

Bangladesh Water Development Board



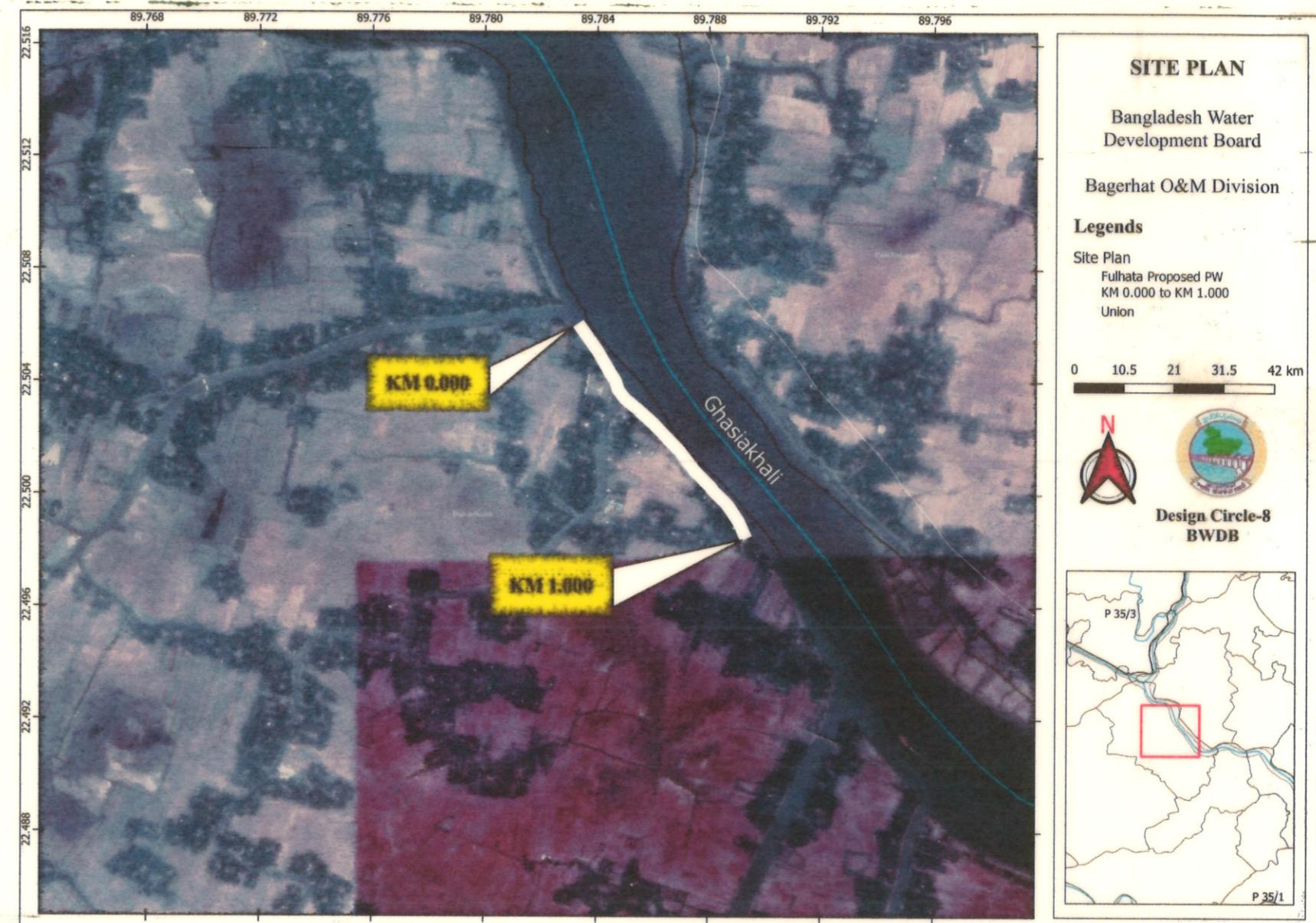
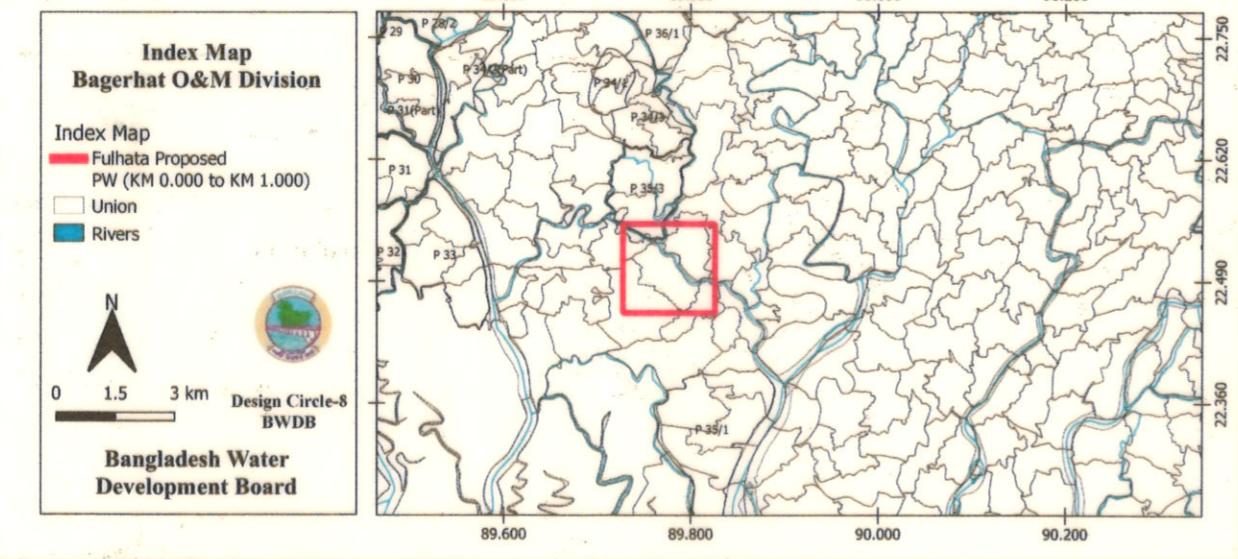
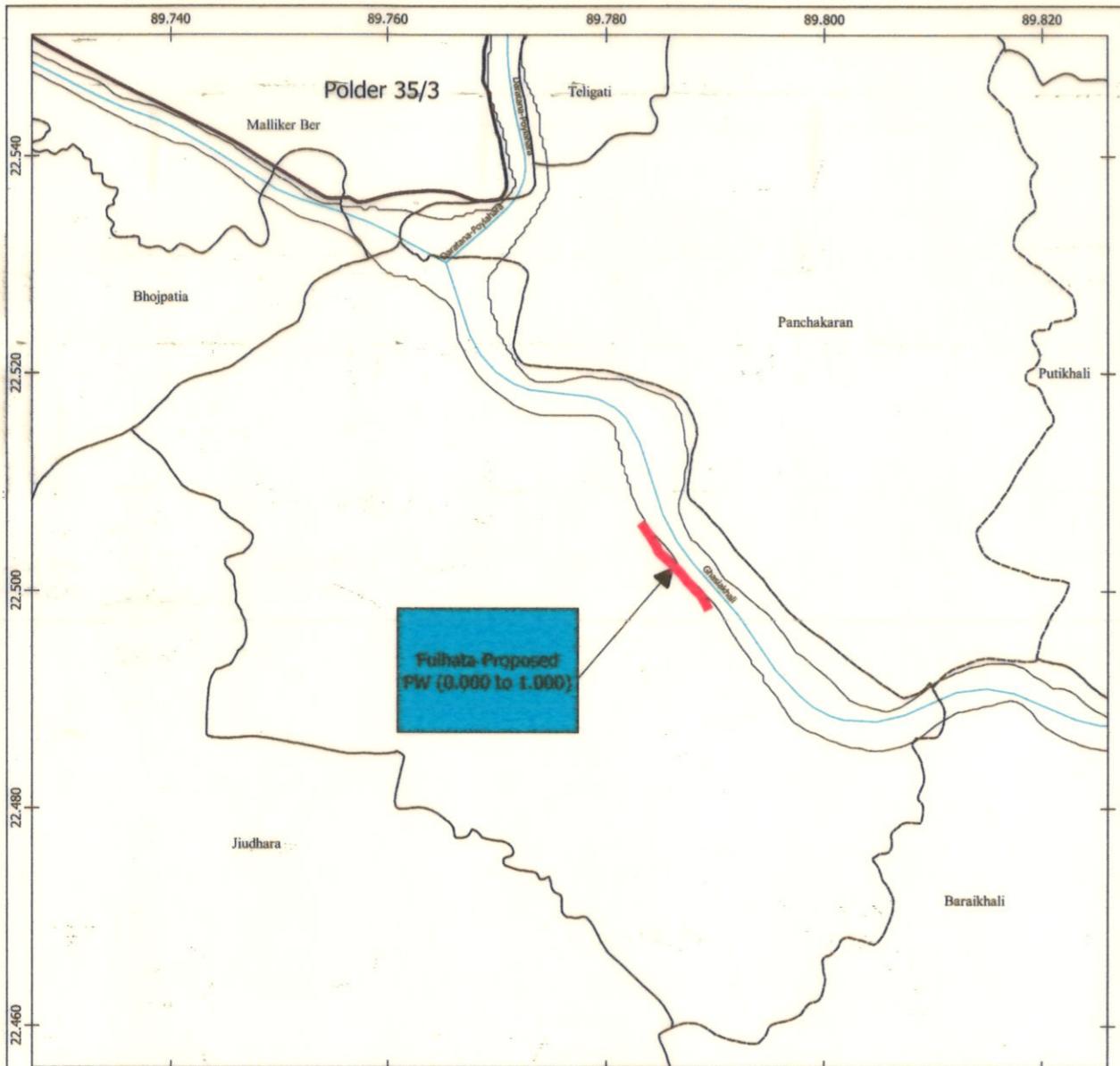
Protection of Morrelganj Upazila Sadar and adjacent areas from erosion of Panguchi river in
Bagerhat District and Re-excavation/Dredging of Bishkhali river

