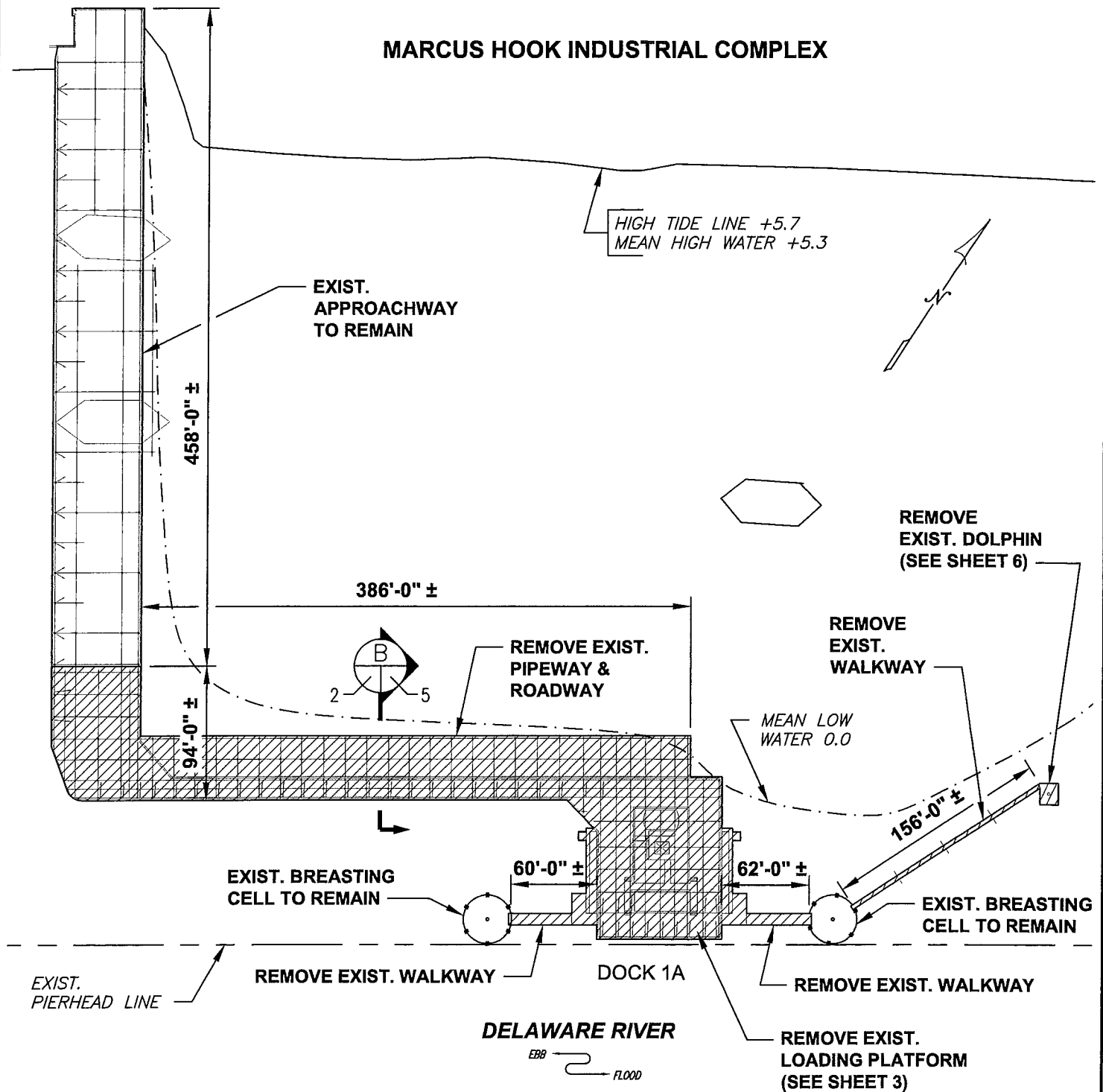


Phone No. 856-342-6600

900 Dudley Avenue  
Cherry Hill, NJ 08002

Fax No. 856-342-8323

# MARCUS HOOK INDUSTRIAL COMPLEX



## DEMOLITION PLAN

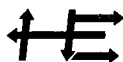
### DOCK 1A

SCALE: 1"=100'

FILE No. Sa-2200  
CONTRACT No. H-7094-01  
DATE 4/15/2015  
SHEET No. 2 of 26

NOTE: FINAL DESIGN REQUIRED FOR CONSTRUCTION

**S.T. HUDSON ENGINEERS, INC.**  
PROFESSIONAL ENGINEERS & CONSULTANTS

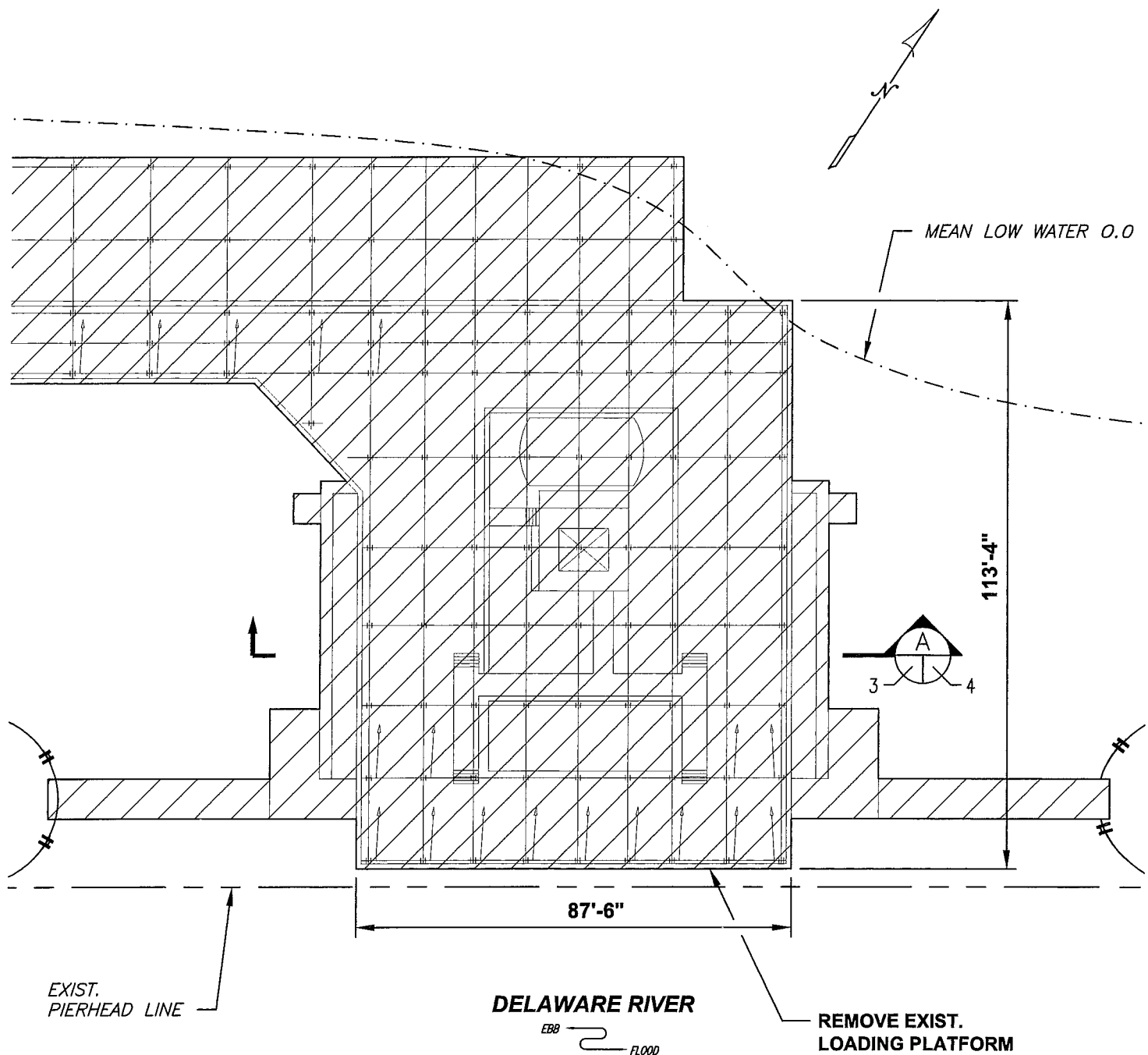


Phone No. 856-342-6600

900 Dudley Avenue  
Cherry Hill, NJ 08002

Fax No. 856-342-8323

PROPOSED:	REHABILITATION OF DOCK 1A
AT:	MARCUS HOOK, PENNSYLVANIA
COUNTY OF:	DELAWARE COUNTY
APPLICATION BY:	SUNOCO PARTNERS MARKETING & TERMINALS LP



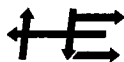
## DEMOLITION PLAN DOCK 1A - LOADING PLATFORM

SCALE: 1"=30'

FILE No. Sa-2200  
CONTRACT No. H-7094-01  
DATE 4/15/2015  
SHEET No. 3 of 26

NOTE: FINAL DESIGN REQUIRED FOR CONSTRUCTION

**S.T. HUDSON ENGINEERS, INC.**  
PROFESSIONAL ENGINEERS & CONSULTANTS



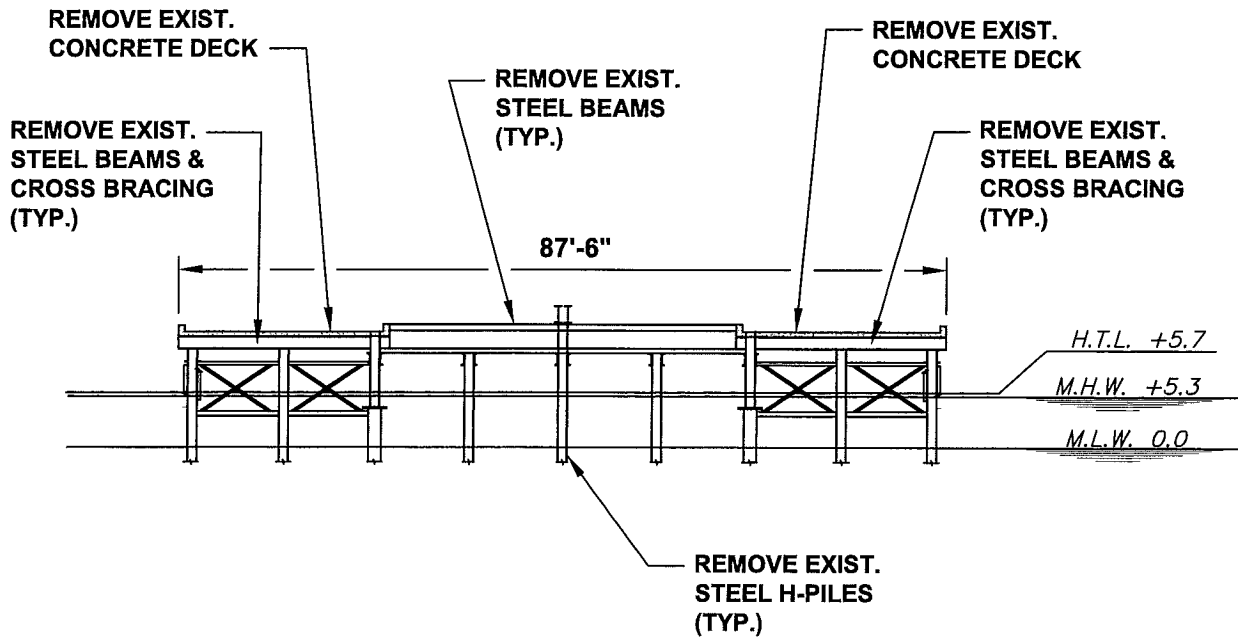
Phone No. 856-342-6600

900 Dudley Avenue  
Cherry Hill, NJ 08002

Fax No. 856-342-8323

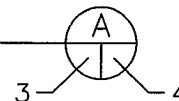
PROPOSED:	REHABILITATION OF DOCK 1A
AT:	MARCUS HOOK, PENNSYLVANIA
COUNTY OF:	DELAWARE COUNTY
APPLICATION BY:	SUNOCO PARTNERS MARKETING & TERMINALS LP





**DEMOLITION SECTION**  
**DOCK 1A - LOADING PLATFORM**

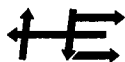
SCALE: 1"=20'



NOTE: FINAL DESIGN REQUIRED FOR CONSTRUCTION

**S.T. HUDSON ENGINEERS, INC.**

PROFESSIONAL ENGINEERS & CONSULTANTS



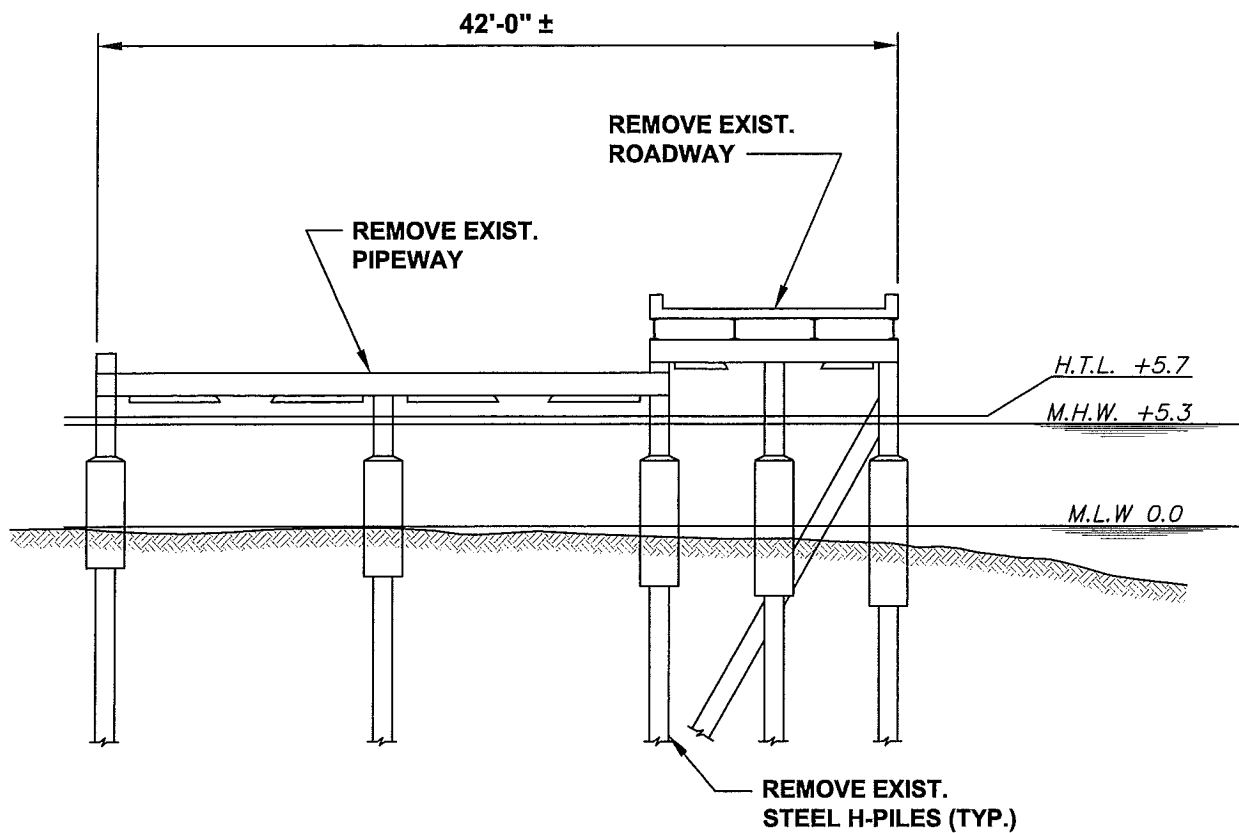
Phone No. 856-342-6600

900 Dudley Avenue  
Cherry Hill, NJ 08002

Fax No. 856-342-8323

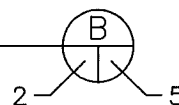
FILE No. Sa-2200  
 CONTRACT No. H-7094-01  
 DATE 4/15/2015  
 SHEET No. 4 of 26

