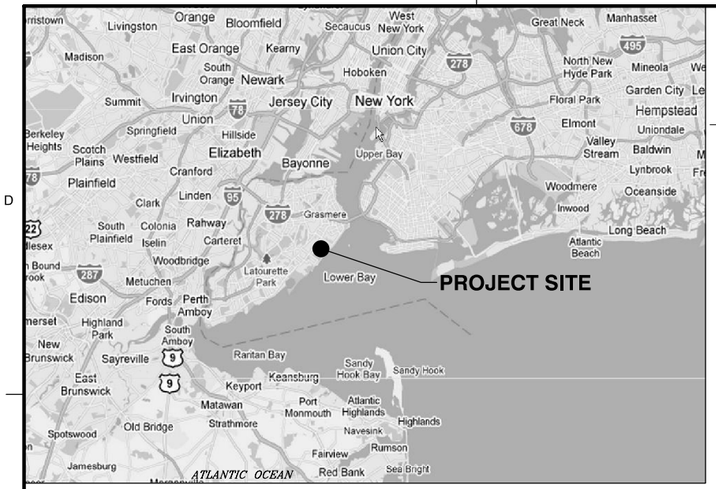
Appendix A

Plan Sheets and Typical Cross-Section Drawing of Project Components

A.1 INTRODUCTION

This Appendix presents typical cross-section drawings of the line of protection (LOP). Figures presented in the Appendix include:

- Cover sheet with an index to drawings;
- Site aerials;
- Sheet key plan (overall cross-section of the LOP);
- Detailed drawings of LOP sections (broken down into 11 sections);
- LOP profile drawings;
- Levee, floodwall, and buried seawall drawings;
- Cross-sections of LOP vehicle and pedestrian access; and
- Miller Field Sub-alternatives.

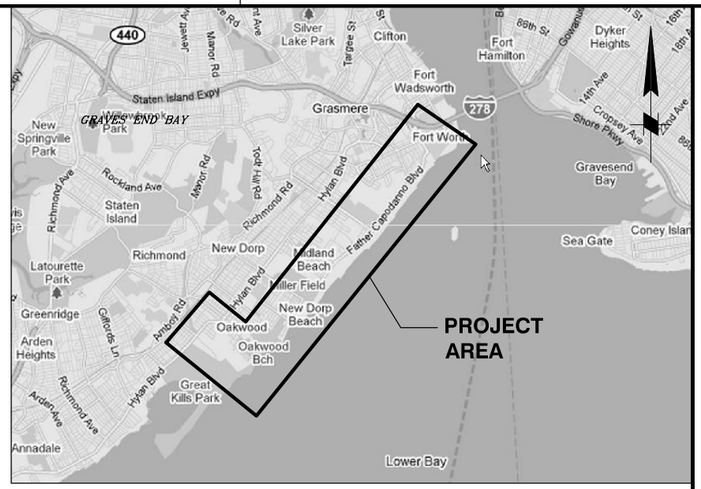


VICINITY MAP

NTS

COASTAL STORM RISK MANAGEMENT FEASIBILITY STUDY FOR THE SOUTH SHORE OF STATEN ISLAND

PHASE 1
FORT WADSWORTH TO OAKWOOD BEACH



LOCATION PLAN

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INDEX TO DRAWINGS

SHT NO.	SHEET TITLE
G-001	COVER SHEET
G-101	OVERALL SITE AERIAL (1 OF 3)
G-102	OVERALL SITE AERIAL (2 OF 3)
G-103	OVERALL SITE AERIAL (3 OF 3)
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C-101	SITE PLAN (2 OF 11)
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C-104	SITE PLAN (5 OF 11)
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C-107	SITE PLAN (8 OF 11)
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C-109	SITE PLAN (10 OF 11)
C-110	SITE PLAN (11 OF 11)
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C-305	SITE PROFILE (5 OF 6)
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C-506	TYPICAL PEDESTRIAN ACCESS STAIRS
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C-516	STOPLOG DETAILS

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COVER SHEET

SHEET IDENTIFICATION
G-001
SHEET X OF Y

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MATCH LINE - SEE SHEET G-102

SCALE: GRAPHIC ONLY
0 200' 400'

SHEET IDENTIFICATION
SHEET G-101 OF

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FEASIBILITY STUDY FOR THE
SOUTH SHORE OF STATEN ISLAND

OVERALL SITE AERIAL (1 OF 3)

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MATCH LINE - SEE SHEET G-101

MATCH LINE - SEE SHEET G-103

SCALE: GRAPHIC ONLY
0
200'
400'

SHEET IDENTIFICATION
SHEET G-102 OF

COASTAL STORM RISK MANAGEMENT
FEASIBILITY STUDY FOR THE
SOUTH SHORE OF STATEN ISLAND

OVERALL SITE AERIAL (2 OF 3)

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OVERALL SITE AERIAL (3 OF 3)

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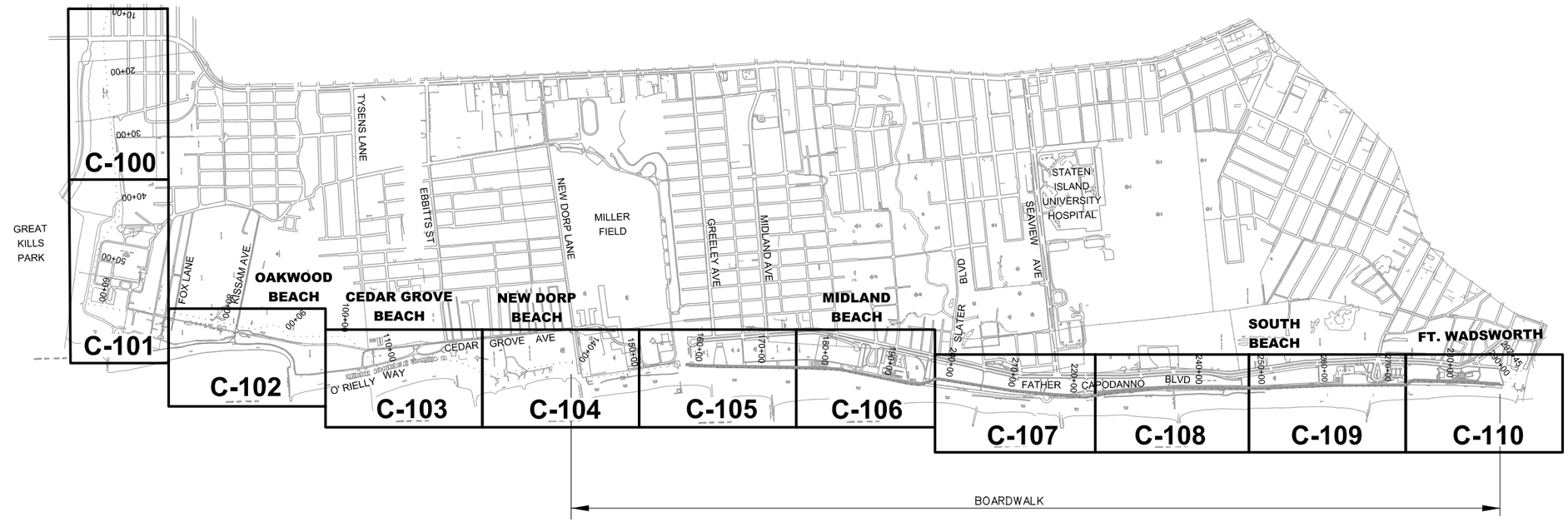

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0 1000' 2000'
GRAPHICAL SCALE

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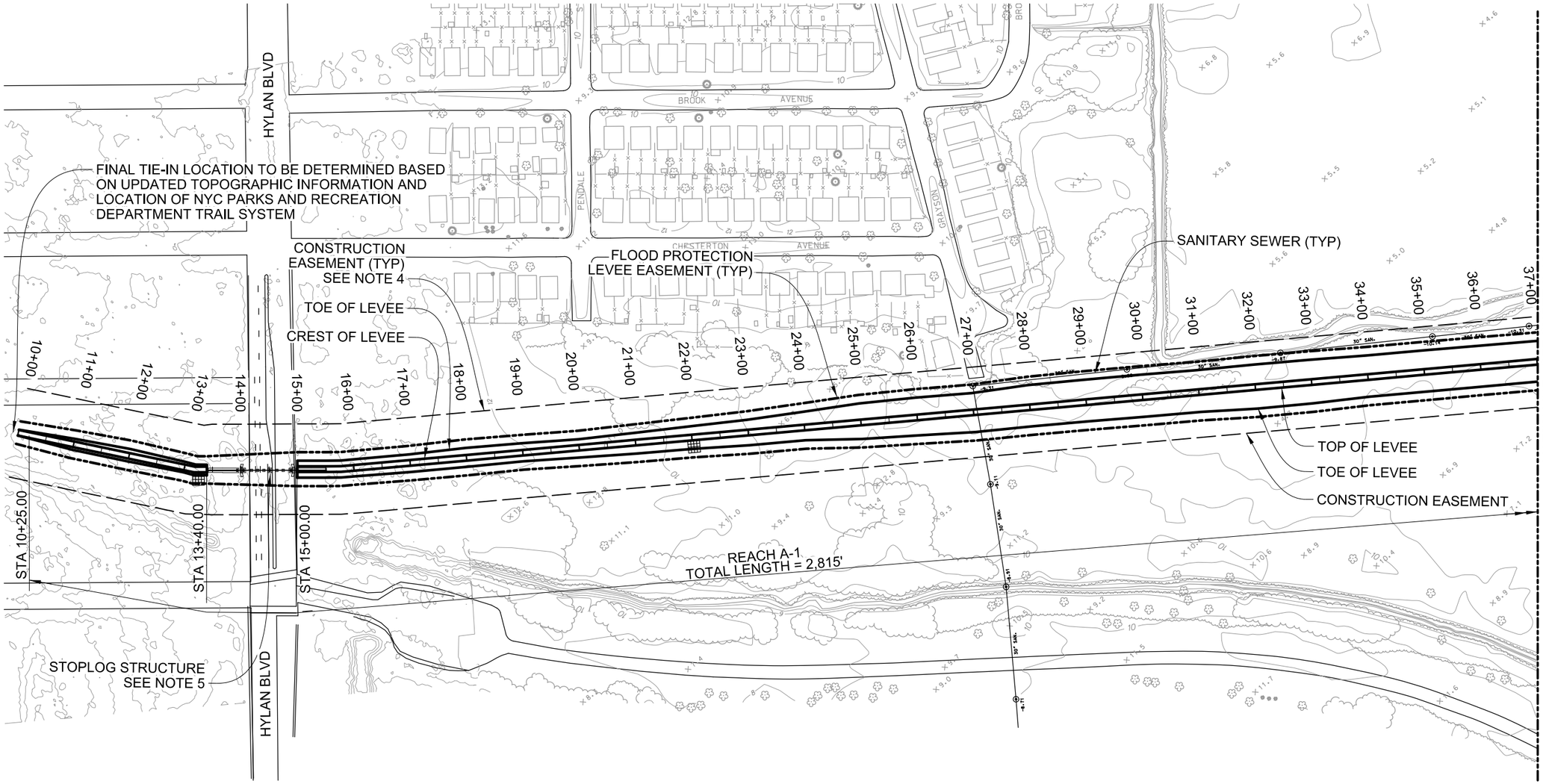
SHEET KEY PLAN

SHEET IDENTIFICATION
G-104
SHEET OF

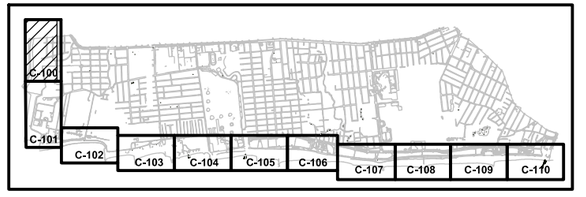


NOTES

1. TYPICAL SECTIONS SHOWN ON SHEETS C-501 TO C-504.
2. ALL ELEVATIONS REFERENCED TO NGVD 29.
3. STRUCTURE LIMITS SHOWN FOR LEVEL OF PROTECTION ARE BASED ON THE 15.6 FT SWL.
4. EASEMENT LINE @ 50' OFFSET TO PROPOSED STRUCTURES.
5. STOPLOG STRUCTURE ON SHEETS C-515 & C-516.

LEGEND

- PA — PEDESTRIAN ACCESS STAIRS SEE SHEET C-506
- DTP — COMBINED TRUCK & PEDESTRIAN ACCESS RAMP, SEE SHEET C-505
- MVA — MAINTENANCE VEHICLE ACCESS RAMP, SEE SHEET C-505
- DRAINAGE CONTROL STRUCTURE SEE SHEET C-512
- DRAINAGE STRUCTURE SEE SHEET C-514
- TG — TIDE GATE SEE SHEET C-513
- SANITARY SEWER
- MAJOR STORM SEWER OUTFALL
- SAND COVER
- BOARDWALK



KEY PLAN

0 100' 200'
SCALE:1"=100'

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COASTAL STORM RISK MANAGEMENT
FEASIBILITY STUDY FOR THE
SOUTH SHORE OF STATEN ISLAND

SITE PLAN (1 OF 11)

SHEET IDENTIFICATION
C-100
SHEET OF

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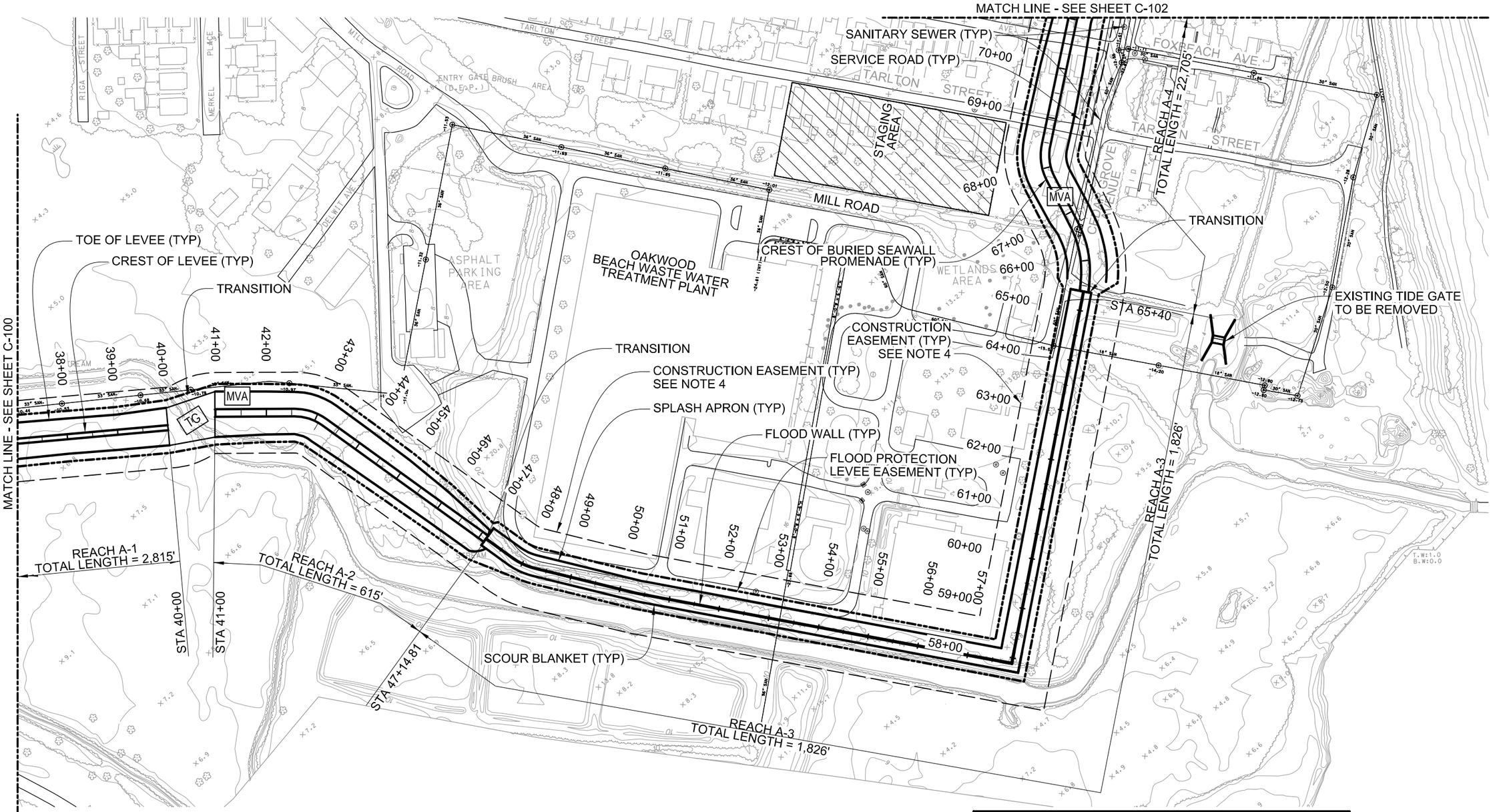


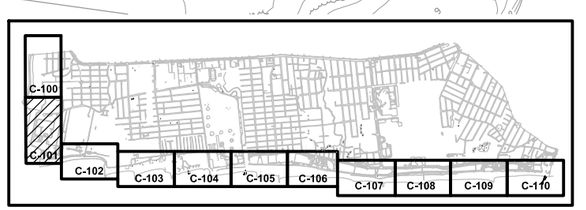
NOTES

1. TYPICAL SECTIONS SHOWN ON SHEETS C-501 TO C-504.
2. ALL ELEVATIONS REFERENCED TO NGVD 29.
3. STRUCTURE LIMITS SHOWN FOR LEVEL OF PROTECTION ARE BASED ON THE 15.6 FT SWL.
4. EASEMENT LINE @ 50' OFFSET TO PROPOSED STRUCTURES.
5. STOPLOG STRUCTURE ON SHEETS C-515 & C-516.

LEGEND

- PA — PEDESTRIAN ACCESS STAIRS SEE SHEET C-506
- DTP — COMBINED TRUCK & PEDESTRIAN ACCESS RAMP, SEE SHEET C-505
- MVA — MAINTENANCE VEHICLE ACCESS RAMP, SEE SHEET C-505
- DRAINAGE CONTROL STRUCTURE SEE SHEET C-512
- DRAINAGE STRUCTURE SEE SHEET C-514
- TG — TIDE GATE SEE SHEET C-513
- SANITARY SEWER
- MAJOR STORM SEWER OUTFALL
- SAND COVER
- BOARDWALK

PRELIMINARY
NOT FOR CONSTRUCTION



KEY PLAN

0 100' 200'
SCALE:1"=100'

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SITE PLAN (2 OF 11)

SHEET IDENTIFICATION
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SHEET OF

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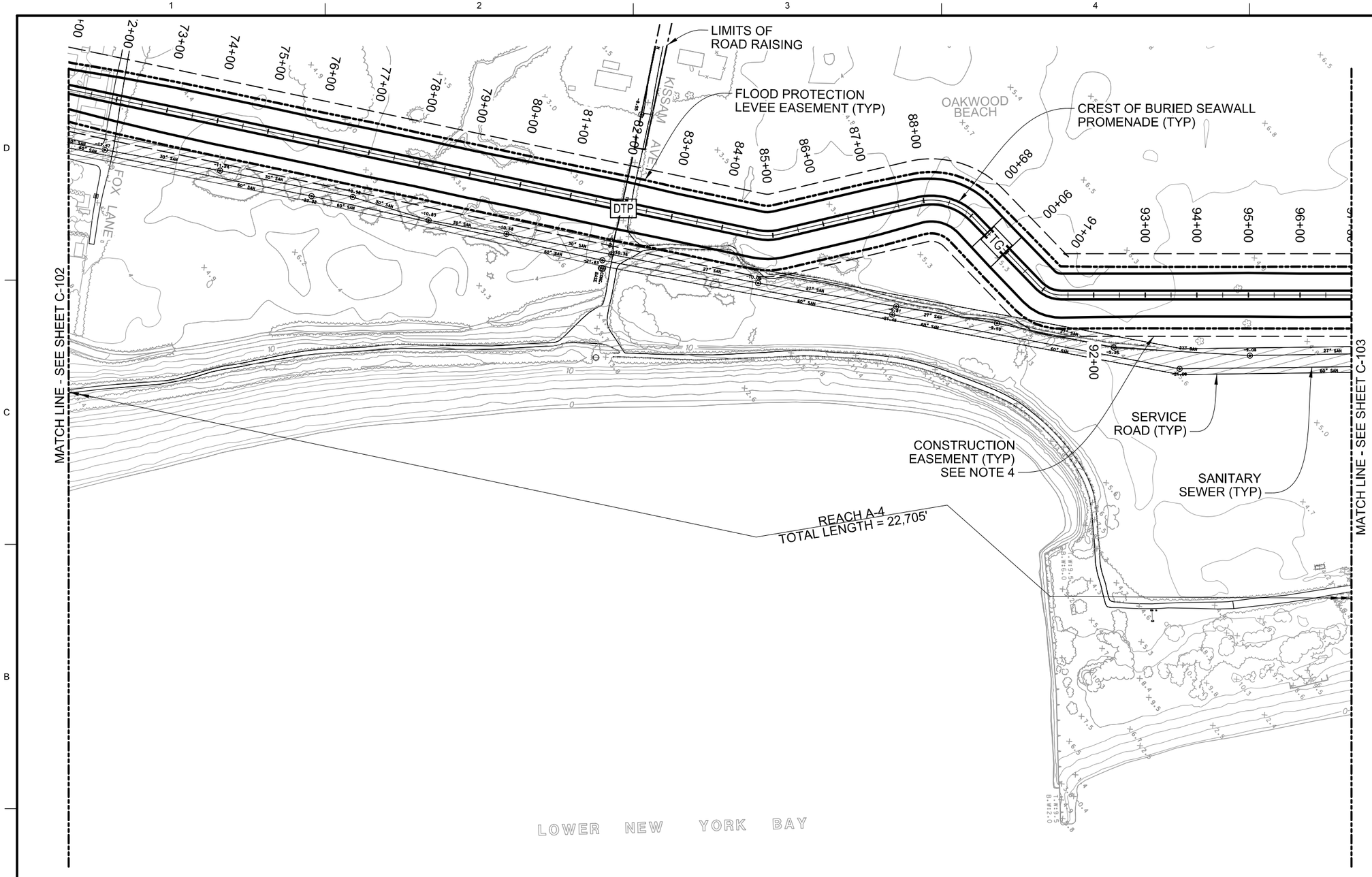

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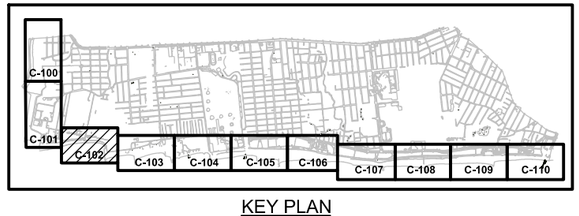
NOTES

1. TYPICAL SECTIONS SHOWN ON SHEETS C-501 TO C-504.
2. ALL ELEVATIONS REFERENCED TO NGVD 29.
3. STRUCTURE LIMITS SHOWN FOR LEVEL OF PROTECTION ARE BASED ON THE 15.6 FT SWL.
4. EASEMENT LINE @ 50' OFFSET TO PROPOSED STRUCTURES.
5. STOPLOG STRUCTURE ON SHEETS C-515 & C-516.

