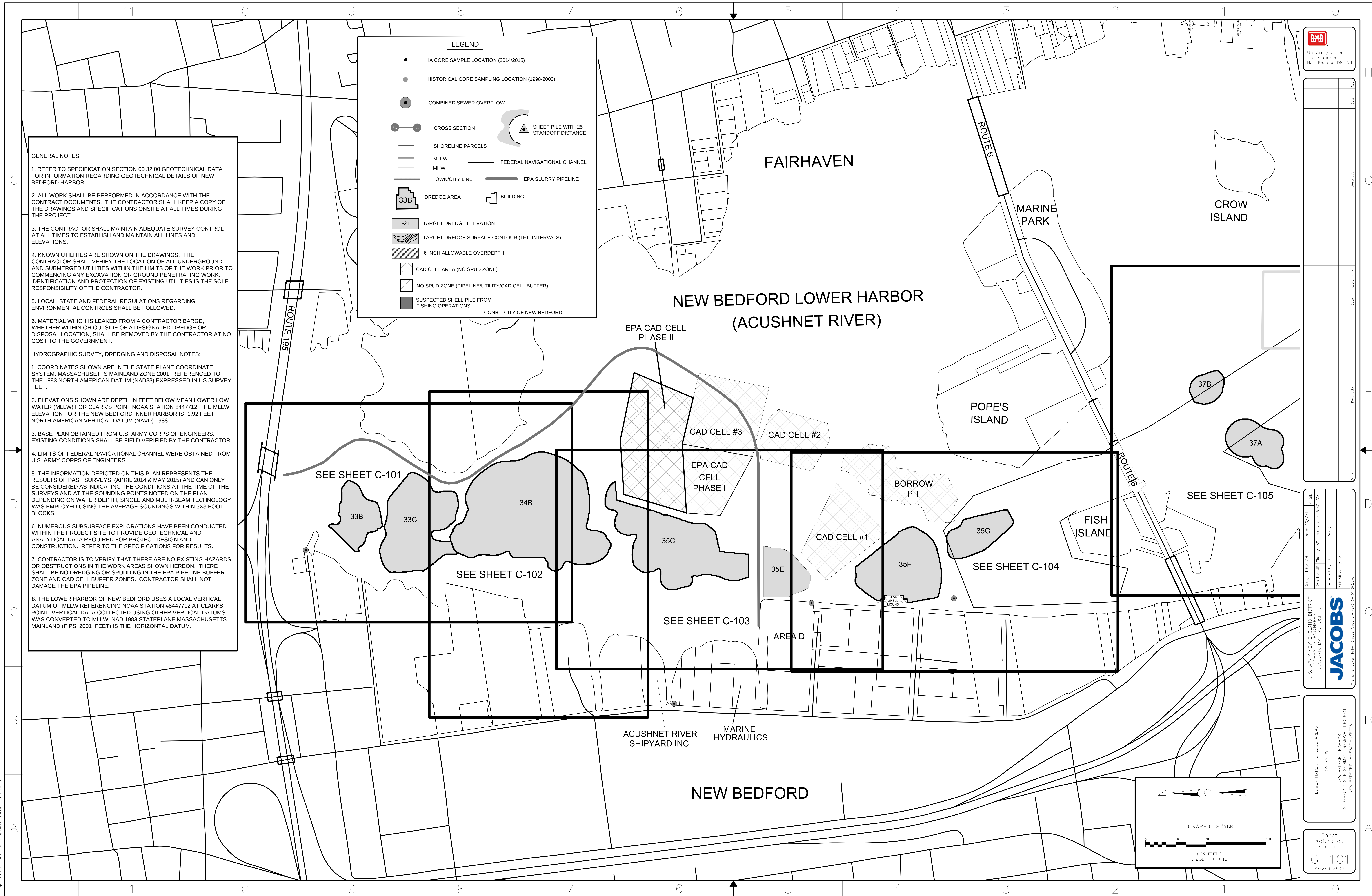


CONTRACT #W912WJ-17-R-0003
December 2016
NEW BEDFORD HARBOR, NEW BEDFORD, MASSACHUSETTS

An aerial photograph of Lower Harbor in New Bedford, Massachusetts. The harbor is a large, dark body of water. To the north, a highway (I-195) runs horizontally. To the west, another highway (Rte 1A) runs vertically. The city of New Bedford is visible on the western shore, with various industrial and commercial buildings. To the east, the town of Fairhaven is visible. In the center of the harbor, there is a large, irregularly shaped island. To the south of this island, there are several smaller islands and a large marina area. The marina has many boat slips and is labeled 'MARINE PARK'. Other labels include 'POPE'S ISLAND', 'FISH ISLAND', and 'CROW ISLAND'. A scale bar at the bottom left indicates a distance of 0.25 miles. A north arrow is located in the top left corner. Highway shields for 195 and 6 are also visible.

E SIZE FINAL DESIGN

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US Army Corps
of Engineers
New England District

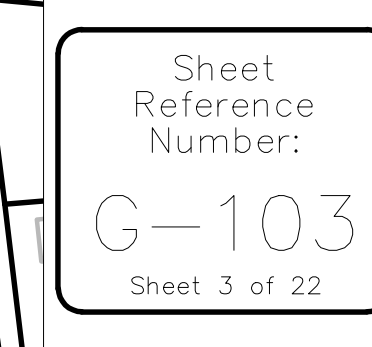
Designated By	DATE	10/7/16	ANSE
Gen By: JP	End By: SS	Task Order: 3507028	
Reviewed By: AR	Rev #:		
Submitted by: MA			

U.S. ARMY NEW ENGLAND DISTRICT
CONCORD, MASSACHUSETTS

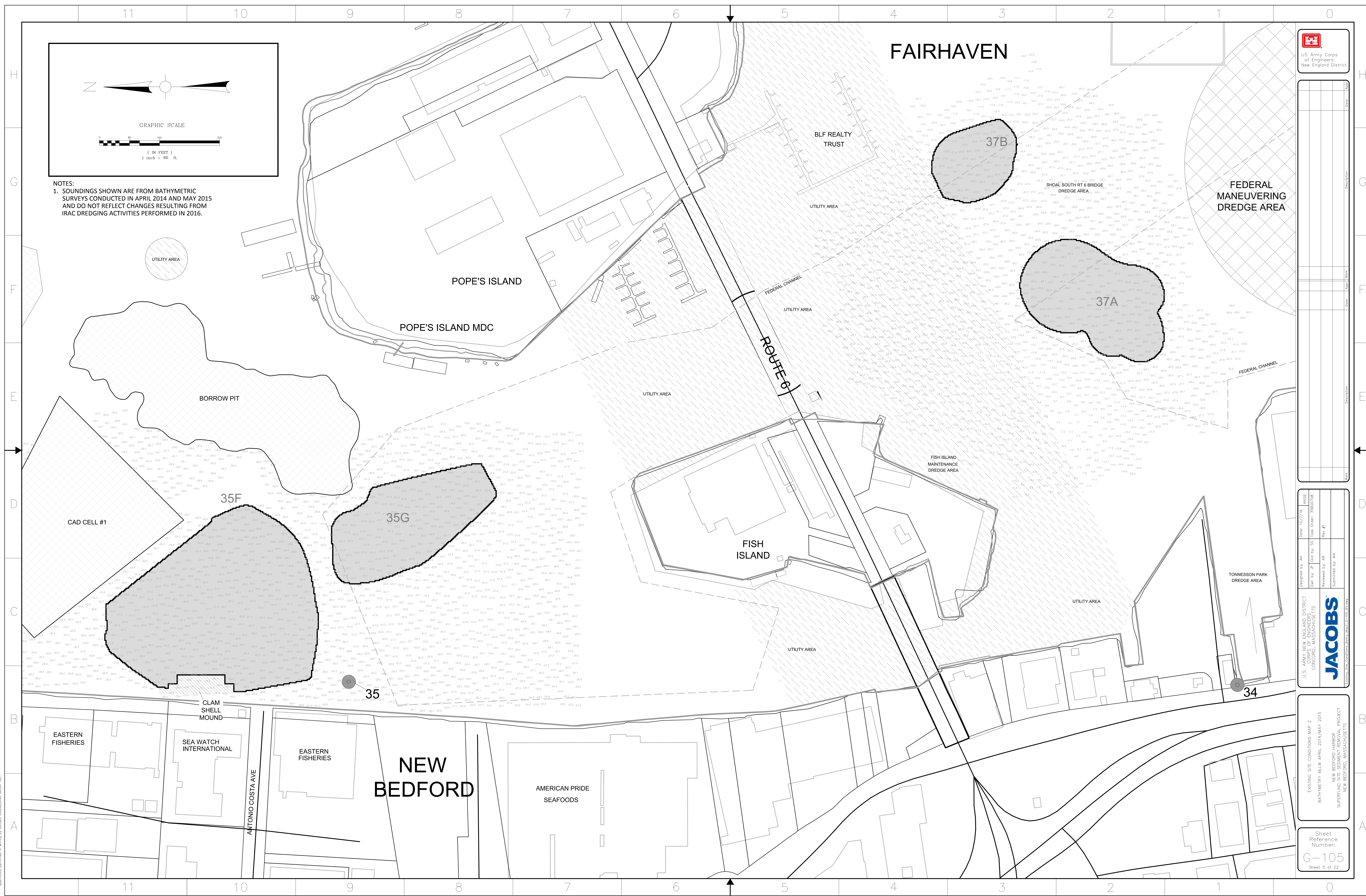
U.S. Army Corps of Engineers
New England District
Fairhaven, MA

LOWER HARBOR HISTORICAL AND IA
CORE SAMPLING LOCATIONS - UPPER PORTION
NEW BEDFORD HARBOR
SUPERFUND SITE SEDIMENT REMOVAL PROJECT
NEW BEDFORD, MASSACHUSETTS

Sheet
Reference Number:
G-102
Sheet 2 of 22



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NOTES:
1. SOUNDINGS SHOWN ARE FROM BATHYMETRIC SURVEYS CONDUCTED IN APRIL 2014 AND MAY 2015 AND DO NOT REFLECT CHANGES RESULTING FROM IRAC DREDGING ACTIVITIES PERFORMED IN 2016.



U.S. Army Corps of Engineers
New England District

NO.	DESCRIPTION	DATE	APPROVED	MARK	DATE	APPROVED	MARK

U.S. ARMY NEW ENGLAND DISTRICT CONCORD, MASSACHUSETTS	DESIGNED BY: AN DRAWN BY: JH CHECKED BY: SS DATE: 10/7/16	Task Order: 2560208 Rev: #1
JACOBS	REVIEWED BY: AR SUBMITTED BY: MA	

EXISTING SITE CONDITIONS MAP 2
BATHYMETRY MLW APRIL 2014/MAY 2015
NEW BEDFORD HARBOR
SUPERFUND MASSACHUSETTS PROJECT

Sheet Reference Number:
G-105
Sheet 5 of 22

1. SOUNDINGS SHOWN WITHIN PHASE II ARE FROM JACOBS SURVEY PERFORMED IN SEPTEMBER 2016. SOUNDINGS WITHIN PHASE I AND THE CAD CELL ENTRANCE ARE FROM USACE - NEW ENGLAND DISTRICT PERFORMED IN DECEMBER 2015.

NEW
BEDFORD

MARINE
HYDRAULICS

GRAPHIC SCALE

PHASE I CA

APPROXIMATE LOCATION
OF EPA PIPELINE

BATHYMETRY ALONG BASELINE 1

BATHYMETRY ALONG BASELINE 1

(West) (East)

Elevation (Feet, MLLW)

5:1 APPROXIMATE SLOPE

PHASE II CAD CELL FILL LIMITS -14 MLLW

EXISTING BOTTOM

PHASE II CAD CELL FILL LIMITS -10 MLLW

SCALE: HOR. 1"=100'
VER. 1"=33'

10+00 9+00 8+00 7+00 6+00 5+00 4+00 3+00 2+00 1+00 0+00

PHASE II
CAD CELL
FILL LIMITS
FILL TO
-14 MLLW

SCOW
SLAND

— BASELINE 1
(FROM APEX
DRAWINGS)

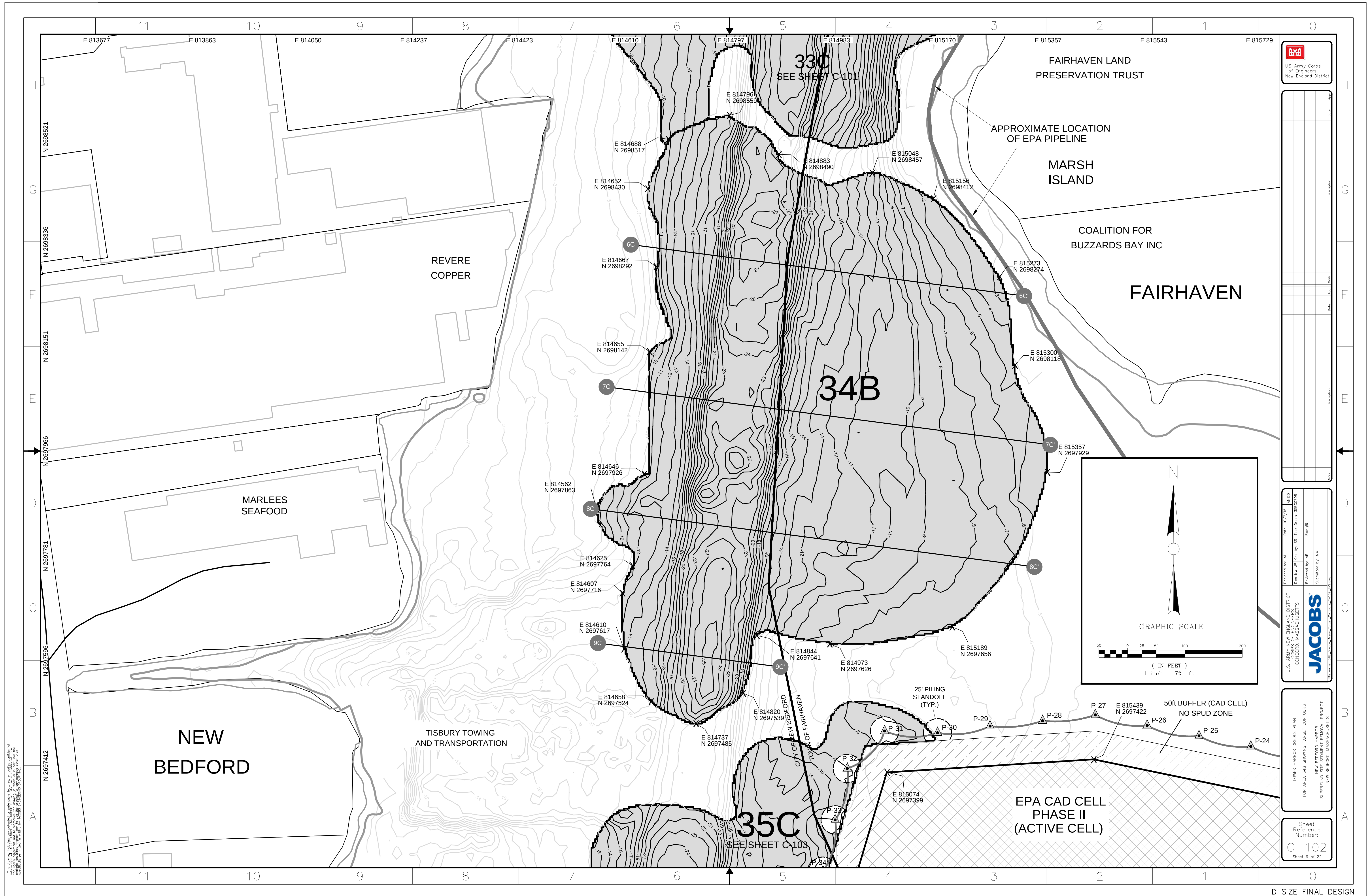
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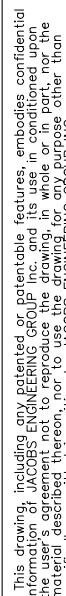
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	Reviewed by:		Rev #6	
	Submitted by:			
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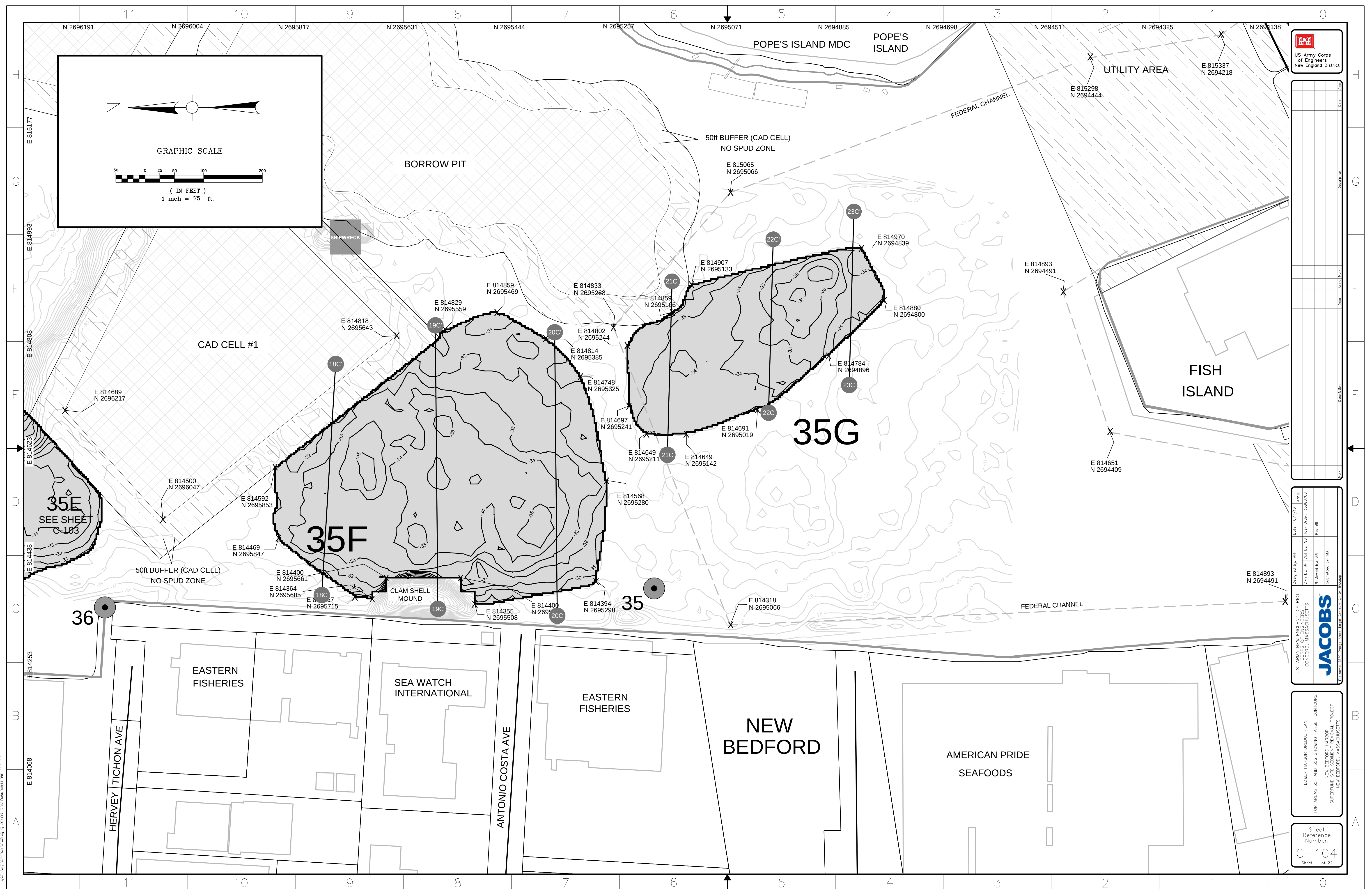
LOWER HARBOR EPA CAD CELLS
SHOWING PHASE II FILL LIMITS