PROPOSED:	REHABILITATION OF DOCK 1A
AT:	MARCUS HOOK, PENNSYLVANIA
COUNTY OF:	DELAWARE COUNTY
APPLICATION BY:	SUNOCO PARTNERS MARKETING & TERMINALS LP



**DEMOLITION SECTION  
PIPEWAY / ROADWAY**

SCALE: 1"=10'



NOTE: FINAL DESIGN REQUIRED FOR CONSTRUCTION

**S.T. HUDSON ENGINEERS, INC.**

PROFESSIONAL ENGINEERS & CONSULTANTS



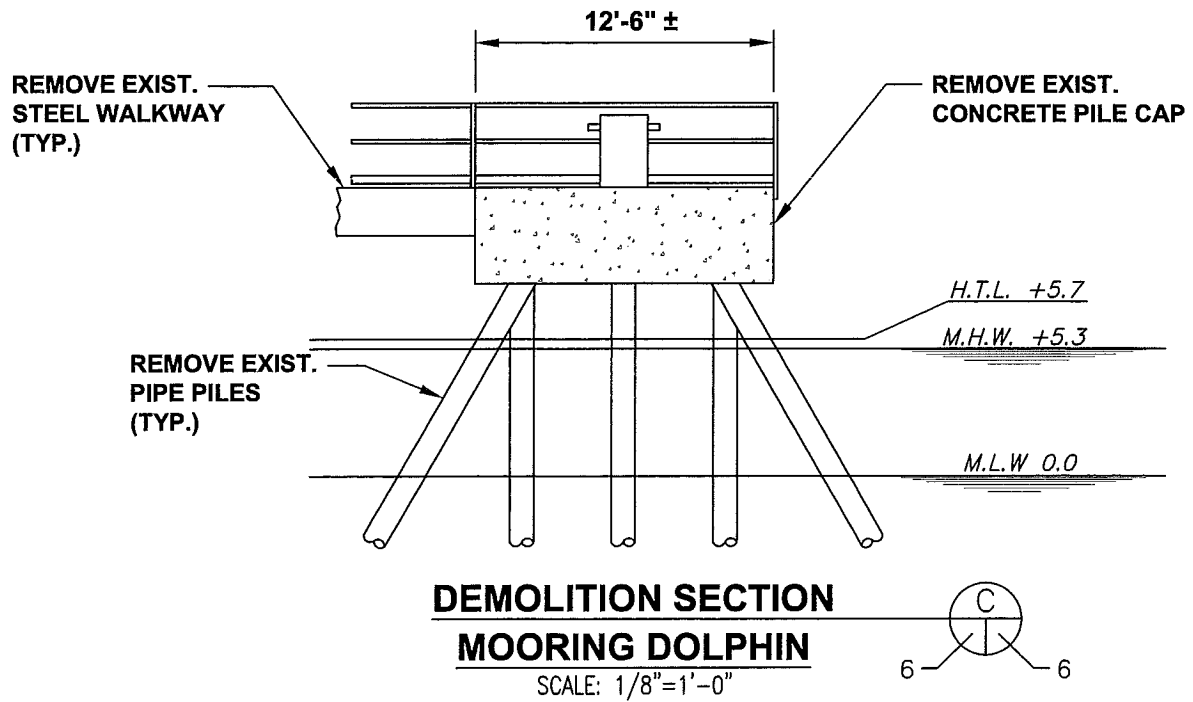
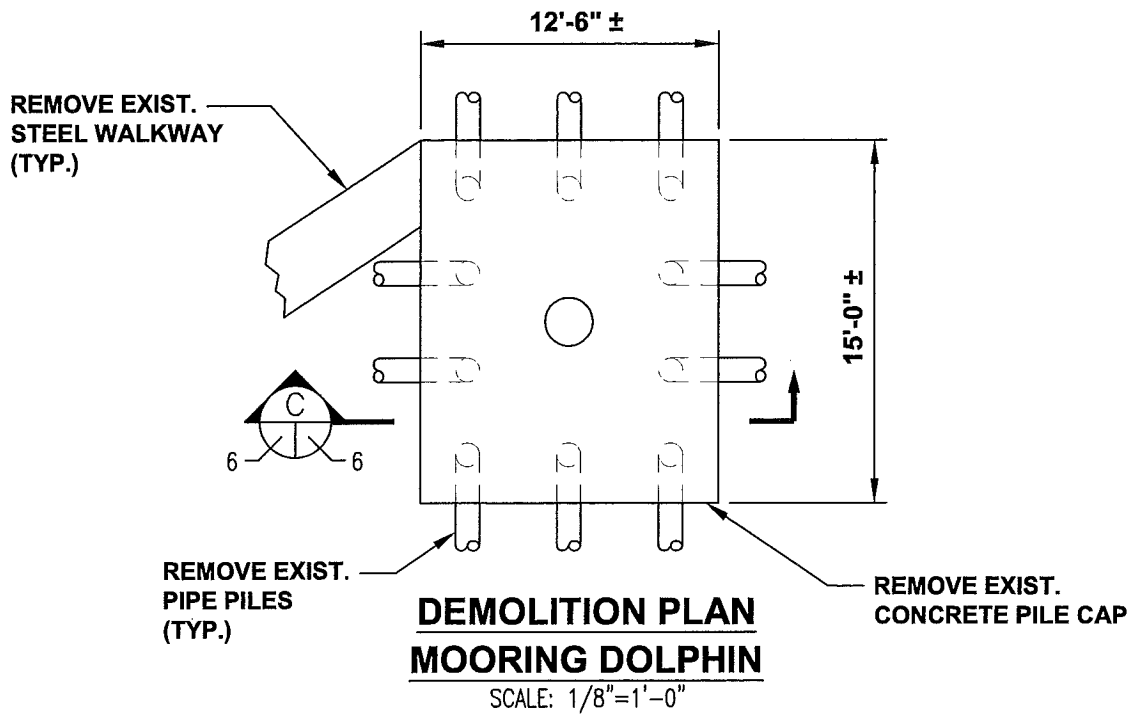
Phone No. 856-342-6600

900 Dudley Avenue  
Cherry Hill, NJ 08002

Fax No. 856-342-8323

FILE No. Sa-2200  
CONTRACT No. H-7094-01  
DATE 4/15/2015  
SHEET No. 5 of 26

PROPOSED:	REHABILITATION OF DOCK 1A
AT:	MARCUS HOOK, PENNSYLVANIA
COUNTY OF:	DELAWARE COUNTY
APPLICATION BY:	SUNOCO PARTNERS MARKETING & TERMINALS LP

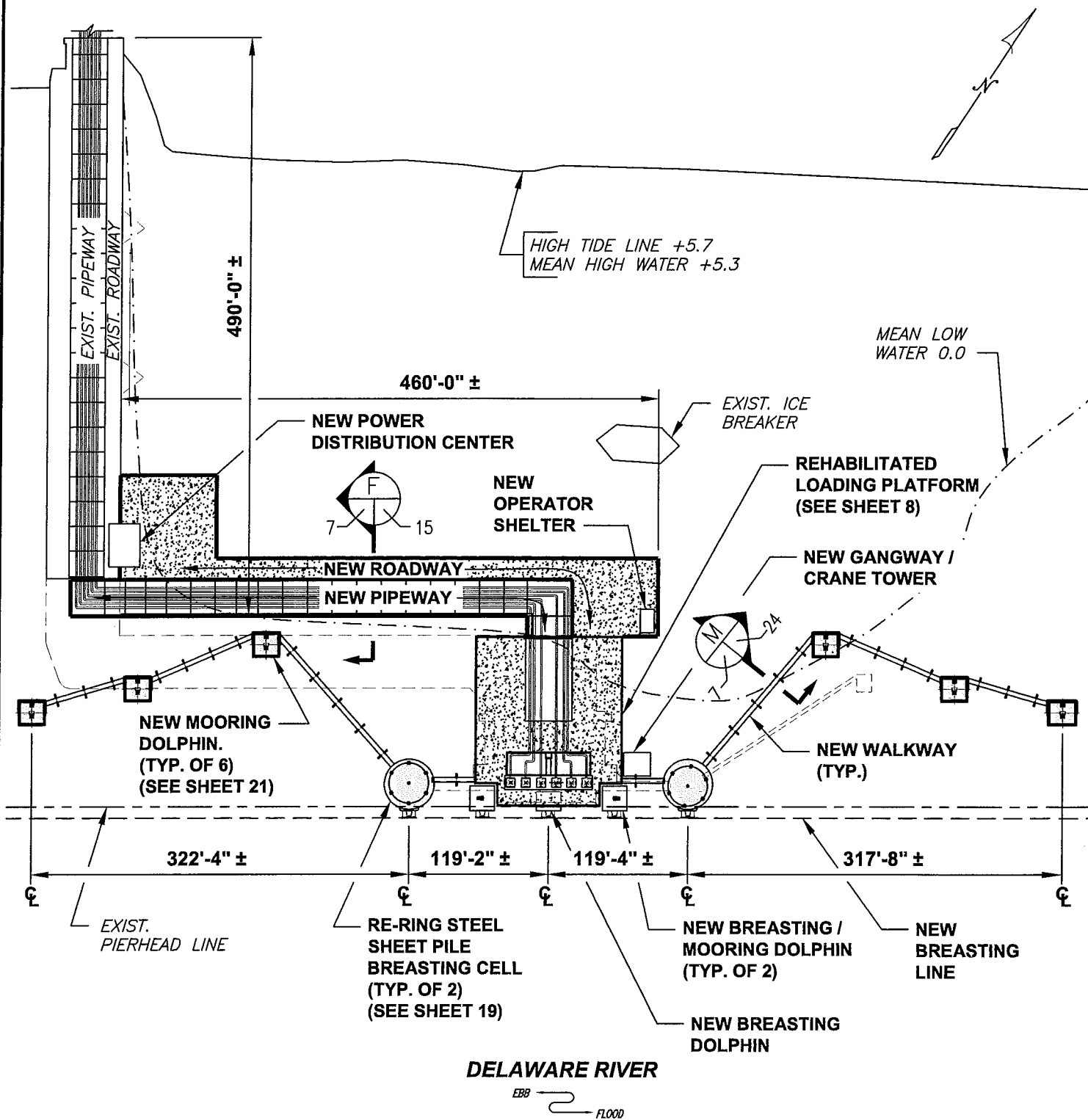


NOTE: FINAL DESIGN REQUIRED FOR CONSTRUCTION

**S.T. HUDSON ENGINEERS, INC.**  
PROFESSIONAL ENGINEERS & CONSULTANTS  
900 Dudley Avenue  
Cherry Hill, NJ 08002  
Phone No. 856-342-6600 Fax No. 856-342-8323

FILE No. Sa-2200  
CONTRACT No. H-7094-01  
DATE 4/15/2015  
SHEET No. 6 of 26

PROPOSED:	REHABILITATION OF DOCK 1A
AT:	MARCUS HOOK, PENNSYLVANIA
COUNTY OF:	DELAWARE COUNTY
APPLICATION BY:	SUNOCO PARTNERS MARKETING & TERMINALS LP



