Critical Area Commission

STAFF REPORT
July 9th, 2025

APPLICANT:	Maryland Port Administration
PROPOSAL:	Masonville Dredge Material Containment Facility - Dike Raising to Elevation + 42 Feet
JURISDICTION:	Baltimore City
COMMISSION ACTION:	Vote
STAFF RECOMMENDATION:	Approval with conditions
STAFF:	Jamileh Soueidan
APPLICABLE LAW/ REGULATIONS:	COMAR 27.02.05 State Agency Actions Resulting in Development on State-Owned Lands

DISCUSSION:

The Maryland Department of Transportation Maryland Port Administration (MPA) is proposing to raise the perimeter dike of the Masonville Dredge Material Containment Facility (DMCF) from an elevation of +30 feet above Mean Lower Low Water (MLLW) to an elevation of + 42 feet above MLLW in order to provide additional capacity for dredge material from Baltimore Harbor.

The project is located in Baltimore City on the "Middle Branch" of the Patapsco River. The proposed project is located primarily within the Critical Area on lands designated as an Intensely Developed Area (IDA) and as a Waterfront Industrial Area (WIA). A copy of the site plan is attached (Attachment 1).

This project requires approval by the Commission under COMAR 27.02.05, State Agency Actions Resulting in Development on State-Owned Lands, since the project complies with the requirements for development in WIAs, which allows for both water dependent and non-water dependent development associated with Port-related activities.

Existing & Proposed Conditions

The site is an upland disposal site with a diked containment area projecting into the Patapsco River. The site is designed to accept dredged material from Baltimore Harbor. The surrounding land use is industrial with paved storage lots for handling and processing of off-loaded cargo including automobiles, light trucks, and roll-on/roll-off (Ro/Ro) equipment.

The Critical Area Commission previously approved the raising of the perimeter dike from +18 feet above MLLW to +30 feet above MLLW on October 5, 2022. The proposed project will raise the perimeter dikes an additional 12 feet to the final elevation of + 42 feet above MLLW, which will provide at least 20 years of additional capacity for the placement of the maintenance dredged material from the Port of Baltimore shipping channels.

The DMCF +42 Dike Raising project will also include the installation of a perimeter maintenance access road, which will be between 22-27 feet in width. The access road will also include access ramps to connect to the maintenance roads installed for the previously approved +30 dike raising operation. These access roads are necessary for accessing the lower sections of the mechanically stabilized earth (MSE) retaining wall, storm drain outfall structures, and the DMCF spillways, and for any other maintenance needs that may arise. The maintenance access roads will be constructed with a crushed stone base and gravel surface.

Proposed Impacts and Mitigation

The total limit of disturbance (LOD) for this project is approximately 15.54 acres, of which 11.66 acres are within the Critical Area IDA, with 3.26 acres of disturbance within the Critical Area Buffer. The total new impervious area is 4.35 acres for the maintenance access road, with 1.84 acres located outside of the Critical Area Buffer and 1.82 acres within the Buffer. There is no proposed clearing and no new buildings/structures constructed within the Critical Area as part of the proposed project.

Water quality and habitat mitigation is required at various ratios based on the location of new impervious surface as indicated in the following table:

Table 1 – Required Habitat and Water Quality Mitigation

	Mitigation Ratio	Area (SF)	Required Mitigation (SF)	Fee-In-Lieu Required (@ $1.50/ SF Rate)
New Impervious Surface within the Buffer	2:1	79,279	158,558	$237,837
New Impervious Surface outside the Buffer	1:1	80,150	80,150	$120,225
TOTAL		**159,429**	**238,708**	**$358,062**

Based on the mitigation requirements as outlined in Exhibit A4[1], MPA intends to use the required Critical Area fee-in-lieu mitigation to fund existing Chesapeake Bay Trust (CBT) grant programs that implement environmental restoration projects to improve the water quality and habitats of the Chesapeake Bay, as approved under the 2021 MOU between the CAC, MPA, and CBT.

