USACE Norfolk District Regulatory
Feb 19, 2016 Rcvd by FMH

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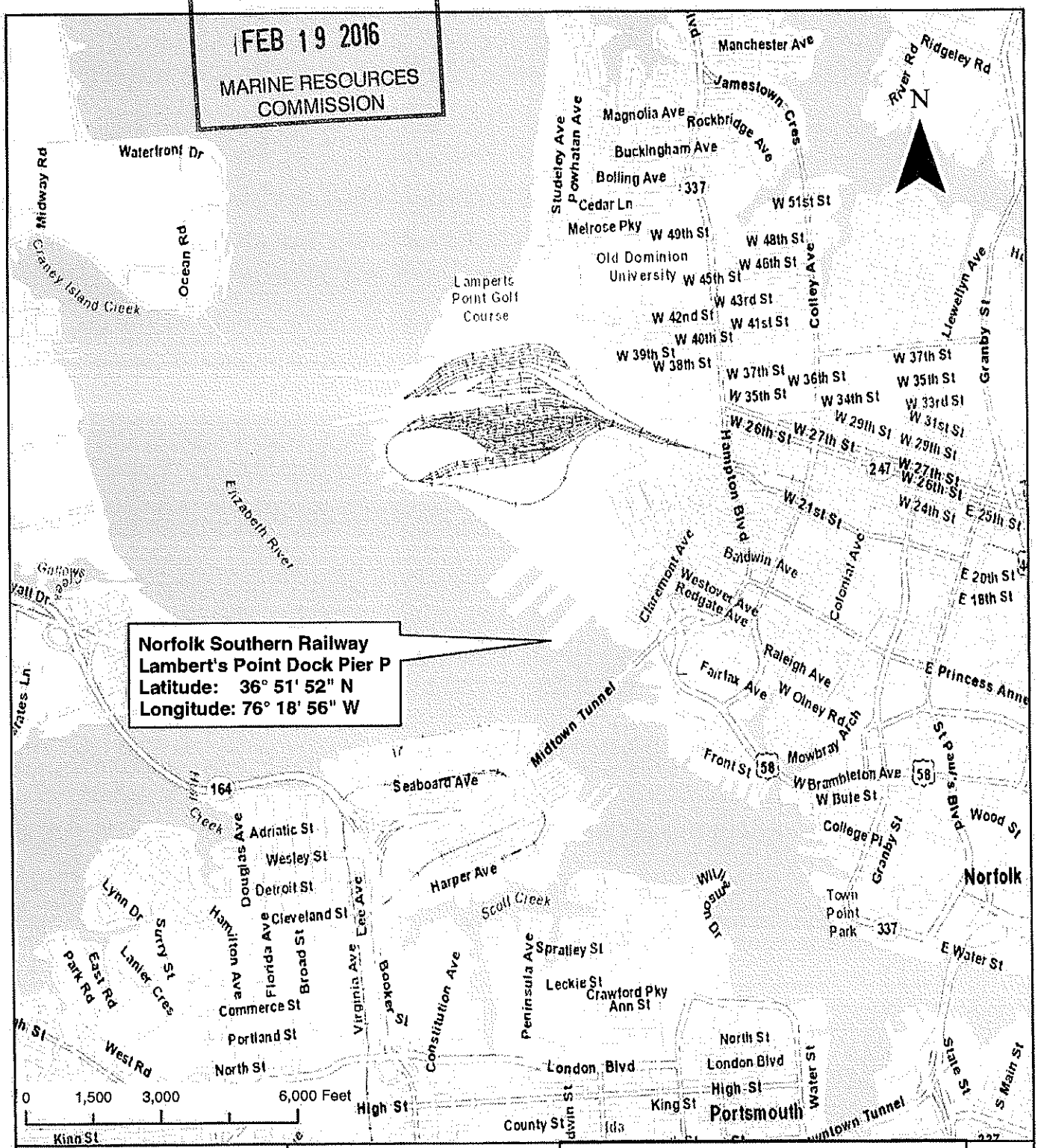

amec foster wheeler	CLIENT: NORFOLK SOUTHERN	SITE LOCATION: Norfolk Southern Lambert's Point Dock Pier P Norfolk, VA	Figure No. 1
Environment & Infrastructure, Inc. 3800 Ezell Road, Suite 100 Nashville, TN 37211	TITLE: Vicinity Map	SCALE: 1" = 3000' / DATE: 02/11/2016 / PROJECT: 552660048 / DRAWN BY: JDA / CHECKED BY: NDL / ESRI STREET MAP	

