Bangladesh Water Development Board

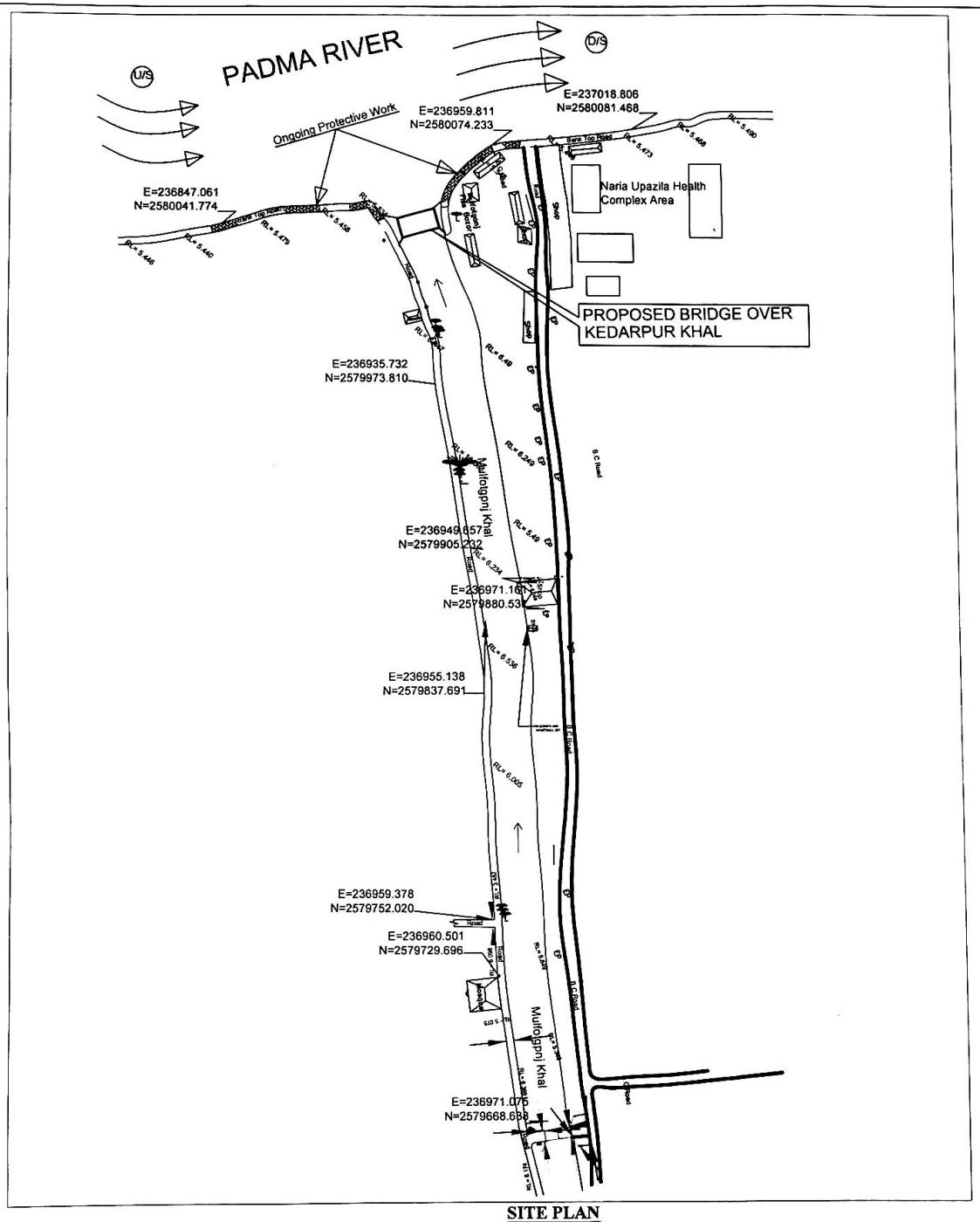
Protection of Right Bank of Padma River at Naria & Janjira upazilla of Shariatpur District.

Design of R.C.C Bridge Over Kedarpur Khal (Near Right Bank of Padma River at KM (-) 3.100) in Upazila-Naria, District-Shariatpur.

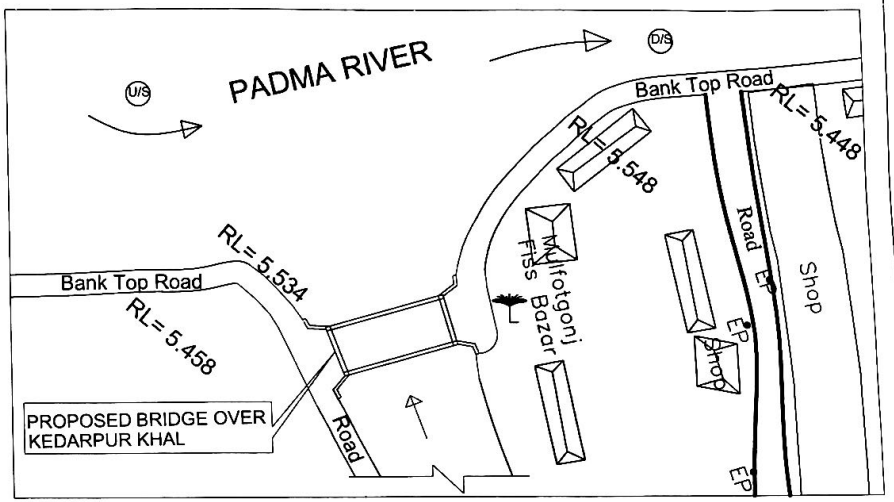
Shariatpur O & M Division, BWDB, Shariatpur

Design Circle-5, BWDB, Dhaka

December, 2020



SITE PLAN
(Not To Scale)



SITE PLAN
(Not To Scale)

	DATE	PREPARED	CHD	REM	APPROVED

R E V I S I O N S

BANGLADESH WATER DEVELOPMENT BOARD

Office of the Superintending Engineer
Design Circle-5

Design of R.C.C Bridge Over Kedarpur Khal (Near Right Bank of Padma River at KM (-) 3.100) in Upazila-Naria, District-Shariatpur in C/W "Protection of Right Bank of Padma River at Naria & Janjira upazilla of Shariatpur District" under Shariatpur O & M Division, BWDB, Shariatpur.

Site Plan

DESIGNED BY :	RECOMMENDED BY :
(PEULY DEY), SDE	20-12-2020 (MD. MAHFUZUR RAHMAN), SE
CHECKED BY :	APPROVED BY
(MST. TASMEM JAHAN), EE	(MD. HARUN UR RASHEED) CHIEF ENGINEER, DESIGN
DATE: 20-12-2020	**DWG NO:DC-5-5230-01/18**

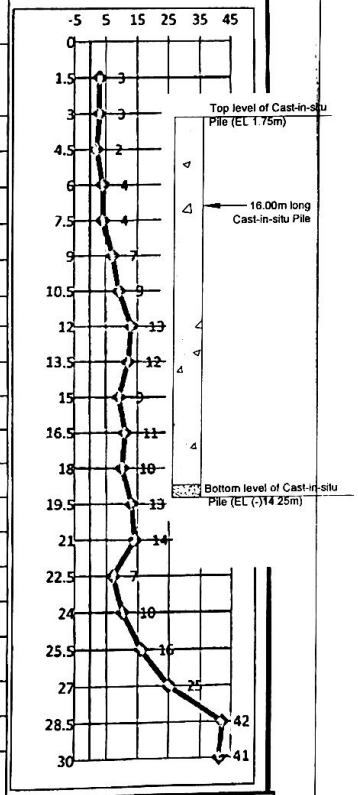
Smart Building Technologies

Soil Investigation of Protection of Right Bank of Padma River Naria &Janjira Upazila of district Shariatpur.

Borehole No	:	BH 03	BORE LOG	
Method of Boring	:	Percussion Method		
Boring Dia	:	0.1 m		
Depth of Boring	:	27.0m	EGL(RL in Meter)	4.93 m
Soil Classification	:	ASTM D-2487 & D-2488	Date of Exploration	28-11-2020
Location	:	Janjira Upazila of district Shariatpur.	-1.00 m	-3.00 m

Depth Below EGL(Meter)	Sample ID	Sample Type	Thickness	Description of Soil Strata	Symbol	SPT Interyals(ft)	First 150 mm	Middle 150	Last 150 mm	N-Value
1.5	D-1			Blackish to Grey Very Soft to Soft to Medium Stiff Silty clay.		5	1	2	1	3
2.45	UD-2									
3.0	D-3					10	1	1	2	3
4.5	D-4					15	1	1	1	2
6.0	D-5					20	1	2	2	4
7.5	D-6					25	1	2	2	4
9.0	D-7					30	2	3	4	7
10.5	D-8			Light medium Dense to very Dense Fine Sand.		35	2	4	5	9
12.0	D-9					40	4	6	7	13
13.5	D-10					45	3	6	6	12
15.0	D-11					50	3	4	5	9
16.5	D-12					55	4	5	6	11
18.0	D-13					60	2	4	6	10
19.5	D-14					65	3	5	8	13
21.0	D-15					70	3	4	10	14
22.5	D-16					75	3	3	4	7
24.0	D-17					80	2	4	6	10
25.5	D-18					85	3	6	10	16
27.0	D-19					90	7	12	13	25
28.5	D-20					95	10	19	23	42
30.0	D-21					100	8	20	21	41

Graphical Representation of SPT N- Values



Split Spoon Sample:
Shelby Tube Sample :
Non cohesive Soil :
Cohesive Soil :

BORE LOG (BH-03)

DATE	PREPARED	CHD	REM	APPROVED

R E V I S I O N S

BANGLADESH WATER DEVELOPMENT BOARD

Office of the Superintending Engineer
Design Circle-5

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Bore Log Location Sketch & Bore Log

DESIGNED BY :	RECOMMENDED BY :
(PEULY DEY), SDE	20-12-2020 (MD. MAHFUZUR RAHMAN), SE
CHECKED BY : (MST. TASMEM JAHAN), EE	APPROVED BY : (MD. HARUN UR RASHEED) CHIEF ENGINEER, DESIGN

DATE: 20-12-2020 | **DWG NO:DC-5-5230-02/18**

NOTES:

1. The specification of materials shall conform to the "Standard Technical Specification" of BWDB in general.
2. All dimensions are in millimeter and all elevations are in meter PWD unless otherwise mentioned in the drawing.
3. Concrete shall be poured in dry bed conditions.
4. The surface of construction joints shall be washed thoroughly with water jet, cleaned enough and made dry prior to placement of adjoining concrete.
5. Concrete shall develop a crushing strength (Cylinder strength) of 25.00 N/sq.mm at 28 days and to be checked by collecting samples and testing during construction at different stages.
6. Cement grouting must be applied over the surface of the old concrete before pouring the new concrete.
7. Concrete mixture shall be poured as quick as possible but not later than 45 minutes after mixing.
8. M.S. work for reinforcement with deformed M.S. bar, fy = 400 N/sq.mm (made from billet) in R.C.C works .
9. Minimum lap length shall be 40 times the bar diameters.
10. Laps shall be staggered so that not more than 50% of bars are lapped in any one cross section. where bars must be lapped in one cross section, the lap length shall not be less than 1.3 times minimum lap length.
11. Reinforcing bar shall be supported in its proper position by use of mortar blocks, supports or by other approved means.
12. All expansion joints shall have a gap of 25mm.
13. Concrete for CC blocks shall develop a minimum crushing strength of 12.00 N/sq.mm (cylinder strength) at 28 days.
14. Curing of C.C blocks shall be continued for minimum 21 days.
15. Clear cover of R.C.C works:
    a) Railing : 25 mm
    b) Concrete adjacent to earth : 75 mm
    c) Concrete exposed to weather & water : 60 mm
    d) Beam / Girder of bridge : 50 mm
    e) Deck Slab of bridge : 40 mm
16. Unless otherwise specified, back filling shall be done with sand (FM>=0.80) free from vegetable roots and organic matter. Back filling for U-shaped wall shall be done simultaneously on both walls.
17. Splicing at points of maximum stress is to be avoided, staggered splicing is to be used.
18. Broken stone chips (20mm down graded size) must be used for all concrete works.
19. Vibrator shall have to be used in all R.C.C works.
20. 75 mm thick lean concrete (1:3:6) shall be provided under base slab.
21. Vertical separator (D32) need to be provided in each girder at bottom reinforcement @1.00m c/c.
22. Bridge connecting approach road shall be constructed as per design section shown in this drawing.
23. Maximum 1.20m height of casting shall be done at a time for new casting of pier/abutment.
24. For any error / omission please refer to the Design Circle-5, BWDB, Dhaka through Consultant for taking necessary action.