Design of River bank Protective works along the Right Bank of Panguchi River at Fulhata Bazar from km 0.000 to km 1.000 = 1.000 km at Upazila: Morrelgonj, District: Bagerhat Under Bagerhat O&M Division,
BWDB, Bagerhat

Bagerhat O&M Division

Designed by: Design Circle-8, BWDB, Dhaka

November, 2022



BANGLADESH WATER DEVELOPMENT BOARD
 OFFICE OF THE SUPERINTENDING ENGINEER
 DESIGN CIRCLE-8
 Protection of Morrelgonj Upazila Sadar & Adjacent Area from
 Erosion of Panguchi River & Re-excavation/Dredging of Biskhali
 River in Bagerhat District.

Design of River bank Protective works along the Right Bank of
 Panguchi River at Fulhata Bazar from km 0.000 to km 1.000 = 1.000
 km at Upazila: Morrelgonj, District: Bagerhat Under Bagerhat O&M
 Division, BWDB, Bagerhat

INDEX MAP AND SITE PLAN

DESIGNED BY: (ZAYED BIN SAIF), AE	RECOMMENDED BY: (MOHAMMAD SAIF UDDIN), SE
CHECKED BY: (JAKARIA PERVEZ), EE	APPROVED BY : (MD. ENAYET ULLAH), CE, Design
DATE: 23-11-2022	DWG NO.: DC-8-0315-01/08

Notes :