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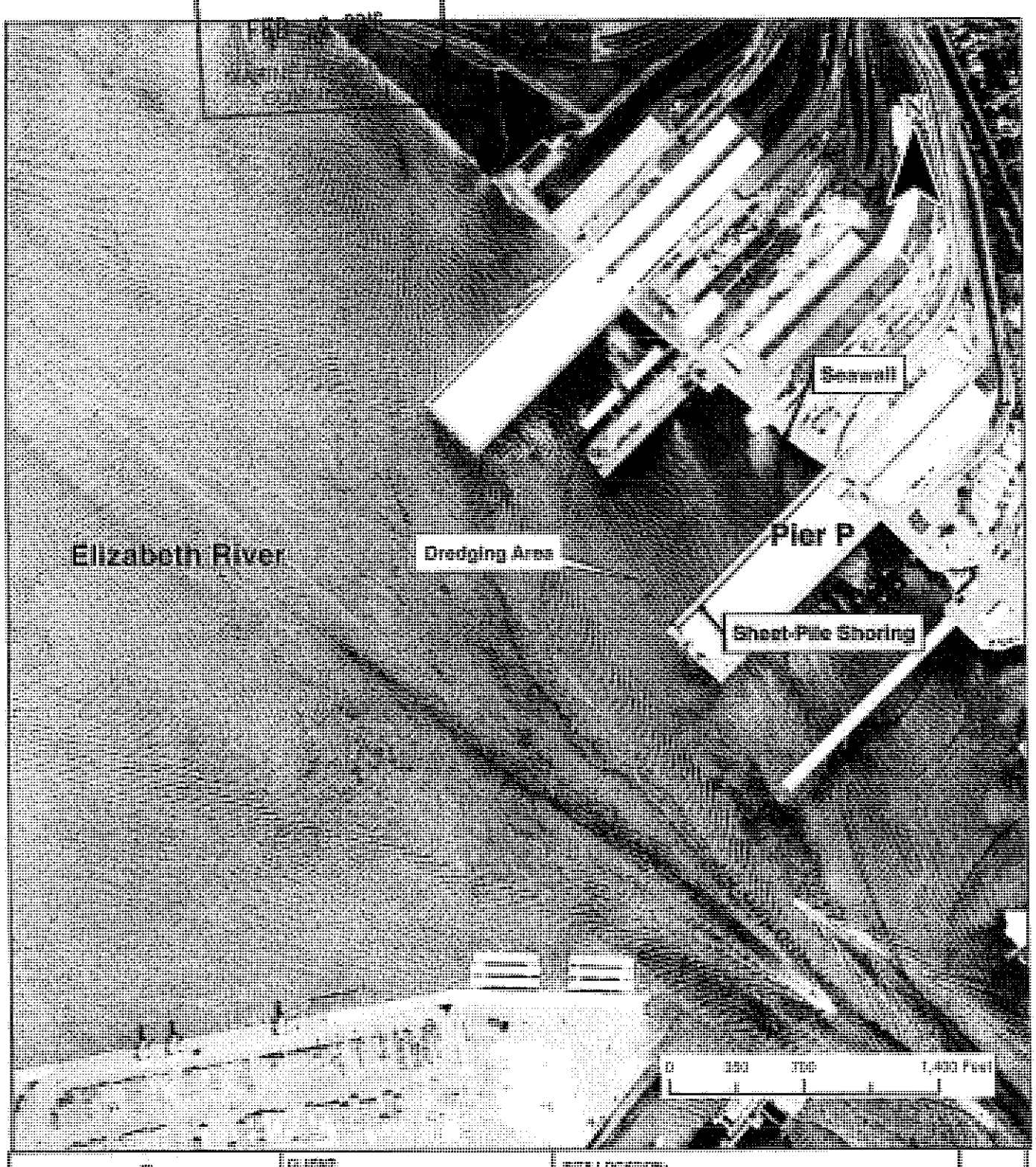
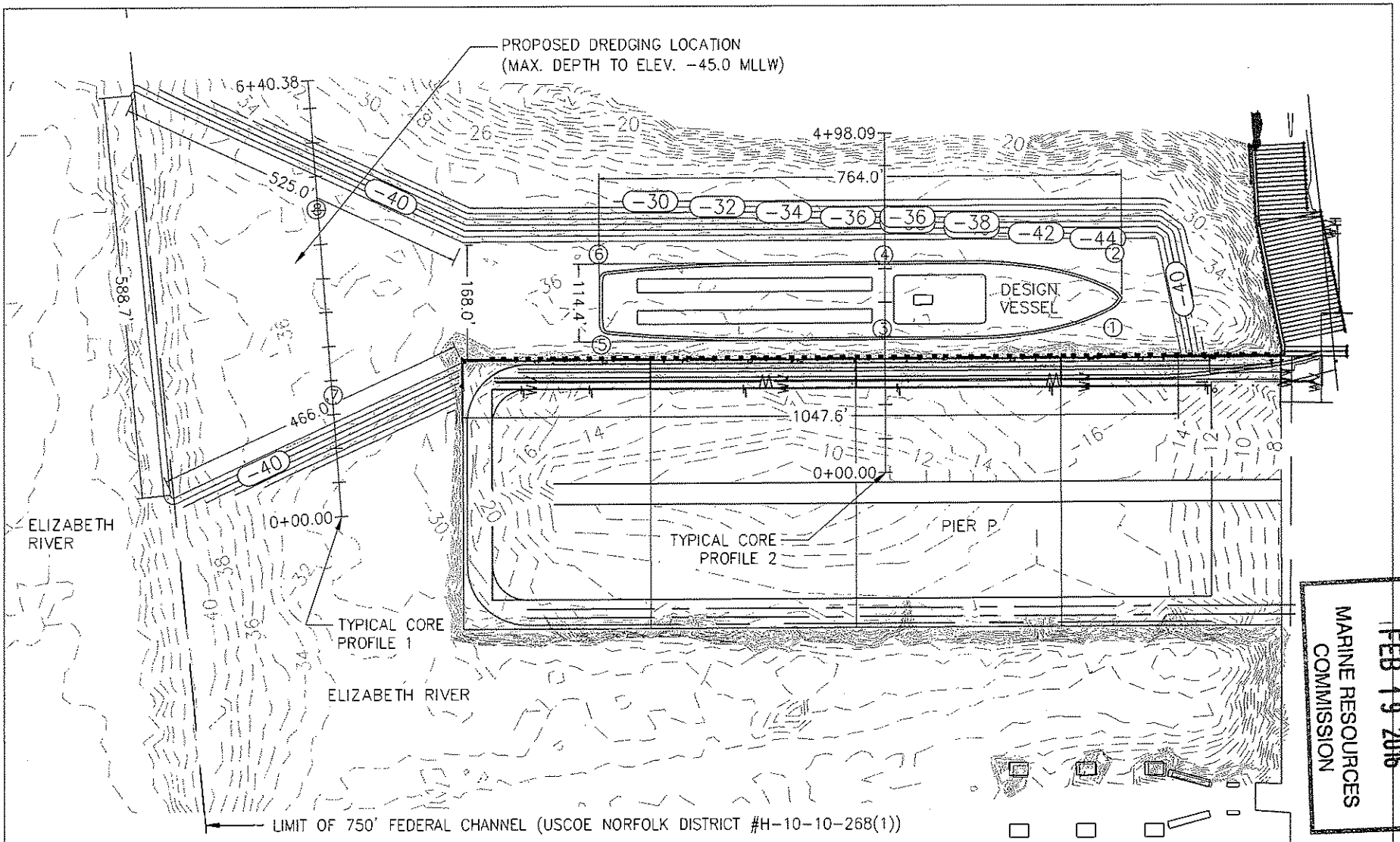


enec foster wheeler	CLIENT: NORFOLK SOUTHERN	SITE LOCATION: Norfolk Southern Lambert's Point Dock Pier P Norfolk, VA	Figure No. 2
Environment & Infrastructure, Inc. 3650 East Road, Suite 100 Nashville, TN 37211	TITLE: Location Map	SCALE: 1" = 750' / DATE: [illegible] / PROJECT: [illegible] / DRAWN BY: JDA / CHECKED BY: KEL / SUB WORLD MANAGER	