SPECIAL NOTES:

1. This drawing has been prepared as per proposal and design data sent by SE, Faridpur O & M Circle, BWDB, Faridpur vide his office Memo No. 5D-1/885 date: 29-10-2020.
2. The work shall be executed with prior administrative and financial approval from the competent authority & within the DPP / Budget provision.
3. Position of Bridge shall be perpendicular to the flow direction.

DATE	PREPARED	CHD	REM	APPROVED

R E V I S I O N S

BANGLADESH WATER DEVELOPMENT BOARD

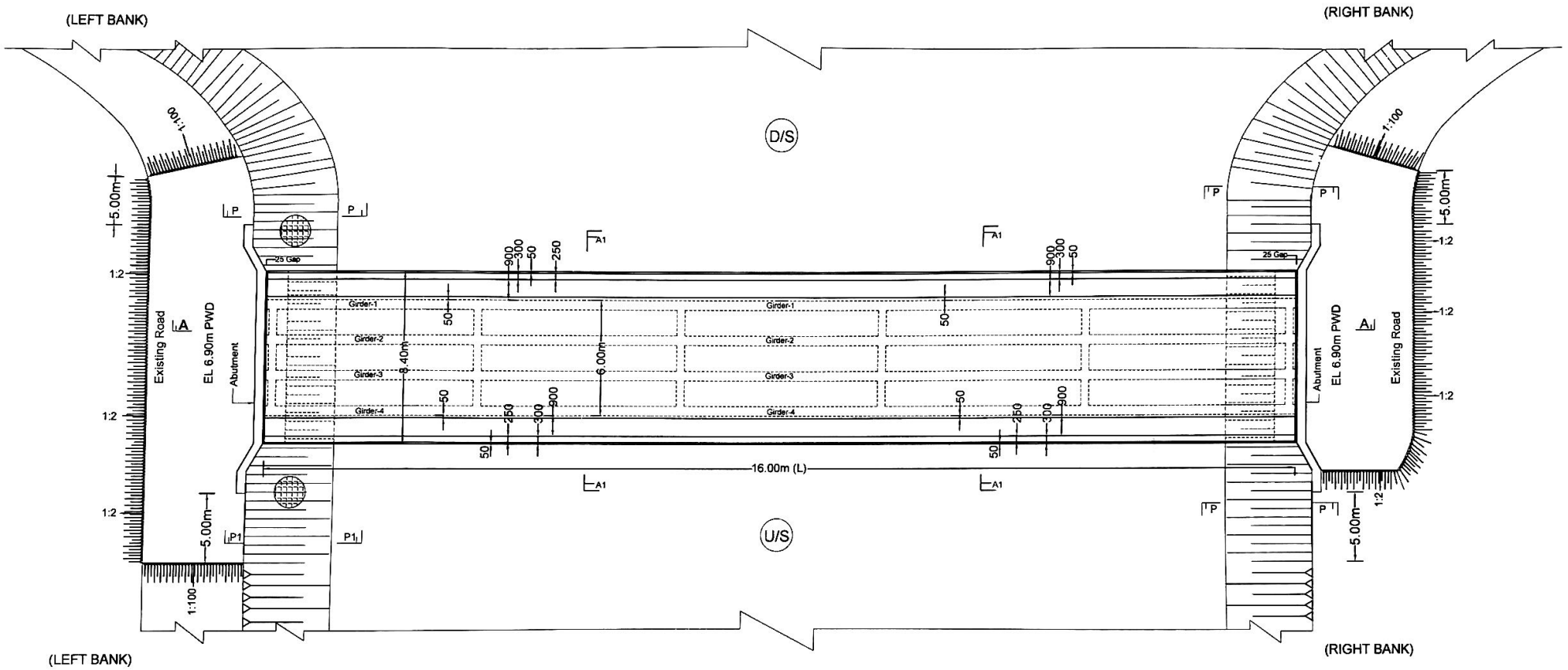
Office of the Superintending Engineer
Design Circle-5

Design of R.C.C Bridge Over Kedarpur Khal (Near Right Bank of Padma River at KM (-) 3.100) in Upazila-Naria, District-Shariatpur in C/W "Protection of Right Bank of Padma River at Naria & Janjira upazilla of Shariatpur District" under Shariatpur O & M Division, BWDB, Shariatpur.

Notes

DESIGNED BY : (PEULY DEY), SDE	RECOMMENDED BY : 20-12-2020 (MD. MAHFUZUR RAHMAN), SE
CHECKED BY : (MST. TASMEM JAHAN), EE	APPROVED BY : (MD. HARUN UR RASHEED) CHIEF ENGINEER, DESIGN

DATE: 20-12-2020 DWG NO:DC-5-5230-03/18



PLAN OF BRIDGE

Scale: Not To Scale

	DATE	PREPARED	CHD	REM	APPROVED

R E V I S I O N S

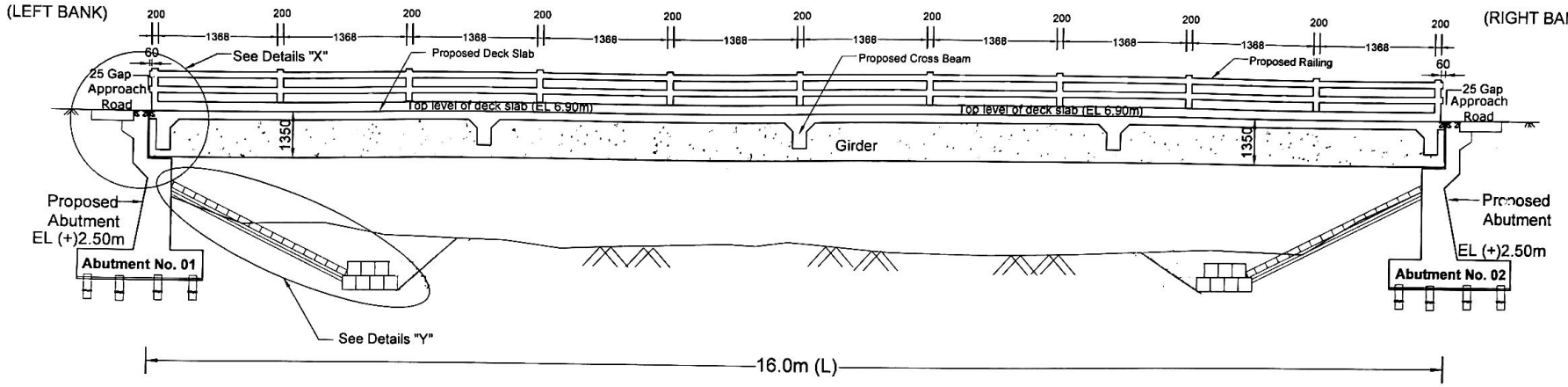
BANGLADESH WATER DEVELOPMENT BOARD

Office of the Superintending Engineer
Design Circle-5

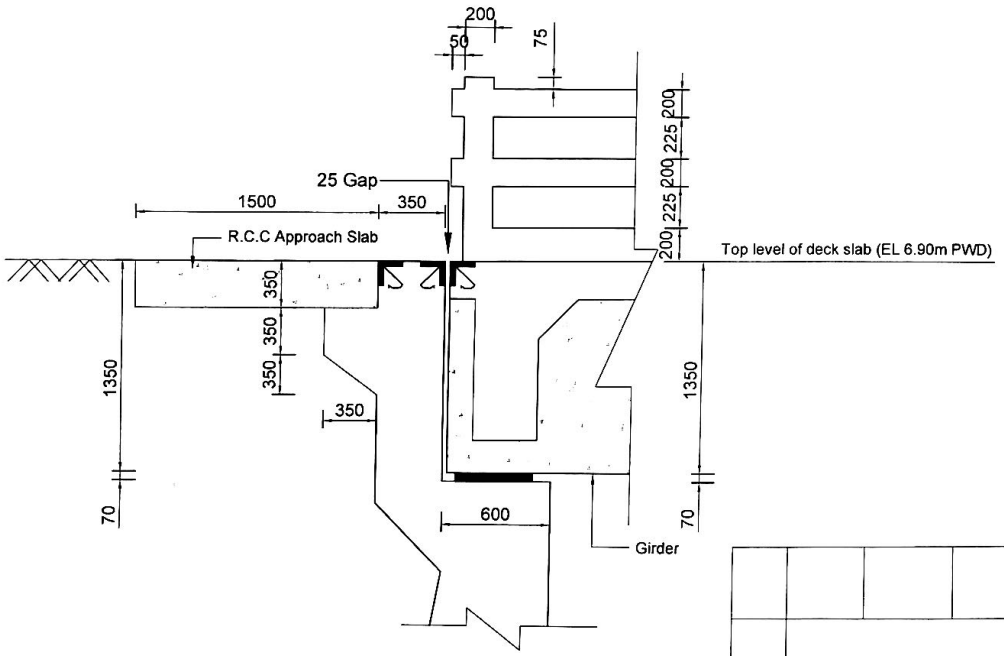
Design of R.C.C Bridge Over Kedarpur Khal (Near Right Bank of Padma River at KM (-) 3.100) in Upazila-Naria, District-Shariatpur in C/W "Protection of Right Bank of Padma River at Naria & Janjira upazilla of Shariatpur District" under Shariatpur O & M Division, BWDB, Shariatpur.