Sheet No:2 OF 08

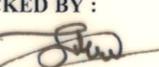
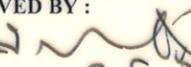
1. THIS DRAWING HAS BEEN PREPARED BASED ON DATA SENT BY THE SUPERINTENDING ENGINEER, KHULNA O & M CIRCLE, BWDB, KHULNA VIDE MEMO NO: 293, DATED-24/08/2022.
2. FOR ANY ERROR, OMISSION OR CONFUSION PLEASE REFER TO THIS OFFICE AS QUICK AS POSSIBLE FOR NECESSARY ACTION.
3. THE WORK SHALL BE EXECUTED WITH PRIOR FINANCIAL & ADMINISTRATIVE APPROVAL AND TECHNICAL SANCTION FROM THE COMPETENT AUTHORITY.
4. ALL DIMENSIONS ARE IN MILLIMETRE (mm) AND ALL ELEVATIONS ARE IN METRE (PWD) UNLESS OTHERWISE MENTIONED IN THE DRAWING.
5. THE MATERIAL & WORKMANSHIP SHALL CONFORM TO THE STANDARD SPECIFICATIONS OF BWDB MANUAL.
6. NECESSARY LAND SHALL BE ARRANGED BEFORE EXECUTION OF WORK.
7. THE GEO-TEXTILE FILTER HAVE THICKNESS OF 3.00 mm.
8. GEO-TEXTILE FILTER SHALL BE EXTENDED UPTO 1000 mm BELOW THE W.W.L/TOE & SHALL HAVE TO BE ANCHORED CAREFULLY AT THE TOP OF THE SLOPE AS SHOWN IN THE DRAWING.
9. GEO-TEXTILE MATERIALS SHALL BE PRESERVED AGAINST UV RAY AND FROM ANY OTHER DAMAGES.
10. GEO-TEXTILE MATERIALS AFTER PLACING SHALL NEVER BE EXPOSED TO SUNLIGHT. GEO-TEXTILE FILTER SHALL BE COVERED IMMEDIATELY AFTER PLACEMENT.
12. FULL LENGTH OF PROPOSED PROTECTIVE WORK SHALL BE DONE AT A TIME IN ONE DRY SEASON FOR EFFECTIVENESS.
13. IF THERE ARE ANY POND OR DITCH EXISTS WITHIN 100 m DISTANCE FROM THE RIVER BANK, IT MUST BE PROPERLY FILLED UPTO G.L WITH LOCAL EARTH AND SHALL BE COMPACTED AS PER SCHEDULE BEFORE STARTING THE PROTECTIVE WORK.
14. SLOPE OF PITCHING WORK SHALL BE MAINTAINED AS PER EXISTING SLOPE OR AS PER Rehabilitation SECTION, BUT NOT STEEPER THAN 2H:1V. ALL BANK IRREGULARITIES ABOVE WORKING WATER LEVEL SHALL BE REMOVED. NECESSARY CUTTING & FILLING SHALL BE DONE IN THIS RESPECT AS PER FIELD REQUIREMENT.
15. A SMOOTH TRANSITION TO BE PROVIDED BETWEEN HIGHER & LOWER LEVEL AND FLATTER & STEEPER SLOPE OF THE PROTECTIVE WORK. TOP LEVEL OF PITCHING WORK SHOULD BE MATCH WITH EXISTING BANK LEVEL.
16. AT THE STARTING AND AT THE END OF THE PROTECTIVE WORK TRANSITION TO THE EXISTING UNPROTECTED BANK OR THE PREVIOUSLY COMPLETED WORK MUST BE GRADUAL AND TANGENTIAL.

NOTES FOR C.C BLOCKS:

1. CONCRETE FOR C.C BLOCK FOR DUMPING SHALL HAVE MINIMUM CYLINDER STRENGTH OF 10.50N/mm² AND FOR PLACING SHALL HAVE MINIMUM CYLINDER STRENGTH OF 12.00N/mm² AT 28 DAYS.
2. CURING OF C.C BLOCKS SHALL BE CONTINUED FOR 21 DAYS
3. THE PITCHING WORK SHALL BE PLACED ON PROPERLY COMPACTED SLOPE.

NOTES FOR GEOBAGS:

1. EACH BAG DELIVERED AT SITE SHALL BE MARKED WITH LABELS THAT IDENTIFY BRAND NAME, CONTRACT PACKAGE NO, SIZE OF BAG, ATE OF PRODUCTION OF GEOTEXTILE, NAME OF CONTRACTOR ETC.
2. SEWING SHALL BE DONE BY MACHINE WITH LOCK STITCH (TYPE 301 UNDER ISO 4915/DIN61400) OR DOUBLE CHAIN STITCH (TYPE 401 UNDER ISO 4915/DIN61400) AS PER BWDB TECHNICAL SPECIFICATION AND TENDER DOCUMENT. THREAD FOR STITCHING SHOULD BE 100% POLYPROPYLENE OR NYLON.
3. FILLING MATERIAL OF GEOBAG SHOULD BE SAND AND 80% SHOULD RETAIN ON #100 SEIVE. SAND SHOULD BE FREE FROM CLAY & ORGANIC MATTER.
4. MATERIAL OF GEOBAG SHALL BE 100% POLYPROPYLENE.
5. SIEVE ANALYSIS FOR CHECKING 80% RETAINED ON #100 SIEVE AND TEST FOR CLAY & ORGANIC MATTER CONTENT SHOULD BE DONE (AS PER ACTUAL NEED). SPECIFICATIONS OF GEOTEXTILE SHALL BE AS PER ITEM CODE 40-500-40.

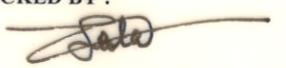
BANGLADESH WATER DEVELOPMENT BOARD	
OFFICE OF THE SUPERINTENDING ENGINEER	
DESIGN CIRCLE-8	
Protection of Morrelgonj Upazila Sadar & Adjacent Area from Erosion of Panguchi River & Re-excavation/Dredging of Biskhali River in Bagerhat District.	
Design of River bank Protective works along the Right Bank of Panguchi River at Fulhata Bazar from km 0.000 to km 1.000 = 1.000 km at Upazila: Morrelgonj, District: Bagerhat Under Bagerhat O&M Division, BWDB, Bagerhat	
NOTES	
DESIGNED BY:	RECOMMENDED BY:
	
(ZAYED BIN SAIF), AE	(MOHAMMAD SAIF UDDIN), SE
CHECKED BY:	APPROVED BY:
	