LEGEND

- PA — PEDESTRIAN ACCESS STAIRS SEE SHEET C-506
- DTP — COMBINED TRUCK & PEDESTRIAN ACCESS RAMP, SEE SHEET C-505
- MVA — MAINTENANCE VEHICLE ACCESS RAMP, SEE SHEET C-505
- DRAINAGE CONTROL STRUCTURE SEE SHEET C-512
- DRAINAGE STRUCTURE SEE SHEET C-514
- TG — TIDE GATE SEE SHEET C-513
- 30" SAN. — SANITARY SEWER
- M.H.S.T.U. — MAJOR STORM SEWER OUTFALL
- SAND COVER
- BOARDWALK



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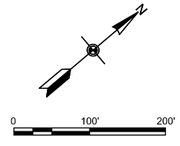

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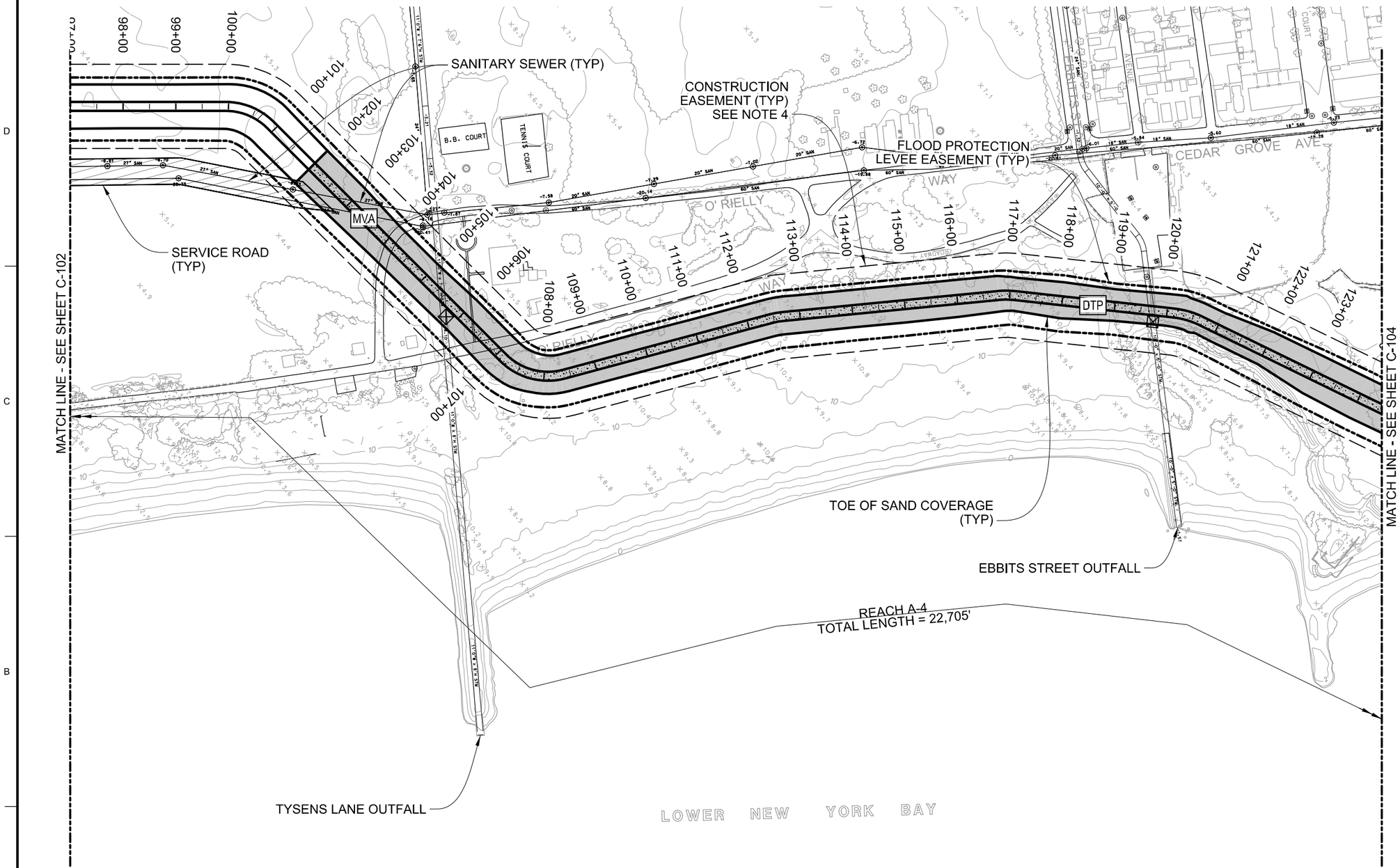
SITE PLAN (3 OF 11)

SHEET IDENTIFICATION
C-102
SHEET OF



NOTES

1. TYPICAL SECTIONS SHOWN ON SHEETS C-501 TO C-504.
2. ALL ELEVATIONS REFERENCED TO NGVD 29.
3. STRUCTURE LIMITS SHOWN FOR LEVEL OF PROTECTION ARE BASED ON THE 15.6 FT SWL.
4. EASEMENT LINE @ 50' OFFSET TO PROPOSED STRUCTURES.
5. STOPLOG STRUCTURE ON SHEETS C-515 & C-516.

LEGEND

- PA — PEDESTRIAN ACCESS STAIRS SEE SHEET C-506
- DTP — COMBINED TRUCK & PEDESTRIAN ACCESS RAMP, SEE SHEET C-505
- MVA — MAINTENANCE VEHICLE ACCESS RAMP, SEE SHEET C-505
- DRAINAGE CONTROL STRUCTURE SEE SHEET C-512
- DRAINAGE STRUCTURE SEE SHEET C-514
- TG — TIDE GATE SEE SHEET C-513
- 30" SAN. — SANITARY SEWER
- MAJOR STORM SEWER OUTFALL
- SAND COVER
- BOARDWALK

PRELIMINARY
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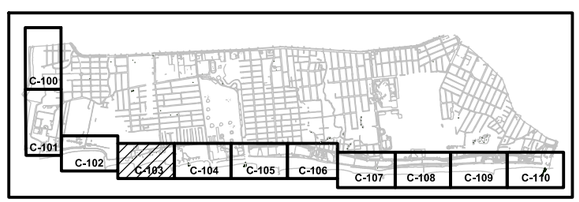

KEY PLAN

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SITE PLAN (4 OF 11)

SHEET IDENTIFICATION
C-103
SHEET OF

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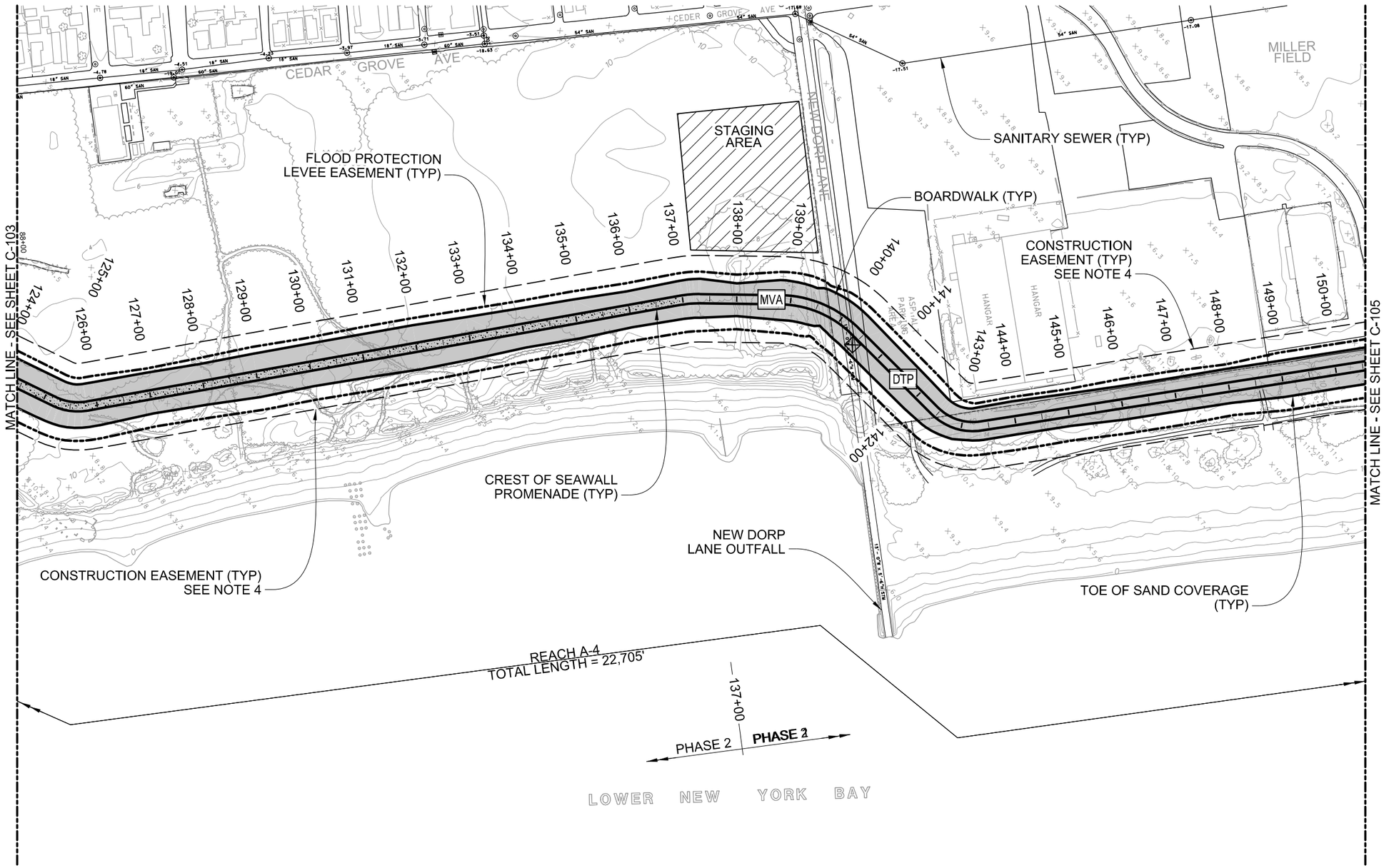

NOTES

1. TYPICAL SECTIONS SHOWN ON SHEETS C-501 TO C-504.
2. ALL ELEVATIONS REFERENCED TO NGVD 29.
3. STRUCTURE LIMITS SHOWN FOR LEVEL OF PROTECTION ARE BASED ON THE 15.6 FT SWL.
4. EASEMENT LINE @ 50' OFFSET TO PROPOSED STRUCTURES.
5. STOPLOG STRUCTURE ON SHEETS C-515 & C-516.

PRELIMINARY
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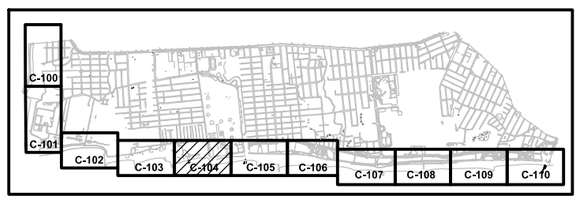
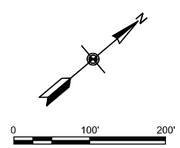
LEGEND

- PA — PEDESTRIAN ACCESS STAIRS SEE SHEET C-506
- DTP — COMBINED TRUCK & PEDESTRIAN ACCESS RAMP, SEE SHEET C-505
- MVA — MAINTENANCE VEHICLE ACCESS RAMP, SEE SHEET C-505
- DRAINAGE CONTROL STRUCTURE SEE SHEET C-512
- DRAINAGE STRUCTURE SEE SHEET C-514
- TG — TIDE GATE SEE SHEET C-513
- 30" SAN. — SANITARY SEWER
- W x H STM — MAJOR STORM SEWER OUTFALL
- SAND COVER
- BOARDWALK



KEY PLAN



SCALE:1"=100'

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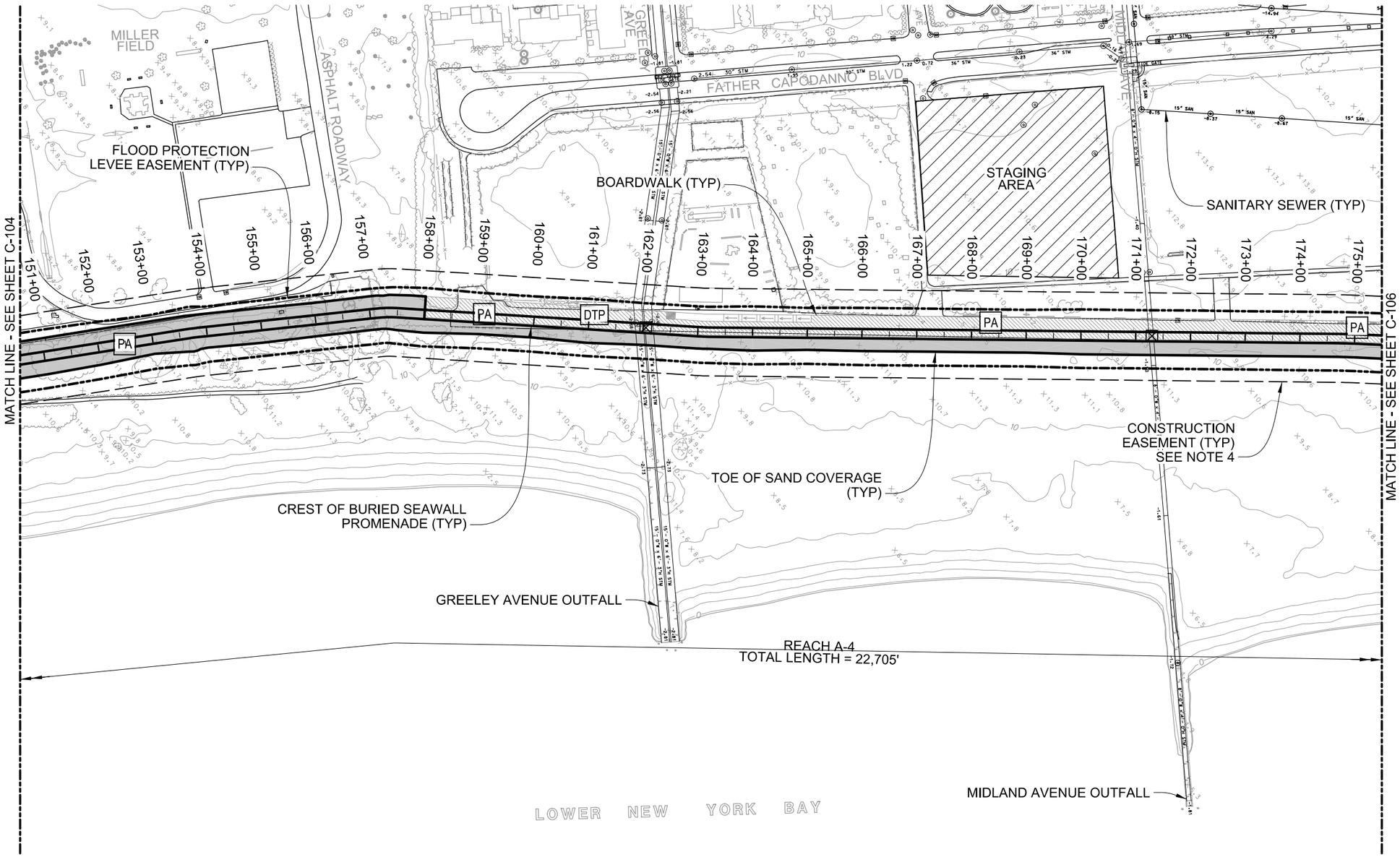
SITE PLAN (5 OF 11)

SHEET IDENTIFICATION
C-104
SHEET OF



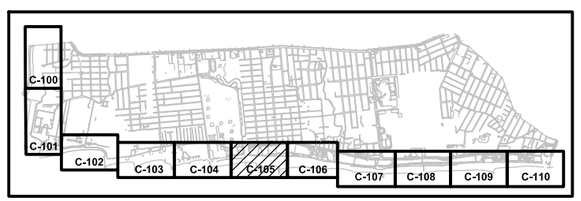
NOTES

1. TYPICAL SECTIONS SHOWN ON SHEETS C-501 TO C-504.
2. ALL ELEVATIONS REFERENCED TO NGVD 29.
3. STRUCTURE LIMITS SHOWN FOR LEVEL OF PROTECTION ARE BASED ON THE 15.6 FT SWL.
4. EASEMENT LINE @ 50' OFFSET TO PROPOSED STRUCTURES.
5. STOPLOG STRUCTURE ON SHEETS C-515 & C-516.

LEGEND

- PA — PEDESTRIAN ACCESS STAIRS SEE SHEET C-506
- DTP — COMBINED TRUCK & PEDESTRIAN ACCESS RAMP, SEE SHEET C-505
- MVA — MAINTENANCE VEHICLE ACCESS RAMP, SEE SHEET C-505
- DRAINAGE CONTROL STRUCTURE SEE SHEET C-512
- DRAINAGE STRUCTURE SEE SHEET C-514
- TG — TIDE GATE SEE SHEET C-513
- 30" SAN. -8.71 — SANITARY SEWER
- 8 x 8 STM — MAJOR STORM SEWER OUTFALL
- SAND COVER
- BOARDWALK

PRELIMINARY
NOT FOR CONSTRUCTION



KEY PLAN

0 100' 200'
SCALE:1"=100'

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MARK	REVISIONS FOR AJR COMMENTS	DATE	APPR.
1		1/9/2015	MAP

DESIGNED BY: BBGN
DWN BY: DJMac
CKD BY: MAP
SUBMITTED BY: MARK PIRELLO
PLOT SCALE: 1:200
PLOT DATE: 1/20/2015
SIZE: ANSI D
FILE NAME: 698705C-105.dgn
DATE: 2011/01/31
SOLICITATION NO.: XXXX
CONTRACT NO.: XXXX
FILE NUMBER: XXXX

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COASTAL STORM RISK MANAGEMENT
FEASIBILITY STUDY FOR THE
SOUTH SHORE OF STATEN ISLAND

SITE PLAN (6 OF 11)

SHEET IDENTIFICATION
C-105
SHEET OF

PATH: P:\6987-05\cadd_Active_Preliminary\
FILE: 698705C-105.dgn
1/20/2015 2:58:58 PM
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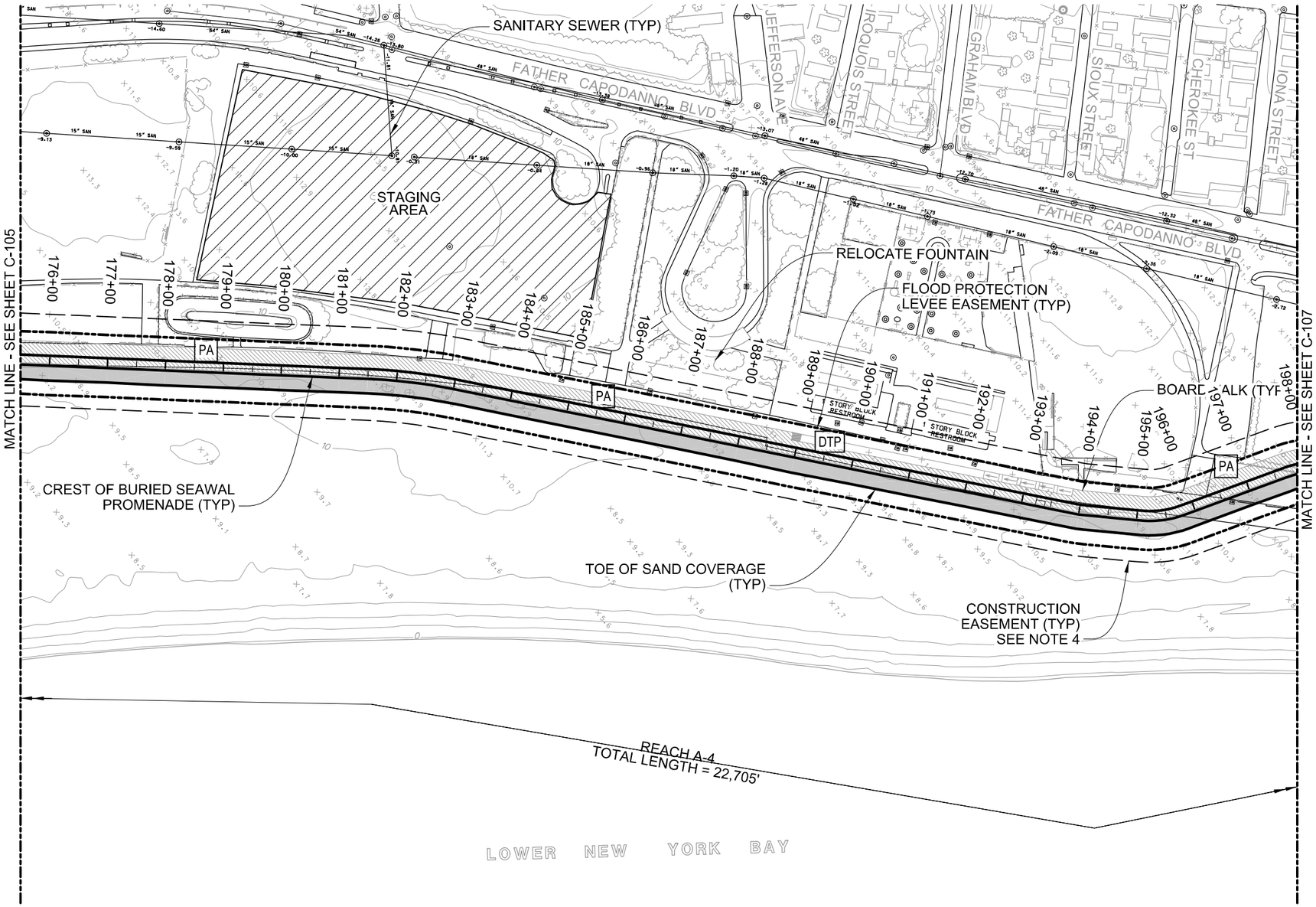


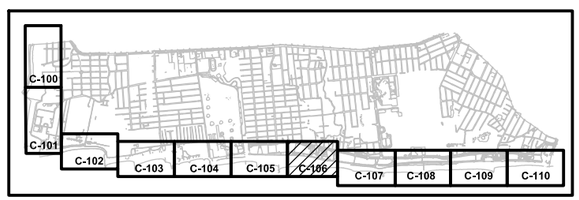
NOTES

1. TYPICAL SECTIONS SHOWN ON SHEETS C-501 TO C-504.
2. ALL ELEVATIONS REFERENCED TO NGVD 29.
3. STRUCTURE LIMITS SHOWN FOR LEVEL OF PROTECTION ARE BASED ON THE 15.6 FT SWL.
4. EASEMENT LINE @ 50' OFFSET TO PROPOSED STRUCTURES.
5. STOPLOG STRUCTURE ON SHEETS C-515 & C-516.