LEGEND

- EXISTING MAJOR CONTOURS
- EXISTING MINOR CONTOURS
- PROPOSED MAJOR CONTOURS
- PROPOSED MINOR CONTOURS
- (#) PROPOSED CORE LOCATIONS FOR DREDGED MATERIAL CHARACTERIZATION

NOT TO BE USED FOR CONSTRUCTION

200 0 200 400 FT

NOTES: SURVEY PROVIDED BY ROUSE-SIRINE ASSOCIATES, LTD. DATED JUNE 11, 2015. SEE SHEET 3 FOR SURVEY NOTES.

amec foster wheeler

AMEC ENVIRONMENT & INFRASTRUCTURE, INC.
4021 STIRRUP CREEK DRIVE, SUITE 100
DURHAM, NORTH CAROLINA

REV | BY | DATE | DESCRIPTION

NORFOLK SOUTHERN

NORFOLK SOUTHERN RAILWAY

VIRGINIA DIVISION

LAMBERT'S POINT DOCK
NORFOLK, VA
PIER P BERTH DEEPENING PROJECT
DREDGING

DRAWING TITLE: CORE LOCATIONS

DGN CP | NAT SEC | MAP | MILE POST
DWN DS | FILE No. | DATE FEBRUARY 9, 2016
CHK CP | SHEET NUMBER 1 OF 3 | SHEET ID | DRAWING NUMBER Merchandise Pier Permit

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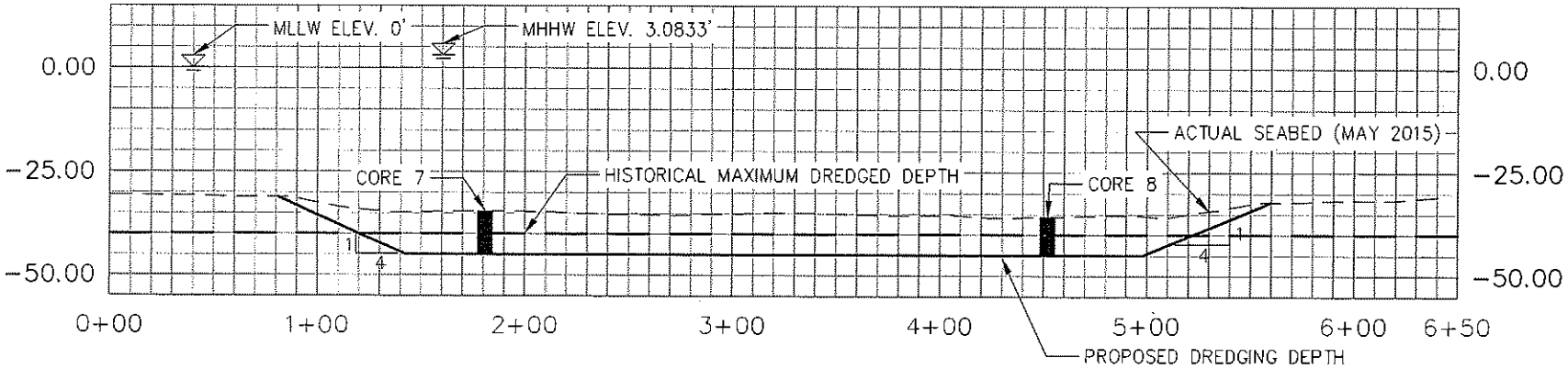
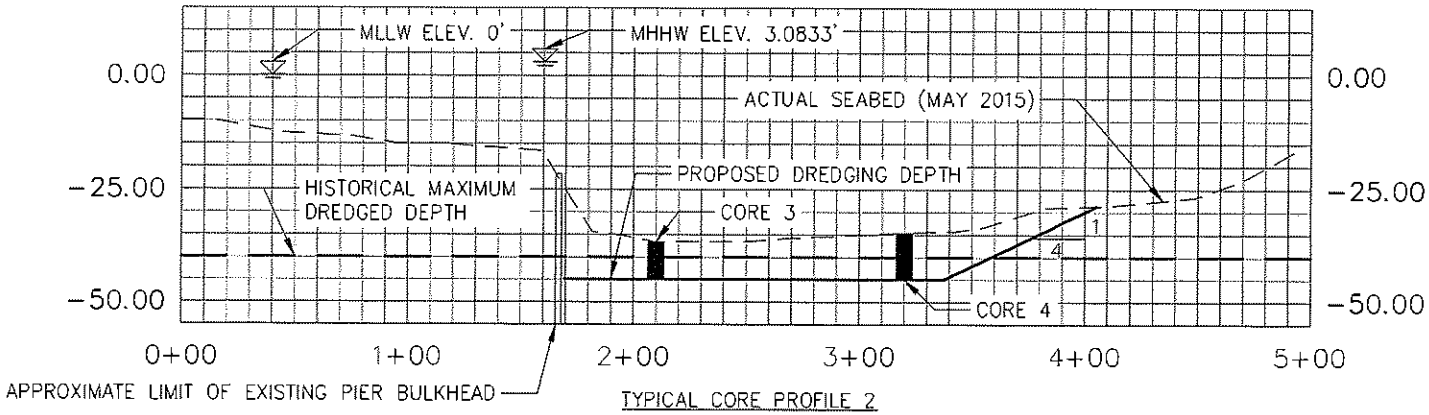


TYPICAL CORE PROFILE 1
HORIZONTAL SCALE: 1"=80'
VERTICAL SCALE: 1"=40'



TYPICAL CORE PROFILE 2
HORIZONTAL SCALE: 1"=80'
VERTICAL SCALE: 1"=40'

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AMEC
ENVIRONMENT & INFRASTRUCTURE, INC.
4021 STIRRUP CREEK DRIVE, SUITE 100
DURHAM, NORTH CAROLINA