(JAKARIA PERVEZ), EE	(MD. ENAYET ULLAH), CE, Design
DATE: 23-11-2022	DWG NO.: DC-8-0315-02/08

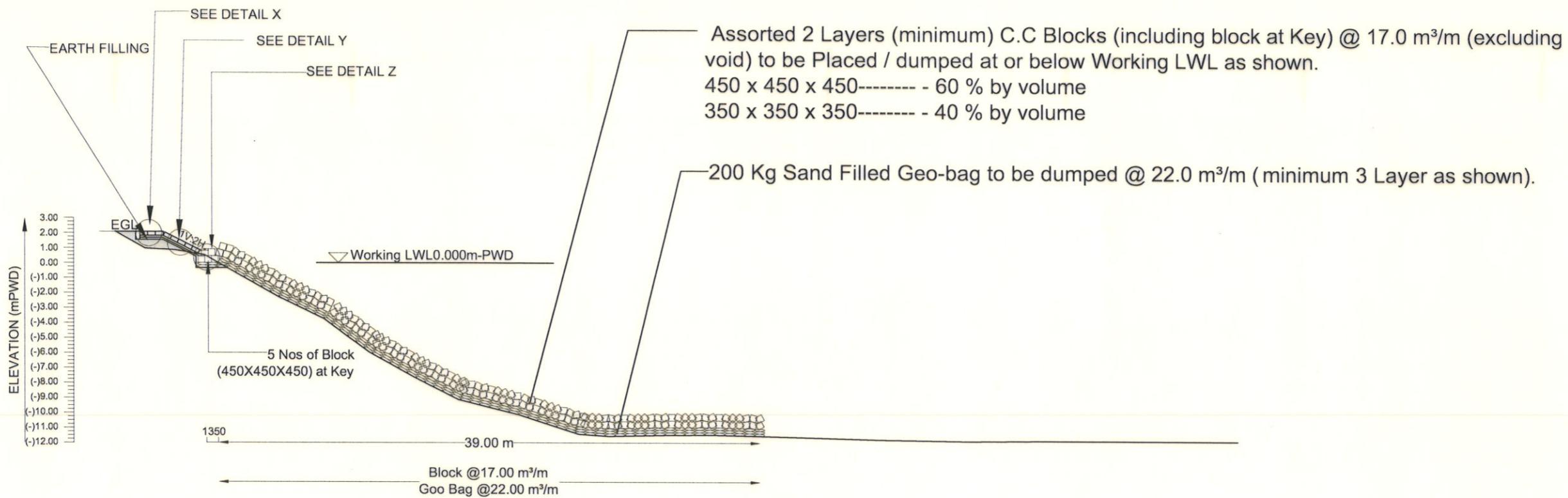
NOTES FOR DUMPING

1. WORK SHALL BE EXECUTED ONLY WHEN WL IS AT OR NEAR WORKING L.W.L AS SHOWN IN THE DRAWING.
2. SURVEY BOAT EQUIPPED WITH NECESSARY DUMPING EQUIPMENT, SURVEY EQUIPMENT & SURVEY TEAM SHOULD BE ENSURED AT SITE BEFORE START OF DUMPING.
3. DUMPING MATERIALS SHALL BE DUMPED FROM BARGE EQUIPPED WITH GUIDED FENCE SO THAT DUMPING MATERIALS CAN BE DUMPED INTO PROPER POSITION.
4. THE FOLLOWING EQUIPMENT SHOULD BE USED FOR DUMPING.
 - a. FLAT TOP BARGE /PONTOONS/BOAT SHALL BE USED FOR DUMPING .
 - b. ENGINE BOAT - FOR TRANSPORTING THE DUMPING MATERIAL TO THE BARGE.
 - c. TOPOGRAPHIC & BATHYMETRIC SURVEY TEAM EQUIPPED WITH TOTAL STATION.
 - d. NO DUMPING SHALL ALLOWED WITHOUT PROPERLY POSITIONED & ANCHORED FLAT TOP BARGE OR DUMPING PONTOON OR BOAT.
5. SPECIAL CARE SHALL BE TAKEN FOR ANCHORING OF DUMPING PONTOON/ BOAT.
6. WORK SHALL BE STARTED FROM U/S END AND FROM DUMPING END TO BANK.
7. FOLLOWING CONSTRUCTION SEQUENCE SHALL BE FOLLOWED DURING EXECUTION OF THIS PROTECTIVE WORK:
 - a. EXECUTION OF WORK SHALL BE DONE FROM THE EXTREME END OF DUMPING TO TOWARDS THE BANK.
 - b. DUMPING OF GEOBAG BELOW L.W.L.
 - c. DUMPING OF C.C BLOCKS BELOW LWL OVER GEOBAG.
 - d. SLOPE PREPARATION & PITCHING WORK ABOVE LWL.
8. AS BUILT DRAWING CONTAINING CROSS SECTIONS AT 50 m INTERVAL SHALL BE PREPARED IMMEDIATELY AFTER COMPLETION OF DUMPING.
9. THE RIVER BEHAVIOUR WITH RESPECT TO SCOUR AND EROSION AND PERFORMANCE OF REVETMENT WORK DURING AND AFTER EXECUTION SHALL BE MONITORED CAREFULLY ON REGULAR BASIS TO TAKE TIMELY MITIGATIVE AND STRENGTHENING MEASURES .REGULAR MONITORING OF THIS PROTECTIVE WORK MUST BE DONE THROUGH BATHYMETRIC SURVEY .
10. FROM JUNE TO OCTOBER BATHYMETRIC SURVEY SHOULD BE DONE ON REGULAR INTERVAL & SHALL BE KEPT AS RECORD FOR FURTHER USE.
11. DREDGING ADJACENT TO PROTECTIVE WORK SHALL NOT BE ALLOWED.

ITEM CODE:

1. DUMPING BLOCK 450X450X450 : 40-170-25
2. DUMPING BLOCK 350X350X350 : 40-170-45
3. PLACING BLOCK 400X400X200 : 40-190-40

BANGLADESH WATER DEVELOPMENT BOARD OFFICE OF THE SUPERINTENDING ENGINEER DESIGN CIRCLE-8 Protection of Morrelgonj Upazila Sadar & Adjacent Area from Erosion of Panguchi River & Re-excavation/Dredging of Biskhali River in Bagerhat District.	
Design of River bank Protective works along the Right Bank of Panguchi River at Fulhata Bazar from km 0.000 to km 1.000 = 1.000 km at Upazila: Morrelgonj, District: Bagerhat Under Bagerhat O&M Division, BWDB, Bagerhat	
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CHECKED BY:  (JAKARIA PERVEZ), EE	APPROVED BY:  (MD. ENAYET ULLAH), CE, Design
DATE: 23-11-2022	DWG NO.: DC-8-0315-03/08