Coastal Resiliency

[1] In June of 2021, the Commission approved the updated Exhibit A4 which is an exhibit to the MOU between MDOT and CAC. The exhibit outlines project review approving process and mitigation requirements for impacts on MPA property located in the Critical Area.

As required under COMAR 27.02.05.02-03, State agencies who are proposing development activities on State-owned lands shall demonstrate that the agency has considered the likelihood of inundation by sea level rise over the course of the design life of the project, and to demonstrate that the development identifies and incorporates climate resilient practices in order to avoid or minimize environmental or structural damage associated with a coastal hazard, an extreme weather event, sea level rise, and other coastal impacts. Per MPA's climate resiliency policy, general siting and design criteria that incorporate climate resilience principles and practices were followed when practicable to minimize potential damage due to future sea level rise, coastal flooding, and storm surge impacts. MPA has provided the following information to demonstrate that they have reviewed these coastal resilient factors:

- The current +30 foot elevation is well above the projected sea level rise elevation for 2100, and the proposed +42 elevation provides significantly more freeboard for the site.

- The existing dikes have shoreline protection (armor stone) up to elevation +7.00 feet above mean lower low water. This armor stone was constructed in 2010 and designed to protect against wave run-up, toe scour, high water flooding, and wave-induced damage during storm surge. The shoreline protection on the existing dikes continues to protect the DMCF during dike raising, as the footprint associated with dike raising activities moves inward (landward) from the original dikes.

- Due to the elevations of the existing and proposed perimeter dikes, storm surge for Category 1 through 4 will not impact the DMCF +42 Dike Raising project site. Additionally, the project site is not within the FEMA floodplain, nor within the Maryland Sea Level Rise Vulnerability range through 10 Foot Inundation, and no wetland adaptations areas were identified within the project's LOD.

- The project design proposes no impacts to any existing tidal or nontidal wetland systems.

Agency Review and Permits

Maryland Department of the Environment (MDE)

Dam Safety Division: An application for the +42 dike raising was submitted June 2025. Coordination with MDE Dam Safety Division is currently underway for review of this phase of the project.

Stormwater Management & Erosion and Sediment Control: MDE Stormwater Management and Erosion and Sediment Control plan review is currently underway (MDE #25-SF-0117). The project was recommended for concept approval on May 15, 2025.

Tidal Wetlands Review: Tidal Wetlands License #20-0489 was approved by the Maryland Board of Public Works for full buildout of the Masonville DMCF to the ultimate elevation of +42 feet. This project proposes no impacts to tidal wetlands.

Nontidal Wetlands Review: There will be no impacts to nontidal wetlands.

Maryland Department of Natural Resources Wildlife and Heritage Service (WHS):
On June 4, 2025, the WHS determined that there are no State or Federal records for rare, threatened or endangered species within the project boundary. The open waters adjacent to the site area are historic waterfowl concentration areas, however, the Port does not have to adhere to time of year restrictions as all proposed work is within the uplands.

Maryland Historic Trust:
On May 21, 2025, the Maryland Historic Trust determined that there are no historic properties affected by the proposed project.

U.S. Fish and Wildlife Service:
The U.S. Fish and Wildlife Service determined that the Northern Long-eared Bat (a threatened species) and the Monarch Butterfly (a candidate species) may exists in the geographic area, but there are no critical habitats within the project area for such species. Additionally, there are no refuge lands or fish hatcheries within the project area.

Notification

In accordance with COMAR 27.03.01.03, public notice of the project was posted on the property on March 10th, 2025, and advertised in *The Baltimore Sun* on March 3, 2025. As of the date of the writing of this staff report, no comments have been submitted to MPA.