LEGEND

- PA — PEDESTRIAN ACCESS STAIRS SEE SHEET C-506
- DTP — COMBINED TRUCK & PEDESTRIAN ACCESS RAMP, SEE SHEET C-505
- MVA — MAINTENANCE VEHICLE ACCESS RAMP, SEE SHEET C-505
- DRAINAGE CONTROL STRUCTURE SEE SHEET C-512
- DRAINAGE STRUCTURE SEE SHEET C-514
- TG — TIDE GATE SEE SHEET C-513
- SANITARY SEWER
- MAJOR STORM SEWER OUTFALL
- SAND COVER
- BOARDWALK

PRELIMINARY
NOT FOR CONSTRUCTION



KEY PLAN

0 100' 200'
SCALE:1"=100'

US Army Corps of Engineers®

MARK	REVISIONS FOR AJR COMMENTS	DATE	APPR.
1		1/9/2015	MAP

DESIGNED BY: BBGN
DWN BY: DJMac
CKD BY: MAP
SUBMITTED BY: MARK PIRELLO
PLOT SCALE: 1:200
PLOT DATE: 1/20/2015
SIZE: ANSI D
FILE NAME: 698705C-106.dgn
DATE: 2011/01/31
SOLICITATION NO.: XXXX
CONTRACT NO.: XXXX
FILE NUMBER: XXXX

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COASTAL STORM RISK MANAGEMENT
FEASIBILITY STUDY FOR THE
SOUTH SHORE OF STATEN ISLAND

SITE PLAN (7 OF 11)

SHEET IDENTIFICATION
C-106
SHEET OF

PATH: P:\6987-05\cadd_Active_Preliminary\
FILE: 698705C-106.dgn
1/20/2015 2:59:00 PM
LAST PLOTTED BY: cgootan

PATH: P:\6987-05\cadd_Active_Preliminary\
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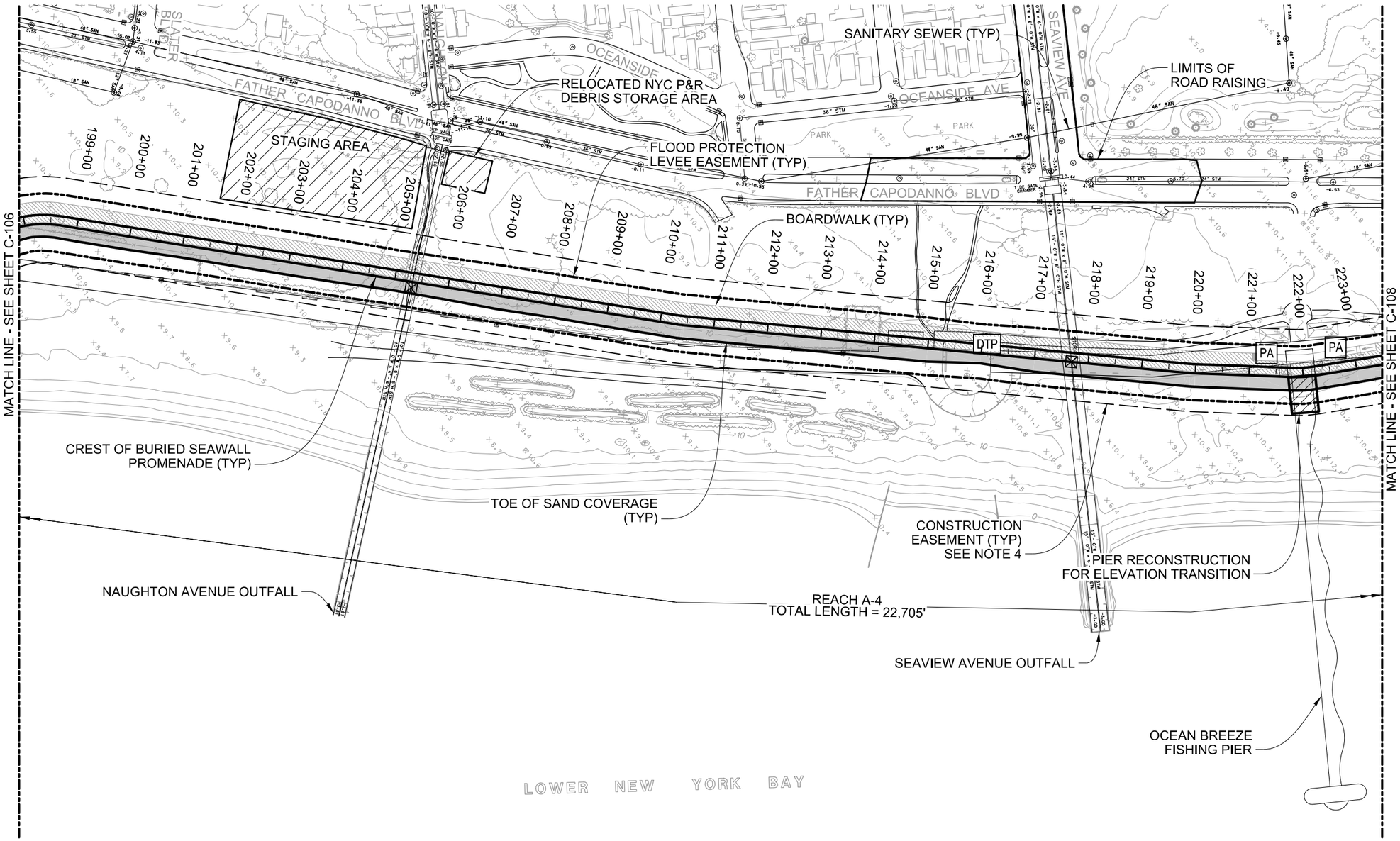
1/20/2015
2:59:02 PM
LAST PLOTTED BY: cgootan



PRELIMINARY
NOT FOR CONSTRUCTION

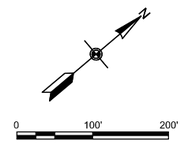
NOTES

1. TYPICAL SECTIONS SHOWN ON SHEETS C-501 TO C-504.
2. ALL ELEVATIONS REFERENCED TO NGVD 29.
3. STRUCTURE LIMITS SHOWN FOR LEVEL OF PROTECTION ARE BASED ON THE 15.6 FT SWL.
4. EASEMENT LINE @ 50' OFFSET TO PROPOSED STRUCTURES.
5. STOPLOG STRUCTURE ON SHEETS C-515 & C-516.

LEGEND

- PA — PEDESTRIAN ACCESS STAIRS SEE SHEET C-506
- DTP — COMBINED TRUCK & PEDESTRIAN ACCESS RAMP, SEE SHEET C-505
- MVA — MAINTENANCE VEHICLE ACCESS RAMP, SEE SHEET C-505
- DRAINAGE CONTROL STRUCTURE SEE SHEET C-512
- DRAINAGE STRUCTURE SEE SHEET C-514
- TG — TIDE GATE SEE SHEET C-513
- 30" SAN. — SANITARY SEWER
- M.H. STM — MAJOR STORM SEWER OUTFALL
- SAND COVER
- BOARDWALK

KEY PLAN



SCALE:1"=100'

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MARK	DESCRIPTION	DATE	APPR.
1	REVISIONS FOR AJR COMMENTS	1/9/2015	MAP

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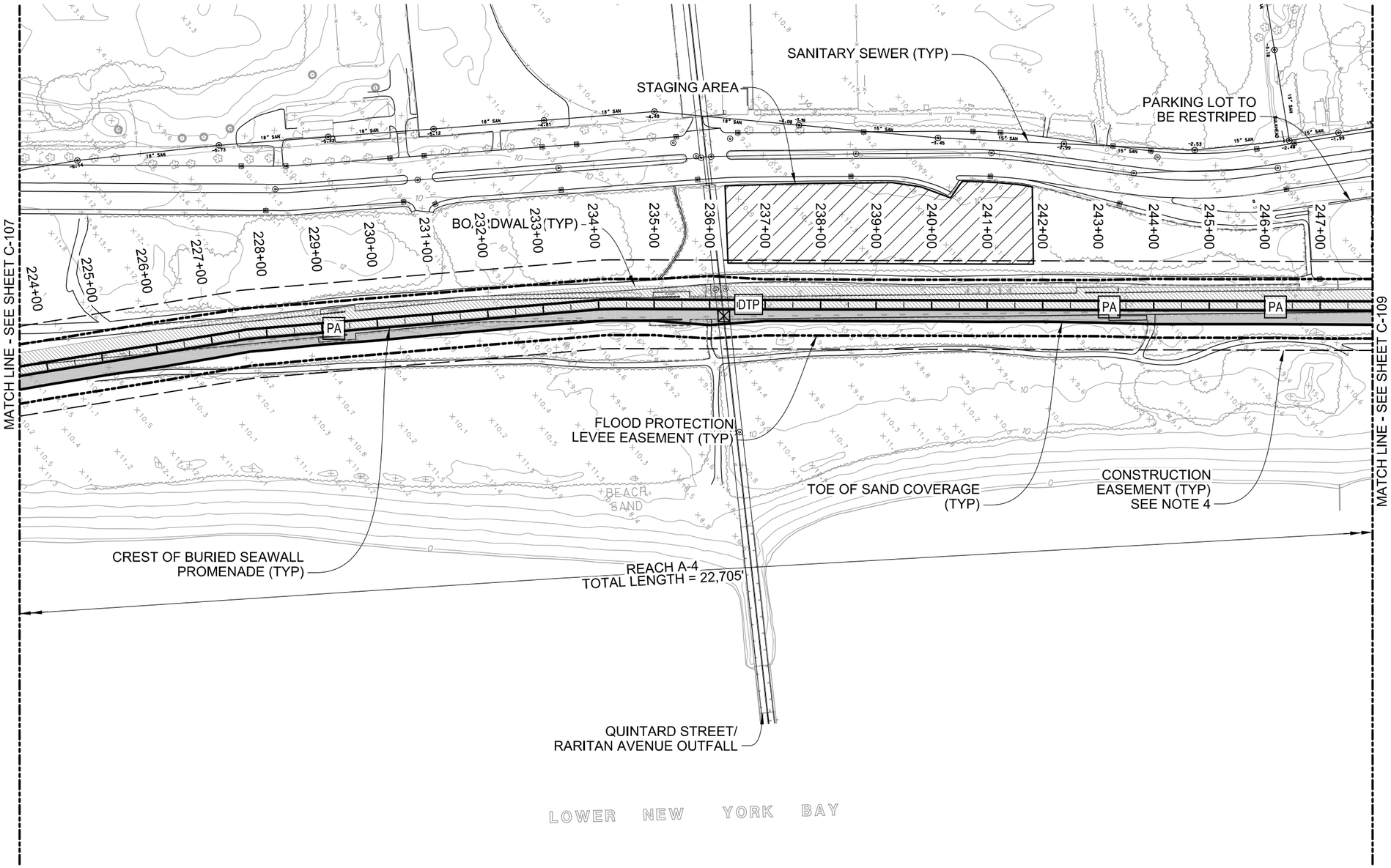
DRAWN BY: MARK PIRELLO
CKD BY: MAP
SUBMITTED BY:
PLOT SCALE: ANSI D
PLOT DATE: 1/20/2015
SIZE: ANSI D
FILE NAME: 698705C-107.dgn
DATE:
SOLICITATION NO.: XXX
CONTRACT NO.: XXX
FILE NUMBER:

COASTAL STORM RISK MANAGEMENT
FEASIBILITY STUDY FOR THE
SOUTH SHORE OF STATEN ISLAND

SITE PLAN (8 OF 11)

SHEET IDENTIFICATION
C-107
SHEET OF

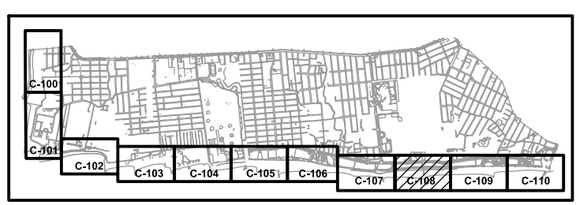


NOTES

1. TYPICAL SECTIONS SHOWN ON SHEETS C-501 TO C-504.
2. ALL ELEVATIONS REFERENCED TO NGVD 29.
3. STRUCTURE LIMITS SHOWN FOR LEVEL OF PROTECTION ARE BASED ON THE 15.6 FT SWL.
4. EASEMENT LINE @ 50' OFFSET TO PROPOSED STRUCTURES.
5. STOPLOG STRUCTURE ON SHEETS C-515 & C-516.

LEGEND

- PA — PEDESTRIAN ACCESS STAIRS SEE SHEET C-506
- DTP — COMBINED TRUCK & PEDESTRIAN ACCESS RAMP, SEE SHEET C-505
- MVA — MAINTENANCE VEHICLE ACCESS RAMP, SEE SHEET C-505
- DRAINAGE CONTROL STRUCTURE SEE SHEET C-512
- DRAINAGE STRUCTURE SEE SHEET C-514
- TG — TIDE GATE SEE SHEET C-513
- SANITARY SEWER
- MAJOR STORM SEWER OUTFALL
- SAND COVER
- BOARDWALK



KEY PLAN

0 100' 200'
SCALE:1"=100'

PRELIMINARY
NOT FOR CONSTRUCTION

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MARK	REVISIONS FOR AJR COMMENTS	DATE	APPR.
1		1/9/2015	MAP

DESIGNED BY: BBGN
DWN BY: DJMac
CKD BY: MAP
SUBMITTED BY: MARK PIRELLO
PLOT SCALE: 1:200
PLOT DATE: 1/20/2015
SIZE: ANSI D
FILE NAME: 698705C-108.dgn
DATE: 2011/01/31
SOLICITATION NO.: XXXX
CONTRACT NO.: XXXX
FILE NUMBER: XXXX

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COASTAL STORM RISK MANAGEMENT
FEASIBILITY STUDY FOR THE
SOUTH SHORE OF STATEN ISLAND

SITE PLAN (9 OF 11)

SHEET IDENTIFICATION
C-108
SHEET OF

PATH: P:\6987-05\cadd_Active_Preliminary\
FILE: 698705C-108.dgn
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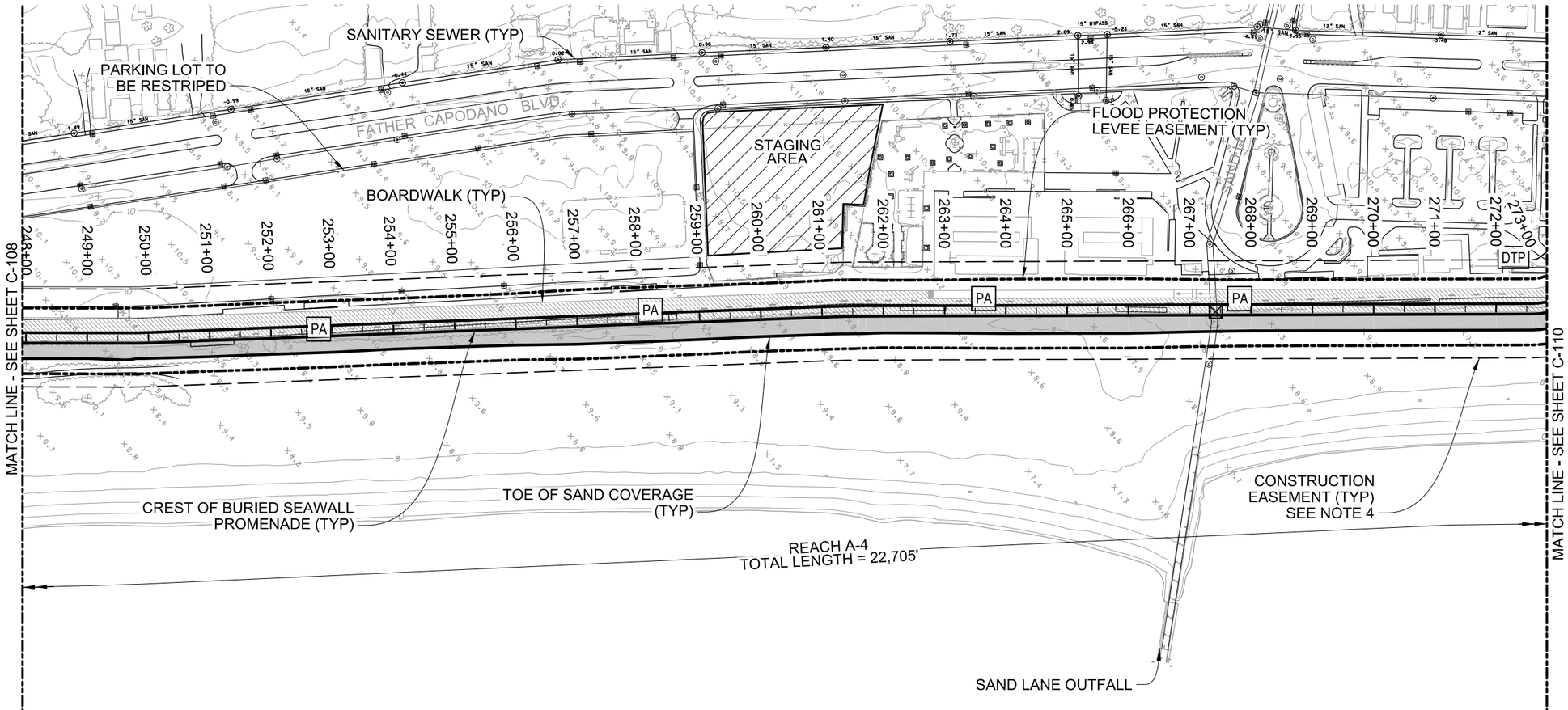
cgootan
LAST PLOTTED BY:

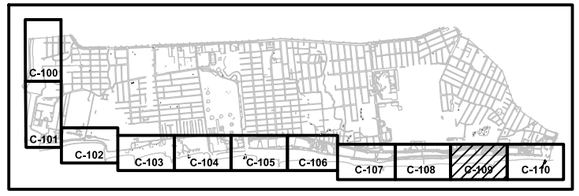


NOTES

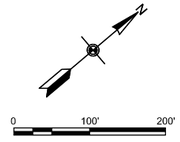
1. TYPICAL SECTIONS SHOWN ON SHEETS C-501 TO C-504.
2. ALL ELEVATIONS REFERENCED TO NGVD 29.
3. STRUCTURE LIMITS SHOWN FOR LEVEL OF PROTECTION ARE BASED ON THE 15.6 FT SWL.
4. EASEMENT LINE @ 50' OFFSET TO PROPOSED STRUCTURES.
5. STOPLOG STRUCTURE ON SHEETS C-515 & C-516.

LEGEND

- PA — PEDESTRIAN ACCESS STAIRS SEE SHEET C-506
- DTP — COMBINED TRUCK & PEDESTRIAN ACCESS RAMP, SEE SHEET C-505
- MVA — MAINTENANCE VEHICLE ACCESS RAMP, SEE SHEET C-505
- DRAINAGE CONTROL STRUCTURE SEE SHEET C-512
- DRAINAGE STRUCTURE SEE SHEET C-514
- TG — TIDE GATE SEE SHEET C-513
- 30" SAN. -9.71 — SANITARY SEWER
- M x H STM — MAJOR STORM SEWER OUTFALL
- SAND COVER
- BOARDWALK



KEY PLAN



SCALE:1"=100'

PRELIMINARY
NOT FOR CONSTRUCTION

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LAST PLOTTED BY: cgootan

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MARK	DESCRIPTION	DATE	APPR.
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DWN BY: DJMac
CHD BY: MAP
SUBMITTED BY: MARK PIRELLO
PLOT SCALE: 1:1
PLOT DATE: 1/20/2015
SIZE: ANSI D
DATE: 2011/07/31
SOLICITATION NO.: XXXX
CONTRACT NO.: XXXX
FILE NUMBER: XXXX
FILE NAME: 698705C-109.dgn

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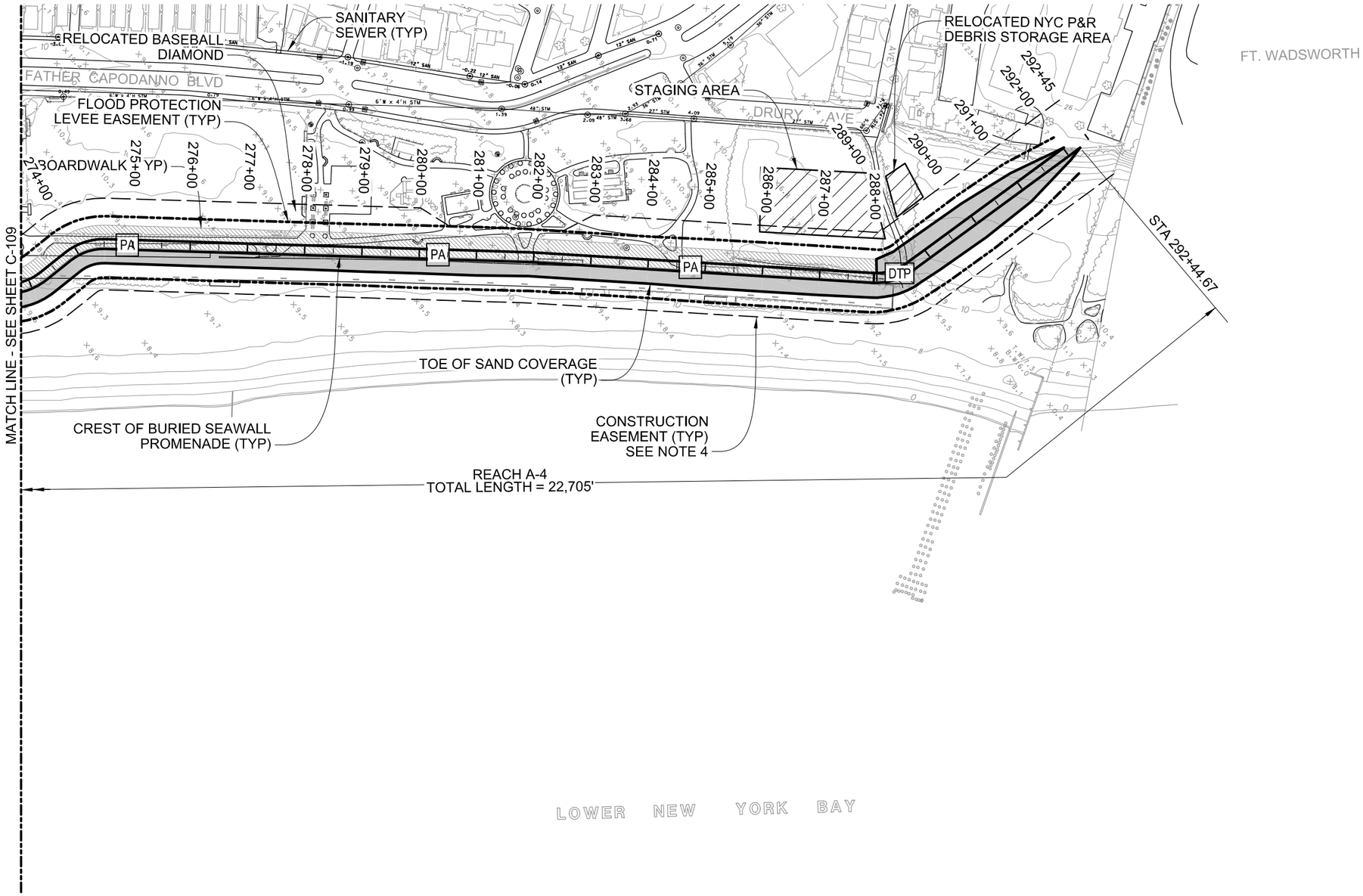
COASTAL STORM RISK MANAGEMENT
FEASIBILITY STUDY FOR THE
SOUTH SHORE OF STATEN ISLAND

SITE PLAN (10 OF 11)

SHEET IDENTIFICATION
C-109
SHEET OF



NOTES

1. TYPICAL SECTIONS SHOWN ON SHEETS C-501 TO C-504.
2. ALL ELEVATIONS REFERENCED TO NGVD 29.
3. STRUCTURE LIMITS SHOWN FOR LEVEL OF PROTECTION ARE BASED ON THE 15.6 FT SWL.
4. EASEMENT LINE @ 50' OFFSET TO PROPOSED STRUCTURES.
5. STOPLOG STRUCTURE ON SHEETS C-515 & C-516.