Plan of Bridge

DESIGNED BY : (PEULY DEY), SDE	RECOMMENDED BY : 20-12-2020 (MD. MAHFUZUR RAHMAN), SE
CHECKED BY : (MST. TASMEM JAHAN), EE	APPROVED BY : 20/12/2020 (MD. HARUN UR RASHEED) CHIEF ENGINEER, DESIGN
DATE: 20-12-2020	DWG NO:DC-5-5230-04/18



SECTION A-A
(See Sheet No. 04 of 18)
SECTIONAL ELEVATION OF BRIDGE



DETAILS "X"
(See Section A-A)

Scale: Not To Scale

	DATE	PREPARED	CHD	REM	APPROVED

R E V I S I O N S

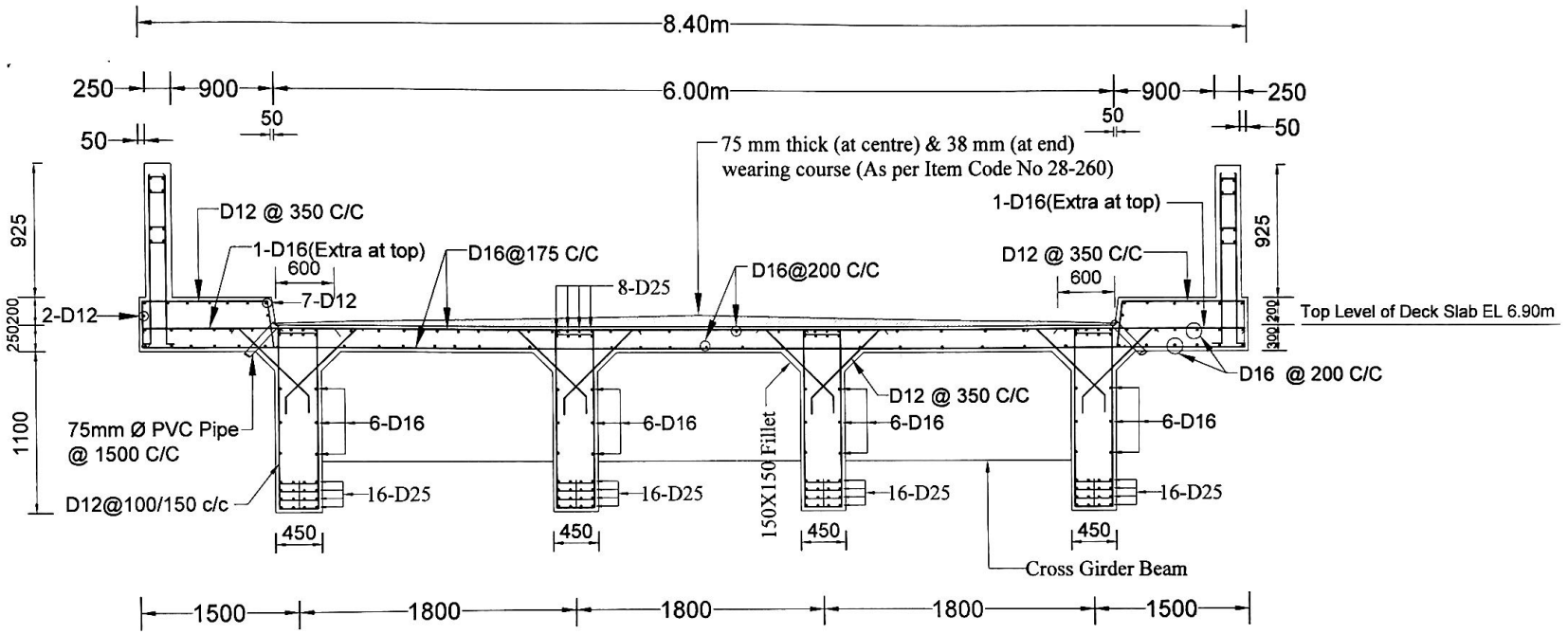
BANGLADESH WATER DEVELOPMENT BOARD

Office of the Superintending Engineer
Design Circle-5

Design of R.C.C Bridge Over Kedarpur Khal (Near Right Bank of Padma River at KM (-) 3.100) in Upazila-Naria, District-Shariatpur in C/W "Protection of Right Bank of Padma River at Naria & Janjira upazilla of Shariatpur District" under Shariatpur O & M Division, BWDB, Shariatpur.

Sectional Elevation of Bridge (Section A-A) & Details

DESIGNED BY :	RECOMMENDED BY :
(PEULY DEY), SDE	20-12-2020 (MD. MAHFUZUR RAHMAN), SE
CHECKED BY : (MST. TASMEM JAHAN), EE	APPROVED BY : (MD. HARUN UR RASHEED) CHIEF ENGINEER, DESIGN
DATE: 20-12-2020	DWG NO:DC-5-5230-05/18



SECTION A1-A1

(See Sheet No. 04 of 18)

BANGLADESH WATER DEVELOPMENT BOARD

Office of the Superintending Engineer
Design Circle-5

Design of R.C.C Bridge Over Kedarpur Khal (Near Right Bank of Padma River at KM (-) 3.100) in Upazila-Naria, District-Shariatpur in C/W "Protection of Right Bank of Padma River at Naria & Janjira upazilla of Shariatpur District" under Shariatpur O & M Division, BWDB, Shariatpur.

Reinforcement Details of Girder and Deck Slab

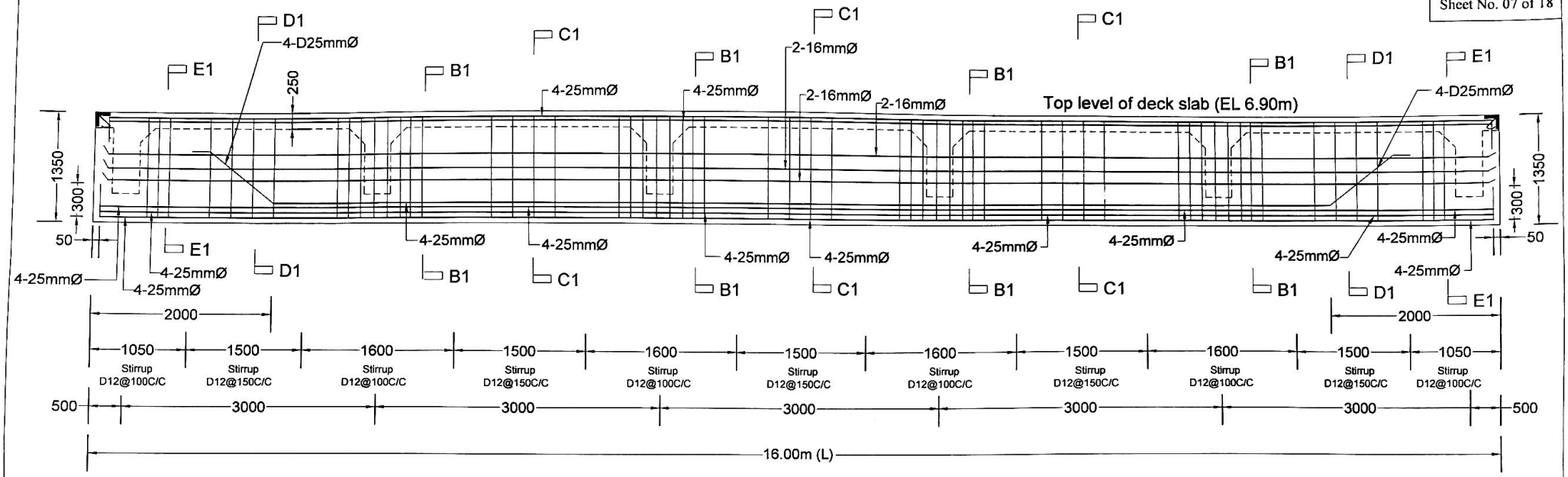
DESIGNED BY :	RECOMMENDED BY :
(PEULY DEY), SDE	20-12-2020 (MD. MAHFUZUR RAHMAN), SE
CHECKED BY : (MST. TASMEM JAHAN), EE	APPROVED BY : 20/12/2020 (MD. HARUN UR RASHEED) CHIEF ENGINEER, DESIGN

DATE	PREPARED	CHD	REM	APPROVED

R E V I S I O N S

DATE: 20-12-2020 DWG NO:DC-5-5230-06/18

Scale: Not To Scale



REINF. DETAIL OF GIRDER NO. 01, 02, 03 & 04

(See Sheet No. 04 of 18)

Scale: Not To Scale

	DATE	PREPARED	CHD	REM	APPROVED

R E V I S I O N S

BANGLADESH WATER DEVELOPMENT BOARD

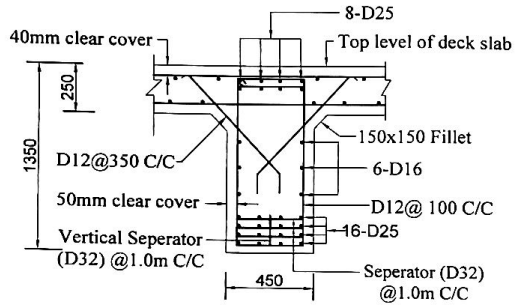
Office of the Superintending Engineer
Design Circle-5

Design of R.C.C Bridge Over Kedarpur Khal (Near Right Bank of Padma River at KM (-) 3.100) in Upazila-Naria, District-Shariatpur in C/W "Protection of Right Bank of Padma River at Naria & Janjira upazilla of Shariatpur District" under Shariatpur O & M Division, BWDB, Shariatpur.

Reinforcement Details of Girders and Cross Beam

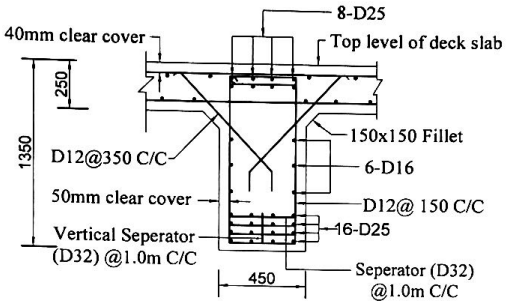
DESIGNED BY :	RECOMMENDED BY :
(PEULY DEY), SDE	20-12-2020 (MD. MAHFUZUR RAHMAN), SE
CHECKED BY : (MST. TASMEM JAHAN), EE	APPROVED BY : (MD. HARUN UR RASHEED) CHIEF ENGINEER, DESIGN

DATE: 20-12-2020 | **DWG NO:DC-5-5230-07/18**



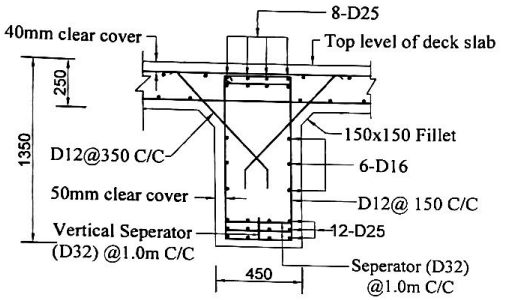
SECTION B1-B1

(See Sheet No. 07 of 18)



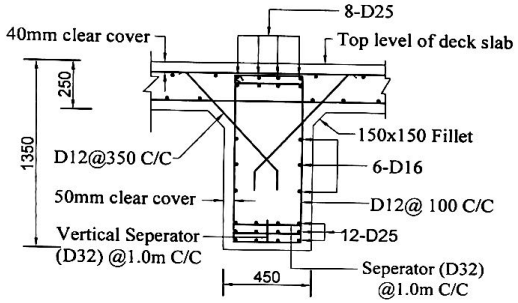
SECTION C1-C1

(See Sheet No. 07 of 18)



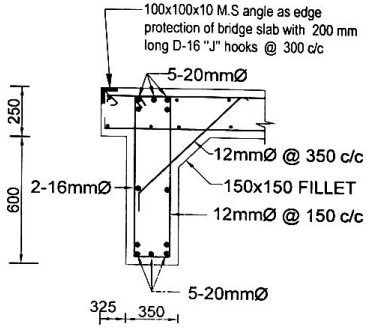
SECTION D1-D1

(See Sheet No. 07 of 18)

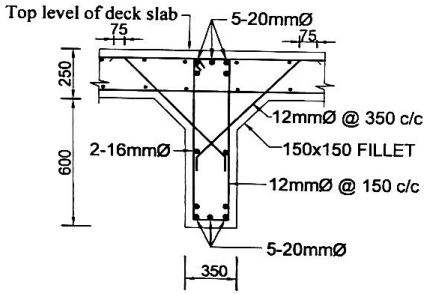


SECTION E1-E1

(See Sheet No. 07 of 18)



END CROSS BEAM



MIDDLE CROSS BEAM

STIRRUPS DETAILS:

Bar hook	Form and Extention	Bend Angle (degree)	Band Radius (r)	Used Bar
Tie/ stirrups	6db≥75, 4db≥75, db	135	r = 1.25db	6mm to 12mm