COMMITTEE RECOMMENDATION

The Project Committee recommends approval of Masonville DMCF +42 Dike Raising project with the following conditions:

1. Prior to the start of construction, the Maryland Department of Transportation Maryland Port Administration shall submit to Commission staff:
    a. Approvals from the Maryland Department of the Environment for:
        i. Erosion and Sediment Control and Stormwater Management Plan; and
        ii. Dam Safety Review.
    b. Verification of the Critical Area habitat and water quality fee-in-lieu payment to the Chesapeake Bay Trust to satisfy the mitigation requirements.

Attachments

1. Site Plan and Supporting Figures

MASONVILLE DMCF AERIAL - OCTOBER 2024

0' 200' 400' 800'
GRAPHIC SCALE

N
W E
S

Patapsco River

Masonville Dredged Material Containment Facility

Masonville Vessel Berth

Beverly Slip

Masonville Marine Terminal

Kurt Iron Slip

Fairfield Marine Terminal

Masonville Cove

Childs Street

Frankfurst Ave.

Education Center

GBA
ENGINEERS ★ SURVEYORS

N 578300
E 1427000
N 578300
E 1431000
PATAPSCO RIVER
FLOOD
EBB
MD NAD 83
100 YR
LOD
100' CRITICAL AREA BUFFER
LIMIT OF DISTURBANCE
100' CRITICAL AREA BUFFER LINE
1000' CRITICAL AREA BOUNDARY
MASONVILLE DREDGED MATERIAL CONTAINMENT FACILITY (DMCF)
PLANTED FRINGE WETLAND AREA NOT TO BE DISTURBED
EXISTING STORM DRAIN OUTFALL
EXISTING STORM DRAIN OUTFALL
EX. EDGE OF PAVING
MASONVILLE MARINE TERMINAL
KURT IRON SLIP
MASONVILLE VESSEL BERTH
PIER 3
PIER 4
FAIRFIELD MARINE TERMINAL
MASONVILLE COVE
E 1427000
N 575500

LEGEND

LIMIT OF DISTURBANCE	LOD
100' CRITICAL AREA BUFFER	
1000' CRITICAL AREA BOUNDARY	
EXISTING IMPERVIOUS AREA	
PROPOSED IMPERVIOUS AREA WITHIN 100' CA BUFFER	
PROPOSED IMPERVIOUS AREA IN CA OUTSIDE OF 100' CA BUFFER	
PROPOSED IMPERVIOUS AREA OUTSIDE OF CA	

CRITICAL AREA IMPACT SUMMARY:

TOTAL LIMIT OF DISTURBANCE (L.O.D.)= 15.54 AC.
L.O.D. INSIDE 100' CRITICAL AREA BUFFER = 3.26 AC.
L.O.D. INSIDE 1000' CRITICAL AREA BOUNDARY = 8.40 AC.
PROPOSED NEW IMPERVIOUS COVER INSIDE 100' BUFFER = 1.82 AC.
PROPOSED NEW IMPERVIOUS COVER IN CA OUTSIDE 100' BUFFER = 1.84 AC.

NOTES:

1. ALL SOILS ARE HSG C.
2. A PORTION OF THE WORK IS LOCATED WITHIN THE 100' CHESAPEAKE BAY CRITICAL AREA BUFFER.
3. A PORTION OF THE PROJECT IS LOCATED WITHIN THE CHESAPEAKE BAY CRITICAL AREA.
4. A PORTION OF THE SITE IS LOCATED WITHIN THE REGULATED FLOODPLAIN.
5. THERE IS NO REMOVAL OF EXISTING VEGETATION FOR THIS PROJECT WITHIN THE CRITICAL AREA OR THE 100' CRITICAL AREA BUFFER.
6. THE 1000' CRITICAL AREA BOUNDARY SHOWN WAS TAKEN FROM BALTIMORE CITY GIS IN 2022.

REFERENCE NOTES:

1. SEE SHEETS CA101-CA107 FOR CRITICAL AREA PART PLANS SHOWING EXISTING AND PROPOSED GRADING, PROPOSED ACCESS ROAD, GRAVEL MAINTENANCE ROAD, CONCRETE BLOCK WALL AND MSE WALL.
2. SEE SHEETS CA108-CA113 FOR DMCF SECTIONS.