LEGEND

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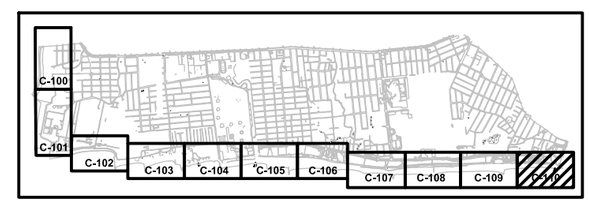
- DTP — COMBINED TRUCK & PEDESTRIAN ACCESS RAMP, SEE SHEET C-505
- MVA — MAINTENANCE VEHICLE ACCESS RAMP, SEE SHEET C-505
- DRAINAGE CONTROL STRUCTURE SEE SHEET C-512
- DRAINAGE STRUCTURE SEE SHEET C-514
- TG — TIDE GATE SEE SHEET C-513
- SANITARY SEWER
- MAJOR STORM SEWER OUTFALL
- SAND COVER
- BOARDWALK

PRELIMINARY
NOT FOR CONSTRUCTION



KEY PLAN

0 100' 200'
SCALE:1"=100'

US Army Corps of Engineers®

MARK	REVISIONS FOR AJR COMMENTS	DATE	APPR.
1		1/9/2015	MAP

DESIGNED BY: BBGN
DWN BY: DJMac
CKD BY: MAP
SUBMITTED BY: MARK PIRELLO
PLOT SCALE: 1:200
PLOT DATE: 1/20/2015
SIZE: ANSI D
FILE NAME: 698705C-110.dgn
DATE: 2011/01/31
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CONTRACT NO.: XXXX
FILE NUMBER: XXXX

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FEASIBILITY STUDY FOR THE
SOUTH SHORE OF STATEN ISLAND

SITE PLAN (11 OF 11)

SHEET IDENTIFICATION
C-110
SHEET OF

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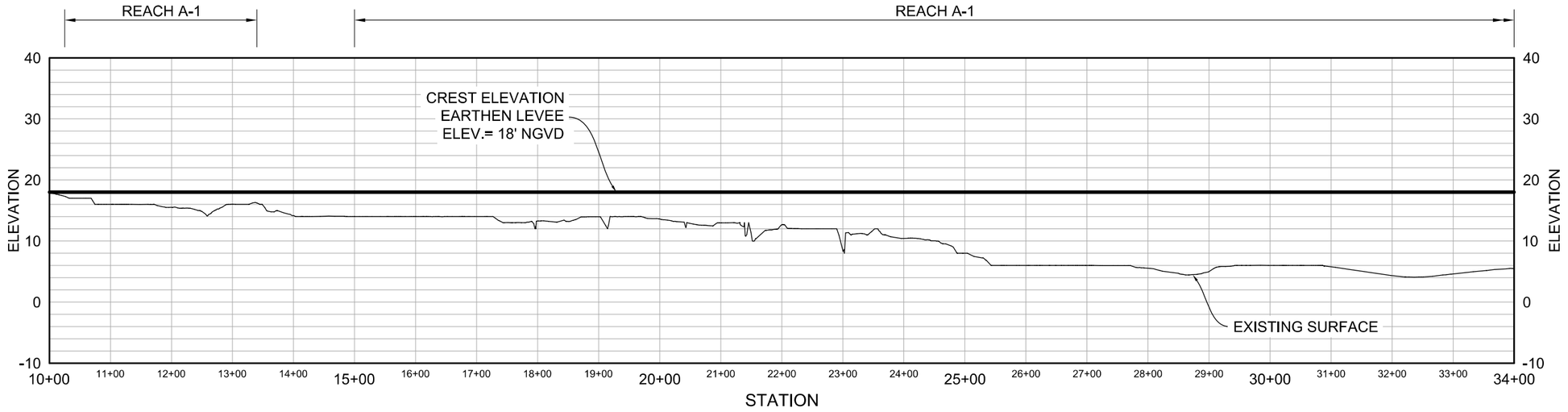
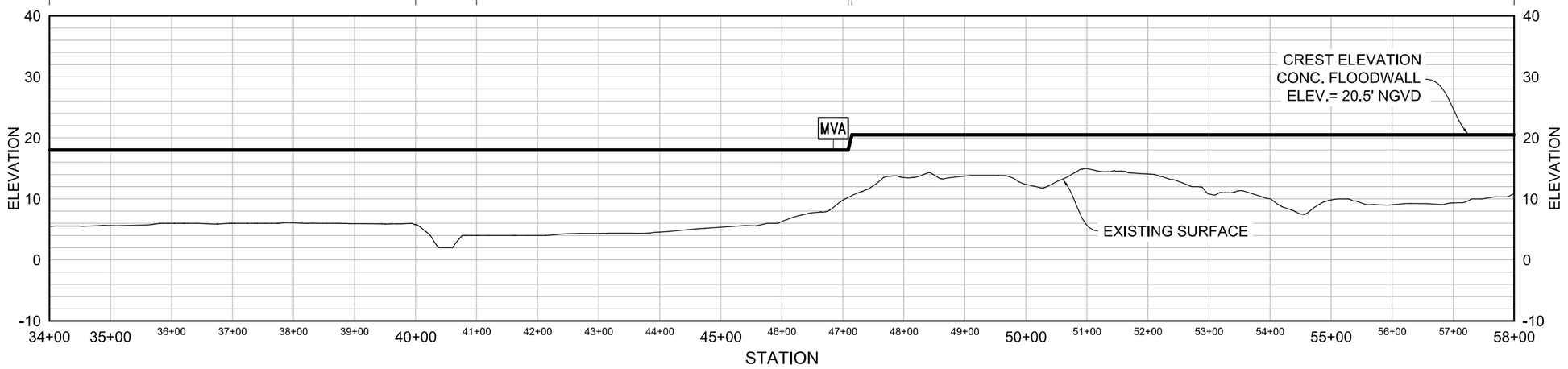
cgootan
LAST PLOTTED BY:





NOTE

PROFILES FOR 15.6 FT SWL CALCULATED ALONG BASELINE. REFER TO SITE PLANS FOR BASELINE LOCATION.

LEGEND

- PA — PEDESTRIAN ACCESS STAIRS SEE SHEET C-506
- DTP — COMBINED TRUCK & PEDESTRIAN ACCESS RAMP, SEE SHEET C-505
- MVA — MAINTENANCE VEHICLE ACCESS RAMP, SEE SHEET C-505

PRELIMINARY
NOT FOR CONSTRUCTION

0 100' 200'
SCALE:1"=100'
VERT EXAG 10:1

US Army Corps of Engineers®

MARK	REVISIONS FOR AJR COMMENTS	DATE	APPR.
1		1/9/2015	MAP

DESIGNED BY: BBON
DWN BY: DJMac
CKD BY: MAP
SUBMITTED BY: MARK PIELLO
DATE: 2011/01/31
SOLICITATION NO.: XXXX
CONTRACT NO.: XXXX
PLOT SCALE: 1:000.00
PLOT DATE: 1/20/2015
FILE NUMBER: XXXX
SIZE: ANSI D
FILE NAME: 698705C-301.dgn

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COASTAL STORM RISK MANAGEMENT
FEASIBILITY STUDY FOR THE
SOUTH SHORE OF STATEN ISLAND

SITE PROFILE (1 OF 6)

SHEET IDENTIFICATION
C-301
SHEET OF

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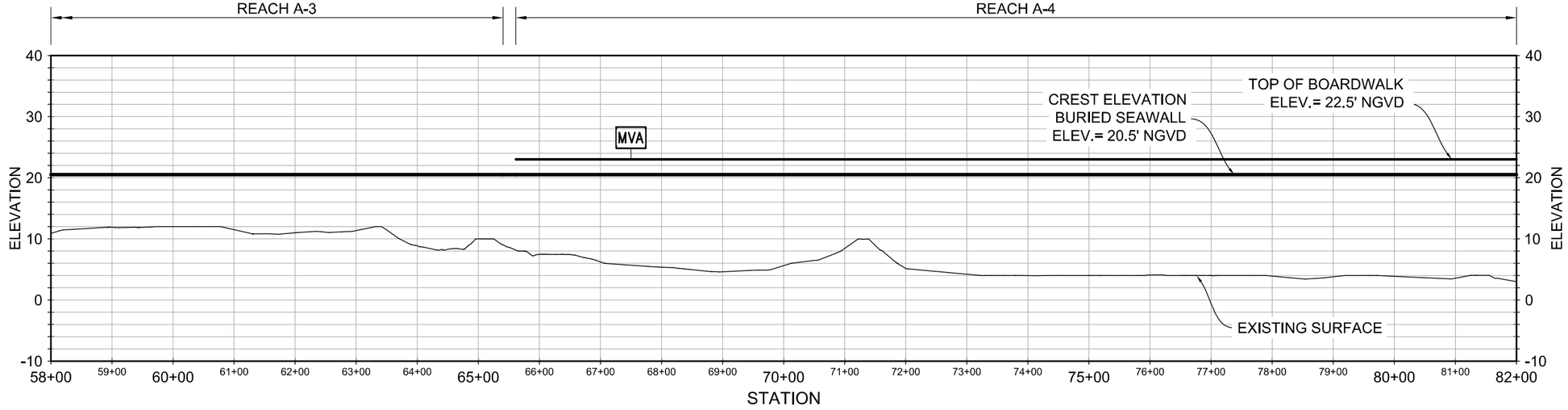
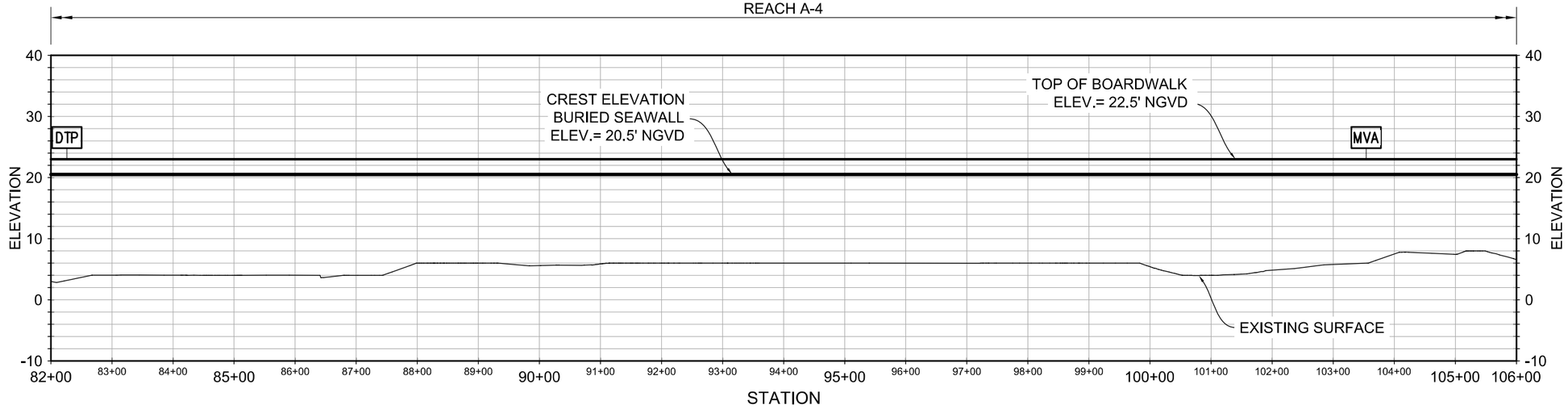
FILE: 698705C-301.dgn
1/20/2015 2:59:17 PM
LAST PLOTTED BY: cgootan
LAST SAVED BY: JMACPHERSON, 1/31/2011 1:30:33 PM

SEE SHEET C-301 FOR CONTINUATION





SEE SHEET C-303 FOR CONTINUATION

NOTE

PROFILES FOR 15.6 FT SWL CALCULATED ALONG BASELINE. REFER TO SITE PLANS FOR BASELINE LOCATION.

LEGEND

- PA — PEDESTRIAN ACCESS STAIRS SEE SHEET C-506
- DTP — COMBINED TRUCK & PEDESTRIAN ACCESS RAMP, SEE SHEET C-505
- MVA — MAINTENANCE VEHICLE ACCESS RAMP, SEE SHEET C-505

PRELIMINARY
NOT FOR CONSTRUCTION

0 100' 200'
SCALE:1"=100'
VERT EXAG 10:1

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MARK	DESCRIPTION	DATE	APPR.
1	REVISIONS FOR AJR COMMENTS	1/9/2015	MAP

DESIGNED BY: BBON
DWN BY: DJMac
CKD BY: MAP
SUBMITTED BY: MARK PIELLO
DATE: 2011/01/31
SOLICITATION NO.: XXXX
CONTRACT NO.: XXXX
PLOT SCALE: 1:000
PLOT DATE: 1/30/2011
FILE NUMBER: XXXX
SIZE: ANSI D
FILE NAME: 698705C-302.dgn

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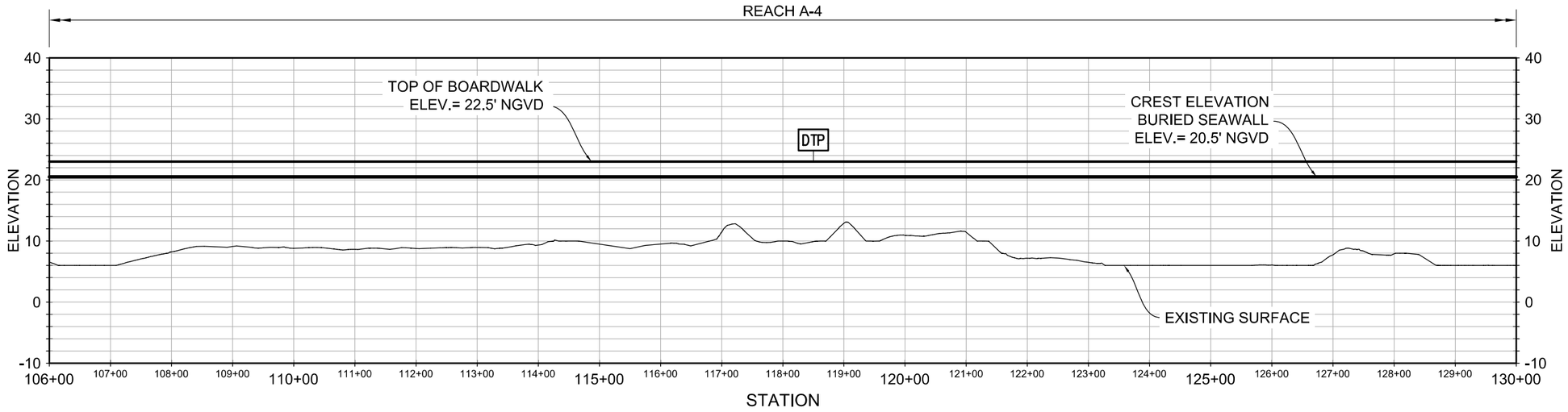
COASTAL STORM RISK MANAGEMENT
FEASIBILITY STUDY FOR THE
SOUTH SHORE OF STATEN ISLAND

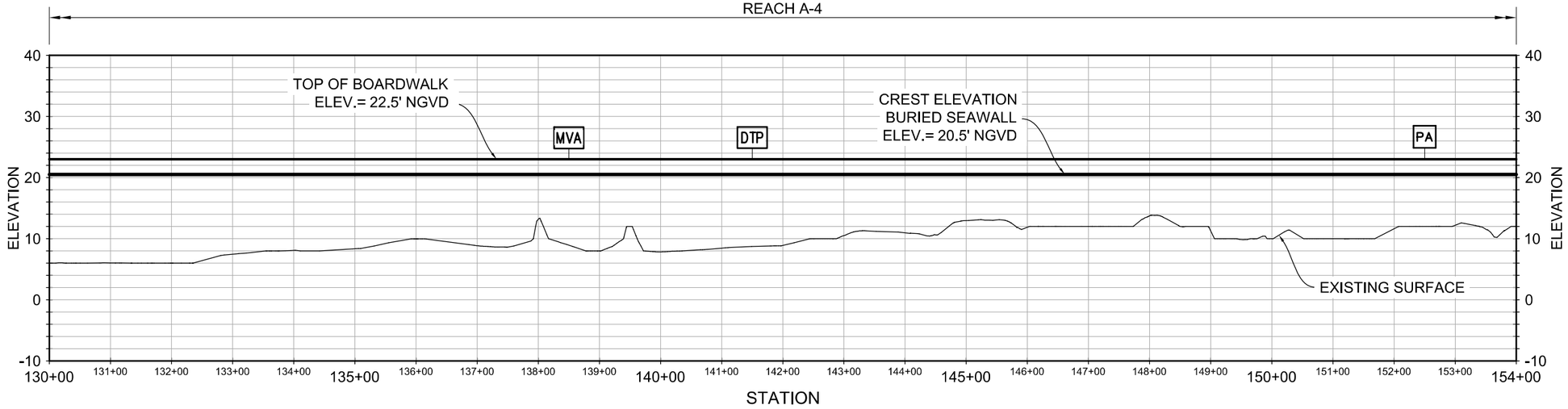
SITE PROFILE (2 OF 6)

SHEET IDENTIFICATION
C-302
SHEET OF

PATH: P:\6987-05\cadd_Active_Preliminary\
FILE: 698705C-302.dgn
1/20/2015 2:59:19 PM
LAST PLOTTED BY: cgootan
LAST SAVED BY: JMACPHERSON, 1/31/2011 1:30:33 PM

SEE SHEET C-302 FOR CONTINUATION





SEE SHEET C-304 FOR CONTINUATION

NOTE

PROFILES FOR 15.6 FT SWL CALCULATED ALONG BASELINE. REFER TO SITE PLANS FOR BASELINE LOCATION.