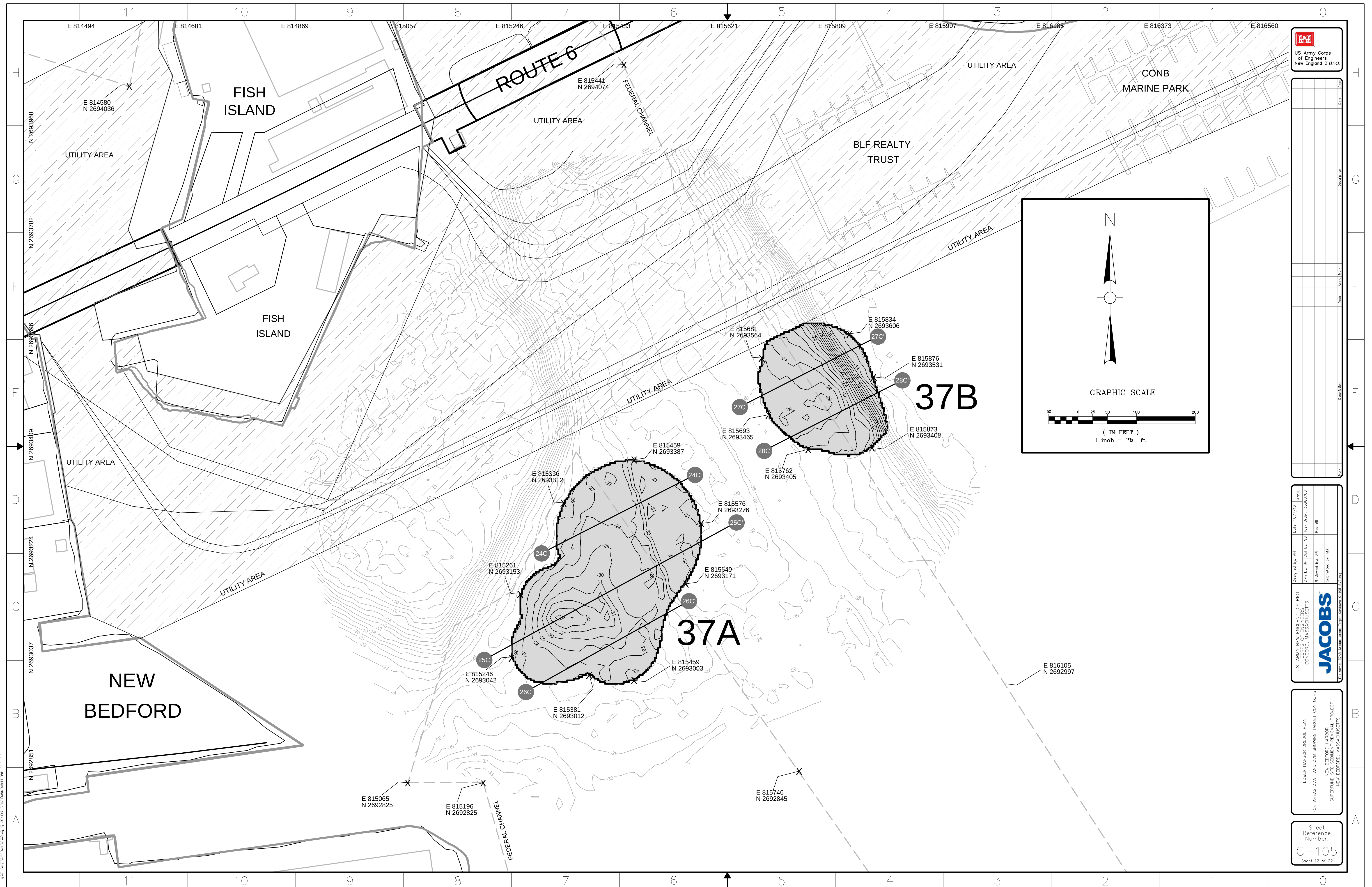
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Reference
Number:
G-107
Sheet 7 of 22

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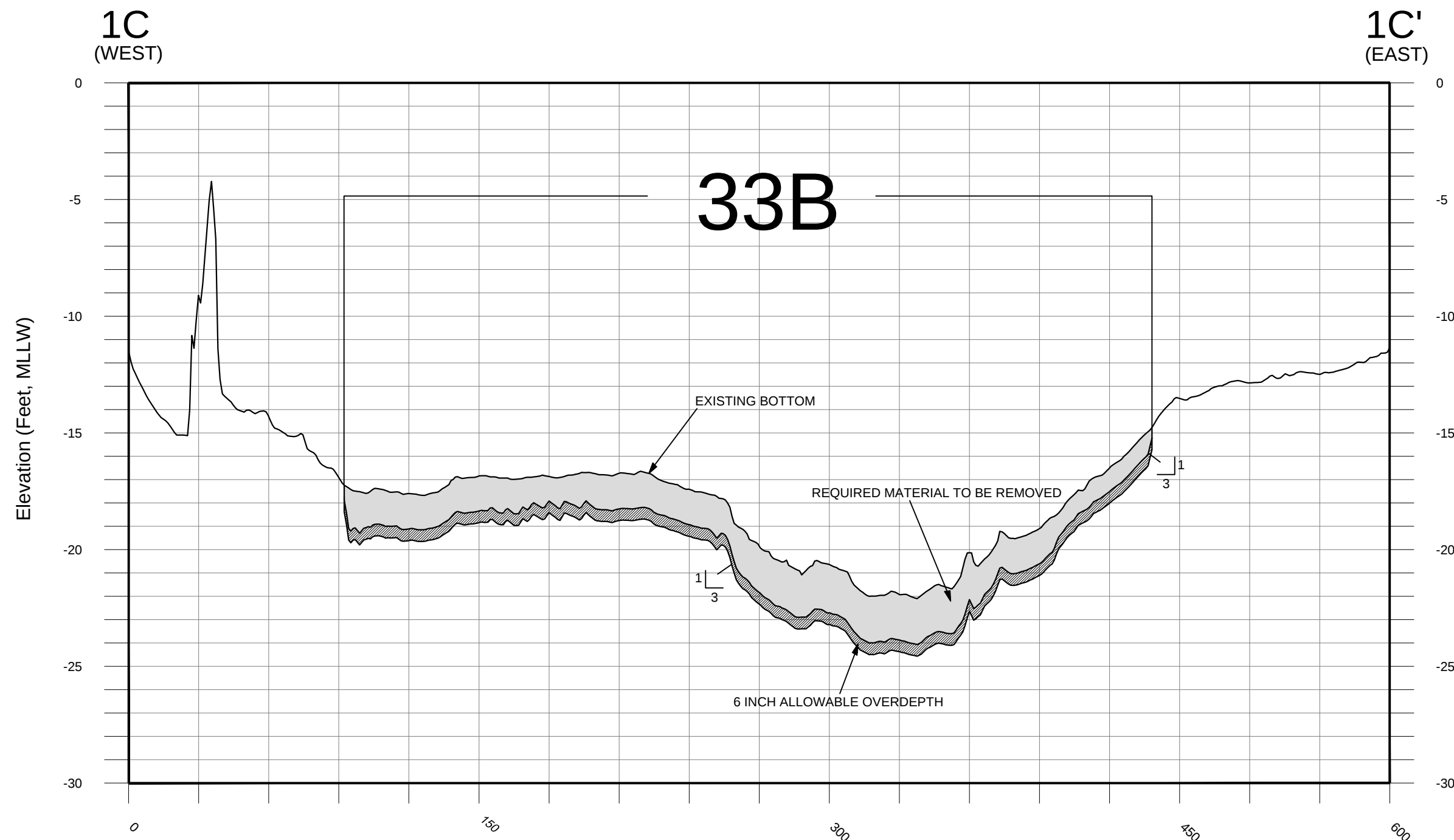




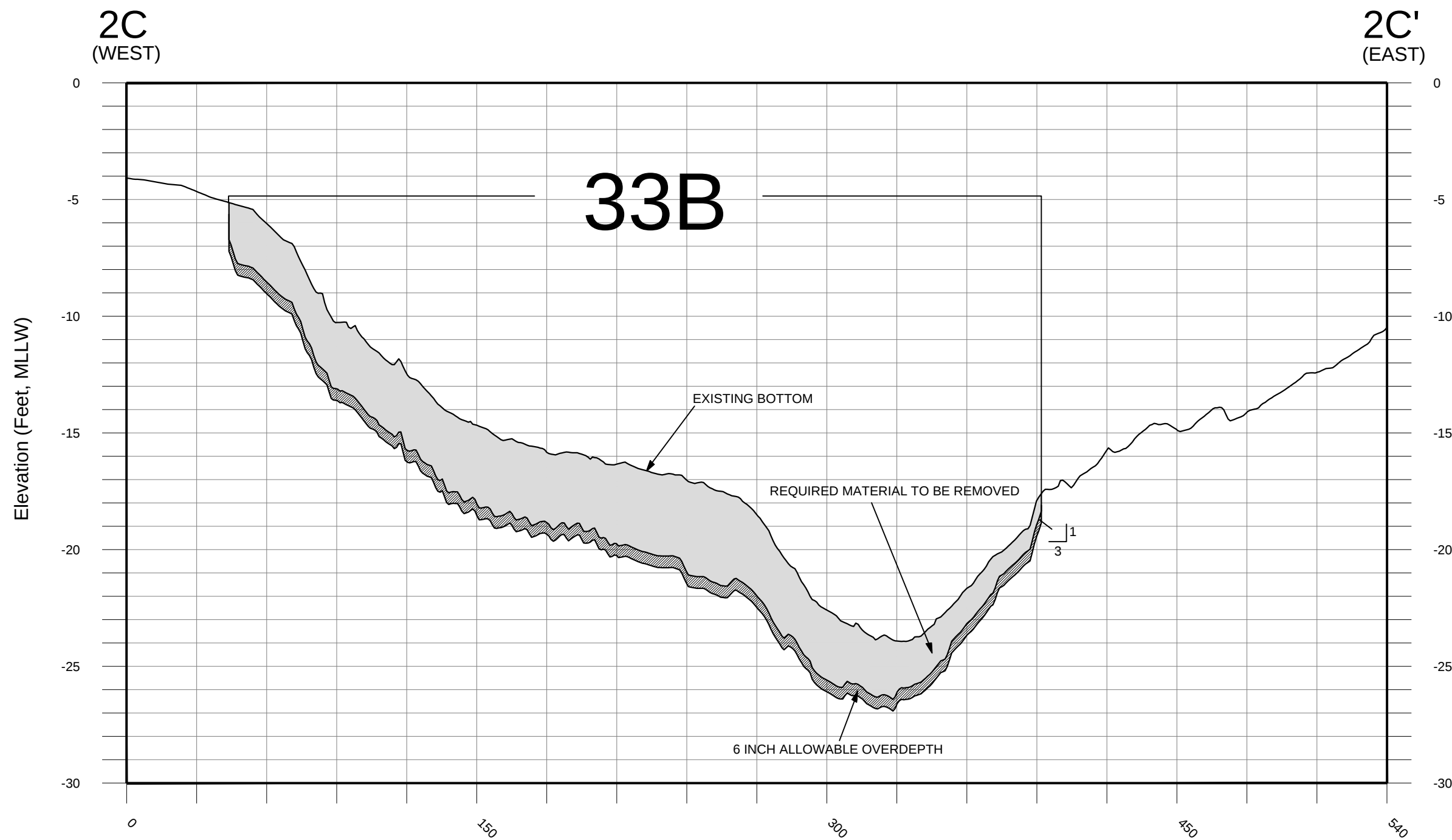




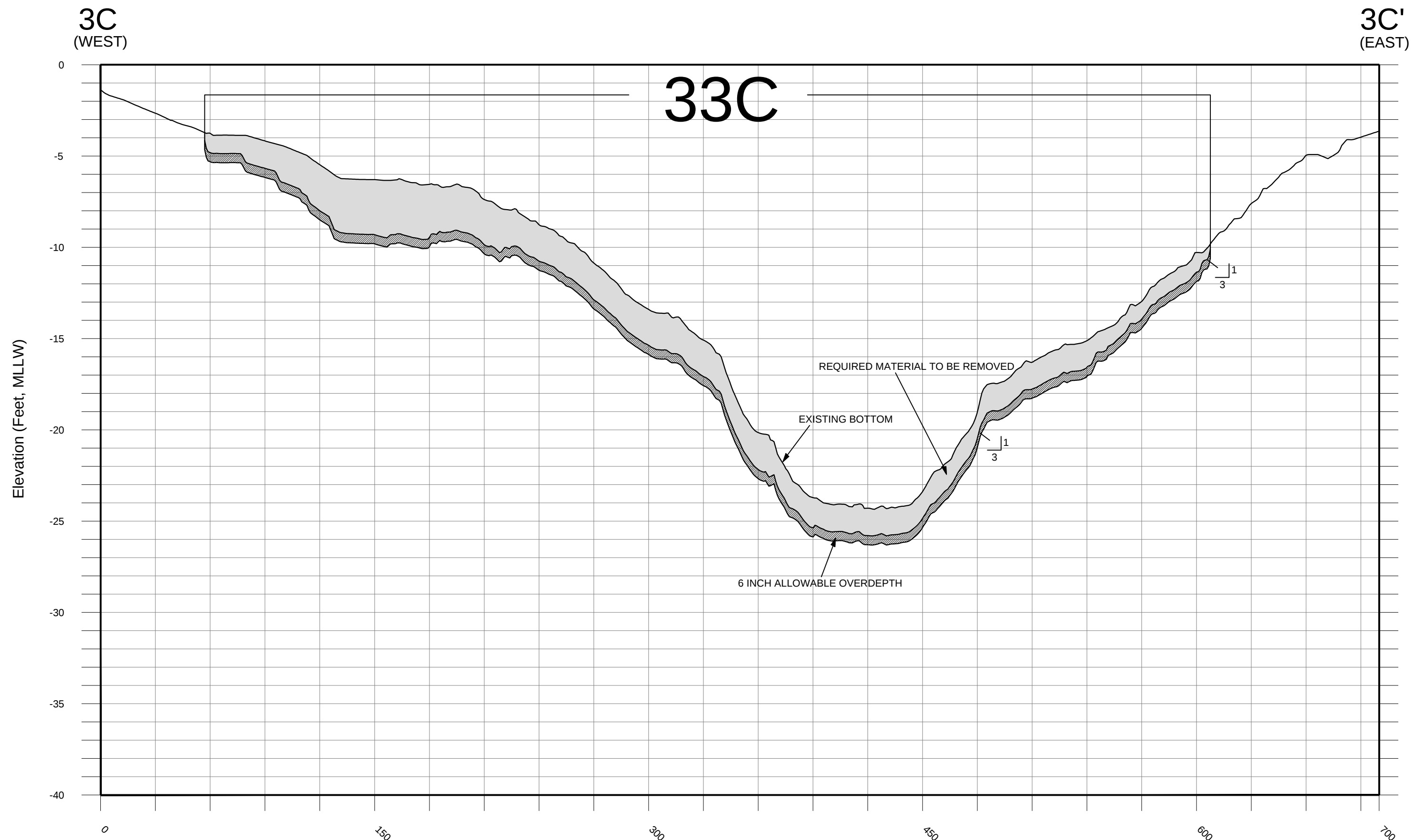
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1C
C101 LOWER HARBOR DREDGE AREA 33B SECTION
SCALE: HOR. 1" = 50'
VER. 1" = 5'

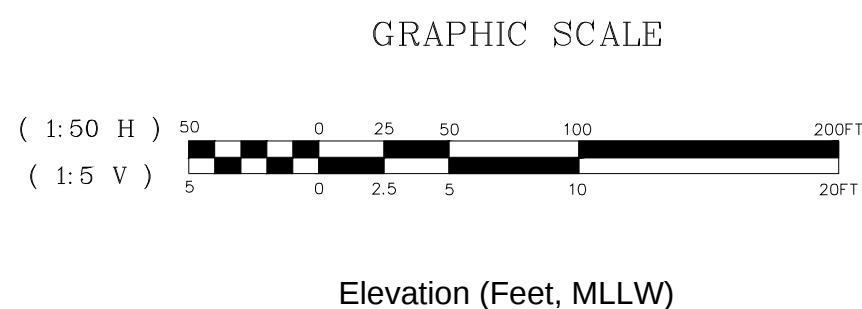


2C
C101 LOWER HARBOR DREDGE AREA 33B SECTION
SCALE: HOR. 1" = 50'
VER. 1" = 5'



3C
C101 LOWER HARBOR DREDGE AREA 33C SECTION
SCALE: HOR. 1" = 50'
VER. 1" = 5'

- NOTES:
1. THE FOLLOWING NOTES ARE APPLICABLE TO DRAWINGS C-301 THROUGH C-310.
 2. REFER TO SPEC SECTION 35 20 23, 1.10 FOR SLOPE CUTTING METHODOLOGY.
 3. SEE ATTACHMENT K TO THE SPECIFICATIONS FOR EXAMPLES OF CONTOUR DREDGING APPROACH.
 4. DREDGE ELEVATIONS BELOW MLLW ARE FROM 3 FOOT BY 3 FOOT GRID OF DATA AND MAY NOT EXACTLY MATCH SMOOTHED CONTOUR LINES ON DREDGE PLANS.
 5. DREDGE TO ELEVATION LINE IS INTERPOLATED FROM THE INDIVIDUAL 3X3 FT GRID ELEVATION CENTERS ALONG THE TRANSECT LINE.
 6. ACTUAL DREDGE TO ELEVATIONS MAY VARY BASED ON EQUIPMENT AND DREDGING LANES PROPOSED BY CONTRACTOR.
 7. DREDGE ELEVATION MUST MEET LOWEST ELEVATION IN INDIVIDUAL BUCKET GRAB FROM THE 3 FOOT BY 3 FOOT GRID OF DATA SUPPLIED TO CONTRACTOR.
 8. WHERE SEDIMENT REMOVING EXCEEDS ONE FOOT THICK, SEDIMENT MUST BE REMOVED IN TWO PASSES AS DETAILED IN SECTION 35 20 23.
 9. ON FINAL PASS, THE CONTRACTOR SHALL DETERMINE THE NECESSARY OVERLAP DISTANCE OF THE BUCKET FROM THE PREVIOUS LOCATION DREDGED IN ORDER TO CAPTURE ANY SLOUGHING FROM THE SIDE SLOPE ON THE UN CUT FACE AND SHALL PROCEED FROM HIGHEST TO LOWEST ELEVATION.



