

Bangladesh Water Development Board



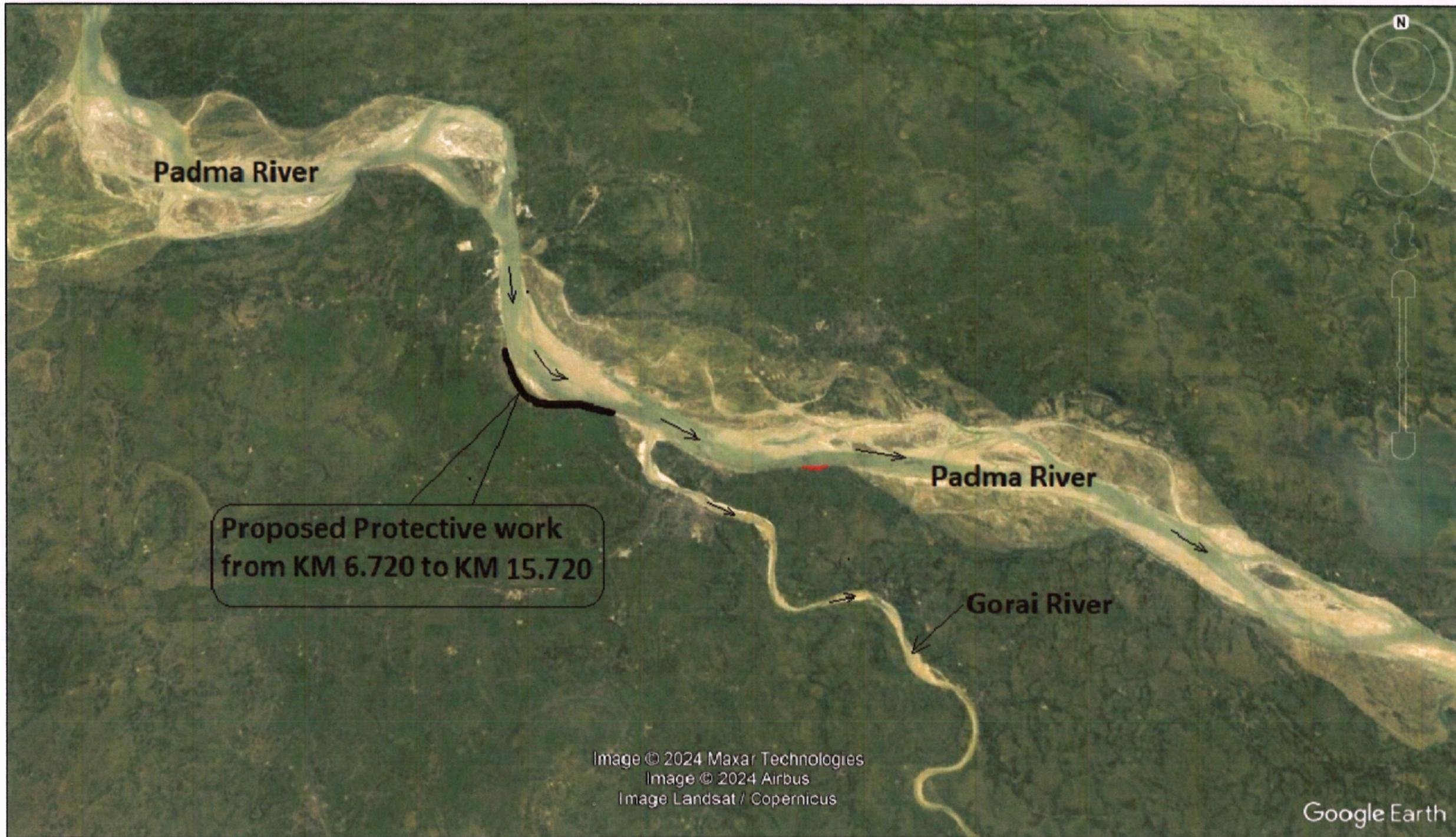
"Protection of Talbaria area of Mirpur Upazila & Kamorkandi area of Shelaiddah Union of Kumarkhali Upazila in Kushtia District from the erosion of Padma River"

Design of Protective Work along the R/B of Padma River from KM 6.720 to KM 15.720=9.000 KM at Talbaria, Baruipara and Bahalbaria union,
Upazila: Mirpur, District: Kushtia.

Kushtia O & M Division, BWDB, Kushtia.

Designed by: Design Circle-5, BWDB, Dhaka.

February, 2024



INDEX MAP
(Not to Scale)

DATE	PREPARED	CHD	REM	APPROVED	

R E V I S I O N S

DATE: 27-02-2024 | DWG NO.: DC-5-5712-01/33

BANGLADESH WATER DEVELOPMENT BOARD

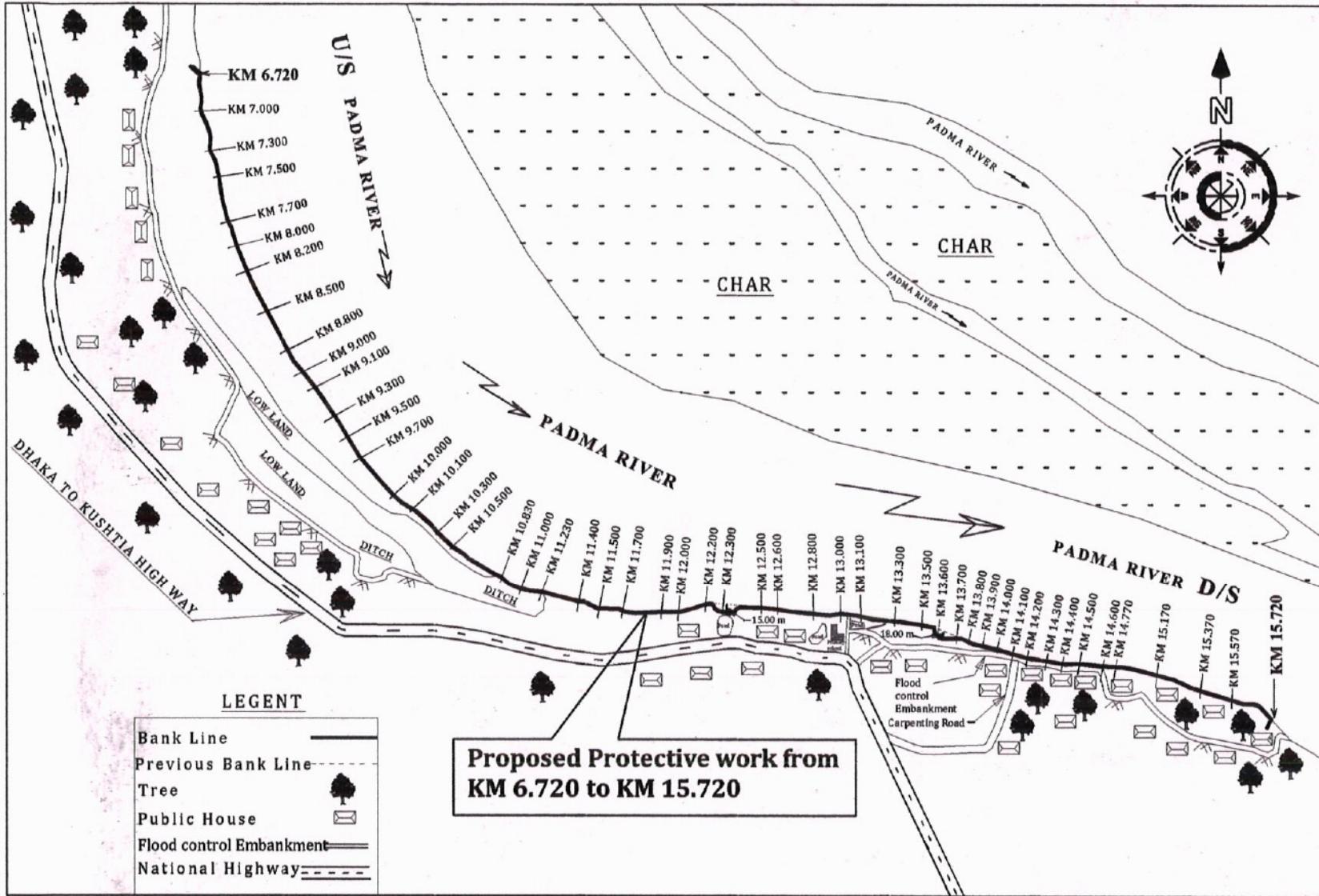
**OFFICE OF THE SUPERINTENDING ENGINEER
DESIGN CIRCLE-5**

"Protection of Talbaria area of Mirpur Upazila & Kamorkandi area of Shelaidah Union of Kumarkhali Upazila in Kushtia District from the erosion of Padma River"

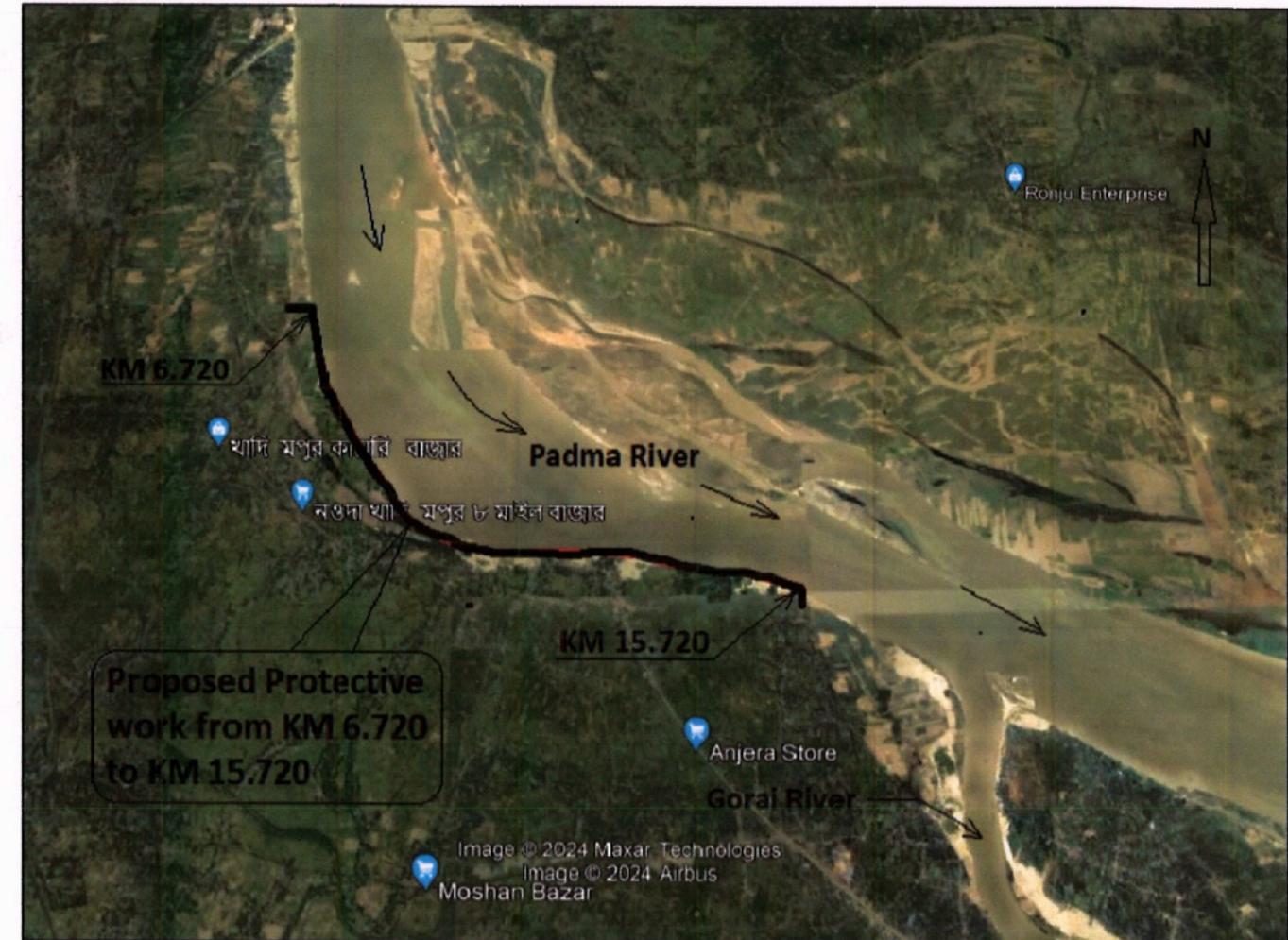
Design of Protective Work along the R/B of Padma River from KM 6.720 to KM 15.720=9.000 KM at Talbaria, Baruipara and Bahalbaria union, Upazila: Mirpur, District: Kushtia Kushtia O & M Division, BWDB, Kushtia.