LEGEND

- PA — PEDESTRIAN ACCESS STAIRS SEE SHEET C-506
- DTP — COMBINED TRUCK & PEDESTRIAN ACCESS RAMP, SEE SHEET C-505
- MVA — MAINTENANCE VEHICLE ACCESS RAMP, SEE SHEET C-505

PRELIMINARY
NOT FOR CONSTRUCTION

SCALE:1"=100'
VERT EXAG 10:1

US Army Corps of Engineers®

MARK	DESCRIPTION	DATE	APPR.
1	REVISIONS FOR AJR COMMENTS	1/9/2015	MAP

DESIGNED BY: BBON
DWN BY: DJMac
CKD BY: MAP
SUBMITTED BY: MARK PIELLO
DATE: 2011/01/31
SOLICITATION NO.: XXXX
CONTRACT NO.: XXXX
PLOT SCALE: 1:000
PLOT DATE: 1/20/2015
FILE NUMBER: XXXX
SIZE: ANSI D
FILE NAME: 698705C-303.dgn

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COASTAL STORM RISK MANAGEMENT
FEASIBILITY STUDY FOR THE
SOUTH SHORE OF STATEN ISLAND

SITE PROFILE (3 OF 6)

SHEET IDENTIFICATION
C-303
SHEET OF

PATH: P:\6987-05\cadd_Active_Preliminary\
FILE: 698705C-303.dgn
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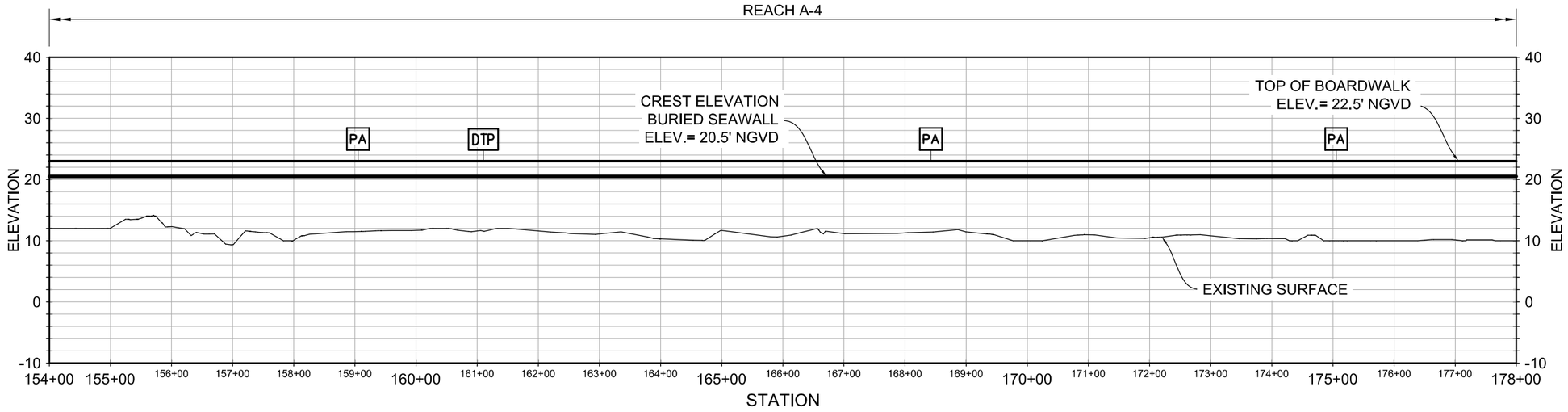
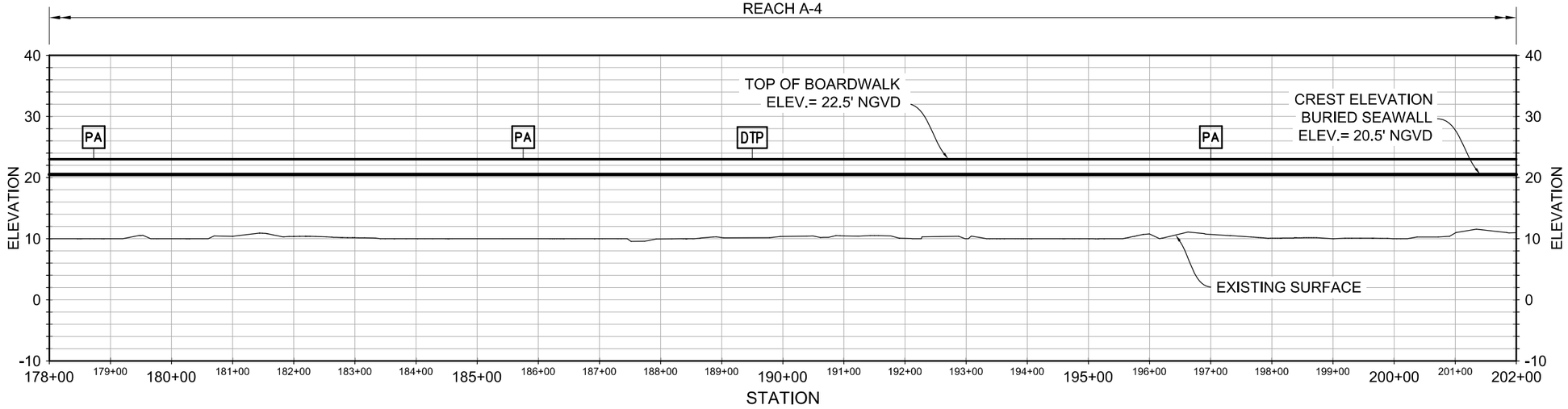
LAST SAVED BY: JMACPHERSON, 1/31/2011 1:30:33 PM

SEE SHEET C-303 FOR CONTINUATION





SEE SHEET C-305 FOR CONTINUATION

NOTE

PROFILES FOR 15.6 FT SWL CALCULATED ALONG BASELINE. REFER TO SITE PLANS FOR BASELINE LOCATION.

LEGEND

- PA — PEDESTRIAN ACCESS STAIRS SEE SHEET C-506
- DTP — COMBINED TRUCK & PEDESTRIAN ACCESS RAMP, SEE SHEET C-505
- MVA — MAINTENANCE VEHICLE ACCESS RAMP, SEE SHEET C-505

PRELIMINARY
NOT FOR CONSTRUCTION

SCALE:1"=100'
VERT EXAG 10:1

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MARK	DESCRIPTION	DATE	APPR.
1	REVISIONS FOR AJR COMMENTS	1/9/2015	MAP

DESIGNED BY: BBON
DWN BY: DJMac
CKD BY: MAP
SUBMITTED BY: MARK PIELLO
DATE: 2011/01/31
SOLICITATION NO.: XXXX
CONTRACT NO.: XXXX
PLOT SCALE: 1:000%
PLOT DATE: 1/20/2015
FILE NUMBER: XXXX
SIZE: ANSI D
FILE NAME: 698705C-304.dgn

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COASTAL STORM RISK MANAGEMENT
FEASIBILITY STUDY FOR THE
SOUTH SHORE OF STATEN ISLAND

SITE PROFILE (4 OF 6)

SHEET IDENTIFICATION
C-304
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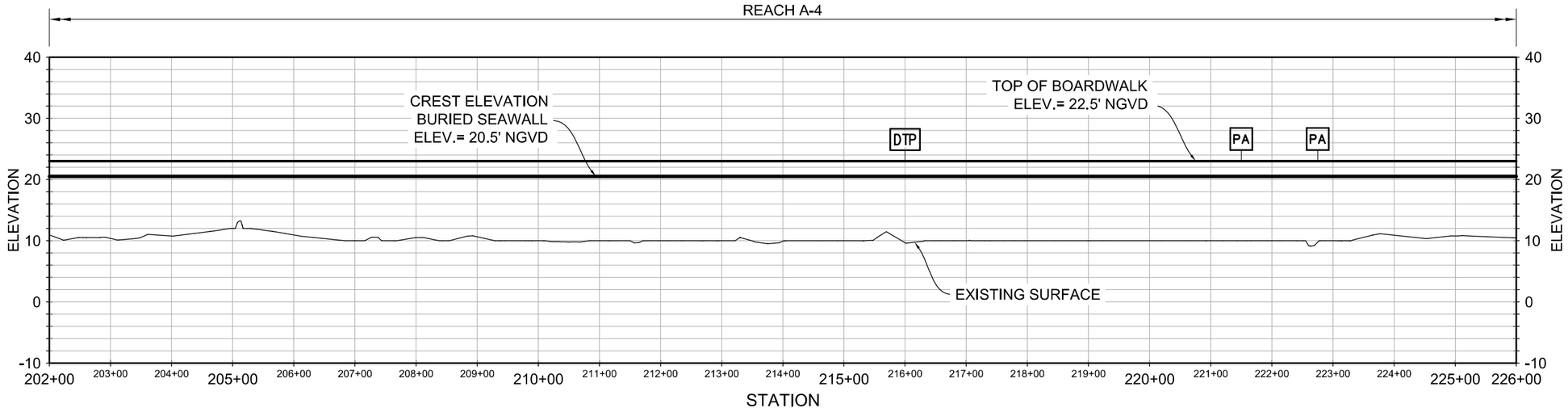

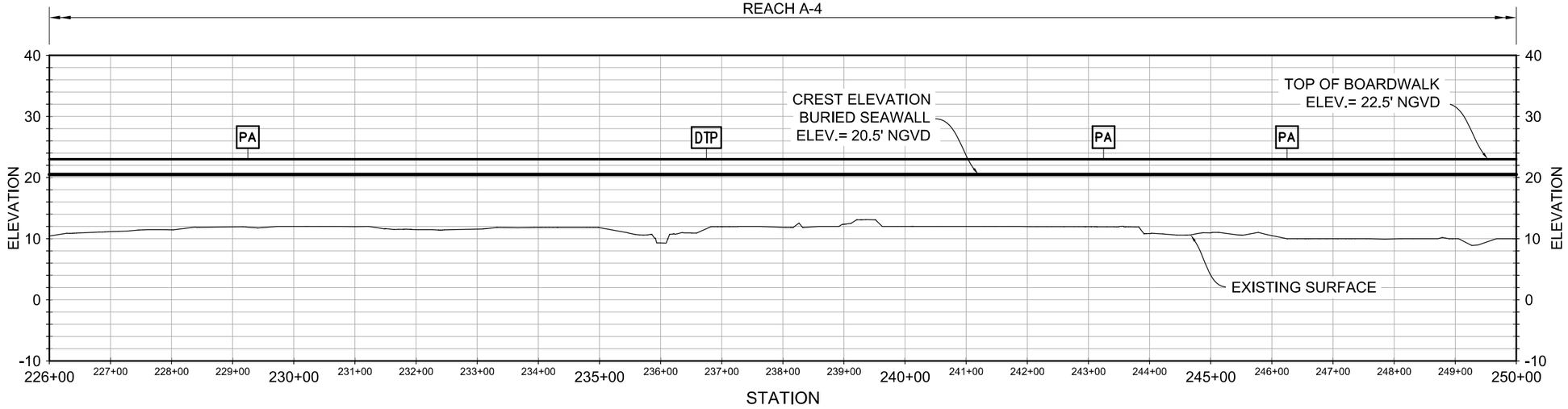

SEE SHEET C-306 FOR CONTINUATION

NOTE

PROFILES FOR 15.6 FT SWL CALCULATED ALONG BASELINE. REFER TO SITE PLANS FOR BASELINE LOCATION.

LEGEND

- PA — PEDESTRIAN ACCESS STAIRS SEE SHEET C-506
- DTP — COMBINED TRUCK & PEDESTRIAN ACCESS RAMP, SEE SHEET C-505
- MVA — MAINTENANCE VEHICLE ACCESS RAMP, SEE SHEET C-505

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SCALE:1"=100'
VERT EXAG 10:1

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1	REVISIONS FOR AJR COMMENTS	1/9/2015	MAP

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SUBMITTED BY: MARK PIELLO
DATE: 2011/01/31
SOLICITATION NO.: XXXX
CONTRACT NO.: XXXX
PLOT SCALE: 1:000
PLOT DATE: 1/20/15
FILE NUMBER: XXXX
SIZE: ANSI D
FILE NAME: 698705C-305.dgn

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SITE PROFILE (5 OF 6)

SHEET IDENTIFICATION
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SHEET OF

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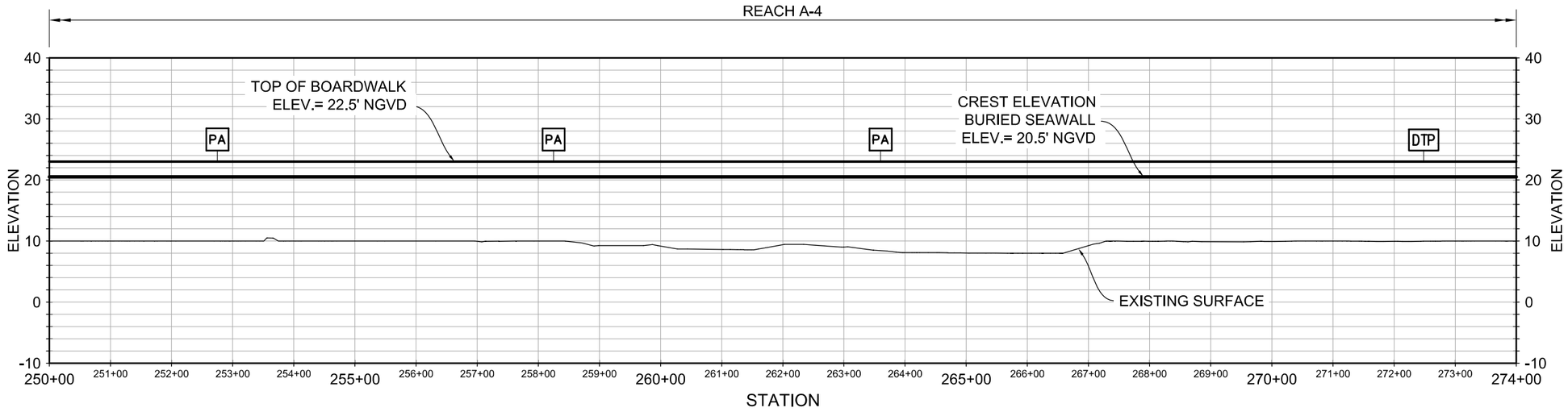
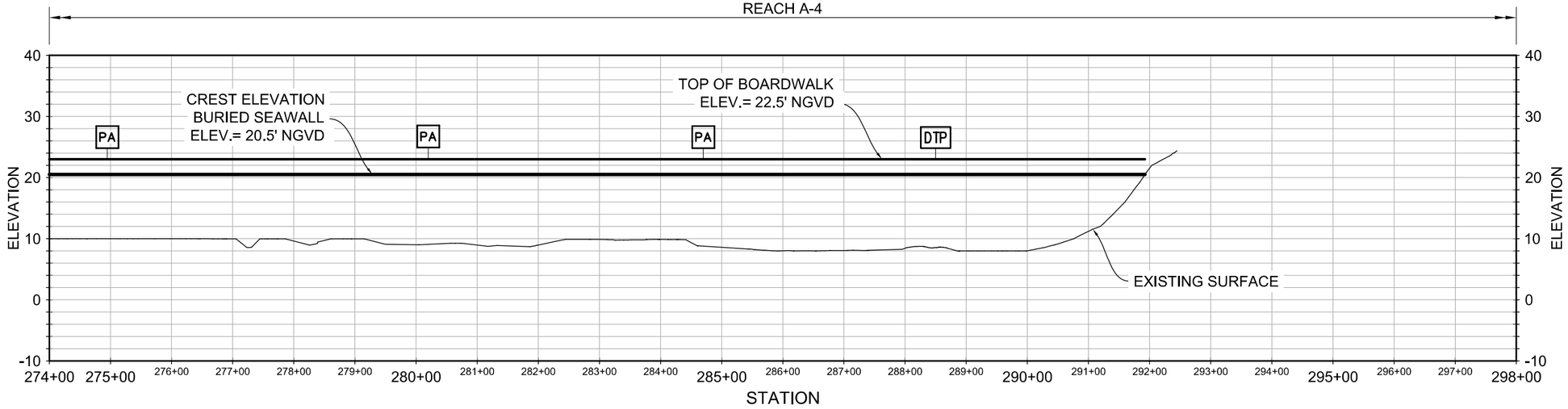
SEE SHEET C-305 FOR CONTINUATION





NOTE

PROFILES FOR 15.6 FT SWL CALCULATED ALONG BASELINE. REFER TO SITE PLANS FOR BASELINE LOCATION.

LEGEND

- PA — PEDESTRIAN ACCESS STAIRS SEE SHEET C-506
- DTP — COMBINED TRUCK & PEDESTRIAN ACCESS RAMP, SEE SHEET C-505
- MVA — MAINTENANCE VEHICLE ACCESS RAMP, SEE SHEET C-505

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0 100' 200'
SCALE:1"=100'
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CKD BY: MAP
SUBMITTED BY: MARK PIELLO
DATE: 2011/01/31
SOLICITATION NO.: XXXX
CONTRACT NO.: XXXX
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PLOT DATE: 1/20/2015
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FILE NAME: 698705C-306.dgn

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SITE PROFILE (6 OF 6)

SHEET IDENTIFICATION
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SHEET OF

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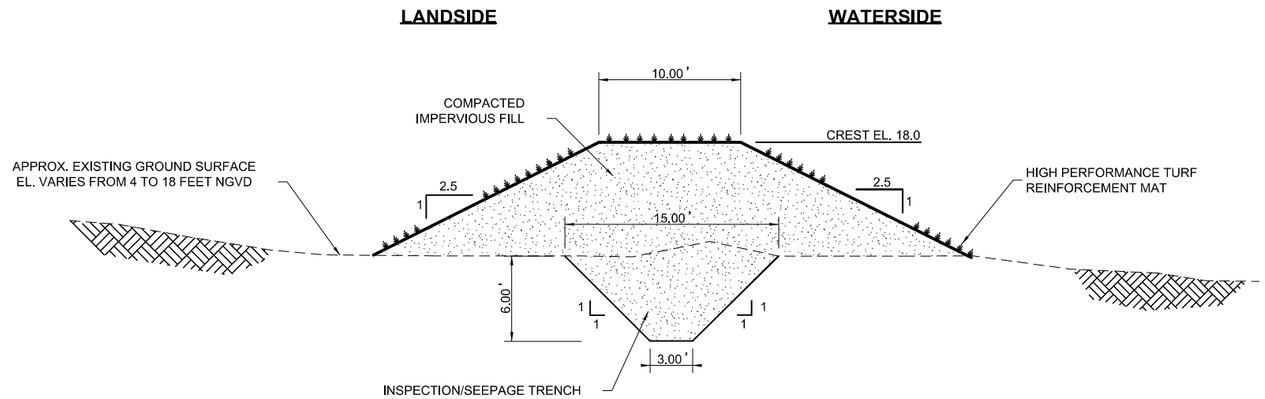
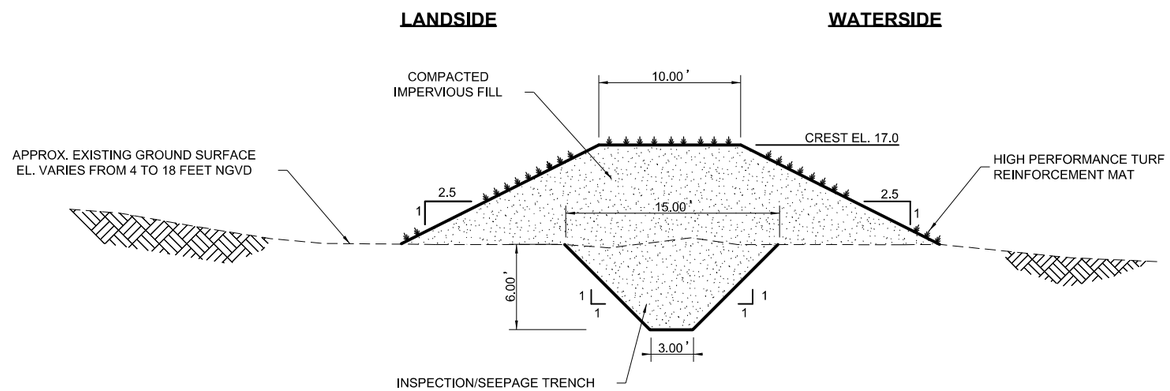
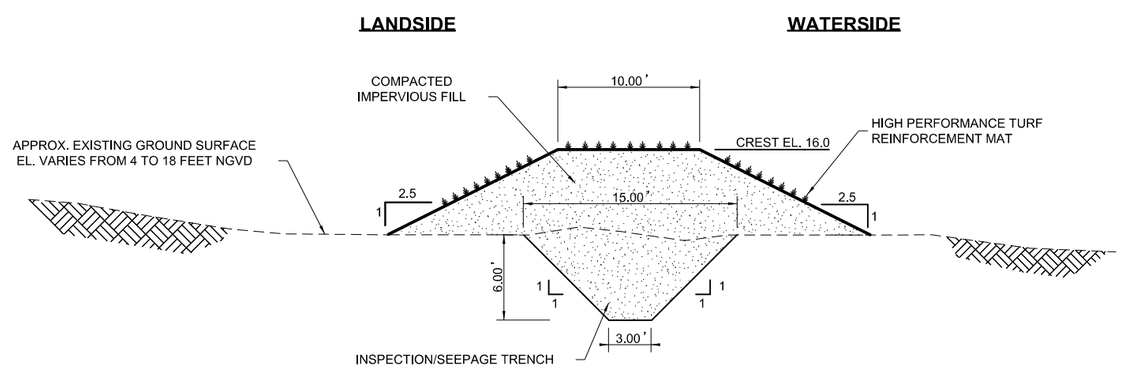


C2 C-501 LEVEE SECTION (15.6 FT SWL)
SCALE: 3/16"=1'-0"



B2 C-501 LEVEE SECTION (14.3 FT SWL)
SCALE: 3/16"=1'-0"



A2 C-501 LEVEE SECTION (13.3 FT SWL)
SCALE: 3/16"=1'-0"

NOTES

1. SECTION REPRESENTS STA 10+25 TO 13+40 AND 15+00 TO 40+00.

PRELIMINARY
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0 4' 8' 12'
SCALE:3/16"=1'

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1	REVISIONS FOR AJR COMMENTS	1/9/2015	MAP

DESIGNED BY: DMP, NMP
DWN BY: CSG
CKD BY: DJRP
SUBMITTED BY:
PLOT SCALE: 1:2
PLOT DATE: 1/20/2015
FILE NAME: 698705C-501.dgn
DATE: 07.14.2014
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TYPICAL SECTIONS REACH A-1

SHEET IDENTIFICATION
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cgootan
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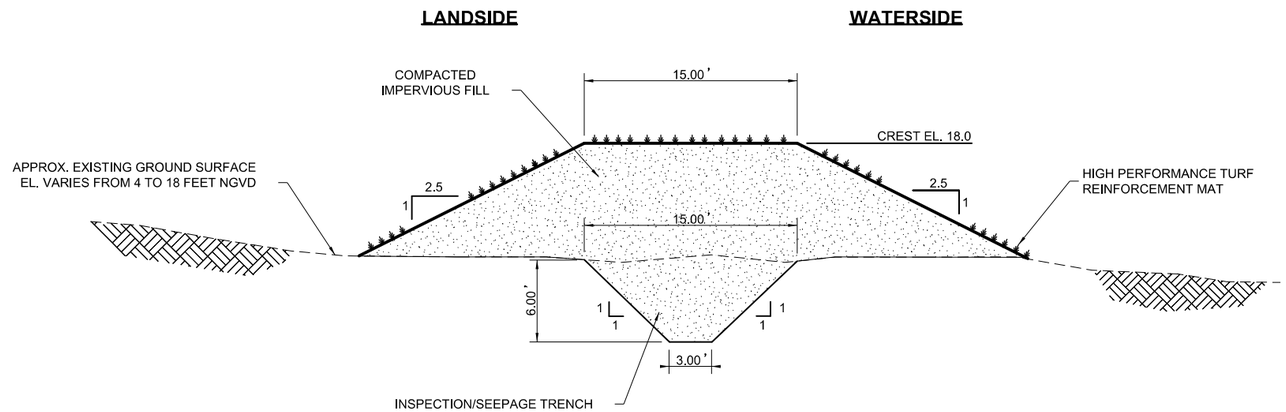
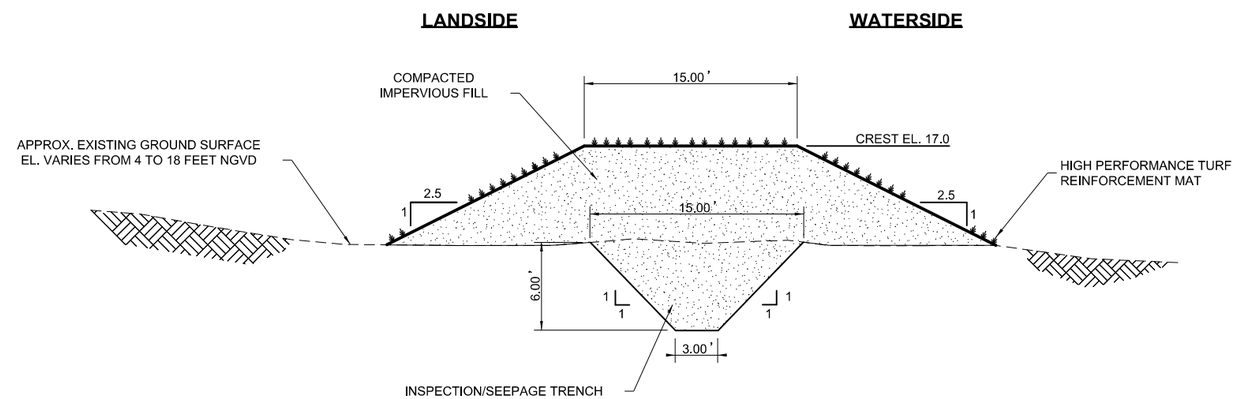
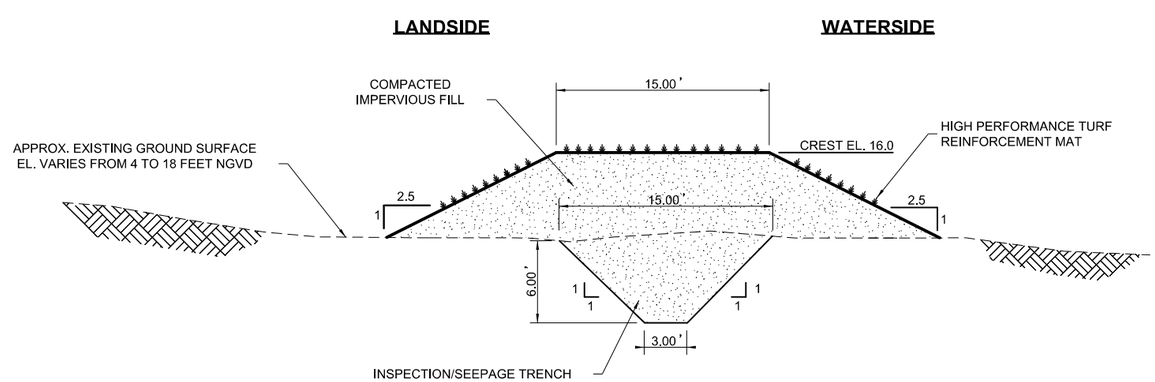