REV	BY	DATE	DESCRIPTION

NORFOLK SOUTHERN

NORFOLK SOUTHERN RAILWAY

VIRGINIA DIVISION

LAMBERT'S POINT DOCK
NORFOLK, VA
PIER P BERTH DEEPENING PROJECT
DREDGING

DRAWING TITLE: CORE PROFILES

DGN CP | VAL SEC | MAP | MILE POST
DWN DS | FILE No. | DATE FEBRUARY 9, 2016
CHK CP | SHEET NUMBER 2 OF 3 | SHEET ID | DRAWING NUMBER Merchandise Pier Permit

USACE Norfolk District Regulatory
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SURVEY NOTES

(PROVIDED BY ROUSE–SIRINE ASSOCIATES, LTD. DATED JUNE 11, 2015)

1. THE MERIDIAN SOURCE IS BASED ON THE VIRGINIA STATE PLANE COORDINATE SYSTEM, SOUTH ZONE, NAD83/1992, UTILIZING NORFOLK AND WESTERN RAILWAY COMPANY GEODETIC CONTROL MONUMENTS TERMINAL 9, TERMINAL 10 AND TERMINAL 11.

2. THE VERTICAL DATUM IS REFERENCED TO THE NATIONAL GEODETIC VERTICAL DATUM OF 1929, 1959 ADJUSTMENT (NGVD29(59 ADJ.)), UTILIZING NORFOLK AND WESTERN RAILWAY COMPANY SURVEY MONUMENTS TERMINAL 9 AND TERMINAL 10. ELEVATIONS ARE SHOWN IN FEET. CONTOUR INTERVAL IS 2'.

3. CONTOURS UNDER PIER ARE APPROXIMATE IN NATURE DUE TO LENGTH BETWEEN SECTIONS AND THEREFORE MAY NOT BE INDICATIVE OF ACTUAL CONDITIONS WHERE HYDROGRAPHIC SOUNDINGS WERE NOT OBTAINED.

4. THIS PROPERTY APPEARS TO FALL IN ZONE(S) AE (EL. 9.1); AE (EL. 8.1); AE (EL. 7.6) (BASE FLOOD ELEVATIONS DETERMINED) AND ZONE X(SHADED) (AREAS OF 0.2% ANNUAL CHANCE FLOOD, AREAS OF 1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTHS OF LESS THAN 1 FOOT OR WITH DRAINAGE AREAS LESS THAN ONE SQUARE MILE AND AREAS PROTECTED BY LEVEES FROM 1% ANNUAL CHANCE FLOOD), AS SCALED FROM FLOOD INSURANCE MAP PANEL 5101040120F, MAP REVISED SEPTEMBER 2, 2009. PLEASE NOTE THE FLOOD INSURANCE MAP PANELS ARE REFERENCED TO THE NORTH AMERICAN VERTICAL DATUM OF 1988 NAVD(88). NAVD(88) ELEV. + 0.8 = NGVD(29) ELEV.

5. HYDROGRAPHIC SURVEY UNDER PIER PERFORMED BY ROUSE–SIRINE ASSOCIATES USING A CONVENTIONAL SOUNDING TAPE ON JUNE 1 & 2, 2015. HYDROGRAPHIC SURVEY IN OPEN WATER PREPARED BY WATERWAY SURVEYING & ENGINEERING, LTD BASED ON SOUNDINGS USING A MULTIBEAM SONAR SYSTEM OPERATING AT 200KHZ AND A DIFFERENTIAL GLOBAL POSITIONING SYSTEM (DGPS) WAS USED TO OBTAIN HORIZONTAL POSITION, AND WERE TAKEN ON MAY 7, 2015.

6. UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON S.U.E. QUALITY LEVEL "B" SUBSURFACE UTILITY DESIGNATIONS.

RSA CANNOT GUARANTEE THE EXISTENCE OR NON–EXISTENCE OF ANY UNDERGROUND UTILITIES SHOWN ON THE SURVEY. FURTHERMORE, RSA CANNOT GUARANTEE UTILITY LINES ARE LIVE OR ABANDONED. PRIOR TO CONSTRUCTION OR EXCAVATION, CONTACT MISS UTILITY @ 811 OR 1–800–522–7001 TO VERIFY THE LOCATION OF THE UNDERGROUND UTILITIES.

THIS TOPOGRAPHIC SURVEY OF A PORTION OF NORFOLK SOUTHERN PIER MERCHANDISE PIER 'P' AT LAMBERTS POINT, NORFOLK, VIRGINIA, WAS COMPLETED UNDER THE DIRECT AND RESPONSIBLE CHARGE OF, GREGORY V. O'BRYANT, L.S. FROM AN ACTUAL GROUND SURVEY UNDER MY SUPERVISION; THAT THE IMAGERY AND/OR ORIGINAL DATA WAS OBTAINED ON MAY 5, 2015 THRU JUNE 11, 2015 AND THAT THIS PLAT, MAP, OR DIGITAL GEOSPATIAL DATA INCLUDING METADATA MEETS MINIMUM ACCURACY STANDARDS UNLESS OTHERWISE NOTED.

PROPOSED CORE LOCATIONS

ID	X (EASTING)	Y (NORTHING)	LATITUDE	LONGITUDE	Z (ELEV.: –MLLW)
1	12122388.6523	3481803.8823	N036°51'53.9"	W076°18'50.0"	–36.88
2	12122313.3458	3481882.9562	N036°51'54.7"	W076°18'50.9"	–34.48
3	12122150.4783	3481564.7178	N036°51'51.6"	W076°18'53.0"	–36.66
4	12122074.9846	3481642.9653	N036°51'52.4"	W076°18'53.9"	–34.64
5	12121875.5981	3481258.6144	N036°51'48.7"	W076°18'56.5"	–35.48
6	12121778.6901	3481349.7462	N036°51'49.6"	W076°18'57.7"	–35.56
7	12121649.9541	3480930.0406	N036°51'45.5"	W076°18'59.4"	–34.56
8	12121439.8269	3481105.6886	N036°51'47.2"	W076°19'01.9"	–35.71

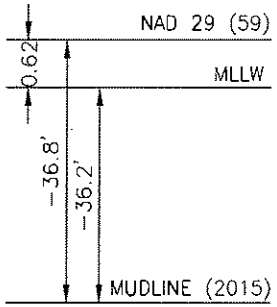
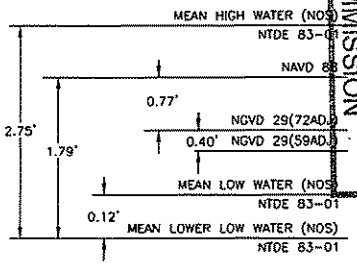


DIAGRAM OF DATUM PLANE

NATIONAL TIDAL DATUM EPOCH (NTDE) 1983–2000



PROVIDED BY ROUSE–SIRINE ASSOCIATES, LTD.