INDEX MAP

DESIGNED BY: 	RECOMMENDED BY:
(SHAMMI AKHTER), SDE	(JAKARIA PERVEZ), SE
CHECKED BY: 	APPROVED BY:
(MST. TASMEM JAHAN), EE	(MD. ABDUL BASIT) CE, DESIGN



Site Plan
(Not to Scale)



Site Plan(Google Map)
(Not to Scale)

BANGLADESH WATER DEVELOPMENT BOARD
OFFICE OF THE SUPERINTENDING ENGINEER
DESIGN CIRCLE-5

"Protection of Talbaria area of Mirpur Upazila & Kamorkandi area of Shelaidah Union of Kumarkhali Upazila in Kushtia District from the erosion of Padma River"

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SITE PLAN

DESIGNED BY:	RECOMMENDED BY:			
(SHAMMI AKHTER), SDE	(JAKARIA PERVEZ), SE			
CHECKED BY:	APPROVED BY:			
(MST. TASMEM JAHAN), EE	(MD. ABDUL BASIT), CE, DESIGN			
DATE	PREPARED	CHD	REM	APPROVED
REVISIONS				
DATE: 27-02-2024				
DWG NO.: DC-5-5712-02/33				

GENERAL NOTES :

1. THIS WORKING DRAWING FOR PROTECTION WORK HAS BEEN PREPARED BASED ON DATA SENT BY THE SUPERINTENDING ENGINEER, KUSHTIA O&M CIRCLE, BWDB, KUSHTIA VIDE HIS OFFICE MEMO NO: 6P-14/1045, DATE-24/01/2024.
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, TECHNICAL SANCTION FROM THE COMPETENT AUTHORITY AND WITHIN DPP/BUDGET PROVISION.
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 (IF REQUIRED) SHALL BE ARRANGED BY FIELD OFFICE BEFORE EXECUTION OF WORK.
7. THE GEO-TEXTILE FILTER HAVE THICKNESS ≥ 3.00 mm.
8. GEO-TEXTILE FILTER SHALL BE EXTENDED UPTO 1000 mm BELOW THE WORKING LOW W.L./TOE OF PITCHING WORK 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.
11. TO MAKE SAND LAYER BELOW GEO-TEXTILE BY USING F.M. 1.0 TO 1.50 OF SAND.
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 DESIGN SECTION, BUT NOT STEEPER THAN 3H: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 & SLOPE OF PITCHING WORK SHALL BE MATCHED WITH EXISTING BANK LEVEL & SLOPE OF PITCHING WORK.
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.
17. a) TO PREVENT BANK LINE SHIFTING AND CONSIDERING MANUFACTURING TIME OF C.C. BLOCK ADDITIONAL PROTECTION WORK MAY BE DONE AS PER DETAILS "A" (SEE SHEET NO. 27 of 33) (IF REQUIRED).
- b) BEFORE EXECUTION OF SUCH ADDITIONAL WORK FIELD OFFICE SHALL OBTAIN NECESSARY ADMINISTRATIVE APPROVAL AND TECHNICAL SANCTION FROM THE COMPETENT AUTHORITY.
- c) COUNTING AND QUALITY CONTROL FOR SUCH WORK SHALL CONFORM STANDARD PRACTICE OF BWDB.
- d) THIS GEO-BAG (FOR PITCHING & DUMPING ZONE) MUST BE UNIFORMLY DUMPED AT DUMPING ZONE ACCORDING TO APPROVED DRAWING AND IN PRESENCE OF COMPETENT AUTHORITY.

SPECIAL NOTES:

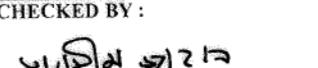
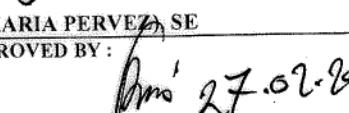
1. CLOSE OBSERVATION & SUPERVISION MUST BE MAINTAINED AFTER COMPLETION OF WORK.
2. FOR SUSTAINABILITY OF THE WORK IN THE PROPOSED LENGTH OF PROTECTION, ALL DUMPING AND PITCHING WORK SHALL BE COMPLETED IN THE DRY SEASON. UNDER NO CIRCUMSTANCES, DUMPING WORK SHALL BE DONE DURING MONSOON OR WHEN WATER LEVEL IS MORE THAN THE WORKING LWL SHOWN IN THE DRAWING.
3. ALL DUMPING MATERIALS (BLOCK & GEO-BAG) MUST BE DUMPED AT DUMPING ZONE ACCORDING TO APPROVED DRAWING.
4. SLOPE DEVELOPMENT BELOW WORKING LWL BY DUMPING 200 KG SAND FILLED GEO-BAGS (POLYESTER FABRIC) MUST BE DONE PROPERLY AS SHOWN IN THE DRAWING. POST WORK SECTION MUST BE TAKEN & TO BE RECORDED IN THE LEVEL BOOK AFTER COMPLETION OF THIS SLOPE DEVELOPMENT WORK BY GEO-BAG BEFORE STARTING THE DUMPING OF GEO-BAG / C.C BLOCK.
5. BEFORE EXECUTION OF WORK, CROSS SECTIONS WILL BE TAKEN AND COMPARE WITH DESIGN SECTION, IF ANY DISSIMILARITY HAS BEEN OBSERVED THEN IT SHALL BE INFORMED TO THE CONCERNED DESIGN OFFICE FOR FURTHER NECESSARY ACTION.
6. CLOSE CROSS-SECTION OF RIVER SHALL BE TAKEN BEFORE, DURING AND AFTER EXECUTION OF PROTECTIVE WORK AND CONFIRM UNIFORM DUMPING AS PER DESIGN.
7. HEAP OF CUTTING EARTH (FOR SLOPE PREPARATION) AT TOE OF PITCHING BLOCK OR IN DUMPING ZONE MUST NOT BE ALLOWED.
8. IN PRESENT SITUATION AN ANGULAR FLOW HIT TOWARDS THE RIGHT BANK OF PADMA RIVER, SHIFTING THE THALWEG CLOSED TO THE RIGHT BANK AND ILLEGAL & UNPLANNED SAND LIFTING FROM RIVER BED, RIVER BANK EROSION HAS BEEN OCCURRED DURING LAST MONSOON & POST MONSOON PERIOD. THIS HAS BEEN TAKEN CONSIDERATION DURING PREPARATION OF THIS DRAWING.
9. VOLUME OF DUMPING MATERIALS CALCULATED IN THIS DRAWING CONSIDERING 100 YEARS RETURN PERIOD & ANGULAR FLOW.
10. ALL SAFETY PRECAUTIONS MUST BE TAKEN DURING EXECUTION OF WORK.

BANGLADESH WATER DEVELOPMENT BOARD
OFFICE OF THE SUPERINTENDING ENGINEER
DESIGN CIRCLE-5

"Protection of Talbaria area of Mirpur Upazila & Kamarkandi area of Shelaiddah Union of Kumarkhali Upazila in Kushtia District from the erosion of Padma River"

Design of Protective Work along the R/B of Padma River from KM 6.720 to KM 15.720=9.000 KM at Talbaria, Baruipara and Bahalbaria union, Upazila: Mirpur, District: Kushtia Kushtia O & M Division, BWDB, Kushtia.

NOTES

DESIGNED BY:  (SHAMMI AKHTER), SDE	RECOMMENDED BY:  (JAKARIA PERVEZ), SE
CHECKED BY:  (MST. TASMEM JAHAN), EE	APPROVED BY:  (MD. ABDUL BASIT), CE, DESIGN
DATE: 27-02-2024	DWG NO.: DC-5-5712-03/33
REVISIONS	

DATE	PREPARED	CHD	REM	APPROVED
REVISIONS				

NOTES FOR GEOBAG (POLYPROPYLENE):

1. EACH BAG DELIVERED AT SITE SHALL BE MARKED WITH LABELS THAT IDENTIFY BRAND NAME, CONTRACT PACKAGE NO, SIZE OF BAG, DATE 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. IN GEOTEXTILE FABRIC, POLYPROPYLENE SHALL BE 97% AND ADDITIVES SHALL BE 3%. CARBON BLACK (2%) AND ANTIOXIDANTS (1%) MAY BE MIXED AS ADDITIVES.
5. ISO 13438:2018 IS FOR TEST OF SERVICE LIFE OF GEOTEXTILE FABRIC AND GEOBAG.
6. EN 11924:2000 IS FOR ALLOWABLE MAXIMUM EXPOSURE TIME DURING INSTALLATION OF GEOTEXTILE FILTER AND GEOBAG.
7. THE GEO-TEXTILE PRODUCT MANUFACTURER SHALL CERTIFY THE PERFORMANCE (VALUE) OF THEIR PRODUCT DESCRIBING DIFFERENT PROPERTIES SUCH AS EFFECTIVE OPENING SIZE O 90, MASS, THICKNESS, STRENGTH ELONGATION, MAXIMUM EXPOSURE TIME, DURABILITY (OR VALUE TIME) ETC.
8. 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 SCHEDULE.

MONITORING:

1. AS BUILT DRAWING CONTAINING CROSS SECTIONS AT 50 m INTERVAL SHALL BE PREPARED IMMEDIATELY AFTER COMPLETION OF DUMPING.
2. 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 BY ADAPTIVE APPROACH. IF ANY DETRIMENTAL MORPHOLOGICAL CHANGES IS OBSERVED, THEN DESIGN OFFICE MUST BE INFORMED WITH ADEQUATE DATA SO THAT NECESSARY ACTION CAN BE TAKEN.
3. DREDGING ADJACENT OR IN FRONT OF PROTECTIVE WORK SHALL NOT BE ALLOWED.

NOTES FOR C.C BLOCKS:

1. CONCRETE FOR C.C BLOCK SHALL HAVE MINIMUM CYLINDER STRENGTH OF 12.00N/mm² FOR PITCHING BLOCK & 10.50N/mm² FOR DUMPING BLOCK AT 28 DAYS (STONE CHIPS USE AS COARSE AGGREGATE).
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 DUMPING:

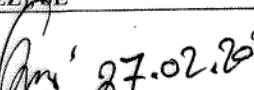
1. WORK SHALL BE EXECUTED ONLY WHEN WL IS AT OR NEAR WORKING LOW W.L AS SHOWN IN THE DRAWING.
2. SURVEY BOAT EQUIPPED WITH NECESSARY DUMPING EQUIPMENT, SURVEY EQUIPMENT & SURVEY TEAM SHOULD BE ENSURED AT SITE BEFORE START OF DUMPING.
3. DUMPING MATERIALS SHALL BE DUMPED FROM BARGE EQUIPPED WITH GUIDED FENCE SO THAT DUMPING MATERIALS CAN BE DUMPED INTO PROPER POSITION.
4. THE FOLLOWING EQUIPMENT SHALL BE USED FOR DUMPING.
 - a. FLAT TOP BARGE /PONTOONS/DUMPING 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 DUMPING 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 WORKING LOW W.L.
 - c. DUMPING OF C.C BLOCKS BELOW WORKING LOW W.L. OVER GEOBAG.
 - d. SLOPE PREPARATION & PITCHING WORK ABOVE WORKING LOW W.L.
8. A 'NEED BASED DUMPING' APPROACH SHALL BE TAKEN WHERE THE SCOUR HOLES ARE IDENTIFIED AT FIRST AND ADDRESSED ACCORDINGLY.
9. A BASELINE SURVEY SHALL BE DONE FOR ACTUAL DISTRIBUTION OF GEO-BAGS ACCORDING TO PREVAILING RIVER CONDITIONS BEFORE START OF THE WORK. A SECOND SURVEY SHALL BE UNDER TAKEN WITHIN 12 HOURS BEFORE DUMPING IN A DESIGNATED NEXT AREA AND AT NOT MORE THAN 10.00 METRES IN INTERVAL BETWEEN ADJACENT CROSS SECTIONS. IF ANY ADVERSE SITUATION ARISED, IT SHOULD BE REPORTED TO THE COMPETENT AUTHORITY FOR NECESSARY ACTION.
10. GEO-BAGS MUST BE HANDLED WITH CARE. NO DAMAGED BAGS SHALL BE USED FOR ANY PART OF THE WORK.
11. GEO-BAGS SHALL BE FILLED FULL WITH SAND AND MINIMUM ACHIEVING THE SPECIFIED WEIGHT AND OTHER SPECIFICATIONS AS PER BWDB SCHEDULE .