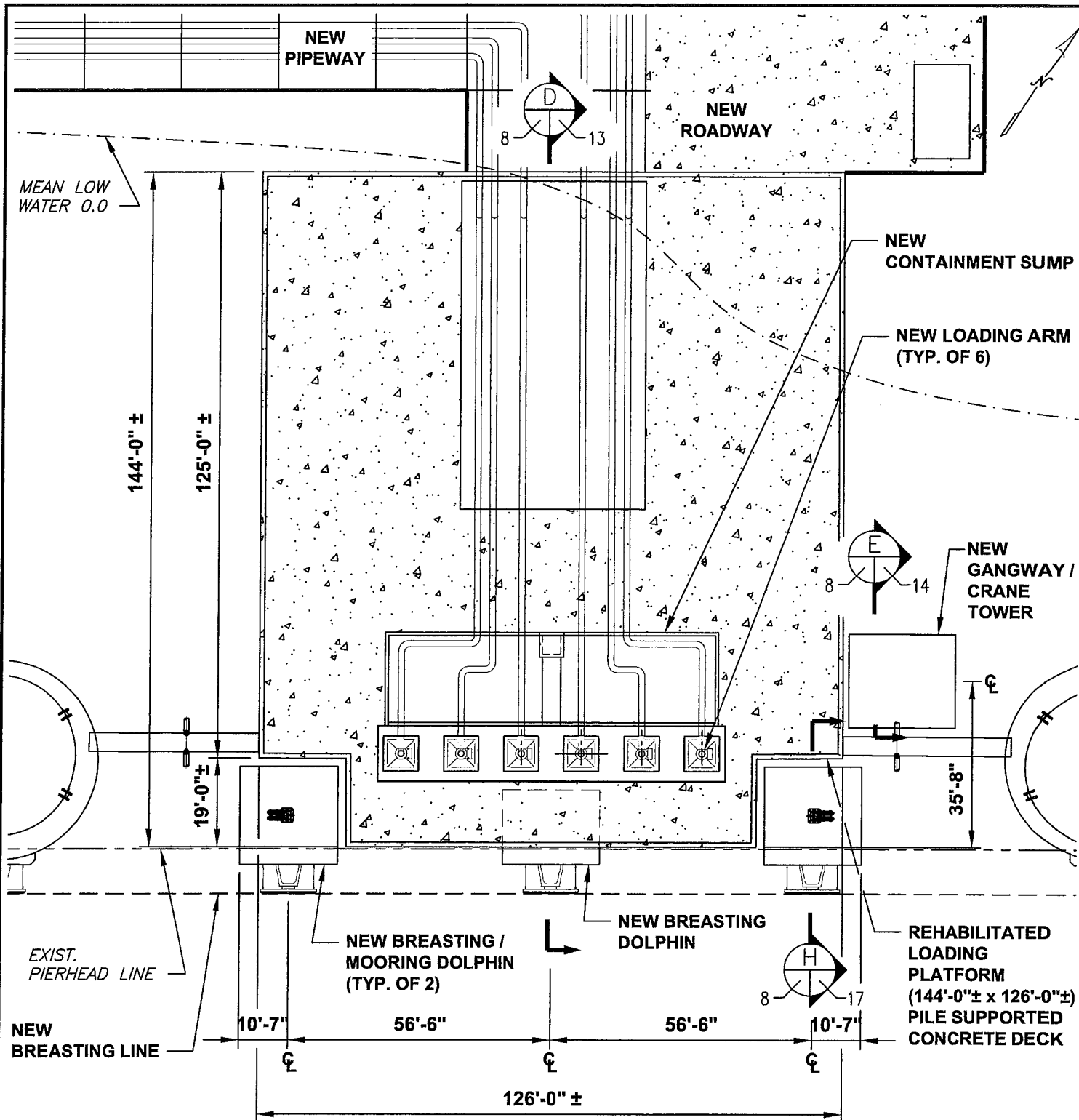
**REHABILITATION PLAN**  
**DOCK 1A**  
 SCALE: 1"=120'

NOTE: FINAL DESIGN REQUIRED FOR CONSTRUCTION

**S.T. HUDSON ENGINEERS, INC.**  
 PROFESSIONAL ENGINEERS & CONSULTANTS  
 900 Dudley Avenue  
 Cherry Hill, NJ 08002  
 Phone No. 856-342-6600 Fax No. 856-342-8323

FILE No. Sa-2200  
 CONTRACT No. H-7094-01  
 DATE 4/15/2015  
 SHEET No. 7 of 26

PROPOSED:	REHABILITATION OF DOCK 1A
AT:	MARCUS HOOK, PENNSYLVANIA
COUNTY OF:	DELAWARE COUNTY
APPLICATION BY:	SUNOCO PARTNERS MARKETING & TERMINALS LP

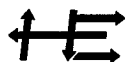


**DECK PLAN**  
**DOCK 1A - REHABILITATED**  
**LOADING PLATFORM**

SCALE: 1"=30'

NOTE: FINAL DESIGN REQUIRED FOR CONSTRUCTION

**S.T. HUDSON ENGINEERS, INC.**  
 PROFESSIONAL ENGINEERS & CONSULTANTS



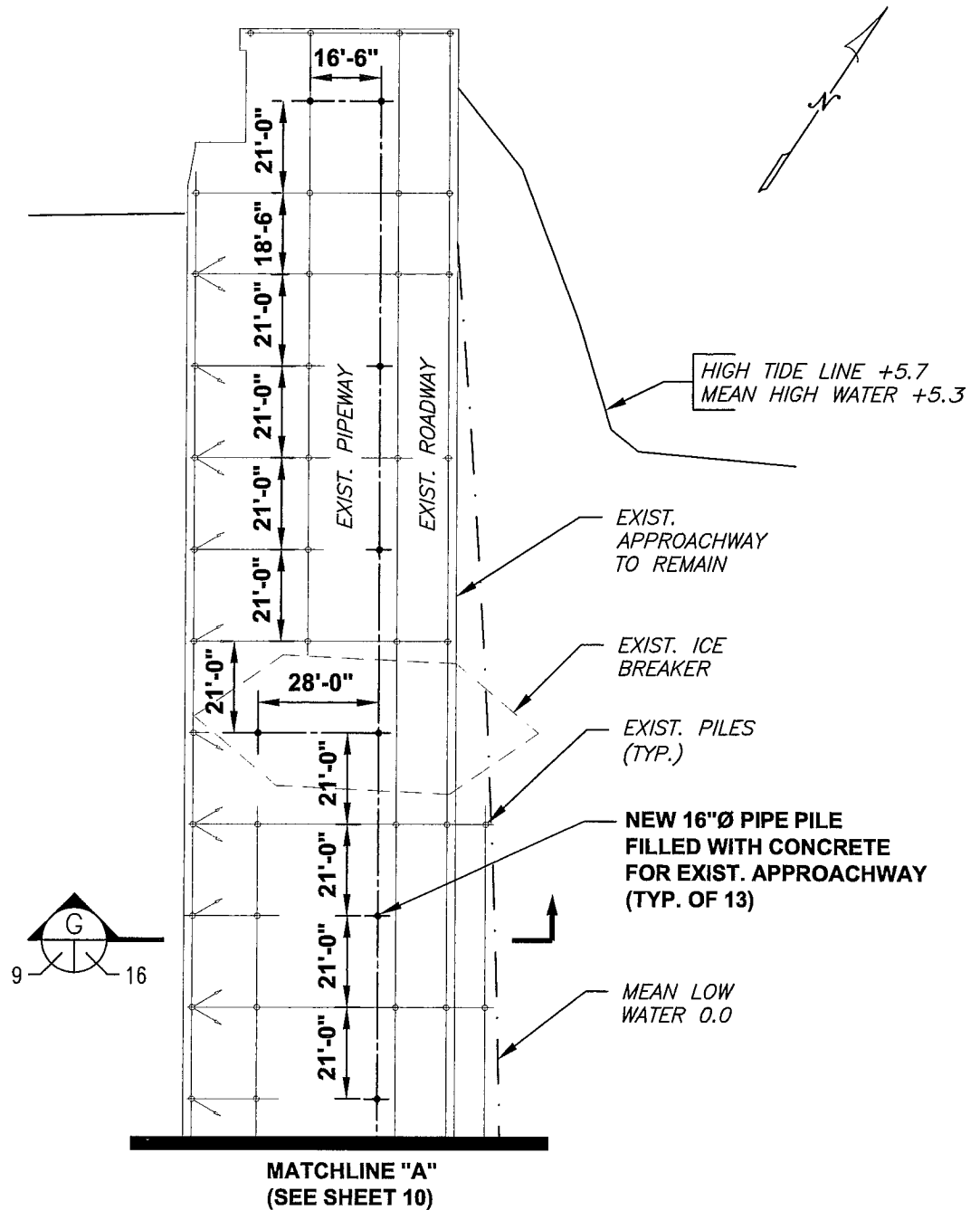
Phone No. 856-342-6600

900 Dudley Avenue  
 Cherry Hill, NJ 08002

Fax No. 856-342-8323

FILE No. Sa-2200  
 CONTRACT No. H-7094-01  
 DATE 4/15/2015  
 SHEET No. 8 of 26

PROPOSED:	REHABILITATION OF DOCK 1A
AT:	MARCUS HOOK, PENNSYLVANIA
COUNTY OF:	DELAWARE COUNTY
APPLICATION BY:	SUNOCO PARTNERS MARKETING & TERMINALS LP



## NEW PILES AT EXIST. APPROACHWAY - PILE PLAN

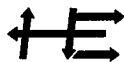
### DOCK 1A

SCALE: 1"=40'

NOTE: FINAL DESIGN REQUIRED FOR CONSTRUCTION

**S.T. HUDSON ENGINEERS, INC.**

PROFESSIONAL ENGINEERS & CONSULTANTS



Phone No. 856-342-6600

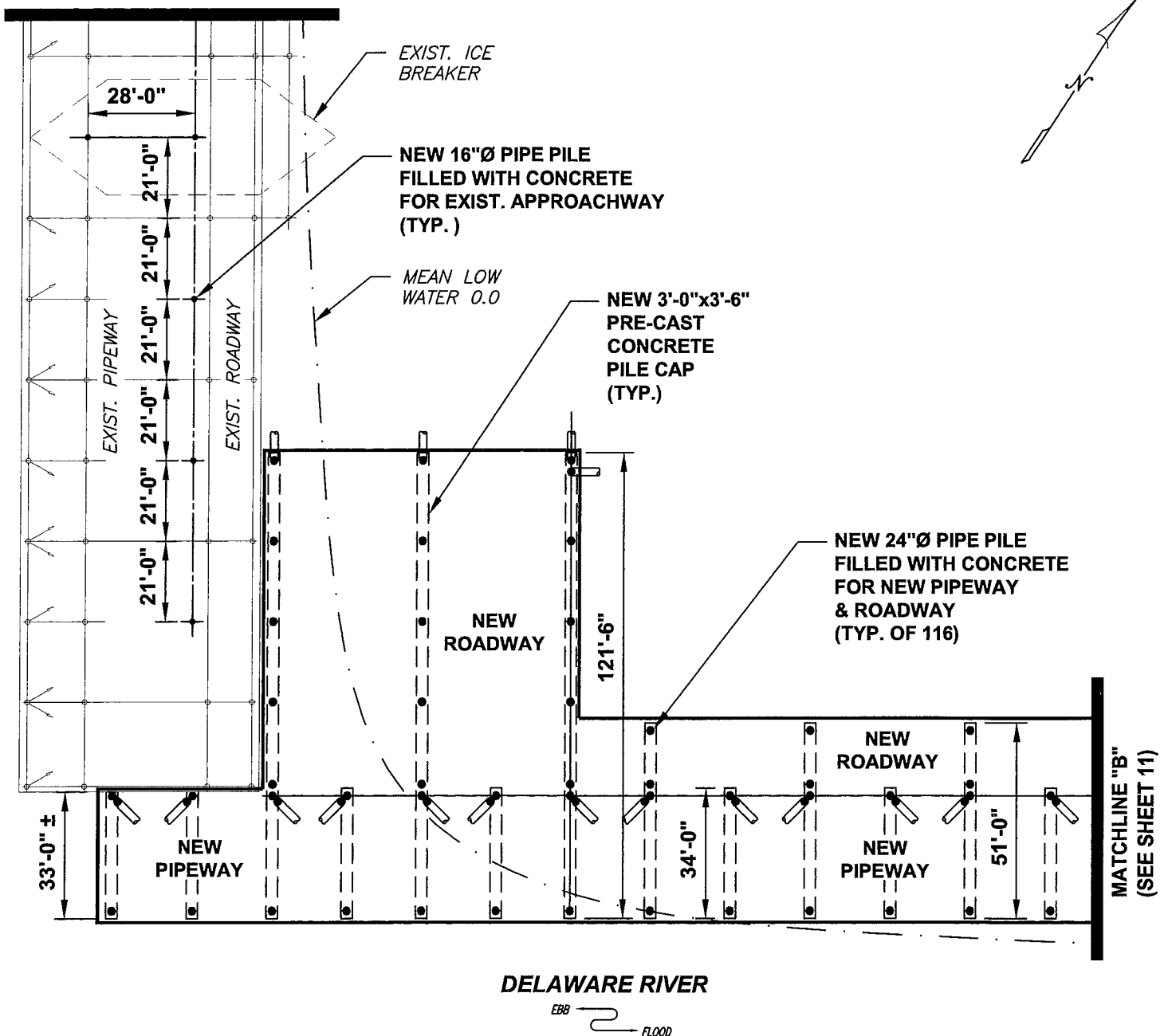
900 Dudley Avenue  
Cherry Hill, NJ 08002

Fax No. 856-342-8323

FILE No. Sa-2200  
CONTRACT No. H-7094-01  
DATE 4/15/2015  
SHEET No. 9 of 26

PROPOSED:	REHABILITATION OF DOCK 1A
AT:	MARCUS HOOK, PENNSYLVANIA
COUNTY OF:	DELAWARE COUNTY
APPLICATION BY:	SUNOCO PARTNERS MARKETING & TERMINALS LP

**MATCHLINE "A"**  
(SEE SHEET 9)



# **EXIST. APPROACHWAY AND NEW PIPEWAY & ROADWAY - PILE PLAN**

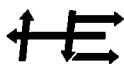
## **DOCK 1A**

SCALE: 1"=40'