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AMEC
ENVIRONMENT & INFRASTRUCTURE, INC.
4021 STIRRUP CREEK DRIVE, SUITE 100
DURHAM, NORTH CAROLINA

REV	BY	DATE	DESCRIPTION

NORFOLK SOUTHERN

NORFOLK SOUTHERN RAILWAY

VIRGINIA DIVISION

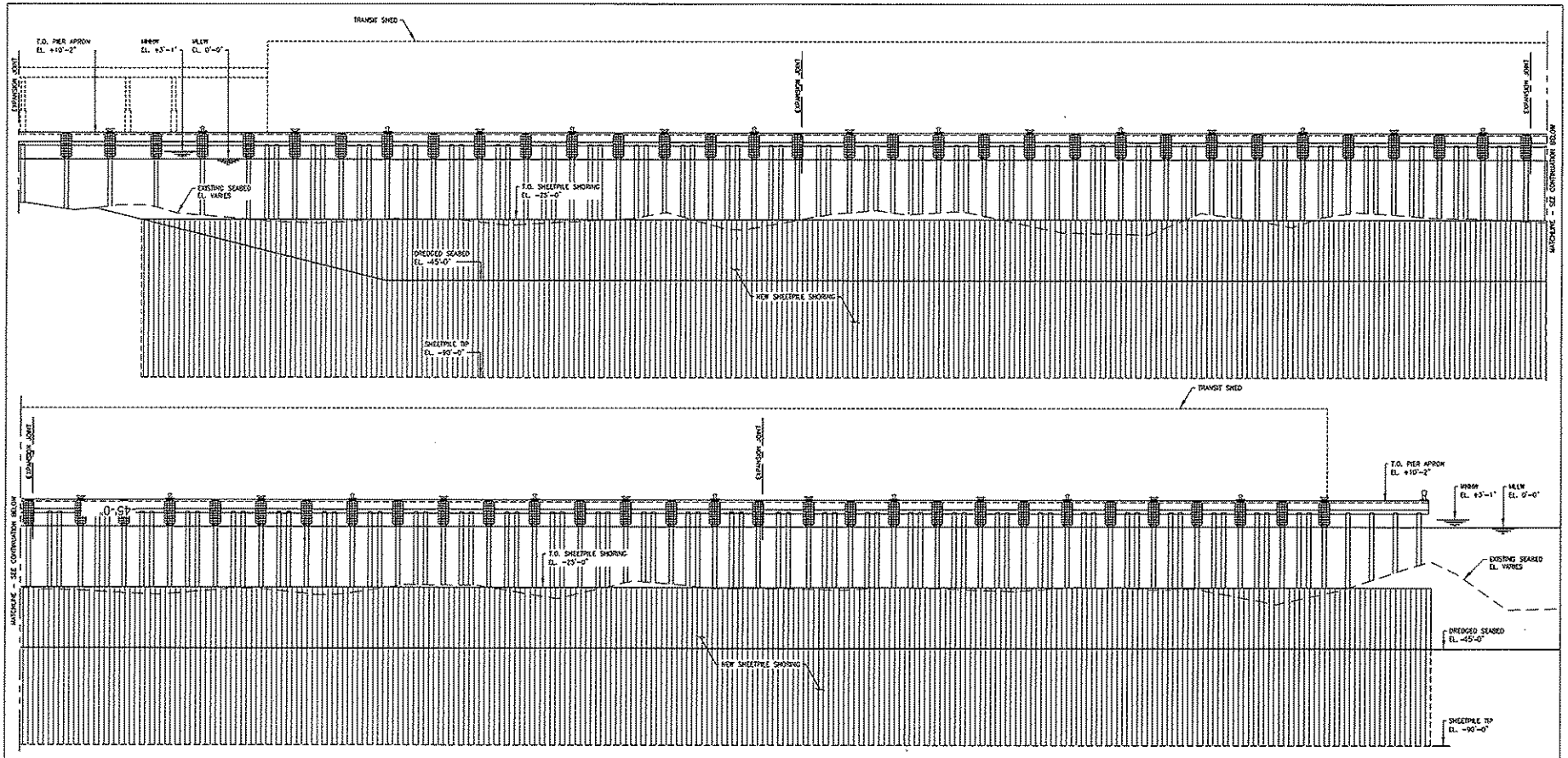
LAMBERT'S POINT DOCK

NORFOLK, VA

PIER P BERTH DEEPENING PROJECT
DREDGING

DRAWING TITLE: GENERAL NOTES

DGN CP | VAL SEC | MAP | MILE POST
DWN DS | FILE No. | DATE FEBRUARY 9, 2016
CHK CP | SHEET NUMBER 3 OF 3 | SHEET ID | DRAWING NUMBER Merchandise Pier Permit



NORTH ELEVATION – PIER P SHEETPILE SHORING

SCALE: 1" = 20'-0"

NOT TO BE USED FOR CONSTRUCTION

0 5' 10' 20' 40'

1"=20'-0"

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REV	BY	DATE	DESCRIPTION

NORFOLK SOUTHERN

NORFOLK SOUTHERN RAILWAY

VIRGINIA DIVISION

LAMBERT'S POINT DOCK

NORFOLK, VA

PIER P BERTH DEEPENING PROJECT

SHORING WALL AND DREDGING

DRAWING TITLE

SHORING WALL – NORTH ELEVATION

DGN KK	VAL SEC	WAR	MILE POST
DWN JD	FILE NO.		DATE DECEMBER 10, 2015
CHK NDL	SHEET NUMBER 4 OF 9	SHEET ID	DRAWING NUMBER 552660048-2100-0020-PLS-0001