BANGLADESH WATER DEVELOPMENT BOARD
OFFICE OF THE SUPERINTENDING ENGINEER
DESIGN CIRCLE-5

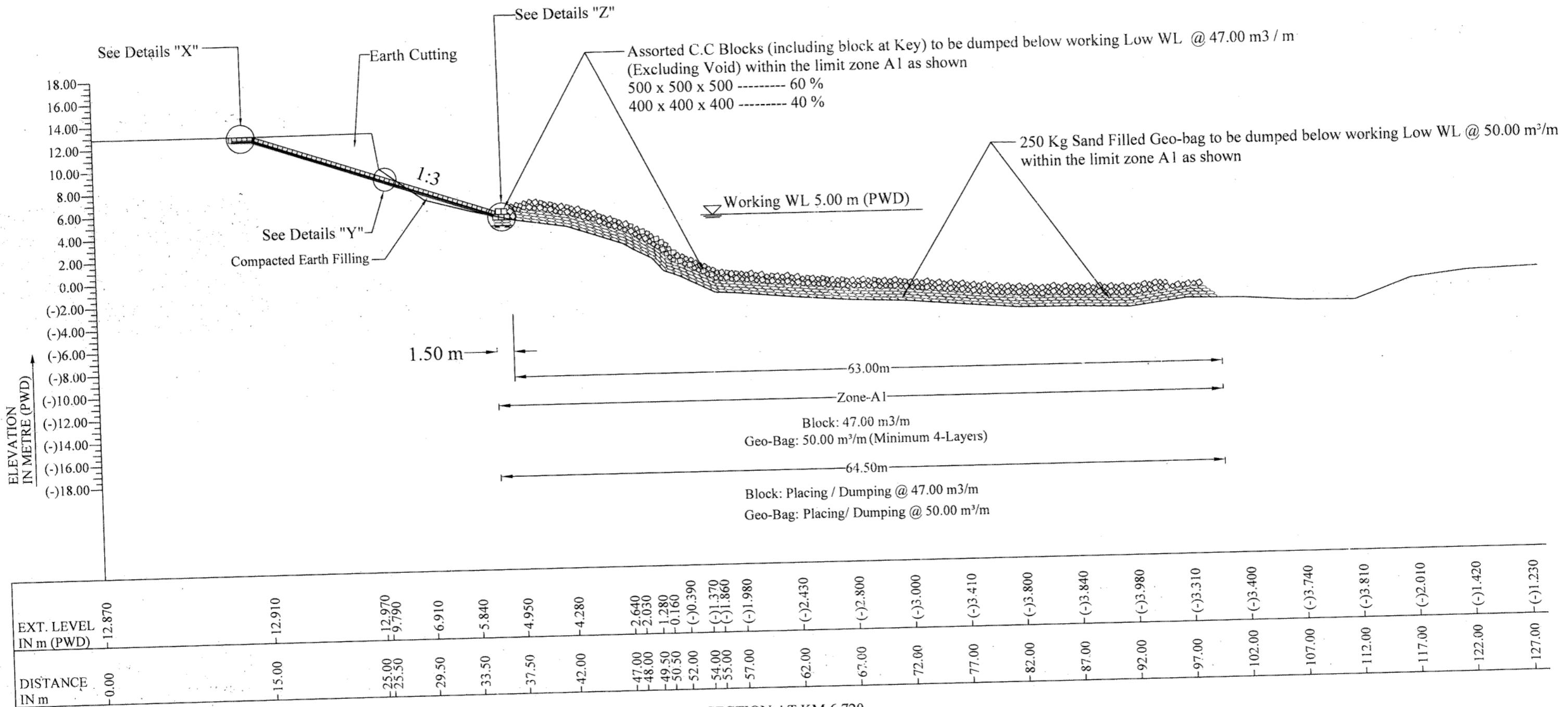
"Protection of Talbaria area of Mirpur Upazila & Kamorkandi area of Shelaiddah Union of Kumarkhali Upazila in Kushtia District from the erosion of Padma River"

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NOTES

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CHECKED BY:  (MST. TASMEM JAHAN), EE	APPROVED BY:  (MD. ABDUL BASIT), CE, DESIGN
DATE: 27-02-2024	DWG NO.: DC-5-5712-04/33

REVISIONS				
DATE	PREPARED	CHD	REM	APPROVED



N:B:-
a) For Details "X", "Y" & "Z" See Sheet No. 27 of 33

BANGLADESH WATER DEVELOPMENT BOARD
OFFICE OF THE SUPERINTENDING ENGINEER
DESIGN CIRCLE-5

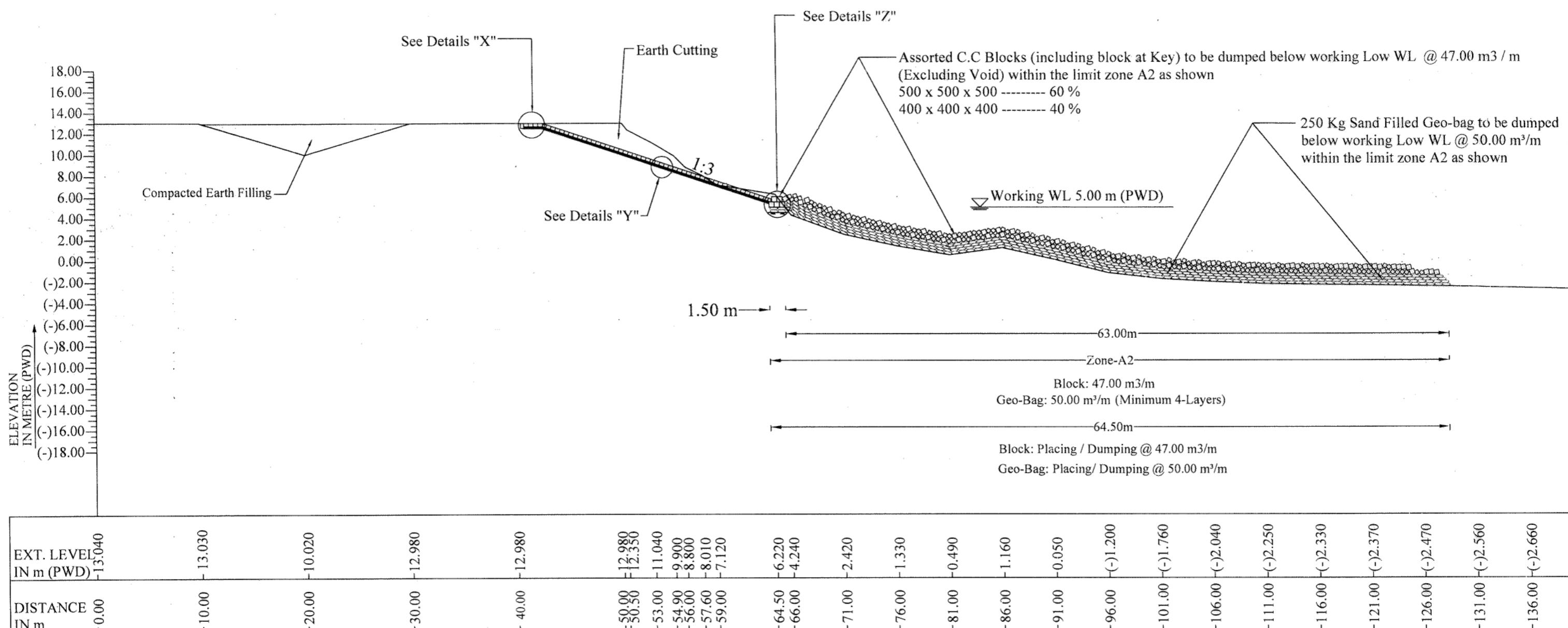
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SECTION OF PROTECTIVE WORK AT KM 6.720

DESIGNED BY:	RECOMMENDED BY:
<i>[Signature]</i> (SHAMMI AKHTER), SDE	<i>[Signature]</i> (JAKARIA PERVEZ), SE
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DATE: 27-02-2024	DWG NO.: DC-5-5712-05/33

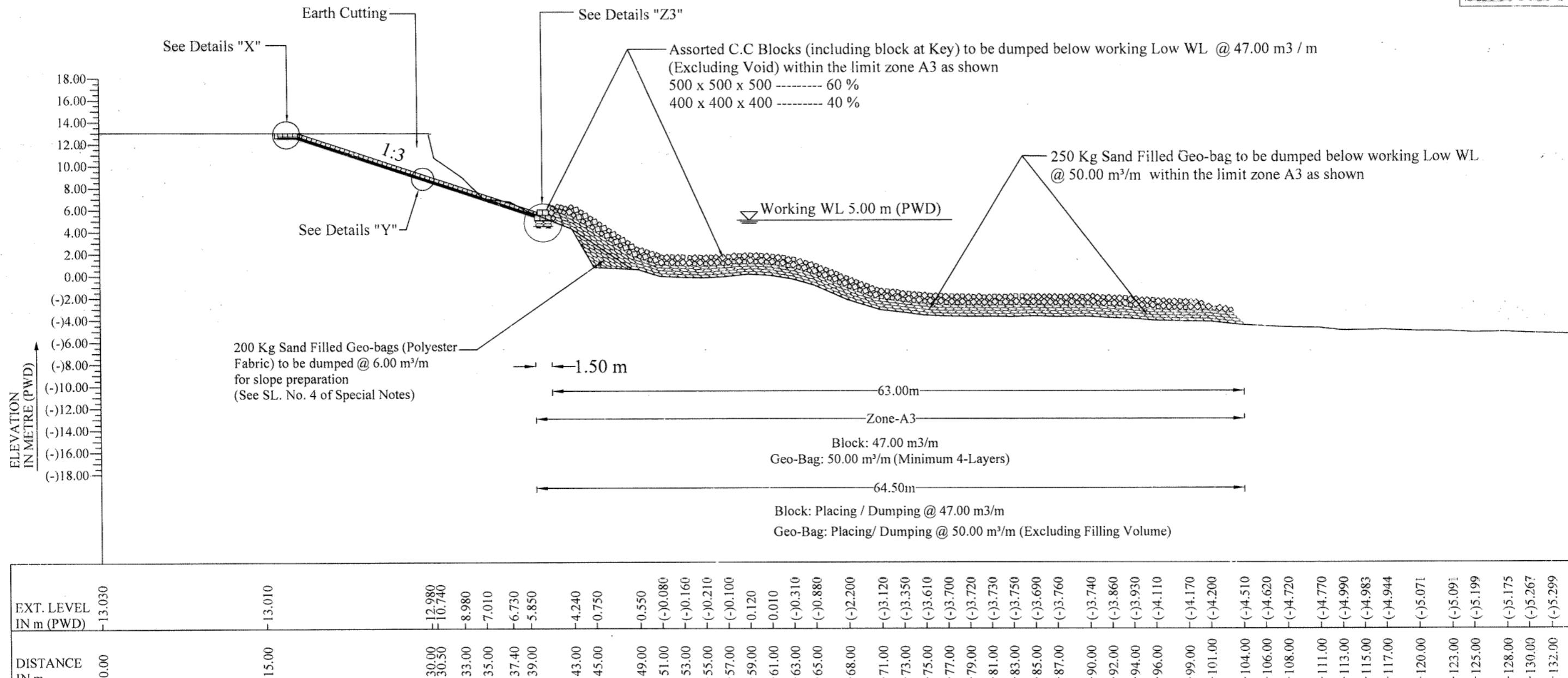
DATE	PREPARED	CHD	REM	APPROVED
REVISONS				



TYPICAL X-SECTION AT KM 7.600
(Applicable from KM 7.550 TO KM 7.650)

N:B:-
a) For Details "X", "Y" & "Z" See Sheet No. 27 of 33

BANGLADESH WATER DEVELOPMENT BOARD					
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SECTION OF PROTECTIVE WORK AT KM 7.600					
DESIGNED BY: (SHAMMI AKHTER), SDE	RECOMMENDED BY: (JAKARIA PERVEZ), SE				
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DATE	PREPARED	CHD	REM	APPROVED	REVISIONS
DATE: 27-02-2024					DWG NO.: DC-5-5712-06/33



TYPICAL X-SECTION AT KM 8.300
(Applicable from KM 7.650 TO KM 8.650)

N:B:-
a) For Details "X" & "Y" See Sheet No. 27 of 33

BANGLADESH WATER DEVELOPMENT BOARD
OFFICE OF THE SUPERINTENDING ENGINEER
DESIGN CIRCLE-5

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SECTION OF PROTECTIVE WORK AT KM 8.300

DESIGNED BY: 	RECOMMENDED BY:
(SHAMMI AKHTER), SDE	(JAKARIA PERVEZ), SE

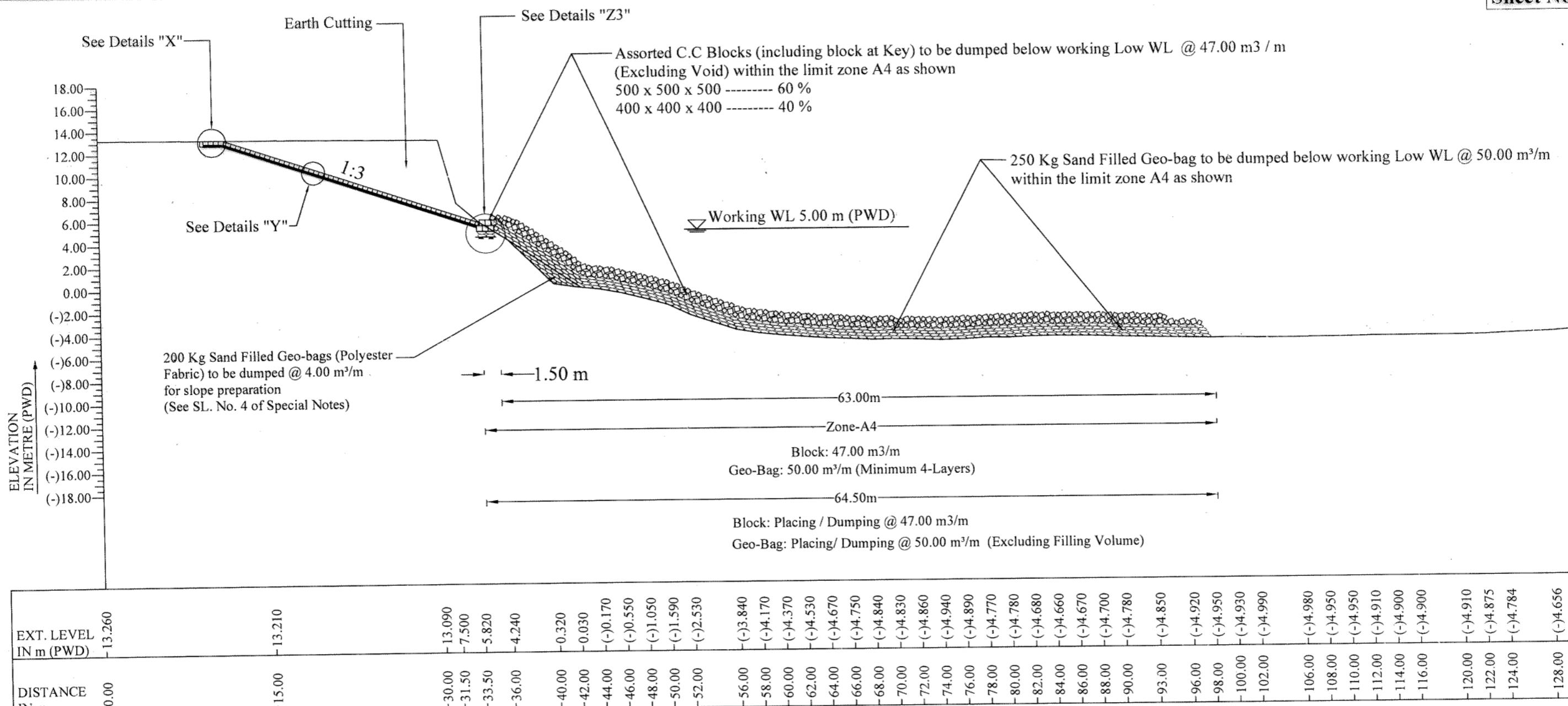
CHECKED BY:

APPROVED BY:

(MST. TASMEEM JAHAN), EE

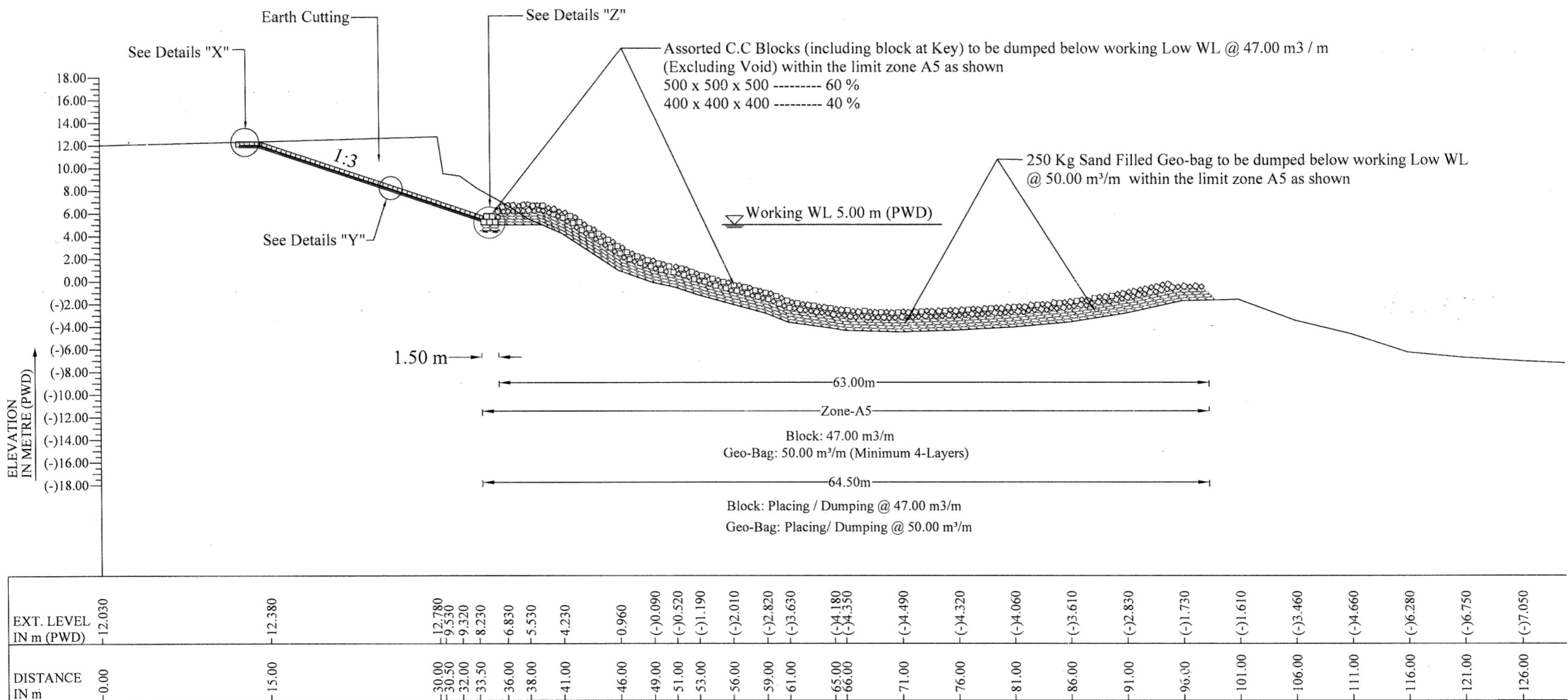
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DATE	PREPARED	CHD	REM	APPROVED	REVISIONS	DATE: 27-02-2024	DWG NO.: DC-5-5712-07/33



N.B:-
a) For Details "X" & "Y" See Sheet No. 27 of 33

SECTION OF PROTECTIVE WORK AT KM 8.900					
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MST. TASMEM JAHAN, EE	DATE: 27-02-2024	PREPARED	CHD	REM	APPROVED
REVISIONS			DATE: 27-02-2024 DWG NO.: DC-5-5712-08/33		



TYPICAL X-SECTION AT KM 10.100
(Applicable from KM 9.600 TO KM 10.250)

N:B:-

a) For Details "X", "Y" & "Z" See Sheet No. 27 of 33

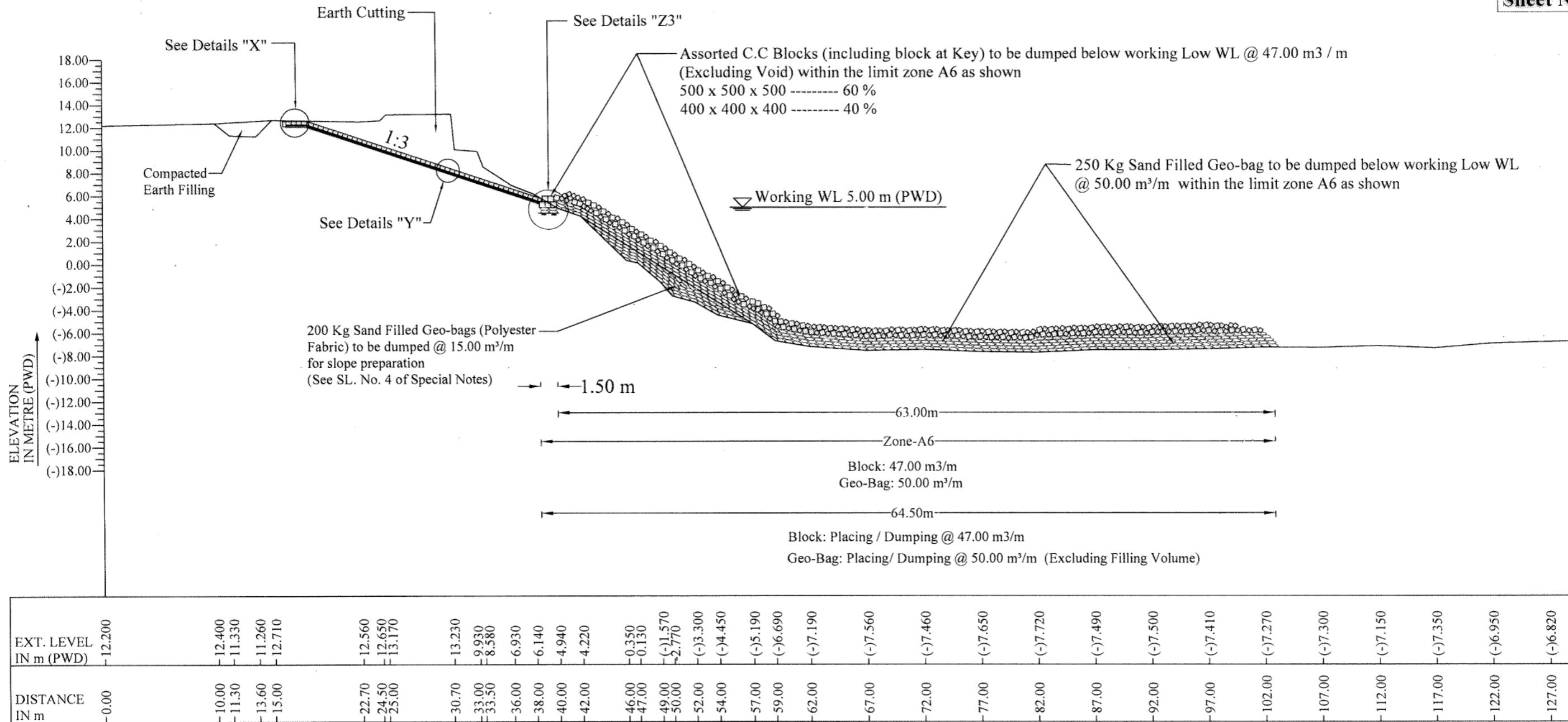
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SECTION OF PROTECTIVE WORK AT KM 10.100

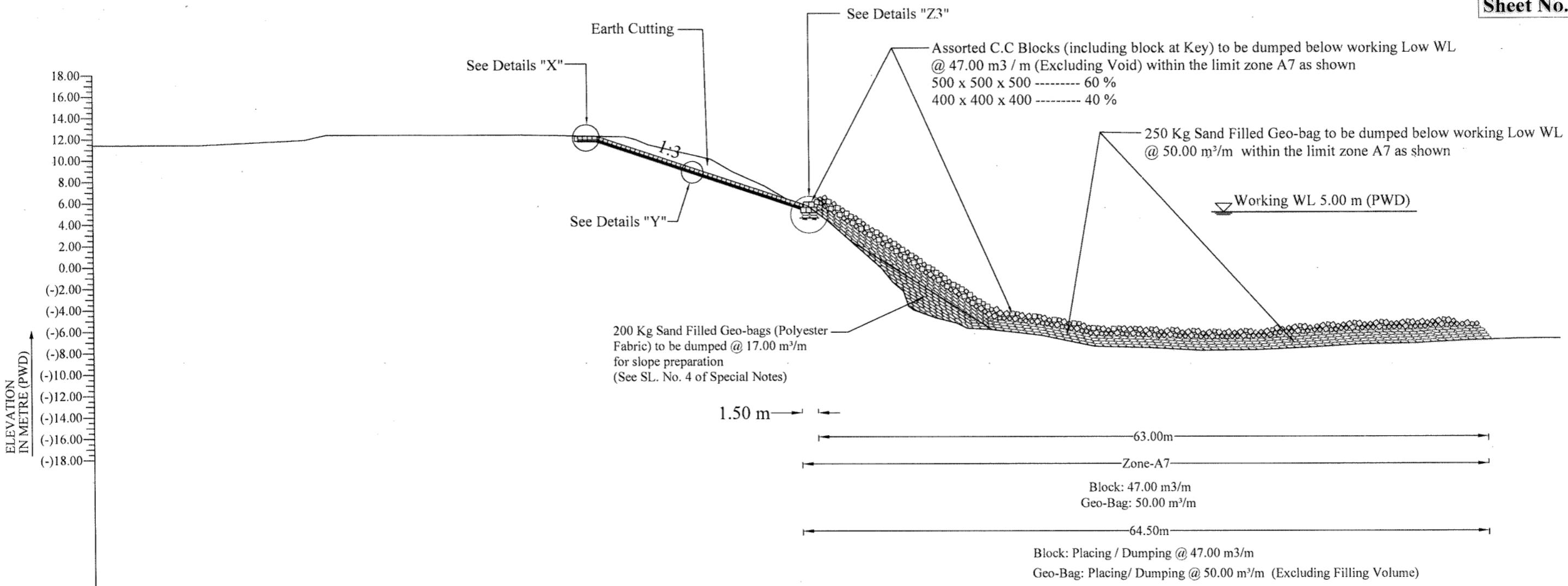
DESIGNED BY:	RECOMMENDED BY:
(SHAMMI AKHTER), SDE	(JAKARIA PERVEZ), SE
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(MST. TASNIM JAHAN), EE	(MD. ABDUL BASIT), CE, DESIGN
DATE: 27-02-2024	DWG NO.: DC-5-5712-09/33
REVISIONS	



TYPICAL X-SECTION AT KM 10.300
(Applicable from KM 10.250 TO KM 10.350)

N:B:-
a) For Details "X" & "Y" See Sheet No. 27 of 33

BANGLADESH WATER DEVELOPMENT BOARD OFFICE OF THE SUPERINTENDING ENGINEER DESIGN CIRCLE-5					
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(SHAMMI AKHTER), SDE					(JAKARIA PERVEZ), SE
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(MST. TASMEM JAHAN), EE					(MD. ABDUL BASIT), CE, DESIGN
DATE	PREPARED	CHD	REM	APPROVED	DATE: 27-02-2024 DWG NO.: DC-5-5712-10/33
REVISIONS					