C2 / C-502 LEVEE SECTION (15.6 FT SWL)
SCALE: 3/16"=1'-0"



B2 / C-502 LEVEE SECTION (14.3 FT SWL)
SCALE: 3/16"=1'-0"



A2 / C-502 LEVEE SECTION (13.3 FT SWL)
SCALE: 3/16"=1'-0"

NOTES

1. SECTION REPRESENTS STA 41+00 TO STA 47+14.81.

PRELIMINARY
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0 4' 8' 12'
SCALE:3/16"=1'

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SUBMITTED BY:
PLOT SCALE: 1:2
PLOT DATE: 1/20/2015
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FILE NAME: 698705C-502.dgn
DATE: 07.14.2014
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CONTRACT NO.:
FILE NUMBER:

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TYPICAL SECTIONS REACH A-2

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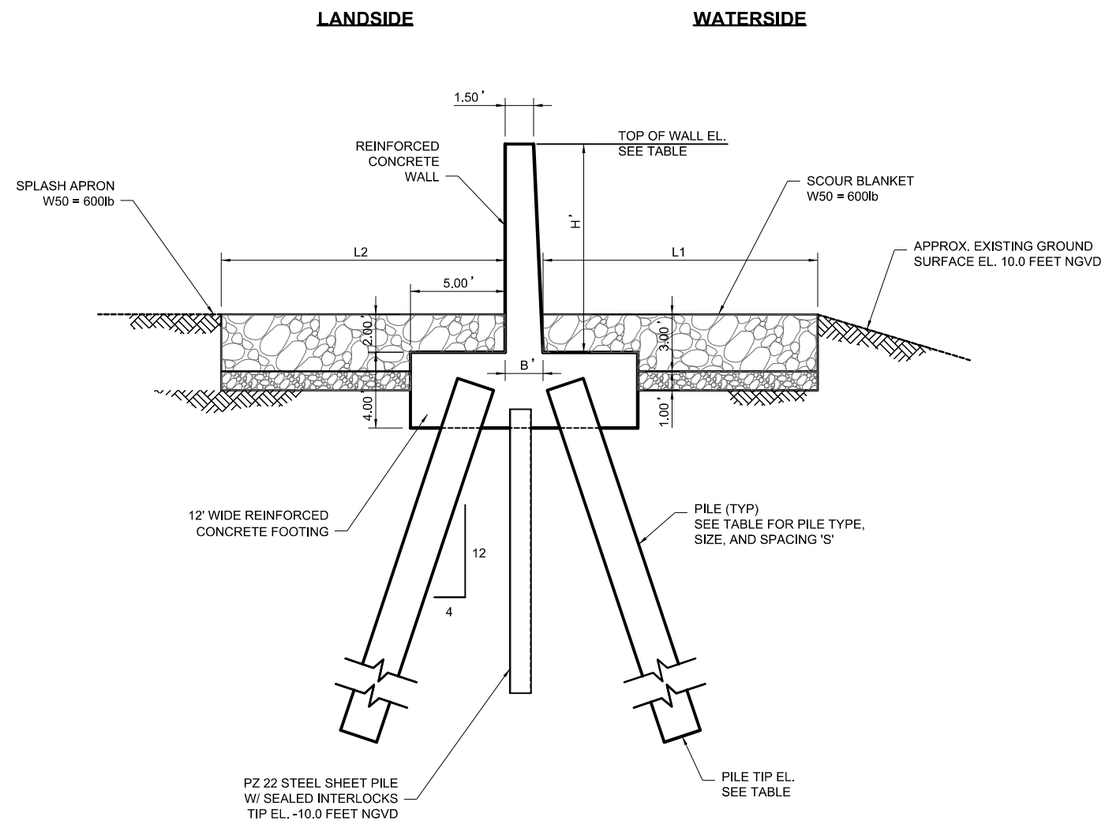
FILE: 698705C-503.dgn
1/20/2015
2:59:35 PM
cgootan
LAST PLOTTED BY:

NOTES

1. SECTION REPRESENTS STA 47+14.81 TO STA 65+40.



B2 / C-503 **FLOOD WALL SECTION**
SCALE: 1/4"=1'-0"

ELEVATIONS (FT, NGVD)			PILE DATA		DIMENSIONS				
SWL (FT)	TOP OF WALL	PILE TIP	TYPE	SIZE	H (FT)	S (FT)	B (FT)	L1 (FT)	L2 (FT)
13.3	16.0	-55.0	H-PILE	HP14 X 89	8.0	10.0	1.5	15.0	10.0
14.3	18.0	-60.0	H-PILE	HP14 X 89	10.0	8.0	1.5	15.0	12.0
15.6	20.5	-75.0	H-PILE	HP14 X 89	12.5	7.0	2.0	15.0	15.0

PRELIMINARY
NOT FOR CONSTRUCTION

0 3' 6' 9'
SCALE:1/4"=1'

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MARK	REVISIONS FOR AJR COMMENTS	DATE	APPR.
1		1/9/2015	MAP

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DWN BY: CSG
CKD BY: DMP
SUBMITTED BY:
DATE: 07-14-2014
SOLICITATION NO.:
CONTRACT NO.:
PLOT SCALE: 1:1
PLOT DATE: 1/20/2015
FILE NUMBER:
SIZE: ANSI D
FILE NAME: 698705C-503.dgn

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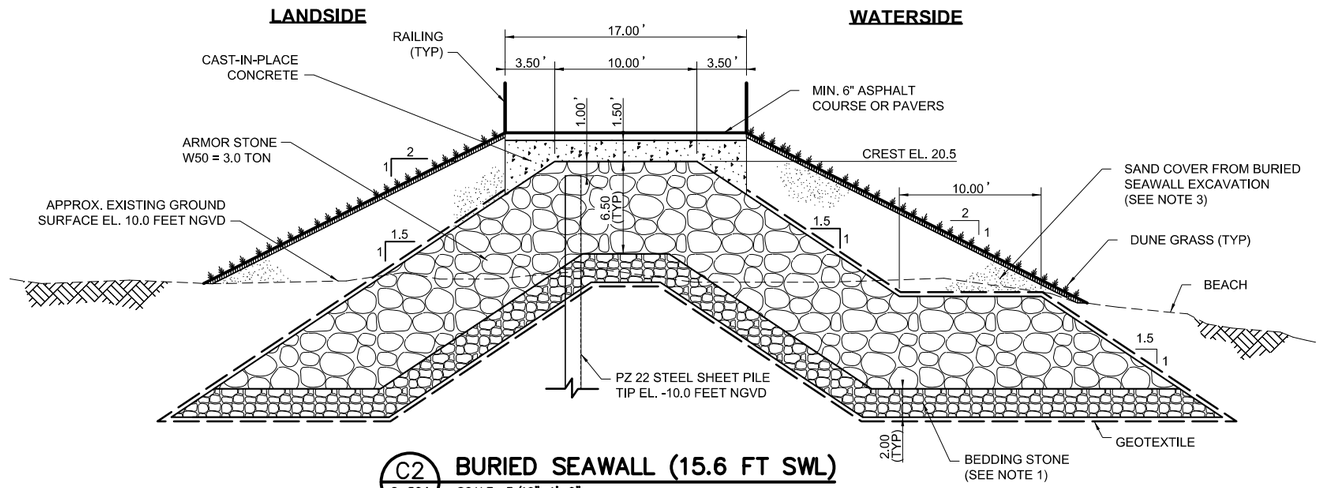
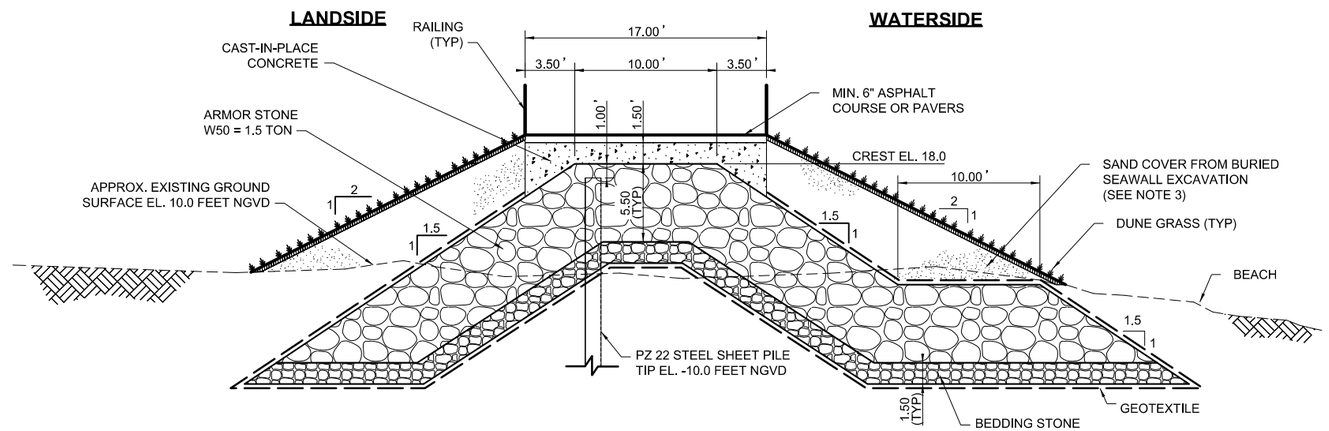
TYPICAL SECTIONS REACH A-3

SHEET IDENTIFICATION
C-503
SHEET OF



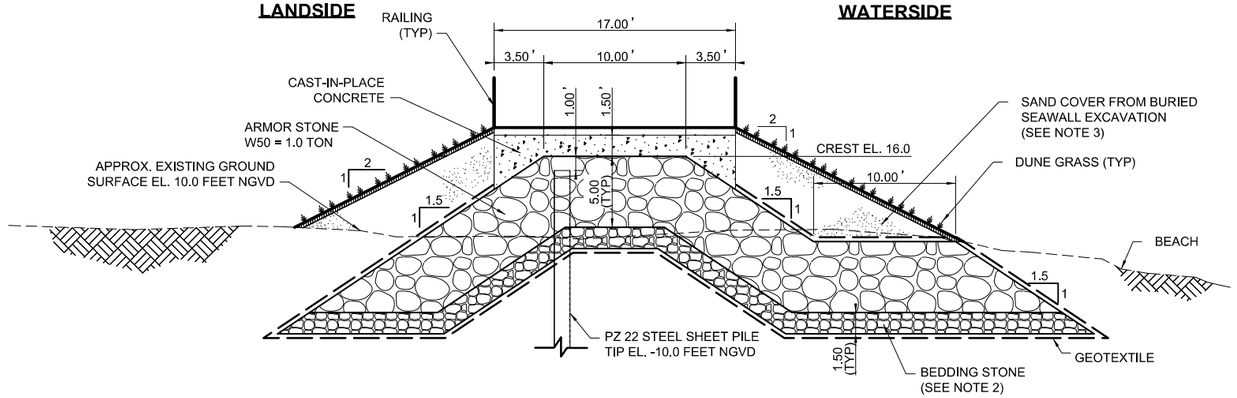
C2 C-504 **BUILDED SEAWALL (15.6 FT SWL)**

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



B2 C-504 **BURIED SEAWALL (14.3 FT SWL)**

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



A2 C-504 **BURIED SEAWALL (13.3 FT SWL)**

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

NOTES

1. MIN. 2.0' THICKNESS OF BEDDING STONE LAYER IN CORE AREA. THICKNESS WILL VARY WITH EXISTING GROUND ELEVATION.
2. MIN. 1.5' THICKNESS OF BEDDING STONE LAYER IN CORE AREA. THICKNESS WILL VARY WITH EXISTING GROUND ELEVATION.
3. NO SAND COVER FROM STA 65+40 TO STA 102+00. SAND COVER FROM STA 102+00 TO STA 139+00, AND STA 289+00 TO STA 292+44.67.

PRELIMINARY
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0 4' 8' 12'

SCALE:3/16"=1'

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CONTRACT NO.:
PLOT DATE: 1/20/2015
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FILE NUMBER:
FILE NAME: 698705C-504.dgn

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TYPICAL SECTIONS REACH A-4

SHEET IDENTIFICATION
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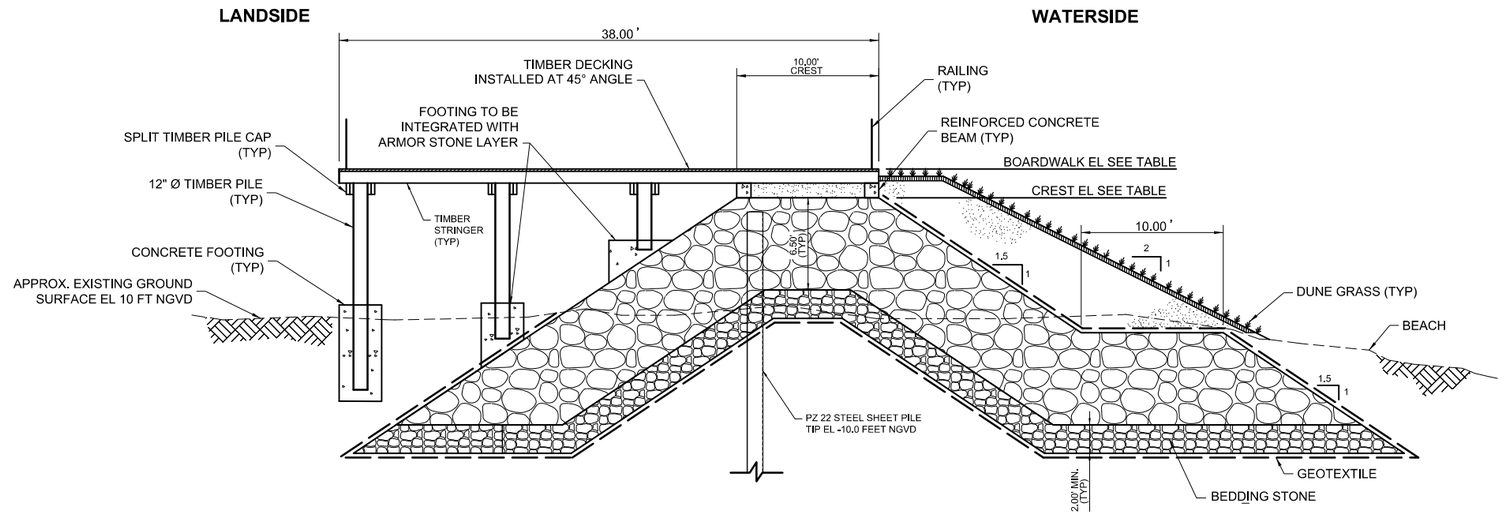
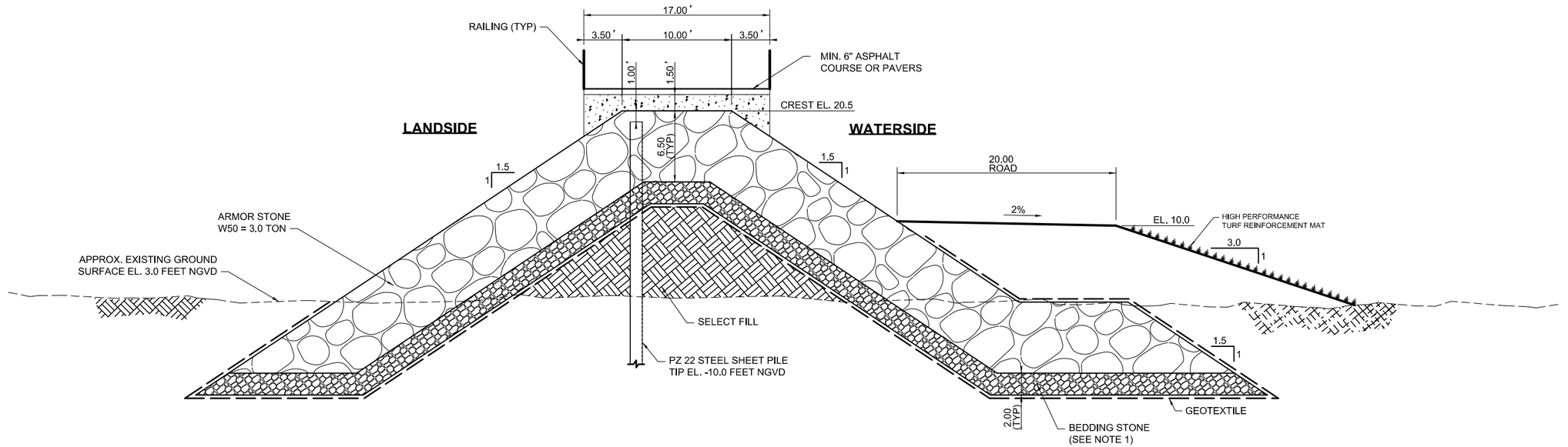


B2 C–505 **TYPICAL SECTION – BOARDWALK**
SCALE: 3/16"=1'–0"

ELEVATIONS (FT, NGVD)		
SWL	CREST ELEVATION	TOP OF BOARDWALK
13.3	16.0	18.0
14.3	18.0	20.0
15.6	20.5	22.5



A2 C–505 **TYPICAL SECTION – ROADWAY**
SCALE: 3/16"=1'–0"

PRELIMINARY
NOT FOR CONSTRUCTION

0 4' 8' 12'
SCALE:3/16"=1'

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MARK	REVISIONS FOR AJR COMMENTS	DATE	APPR.
1		1/9/2015	MAP

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CONTRACT NO.:
FILE NUMBER:
PLOT SCALE: 1:1
PLOT DATE: 1/20/2015
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TYPICAL SECTION BOARDWALK

SHEET IDENTIFICATION
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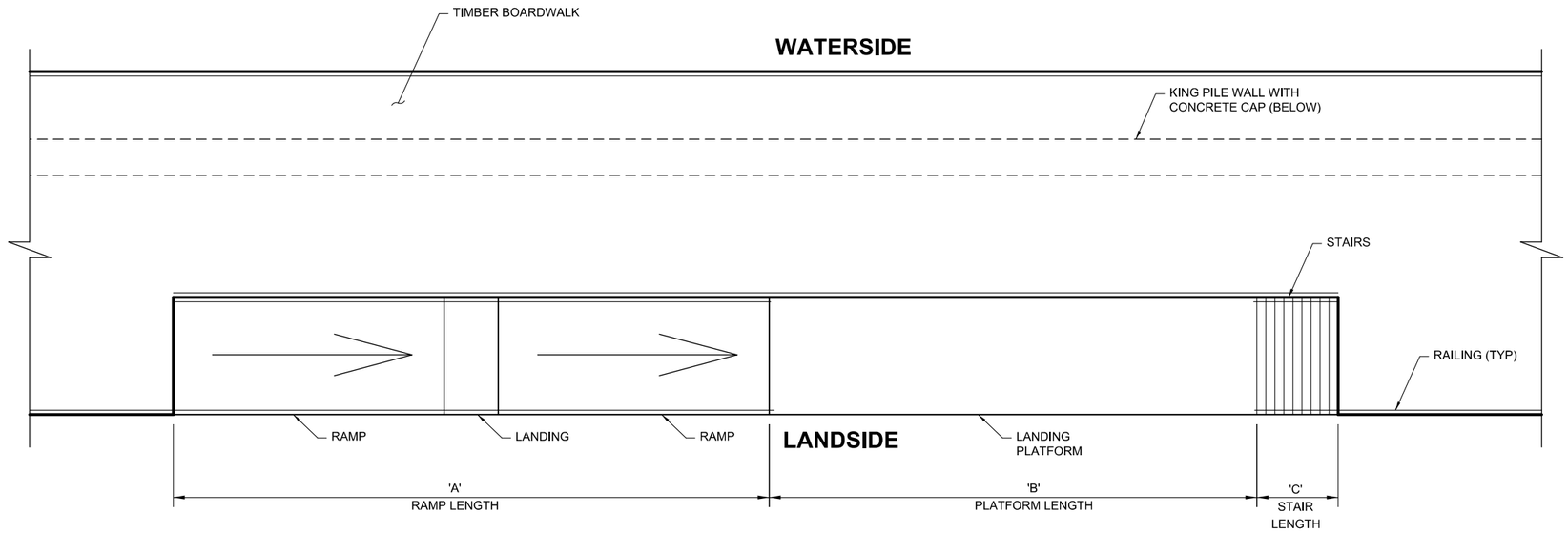
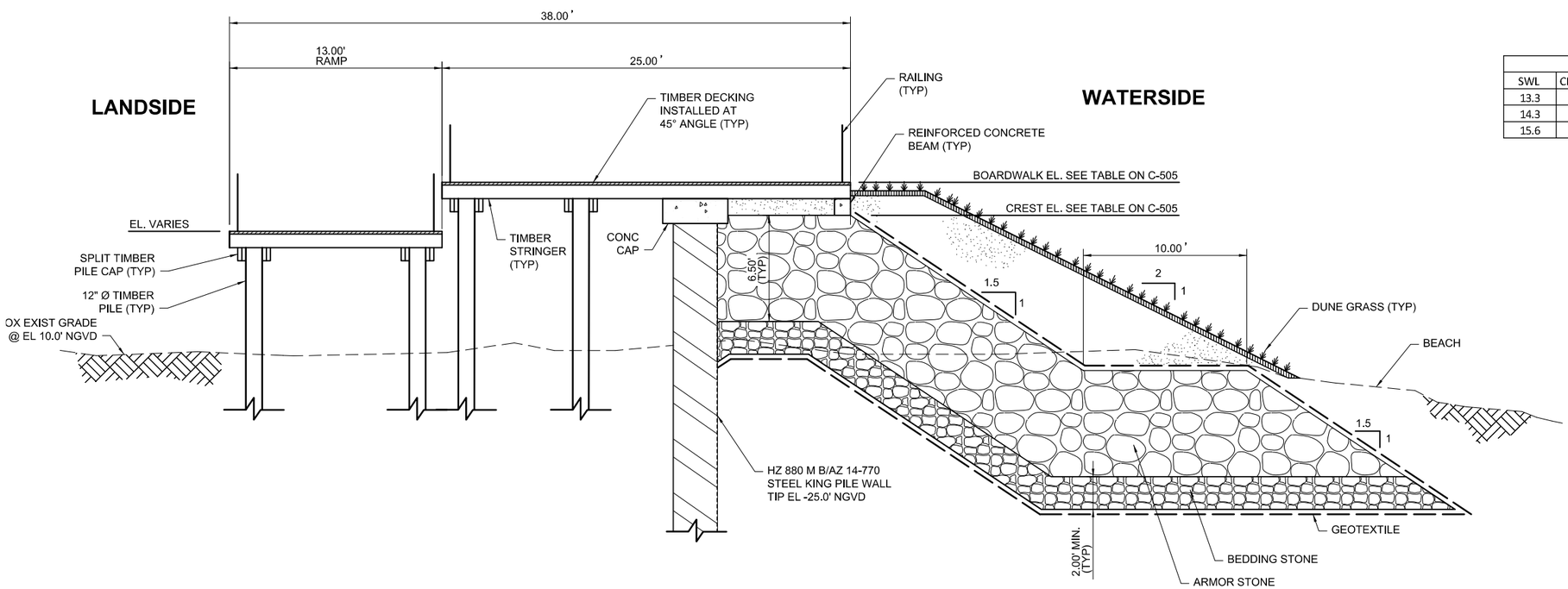