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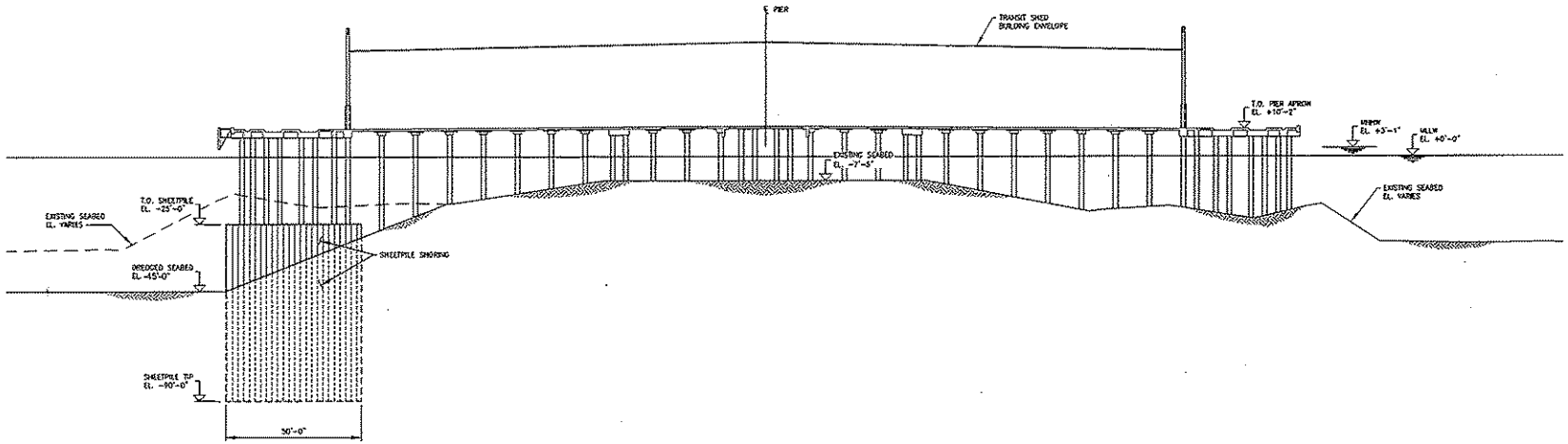

WEST ELEVATION – PIER P SHEETPILE SHORING

SCALE: 1" = 20'-0"

NOT TO BE USED FOR CONSTRUCTION

REV	BY	DATE	DESCRIPTION

NORFOLK SOUTHERN

NORFOLK SOUTHERN RAILWAY

VIRGINIA DIVISION

LAMBERT'S POINT DOCK

NORFOLK, VA

PIER P BERTH DEEPENING PROJECT
SHORING WALL AND DREDGING

DRAWING TITLE: SHORING WALL – WEST ELEVATION

0 3' 10' 20' 40'
1"=20'-0"

amec foster wheeler

DSN KK	AL SEC	MAP	MILE POST
DWN JD	FILE No.		DATE DECEMBER 18, 2015
CHK NDL	SHEET NUMBER 5 OF 9	SHEET ID	DRAWING NUMBER 552660048-2100-0020-PLS-0002

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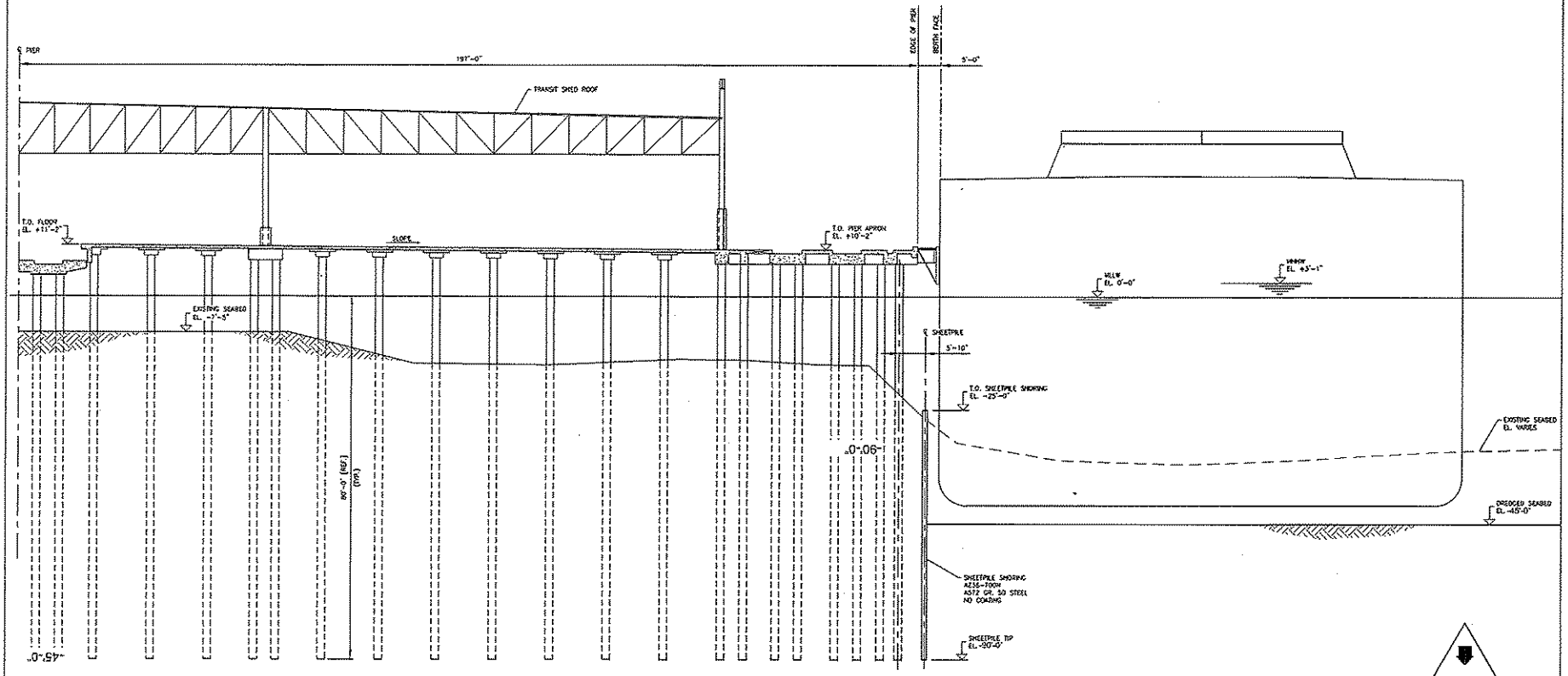
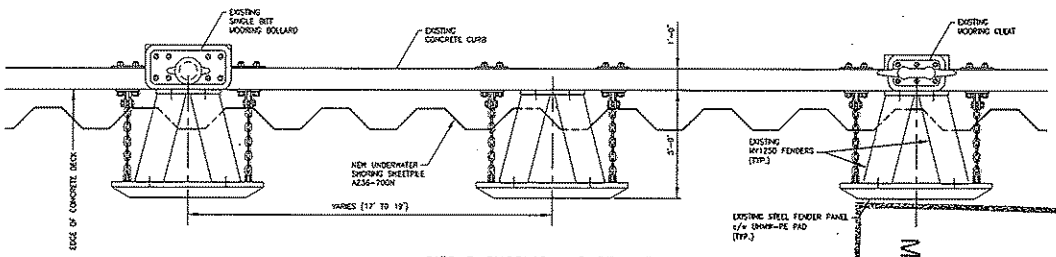