EXT. LEVEL IN m (PWD)	-11.420	-11.420	-11.910	-20.00	-22.00	-12.370	-40.00	-12.360	-50.00	-51.00	-52.20	-55.60	-58.10	-60.10	-63.10	-65.10	-67.10	-69.00	-4.210	-12.150	-11.900	-11.390	-10.610	-10.010	-8.840	-7.490	-6.310	-5.640	-4.210	-0.220	-1.470	-2.340	-4.120	-7.900	-4.840	-5.340	-5.840	-84.00	-89.00	-6.510	-7.540	-7.660	-7.920	-7.880	-7.650	-7.350	-7.260	-6.990	-6.850																																																				
DISTANCE IN m	0.00	10.00	20.00	30.00	40.00	50.00	60.00	70.00	80.00	90.00	100.00	110.00	120.00	130.00	140.00	150.00	160.00	170.00	180.00	190.00	200.00	210.00	220.00	230.00	240.00	250.00	260.00	270.00	280.00	290.00	300.00	310.00	320.00	330.00	340.00	350.00	360.00	370.00	380.00	390.00	400.00	410.00	420.00	430.00	440.00	450.00	460.00	470.00	480.00	490.00	500.00	510.00	520.00	530.00	540.00	550.00	560.00	570.00	580.00	590.00	600.00	610.00	620.00	630.00	640.00	650.00	660.00	670.00	680.00	690.00	700.00	710.00	720.00	730.00	740.00	750.00	760.00	770.00	780.00	790.00	800.00	810.00	820.00	830.00	840.00	850.00	860.00	870.00	880.00	890.00	900.00	910.00	920.00	930.00	940.00	950.00	960.00	970.00	980.00	990.00	1000.00

TYPICAL X-SECTION AT KM 10.730
(Applicable from KM 10.350 TO KM 11.000)

N:B:-
a) For Details "X" & "Y" See Sheet No. 27 of 33

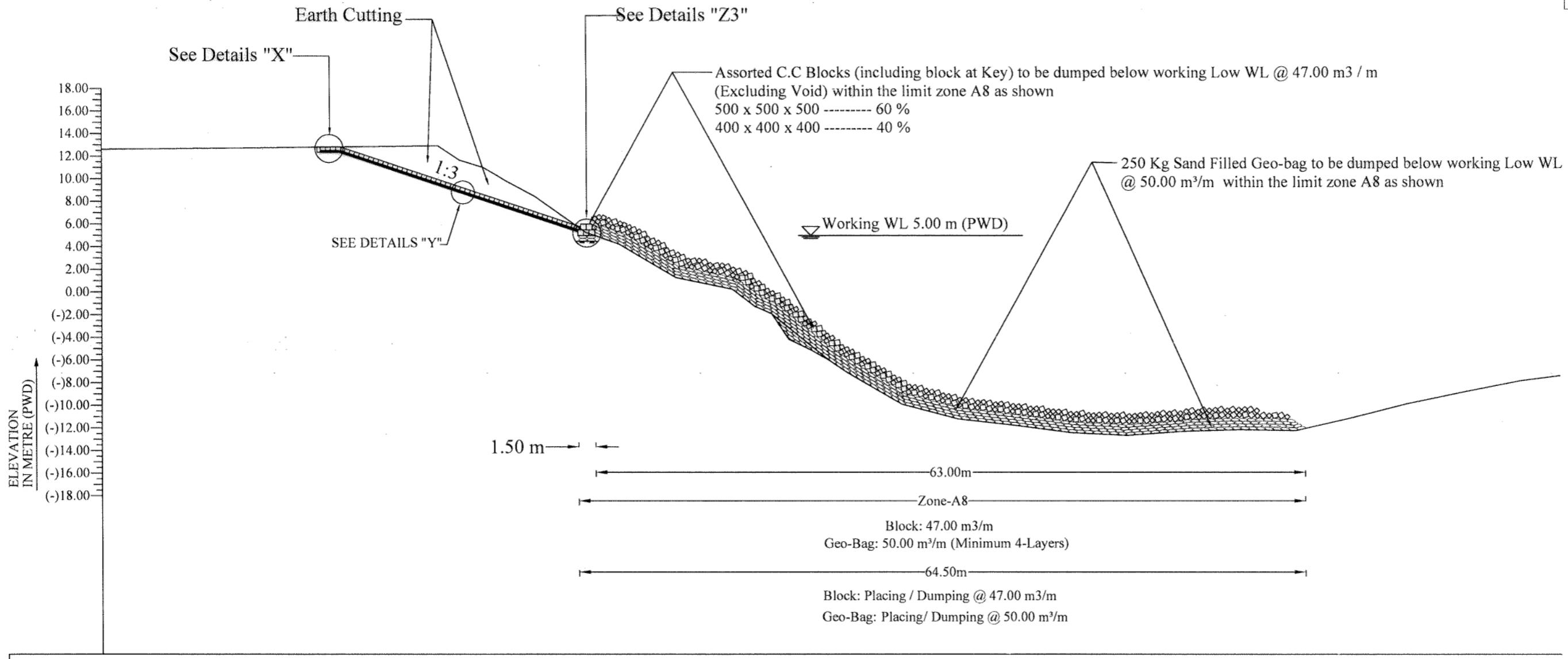
BANGLADESH WATER DEVELOPMENT BOARD
OFFICE OF THE SUPERINTENDING ENGINEER
DESIGN CIRCLE-5

"Protection of Talbaria area of Mirpur Upazila & Kamorkandi area of Shelaiddah Union of Kumarkhali Upazila in Kushtia District from the erosion of Padma River"

Design of Protective Work along the R/B of Padma River from KM 6.720 to KM 15.720=9.000 KM at Talbaria, Baruipara and Bahalbaria union, Upazila: Mirpur, District: Kushtia Kushtia O & M Division, BWDB, Kushtia.

SECTION OF PROTECTIVE WORK AT KM 10.730

DESIGNED BY:	RECOMMENDED BY:
(SHAMMI AKHTER), SDE	(JAKARIA PERVEZ), SE
CHECKED BY :	APPROVED BY :
(MST. TASMEM JAHAN), EE	(MD. ABDUL BASIT), CE, DESIGN
DATE: 27-02-2024	DWG NO.: DC-6-5712-11/33
REVISIONS	



N:B:-
a) For Details "X" & "Y" See Sheet No. 27 of 33

BANGLADESH WATER DEVELOPMENT BOARD
OFFICE OF THE SUPERINTENDING ENGINEER
DESIGN CIRCLE-5

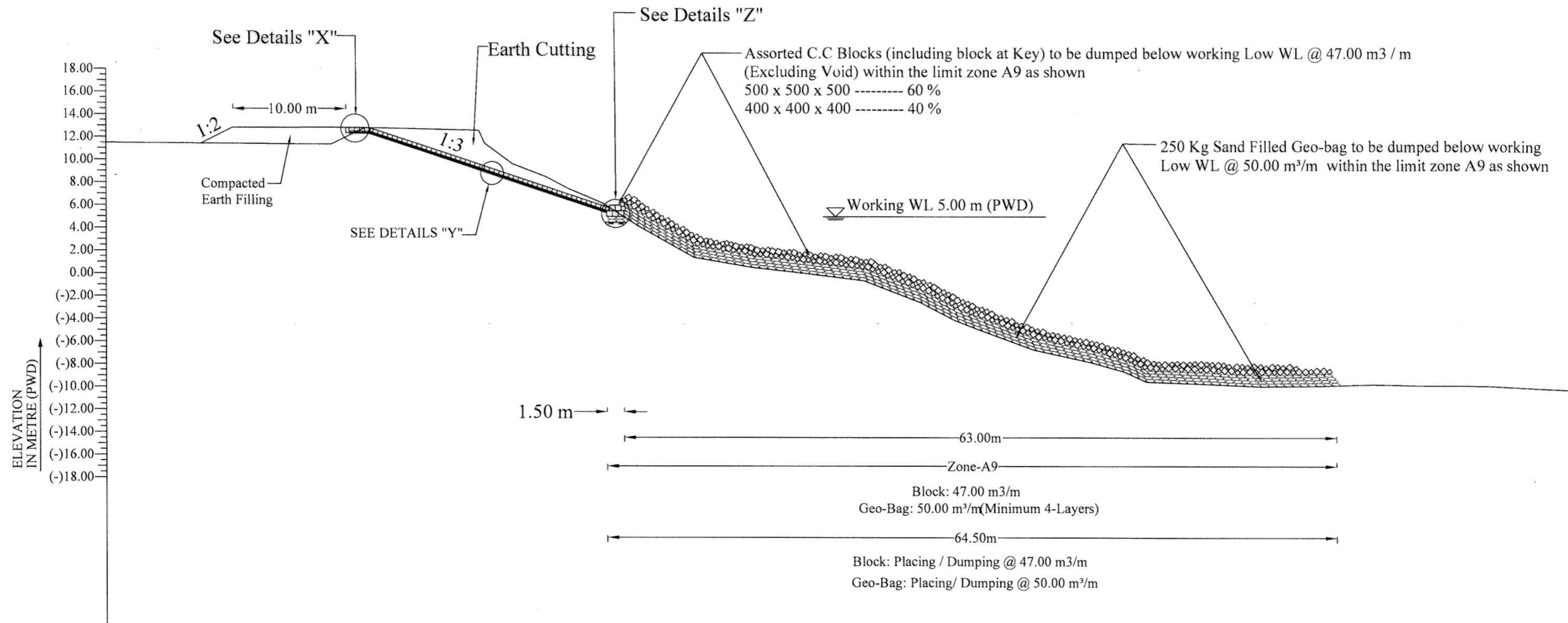
"Protection of Talbaria area of Mirpur Upazila & Kamorkandi area of Shelaidah Union of Kumarkhali Upazila in Kushtia District from the erosion of Padma River"

Design of Protective Work along the R/B of Padma River from KM 6.720 to KM 15.720=9.000 KM at Talbaria, Baruipara and Bahalbaria union, Upazila: Mirpur, District: Kushtia Kushtia O & M Division, BWDB, Kushtia.

SECTION OF PROTECTIVE WORK AT KM 11.000

DESIGNED BY:	RECOMMENDED BY:
(SHAMMI AKHTER), SDE	(JAKARIA PERVEZ), SE
CHECKED BY:	APPROVED BY:
(MST. TASMEM JAHAN), EE	(MD. ABDUL BASIT), CE, DESIGN
DATE: 27-02-2024	DWG NO.: DC-5-5712-12/33

DATE	PREPARED	CHD	REM	APPROVED	REVISIONS	DATE: 27-02-2024	DWG NO.: DC-5-5712-12/33



EXT. LEVEL IN m (PWD)	-11.480
DISTANCE IN m	-0.00
-20.00	-11.340
-23.00	-12.830
-33.00	-12.580
-33.50	-11.460
-36.00	-9.630
-39.00	-8.470
-41.00	-7.420
-44.00	-6.160
-47.00	-4.210
-52.00	-1.410
-57.00	-0.550
-62.00	-(-)0.010
-67.00	-(-)0.630
-72.00	-(-)2.540
-75.00	-(-)4.100
-77.00	-(-)4.870
-82.00	-(-)6.710
-87.00	-(-)7.790
-90.00	-(-)8.620
-92.00	-(-)9.520
-97.00	-(-)9.700
-102.00	-(-)9.930
-107.00	-(-)9.880
-112.00	-(-)9.730
-117.00	-(-)9.830
-122.00	-(-)9.830
-127.00	-(-)10.100

TYPICAL X-SECTION AT KM 11.400
(Applicable from KM 11.300 to 12.210)

N:B:-

a) For Details "X", "Y" & "Z" See Sheet No. 27 of 31

BANGLADESH WATER DEVELOPMENT BOARD
OFFICE OF THE SUPERINTENDING ENGINEER
DESIGN CIRCLE-5

"Protection of Talbaria area of Mirpur Upazila & Kamorkandi area of Shelaiddah Union of Kumarkhali Upazila in Kushtia District from the erosion of Padma River"

Design of Protective Work along the R/B of Padma River from KM 6.720 to KM 15.720=9.000 KM at Talbaria, Baruipara and Bahalbaria union, Upazila: Mirpur, District: Kushtia Kushtia O & M Division, BWDB, Kushtia.