Scale: Not To Scale

DATE	PREPARED	CHD	REM	APPROVED

R E V I S I O N S

BANGLADESH WATER DEVELOPMENT BOARD

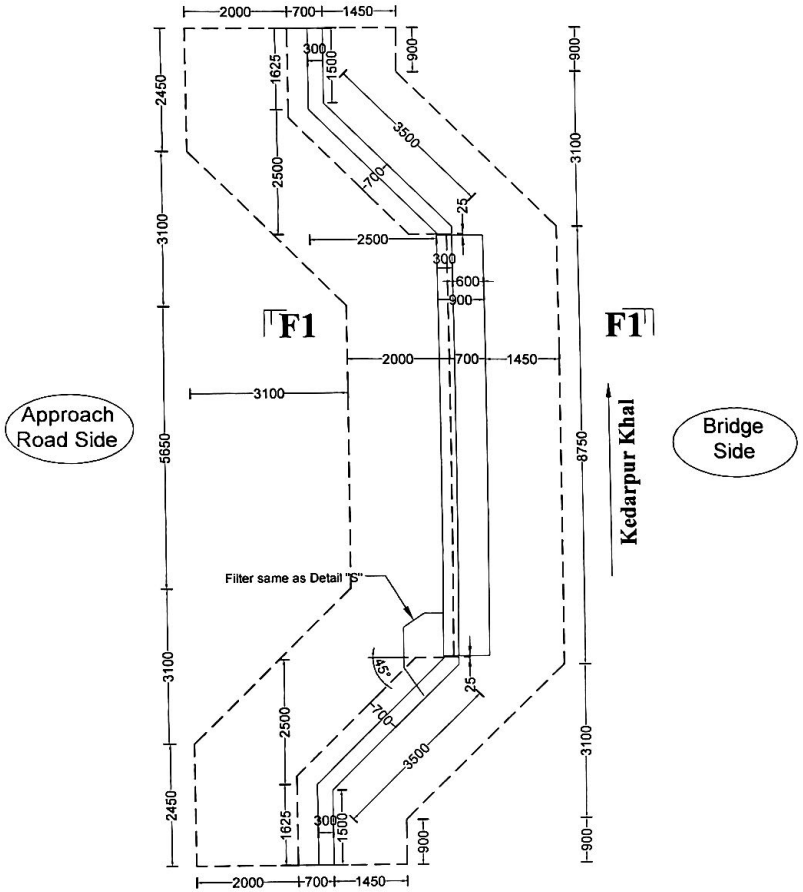
Office of the Superintending Engineer
Design Circle-5

Design of R.C.C Bridge Over Kedarpur Khal (Near Right Bank of Padma River at KM (-) 3.100) in Upazila-Naria, District-Shariatpur in C/W "Protection of Right Bank of Padma River at Naria & Janjira upazilla of Shariatpur District" under Shariatpur O & M Division, BWDB, Shariatpur.

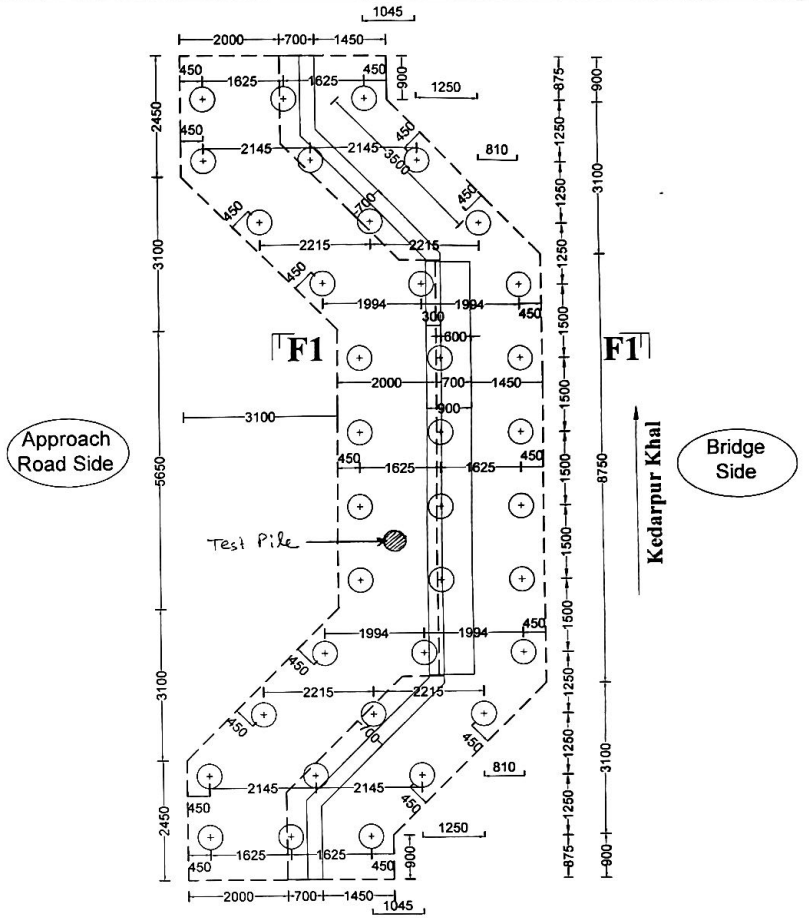
Reinforcement Details of Girders and Cross Beam

DESIGNED BY :	RECOMMENDED BY :
(PEULY DEY), SDE	20-12-2020 (MD. MAHFUZUR RAHMAN), SE
CHECKED BY : (MST. TASMEM JAHAN), EE	APPROVED BY (MD. HARUN UR RASHEED) CHIEF ENGINEER, DESIGN

DATE: 20-12-2020 | **DWG NO:DC-5-5230-08/18**



FOUNDATION LAYOUT PLAN OF ABUTMENT, WING WALL & RETURN WALL (LEFT BANK)



LAYOUT PLAN OF CAST IN SITU PILE FOR ABUTMENT, WING WALL & RETURN WALL (LEFT BANK)

(Pile Length=16.00m, size = 600mm dia & Total No. of Pile under abutment, wing wall & return wall = 36)

BANGLADESH WATER DEVELOPMENT BOARD

Office of the Superintending Engineer
Design Circle-5

Design of R.C.C Bridge Over Kedarpur Khal (Near Right Bank of Padma River at KM (-) 3.100) in Upazila-Naria, District-Shariatpur in C/W "Protection of Right Bank of Padma River at Naria & Janjira upazilla of Shariatpur District" under Shariatpur O & M Division, BWDB, Shariatpur.

Plan of Footing, Layout Plan of Pile (Left Bank)

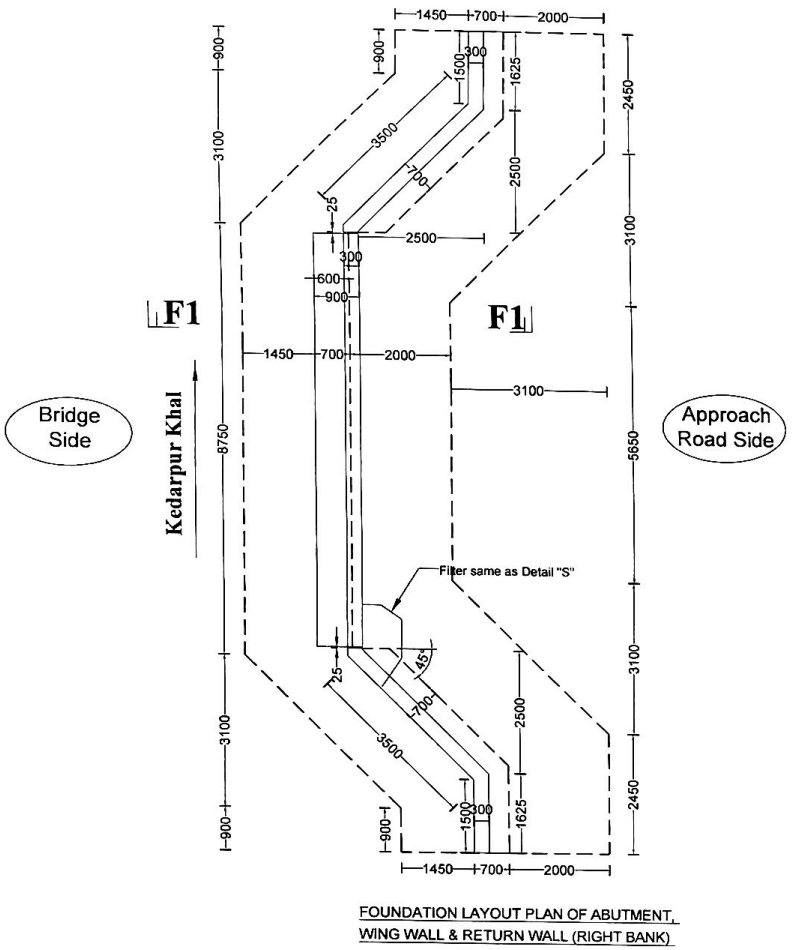
DESIGNED BY :	RECOMMENDED BY :
(PEULY DEY), SDE	20-12-2020 (MD. MAHFUZUR RAHMAN), SE
CHECKED BY : (MST. TASMEM JAHAN), EE	APPROVED BY : 20/12/2020 (MD. HARUN UR RASHEED) CHIEF ENGINEER, DESIGN

DATE	PREPARED	CHD	REM	APPROVED

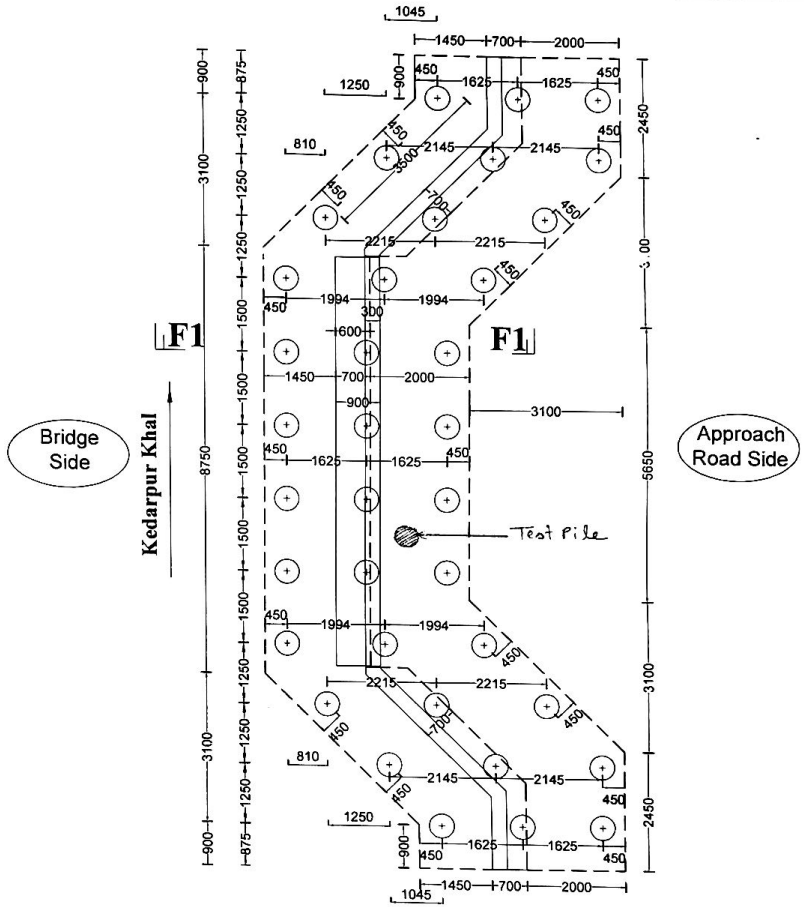
R E V I S I O N S

DATE: 20-12-2020 **DWG NO:DC-5-5230-09/18**

Scale: Not To Scale



FOUNDATION LAYOUT PLAN OF ABUTMENT, WING WALL & RETURN WALL (RIGHT BANK)



LAYOUT PLAN OF CAST IN SITU PILE FOR ABUTMENT, WING WALL & RETURN WALL (RIGHT BANK)
(Pile Length=16.00m, size = 600mm dia & Total No. of Pile under abutment, wing wall & return wall = 36)