TYPICAL PIER P SECTION

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



PIER P SHORING – PARTIAL PLAN

SCALE: 3/8"=1'-0"

0' 1' 2' 3' 4' 5'
3/8"=1'-0"

0' 5' 10' 15' 20'
3/32"=1'-0"

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REV	BY	DATE	DESCRIPTION

NORFOLK SOUTHERN

NORFOLK SOUTHERN RAILWAY

VIRGINIA DIVISION

LAMBERT'S POINT DOCK

NORFOLK, VA

PIER P BERTH DEEPENING PROJECT
SHORING WALL AND DREDGING

DRAWING TITLE

SHORING – SECTION & PLAN

DGN KK	CAL SEC	MAP	MILE POST
DWN JD	FILE NO.		DATE DECEMBER 18, 2015
CHK NDL	SHEET NUMBER 6 OF 9	SHEET ID	DRAWING NUMBER 552660048-2100-DD20-PLS-0003

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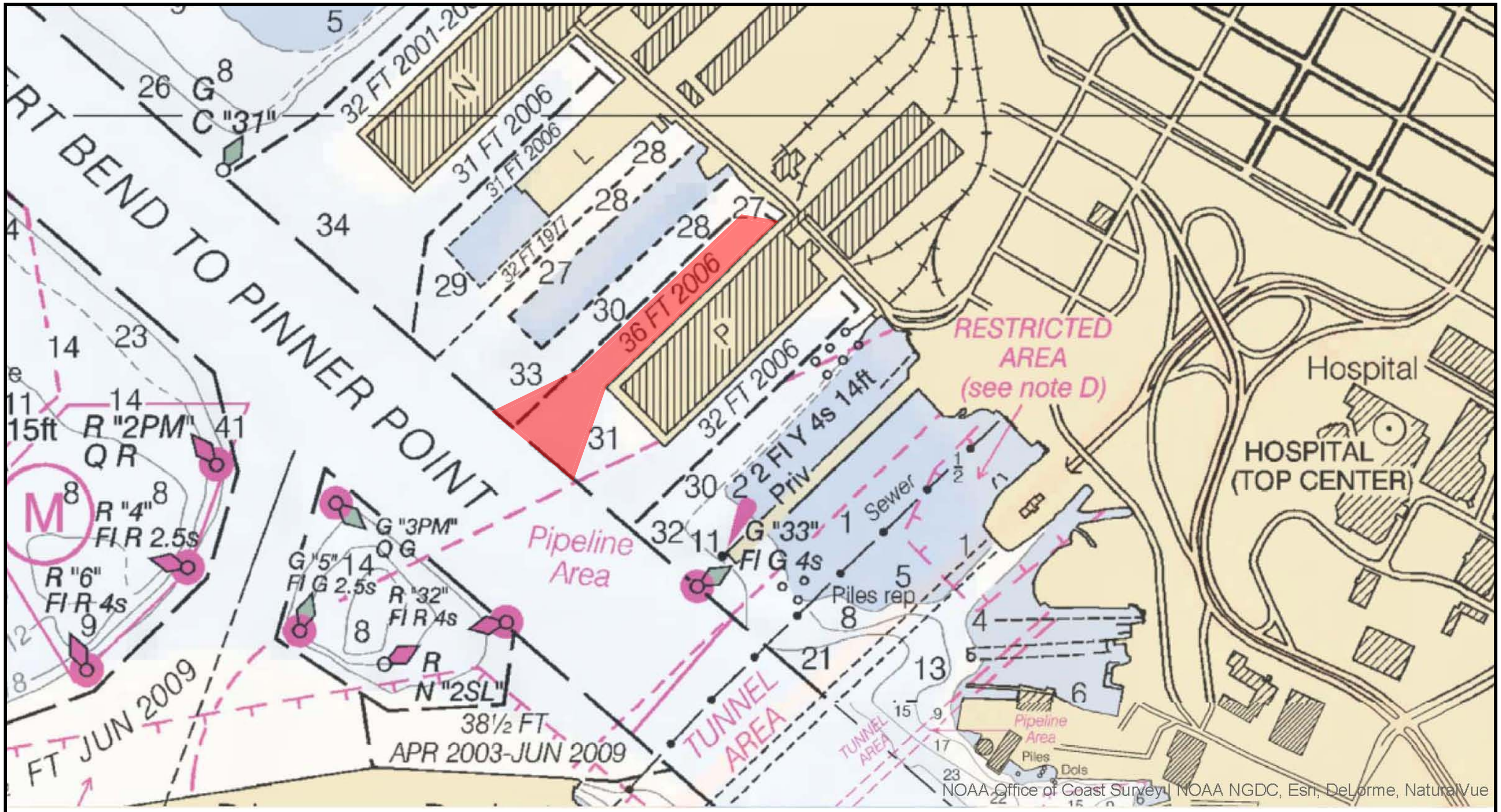