FILE No. Sa-2200  
CONTRACT No. H-7094-01  
DATE 4/15/2015  
SHEET No. 10 of 26

NOTE: FINAL DESIGN REQUIRED FOR CONSTRUCTION

**S.T. HUDSON ENGINEERS, INC.**  
PROFESSIONAL ENGINEERS & CONSULTANTS

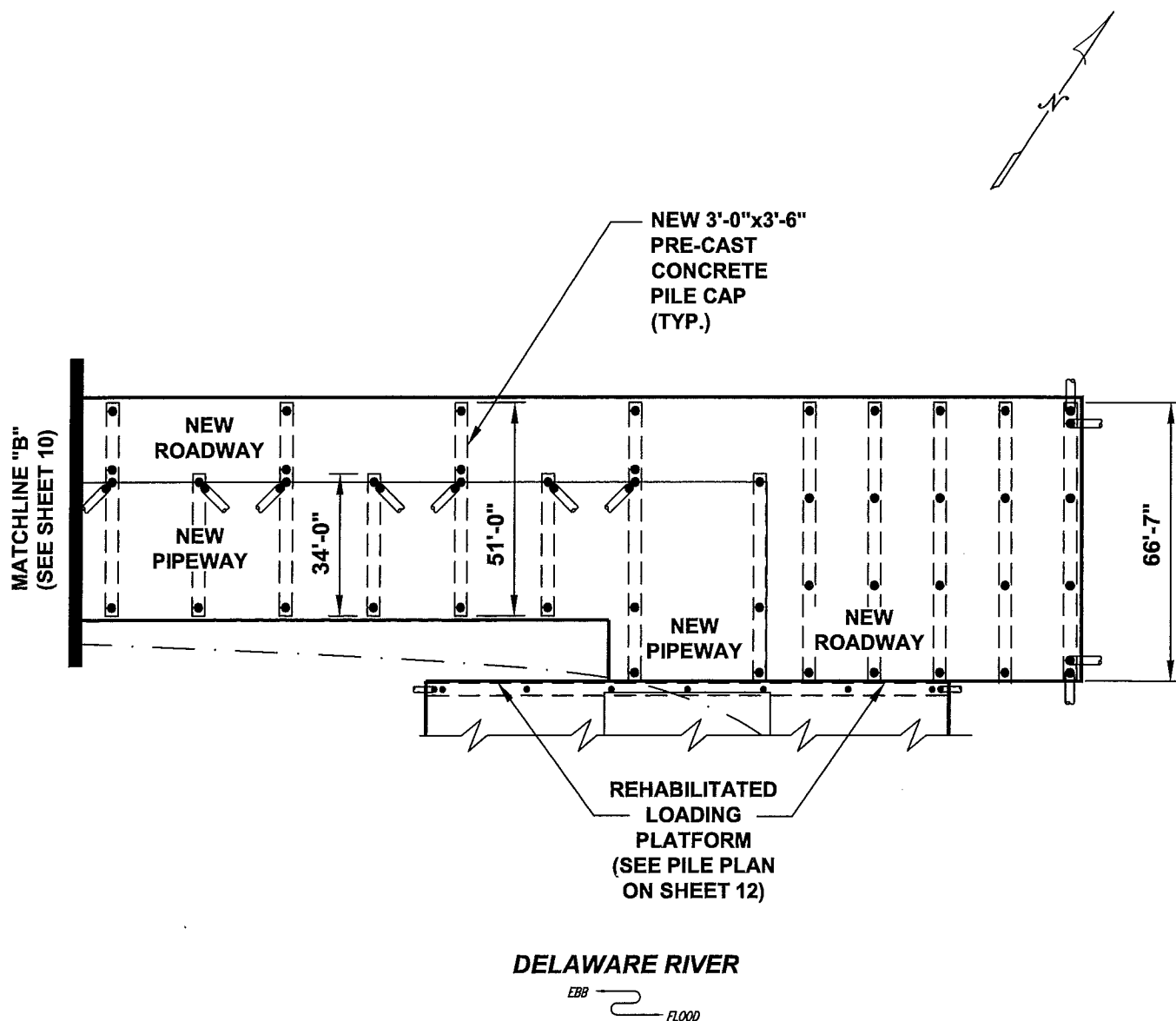


Phone No. 856-342-6600

900 Dudley Avenue  
Cherry Hill, NJ 08002

Fax No. 856-342-8323

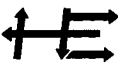
PROPOSED:	REHABILITATION OF DOCK 1A
AT:	MARCUS HOOK, PENNSYLVANIA
COUNTY OF:	DELAWARE COUNTY
APPLICATION BY:	SUNOCO PARTNERS MARKETING & TERMINALS LP



**NEW PIPEWAY & ROADWAY - PILE PLAN**  
**DOCK 1A**  
 SCALE: 1"=40'

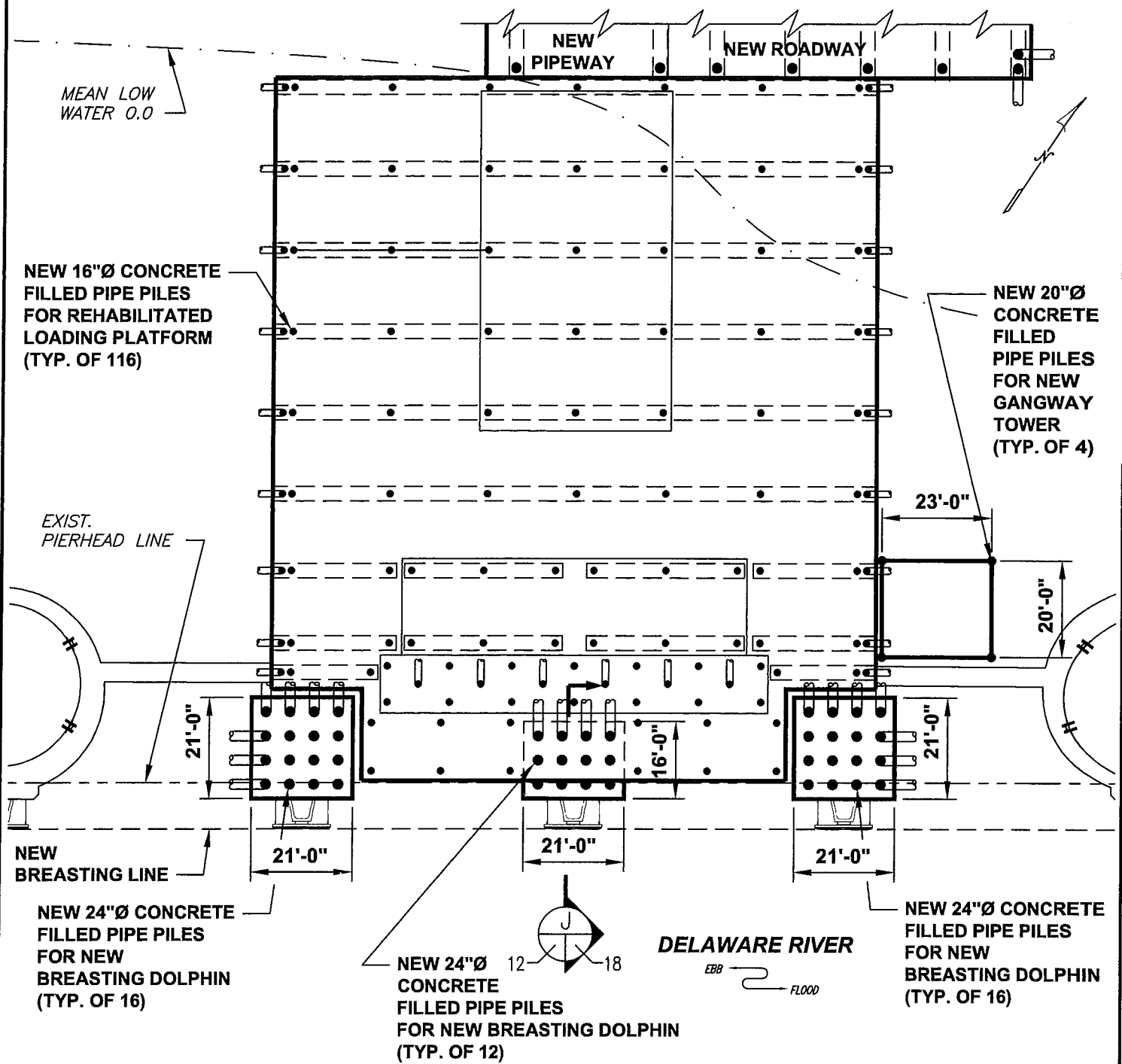
FILE No. Sa-2200  
 CONTRACT No. H-7094-01  
 DATE 4/15/2015  
 SHEET No. 11 of 26

NOTE: FINAL DESIGN REQUIRED FOR CONSTRUCTION

**S.T. HUDSON ENGINEERS, INC.**  
 PROFESSIONAL ENGINEERS & CONSULTANTS  
  
 900 Dudley Avenue  
 Cherry Hill, NJ 08002  
 Phone No. 856-342-6600 Fax No. 856-342-8323

PROPOSED:	REHABILITATION OF DOCK 1A
AT:	MARCUS HOOK, PENNSYLVANIA
COUNTY OF:	DELAWARE COUNTY
APPLICATION BY:	SUNOCO PARTNERS MARKETING & TERMINALS LP





## REHABILITATED LOADING PLATFORM & NEW BREASTING DOLPHINS - PILE PLAN

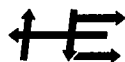
### DOCK 1A

SCALE: 1"=30'

FILE No. Sa-2200  
CONTRACT No. H-7094-01  
DATE 4/15/2015  
SHEET No. 12 of 26

NOTE: FINAL DESIGN REQUIRED FOR CONSTRUCTION

**S.T. HUDSON ENGINEERS, INC.**  
PROFESSIONAL ENGINEERS & CONSULTANTS

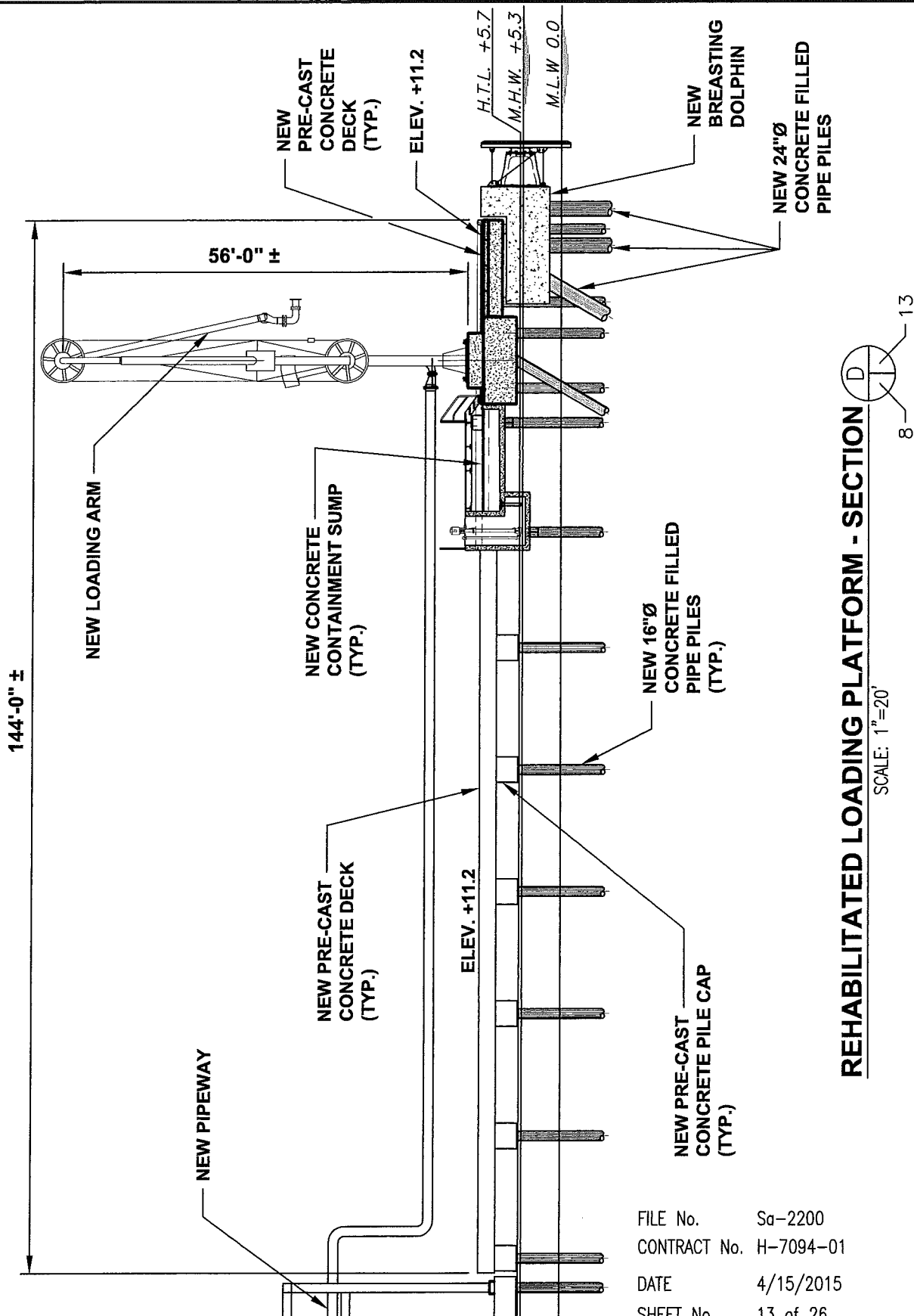


Phone No. 856-342-6600

900 Dudley Avenue  
Cherry Hill, NJ 08002

Fax No. 856-342-8323

PROPOSED:	REHABILITATION OF DOCK 1A
AT:	MARCUS HOOK, PENNSYLVANIA
COUNTY OF:	DELAWARE COUNTY
APPLICATION BY:	SUNOCO PARTNERS MARKETING & TERMINALS LP