APPROX. BEGIN STATION	TOTAL LENGTH (FT)	PLATFORM ELEVATION (FT)	DIMENSIONS		
			RAMP 'A' (FT)	PLATFORM 'B' (FT)	STAIR 'C' (FT)
162+50'	265	ON GRADE	160	89	16.0
189+00'	495	ON GRADE	155	325	15.0
221+00'	230	17.0	66	156	8.0
262+50'	467	17.0	66	393	8.0

C1 / C-508 **TYPICAL PLAN – BOARDWALK ACCESS**
SCALE: NTS



ELEVATIONS (FT, NGVD)		
SWL	CREST ELEVATION	TOP OF BOARDWALK
13.3	16.0	18.0
14.3	18.0	20.0
15.6	20.5	22.5

A1 / C-508 **TYPICAL SECTION – BOARDWALK ACCESS**
SCALE: 1/4"=1'-0"

0 4' 8' 12'
SCALE: 1/4"=1'

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CONTRACT NO.:
FILE NUMBER:
PLOT SCALE: 1:1
PLOT DATE: 1/20/2015
SIZE: ANSI D
FILE NAME: 698705C-506.dgn

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COASTAL STORM RISK MANAGEMENT
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TYPICAL SECTION BOARDWALK ACCESS

SHEET IDENTIFICATION
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FILE: 698705C-506.dgn
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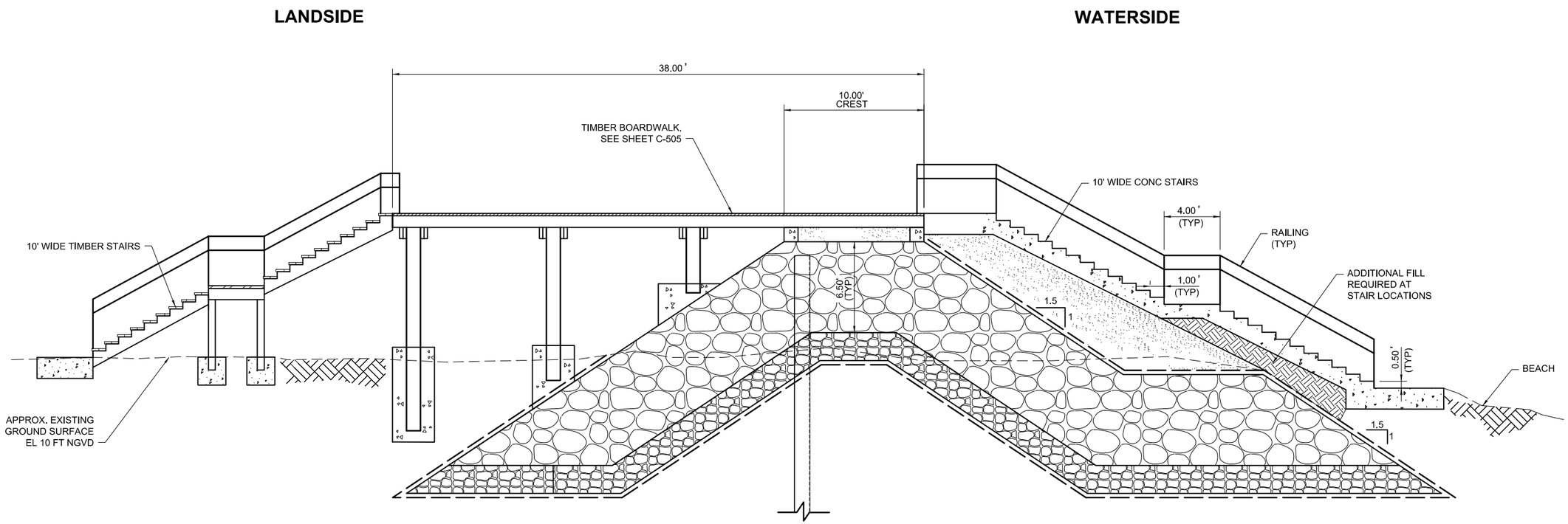

B2 C-506 **TYPICAL SECTION – PEDESTRIAN ACCESS STAIRS**

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

ELEVATIONS (FT, NGVD)		
SWL	CREST ELEVATION	TOP OF BOARDWALK
13.3	16.0	18.0
14.3	18.0	20.0
15.6	20.5	22.5

NOTES

1. STAIR LAYOUT FOR THE 15.6 FT SWL. NUMBER OF STAIRS WILL VARY BASED ON SWL. SEE SHEET C-504 FOR BURIED SEAWALL DIMENSIONS.

0 4' 8' 12'

SCALE: 1/4"=1'

PRELIMINARY
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1		1/9/2015	MAP

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CKD BY: DJRP
SUBMITTED BY:
PLOT SCALE: 1:2
PLOT DATE: 1/20/2015
SIZE: ANSI D
FILE NAME: 698705C-507.dgn
DATE: 07.14.2014
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CONTRACT NO.:
FILE NUMBER:

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TYPICAL PEDESTRIAN ACCESS STAIRS

SHEET IDENTIFICATION
C-507
SHEET OF

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FILE: 698705C-507.dgn
1/20/2015
2:59:50 PM
cgootan
LAST PLOTTED BY:

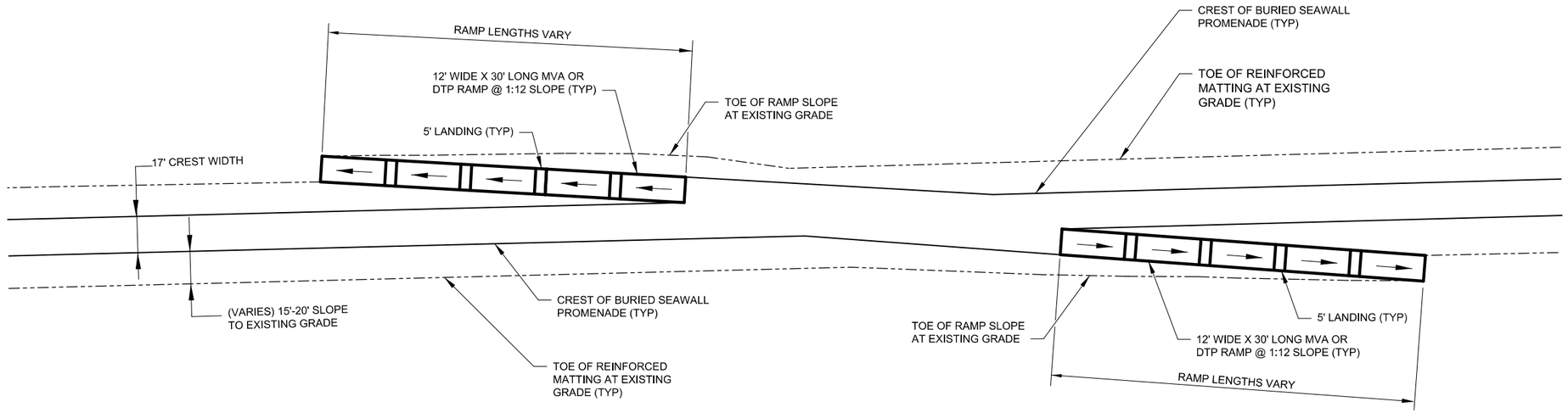
LEGEND

MVA = MOTOR VEHICLE ACCESS RAMP

DTP = COMBINED TRUCK & PEDESTRIAN ACCESS RAMP

NOTE:

1. RAMP SHOWN IS A TYPICAL CONDITION. RAMP GEOMETRY MAY VARY BY LOCATION.



C1 / C-505 **PLAN – TYPICAL MVA AND DTP RAMP DETAIL**
NOT TO SCALE

PRELIMINARY
NOT FOR CONSTRUCTION

PATH: P:\6987-05\cadd_Active_Preliminary\
LAST PLOTTED BY: cgootan 1/20/2015 2:59:51 PM FILE: 698705C-508.dgn

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MARK	DESCRIPTION	DATE	APPR.
1	REVISIONS FOR AJR COMMENTS	1/9/2015	MAP

DESIGNED BY: MAP, MMP
DWN BY: CSG
CKD BY: DMF
SUBMITTED BY:
DATE: 07-14-2014
SOLICITATION NO.:
CONTRACT NO.:
PLOT SCALE: 1:1000000
PLOT DATE:
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SIZE: ANSI D
FILE NAME: 698705C-508.dgn

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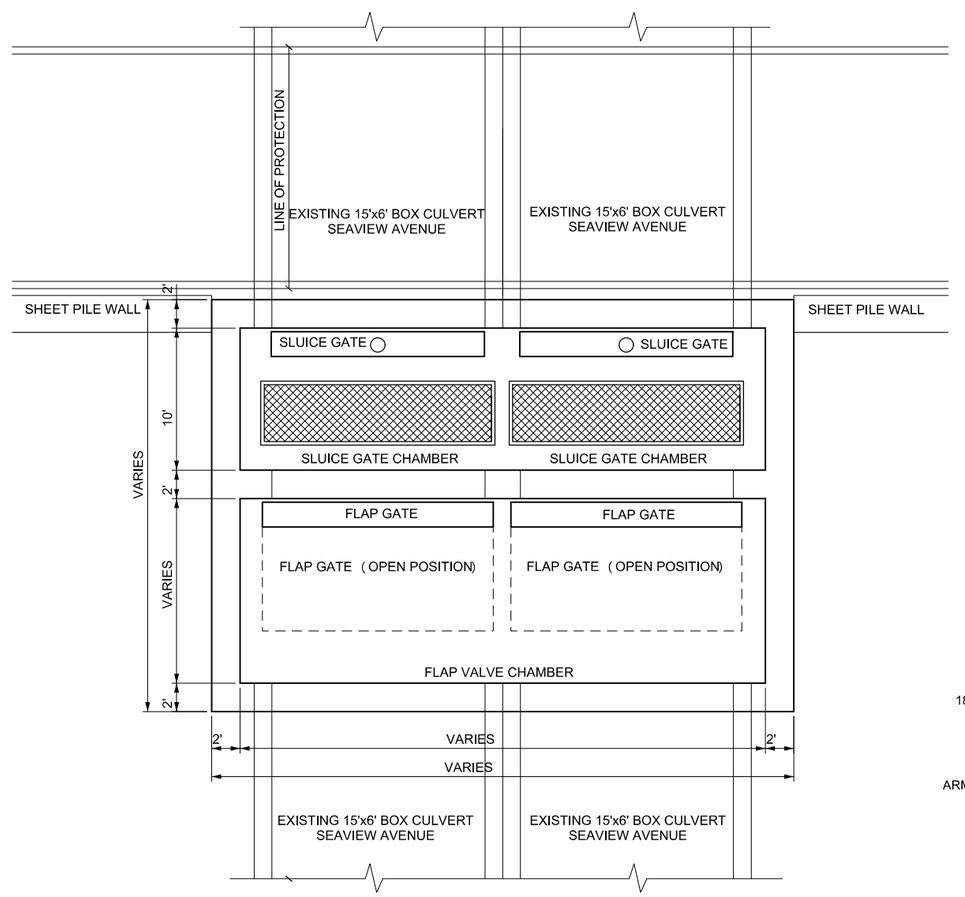
COASTAL STORM RISK MANAGEMENT
FEASIBILITY STUDY FOR THE
SOUTH SHORE OF STATEN ISLAND

TYPICAL ACCESS RAMP DETAILS

SHEET IDENTIFICATION
C-508
SHEET OF

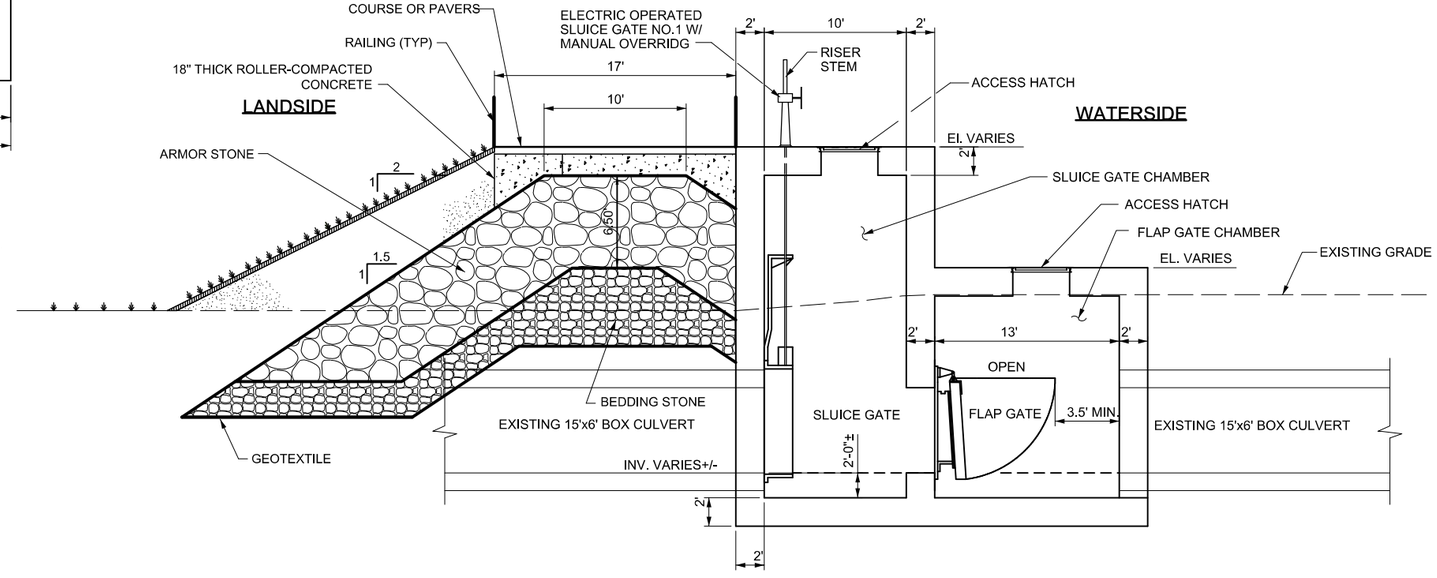


TYPICAL PLAN

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

LOCATION	PIPE WIDTH (ft.)	PIPE HEIGHT (ft.)	INVERT AT CHAMBER (ft.)	# OF PIPES	WIDTH INSIDE SLUICE GATE CHAMBER (ft.)	ROOF ELEVATION FLAP GATE CHAMBER (ft.)	WIDTH INSIDE FLAP GATE CHAMBER (ft.)	LENGTH INSIDE FLAP GATE CHAMBER (ft.)	SLUICE GATE CHAMBER WIDTH (ft.)	FLAP GATE CHAMBER WIDTH (ft.)
EBBITS STREET	10.00	5.00	-1.44	1.00	15.00	11.00	15.00	12.00	19.00	19.00
NEW DROP LANE	13.00	5.50	-3. ±	1.00	21.00	12.00	21.00	13.00	25.00	25.00
TYSENS LANE	11.00	8.00	-4. ±	1.00	16.00	12.50	16.00	15.00	20.00	20.00
GREELY AVENUE	15.00	6.25	-2.66	2.00	38.00	13.00	38.00	14.00	42.00	42.00
MIDLAND AVENUE	8.00	4.00	-1.48	1.00	13.00	13.50	13.00	11.00	17.00	17.00
NAUGHTON AVENUE	10.00	6.50	-2.63	2.00	27.00	11.00	27.00	14.00	31.00	31.00
SEAVIEW AVENUE	15.00	6.00	-2.93	2.00	38.00	11.50	38.00	13.00	42.00	42.00
QUINTARD STREET	10.00	6.75	-2.87	2.00	27.00	11.50	27.00	14.00	30.00	30.00
SAND LANE	10.00	6.00	-2.60	1.00	15.00	12.00	15.00	13.00	19.00	19.00

* VERTICAL CONTROL IS IN NGVD 1929.



NOTE:
ALL REBARAS ARE #6@6" O.C. TOP AND BOTTOM, AND EACH FACE

A2 / C-512 SECTION – TYPICAL DRAINAGE CONTROL STRUCTURE

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

0 4' 8'

SCALE:3/16"=1'

PRELIMINARY
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MARK	REVISIONS FOR AJR COMMENTS	DATE	APPR.
1		1/9/2015	MAP

DESIGNED BY: DMP, NMP
DWN BY: CSG
CKD BY: DJRP
SUBMITTED BY:
PLOT SCALE: 1:2
PLOT DATE: 1/20/2015
SIZE: ANSI D
FILE NAME: 698705C-512.dgn
DATE: 07.14.2014
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:

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COASTAL STORM RISK MANAGEMENT
FEASIBILITY STUDY FOR THE
SOUTH SHORE OF STATEN ISLAND

TYPICAL DRAINAGE
CONTROL STRUCTURE

SHEET IDENTIFICATION
C-512
SHEET OF

PATH: P:\6987-05\cadd_Active_Preliminary\
FILE: 698705C-512.dgn
1/20/2015
2:59:58 PM
cgootan
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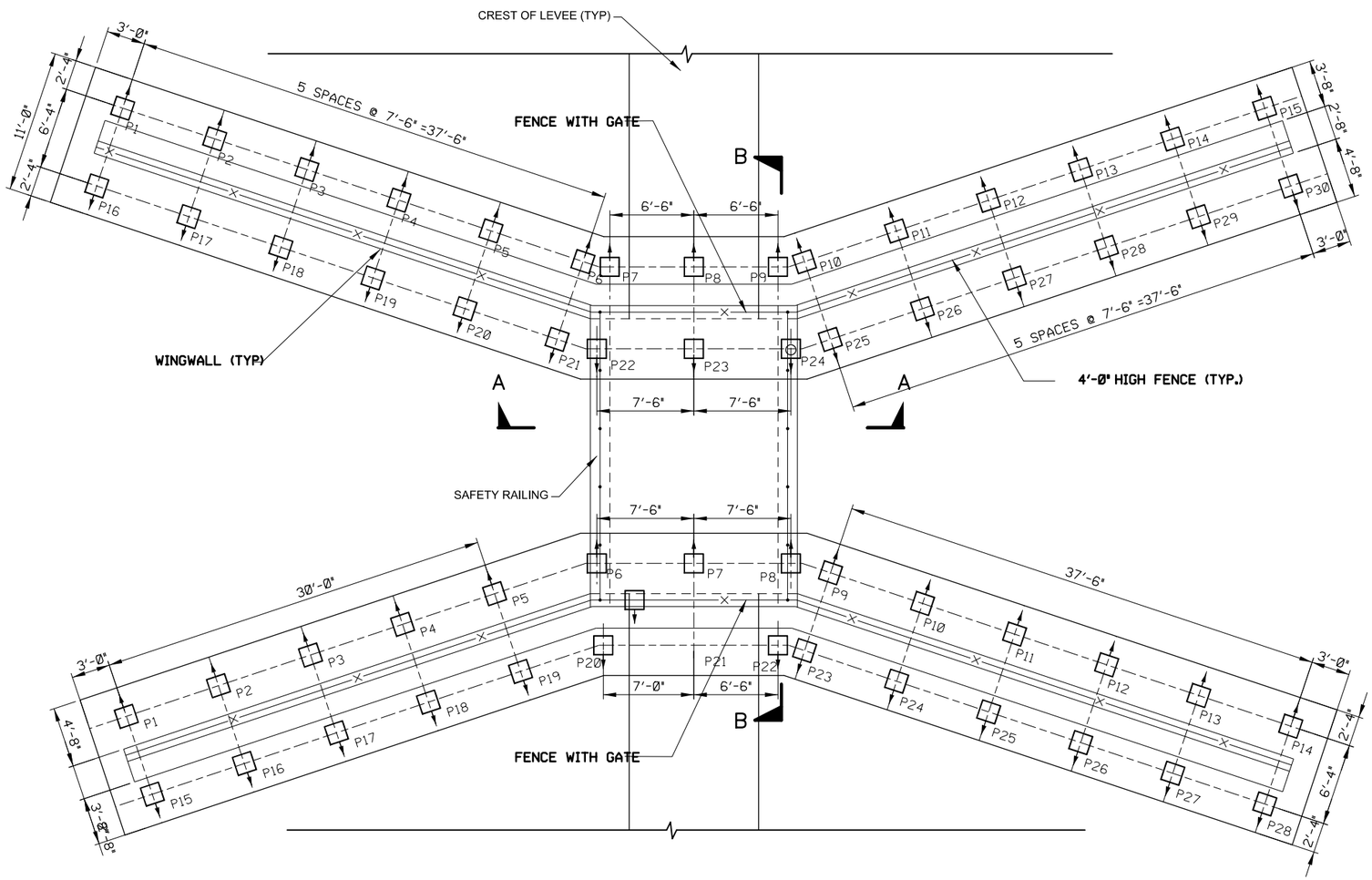
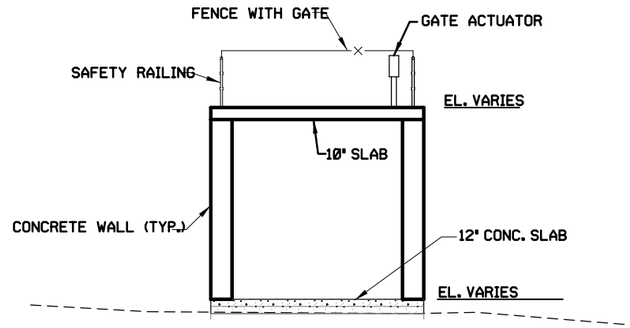
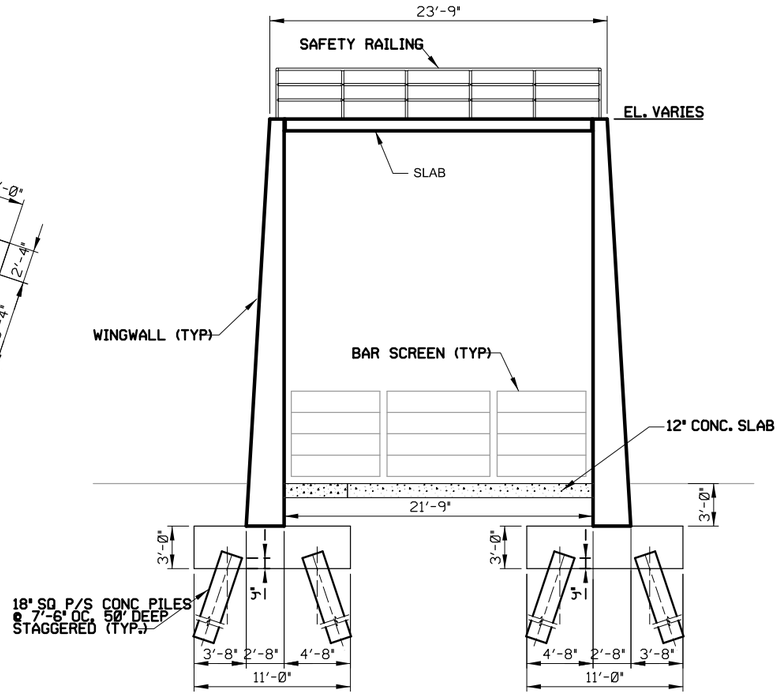


