



APR 17 2024

DEPARTMENT ORDER)
)
)
No. 55)
Series of 2024)

SUBJECT: Guidelines on the Use of Reinforced Concrete Abutment Protection Works Founded on Steel Sheet Piles for New Bridges along National Roads

4/19/2024

To prevent premature deterioration or preclude any danger of collapse or settlement of bridges along national roads due to scouring and other hydraulic problems, the following guidelines are hereby issued for the implementation and compliance of all concerned:

1. Use of reinforced concrete (RC) protection works founded on steel sheet piles (SSP) for abutment/s shall be required for all new bridges at risk of scouring, i.e., bridges crossing bodies of water with design flood level and/or maximum experienced flood level reaching bridge abutment/s, and bridges with riverbed strata generally composed of movable/erodible materials, to protect the abutment foundation from exposure;
2. As a guide in the preparation of detailed engineering design plan, typical details of RC protection works on SSP are attached hereto (*Annex "A"*). The thickness and reinforcements of RC protection works and pile cap, and section modulus, thickness, and length of SSP, among other properties, shall be supported by geotechnical investigation, structural, hydraulic, and scour analyses; and
3. Detailed technical justification/s on the non-application of RC protection works founded on SSP shall be prepared by the Implementing Office, subject for review/evaluation of the Bureau of Design, and shall be submitted to the Undersecretary for Technical Services for approval. For this purpose, the form hereto attached as *Annex "B"* is hereby prescribed.

This Order shall take effect immediately.


MANUEL M. BONOAN
Secretary

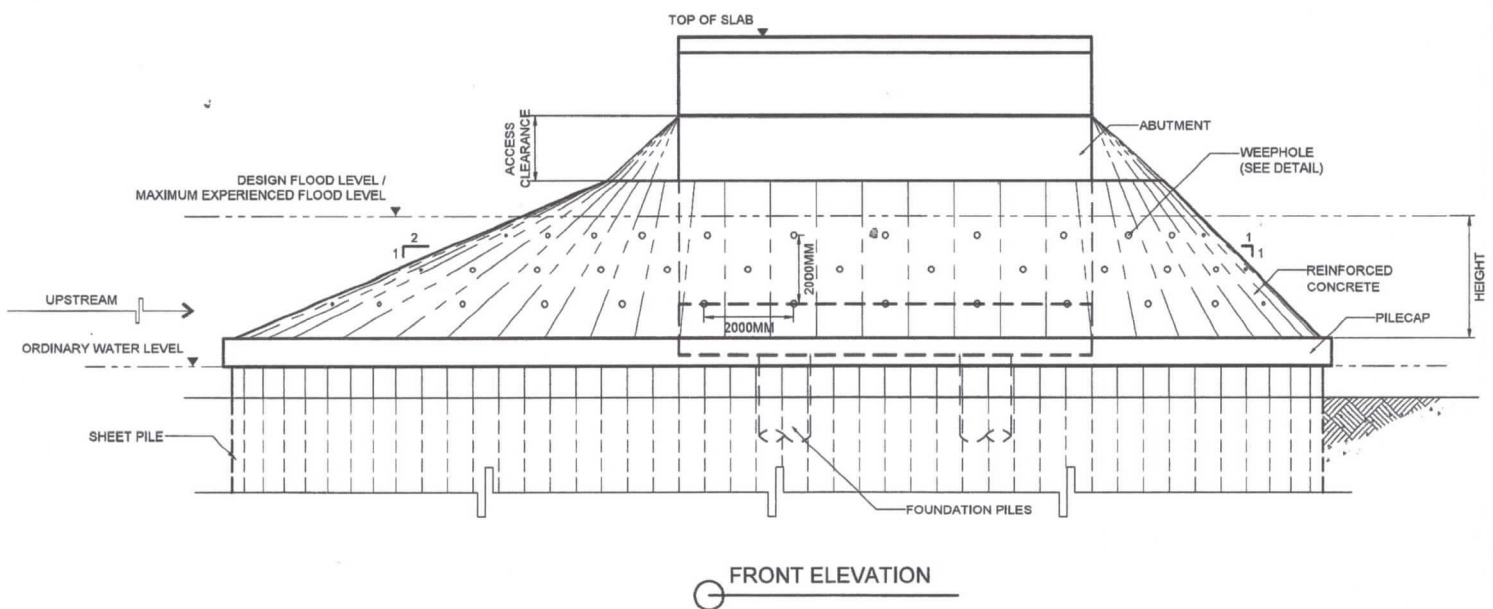
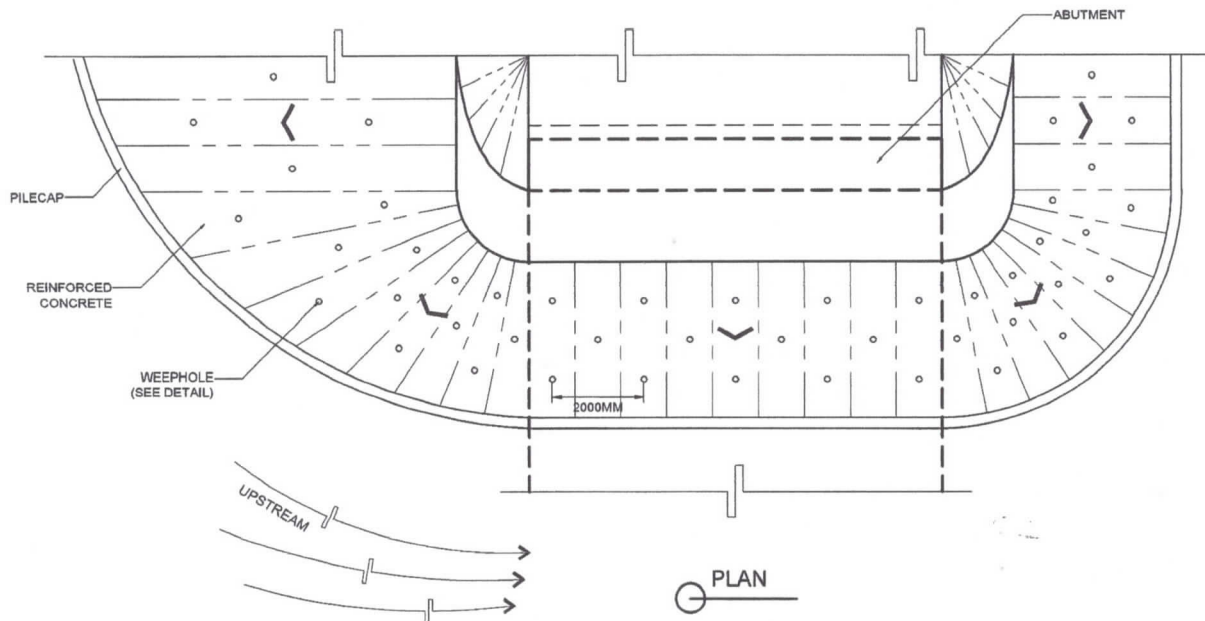
5.1 BSR/DLB/MGM/AGC