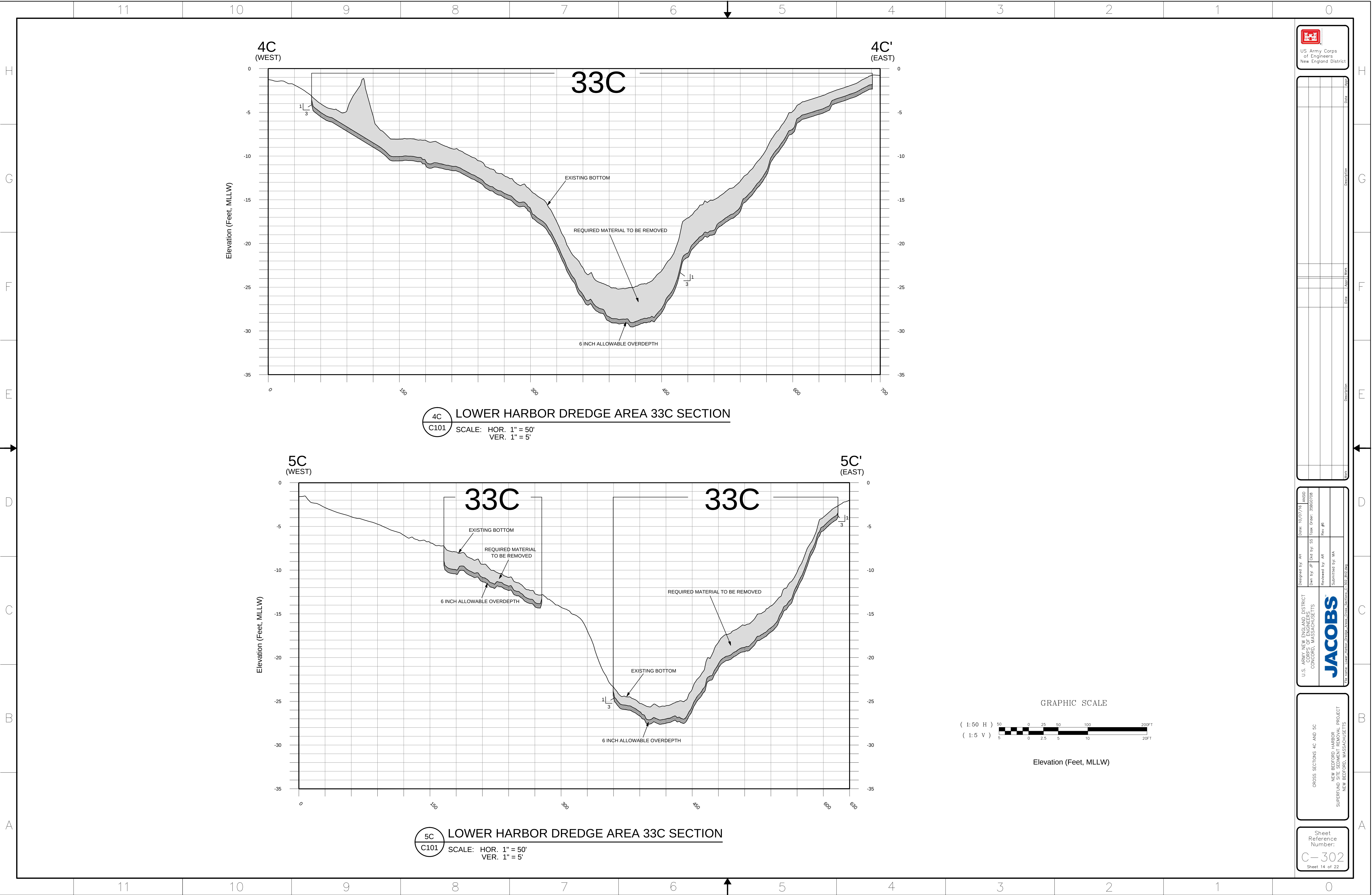
Rev	Date	Asst	Work	Description

U.S. ARMY NEW ENGLAND DISTRICT CONCORD, MASSACHUSETTS	Designed by: AR Dwn by: JP Reviewed by: AR Submitted by: WA	Drawn: 10/07/04 Task Order: 3960708 Rev #8	INSRD
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CROSS SECTIONS 1C THROUGH 3C
NEW BEDFORD HARBOR
SUPERFUND SITE SEDIMENT REMOVAL PROJECT
NEW BEDFORD, MASSACHUSETTS

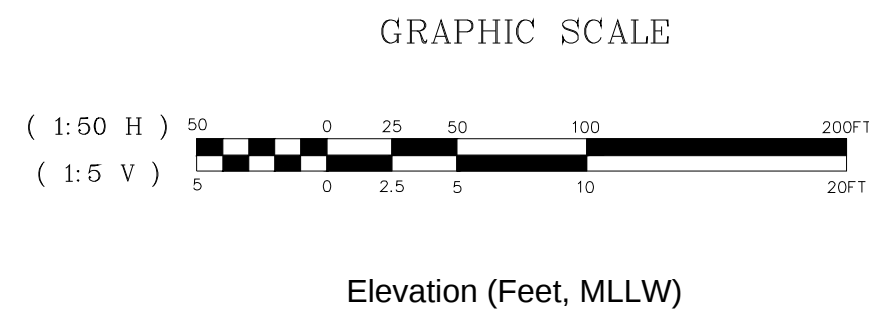
Sheet
Reference
Number:
C-301
Sheet 13 of 22

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4C LOWER HARBOR DREDGE AREA 33C SECTION
C101 SCALE: HOR. 1" = 50'
VER. 1" = 5'

5C LOWER HARBOR DREDGE AREA 33C SECTION
C101 SCALE: HOR. 1" = 50'
VER. 1" = 5'



Rev	Work	Date	Description

Designed by: AAT	Date: 10/07/14	INSD
Dwn by: JP	Out by: SS	Task Order: 3860708
Reviewed by: AAT	Rev #8	
Submitted by: WA		

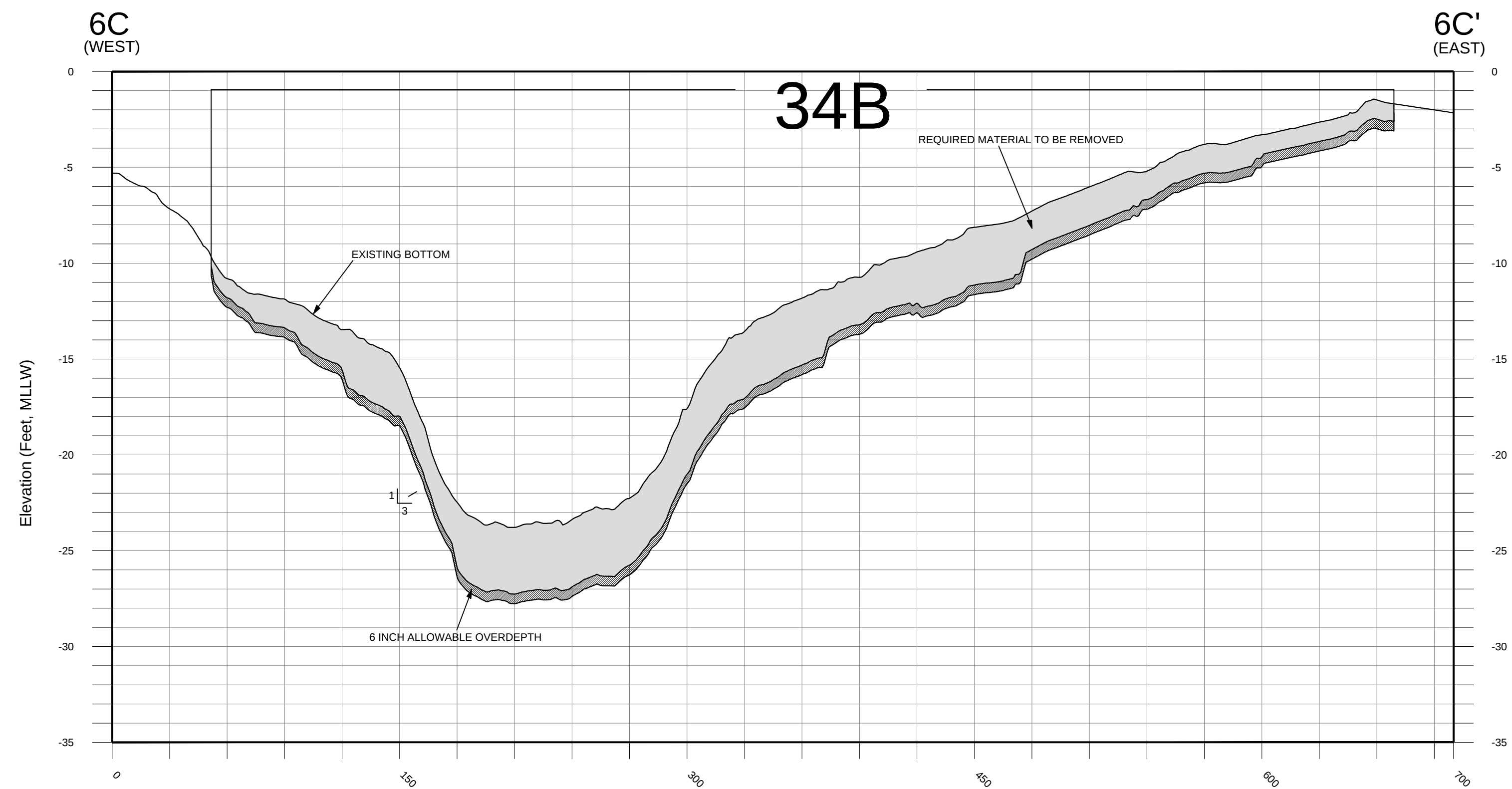
U.S. ARMY NEW ENGLAND DISTRICT
CONCORD, MASSACHUSETTS

JACOBS

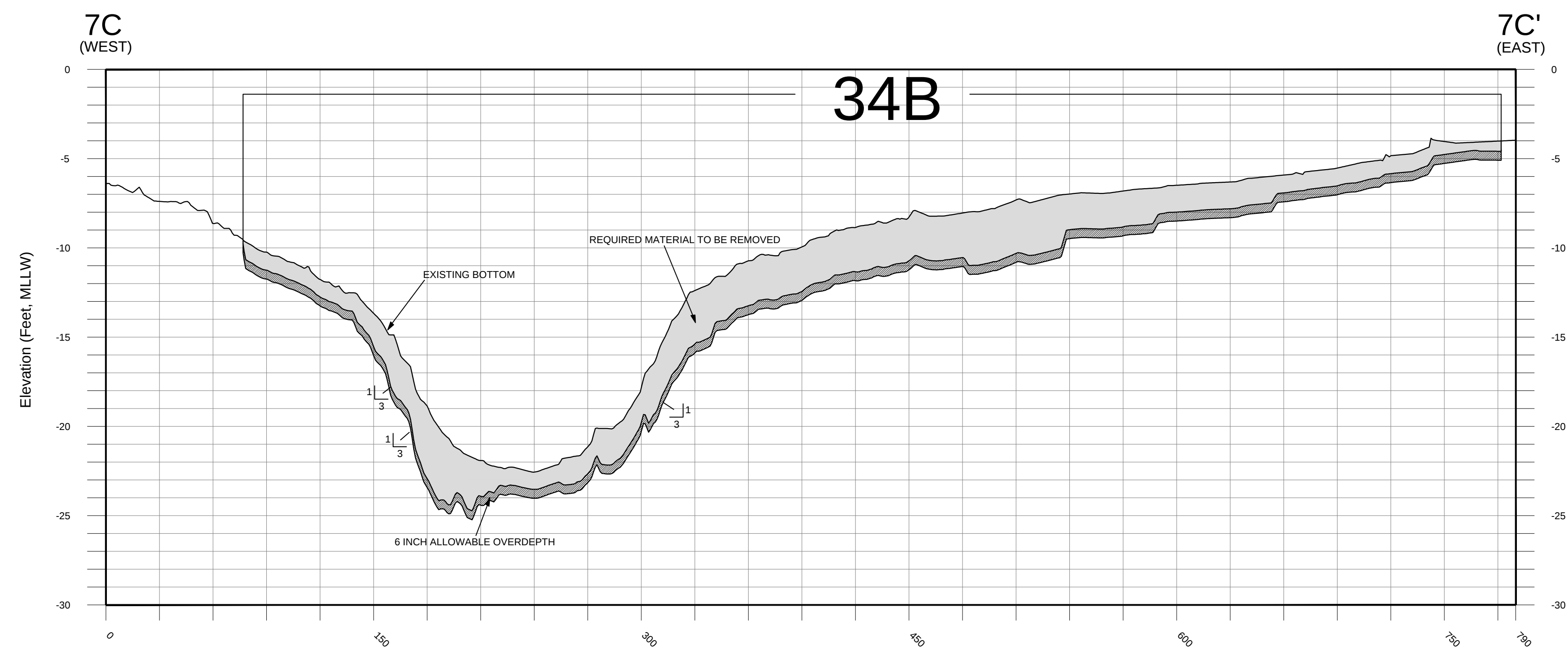
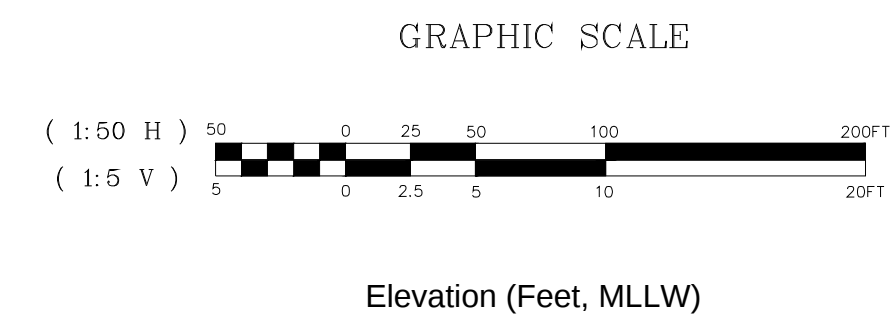
For contract, refer to: USACE, District Area Code, Section C-302, B02-004

CROSS SECTIONS 4C AND 5C
NEW BEDFORD HARBOR
SUPERFUND SITE SEDIMENT REMOVAL PROJECT
NEW BEDFORD, MASSACHUSETTS

Sheet
Reference
Number:
C-302
Sheet 14 of 22



6C LOWER HARBOR DREDGE AREA 34B SECTION
C102 SCALE: HOR. 1" = 50'
VER. 1" = 5'

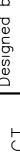


7C
C102

LOWER HARBOR DREDGE AREA 34B SECTION

SCALE: HOR. 1" = 50'
VER. 1" = 5'

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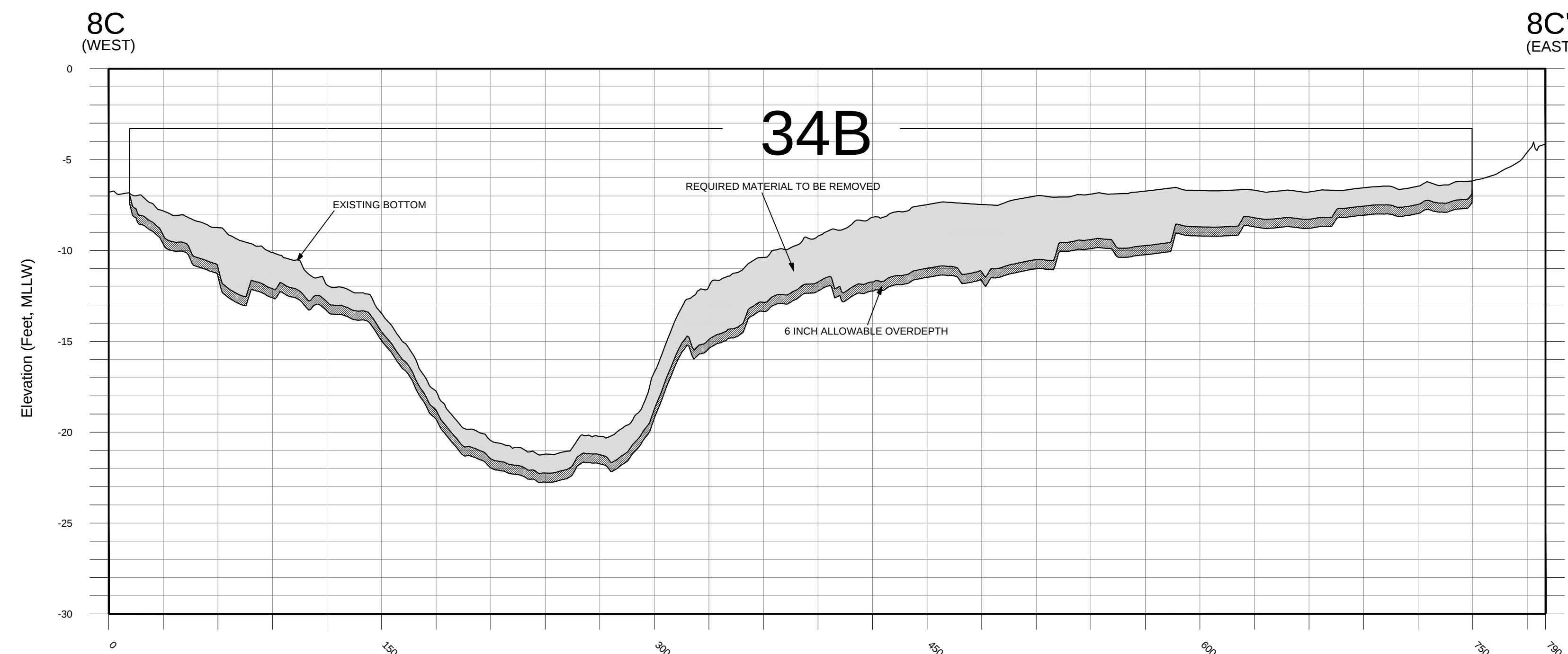
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			Drawn by: JP	Issued by: SS	Task Order: 3560708
			Reviewed by: AR	Rev #0	
			Submitted by: MA		