Existing Bed Level in (mPWD)		
Distance(m)		
13.000	2.090	
15.000	0.960	
17.000	0.850	
19.000	0.510	
24.000	(-)2.300	
27.000	(-)3.760	
30.000	(-)5.950	
33.000	(-)7.630	
36.000	(-)9.130	
40.000	(-)10.140	
44.000	(-)11.430	
46.000	(-)11.560	
50.000	(-)11.480	
53.000	(-)11.470	
60.000	(-)11.640	
64.000	(-)11.740	
70.000	(-)11.820	
75.000	(-)11.780	
81.000	(-)11.790	
	88.000	

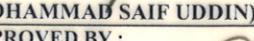
**TYPICAL CROSS SECTION AT KM 0.200
(APPLICABLE FROM KM 0.000 TO KM 0.400)**

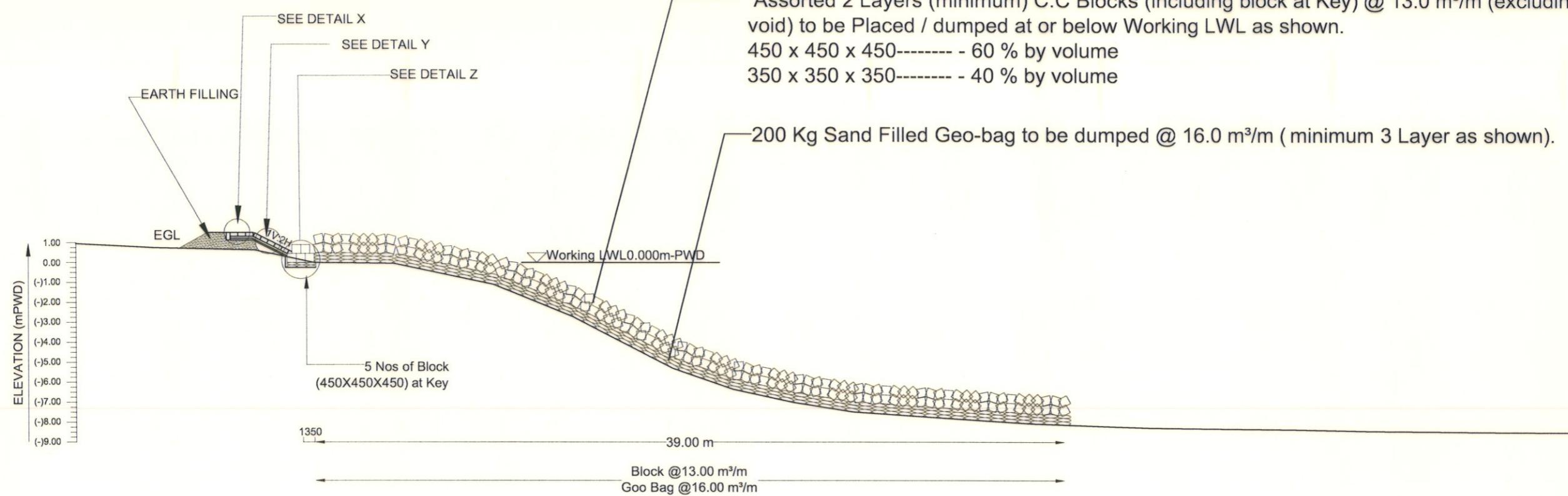
**BANGLADESH WATER DEVELOPMENT BOARD
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Panguchi River at Fulhata Bazar from km 0.000 to km 1.000 = 1.000
km at Upazila: Morrelgonj, District: Bagerhat Under Bagerhat O&M
Division, BWDB, Bagerhat**

TYPICAL SECTION AT KM 0.200

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JAKARIA PERVEZ), EE	
DATE: 23-11-2022	DWG NO.: DC-8-0315-04/08



Existing Bed Level in (mPWD)	0.950	0.750	0.640	0.000	0.050	(-1.090)	(-2.720)	(-5.300)	(-6.350)	(-7.000)	(-7.480)	(-7.820)	(-8.070)	(-8.210)	(-8.270)	(-8.340)	(-8.420)	(-8.470)	(-8.490)
Distance(m)	36.000	40.000	45.000	48.000	52.000	57.000	61.000	66.000	69.000	72.000	75.000	80.000	84.000	88.000	90.000	97.000	101.000	108.000	113.000

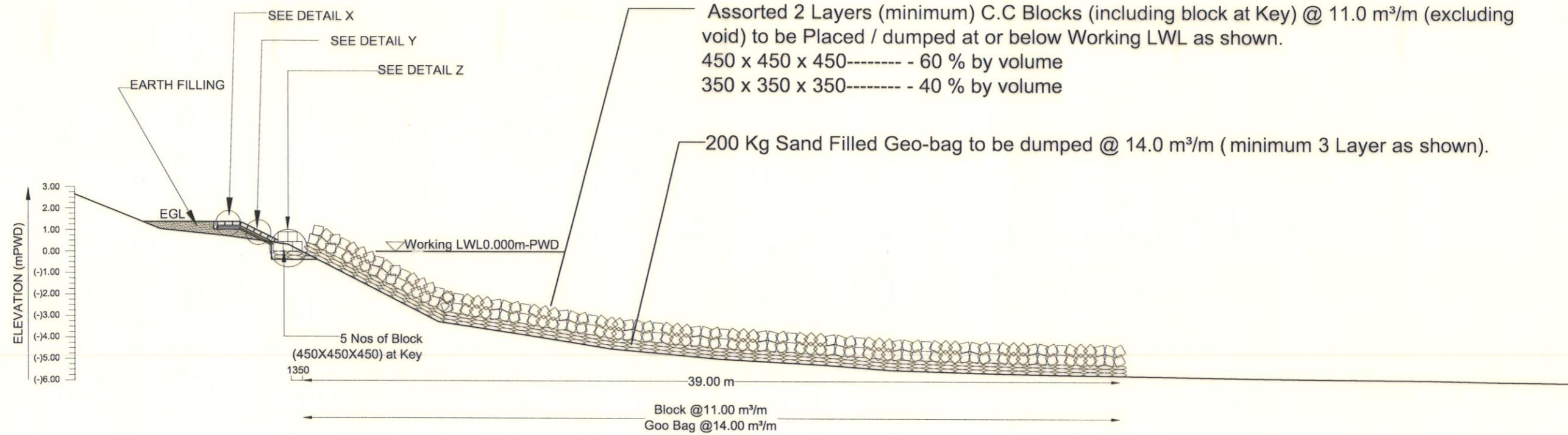
TYPICAL CROSS SECTION AT KM 0.500
 (APPLICABLE FROM KM 0.400 TO KM 0.600)