SECTION OF PROTECTIVE WORK AT KM 11.400

DESIGNED BY:

(SHAMMI AKHTER) SDF

RECOMMENDED BY:

D BY :

APPROVED BY : 

卷之三

Page 222

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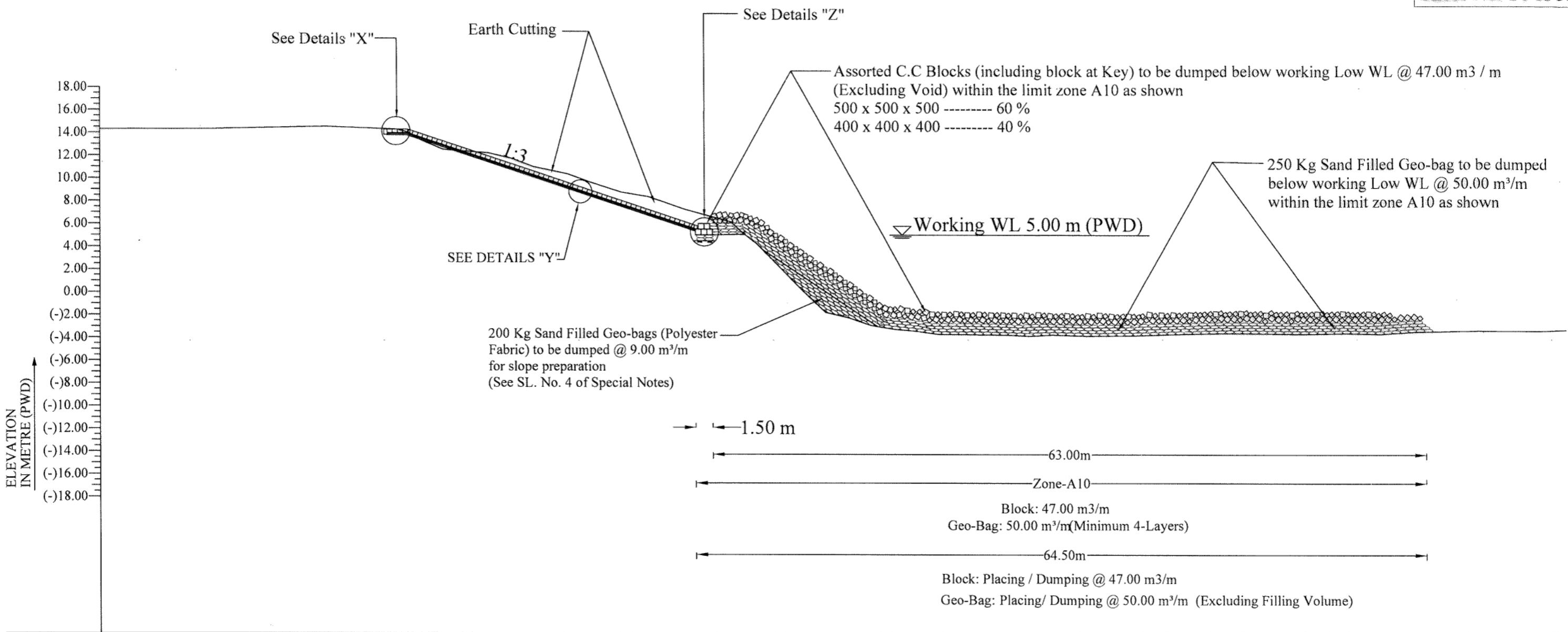
MS. 27.86

DATE	PREPARED	CHD	REM	APPROV	REVISIONS	

REVISIONS

DATE: 27-02-2024

DWG NO.: DC-5-5712-13/33



TYPICAL X-SECTION AT KM 12.500
(Applicable from KM 12.210 TO KM 12.650)

N:B:-
a) For Details "X", "Y" & "Z" See Sheet No. 27 of 33

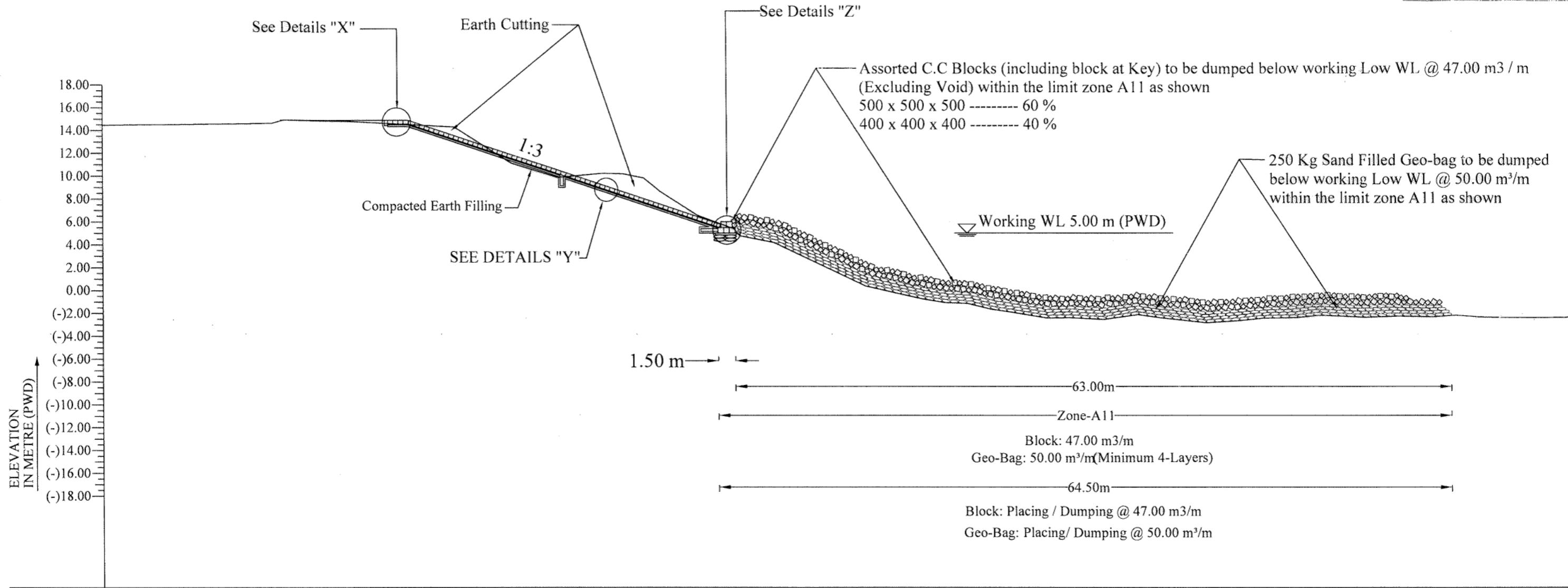
BANGLADESH WATER DEVELOPMENT BOARD
OFFICE OF THE SUPERINTENDING ENGINEER
DESIGN CIRCLE-5

"Protection of Talbaria area of Mirpur Upazila & Kamorkandi area of Shelaiddah Union of Kumarkhali Upazila in Kushtia District from the erosion of Padma River"

Design of Protective Work along the R/B of Padma River from KM 6.720 to KM 15.720=9.000 KM at Talbaria, Baruipara and Bahalbaria union, Upazila: Mirpur, District: Kushtia Kushtia O & M Division, BWDB, Kushtia.

SECTION OF PROTECTIVE WORK AT KM 12.500

DESIGNED BY:	RECOMMENDED BY:
(SHAMMI AKHTER), SDE	(JAKARIA PERVEZ), SE
DATE	PREPARED
REVISIONS	APPROVED
27.02.2021	27.02.2021
(MST. TASMEM JAHAN), EE	(MD. ABDUL BASIT), CE, DESIGN
DATE: 27-02-2024	DWG NO.: DC-5-5712-14/33



EXT. LEVEL IN m (PWD)	-14.460	-14.640	-14.900	-14.810	-14.310	-11.140	-9.880	-6.560	-0.380	-70.00	-(-0.300)	-(-0.750)	-(-1.070)	-(-1.150)	-(-1.640)	-(-1.930)	-(-2.420)	-(-2.540)	-(-2.410)	-(-2.840)	-(-2.640)	-(-2.440)	-(-2.390)	-(-2.120)	-(-2.120)	-(-2.410)	-(-2.390)	-(-2.390)													
DISTANCE IN m	0.00	-15.00	-16.00	-21.50	-31.00	-36.00	-40.00	-44.00	-44.00	-45.80	-47.60	-49.00	-52.30	-55.50	-56.00	-59.00	-67.00	-70.00	-72.00	-74.00	-76.00	-78.00	-80.00	-83.00	-85.00	-88.00	-91.00	-93.00	-97.00	-100.00	-102.00	-105.00	-107.00	-109.00	-111.00	-114.00	-117.00	-119.00	-121.00	-124.00	-127.00

TYPICAL X-SECTION AT KM 12.800
(Applicable from KM 12.650 TO KM 13.000)

(This Filter Drain also Applicable from KM 11.300 TO KM 12.200,
KM 12.300 TO KM 12.650 & KM 13.070 TO KM 13.800)

BANGLADESH WATER DEVELOPMENT BOARD
OFFICE OF THE SUPERINTENDING ENGINEER
DESIGN CIRCLE-5

"Protection of Talbaria area of Mirpur Upazila & Kamorkandi area of Shelaidah Union of Kumarkhali Upazila in Kushtia District from the erosion of Padma River"

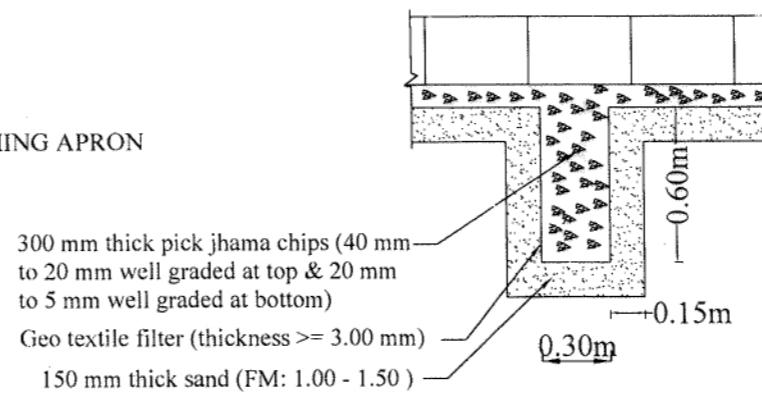
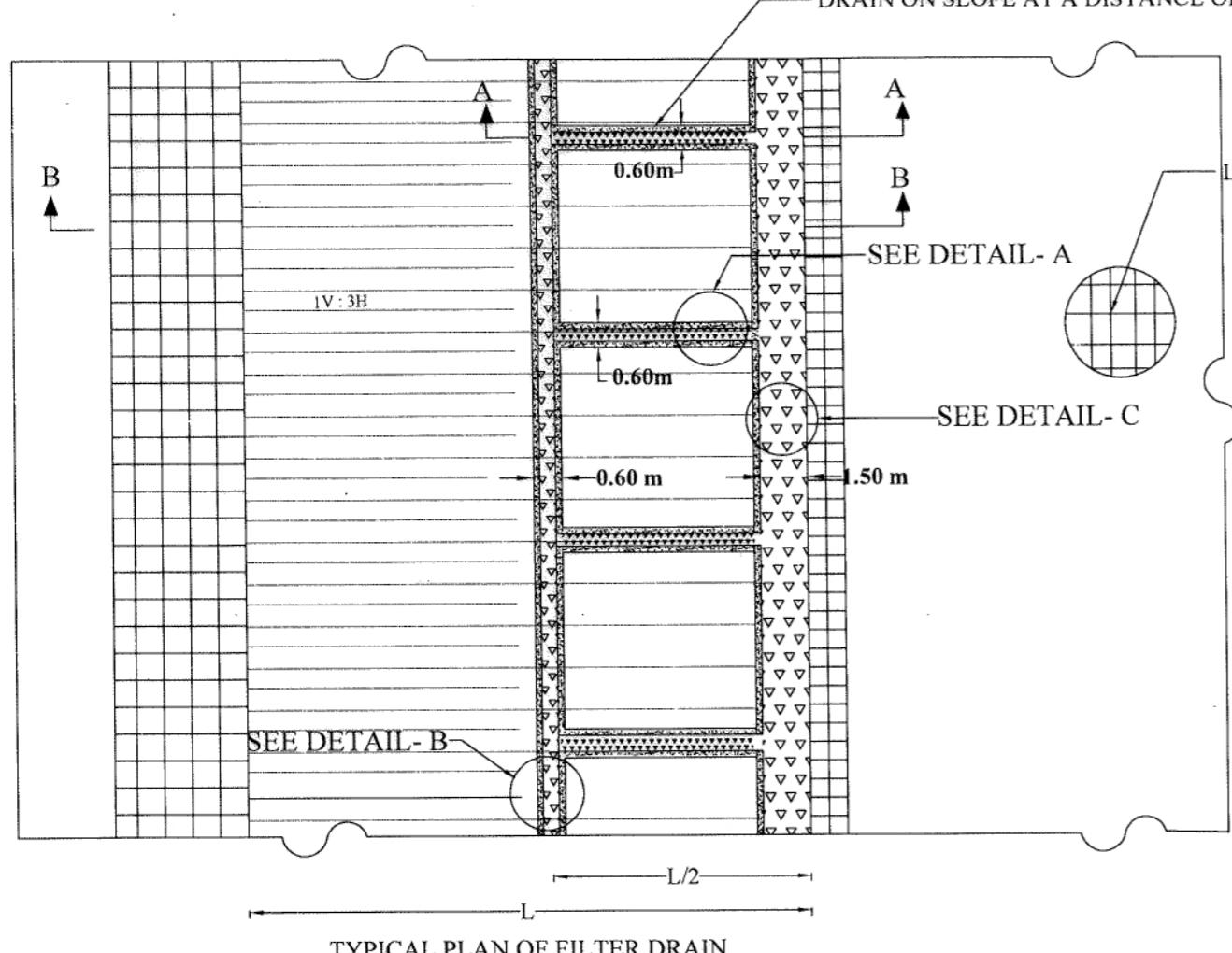
Design of Protective Work along the R/B of Padma River from KM 6.720 to KM 15.720=9.000 KM at Talbaria, Baruipara and Bahalbaria union, Upazila: Mirpur, District: Kushtia Kushtia O & M Division, BWDB, Kushtia.