File name: Linear Warrier Design-Armor Cross-Sections - 302.dwg

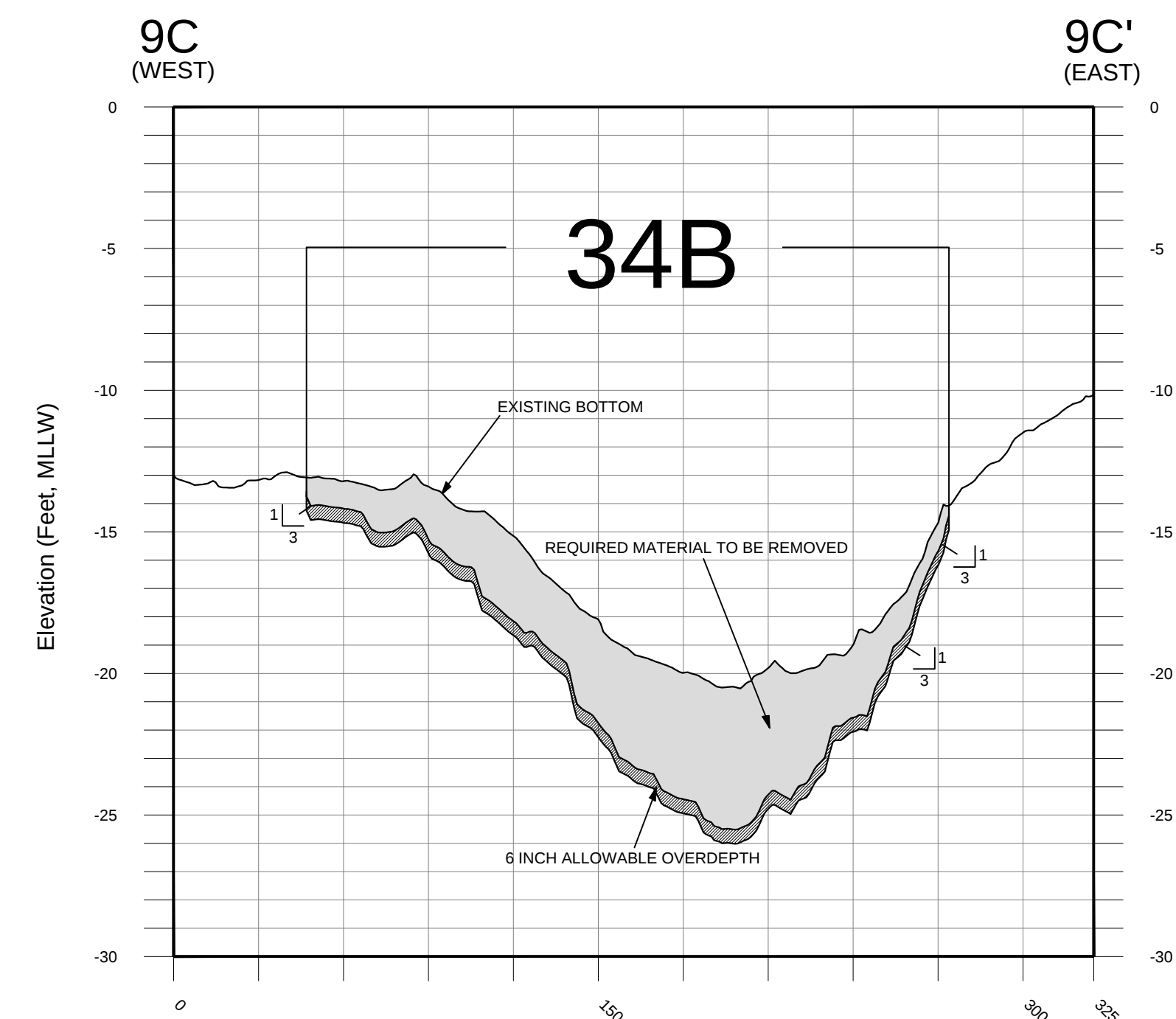
CROSS SECTIONS 6C AND 7C

NEW BEDFORD HARBOR
SUPERFUND SITE SEDIMENT REMOVAL PROJECT
NEW BEDFORD, MASSACHUSETTS

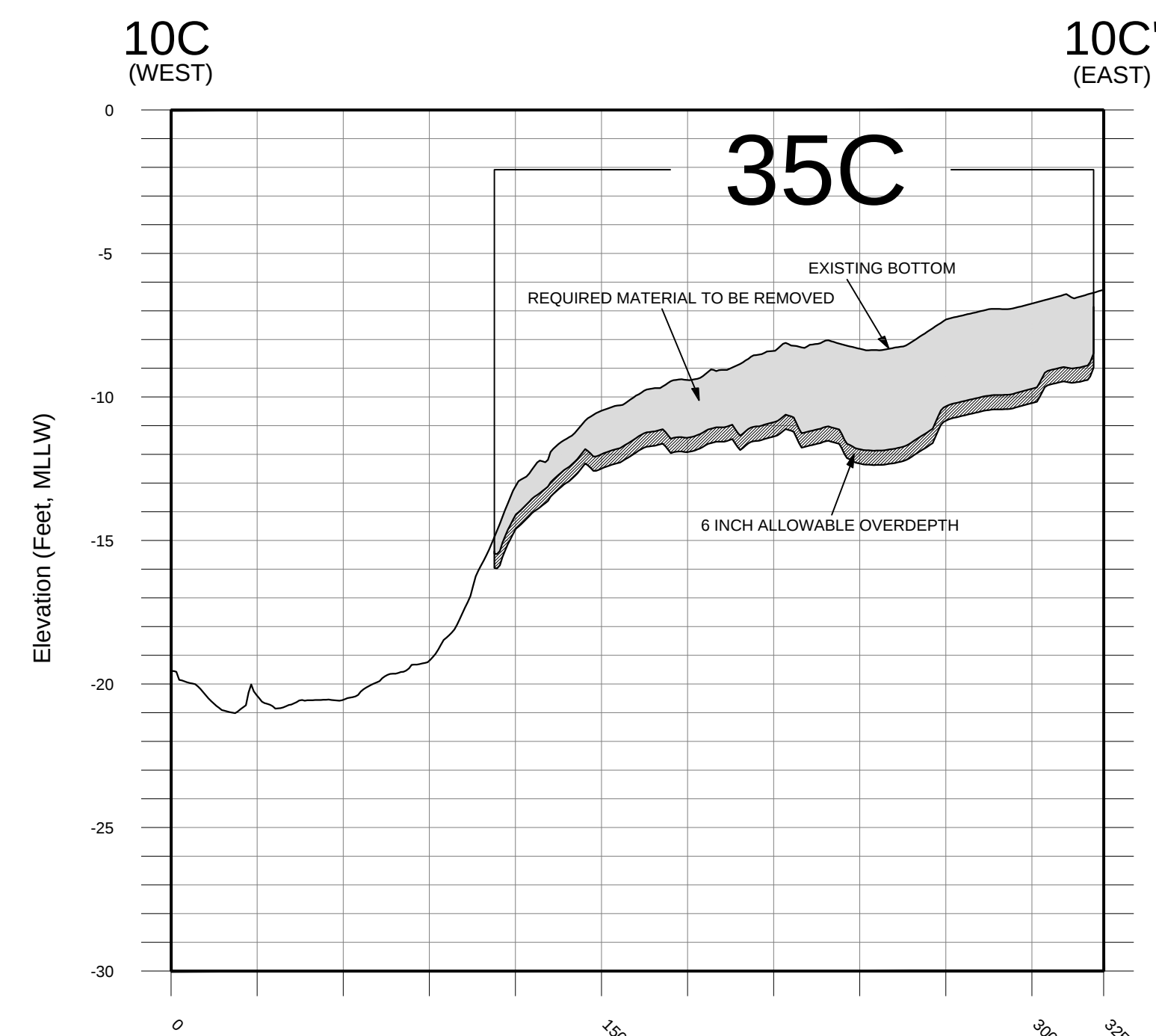
Sheet
Reference
Number:
C-303
Sheet 15 of 22



8C LOWER HARBOR DREDGE AREA 34B SECTION
C102 SCALE: HOR. 1" = 50'
VER. 1" = 5'



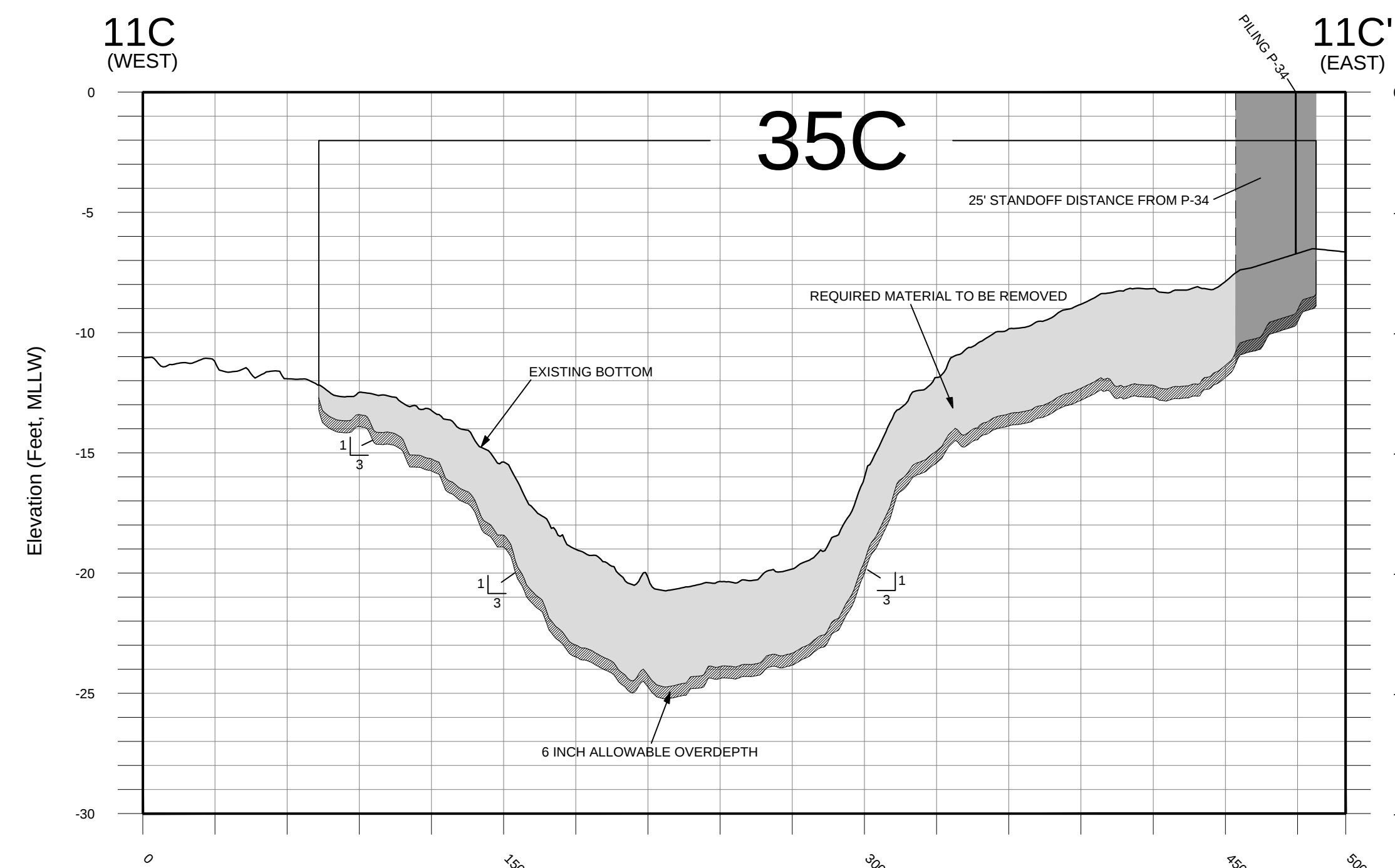
9C LOWER HARBOR DREDGE AREA 34B SECTION
C102 SCALE: HOR. 1" = 50'
VER. 1" = 5'



10C
C103

LOWER HARBOR DREDGE AREA 35C SECTION

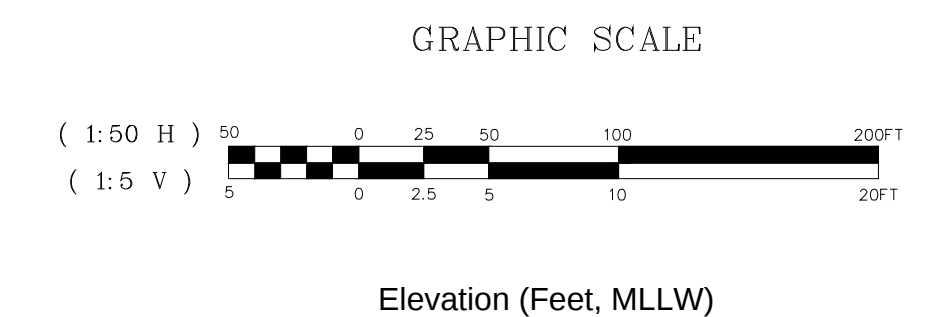
SCALE: HOR. 1" = 50'
VER. 1" = 5'



11C
C103

LOWER HARBOR DREDGE AREA 35C SECTION

SCALE: HOR. 1" = 50'
VER. 1" = 5'

[illegible]

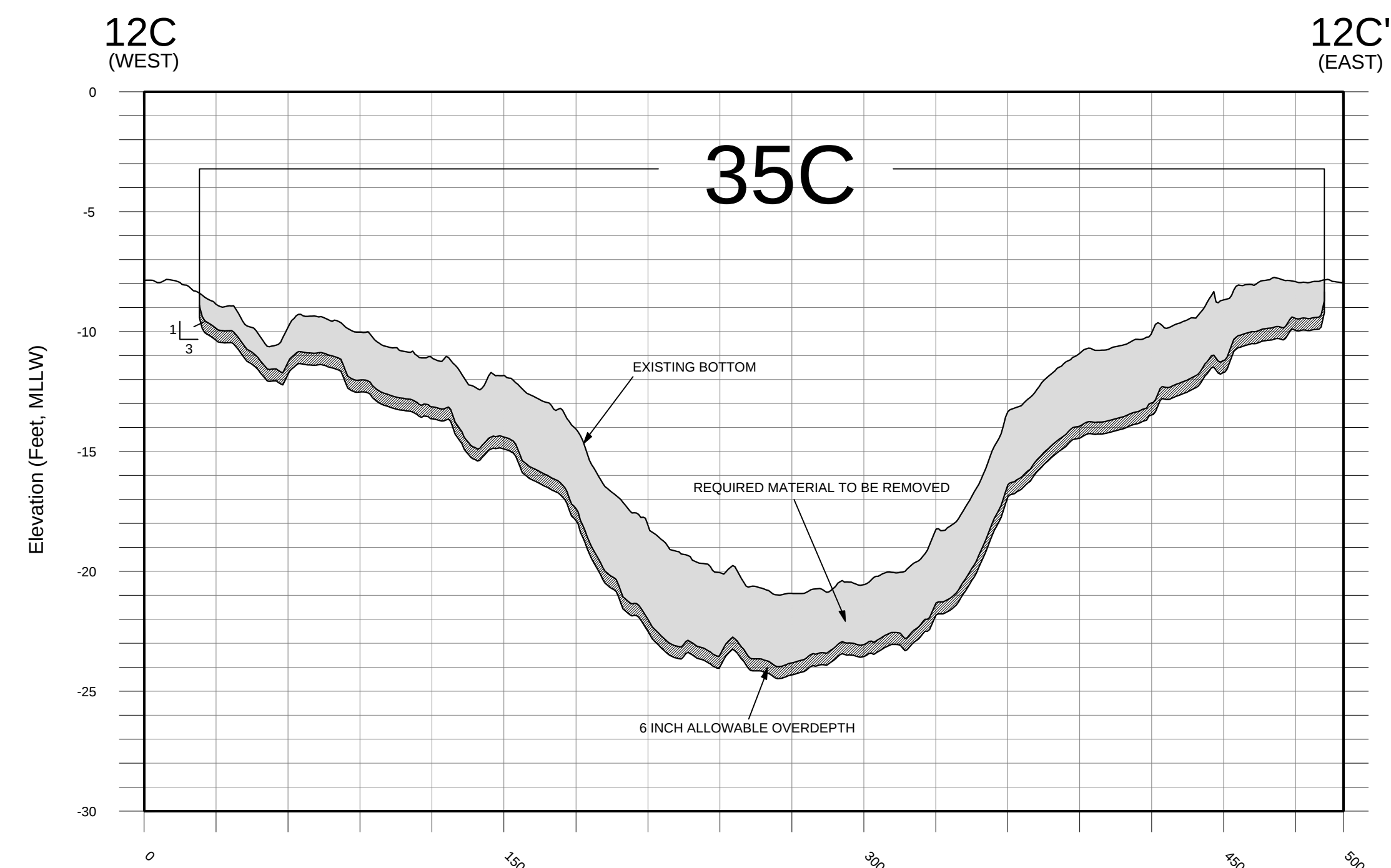
JACOBS U.S. ARMY NEW ENGLAND DISTRICT CORPS OF ENGINEERS CONCORD, MASSACHUSETTS	Designed by: AH	Date: 10/07/16	ANSO
	Drawn by: JH	Old by: SS	Issue Order: 3560708
	Reviewed by: AR	Rev #:	
	Submitted by: MA		