Department of Public Works and Highways
Office of the Secretary



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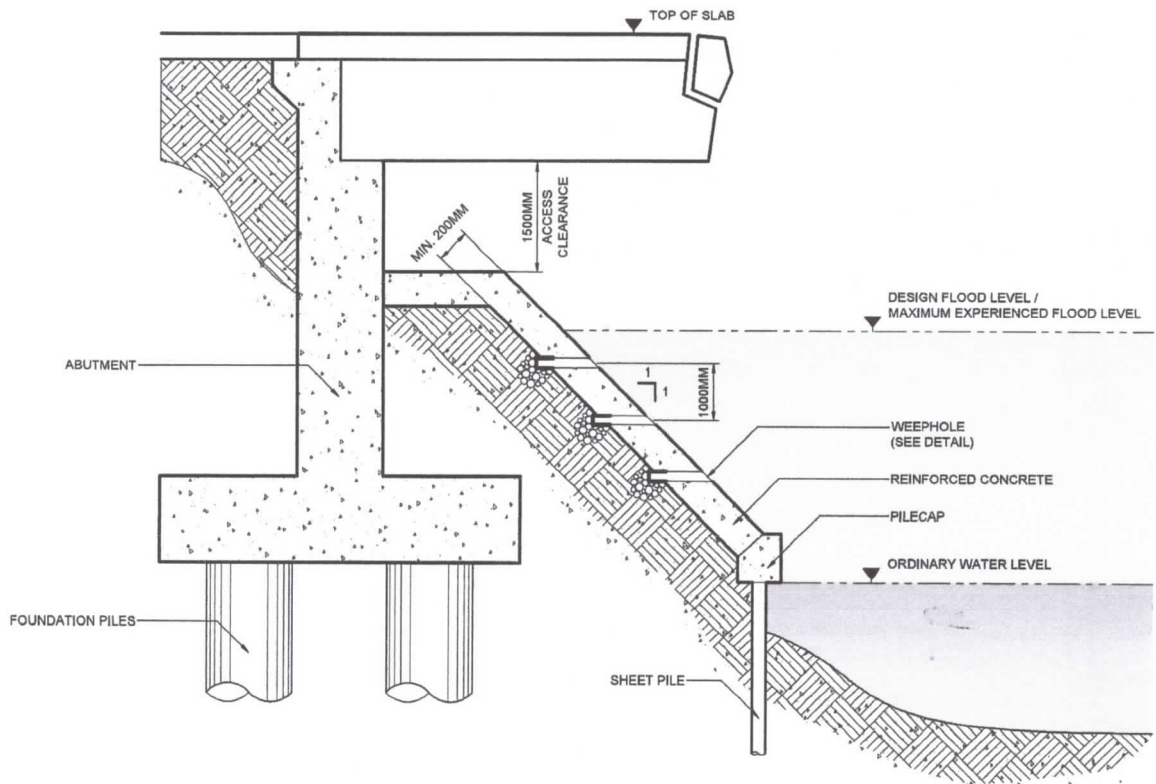
**TYPICAL DETAILS OF REINFORCED CONCRETE ON ABUTMENT
PROTECTION WORKS FOUNDED ON STEEL SHEET PILE**