CAUTION:
IF THIS DRAWING IS A REDUCTION, USE THE GRAPHIC SCALES.

1"=200'-0" (200 0 100 200 400)

MDE NO: 25-SF-0117

EROSION AND SEDIMENT CONTROL WILL BE STRICTLY ENFORCED

Project Overview

"Professional Certification. I hereby certify that these documents were prepared or approved by me, and that I am a duly licensed professional engineer under the laws of the State of Maryland, License No. 27734, Expiration Date: 07/12/2026."

Mark	Description	Date	Appr.

Designed by: F.R.
Drawn by: K.D. Ckd by: J.L.
Reviewed by: J.L.
Submitted by: J.L.
Date: MARCH 2025
Drawing Name: G103.dwg
Scale: AS SHOWN
Plot scale: 1 = 1

MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND PORT ADMINISTRATION
TRANSYSTEMS
300 East Joppa Road, Suite 200
Baltimore, MD 21286
410.512-4500 www.transystems.com

MASONVILLE DREDGED MATERIAL CONTAINMENT FACILITY
DIKE RAISING TO EL. +42
BALTIMORE, MARYLAND

OVERALL CRITICAL AREA PLAN

SEAL

CA001

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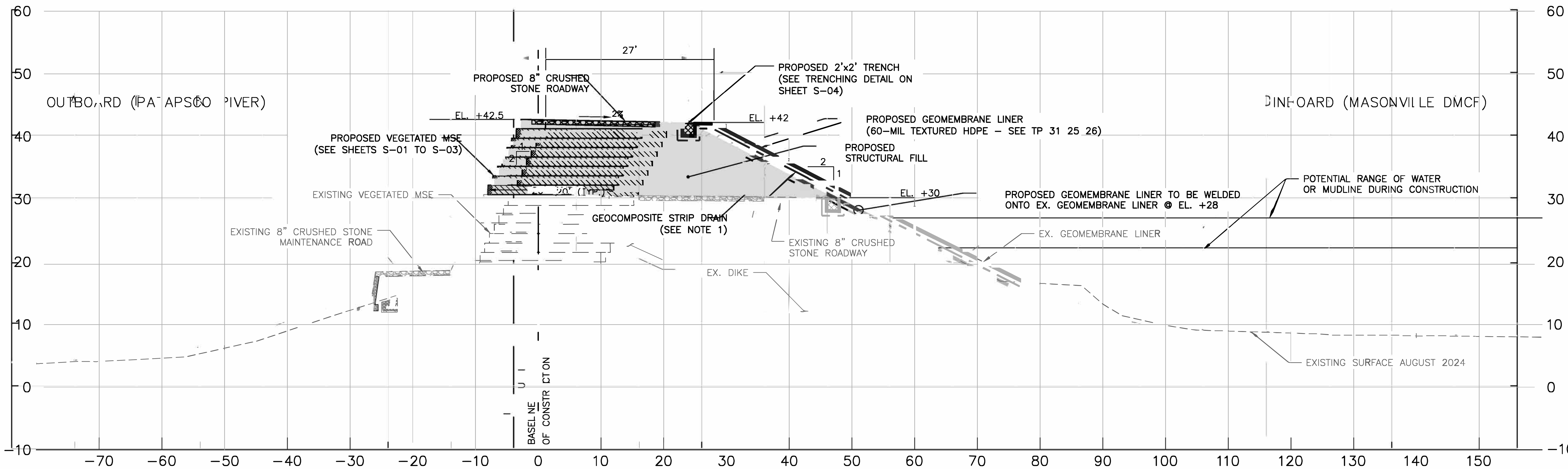
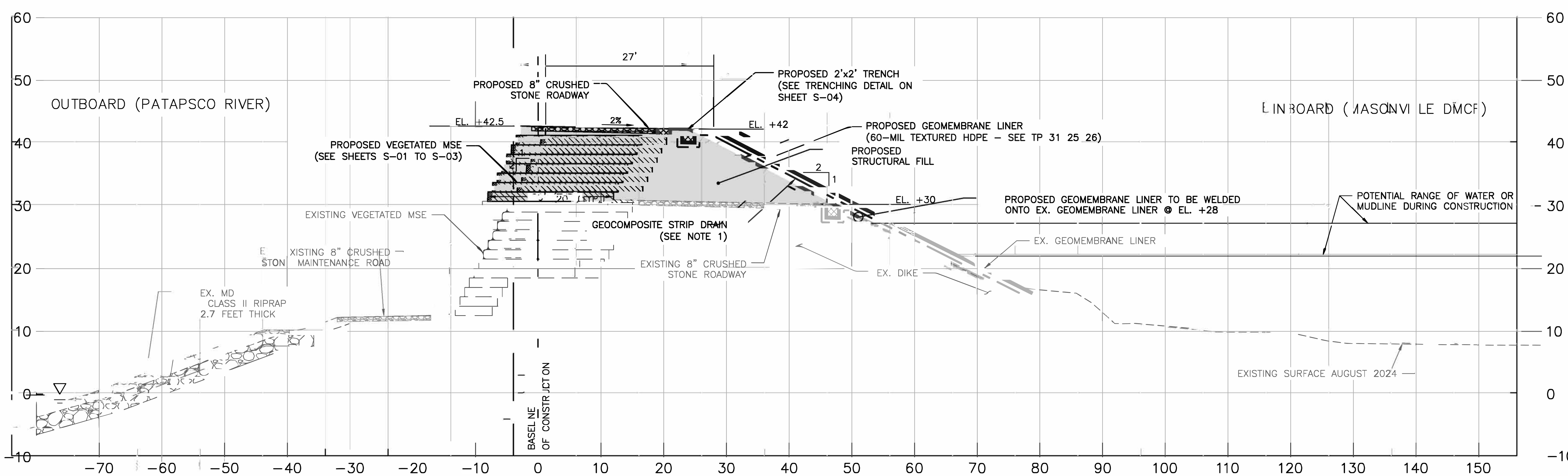