to: user: User: Harbor_Design_Area_Cross_Section_C-304_892.dwg

CROSS SECTIONS 8C THROUGH 11C

NEW BEDFORD HARBOR
SUPERFUND SITE SEDIMENT REMOVAL PROJECT
NEW BEDFORD, MASSACHUSETTS

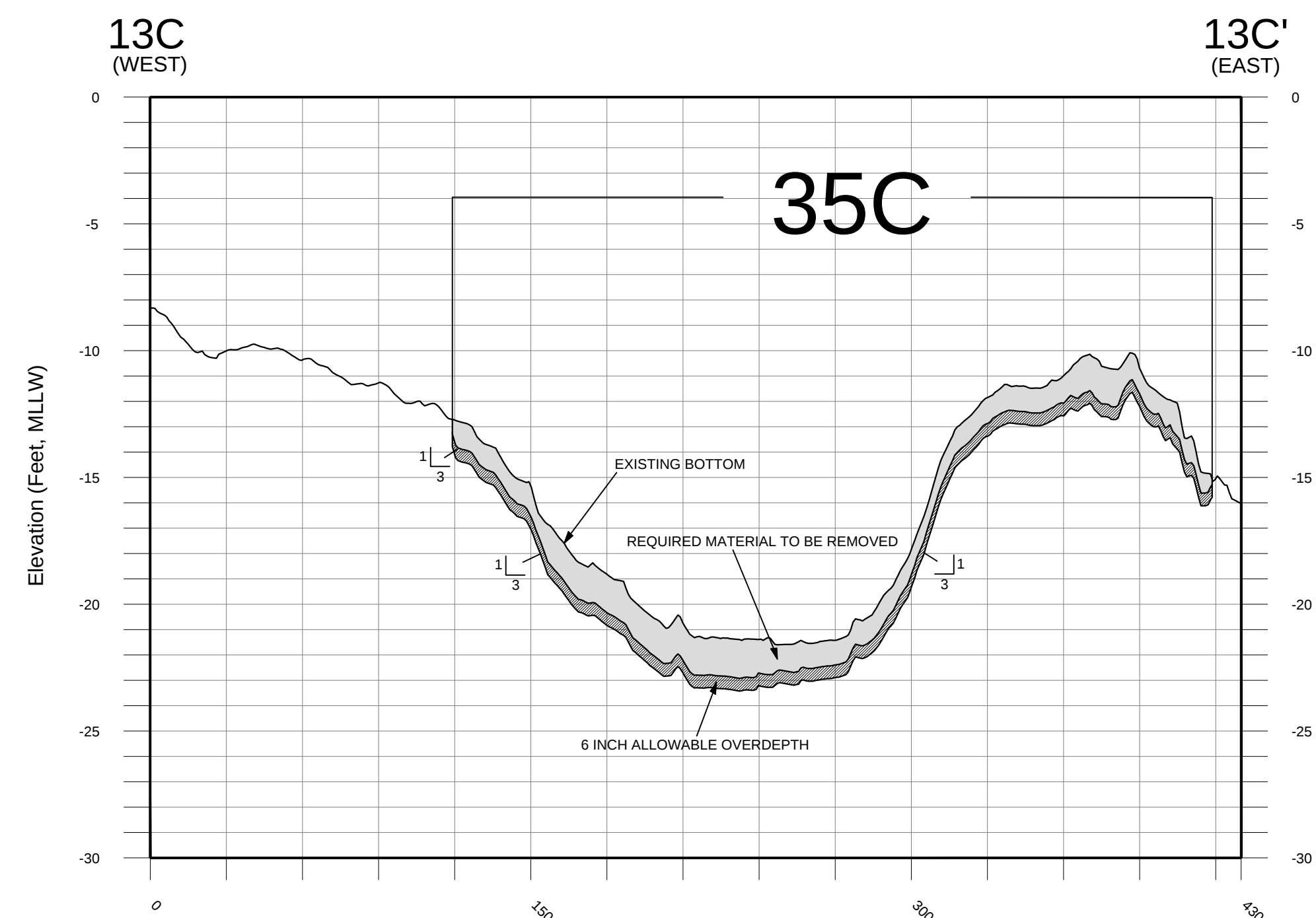
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Reference
Number:
C-304
Sheet 16 of 22



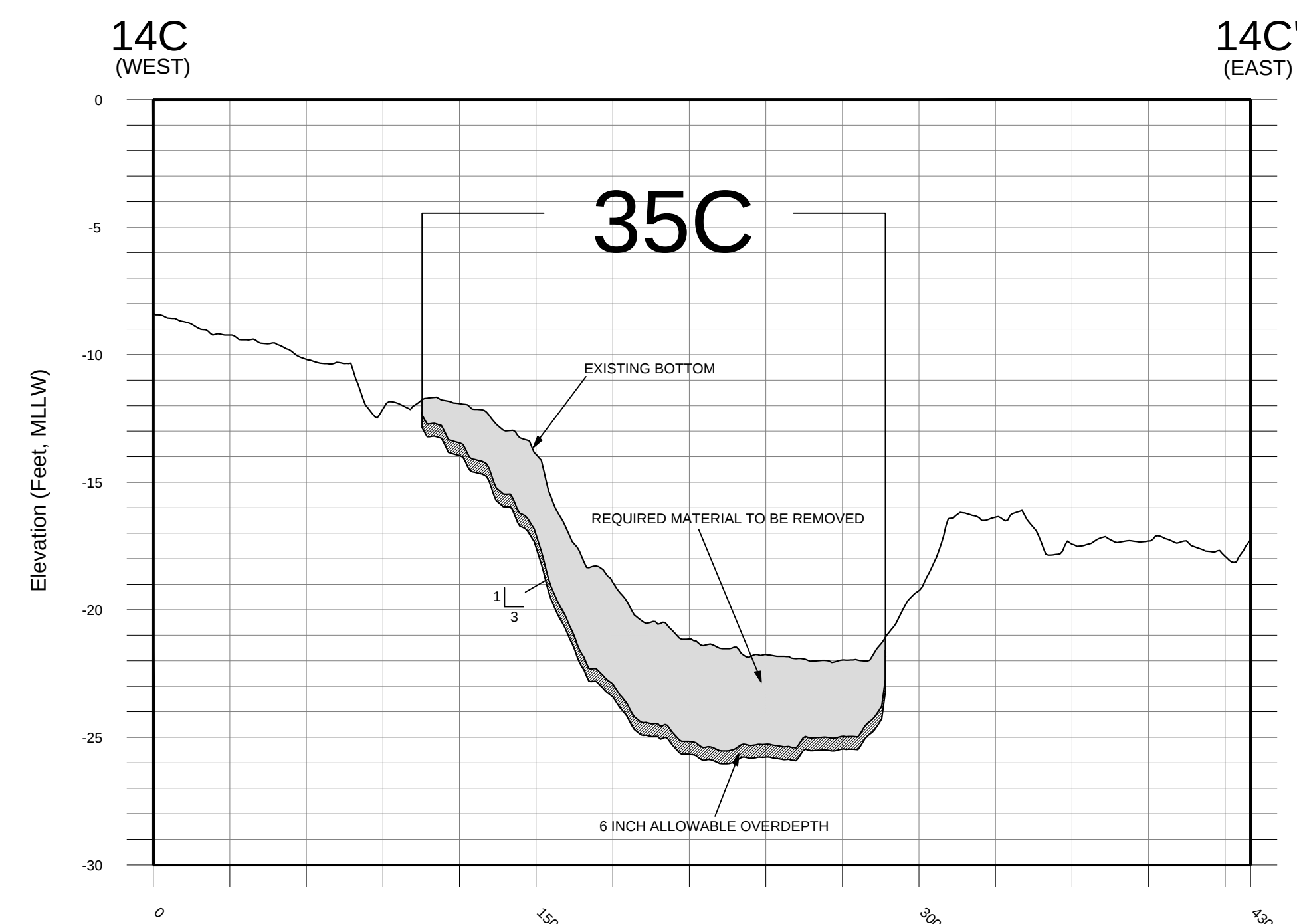
12C
C103

LOWER HARBOR DREDGE AREA 35C SECTION

SCALE: HOR. 1" = 50'
VER. 1" = 5'



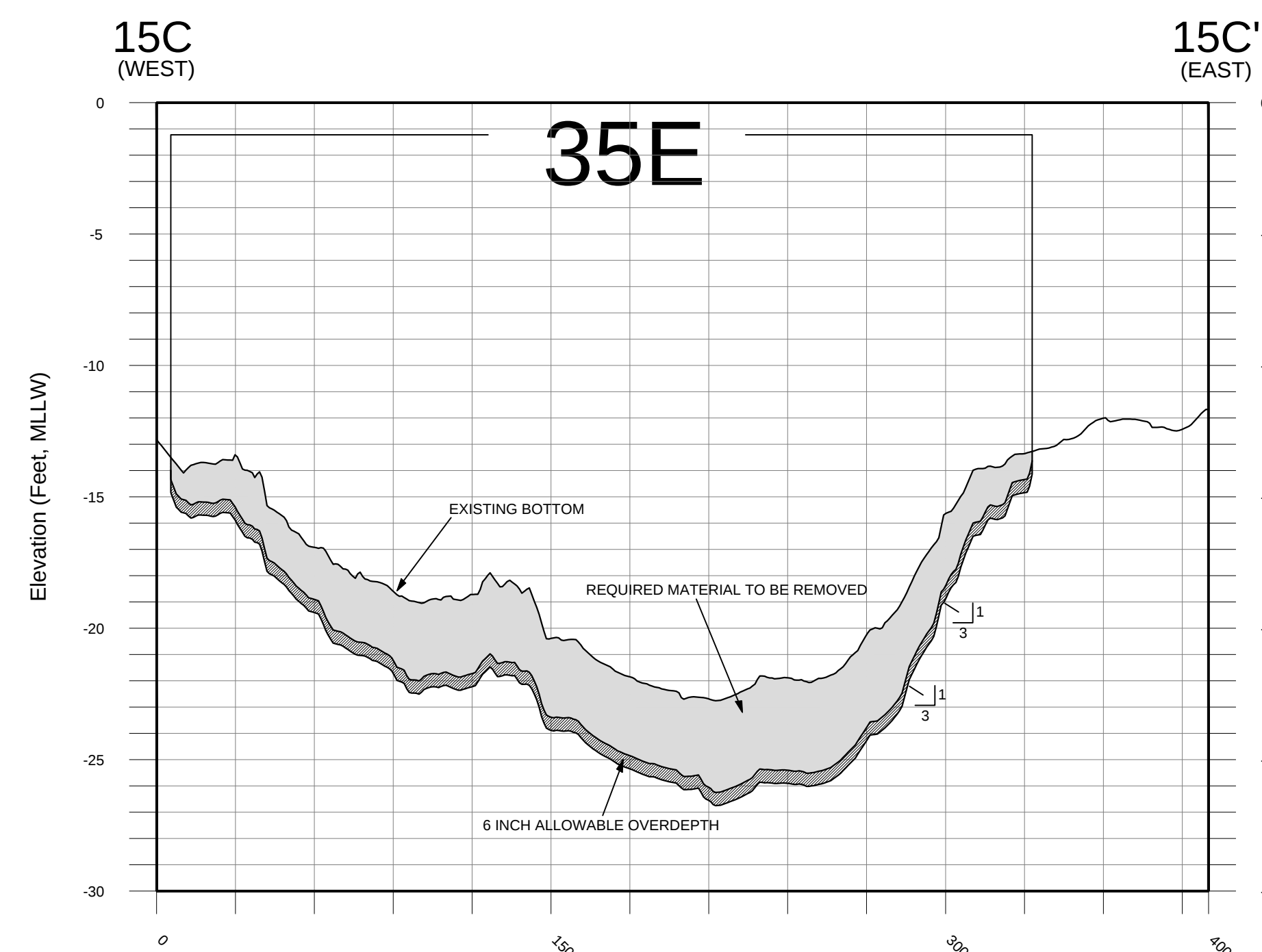
13C LOWER HARBOR DREDGE AREA 35C SECTION
C103 SCALE: HOR. 1" = 50'
VER. 1" = 5'



14C
C103

LOWER HARBOR DREDGE AREA 35C SECTION

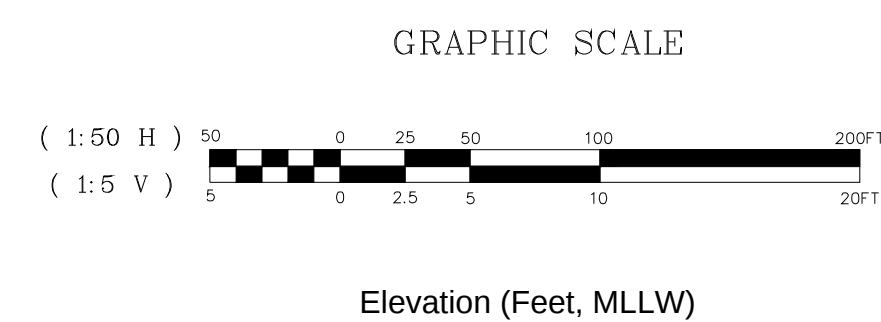
SCALE: HOR. 1" = 50'
VER. 1" = 5'



15C
C103

LOWER HARBOR DREDGE AREA 35E SECTION

SCALE: HOR. 1" = 50'
VER. 1" = 5'



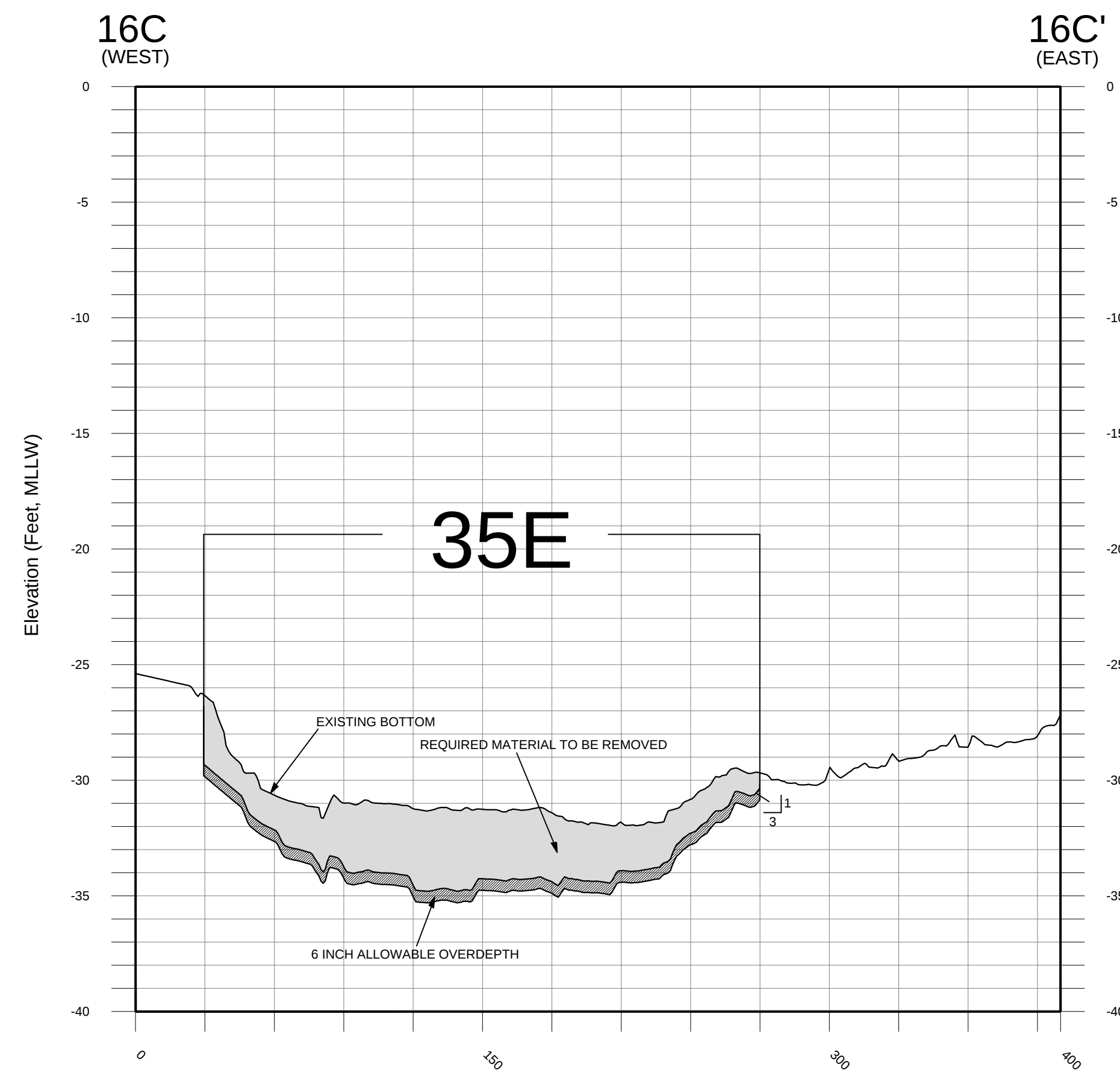
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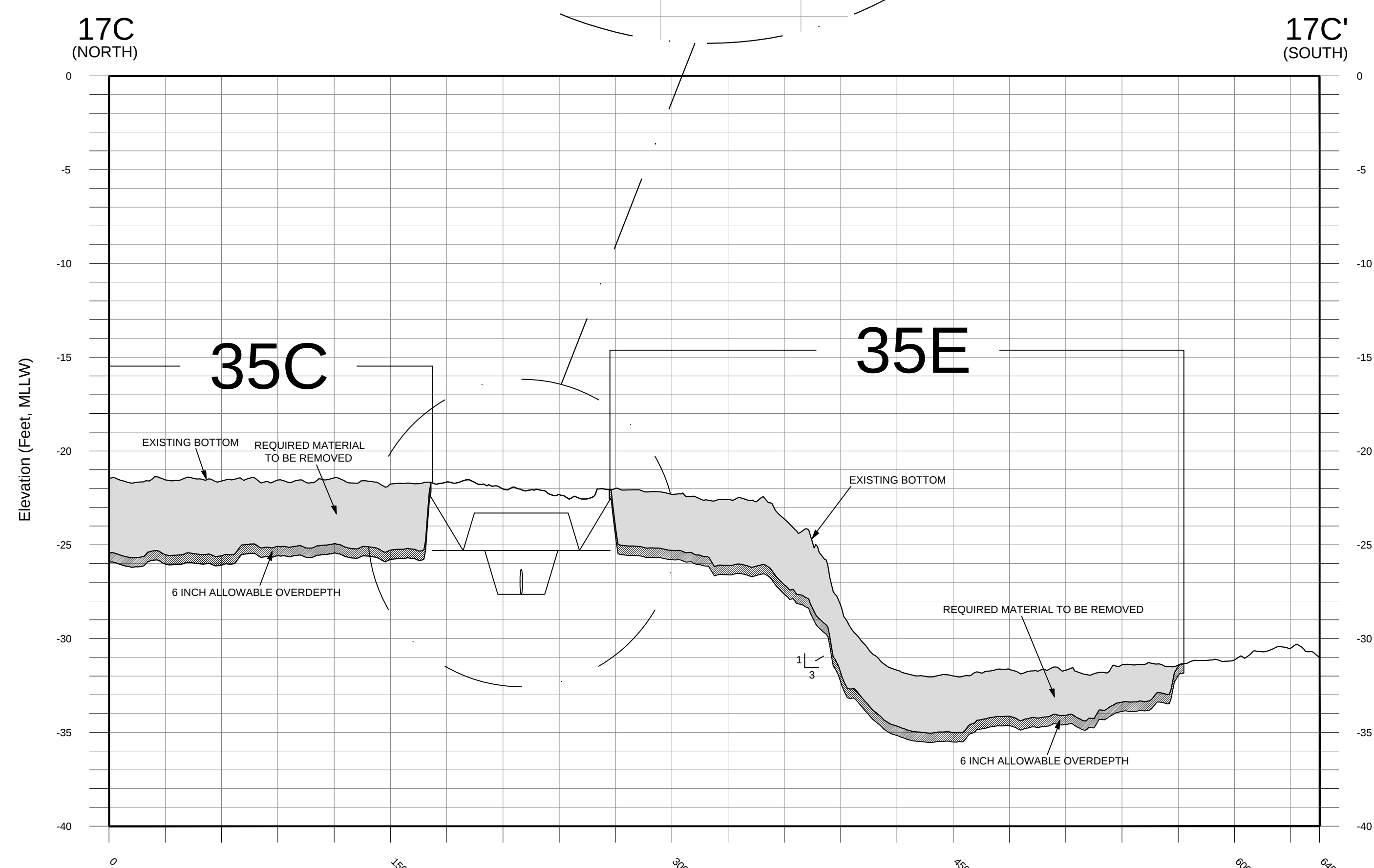
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	Drawn by: JH	Code by: SS	Task Order: 3560708
	Reviewed by: AR	Rev #0	
	Submitted by: MA		