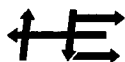


# REHABILITATED LOADING PLATFORM - SECTION

NOTE: FINAL DESIGN REQUIRED FOR CONSTRUCTION

**S.T. HUDSON ENGINEERS, INC.**

PROFESSIONAL ENGINEERS & CONSULTANTS



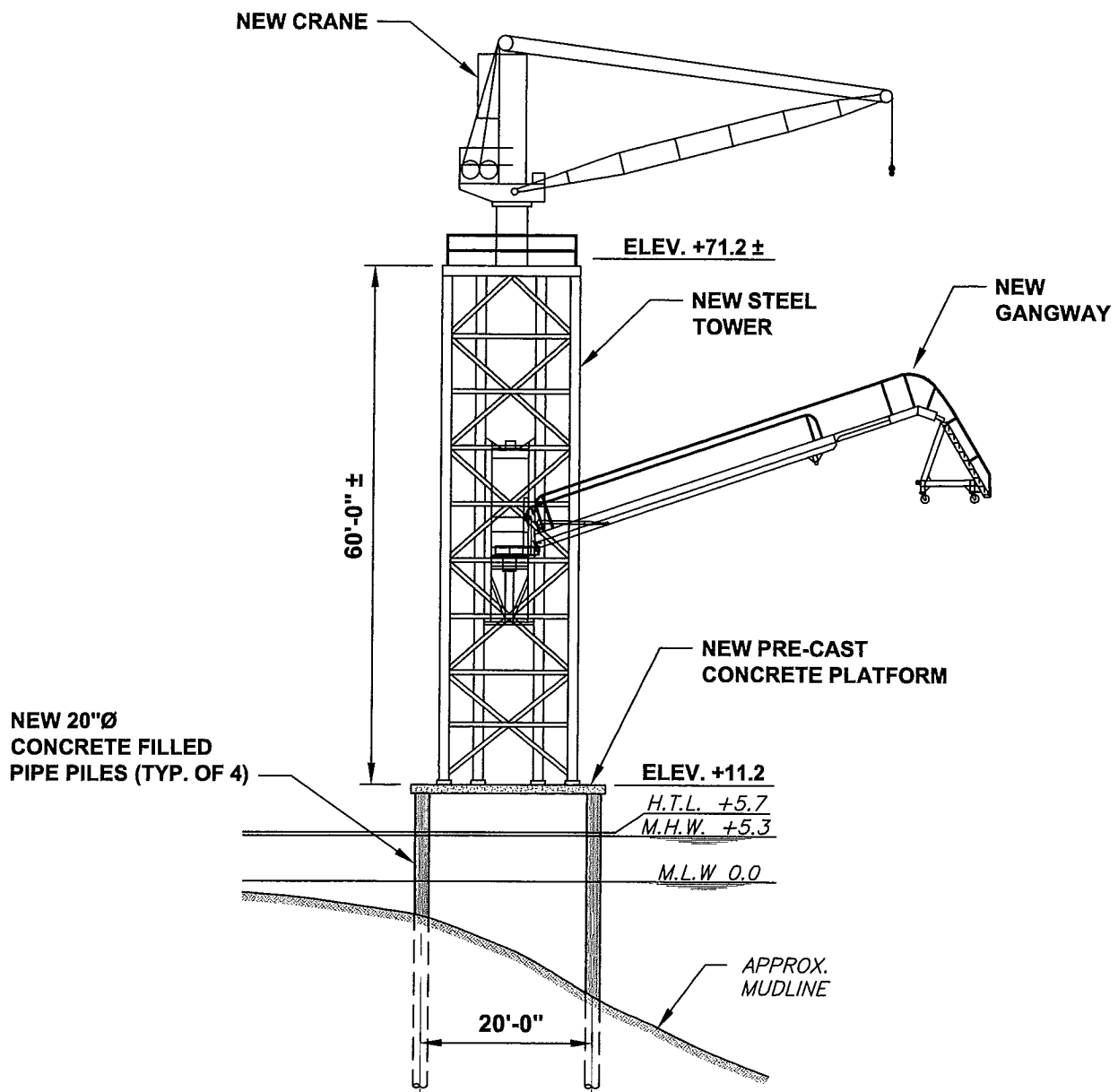
Phone No. 856-342-6600

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Fax No. 856-342-8323

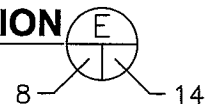
FILE No. Sa-2200  
CONTRACT No. H-7094-01  
DATE 4/15/2015  
SHEET No. 13 of 26

PROPOSED:	REHABILITATION OF DOCK 1A
AT:	MARCUS HOOK, PENNSYLVANIA
COUNTY OF:	DELAWARE COUNTY
APPLICATION BY:	SUNOCO PARTNERS MARKETING & TERMINALS LP

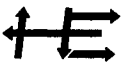


## NEW GANGWAY /CRANE TOWER - SECTION

SCALE: 1"=20'

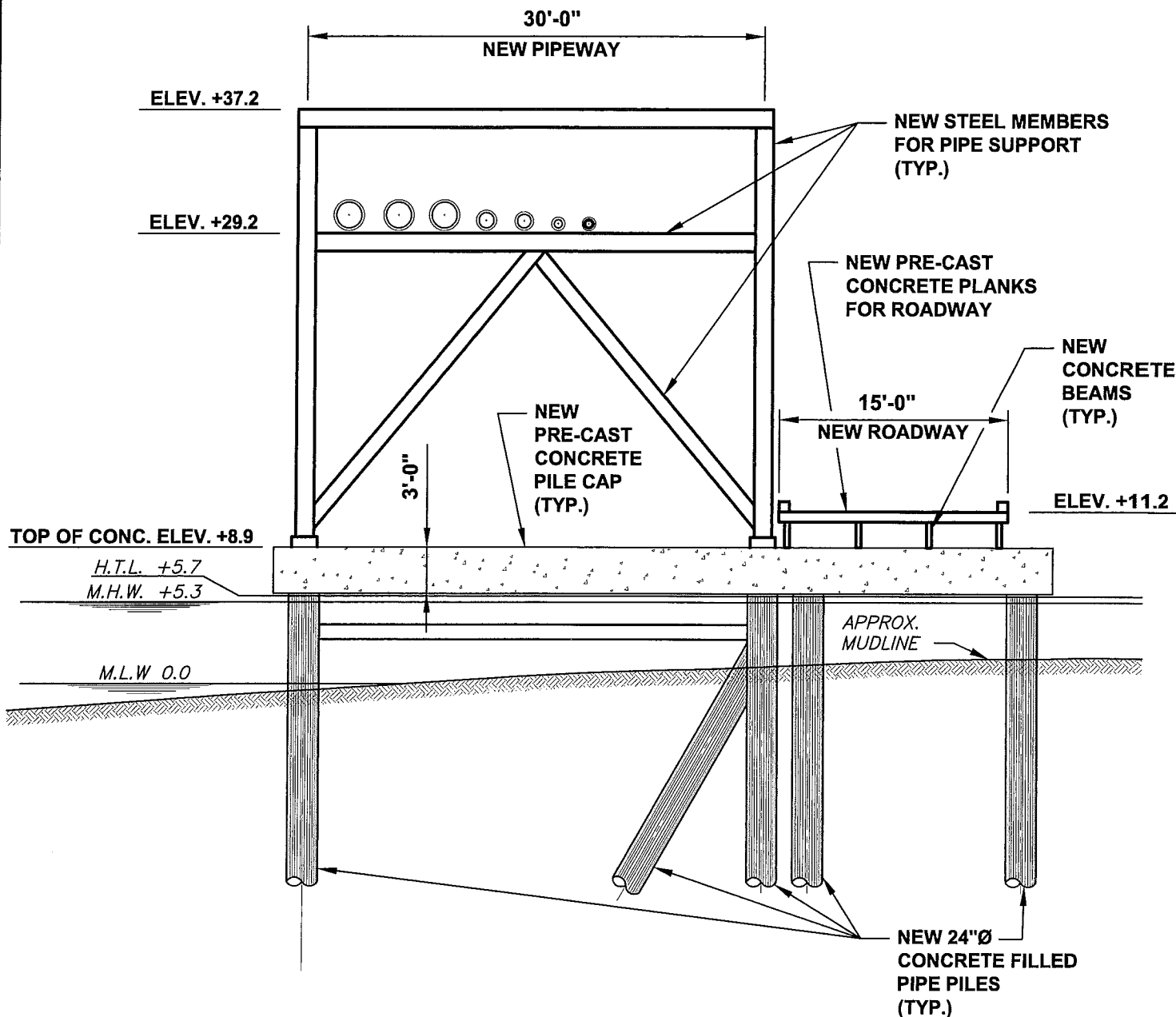


NOTE: FINAL DESIGN REQUIRED FOR CONSTRUCTION

**S.T. HUDSON ENGINEERS, INC.**  
 PROFESSIONAL ENGINEERS & CONSULTANTS  
  
 900 Dudley Avenue  
 Cherry Hill, NJ 08002  
 Phone No. 856-342-6600 Fax No. 856-342-8323

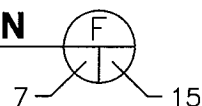
FILE No. Sa-2200  
 CONTRACT No. H-7094-01  
 DATE 4/15/2015  
 SHEET No. 14 of 26

PROPOSED:	REHABILITATION OF DOCK 1A
AT:	MARCUS HOOK, PENNSYLVANIA
COUNTY OF:	DELAWARE COUNTY
APPLICATION BY:	SUNOCO PARTNERS MARKETING & TERMINALS LP



## NEW PIPEWAY & ROADWAY SECTION

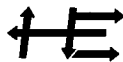
SCALE: 1"=10'



NOTE: FINAL DESIGN REQUIRED FOR CONSTRUCTION

**S.T. HUDSON ENGINEERS, INC.**

PROFESSIONAL ENGINEERS & CONSULTANTS



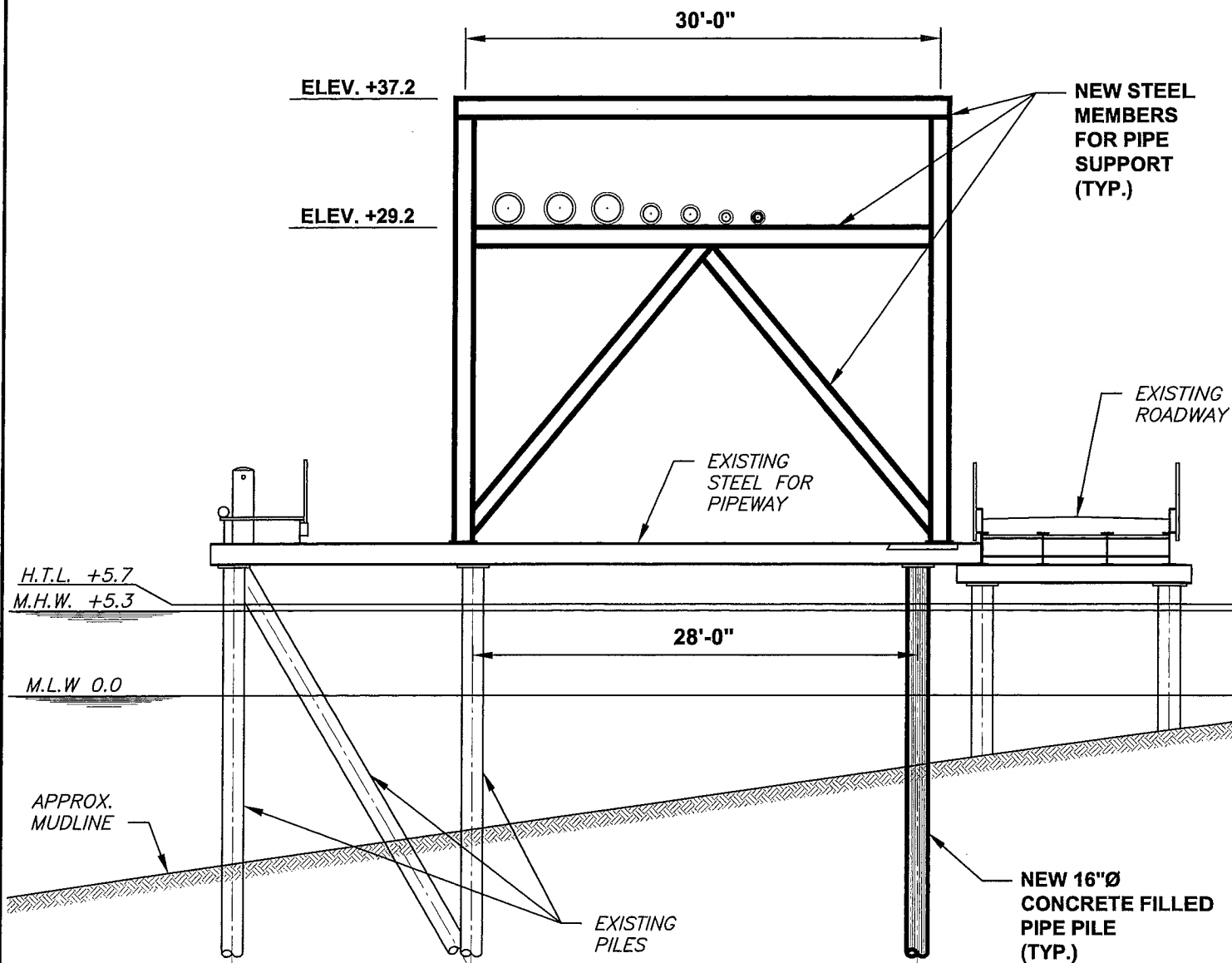
Phone No. 856-342-6600

900 Dudley Avenue  
Cherry Hill, NJ 08002

Fax No. 856-342-8323

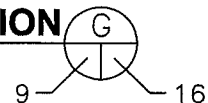
FILE No. Sα-2200  
CONTRACT No. H-7094-01  
DATE 4/15/2015  
SHEET No. 15 of 26

PROPOSED:	REHABILITATION OF DOCK 1A
AT:	MARCUS HOOK, PENNSYLVANIA
COUNTY OF:	DELAWARE COUNTY
APPLICATION BY:	SUNOCO PARTNERS MARKETING & TERMINALS LP



## NEW PILES & PIPEWAY AT EXISTING APPROACHWAY - SECTION

SCALE: 1"=10'

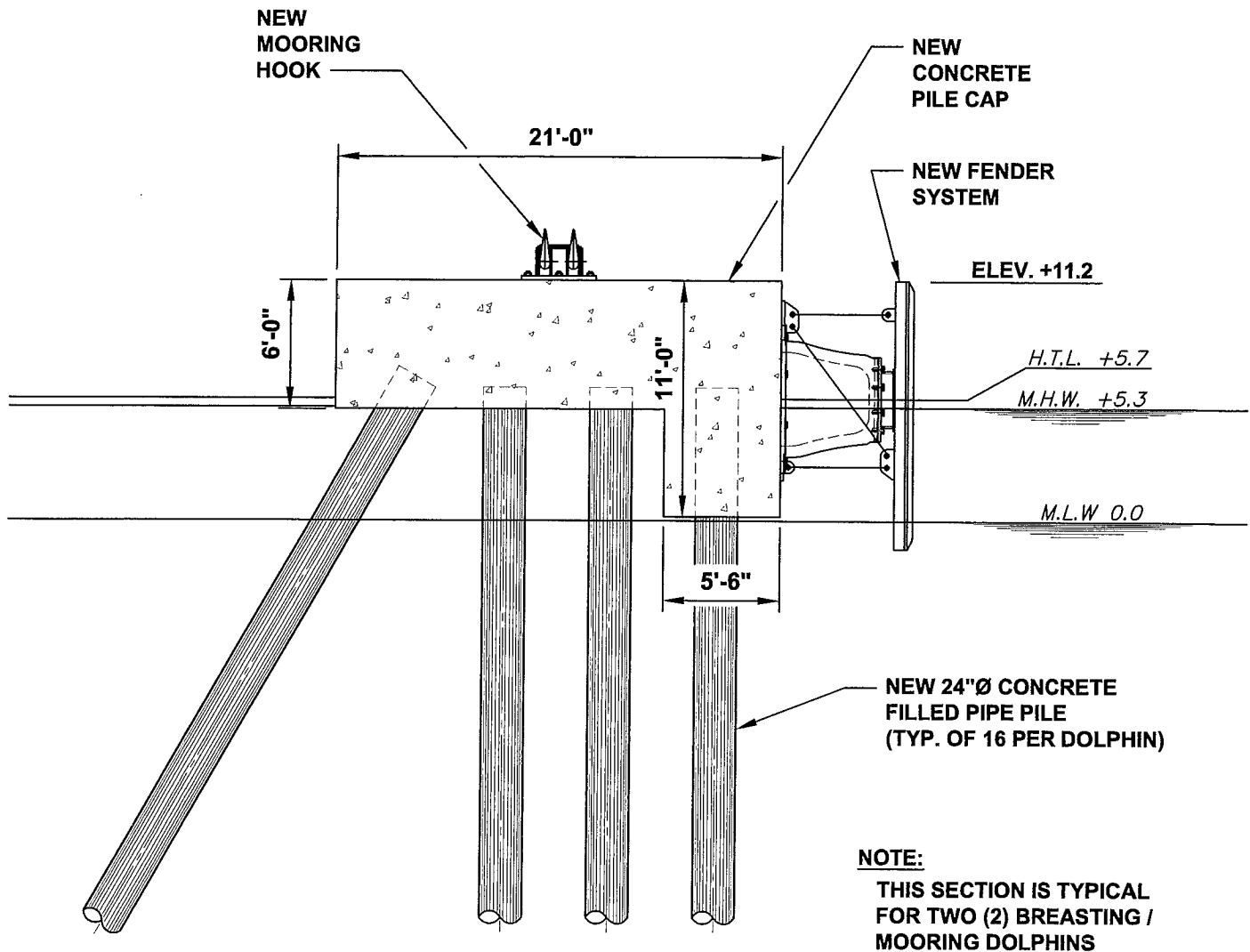


NOTE: FINAL DESIGN REQUIRED FOR CONSTRUCTION

**S.T. HUDSON ENGINEERS, INC.**  
 PROFESSIONAL ENGINEERS & CONSULTANTS  
 900 Dudley Avenue  
 Cherry Hill, NJ 08002  
 Phone No. 856-342-6600 Fax No. 856-342-8323