Scale: Not To Scale

	DATE	PREPARED	CHD	REM	APPROVED

R E V I S I O N S

BANGLADESH WATER DEVELOPMENT BOARD

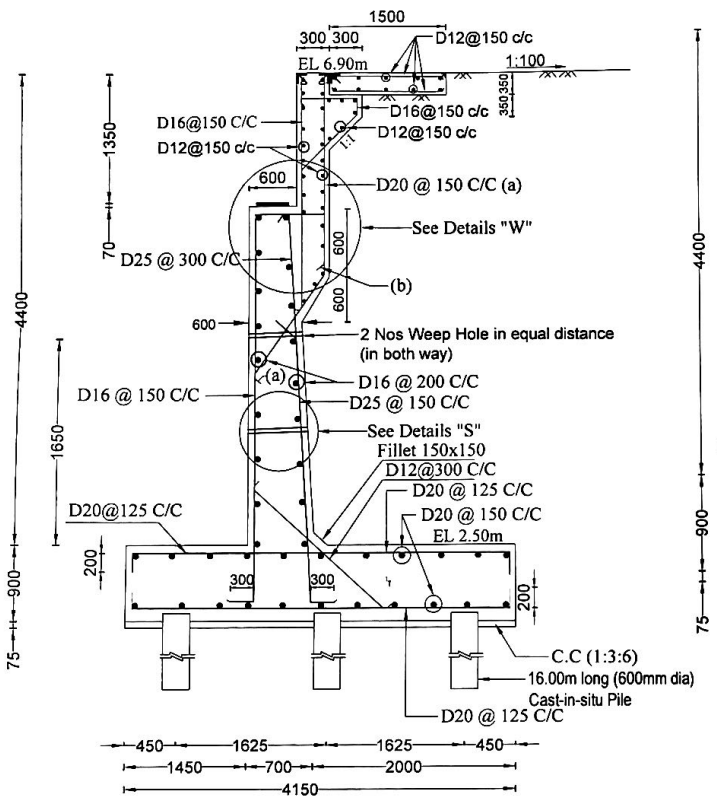
Office of the Superintending Engineer
Design Circle-5

Design of R.C.C Bridge Over Kedarpur Khal (Near Right Bank of Padma River at KM (-) 3.100) in Upazila-Naria, District-Shariatpur in C/W "Protection of Right Bank of Padma River at Naria & Janjira upazilla of Shariatpur District" under Shariatpur O & M Division, BWDB, Shariatpur.

Plan of Footing, Layout Plan of Pile (Right Bank)

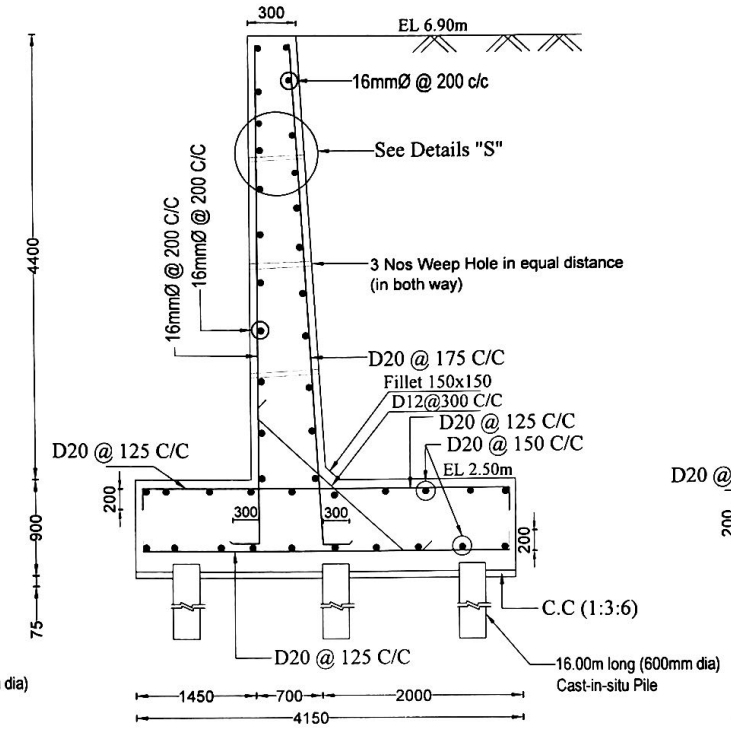
DESIGNED BY :	RECOMMENDED BY :
(PEULY DEY), SDE	20-12-2020 (MD. MAHFUZUR RAHMAN), SE
CHECKED BY : (MST. TASMEM JAHAN), EE	APPROVED BY : 20/12/2020 (MD. HARUN UR RASHEED) CHIEF ENGINEER, DESIGN

DATE: 20-12-2020 DWG NO:DC-5-5230-10/18



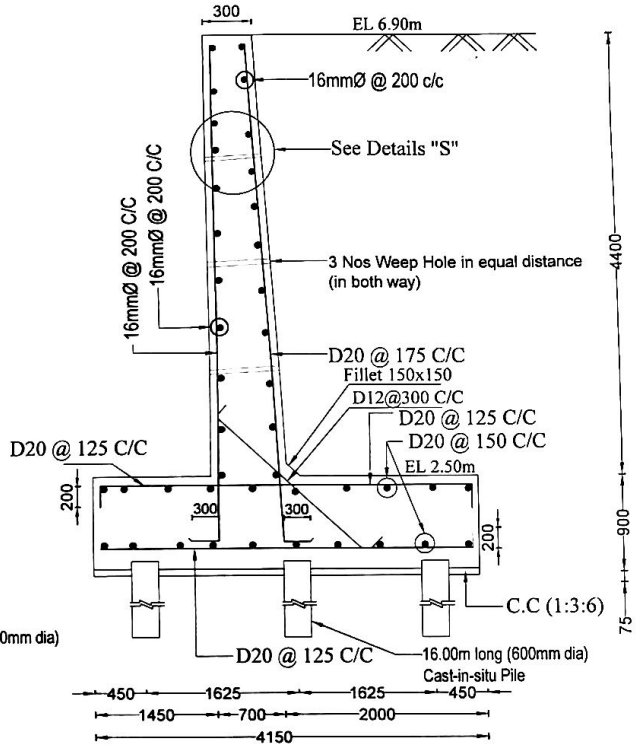
SECTION F1-F1

(For Layout Plan of Foundation Treatment, See Sheet No. 09 & 10 of 18)



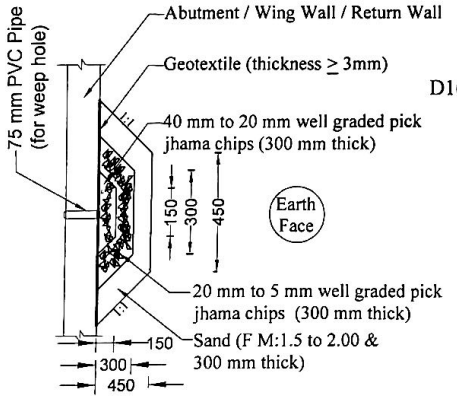
SECTION OF WING WALL

(For Layout Plan of Foundation Treatment, See Sheet No. 09 & 10 of 18)

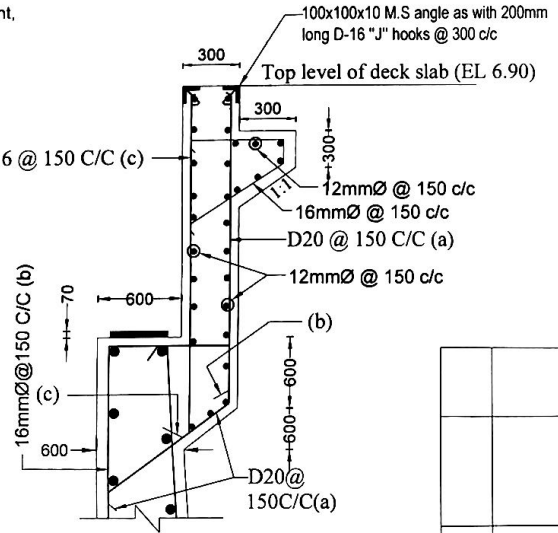


SECTION OF RETURN WALL

(For Layout Plan of Foundation Treatment, See Sheet No. 09 & 10 of 18)



DETAIL 'S'



DETAIL 'W'

Scale: Not To Scale

	DATE	PREPARED	CHD	REM	APPROVED

R E V I S I O N S

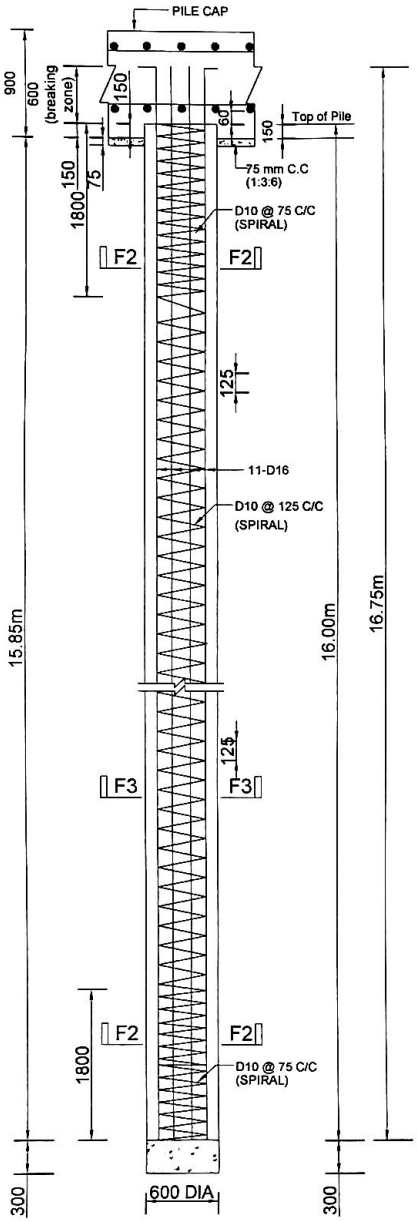
BANGLADESH WATER DEVELOPMENT BOARD

Office of the Superintending Engineer
Design Circle-5

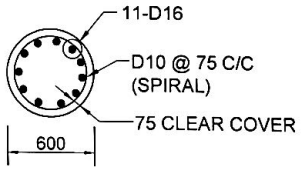
Design of R.C.C Bridge Over Kedarpur Khal (Near Right Bank of Padma River at KM (-) 3.100) in Upazila-Naria, District-Shariatpur in C/W "Protection of Right Bank of Padma River at Naria & Janjira upazilla of Shariatpur District" under Shariatpur O & M Division, BWDB, Shariatpur.