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TYPICAL SECTION AT KM 0.500

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DATE: 23-11-2022	DWG NO.: DC-8-0315-05/08



Existing Bed Level in (mPWD)	
Distance(m)	
	2.650
20.000	
24.000	1.050
27.000	0.740
30.000	0.320
	(-)3.260
37.000	
41.000	(-)3.860
45.000	(-)4.510
	50.000
	(-)4.970
55.000	
58.000	(-)5.480
	63.000
	(-)5.620
66.000	
71.000	(-)5.750
	75.000
	(-)5.810
79.000	
	(-)5.860
83.000	
	(-)5.890
86.000	
	(-)5.950
90.000	
	(-)6.000

**TYPICAL CROSS SECTION AT KM 0.800
(APPLICABLE FROM KM 0.600 TO KM 1.000)**

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River in Bagerhat District

Design of River bank Protective works along the Right Bank of Panguchi River at Fulhata Bazar from km 0.000 to km 1.000 = 1.000 km at Upazila: Morrelgonj, District: Bagerhat Under Bagerhat O&M Division, BWDB, Bagerhat

TYPICAL SECTION AT KM 0.800

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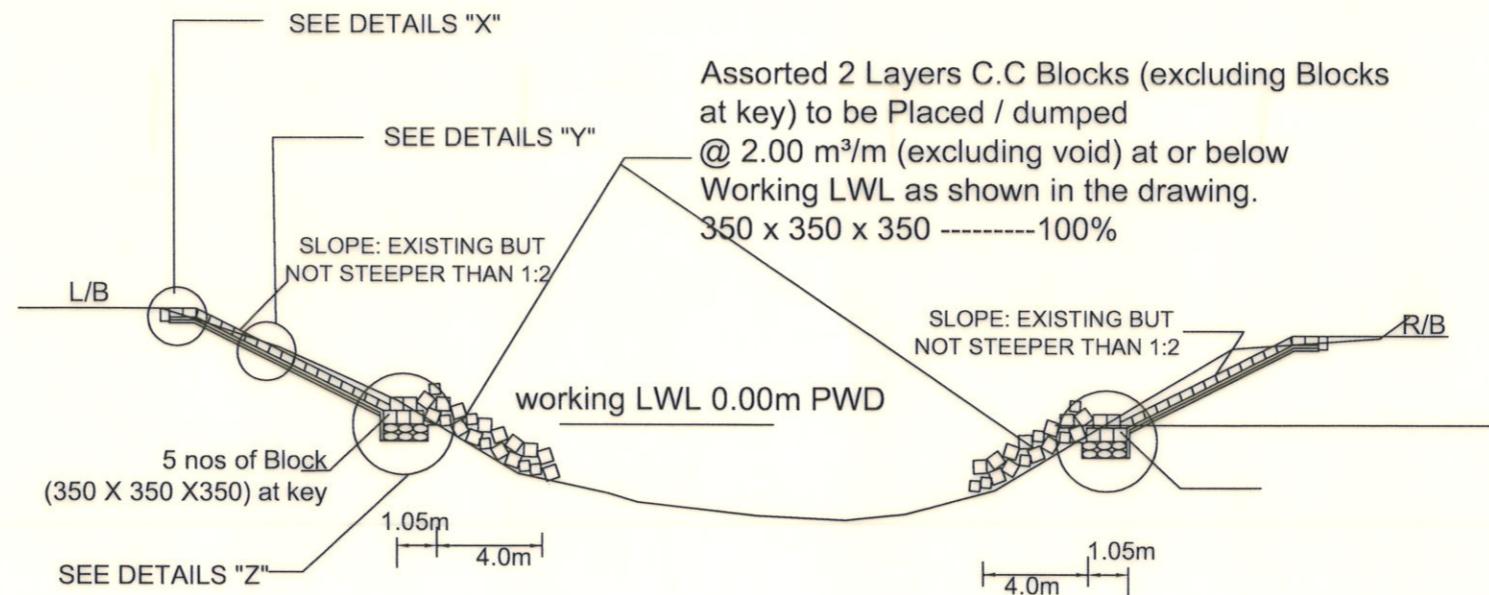
(MOHAMMAD SAIF UDDIN), SE