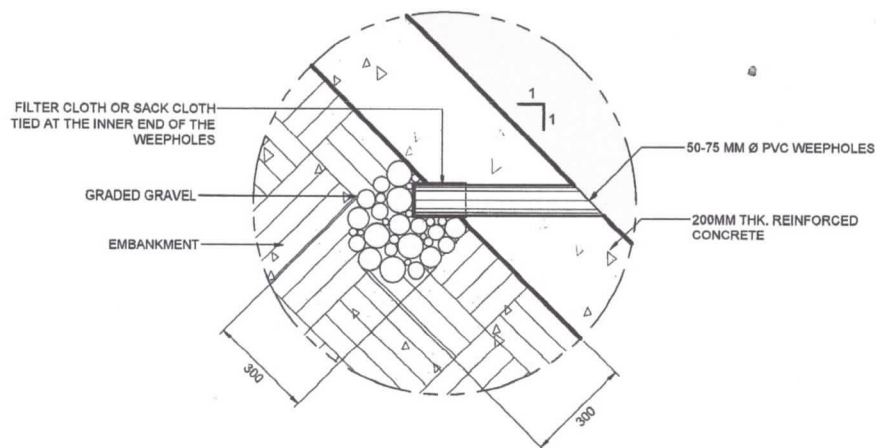
NOTES:

1. PROVIDE AT LEAST ONE (1) ACCESS STAIRS ON THE RC PROTECTION WORKS OF EACH ABUTMENT.
2. IF THE HEIGHT OF THE RC PROTECTION WORKS IS MORE THAN 5.00M, A BERM MUST BE PROVIDED AT EVERY 3.00M HEIGHT AND SHOULD BE AT LEAST 1.00M IN WIDTH.

**TYPICAL DETAILS OF REINFORCED CONCRETE ON ABUTMENT
PROTECTION WORKS FOUNDED ON STEEL SHEET PILE**



SECTION PLAN



DETAIL OF WEEPHOLES

NOTES:

1. PROVIDE AT LEAST ONE (1) ACCESS STAIRS ON THE RC PROTECTION WORKS OF EACH ABUTMENT.
2. IF THE HEIGHT OF THE RC PROTECTION WORKS IS MORE THAN 5.00M, A BERM MUST BE PROVIDED AT EVERY 3.00M HEIGHT AND SHOULD BE AT LEAST 1.00M IN WIDTH.

**REQUEST FORM FOR APPROVAL OF NON-APPLICATION OF REINFORCED
CONCRETE ABUTMENT PROTECTION WORKS FOUNDED ON STEEL SHEET PILES**

Date: _____

FOR : UNDERSECRETARY FOR TECHNICAL SERVICES

THRU : DIRECTOR
Bureau of Design

-
1. Project / Location :
 2. Implementing Office :
 3. Proposed Type/s of Abutment Protection :
 4. Reasons for Non-Application of Reinforced Concrete Abutment Protection Works founded on Steel Sheet Pile:
 - 4.1 _____
 - 4.2 _____
 - 4.3 _____
-

Requested by:

Project Director/Regional Director/District Engineer

The request was found to be meritorious, hence approval hereof is respectfully recommended.

Division Chief
Chief, Bridges Division

Recommending Approval:

Approved:

Director
DPWH Bureau of Design

Undersecretary
Technical Services