Reinforcement Details of Abutment, Wing Wall & Return Wall

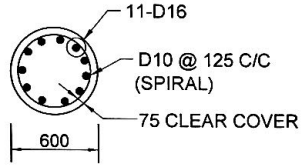
DESIGNED BY :	RECOMMENDED BY :
(PEULY DEY), SDE	20-12-2020 (MD. MAHFUZUR RAHMAN), SE
CHECKED BY : (MST. TASMEM JAHAN), EE	APPROVED BY : 20/12/2020 (MD. HARUN UR RASHEED) CHIEF ENGINEER, DESIGN
DATE: 20-12-2020	DWG NO:DC-5-5230-11/18



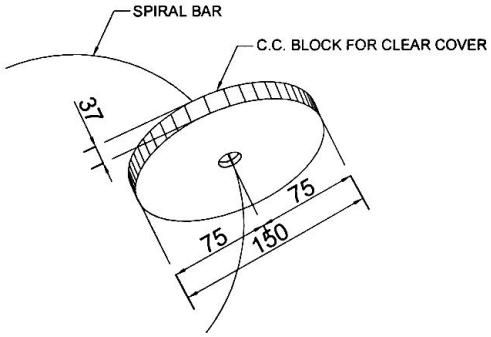
LONG SECTION OF CAST-IN-SITU PILE UNDER EACH ABUTMENT & WING WALL & RETURN WALL



SECTION F2-F2



SECTION F3-F3



C.C. BLOCK DETAIL FOR CLEAR COVER

NOTE FOR PILES ONLY :

1. ULTIMATE COMPRESSIVE STRENGHT OF CONCRETE , f 'c= 22 N/ sq. mm.
2. SUGGESTIVE MIXING RATIO SHALL BE 1:1.5:3 WITH SHINGLES (ITEM CODENO. 44-120-20).
3. ALL REINFORCEMENT FOR PILES SHALL BE DEFORMED BAR OF 400 N/ sq. mm.
4. THE MINIMUM LENGTH FOR BREAKING PILE HEAD IS 600 mm.
5. PILE HEAD SHALL BE BROKEN CAREFULLY SO THAT NO FRACTURE CAN BE DEVELOPED AT MAIN PORTION OF PILE. PILE HEAD BROKEN PERIOD AFTER 28 DAYS FROM CASTING.
6. CLEAR COVER TO STEEL REINFORCEMENT FOR PILE SHALL BE 75 mm.
7. ALL PILES SHALL BE CONSTRUCTED VERTICAL.
8. SPOT WELDING AT CONTACT POINT OF THE SPIRAL BINDERS MUST BE DONE AS PER ITEM CODE NO. 44-150.
9. LAPPING LENGTH OF VERTICAL REINFORCEMENT SHALL BE 40 TIMES THE BAR DIAMETERS FOR WELDING.
10. DURING CASTING OF CONCRETE, TRIMEE PIPE SHOULD BE AT LEAST 0.6 m WITHIN THE CONCRETE. THE LENGTH OF TRIMEE PIPE SHOULD BE SAME AS LENGTH OF BORING PIPE.
11. NO PILE SHALL BE BORED WITHIN 3000 mm C/C DISTANCE BEFORE 24 HOURS OF CASTING OF A PARTICULAR PILE.
12. CONCERNED EXECUTIVE ENGINEER, SUB-DIVISIONAL ENGINEER AND OTHER CONCERNED OFFICERS SHALL STRICTLY SUPERVISE THE CAST-IN-SITU PILE CONSTRUCTION AND ENSURE THAT THE WORKS ARE CARRIED OUT AS PER SPECIFICATION INCLUDING DIAMETER AND LENGTH OF PILES.
13. STATIC LOAD TEST UPTO 550 KN OF TEST LOAD FOR ABUTMENT PORTION SHALL BE PERFORMED FOR AT LEAST 1 (ONE) PILE IN EACH ABUTMENT AND TEST RESULT SHALL BE SENT TO THE DESIGN CIRCLE.
14. STILL PICTURES OF LOAD TEST APPARTUS AND EACH LOAD EMPLACEMENT INCLUDING DIAL GAUGE READING WITH DATE TIME STAMP AS WELL AS VIDEO OF ACTUAL LOADING SEQUENCE WITH TIME STAMP SHALL BE SENT TO THE DESIGN CIRCLE.
15. REINFORCING BAR SHALL BE SUPPORTED IN ITS PROPER POSITION BY USE OF MORTER BLOCKS, SUPPORTS OR BY OTHER APPROVED MEANS.
16. THE TOP LEVEL OF PILE HEAD SHOULD BE PROJECTED INTO THE PILE CAP NOT LESS THAN 150MM AND ALL DAMAGED PILE MATERIAL ARE TO BE REMOVED.
17. AFTER BREAKING OF PILE HEADS, EXPOSED REINFORCEMENT SHALL BE PROVIDED INTO THE PILE CAP.
18. THE CONCRETE SHALL BE PLACED BY 200 mm DIA TREMIE PIPE FROM THE BOTTOM OF THE HOLE TO DISPLACE WATER. THE TREMIE DISCHARGE SHALL BE KEPT WELL INTO THE CONCRETE AND CAREFULLY WITHDRAWN AS THE CONCRETE IS PLACED.

BANGLADESH WATER DEVELOPMENT BOARD

Office of the Superintending Engineer
Design Circle-5

Design of R.C.C Bridge Over Kedarpur Khal (Near Right Bank of Padma River at KM (-) 3.100) in Upazila-Naria, District-Shariatpur in C/W "Protection of Right Bank of Padma River at Naria & Janjira upazilla of Shariatpur District" under Shariatpur O & M Division, BWDB, Shariatpur.

Details of Cast-in-situ Piles with reinforcement & Notes for Pile

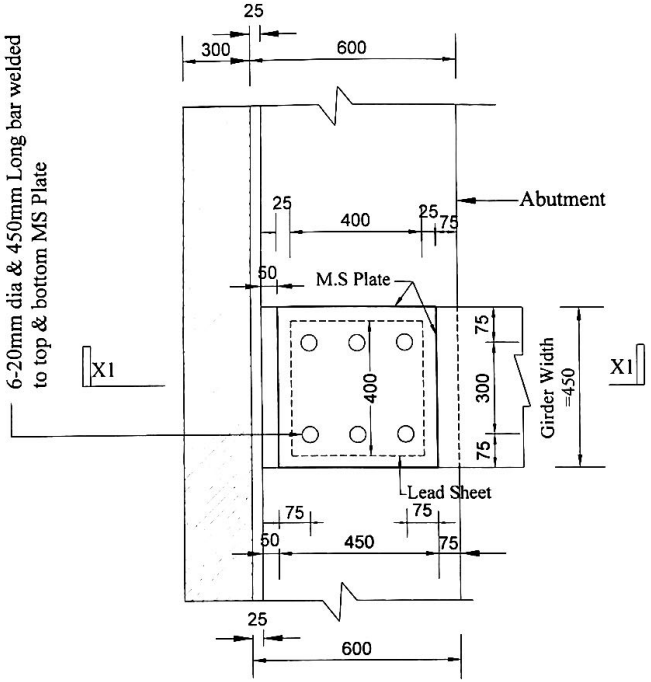
DESIGNED BY :	RECOMMENDED BY :
(PEULY DEY), SDE	20-12-2020 (MD. MAHFUZUR RAHMAN), SE
CHECKED BY : (MST. TASMEM JAHAN), EE	APPROVED BY : 20/12/2020 (MD. HARUN UR RASHEED) CHIEF ENGINEER, DESIGN

	DATE	PREPARED	CHD	REM	APPROVED

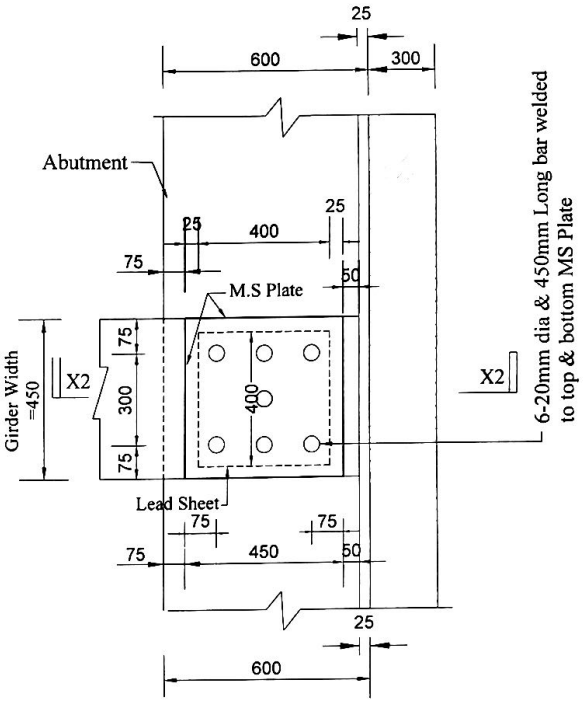
R E V I S I O N S

DATE: 20-12-2020 **DWG NO:DC-5-5230-12/18**

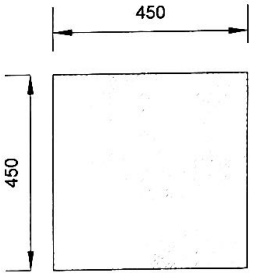
Scale: Not To Scale



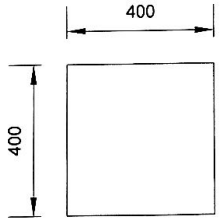
PLAN OF EXPANSION BEARING
(For Abutment No. 1)



PLAN OF EXPANSION BEARING
(For Abutment No. 2)



MS PLATE (450x450x25)
(Without Hole for Abutment No. 01)



LEAD SHEET (400X400X20)
(Without Hole for Abutment No. 01)

	DATE	PREPARED	CHD	REM	APPROVED

R E V I S I O N S

BANGLADESH WATER DEVELOPMENT BOARD

Office of the Superintending Engineer
Design Circle-5

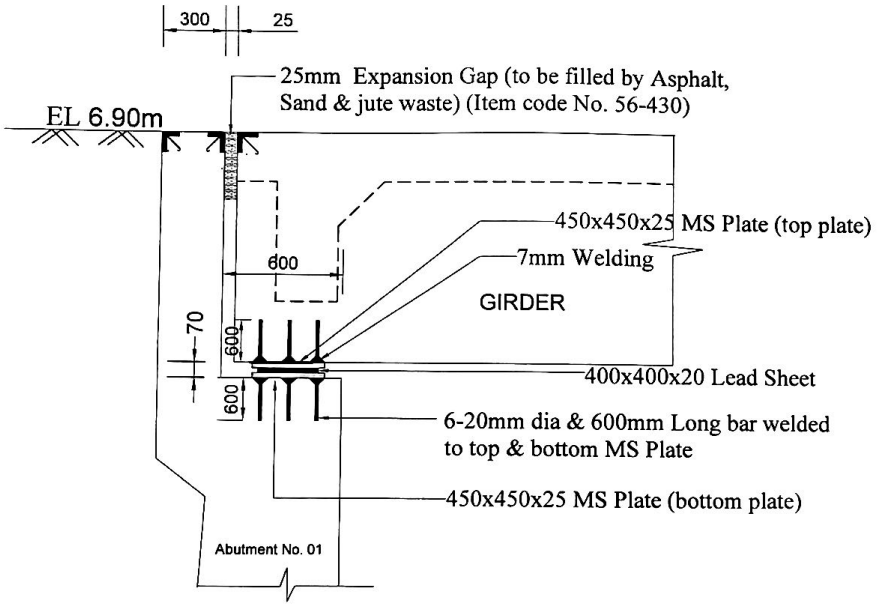
Design of R.C.C Bridge Over Kedarpur Khal (Near Right Bank of Padma River at KM (-) 3.100) in Upazila-Naria, District-Shariatpur in C/W "Protection of Right Bank of Padma River at Naria & Janjira upazilla of Shariatpur District" under Shariatpur O & M Division, BWDB, Shariatpur.