Proposed Dredging (full-depth)

36° 52' 4.9974", -76° 19' 20.208"

0 300 600ft

amec foster wheeler

NORFOLK SOUTHERN

NORFOLK SOUTHERN RAILWAY

VIRGINIA DIVISION

LAMBERT'S POINT DOCK

NORFOLK, VA

PIER P BERTH DEEPENING PROJECT
SHORING WALL AND DREDGING

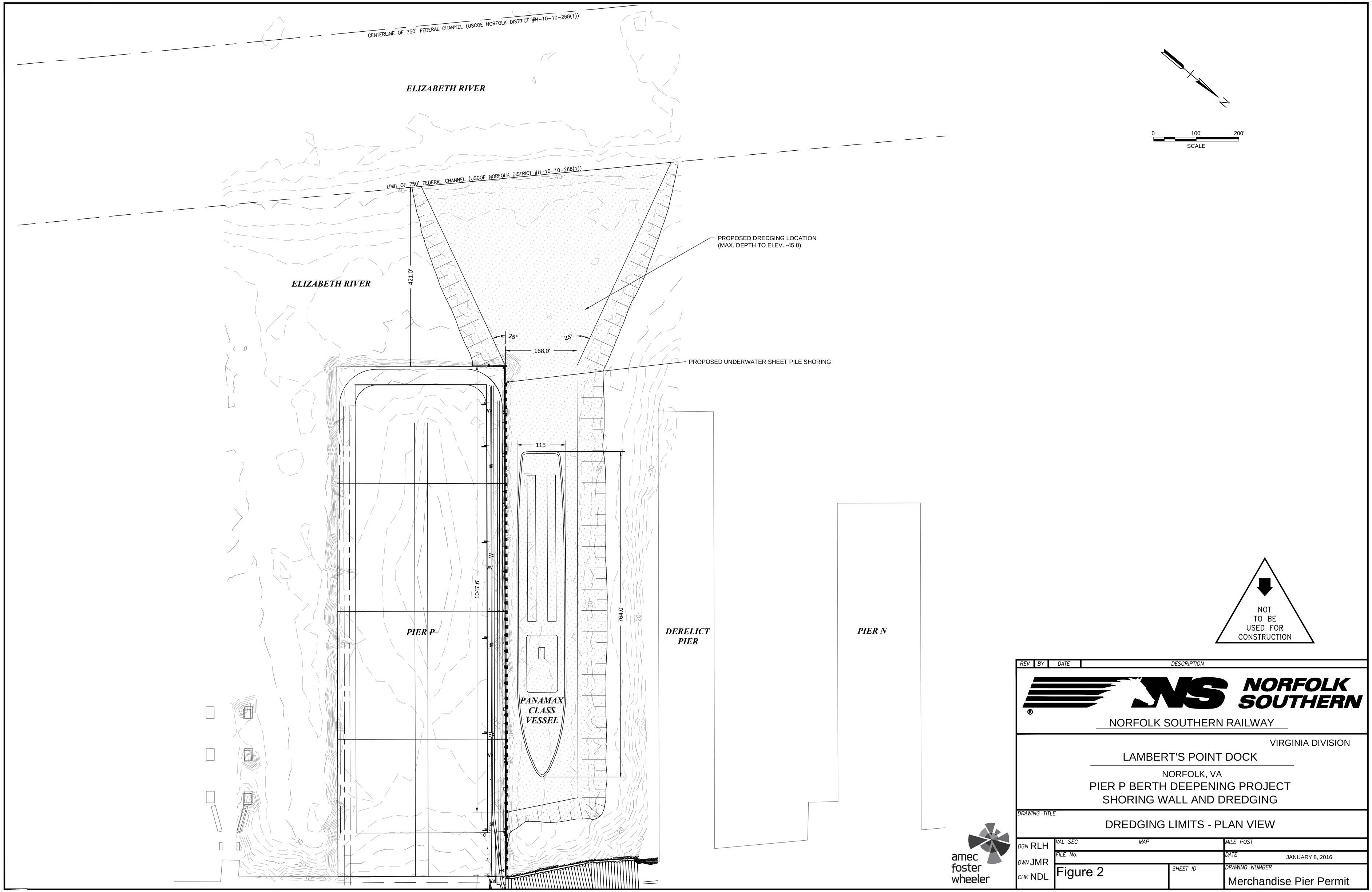
DRAWING TITLE: DREDGING LIMITS - PLAN VIEW

DSGN RLH | DWN JMR | CHK NDL

DATE: JANUARY 8, 2016

SHEET NUMBER: 1 OF 1

DRAWING NUMBER: Merchandise Pier Permit


CENTERLINE OF 750' FEDERAL CHANNEL (USCOE NORFOLK DISTRICT #H-10-10-268(1))
ELIZABETH RIVER
LIMIT OF 750' FEDERAL CHANNEL (USCOE NORFOLK DISTRICT #H-10-10-268(1))
ELIZABETH RIVER
421.0'
PROPOSED DREDGING LOCATION
(MAX. DEPTH TO ELEV. -45.0)
25°
25°
168.0'
PROPOSED UNDERWATER SHEET PILE SHORING
115'
1047.6'
764.0'
PIER P
PANAMAX
CLASS
VESSEL
DERELICT
PIER
PIER N
0
100'
200'
SCALE
N
NOT
TO BE
USED FOR
CONSTRUCTION
REV
BY
DATE
DESCRIPTION
NORFOLK
SOUTHERN
NORFOLK SOUTHERN RAILWAY
VIRGINIA DIVISION
LAMBERT'S POINT DOCK
NORFOLK, VA
PIER P BERTH DEEPENING PROJECT
SHORING WALL AND DREDGING
DRAWING TITLE
DREDGING LIMITS - PLAN VIEW
DGN RLH
DWN JMR
CHK NDL
VAL SEC
MAP
MILE POST
FILE No.
DATE
JANUARY 8, 2016
Figure 2
SHEET ID
DRAWING NUMBER
Merchandise Pier Permit
amec
foster
wheeler