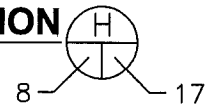
FILE No. Sa-2200  
 CONTRACT No. H-7094-01  
 DATE 4/15/2015  
 SHEET No. 16 of 26

PROPOSED:	REHABILITATION OF DOCK 1A
AT:	MARCUS HOOK, PENNSYLVANIA
COUNTY OF:	DELAWARE COUNTY
APPLICATION BY:	SUNOCO PARTNERS MARKETING & TERMINALS LP



## NEW BREASTING / MOORING DOLPHIN - SECTION

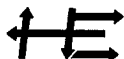
SCALE: 1/8"=1'-0"



NOTE: FINAL DESIGN REQUIRED FOR CONSTRUCTION

**S.T. HUDSON ENGINEERS, INC.**

PROFESSIONAL ENGINEERS & CONSULTANTS



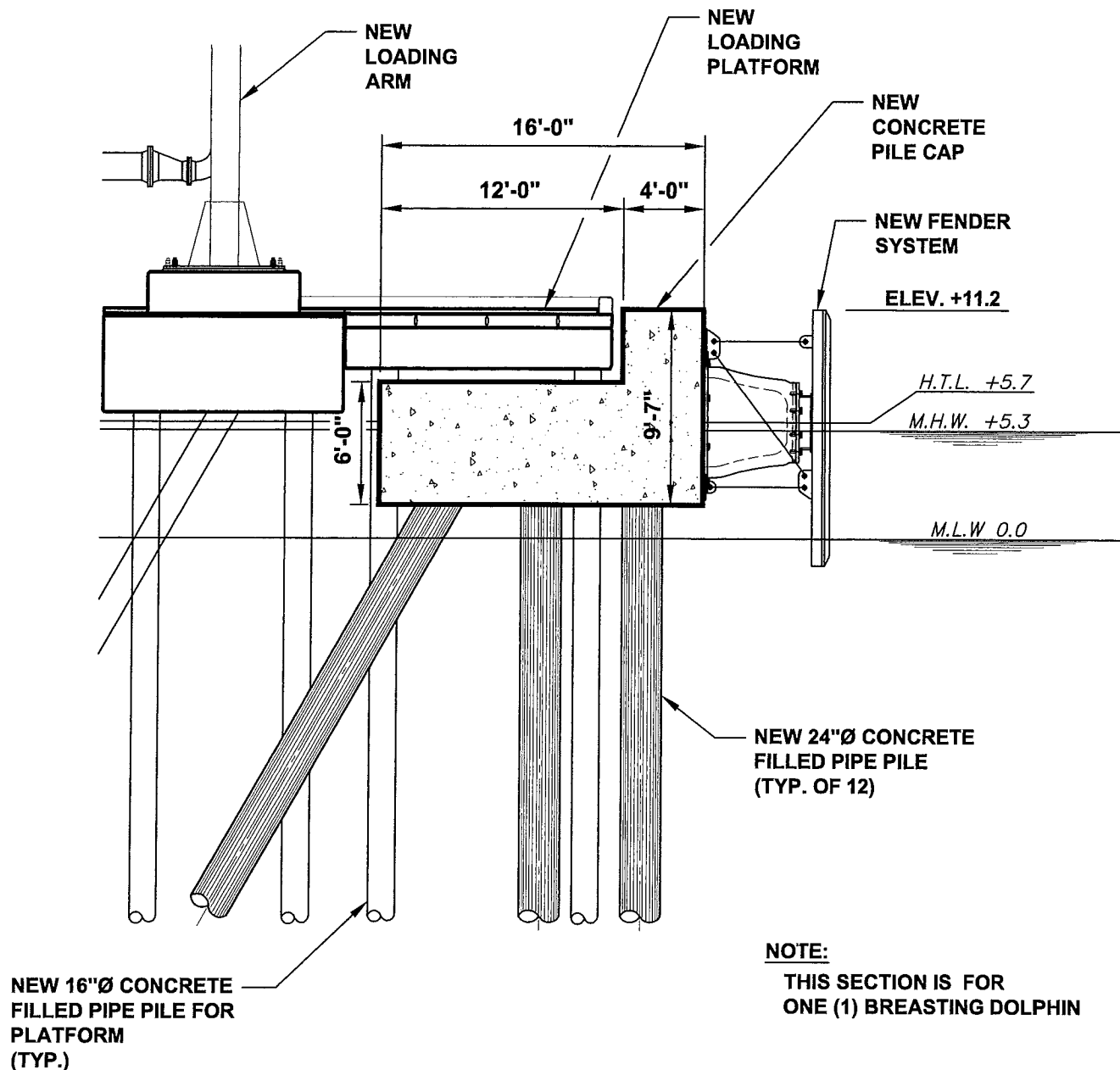
900 Dudley Avenue  
Cherry Hill, NJ 08002

Phone No. 856-342-8600

Fax No. 856-342-8323

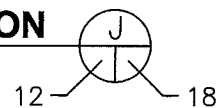
FILE No. Sa-2200  
CONTRACT No. H-7094-01  
DATE 4/15/2015  
SHEET No. 17 of 26

PROPOSED:	REHABILITATION OF DOCK 1A
AT:	MARCUS HOOK, PENNSYLVANIA
COUNTY OF:	DELAWARE COUNTY
APPLICATION BY:	SUNOCO PARTNERS MARKETING & TERMINALS LP

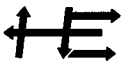


### NEW BREASTING DOLPHIN - SECTION

SCALE: 1/8"=1'-0"

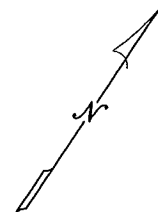
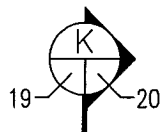


NOTE: FINAL DESIGN REQUIRED FOR CONSTRUCTION

**S.T. HUDSON ENGINEERS, INC.**  
PROFESSIONAL ENGINEERS & CONSULTANTS  
  
900 Dudley Avenue  
Cherry Hill, NJ 08002  
Phone No. 856-342-6600 Fax No. 856-342-8323

FILE No. Sa-2200  
CONTRACT No. H-7094-01  
DATE 4/15/2015  
SHEET No. 18 of 26

PROPOSED:	REHABILITATION OF DOCK 1A
AT:	MARCUS HOOK, PENNSYLVANIA
COUNTY OF:	DELAWARE COUNTY
APPLICATION BY:	SUNOCO PARTNERS MARKETING & TERMINALS LP



NEW  
CONCRETE CAP

NEW H-PILES  
(TYP. OF 6)

EXIST.  
34'-0" Ø  
STEEL SHEET  
PILE CELL

EXIST.  
H-PILE  
WITH BRACKET  
(TYP.)

INSTALL  
NEW MOORING  
BOLLARDS

NEW 43'-0" Ø  
STEEL SHEET  
PILE CELL

EXIST.  
PIERHEAD LINE

NEW  
BREASTING LINE

NEW FENDER  
SYSTEM

DELAWARE RIVER

EBB  
FLOOD

**PLAN**

**DOCK 1A - RE-RING OF EXIST. BREASTING CELLS**

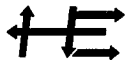
SCALE: 3/32"=1'-0"

FILE No. Sa-2200  
CONTRACT No. H-7094-01  
DATE 4/15/2015  
SHEET No. 19 of 26

NOTE: FINAL DESIGN REQUIRED FOR CONSTRUCTION

**S.T. HUDSON ENGINEERS, INC.**

PROFESSIONAL ENGINEERS & CONSULTANTS



900 Dudley Avenue  
Cherry Hill, NJ 08002

Phone No. 856-342-8600

Fax No. 856-342-8323

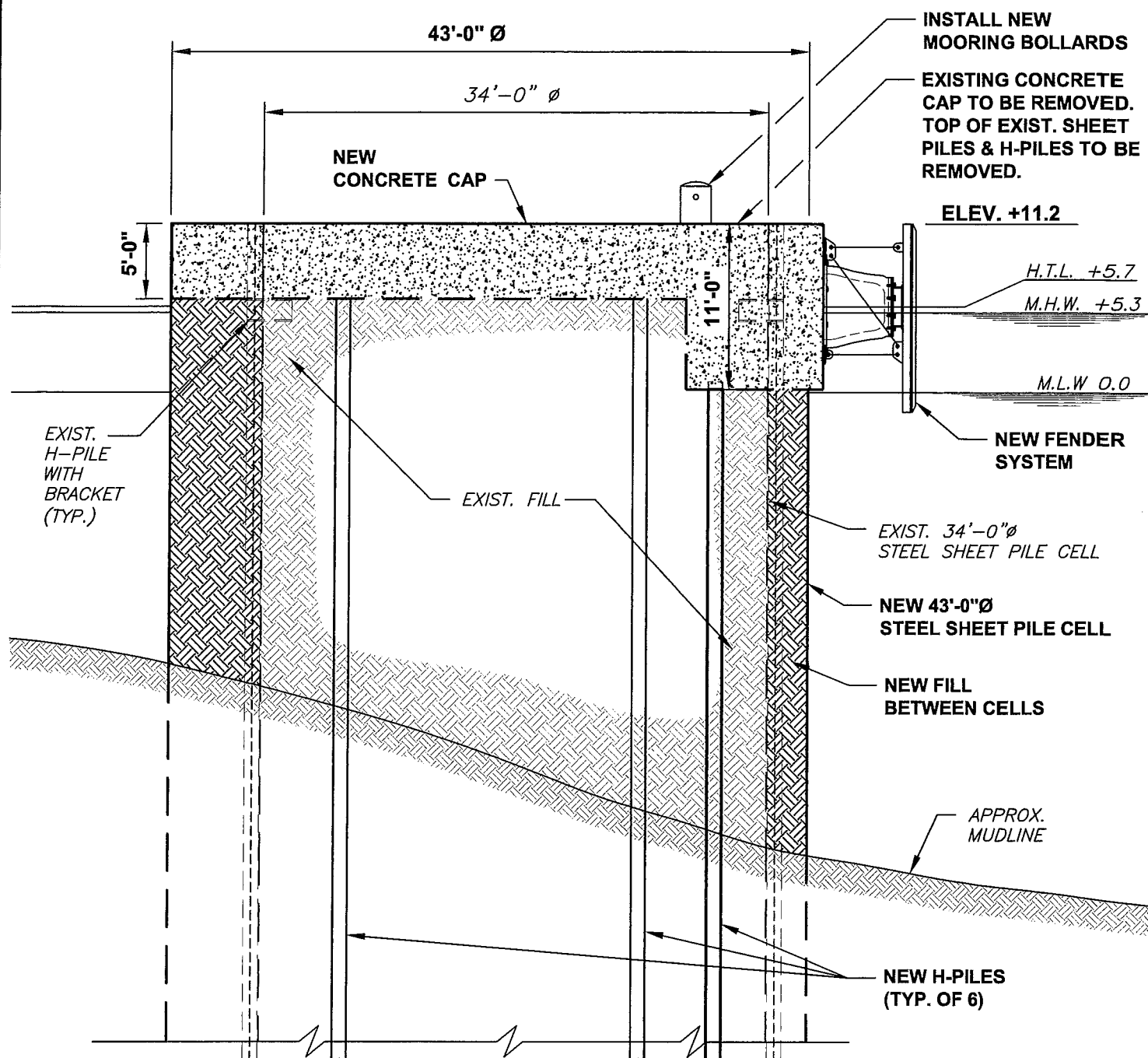
PROPOSED: REHABILITATION OF DOCK 1A

AT: MARCUS HOOK, PENNSYLVANIA

COUNTY OF: DELAWARE COUNTY

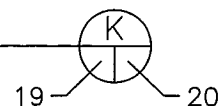
APPLICATION BY: SUNOCO PARTNERS MARKETING & TERMINALS LP





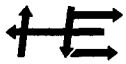
**SECTION**  
**DOCK 1A - RE-RING OF EXIST. BREASTING CELLS**

SCALE: 1"=10'