SECTION OF PROTECTIVE WORK AT KM 12.800

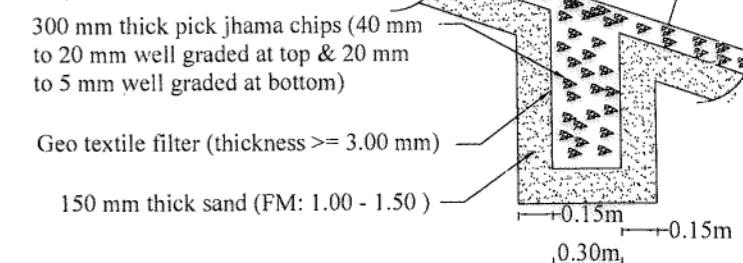
DESIGNED BY:	RECOMMENDED BY:
(SHAMMI AKHTER), SDE	(JAKARIA PERVEZ), SE
CHECKED BY :	APPROVED BY :
(MST. TASMEM JAHAN), EE	(MD. ABDEL BASIT), CE, DESIGN

N:B:-
a) For Details "X", "Y" & "Z" See Sheet No. 27 of 33

DATE	PREPARED	CHD	REM	APPROVED	REVISIONS	DATE: 27-02-2024	DWG NO.: DC-5-5712-15/33



DETAIL 'A'

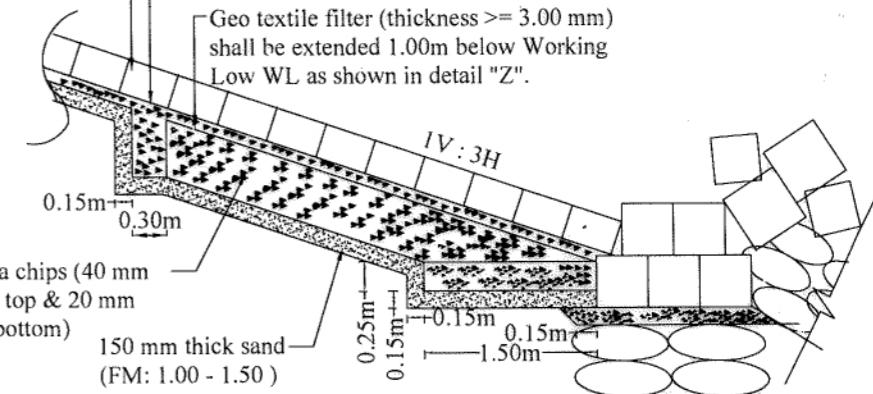


DETAIL 'B'

1- layer 450x450x300 C.C block

100 mm thick pick jhama chips (40 mm to 20 mm well graded at top & 20 mm to 5 mm well graded at bottom)

Geo textile filter (thickness ≥ 3.00 mm) shall be extended 1.00m below Working Low WL as shown in detail "Z".



SECTION A-A

Geo textile filter (thickness ≥ 3.00 mm)

250 mm thick pick jhama chips (40 mm to 20 mm well graded at top & 20 mm to 5 mm well graded at bottom)

Geo textile filter (thickness ≥ 3.00 mm)

shall be extended 1.00m below Working WL as shown in detail "Z".

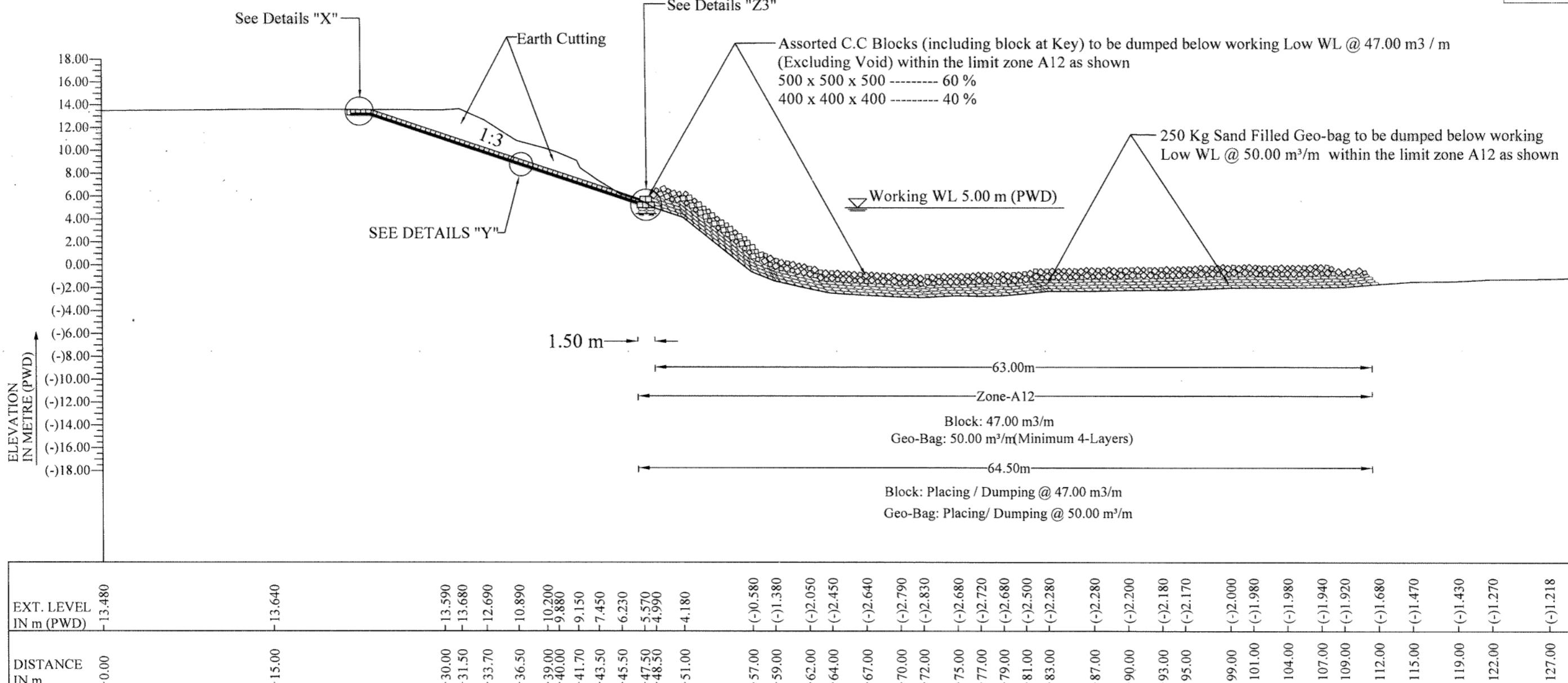
150 mm thick sand

(FM: 1.00 - 1.50)

0.25m

0.15m

1.50m



TYPICAL X-SECTION AT KM 13.000
(Applicable from KM 13.000 TO KM 13.070)

N:B:-
a) For Details "X" & "Y" See Sheet No. 27 of 33

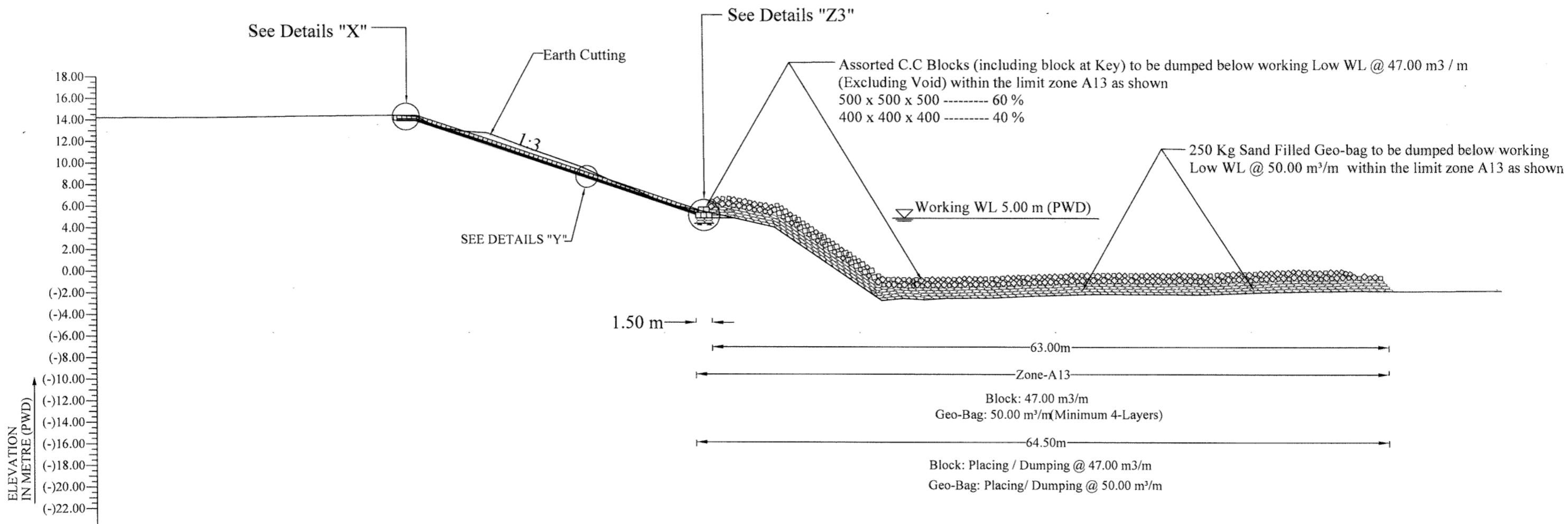
BANGLADESH WATER DEVELOPMENT BOARD
OFFICE OF THE SUPERINTENDING ENGINEER
DESIGN CIRCLE-5

"Protection of Talbaria area of Mirpur Upazila & Kamorkandi area of Shelaiddah Union of Kumarkhali Upazila in Kushtia District from the erosion of Padma River"

Design of Protective Work along the R/B of Padma River from KM 6.720 to KM 15.720=9.000 KM at Talbaria, Baruipara and Bahalbaria union, Upazila: Mirpur, District: Kushtia Kushtia O & M Division, BWDB, Kushtia.

SECTION OF PROTECTIVE WORK AT KM 13.000

DESIGNED BY:	RECOMMENDED BY:
(SHAMMI AKHTER), SDE	(JAKARIA PERVEZ), SE
CHECKED BY :	APPROVED BY :
MST. TASMEM JAHAN, EE	(MD. ABDUL BASIT), CE, DESIGN
DATE PREPARED CHD REM APPROVED	DATE: 27-02-2024 DWG NO.: DC-5-5712-17/33
REVISIONS	

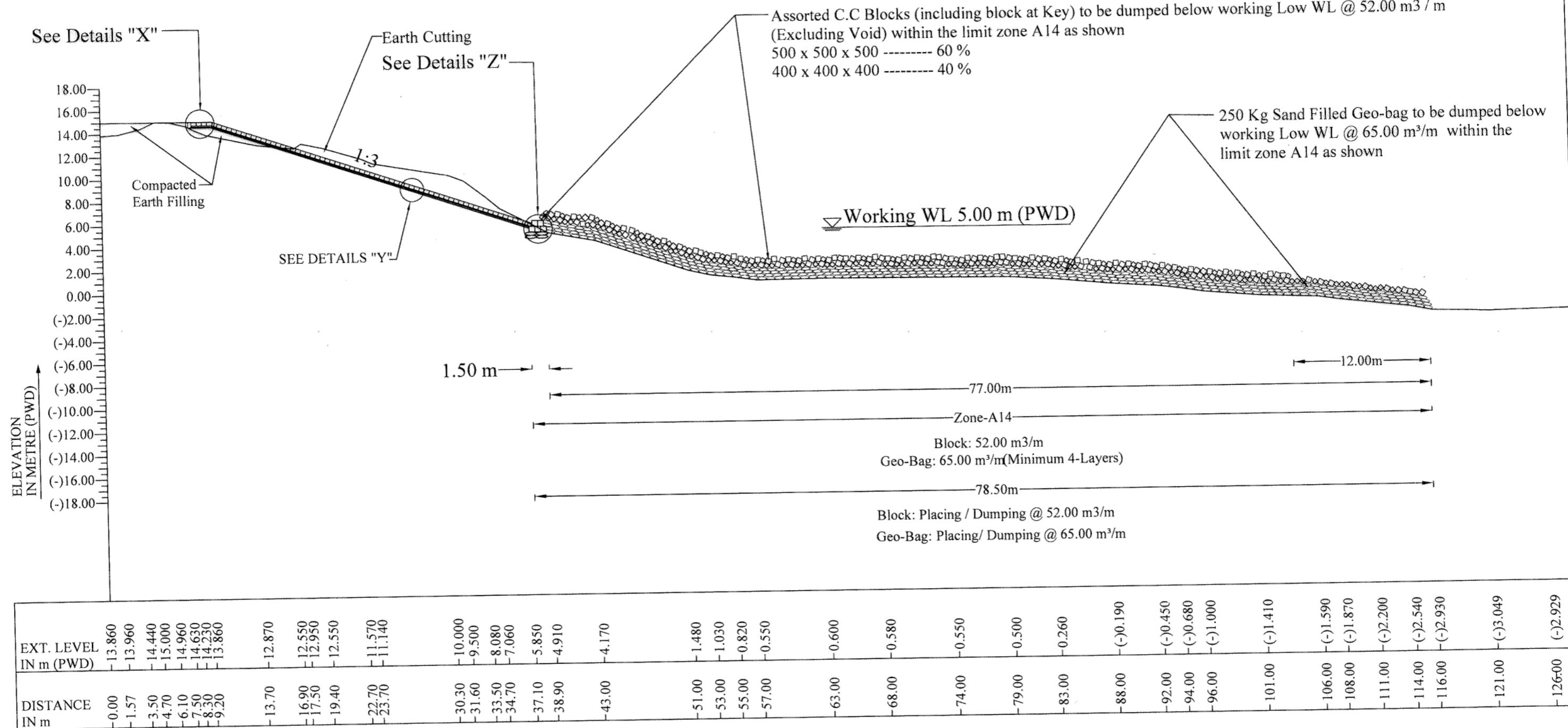


EXT. LEVEL IN m (PWD)	-14.200	-14.230	-14.410	-14.400	-14.490	-14.370	-13.430	-13.010	-13.010	-12.840	-11.520	-9.720	-8.420	-7.630	-7.630	-6.320	-5.230	-4.170	-(-2.630)	-(-2.420)	-(-2.540)	-(-2.410)	-(-2.390)	-(-2.200)	-(-2.070)	-(-2.020)	-(-2.050)	-(-1.870)	-(-1.760)	-(-1.710)	-(-1.750)	-(-1.710)
DISTANCE IN m	0.00	10.00	20.00	28.00	29.90	31.60	34.10	36.40	40.00	45.10	47.90	50.00	53.00	58.30	63.00	73.00	75.00	77.00	79.00	83.00	87.00	91.00	93.00	98.00	103.00	108.00	113.00	117.00	122.00	128.00		