G1 (CA101,CA108) WESTERN DIKE TYPICAL SECTION STATION 0+00 TO 11+34 & STATION 87+80 TO 88+49

SCALE: 1"=10'



G2 (CA108) NORTHERN DIKE TYPICAL SECTION STATION 11+34 TO 21+70

SCALE: 1"=10'

Typical Cross Section

LEGEND

- MSE BERM FILL
- RIPRAP
- STONE AGGREGATE
- STRUCTURAL FILL
- TOPSOIL

NOTES

1. GEOCOMPOSITE STRIP DRAINS TO HAVE A 10' CENTER-TO-CENTER SPACING.
2. 40 POUND SAND BAGS AT 5' SPACING.

MDE NO: 25-SF-0117

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SEAL

CA107

MASONVILLE DREDGED MATERIAL CONTAINMENT FACILITY
DIKE RAISING TO EL. +42
BALTIMORE, MARYLAND
SECTIONS

MARYLAND DEPARTMENT OF TRANSPORTATION
MARYLAND PORT ADMINISTRATION

Designed by: F.R.
Date: MARCH 2025
Drawn by: K.D.
Ck by: J.L.
Drawing Name: CA108-CA113.dwg
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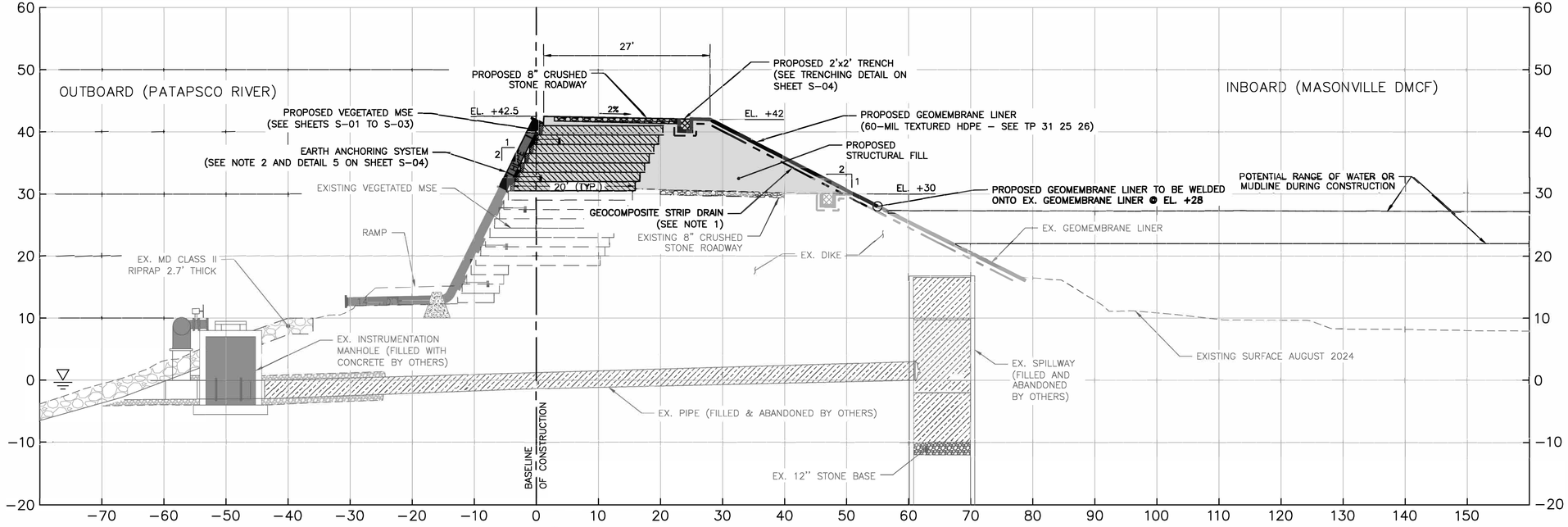
Plot scale: 1 = 1

Mark	Description	Date	Appr.



G3 CA102 SPILLWAY #1 TYPICAL SECTION (STA. 18+65.33)
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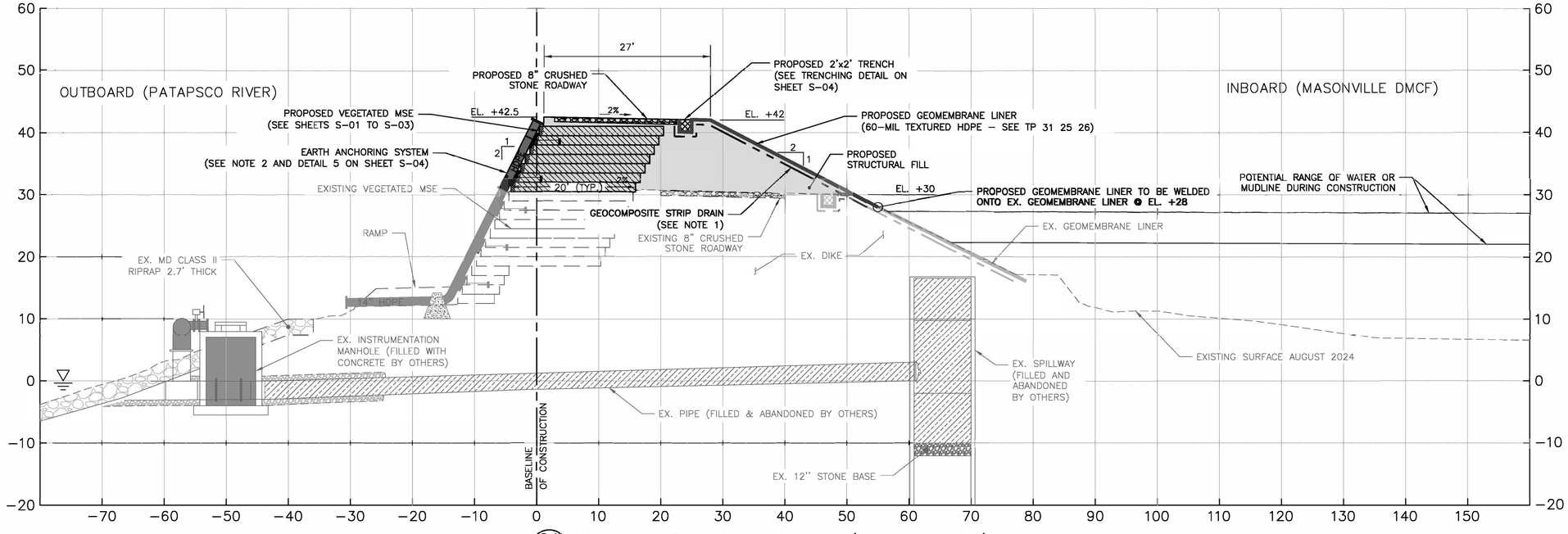