CROSS SECTIONS 12C THROUGH 15C
NEW BEDFORD HARBOR
SUPERTUND SITE SEDIMENT REMOVAL PROJECT

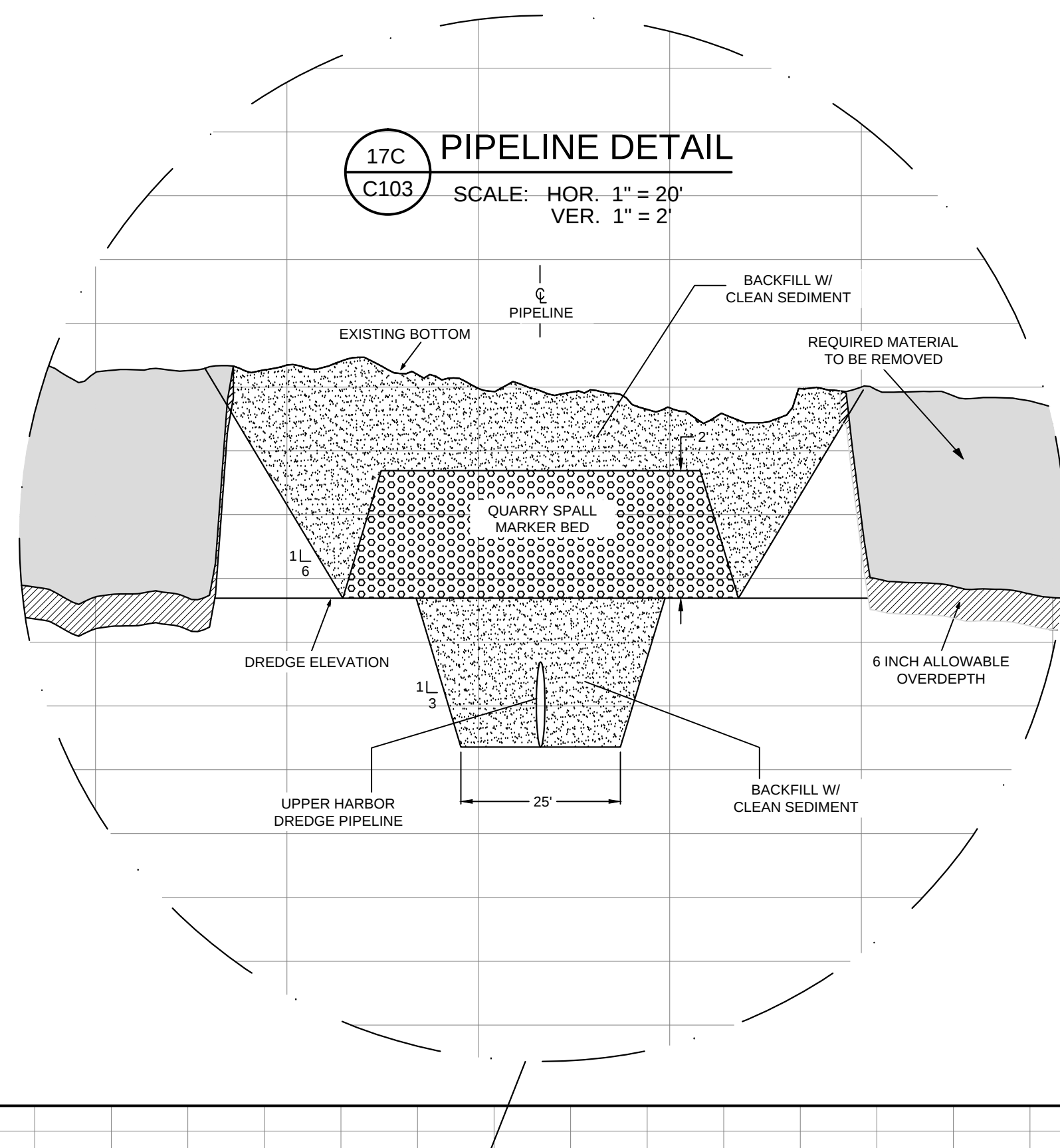
Sheet
Reference
Number:
C-305
Sheet 17 of 22

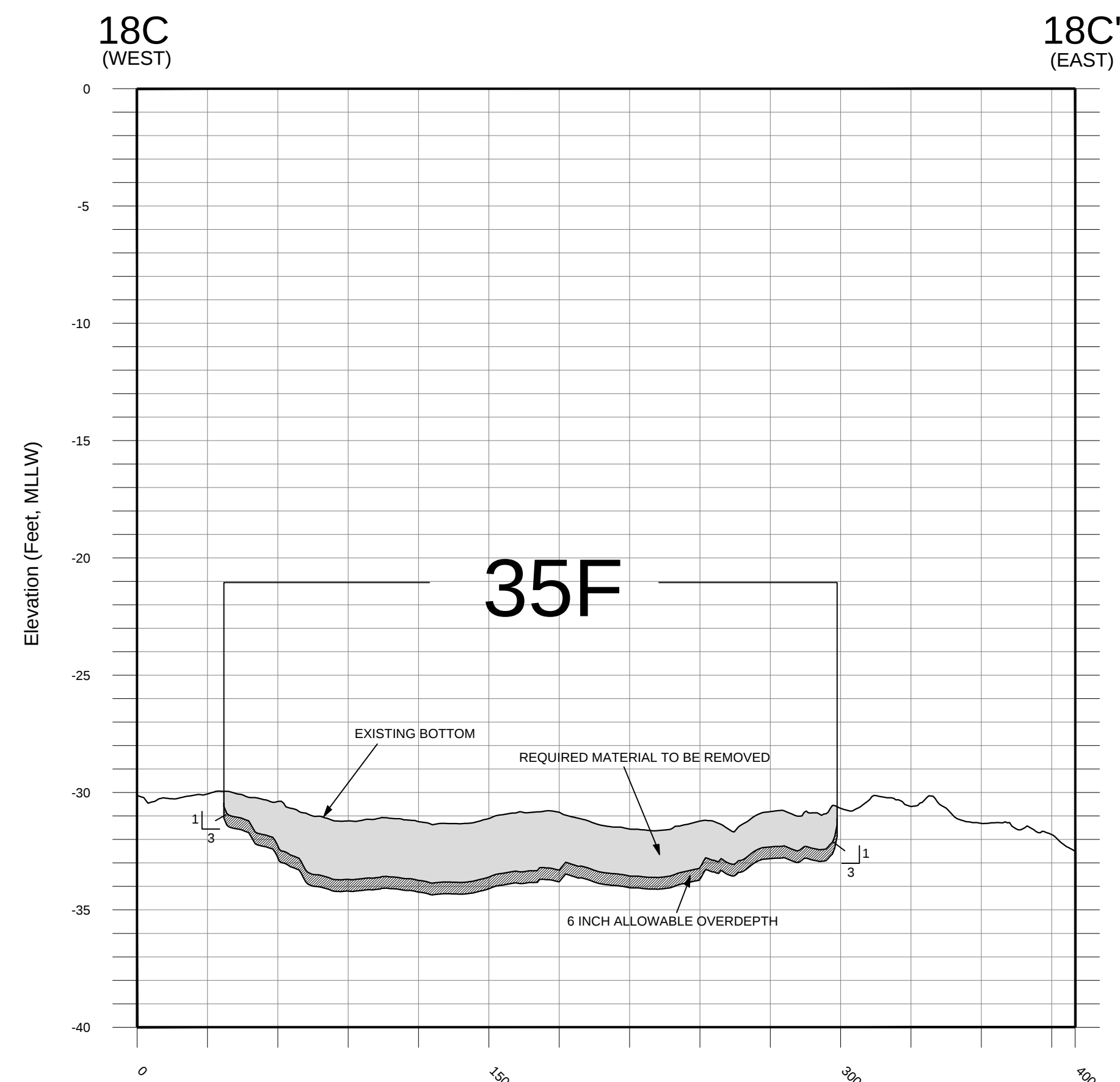


11	10	9	8	
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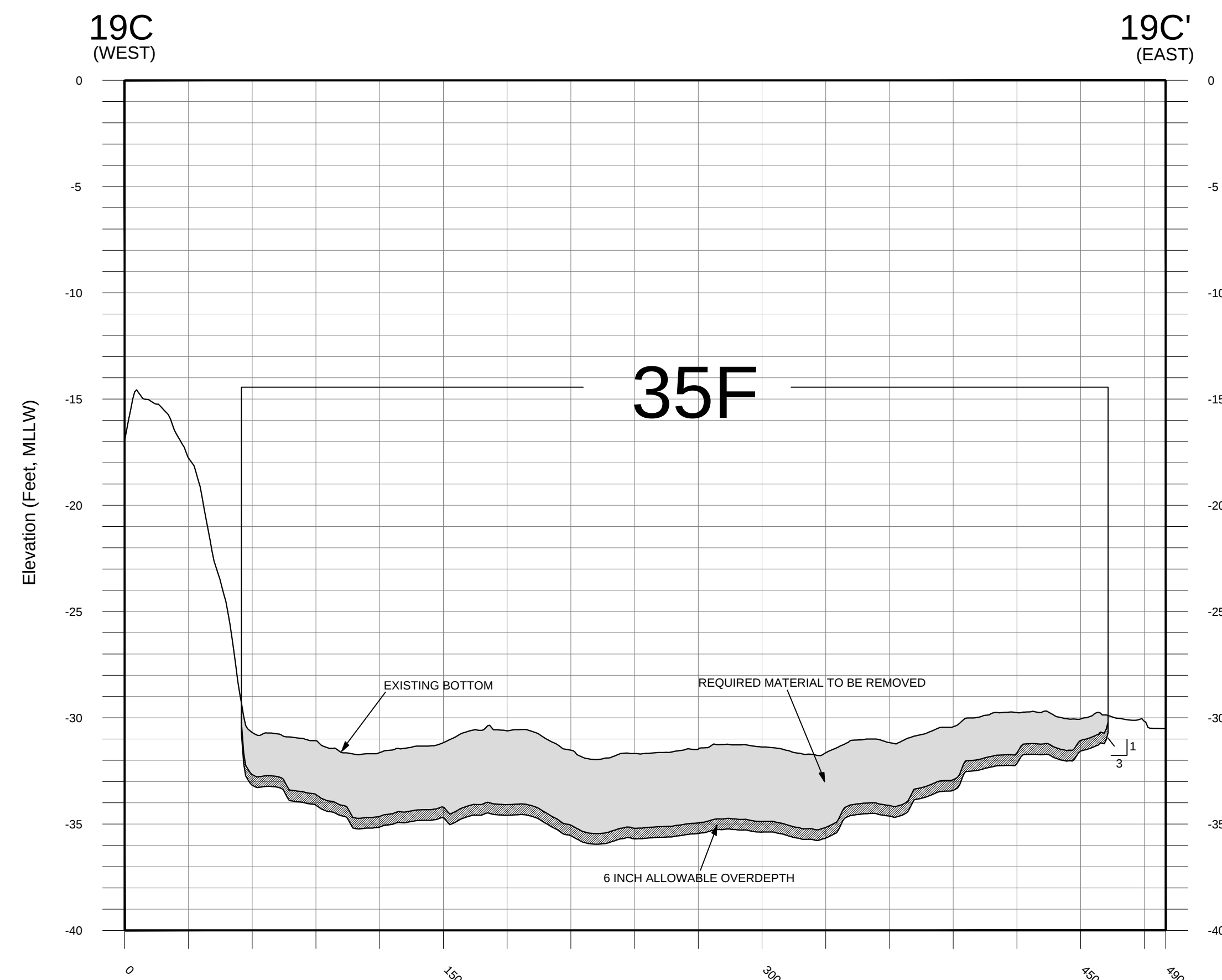




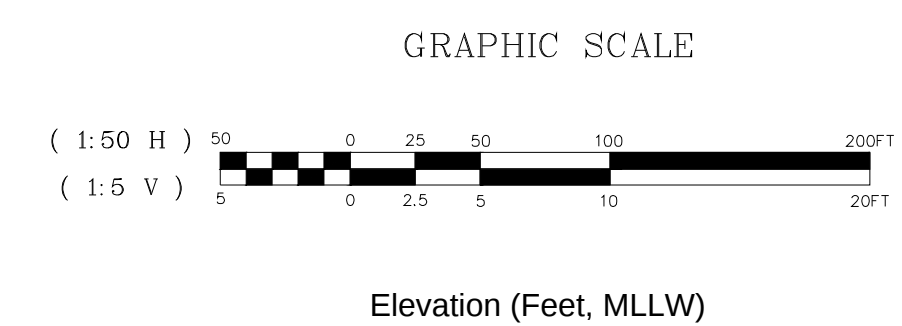
18C
C104

LOWER HARBOR DREDGE AREA 35F SECTION

SCALE: HOR. 1" = 50'
VER. 1" = 5'



19C LOWER HARBOR DREDGE AREA 35F SECTION
C104 SCALE: HOR. 1" = 50'
VER. 1" = 5'



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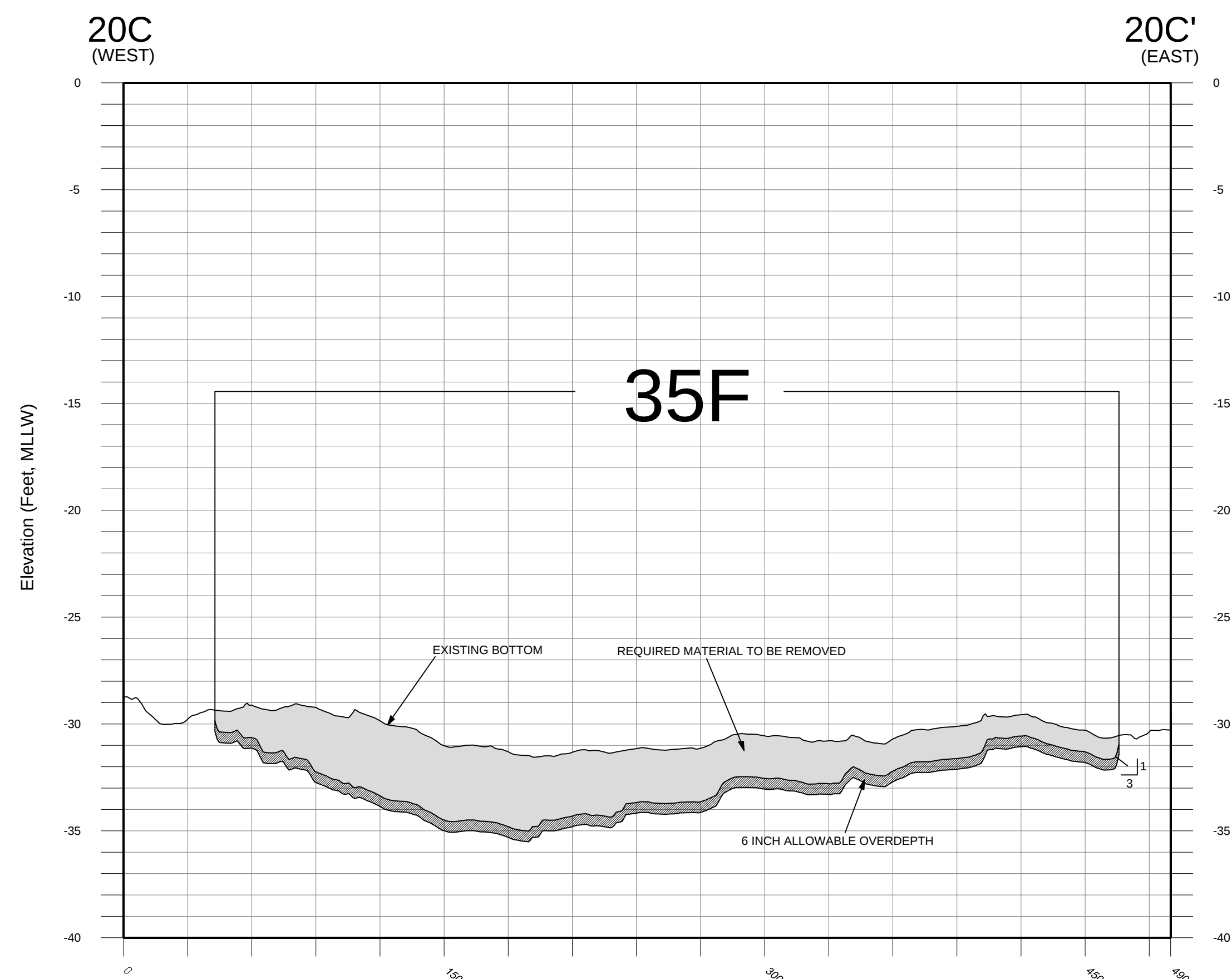
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JACOBS U.S. ARMY NEW ENGLAND DISTRICT CORPS OF ENGINEERS CONCORD, MASSACHUSETTS	Designed by: AR	Date: 10/07/16	ANSI
	Drawn by: JH	Old by: SS	Task Order: 30800708
	Reviewed by: AR	Rev: j6	
	Submitted by: MA		