(MOHAMMAD SAIF

(MD-ENAYET-U-LAHIR-CE) Design

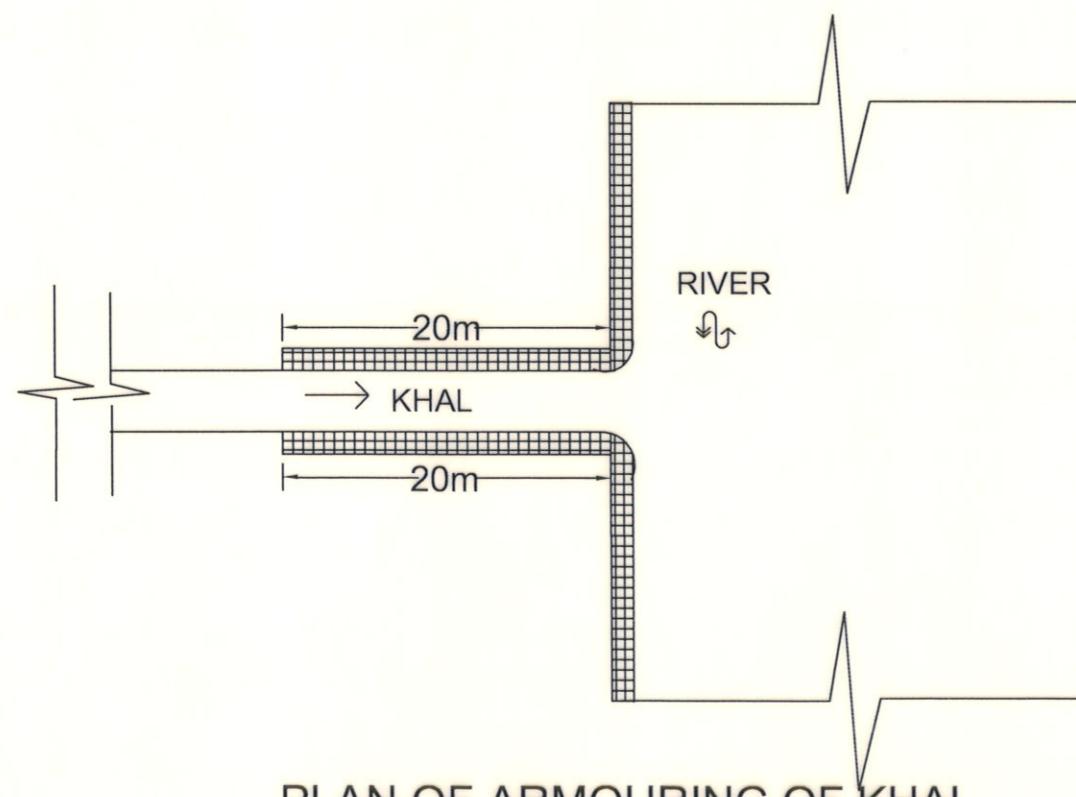
DATE: 23-11-2022

DWG NO.: DC-8-0315-06/08



TYPICAL X-SECTION FOR ARMOURING OF PROTECTIVE WORK AT CONFLUENCE OF KHAL

(Limit of Wprk: To be Extended 20m towards Khal from Confluence of Khal and River)



PLAN OF ARMOURING OF KHAL
(NOT TO SCALE)

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TYPICAL SECTION FOR KHAL ARMOURING

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RECOMMENDED BY:

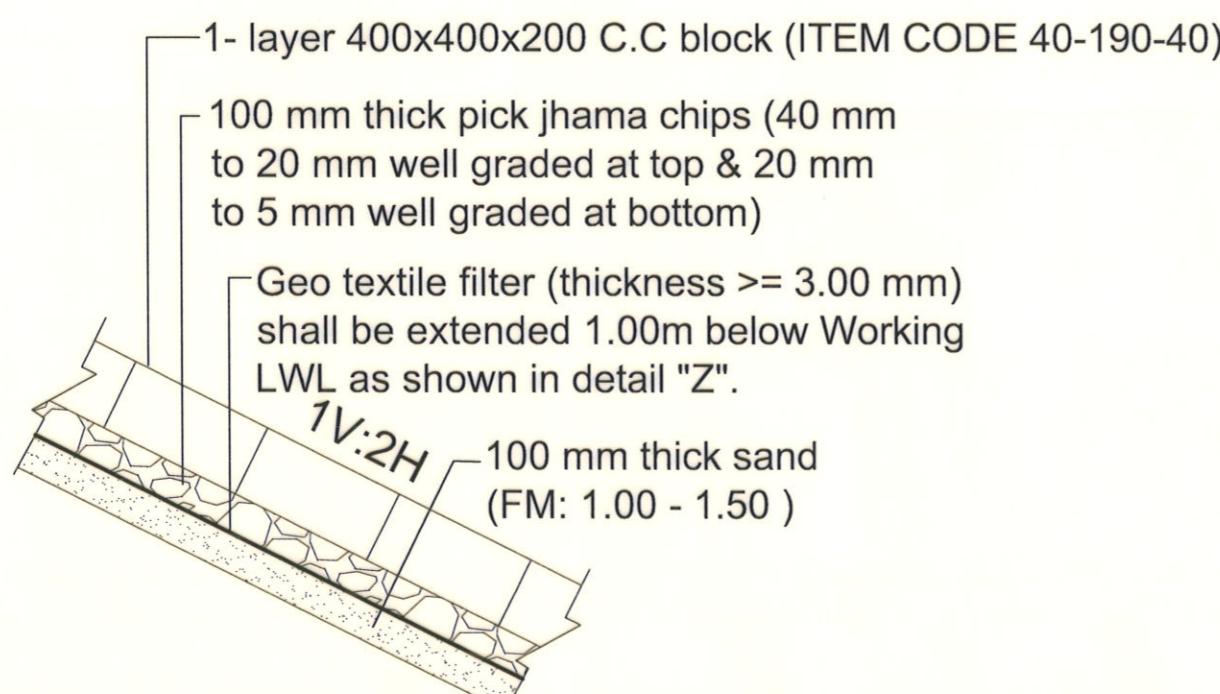
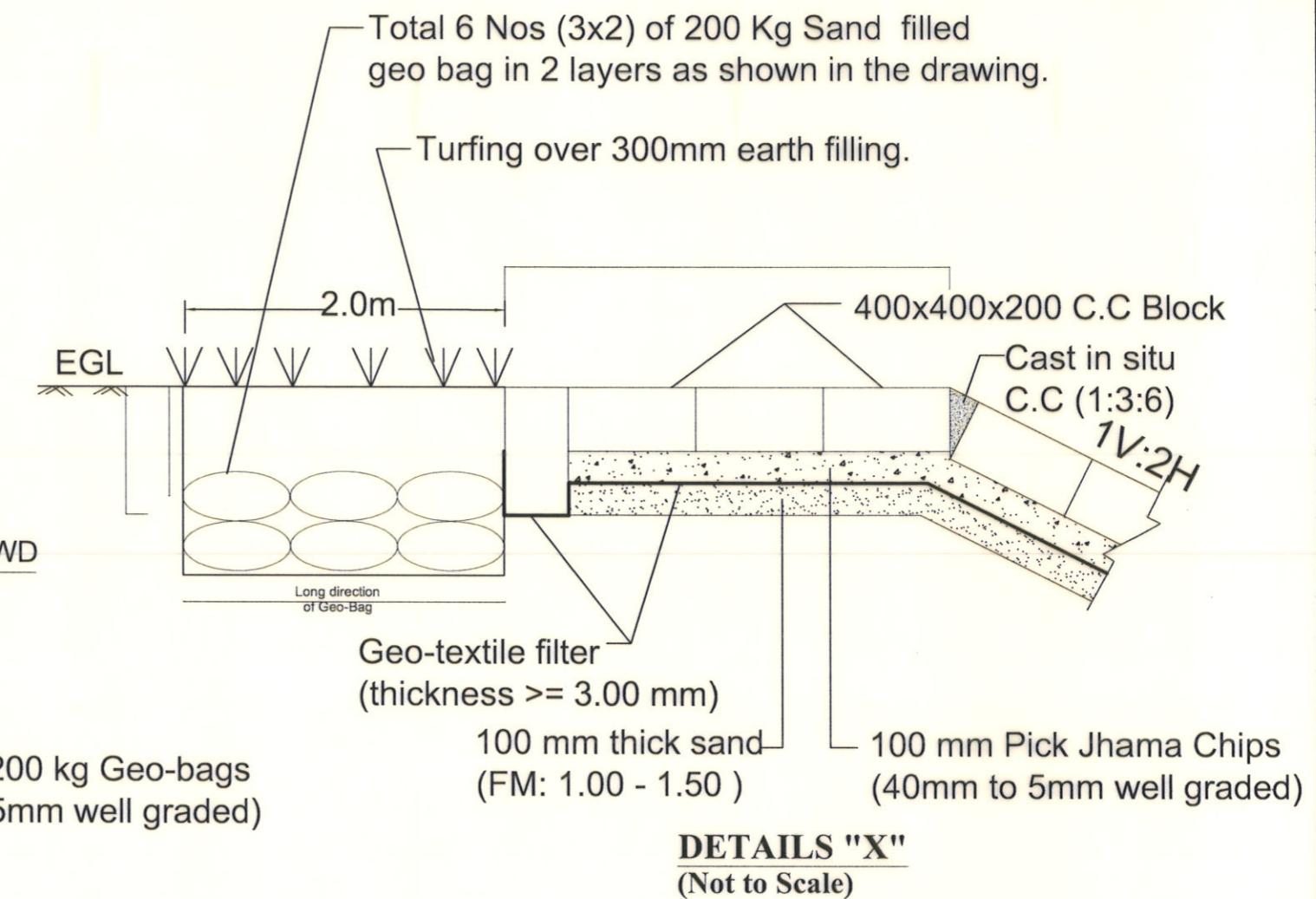
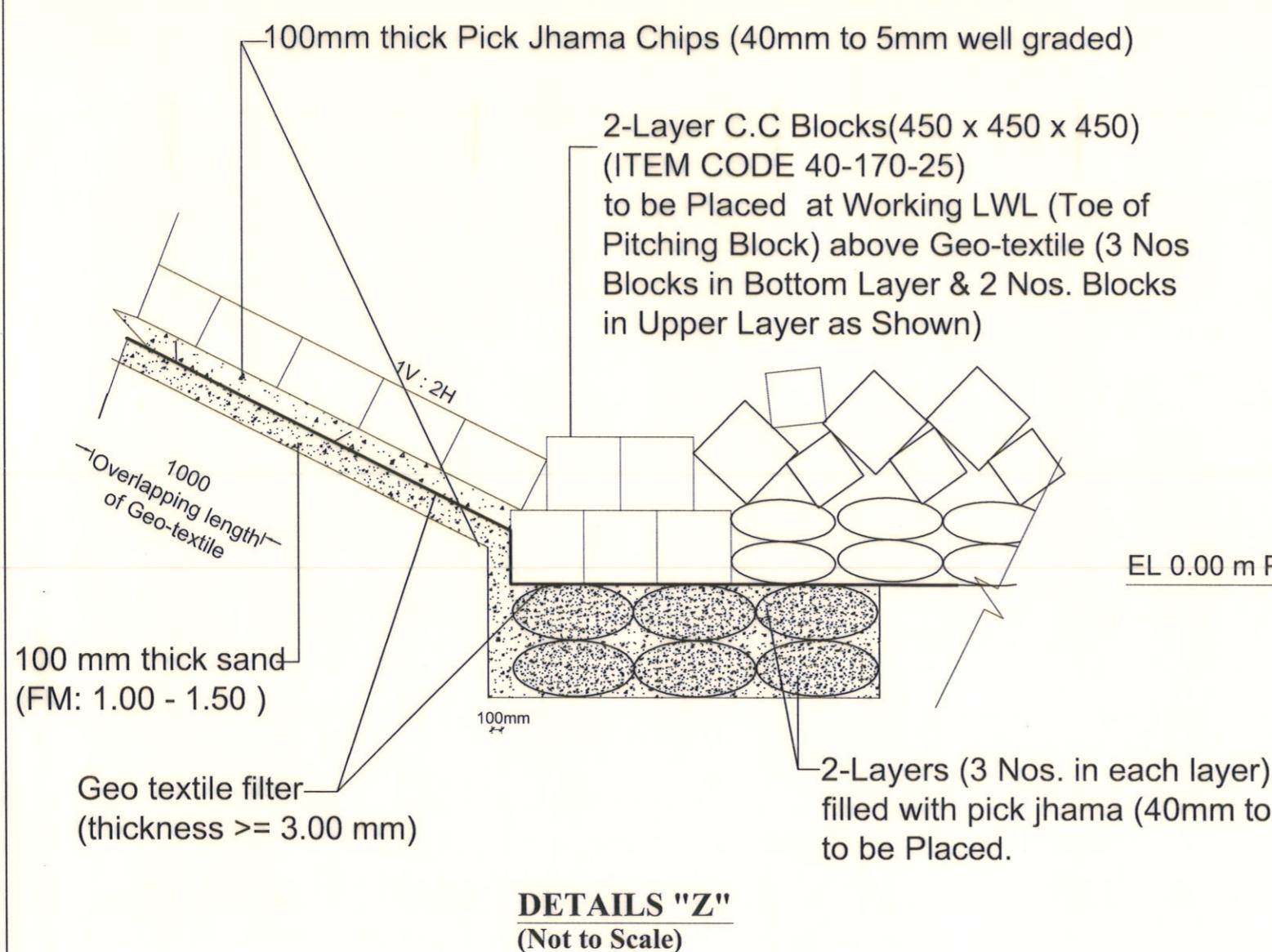
(MOHAMMAD SAIF UDDIN), SE

APPROVED BY:

(MD. ENAYET ULLAH), CE, Design

DATE: 23-11-2022

DWG NO.: DC-8-0315-07/08



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