Details of Bearing (For Abutment)

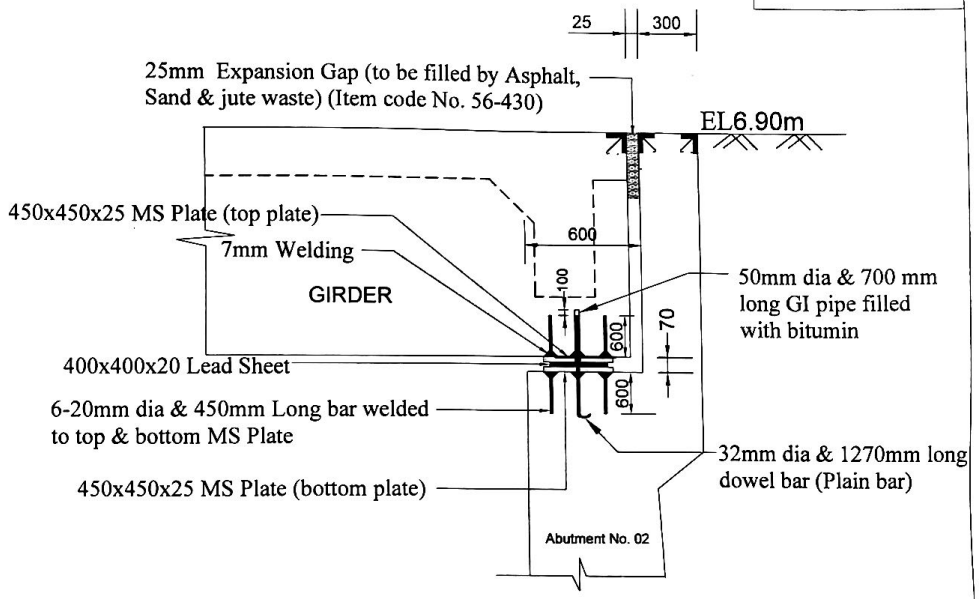
DESIGNED BY :	RECOMMENDED BY :
(PEULY DEY), SDE	20-12-2020 (MD. MAHFUZUR RAHMAN), SE
CHECKED BY : (MST. TASMEM JAHAN), EE	APPROVED BY : 20/12/2020 (MD. HARUN UR RASHEED) CHIEF ENGINEER, DESIGN

DATE: 20-12-2020 | **DWG NO:DC-5-5230-13/18**

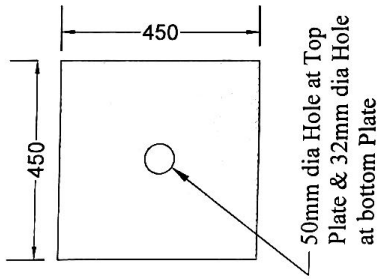
Scale: Not To Scale



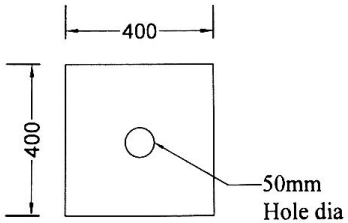
SECTION X1-X1
(See Plan of Expansion Bearing for Abutment No. 01 in Sheet No. 13 of 18)



SECTION X2-X2
(See Plan of Expansion Bearing for Abutment No. 02 in Sheet No. 13 of 18)



MS PLATE (450x450x25)
(With Hole for Abutment No. 02)



LEAD SHEET (400X400X20)
(With Hole for Abutment No. 02)

Scale: Not To Scale

	DATE	PREPARED	CHD	REM	APPROVED

R E V I S I O N S

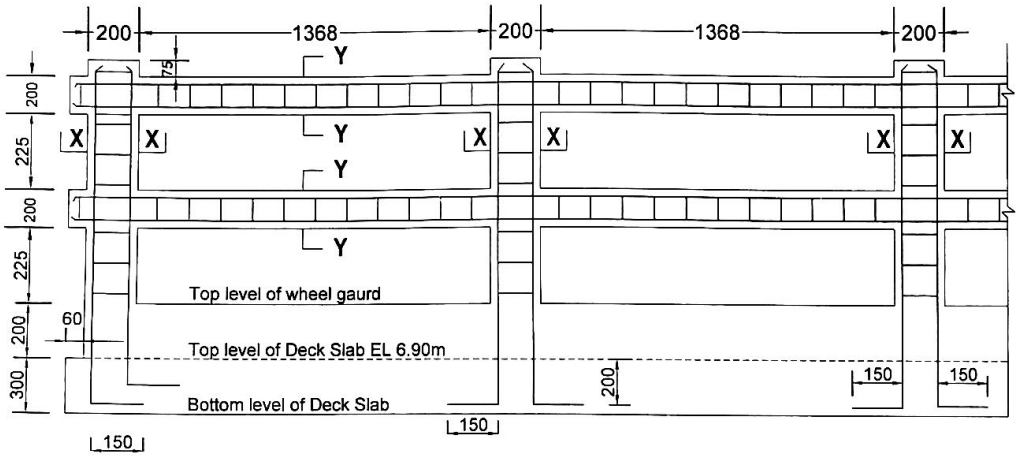
BANGLADESH WATER DEVELOPMENT BOARD

Office of the Superintending Engineer
Design Circle-5

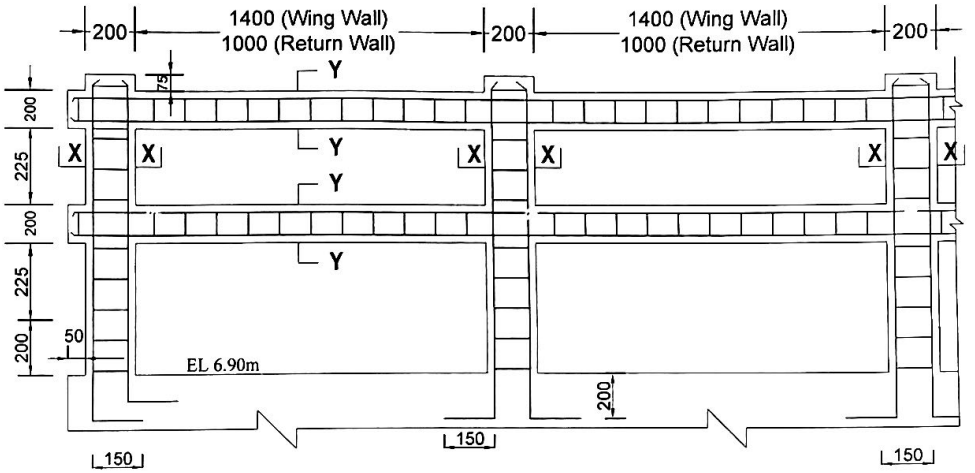
Design of R.C.C Bridge Over Kedarpur Khal (Near Right Bank of Padma River at KM (-) 3.100) in Upazila-Naria, District-Shariatpur in C/W "Protection of Right Bank of Padma River at Naria & Janjira upazilla of Shariatpur District" under Shariatpur O & M Division, BWDB, Shariatpur.

Details of Bearing (For Abutment)

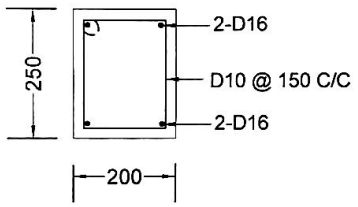
DESIGNED BY :	RECOMMENDED BY :
(PEULY DEY), SDE	20-12-2020 (MD. MAHFUZUR RAHMAN), SE
CHECKED BY : (MST. TASMEM JAHAN), EE	APPROVED BY : 20/12/2020 (MD. HARUN UR RASHEED) CHIEF ENGINEER, DESIGN
DATE: 20-12-2020	DWG NO:DC-5-5230-14/18



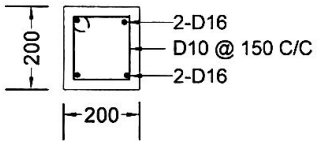
DETAILS OF RAILING (FOR DECK SLAB)
(All Railing & Railing Post Should be Painted)



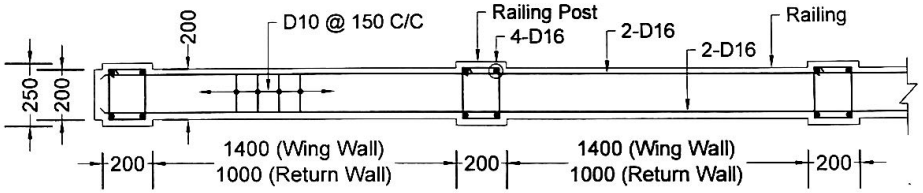
DETAILS OF RAILING (FOR WING WALL / RETURN WALL)
(All Railing & Railing Post Should be Painted)



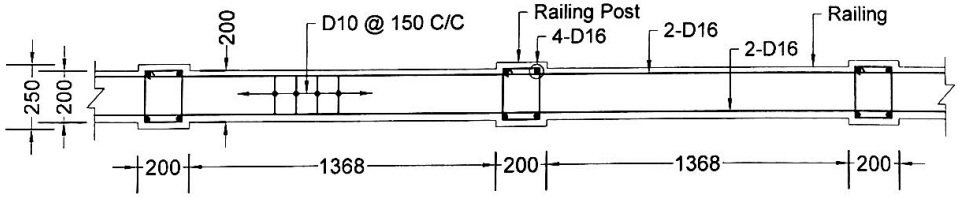
SECTION X-X
Railing Post



SECTION Y-Y
Railing



PLAN OF RAILING & RAILING POST (FOR WING WALL / RETURN WALL)



PLAN OF RAILING & RAILING POST (FOR DECK SLAB)

Scale: Not To Scale

	DATE	PREPARED	CHD	REM	APPROVED

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BANGLADESH WATER DEVELOPMENT BOARD

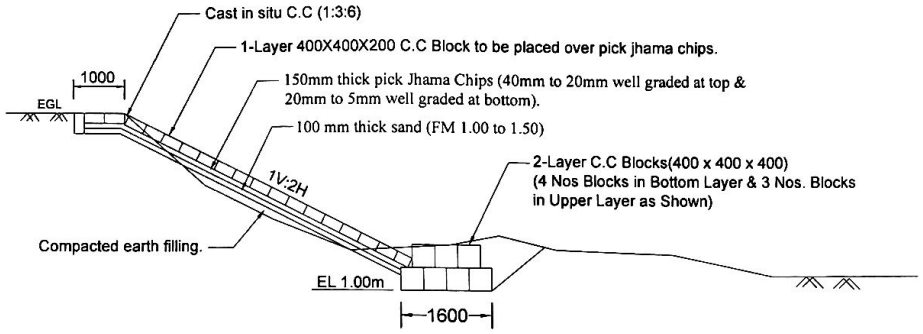
Office of the Superintending Engineer
Design Circle-5

Design of R.C.C Bridge Over Kedarpur Khal (Near Right Bank of Padma River at KM (-) 3.100) in Upazila-Naria, District-Shariatpur in C/W "Protection of Right Bank of Padma River at Naria & Janjira upazilla of Shariatpur District" under Shariatpur O & M Division, BWDB, Shariatpur.

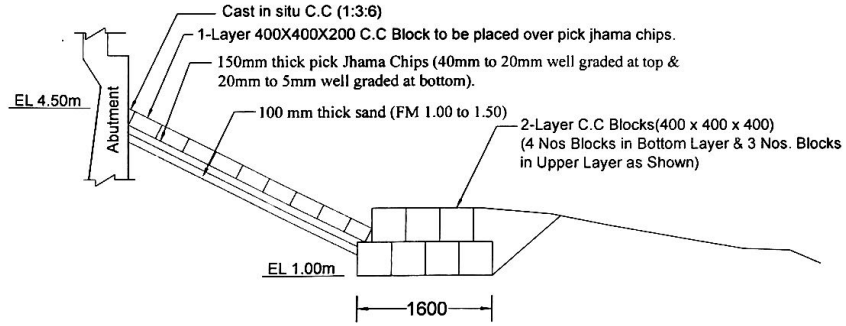
Details of Railing

DESIGNED BY :	RECOMMENDED BY :
(PEULY DEY), SDE	20-12-2020 (MD. MAHFUZUR RAHMAN), SE
CHECKED BY : (MST. TASMEM JAHAN), EE	APPROVED BY : 20/12/2020 (MD. HARUN UR RASHEED) CHIEF ENGINEER, DESIGN

DATE: 20-12-2020 | **DWG NO:DC-5-5230-15/18**



SECTION P-P
(Typical Section of Protective Work, See Plan of Bridge in Sheet No. 04 of 18)



DETAILS "Y"
(Typical Section of Protective Work along Abutment in Section A-A, See Sheet No. 05 of 18)

Scale: Not To Scale

	DATE	PREPARED	CHD	REM	APPROVED

R E V I S I O N S

BANGLADESH WATER DEVELOPMENT BOARD

Office of the Superintending Engineer
Design Circle-5

Design of R.C.C Bridge Over Kedarpur Khal (Near Right Bank of Padma River at KM (-) 3.100) in Upazila-Naria, District-Shariatpur in C/W "Protection of Right Bank of Padma River at Naria & Janjira upazilla of Shariatpur District" under Shariatpur O & M Division, BWDB, Shariatpur.