CROSS SECTIONS 18C AND 19C

NEW BEDFORD HARBOR
SUPERFUND SITE SEDIMENT REMOVAL PROJECT
NEW BEDFORD, MASSACHUSETTS

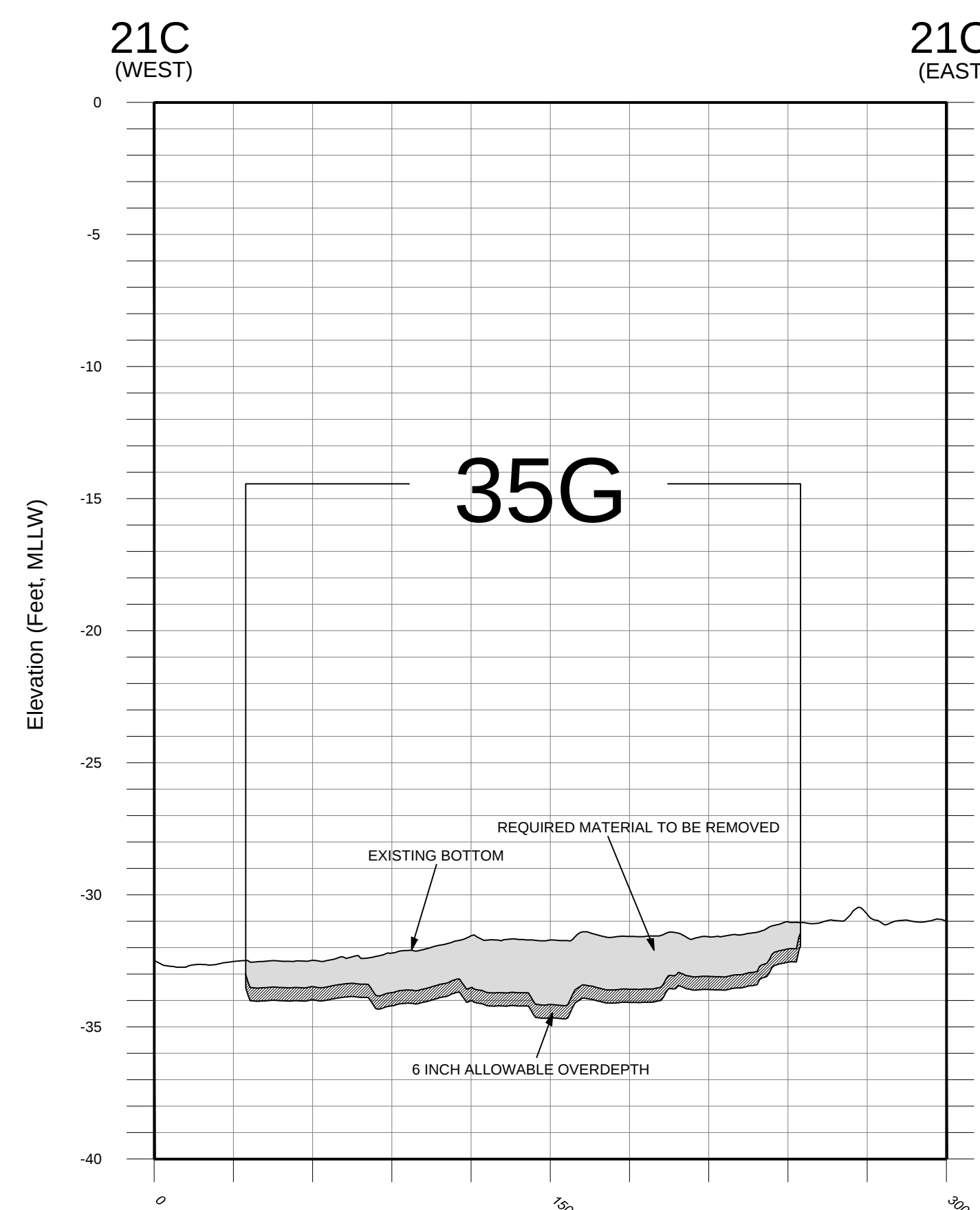
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Reference
Number:
C-307
Sheet 19 of 22



20C
C104

LOWER HARBOR DREDGE AREA 35F SECTION

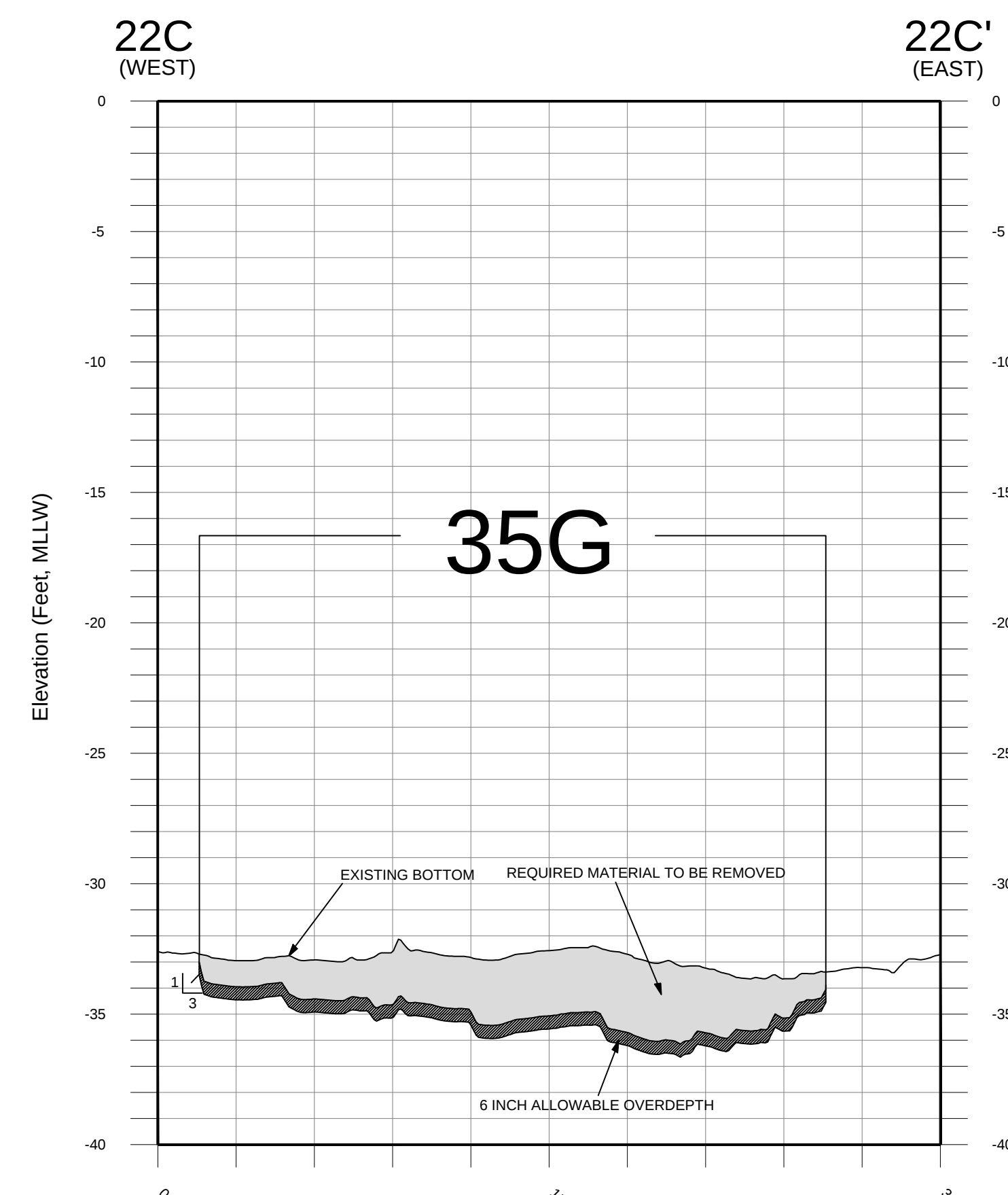
SCALE: HOR. 1" = 50'
VER. 1" = 5'



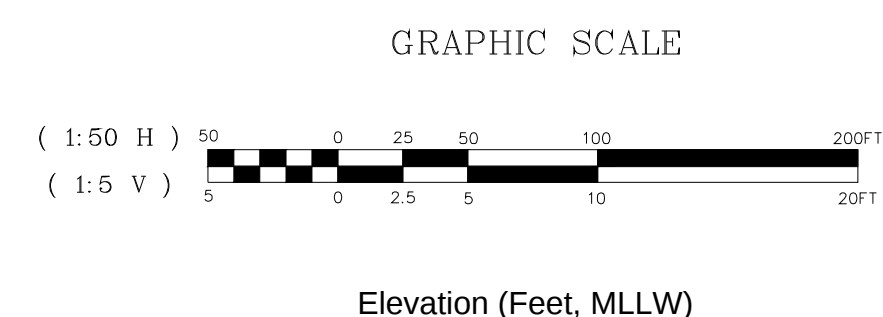
21C
C104

LOWER HARBOR DREDGE AREA 35G SECTION

SCALE: HOR. 1" = 50'
VER. 1" = 5'



22C LOWER HARBOR DREDGE AREA 35G SECTION
C104 SCALE: HOR. 1" = 50'
VER. 1" = 5'



US Army Corps
of Engineers
New England District

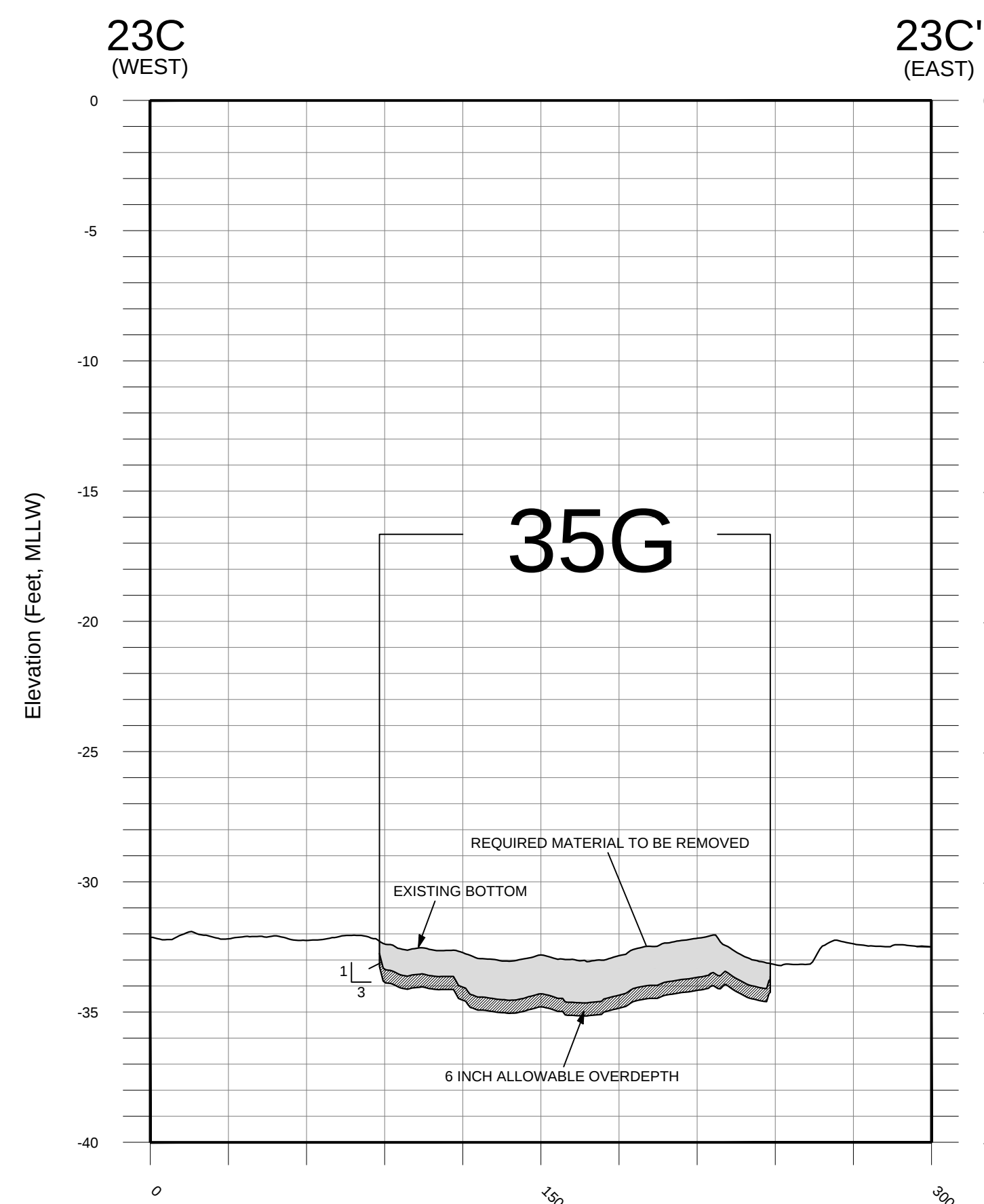
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JACOBS U.S. ARMY NEW ENGLAND DISTRICT CORPS OF ENGINEERS CONCORD, MASSACHUSETTS	Designed by: AR	Date: 10/7/16	ANSI
	Drawn by: JH	Old by: SS	Task Order: 30800708
	Reviewed by: AR	Rev: j6	
	Submitted by: MA		

CROSS SECTIONS 20C THROUGH 22C

NEW BEDFORD HARBOR
SUPERFUND SITE SEDIMENT REMOVAL PROJECT
NEW BEDFORD, MASSACHUSETTS

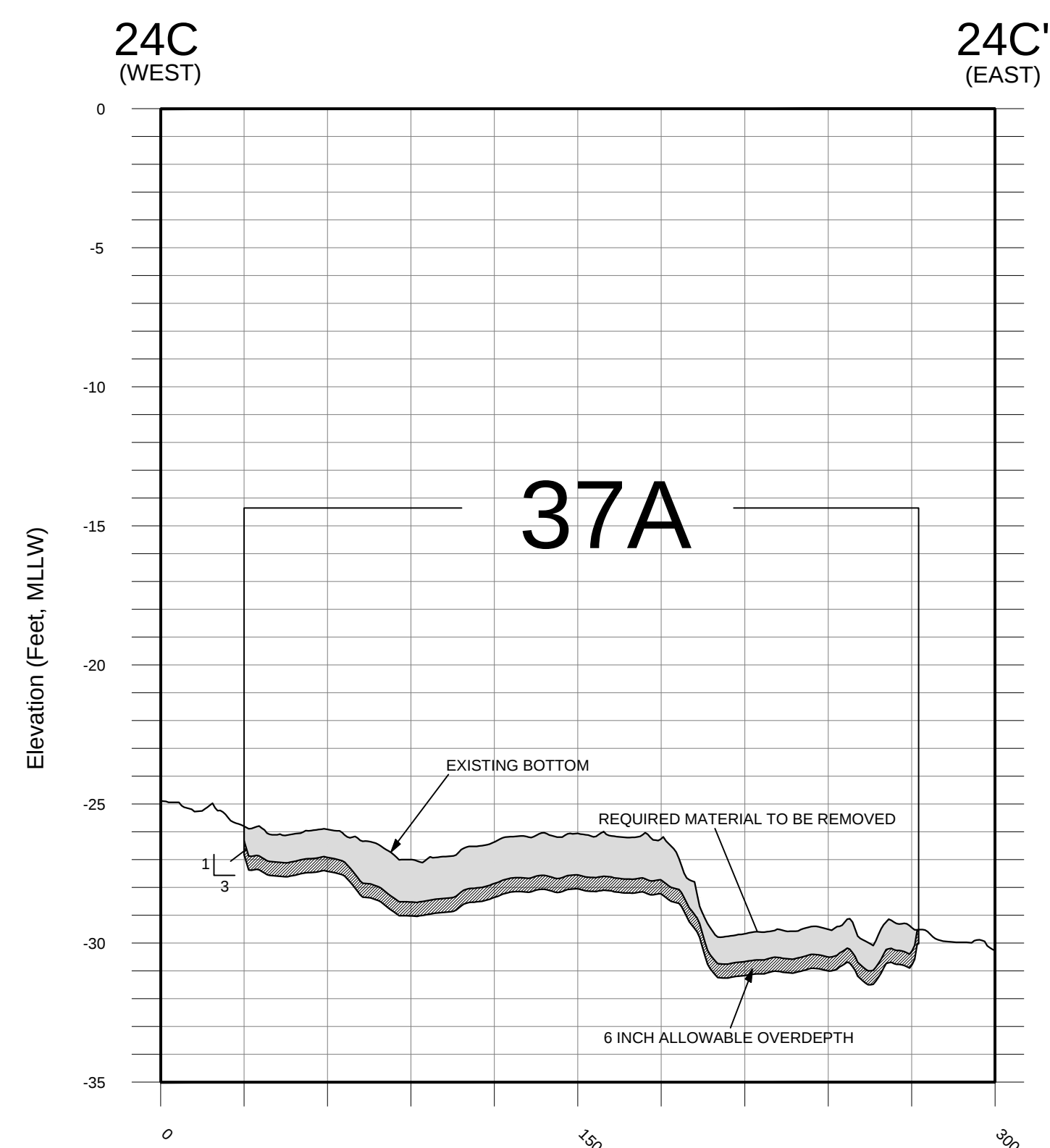
Sheet
Reference
Number:
C-308
Sheet 20 of 22