PLAN
SCALE: 3/16"=1'-0"



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



B LONGITUDINAL SECTION
SCALE: 3/16"=1'-0"

PRELIMINARY
NOT FOR CONSTRUCTION

0 4' 8' 12'
SCALE:3/16"=1'

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MARK	REVISIONS FOR AJR COMMENTS	DATE	APPR.
1		1/9/2015	MAP

DESIGNED BY: BMP, NMP
DRWN BY: CSG
SUBMITTED BY:
PLOT SCALE: 1:1
PLOT DATE: 1/20/2015
SIZE: ANSI D
DATE: 07-14-2014
CKD BY: DMP
FILE NAME: 698705C-513.dgn
SOLICITATION NO.:
CONTRACT NO.:
FILE NUMBER:

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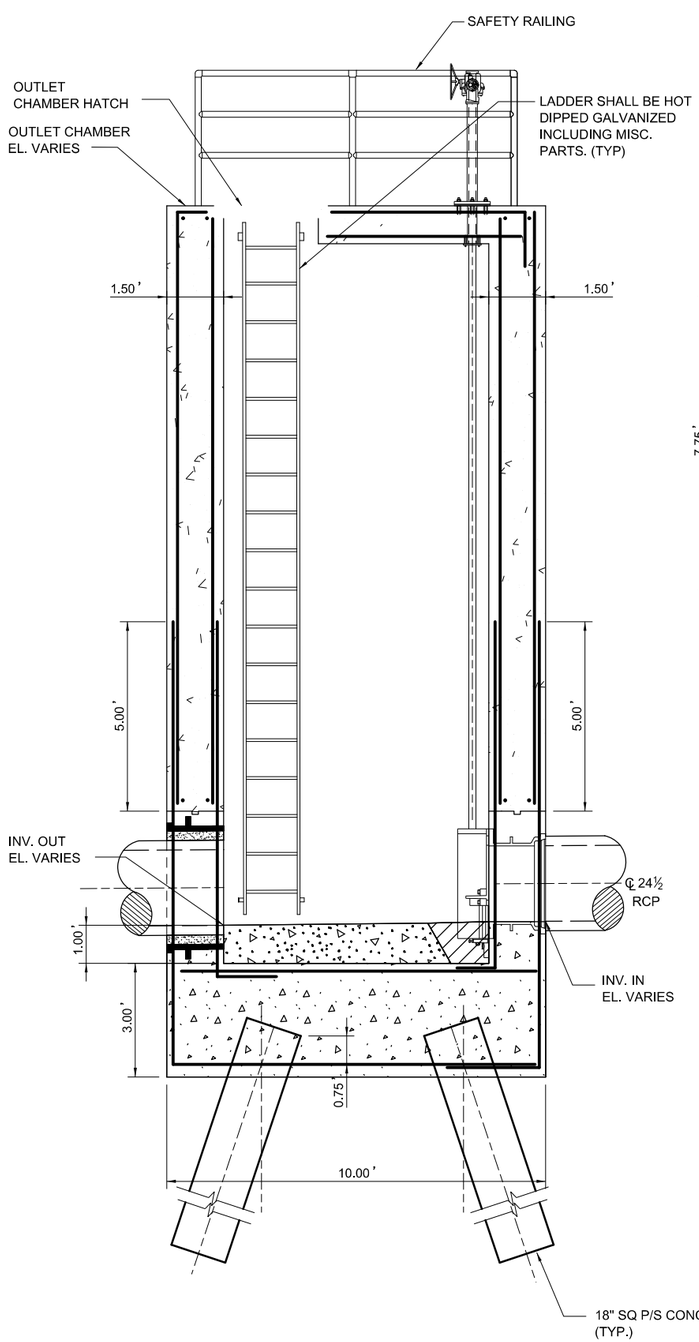
COASTAL STORM RISK MANAGEMENT
FEASIBILITY STUDY FOR THE
SOUTH SHORE OF STATEN ISLAND

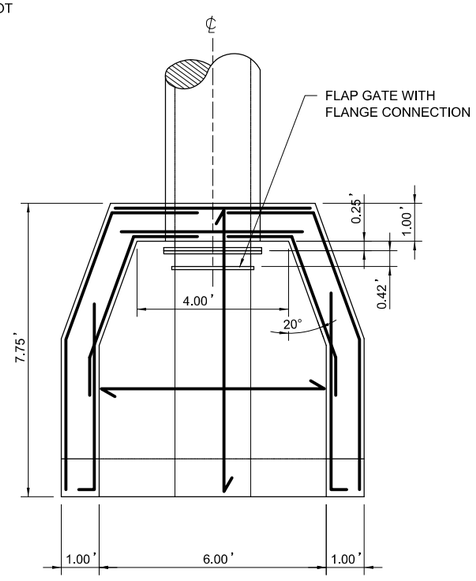
TIDE GATE STRUCTURE - DETAILS

SHEET IDENTIFICATION
C-513
SHEET OF

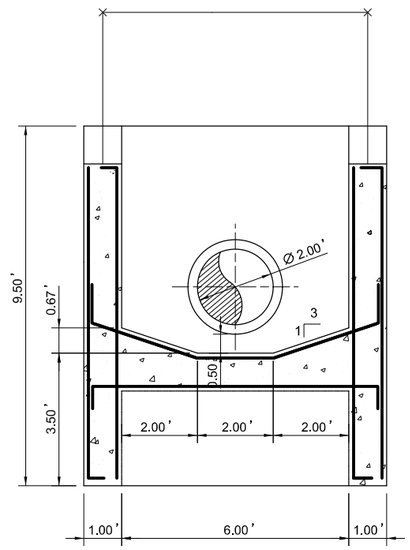
PATH: P:\6987-05\cadd_Active_Preliminary\
LAST PLOTTED BY: cgootan 3:00:00 PM 1/20/2015 FILE: 698705C-513.dgn



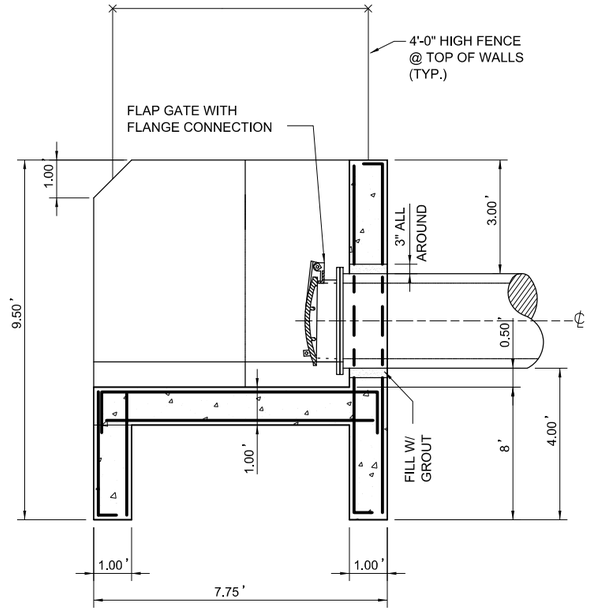
SECTION - A-A



CONCRETE HEADWALL AND APRON



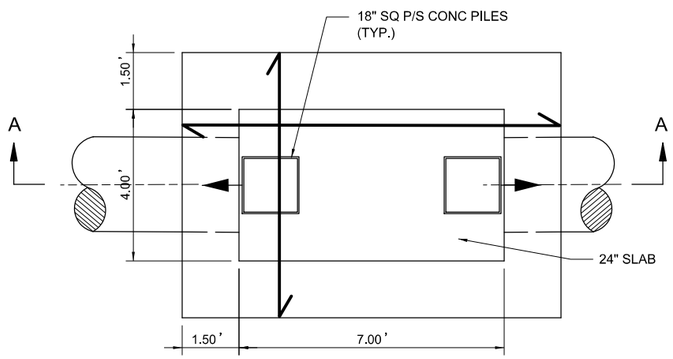
OUTLET END



END VIEW OF OUTLET END

HEADWALL DETAIL FOR 24"Ø PIPE (TYP.)

SCALE : 1/2" = 1'-0"



LOWER PLAN

NOTE:
ALL REBARS ARE #6@6" O.C. TOP AND BOTTOM, AND EACH FACE

DRAINAGE STRUCTURE

PRELIMINARY
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0 1' 2' 4'
SCALE:1/2"=1'-0"

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MARK	REVISIONS FOR AJR COMMENTS	DESCRIPTION	DATE	APPR.
1			1/9/2015	MAP

DESIGNED BY: DWP, NMP
DWN BY: CSG
CKD BY: DWP
SUBMITTED BY:
PLOT SCALE: 1:2
PLOT DATE: 1/20/2015
SIZE: ANSI D
FILE NAME: 698705C-514.dgn
DATE: 07.14.2014
SOLICITATION NO.:
CONTRACT NO.:
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COASTAL STORM RISK MANAGEMENT
FEASIBILITY STUDY FOR THE
SOUTH SHORE OF STATEN ISLAND

CONCRETE HEADWALL DETAILS

SHEET IDENTIFICATION
C-514
SHEET OF

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FILE: 698705C-514.dgn
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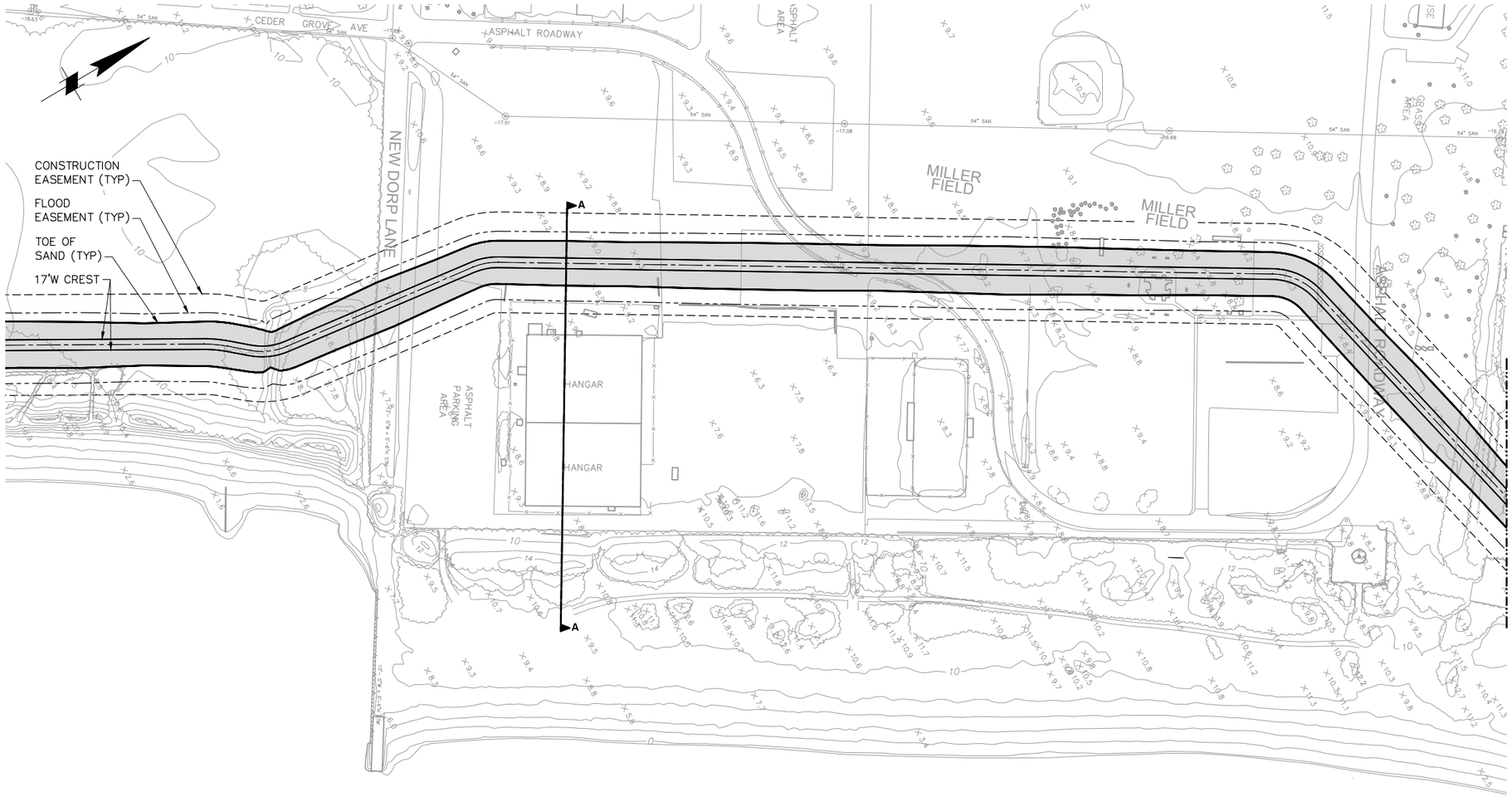
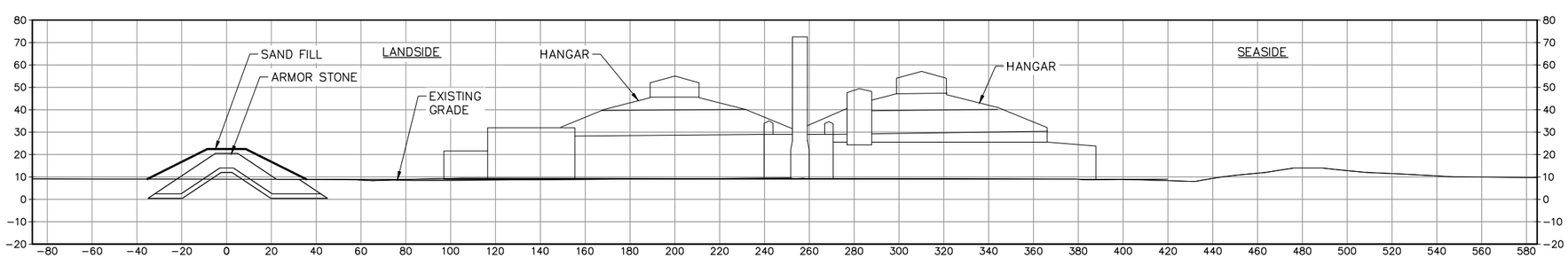


PLAN - ALTERNATIVE #1

100' 0' 100' 200'

SCALE: 1"=100'



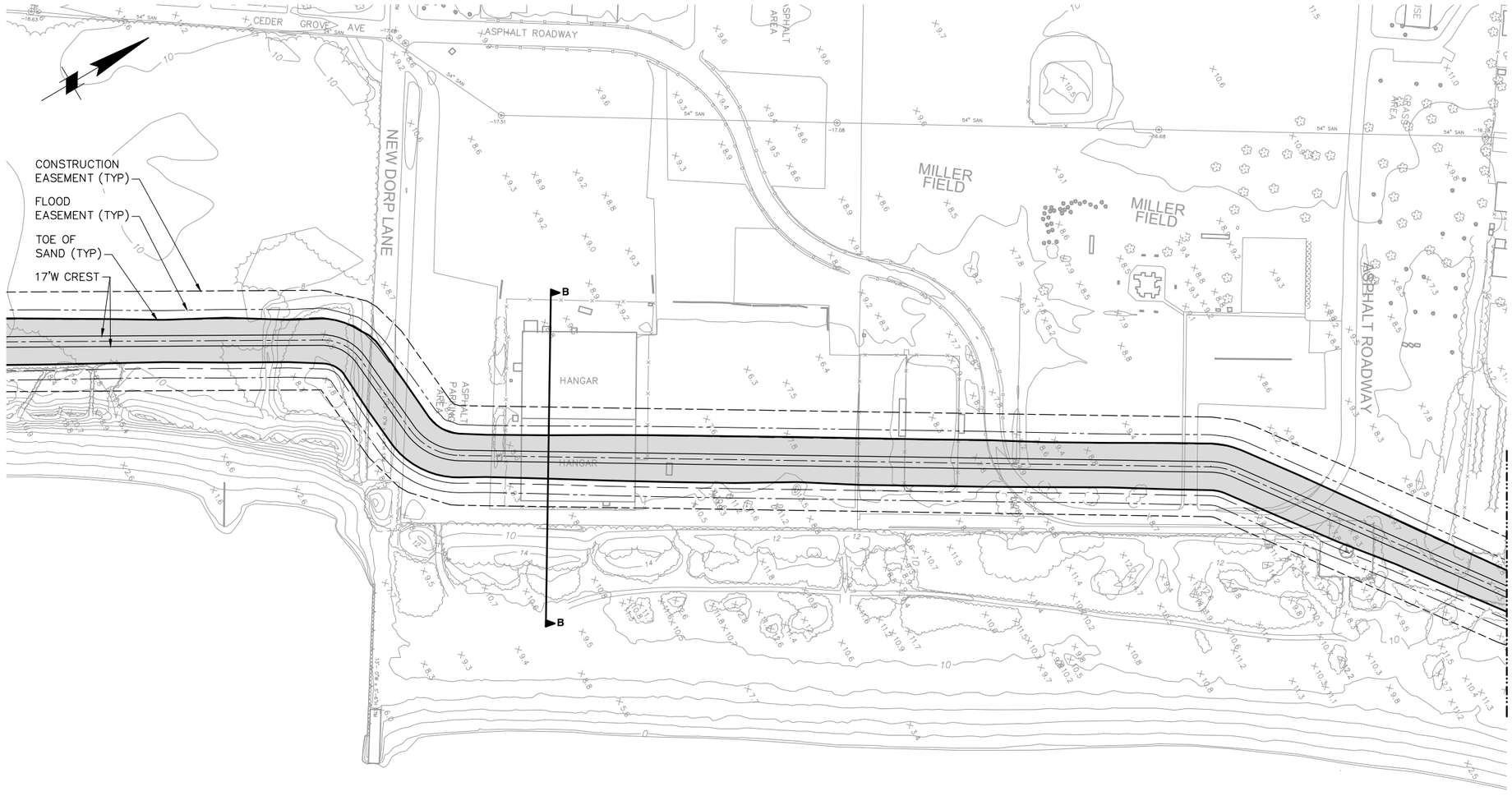
SECTION A~A

30' 0' 30' 60'

SCALE: 1"=30'

moffatt & nichol

File: P:\6987-05\cadd_Active\C3D\ACAD-2698705C_SP-Revetment - Alternative 1; Plotted: 1/14/2015 3:22 PM by SMITH, ANTHONY R.; Saved: 1/14/2015 3:22 PM by ARSMITH

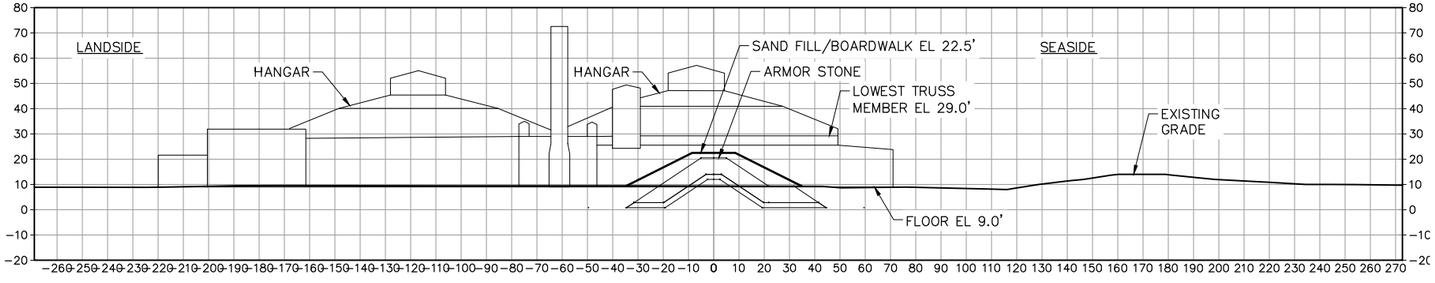


LOWER NEW YORK BAY

PLAN - ALTERNATIVE #2

100' 0' 100' 200'

SCALE: 1"=100'



SECTION B~B

30' 0' 30' 60'

SCALE: 1"=30'

moffatt & nichol

File: P:\6987-05\cadd_Active\C3D\ACAD-Z6987050-SP-Revetment - Alternative 2; Plotted: 1/14/2015 3:25 PM by SMITH, ANTHONY R.; Saved: 1/14/2015 3:24 PM by ARSMITH