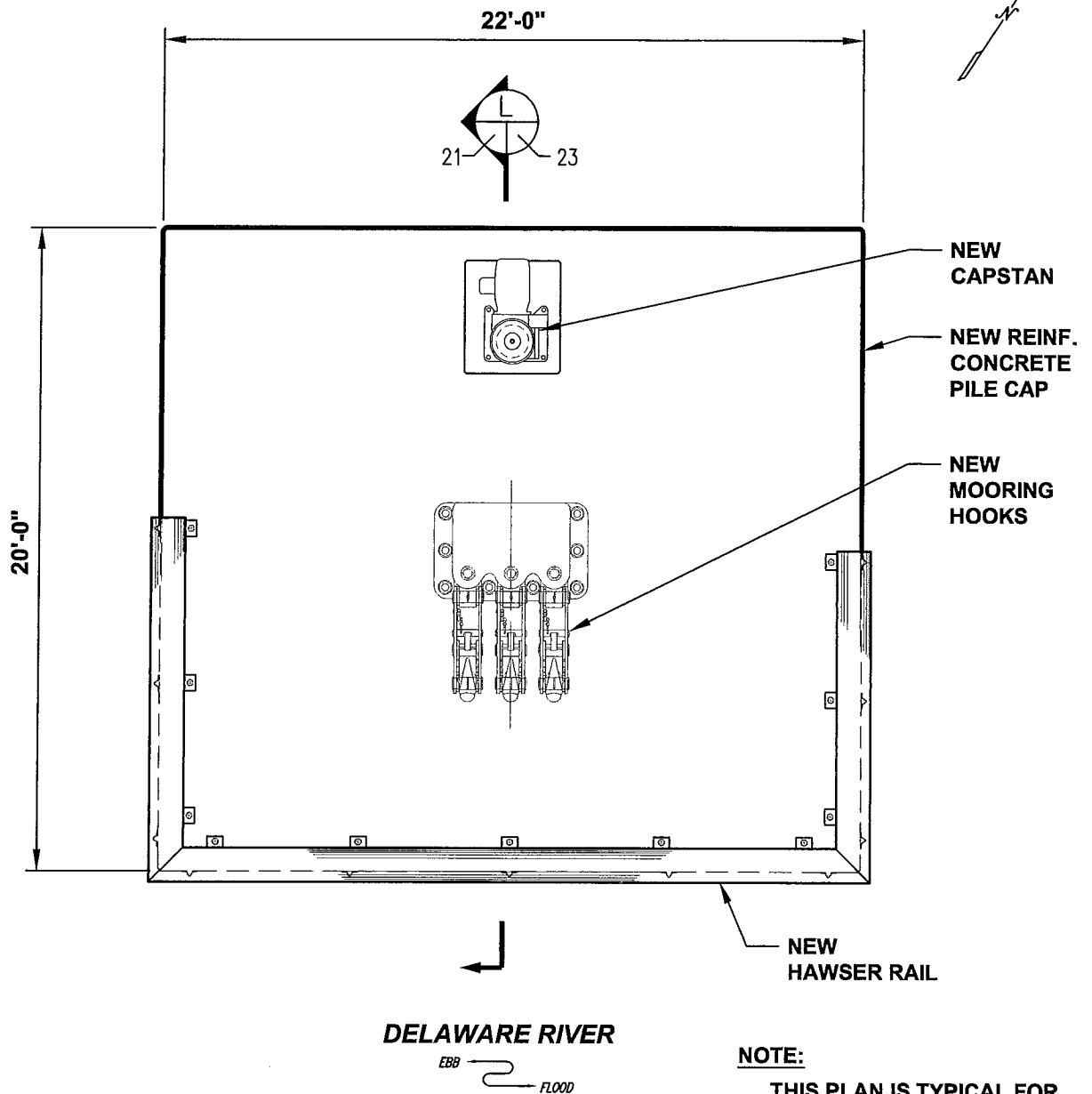


FILE No. Sa-2200  
 CONTRACT No. H-7094-01  
 DATE 4/15/2015  
 SHEET No. 20 of 26

NOTE: FINAL DESIGN REQUIRED FOR CONSTRUCTION

**S.T. HUDSON ENGINEERS, INC.**  
 PROFESSIONAL ENGINEERS & CONSULTANTS  
  
 900 Dudley Avenue  
 Cherry Hill, NJ 08002  
 Phone No. 856-342-6600 Fax No. 856-342-8323

PROPOSED:	REHABILITATION OF DOCK 1A
AT:	MARCUS HOOK, PENNSYLVANIA
COUNTY OF:	DELAWARE COUNTY
APPLICATION BY:	SUNOCO PARTNERS MARKETING & TERMINALS LP



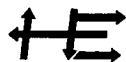
### NEW MOORING DOLPHIN - DECK PLAN

SCALE: 3/16"=1'-0"

NOTE: FINAL DESIGN REQUIRED FOR CONSTRUCTION

**S.T. HUDSON ENGINEERS, INC.**

PROFESSIONAL ENGINEERS & CONSULTANTS



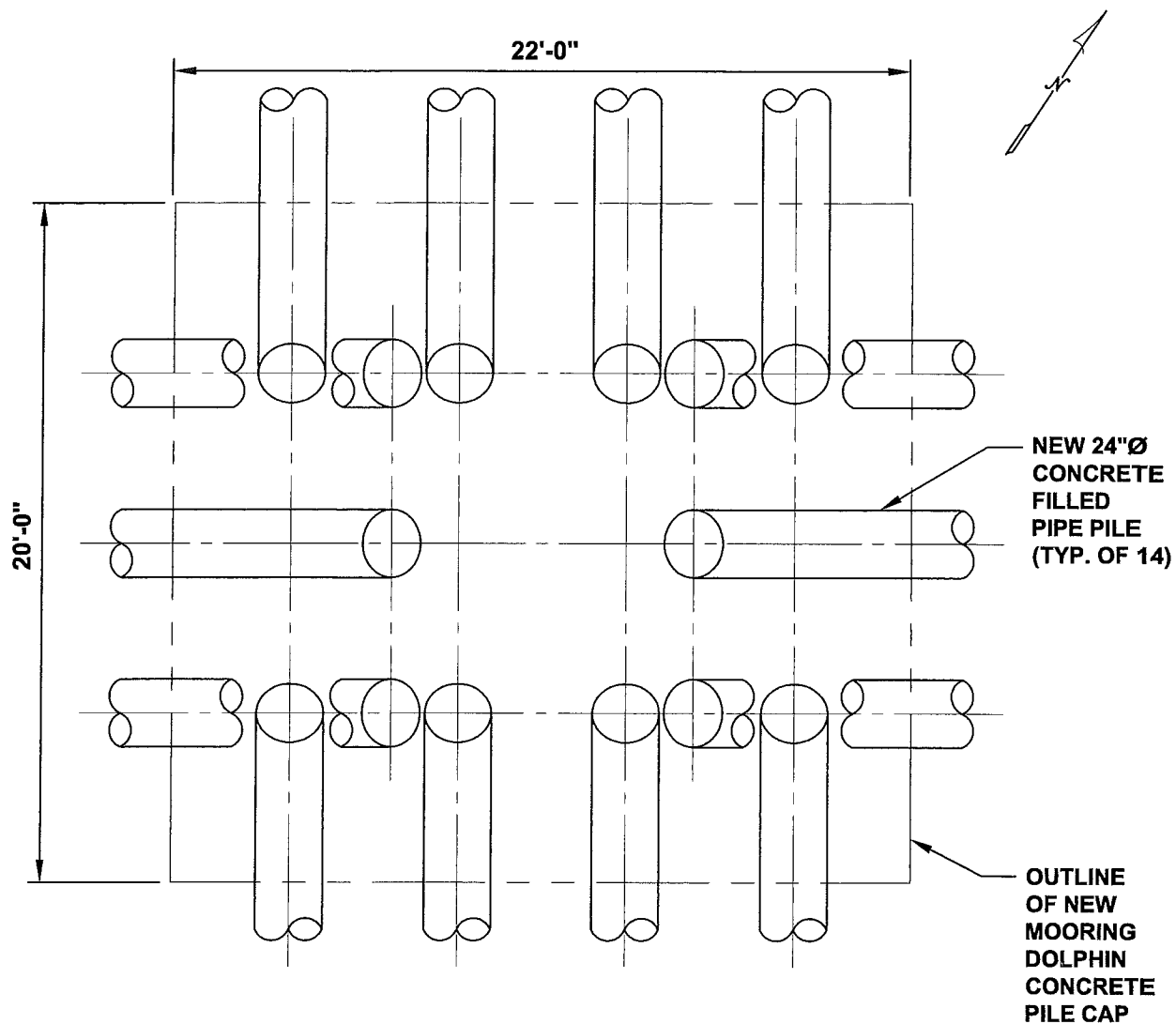
Phone No. 856-342-6600

900 Dudley Avenue  
Cherry Hill, NJ 08002

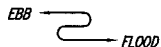
Fax No. 856-342-8323

FILE No. Sa-2200  
CONTRACT No. H-7094-01  
DATE 4/15/2015  
SHEET No. 21 of 26

PROPOSED:	REHABILITATION OF DOCK 1A
AT:	MARCUS HOOK, PENNSYLVANIA
COUNTY OF:	DELAWARE COUNTY
APPLICATION BY:	SUNOCO PARTNERS MARKETING & TERMINALS LP



**DELAWARE RIVER**



**NOTE:**

THIS PLAN IS TYPICAL FOR  
(6) NEW MOORING DOLPHINS

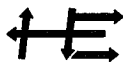
**NEW MOORING DOLPHIN - PILE PLAN**

SCALE: 3/16"=1'-0"

NOTE: FINAL DESIGN REQUIRED FOR CONSTRUCTION

**S.T. HUDSON ENGINEERS, INC.**

PROFESSIONAL ENGINEERS & CONSULTANTS



900 Dudley Avenue  
Cherry Hill, NJ 08002

Phone No. 856-342-6600

Fax No. 856-342-8323

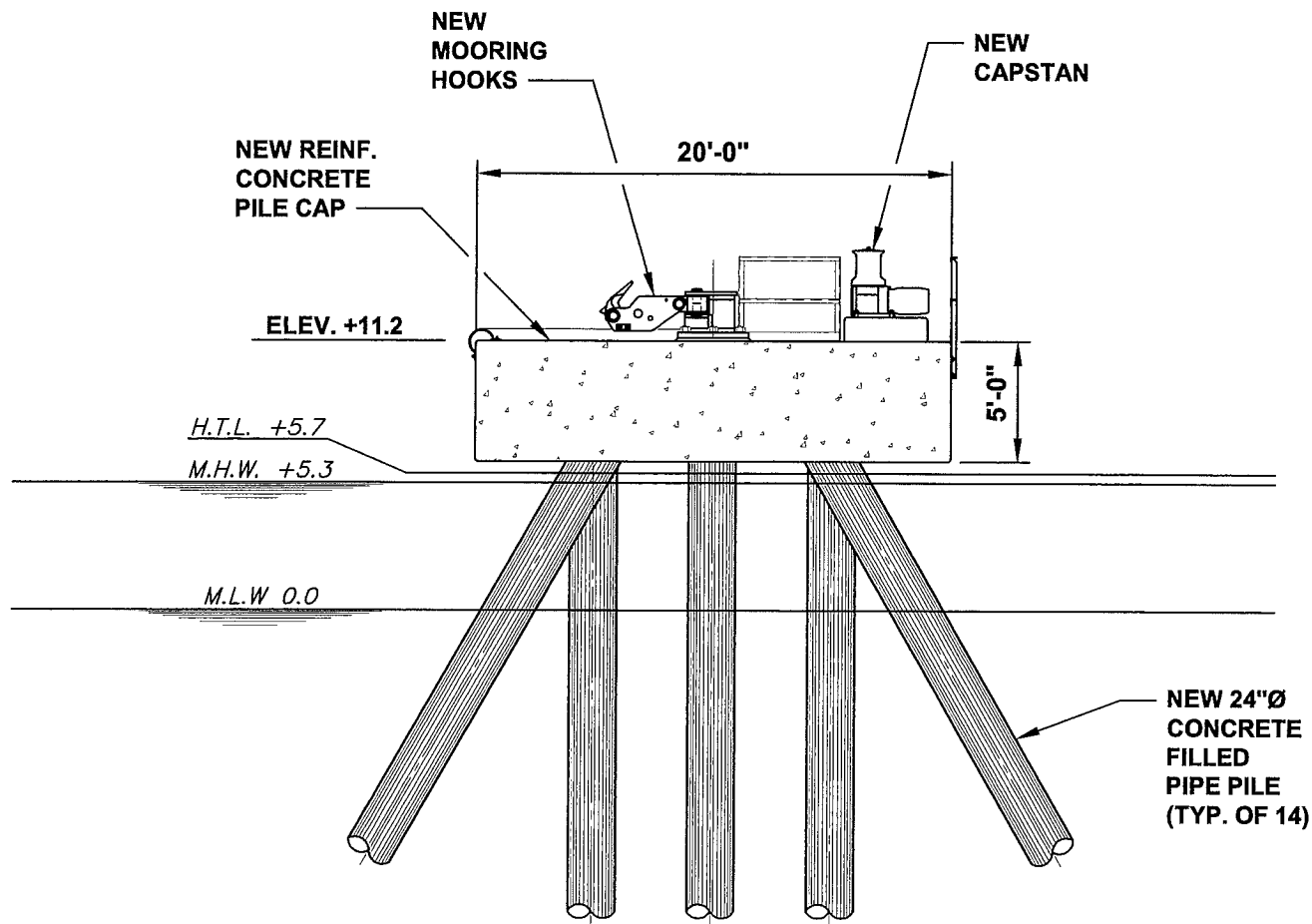
FILE No. Sa-2200  
CONTRACT No. H-7094-01  
DATE 4/15/2015  
SHEET No. 22 of 26

PROPOSED: REHABILITATION OF DOCK 1A

AT: MARCUS HOOK, PENNSYLVANIA

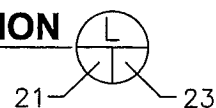
COUNTY OF: DELAWARE COUNTY

APPLICATION BY: SUNOCO PARTNERS MARKETING & TERMINALS LP



### NEW MOORING DOLPHIN - SECTION

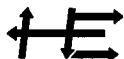
SCALE: 1/8"=1'-0"