23C
C104

LOWER HARBOR DREDGE AREA 35G SECTION

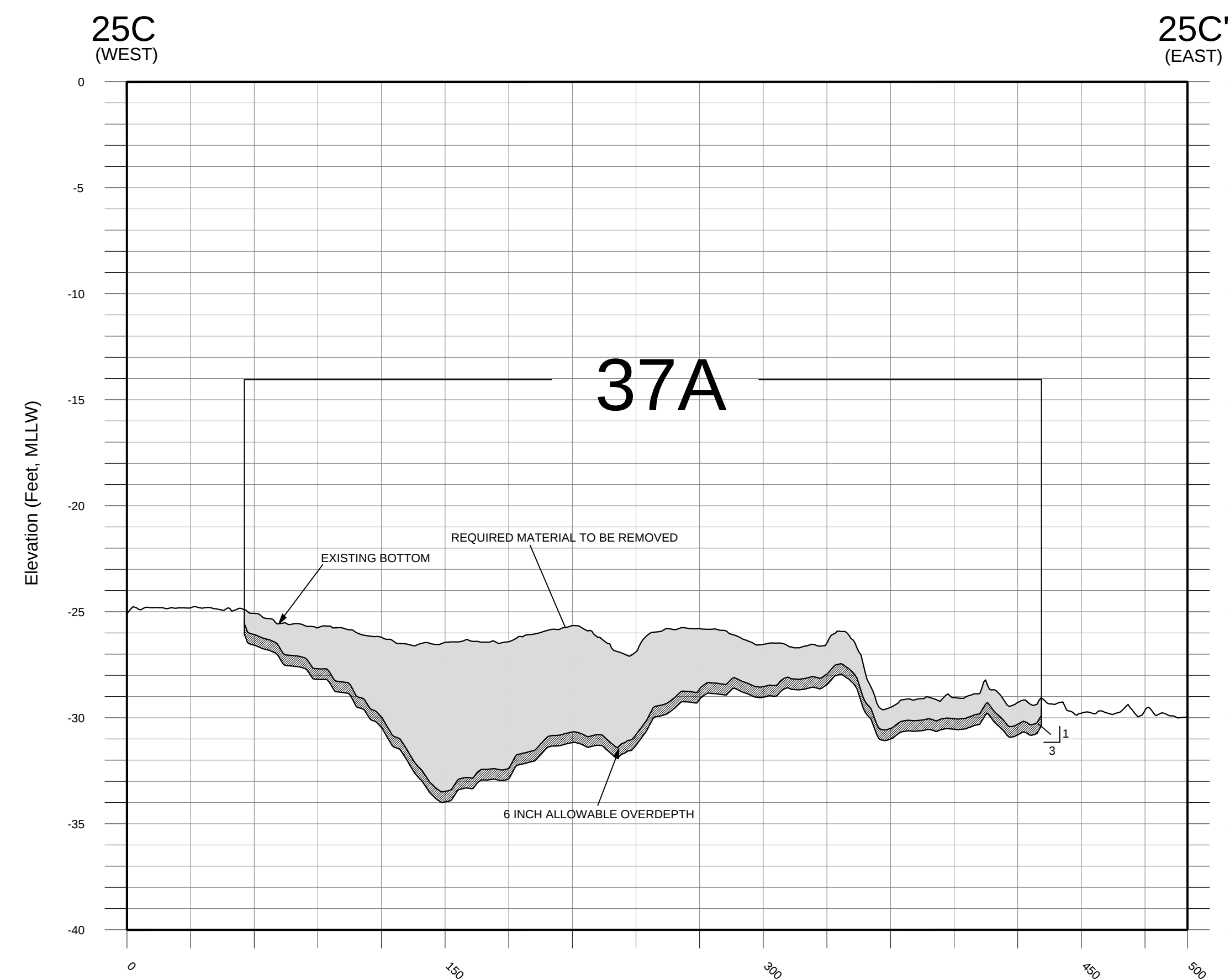
SCALE: HOR. 1" = 50'
VER. 1" = 5'



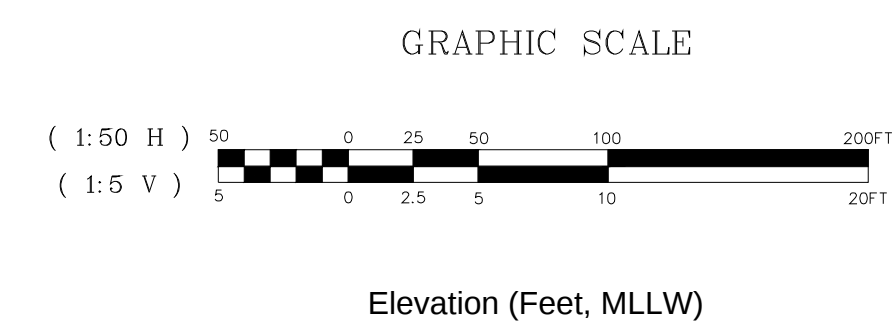
24C
C105

LOWER HARBOR DREDGE AREA 37A SECTION

SCALE: HOR. 1" = 50'
VER. 1" = 5'



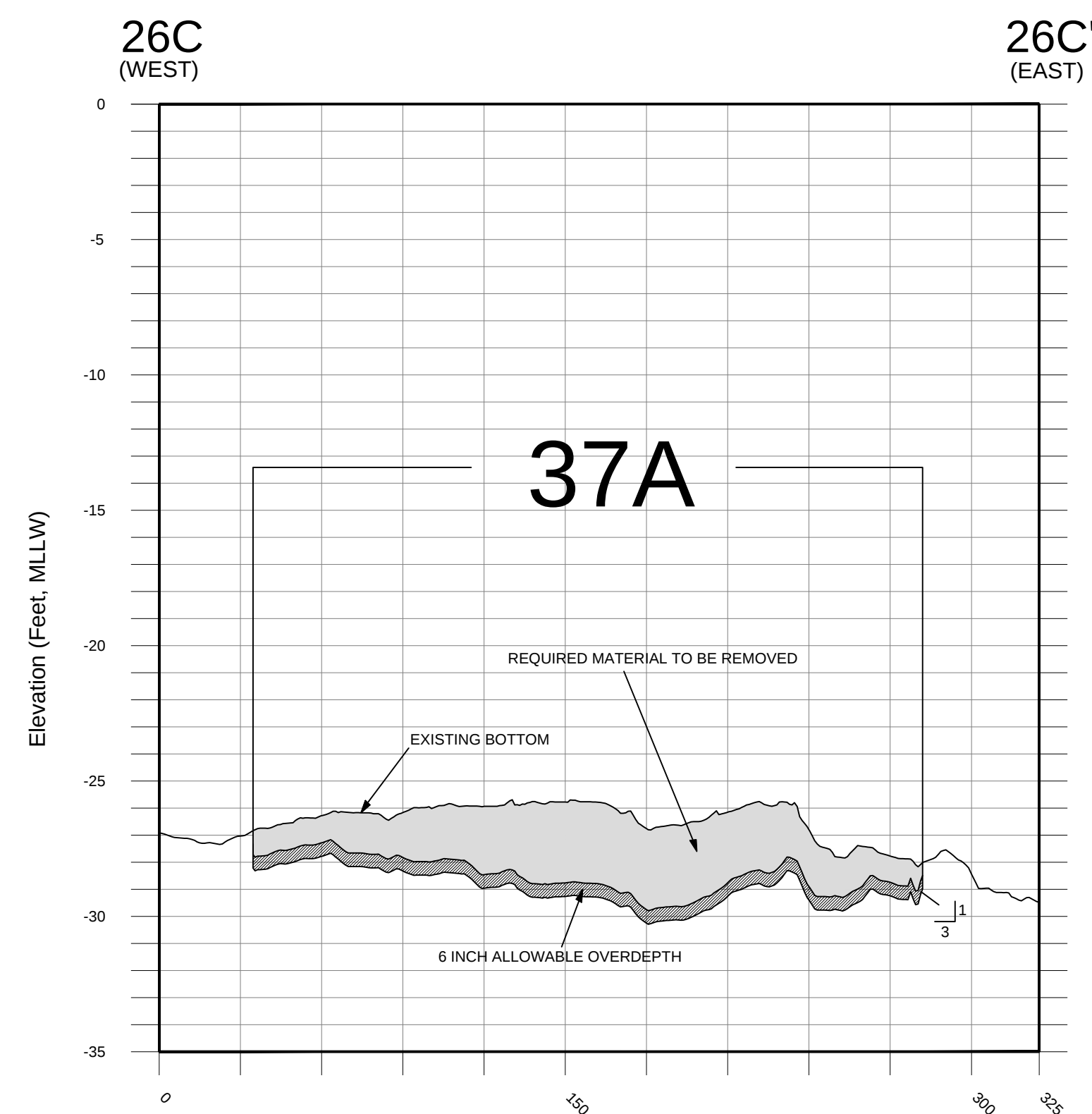
25C LOWER HARBOR DREDGE AREA 37A SECTION
C105 SCALE: HOR. 1" = 50'
VER. 1" = 5'

[illegible]

JACOBS™ U.S. ARMY NEW ENGLAND DISTRICT CORPS OF ENGINEERS CONCORD, MASSACHUSETTS	Designed by AH	Date 10/07/16	AKSD
	Drawn by: <i>sp</i> Ctd by: <i>SS</i>	Task Order: 35807078	
	Reviewed by: AH	Rev #0	
	Submitted by: MA		

CROSS SECTIONS 23C THROUGH 25C

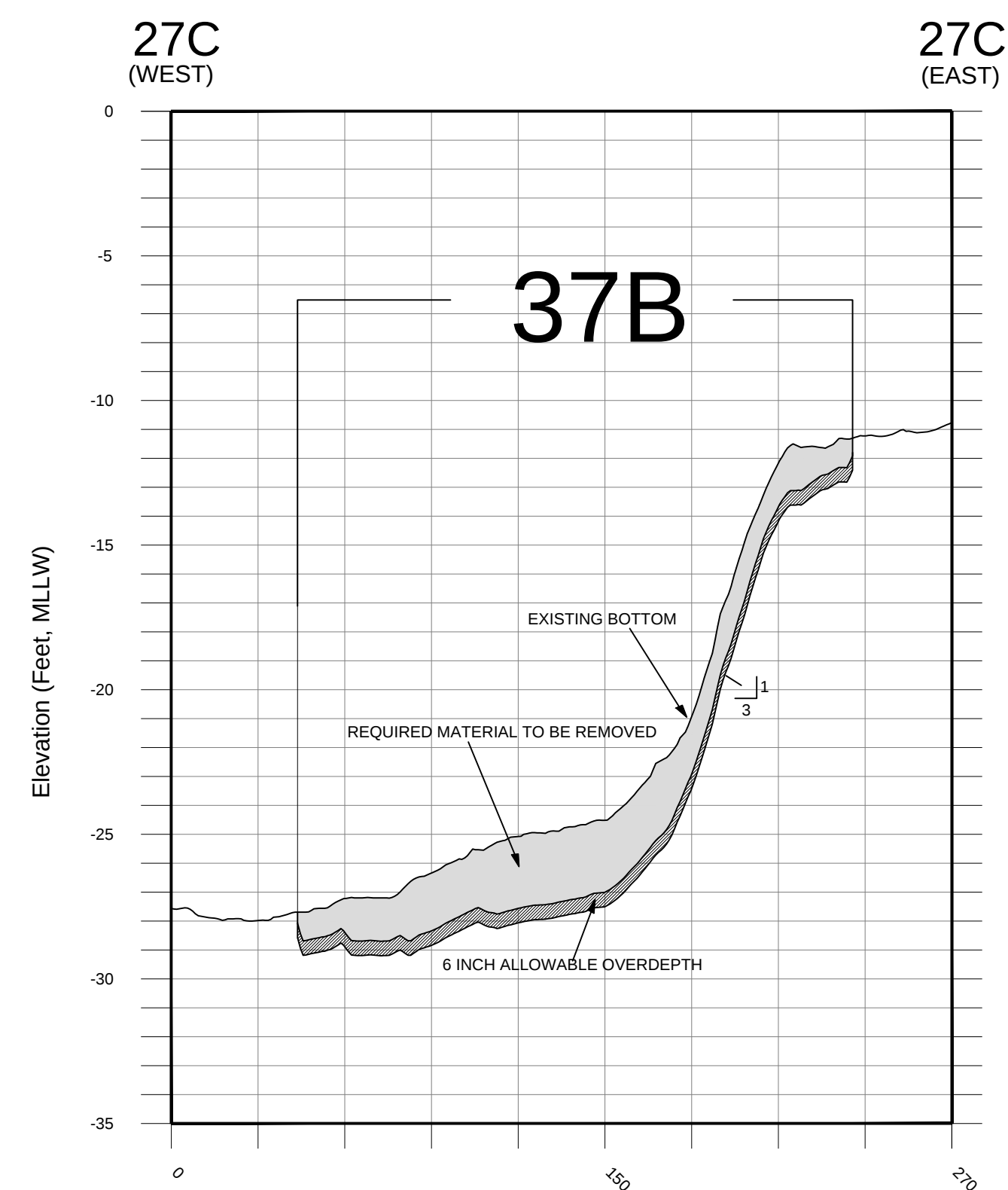
Sheet
Reference
Number:
C-309
Sheet 19 of 22



26C
C105

LOWER HARBOR DREDGE AREA 37A SECTION

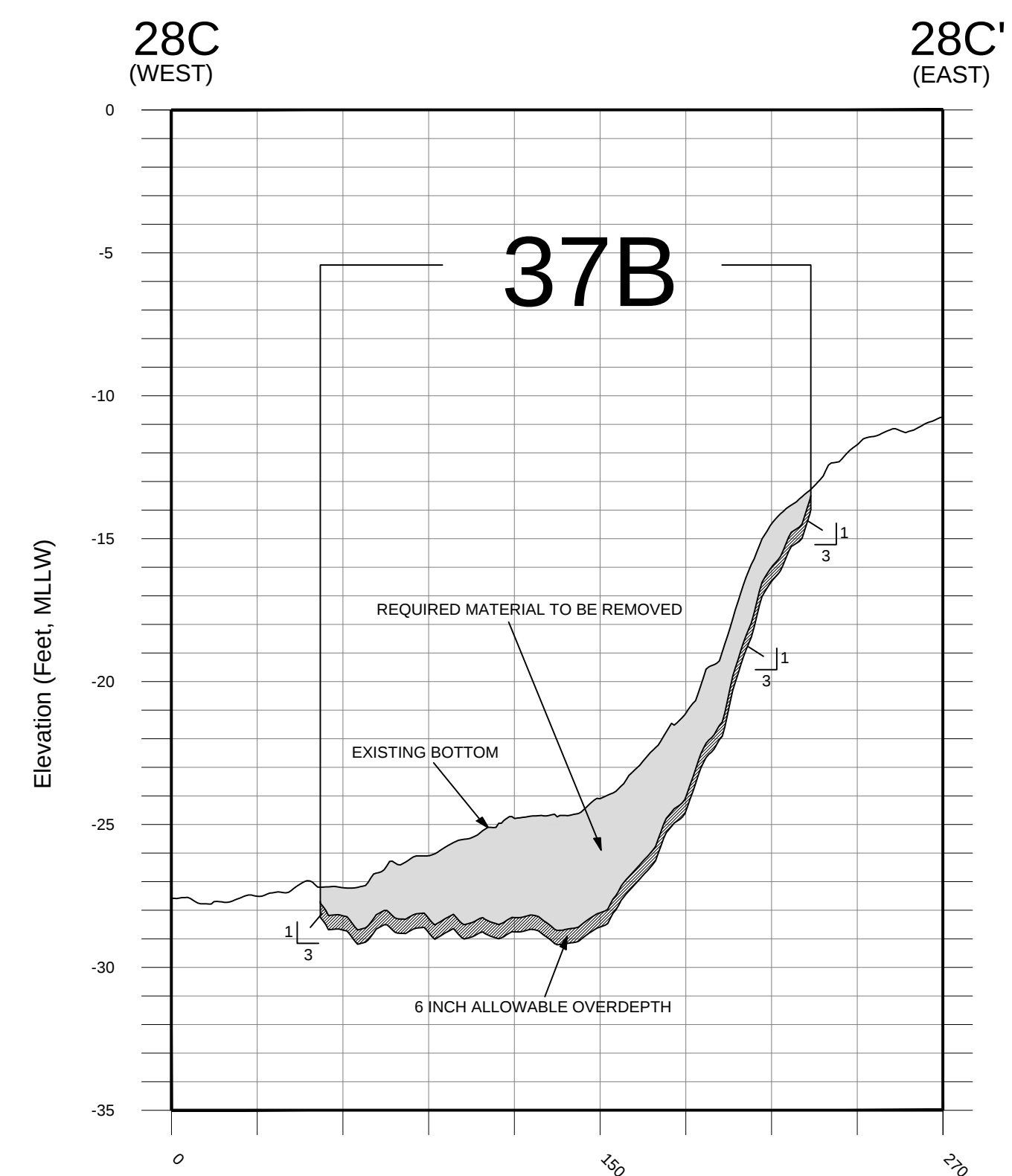
SCALE: HOR. 1" = 50'
VER. 1" = 5'



27C
C105

LOWER HARBOR DREDGE AREA 37B SECTION

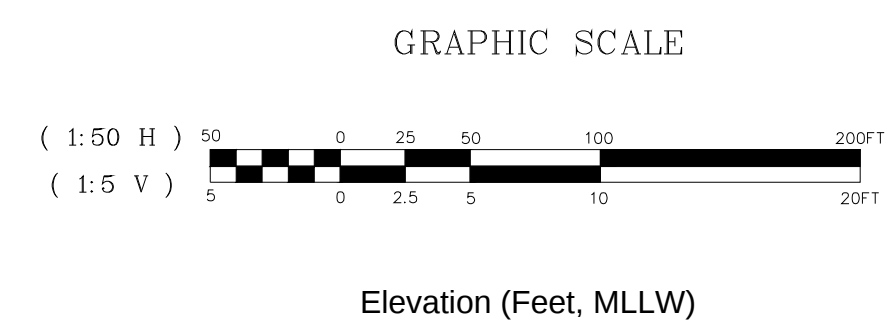
SCALE: HOR. 1" = 50'
VER. 1" = 5'



28C
C105

LOWER HARBOR DREDGE AREA 37B SECTION

SCALE: HOR. 1" = 50'
VER. 1" = 5'



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[illegible]

 JACOBS TM ENGINEERING GROUP, INC. U.S. CORPORATE HEADQUARTERS 10000 WILLOW CREEK DRIVE CONCORD, MASSACHUSETTS 01742	Drawn by: JF Date: 05/01/08 Task Order: 3580708 Project: 3580708	
	Reviewed by: AE Rev. #6	
Submitted by: MA		

File name: Lower Harbor Design Areas Cross Sections C-10, B12.dwg

NEW BEDFORD HARBOR
REFUND SITE SEDIMENT REMOVAL PROJECT
NEW BEDFORD, MASSACHUSETTS

Sheet
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Number:
C-310
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