Details of Protective Work

DESIGNED BY :	RECOMMENDED BY :
(PEULY DEY), SDE	20-12-2020 (MD. MAHFUZUR RAHMAN), SE
CHECKED BY : (MST. TASMEM JAHAN), EE,	APPROVED BY : (MD. HARUN UR RASHEED) CHIEF ENGINEER, DESIGN

DATE: 20-12-2020 | **DWG NO:DC-5-5230-16/18**

NOTES FOR APPROACH ROAD

1. a) WHERE FILLING IS NOT REQUIRED OR FILLING IS NOMINAL (LESS THAN 0.3M) OR WHERE THE MOVEMENT OF COMPACTION MACHINE IS NOT POSSIBLE, EXISTING/FILLING EARTH SHALL BE COMPACTED WITH 7KG IRON RAMMER AS PER ITEM CODE NO. 16-140-20.

   b) IF EARTH FILLING (ABOVE 0.3M) IS REQUIRED, COMPACTION OF EARTH SHALL BE DONE BY MECHANICAL EQUIPMENT TO ATTAIN 90% MAXIMUM DRY DENSITY AT OPTIMUM MOISTURE CONTENT AS PER ITEM CODE NO 16-150-20.

2. CONSTRUCTION OF ROAD SUB-GRADE OF SAND (FM>=0.5) IN MAXIMUM 150mm LAYER TO ATTAIN MINIMUM CBR 5% AS PER ITEM CODE NO. 56-105-10.

3. CONSTRUCTION OF IMPROVED ROAD SUB-GRADE OF SAND (FM>=0.8) IN MAXIMUM 150mm LAYER TO ATTAIN MINIMUM CBR 8% AS PER ITEM CODE NO. 56-110.

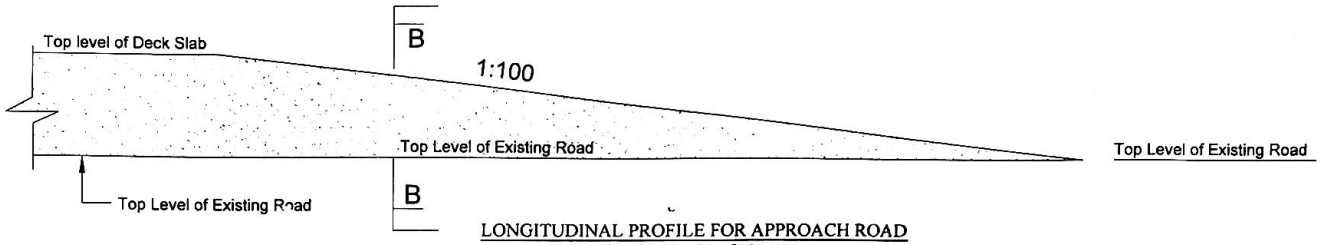
4. CONSTRUCTION OF ROAD SUB-BASE WITH GRADED MATERIALS OF CRUSHED WELL BURNT PICKED JHAMA OR FIRST CLASS BRICK CHIPS (50mm DOWN GRADED) MIXED WITH SAND (FM>=1.0) IN PROPORTION 2:1 (CHIPS : SAND) AS PER ITEM CODE NO. 56-150.

5. CONSTRUCTION OF ROAD BASE TYPE-1 WITH GRADED MATERIALS OF CRUSHED BOULDER/GRAVEL AGGREGATE (40mm DOWN GRADED) MIXED WITH SAND (FM>=1.0) IN PROPORTION 2:1 (STONE CHIPS:SAND) SPREADING UNIFORMLY IN MAXIMAM 150mm THICK LAYERS (LOOSE) TO ATTAIN MINIMUM CBR 80% AS PER ITEM CODE 56-200.

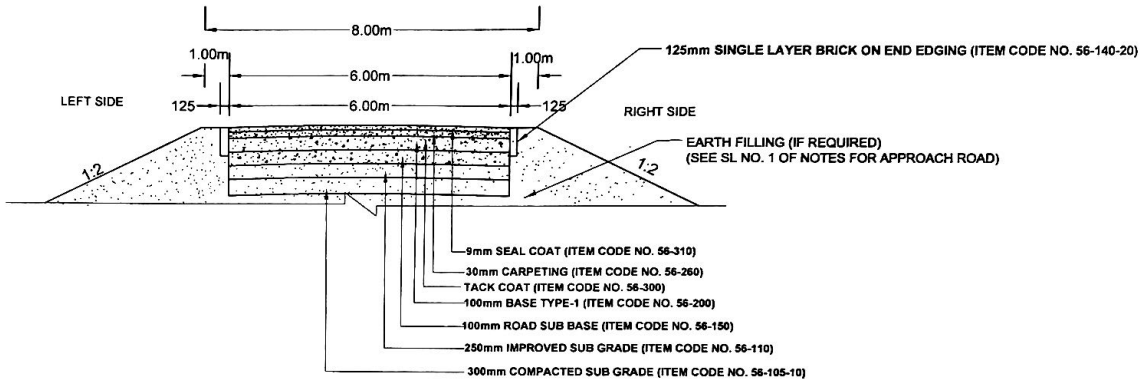
6. TACK COAT SHALL BE PROVIDED OVER WATER BOUND MACADAM @ 0.75KG OF BITUMEN PER SQURE METER AS PER ITEM CODE NO. 56-300.

7. 30mm THICK PREMIXED BITUMENOUS CARPETING WITH WELL GRADED STONE CHIPS (20mm TO 4mm) MIXED WITH BITUMEN AS PER ITEM CODE 56-260.

8. PRE-MIXED BITUMINOUS SEAL COAT MINIMUM 9mm THICK COMPACTED WITH PEAGRAVELS WITH BITUMEN AS PER ITEM CODE NO. 56-310 .



LONGITUDINAL PROFILE FOR APPROACH ROAD
(See SL No. 22 of Notes)



SECTION B-B

Scale: Not To Scale

DATE	PREPARED	CHD	REM	APPROVED

R E V I S I O N S

BANGLADESH WATER DEVELOPMENT BOARD

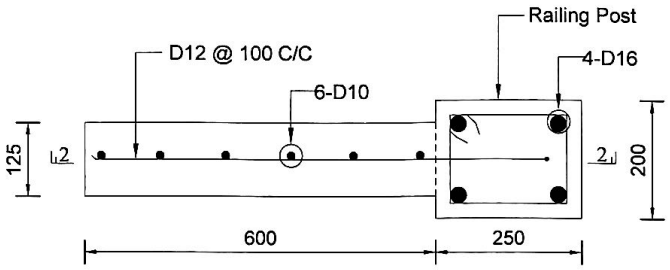
Office of the Superintending Engineer
Design Circle-5

Design of R.C.C Bridge Over Kedarpur Khal (Near Right Bank of Padma River at KM (-) 3.100) in Upazila-Naria, District-Shariatpur in C/W "Protection of Right Bank of Padma River at Naria & Janjira upazilla of Shariatpur District" under Shariatpur O & M Division, BWDB, Shariatpur.

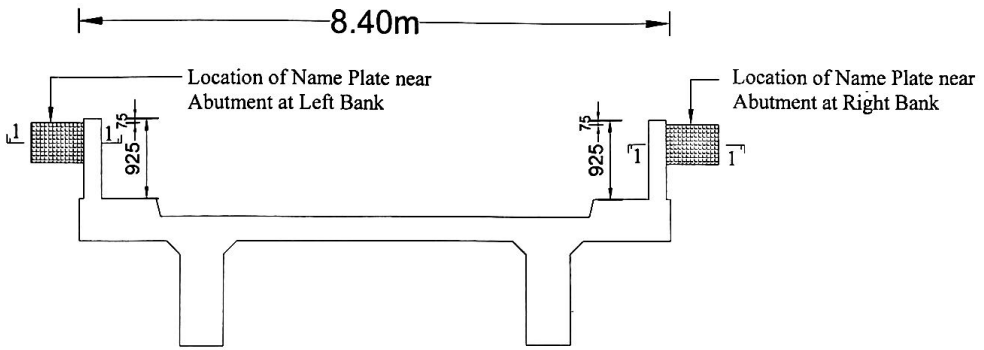
Details of Approach Road

DESIGNED BY :	RECOMMENDED BY :
(PEULY DEY), SDE	20-12-2020 (MD. MAHFUZUR RAHMAN), SE
CHECKED BY : (MST. TASMEM JAHAN), EE	APPROVED BY : (MD. HARUN UR RASHEED) CHIEF ENGINEER, DESIGN

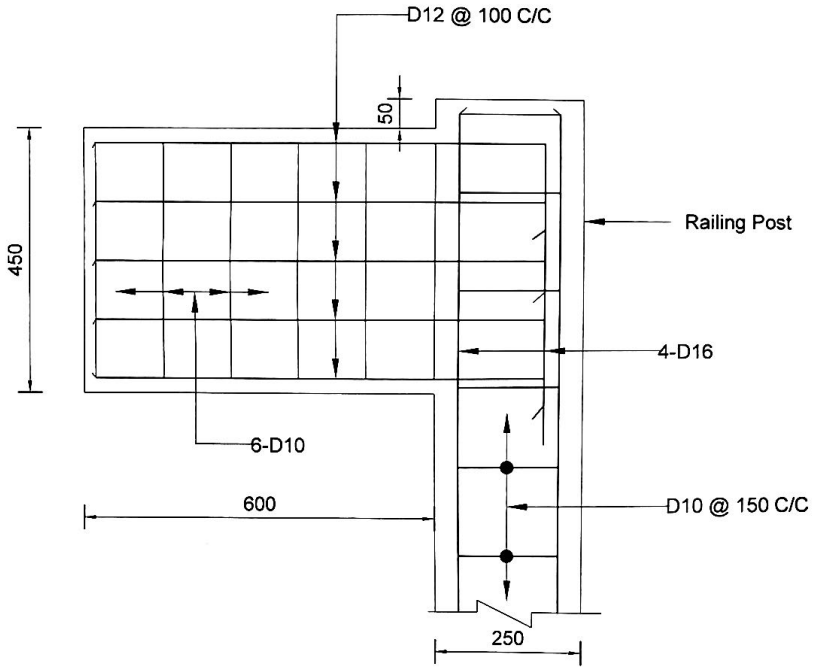
DATE: 20-12-2020 | **DWG NO:DC-5-5230-17/18**



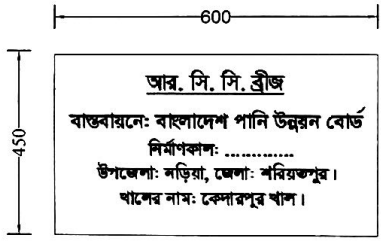
SECTION 1-1
(In Plan)



SECTIONAL ELEVATION FOR NAME PLATE



SECTION 2-2



TYPICAL NAME PLATE

Scale: Not To Scale

	DATE	PREPARED	CHD	REM	APPROVED

R E V I S I O N S

BANGLADESH WATER DEVELOPMENT BOARD

Office of the Superintending Engineer
Design Circle-5

Design of R.C.C Bridge Over Kedarpur Khal at KM (-) 3.100 in Upazila-Naria, District-Shariatpur in C/W "Protection of Right Bank of Padma River at Naria & Janjira upazilla of Shariatpur District" under Shariatpur O & M Division, BWDB, Shariatpur.

Details of Name Plate

DESIGNED BY :	RECOMMENDED BY :
(PEULY DEY), SDE	20-12-2020 (MD. MAHFUZUR RAHMAN), SE
CHECKED BY :	APPROVED BY :
(MST. TASMEM JAHAN), EE	(MD. HARUN UR RASHEED) CHIEF ENGINEER, DESIGN

DATE: 20-12-2020 | **DWG NO:DC-5-5230-18/18**