NOTE: FINAL DESIGN REQUIRED FOR CONSTRUCTION

**S.T. HUDSON ENGINEERS, INC.**

PROFESSIONAL ENGINEERS & CONSULTANTS



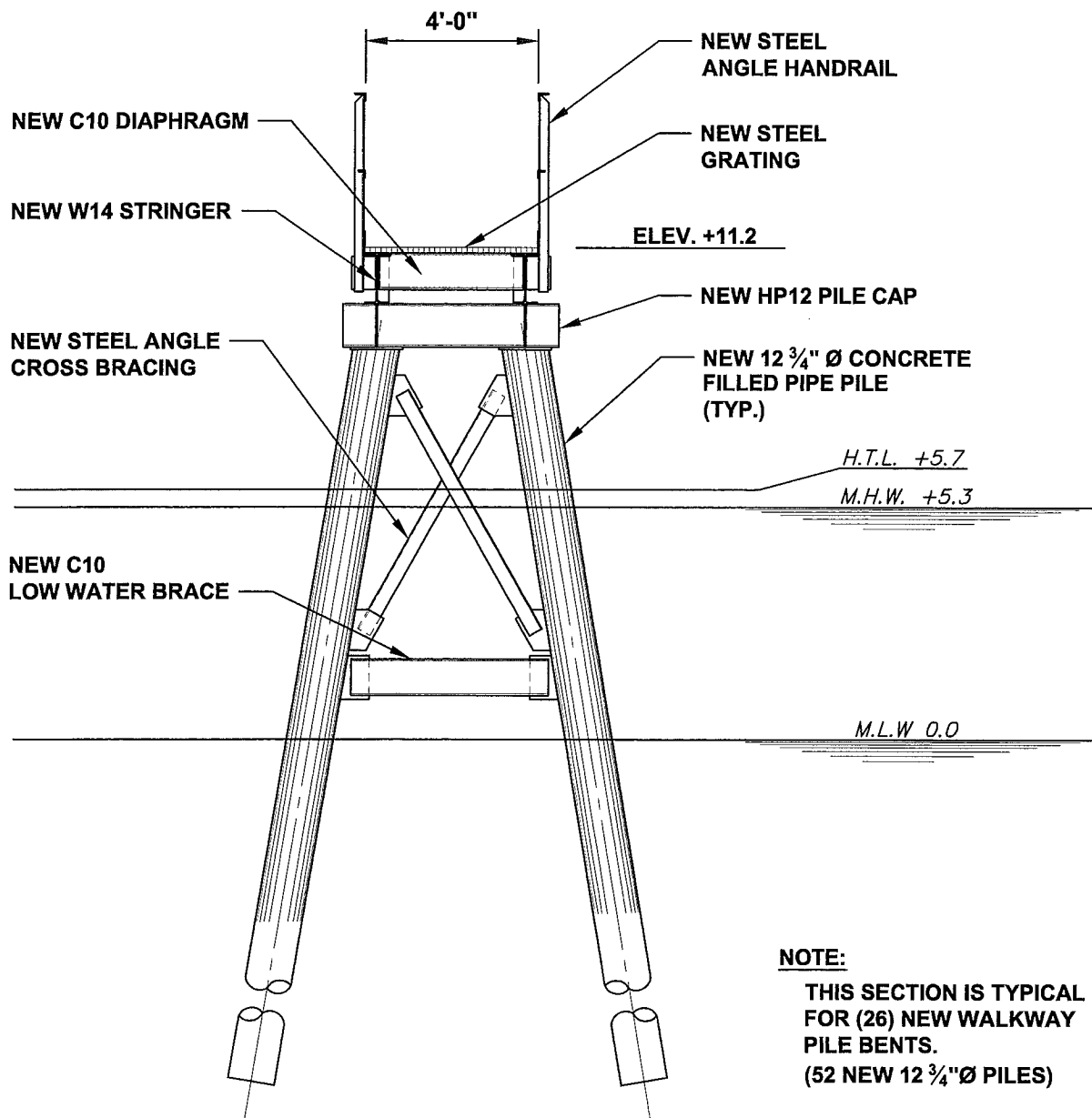
900 Dudley Avenue  
Cherry Hill, NJ 08002

Phone No. 856-342-6800

Fax No. 856-342-8323

FILE No. Sa-2200  
CONTRACT No. H-7094-01  
DATE 4/15/2015  
SHEET No. 23 of 26

PROPOSED:	REHABILITATION OF DOCK 1A
AT:	MARCUS HOOK, PENNSYLVANIA
COUNTY OF:	DELAWARE COUNTY
APPLICATION BY:	SUNOCO PARTNERS MARKETING & TERMINALS LP

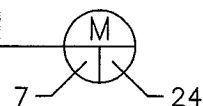


**NOTE:**

THIS SECTION IS TYPICAL  
FOR (26) NEW WALKWAY  
PILE BENTS.  
(52 NEW 12 3/4"Ø PILES)

**NEW TYPICAL WALKWAY SECTION**

SCALE: 1/4"=1'-0"



NOTE: FINAL DESIGN REQUIRED FOR CONSTRUCTION

**S.T. HUDSON ENGINEERS, INC.**

PROFESSIONAL ENGINEERS & CONSULTANTS



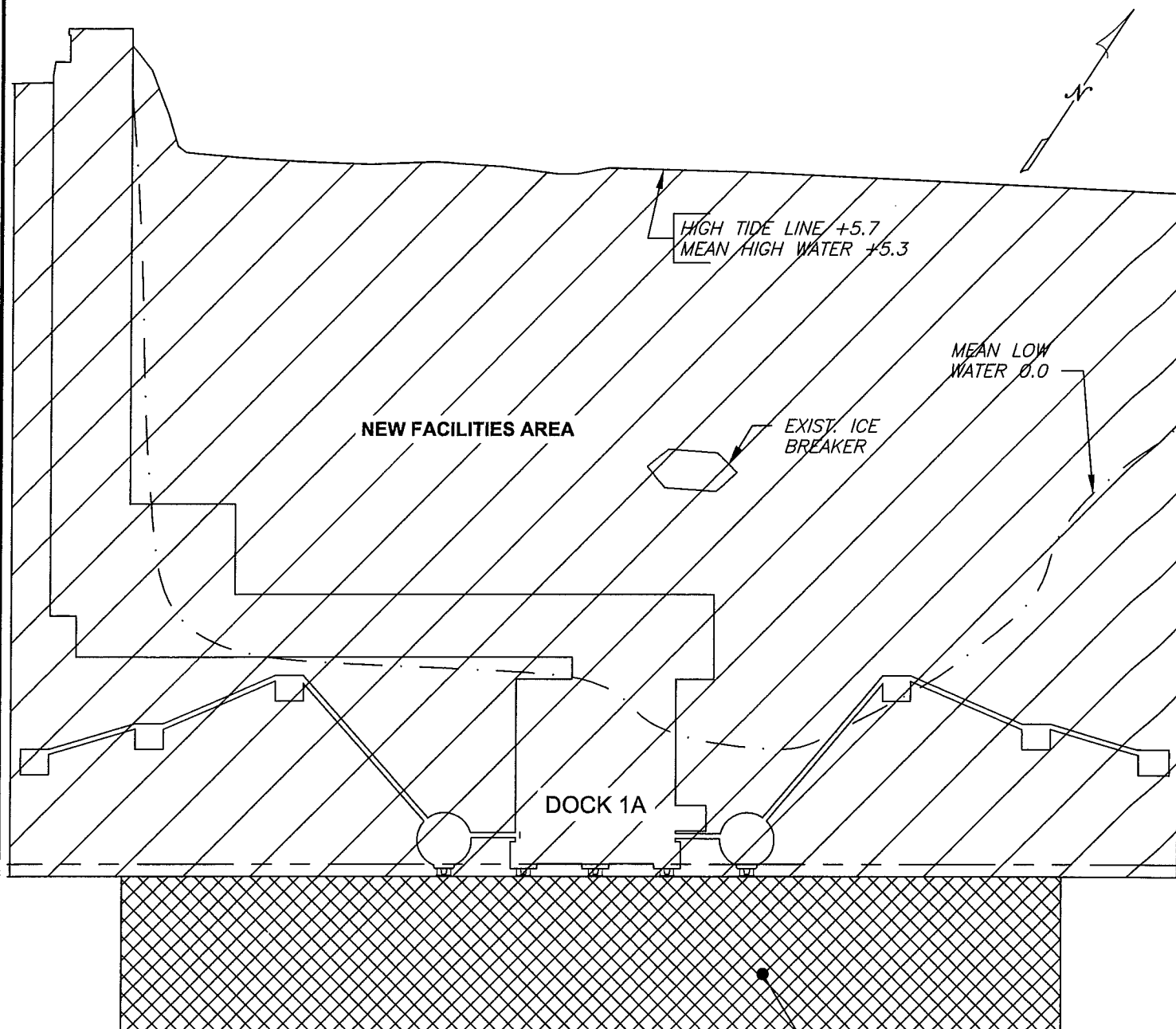
Phone No. 856-342-6600

900 Dudley Avenue  
Cherry Hill, NJ 08002

Fax No. 856-342-8323

FILE No. Sa-2200  
CONTRACT No. H-7094-01  
DATE 4/15/2015  
SHEET No. 24 of 26

PROPOSED:	REHABILITATION OF DOCK 1A
AT:	MARCUS HOOK, PENNSYLVANIA
COUNTY OF:	DELAWARE COUNTY
APPLICATION BY:	SUNOCO PARTNERS MARKETING & TERMINALS LP



**DELAWARE RIVER**

EBB FLOOD

**NEW MOORING AREA**

**SUBMERGED LANDS**  
**LICENSE PLAN**

**DOCK 1A**

SCALE: 1"=120'

**LEGEND**



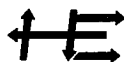
**NEW FACILITIES AREA = 11.80 ACRES**



**NEW MOORING AREA = 2.03 ACRES**

NOTE: FINAL DESIGN REQUIRED FOR CONSTRUCTION

**S.T. HUDSON ENGINEERS, INC.**  
PROFESSIONAL ENGINEERS & CONSULTANTS



Phone No. 856-342-6600

900 Dudley Avenue  
Cherry Hill, NJ 08002

Fax No. 856-342-8323

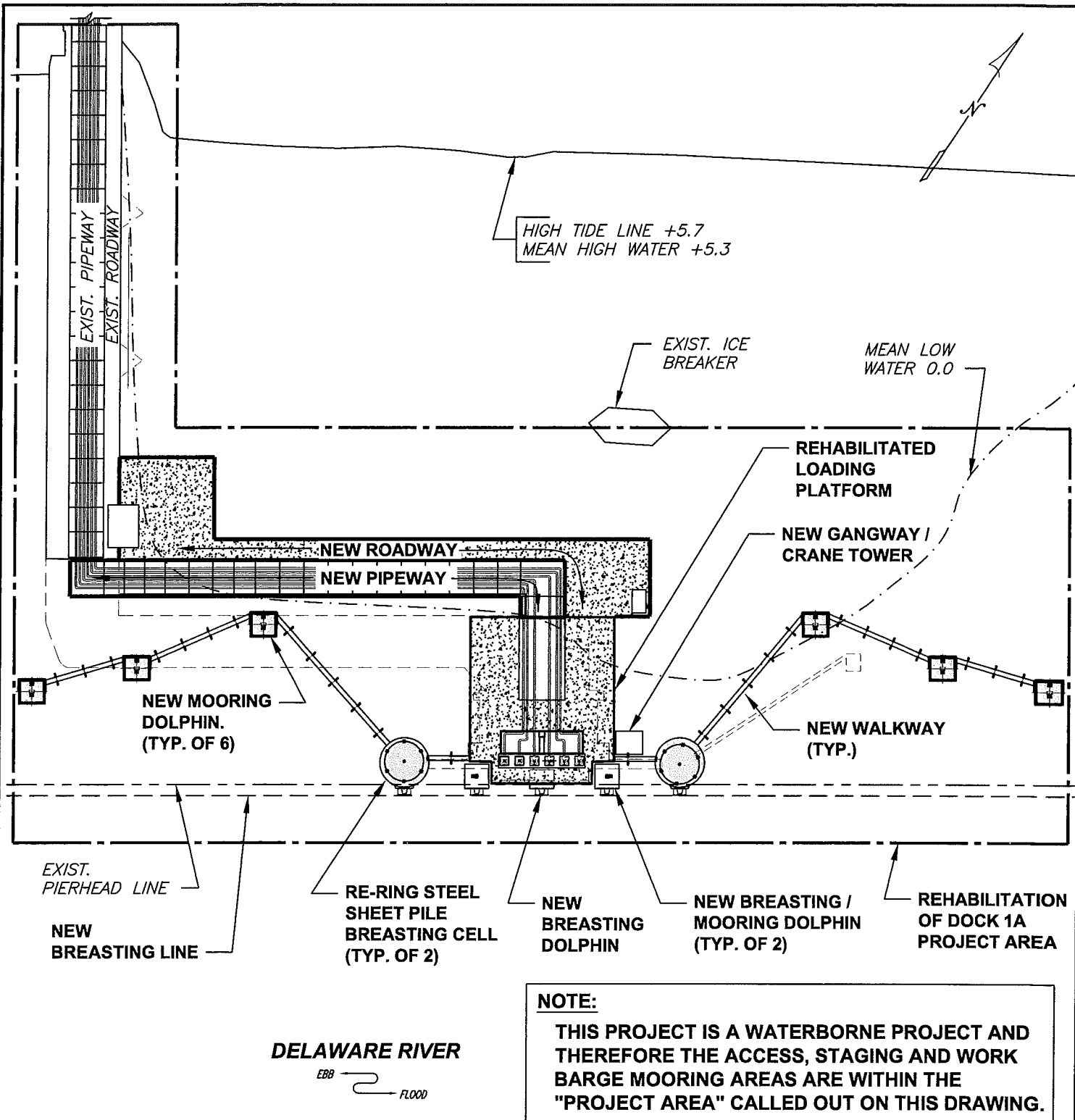
FILE No. Sa-2200  
CONTRACT No. H-7094-01  
DATE 4/15/2015  
SHEET No. 25 of 26

PROPOSED: REHABILITATION OF DOCK 1A

AT: MARCUS HOOK, PENNSYLVANIA

COUNTY OF: DELAWARE COUNTY

APPLICATION BY: SUNOCO PARTNERS MARKETING & TERMINALS LP

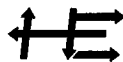


## REHABILITATION OF DOCK 1A PROJECT AREA PLAN

SCALE: 1"=120'

NOTE: FINAL DESIGN REQUIRED FOR CONSTRUCTION

**S.T. HUDSON ENGINEERS, INC.**  
PROFESSIONAL ENGINEERS & CONSULTANTS



Phone No. 856-342-6600

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Cherry Hill, NJ 08002

Fax No. 856-342-8323

FILE No. Sa-2200  
CONTRACT No. H-7094-01  
DATE 4/15/2015  
SHEET No. 26 of 26

PROPOSED:	REHABILITATION OF DOCK 1A
AT:	MARCUS HOOK, PENNSYLVANIA
COUNTY OF:	DELAWARE COUNTY
APPLICATION BY:	SUNOCO PARTNERS MARKETING & TERMINALS LP