G4 CA104 SPILLWAY #2 TYPICAL SECTION (STA. 45+14.88)
SCALE: 1"=10'

Typical Cross Section

LEGEND

- MSE BERM FILL
- RIPRAP
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Rev.

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SECTIONS

SEAL

CA108

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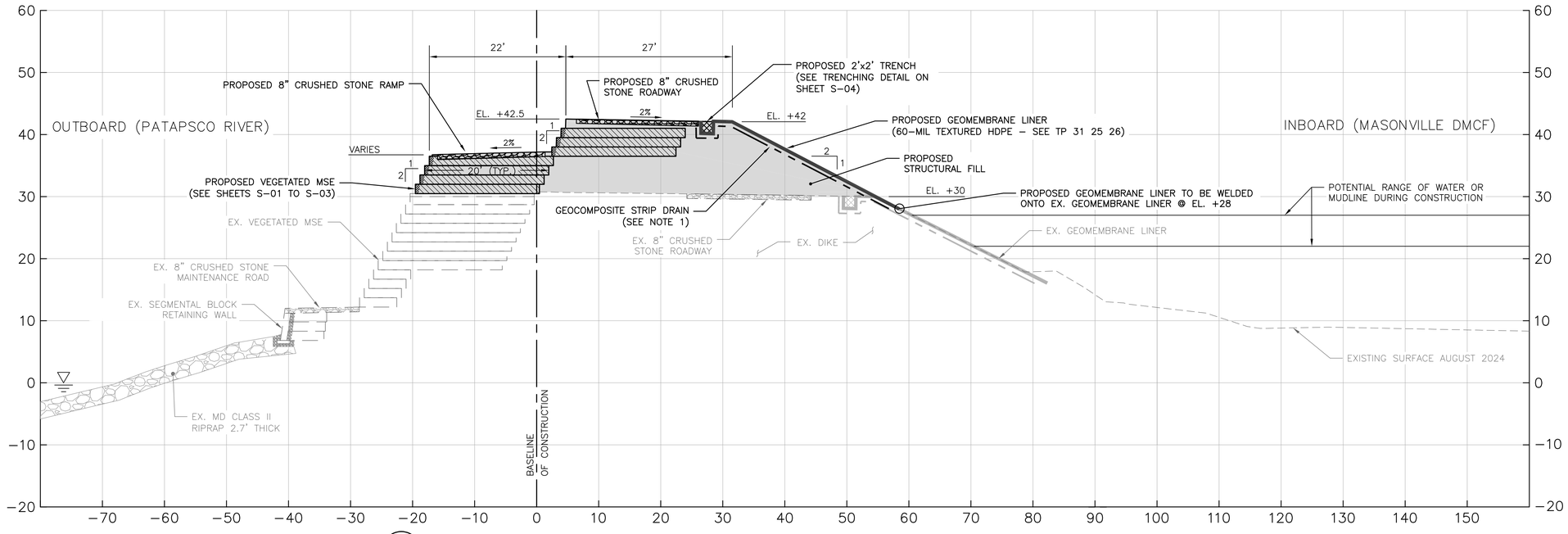
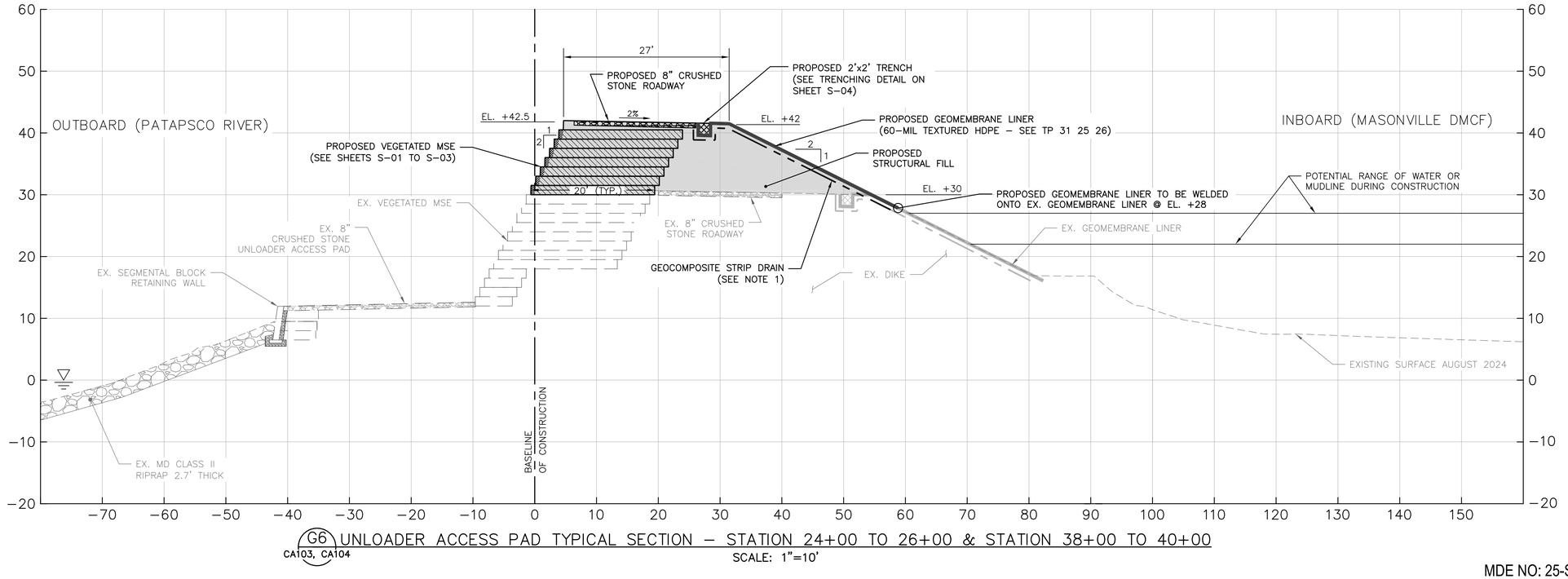


G5 CA102, CA104 RAMP TYPICAL SECTION – STATION 20+43 TO 21+80 & STATION 42+20 TO 43+57

SCALE: 1"=10'



G6 CA103, CA104 UNLOADER ACCESS PAD TYPICAL SECTION – STATION 24+00 TO 26+00 & STATION 38+00 TO 40+00

SCALE: 1"=10'

Typical Cross Section

LEGEND

- MSE BERM FILL
- RIPRAP
- STONE AGGREGATE
- STRUCTURAL FILL
- TOPSOIL

NOTES

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SECTIONS

SEAL

CA109