TYPICAL X-SECTION AT KM 13.300
(Applicable from KM 13.070 TO KM 14.220)

N:B:-
a) For Details "X" & "Y" See Sheet No. 27 of 33

BANGLADESH WATER DEVELOPMENT BOARD OFFICE OF THE SUPERINTENDING ENGINEER DESIGN CIRCLE-5					
"Protection of Talbaria area of Mirpur Upazila & Kamorkandi area of Shelaidah Union of Kumarkhali Upazila in Kushtia District from the erosion of Padma River"					
Design of Protective Work along the R/B of Padma River from KM 6.720 to KM 15.720=9.000 KM at Talbaria, Baruipara and Bahalbaria union, Upazila: Mirpur, District: Kushtia Kushtia O & M Division, BWDB, Kushtia.					
SECTION OF PROTECTIVE WORK AT KM 13.300					
DESIGNED BY:		RECOMMENDED BY:			
(SHAMMI AKHTER), SDE		(JAKARIA PERVEZ), SE			
CHECKED BY :		APPROVED BY :			
(MST. TASMEM JAHAN), EE		(MD. ABDUL BASIT), CE, DESIGN			
DATE PREPARED CHD REM APPROVED					
REVISIONS					
DATE: 27-02-2024			DWG NO.: DC-5-5712-18/33		



TYPICAL X-SECTION AT KM 14.300
(Applicable from KM 14.220 TO KM 14.626)

N:B:-

a) For Details "X", "Y" & "Z" See Sheet No. 27 of 33

BANGLADESH WATER DEVELOPMENT BOARD
OFFICE OF THE SUPERINTENDING ENGINEER
DESIGN CIRCLE-5

"Protection of Talbaria area of Mirpur Upazila & Kamorkandi area of Shelaiddah Union of Kumarkhali Upazila in Kushtia District from the erosion of Padma River"

Design of Protective Work along the R/B of Padma River from KM 6.720 to KM 15.720=9.000 KM at Talbaria, Baruipara and Bahalbaria union, Upazila: Mirpur, District: Kushtia Kushtia O & M Division, BWDB, Kushtia.

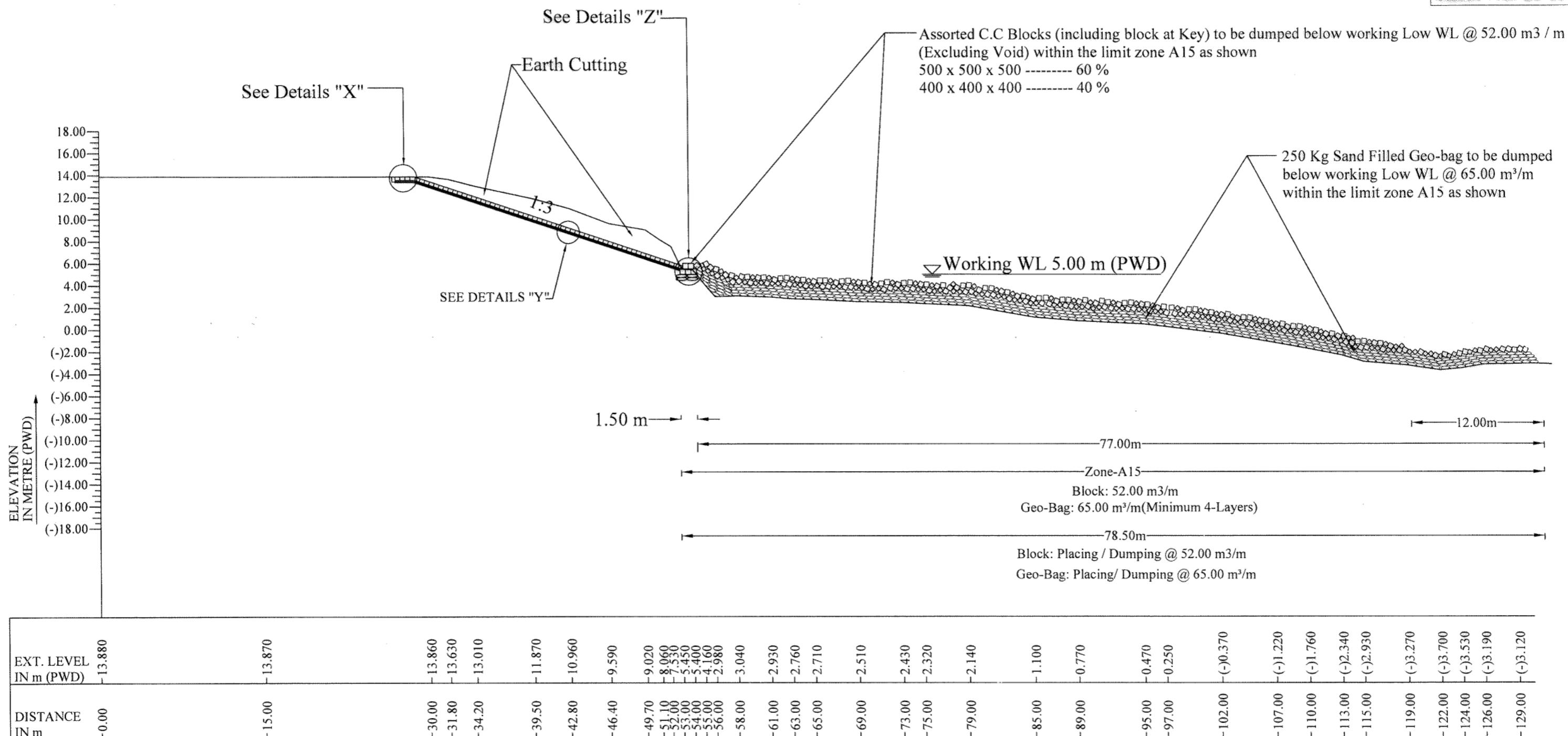
SECTION OF PROTECTIVE WORK AT KM 14.300

DESIGNED BY: RECOMMENDED BY:
(SHAMMI AKHTER), SDE (JAKARIA PERVEZ), SE

CHECKED BY: APPROVED BY:
(MST. TASMEM JAHAN), EE (MD. ABDUL BASIT), CE, DESIGN

DATE: 27-02-2024 DWG NO.: DC-5-5712-19/33

DATE	PREPARED	CHD	REM	APPROVED	REVISIONS	DATE: 27-02-2024	DWG NO.: DC-5-5712-19/33
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N:B:-
a) For Details "X", "Y" & "Z" See Sheet No. 27 of 33

BANGLADESH WATER DEVELOPMENT BOARD
OFFICE OF THE SUPERINTENDING ENGINEER
DESIGN CIRCLE-5

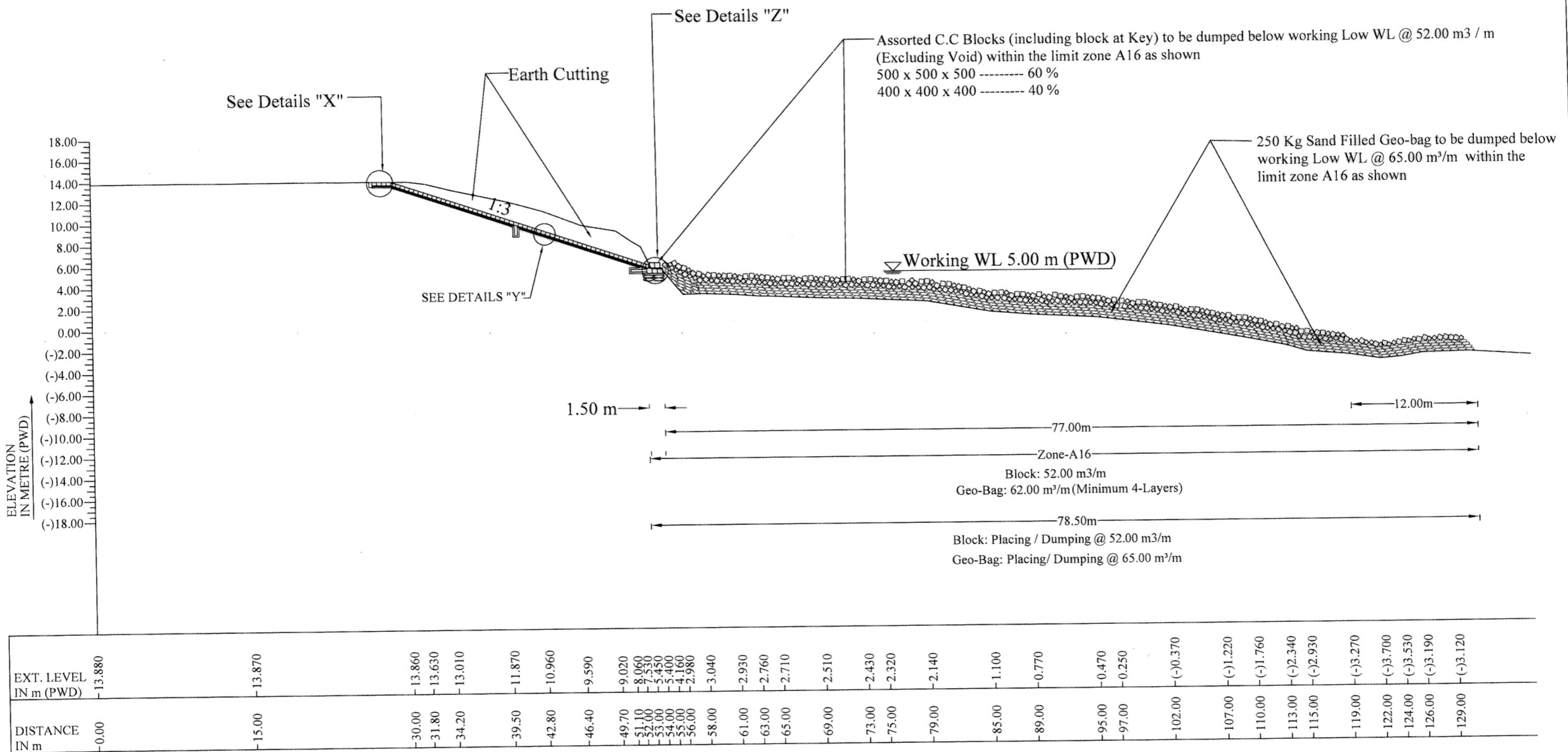
"Protection of Talbaria area of Mirpur Upazila & Kamorkandi area of Shelaidah Union of Kumarkhali Upazila in Kushtia District from the erosion of Padma River"

Design of Protective Work along the R/B of Padma River from KM 6.720 to KM 15.720=9.000 KM at Talbaria, Baruipara and Bahalbaria union, Upazila: Mirpur, District: Kushtia Kushtia O & M Division, BWDB, Kushtia.

SECTION OF PROTECTIVE WORK AT KM 15.470

DESIGNED BY:	RECOMMENDED BY:
(SHAMMI AKHTER), SDE	(JAKARIA PERVEZ), SE
CHECKED BY:	APPROVED BY:
27.02.2024	27.02.2024
MST. TASMEM JAHAN, EE	(MD. ABDUL BASIT), CE, DESIGN
DATE: 27-02-2024	DWG NO.: DC-5-5712-20/33

DATE	PREPARED	CHD	REM	APPROVED
REVISIONS				



TYPICAL X-SECTION

(This Filter Drain Applicable from KM 14.870 TO KM 15.250,
KM 15.320 TO KM 15.500 & KM 15.600 TO KM 15.720)

N:B:-
a) For Details "X", "Y" & "Z" See Sheet No. 27 of 33

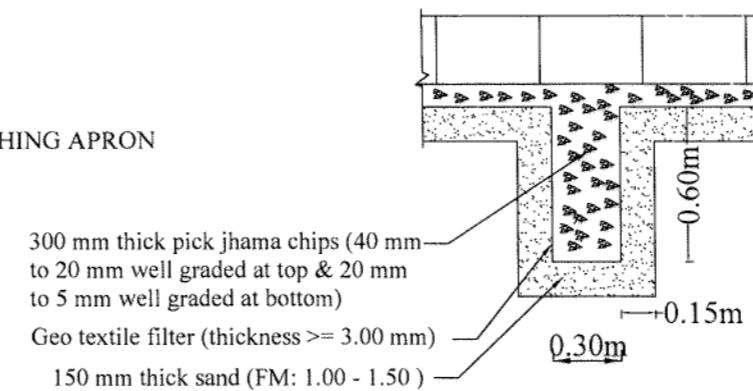
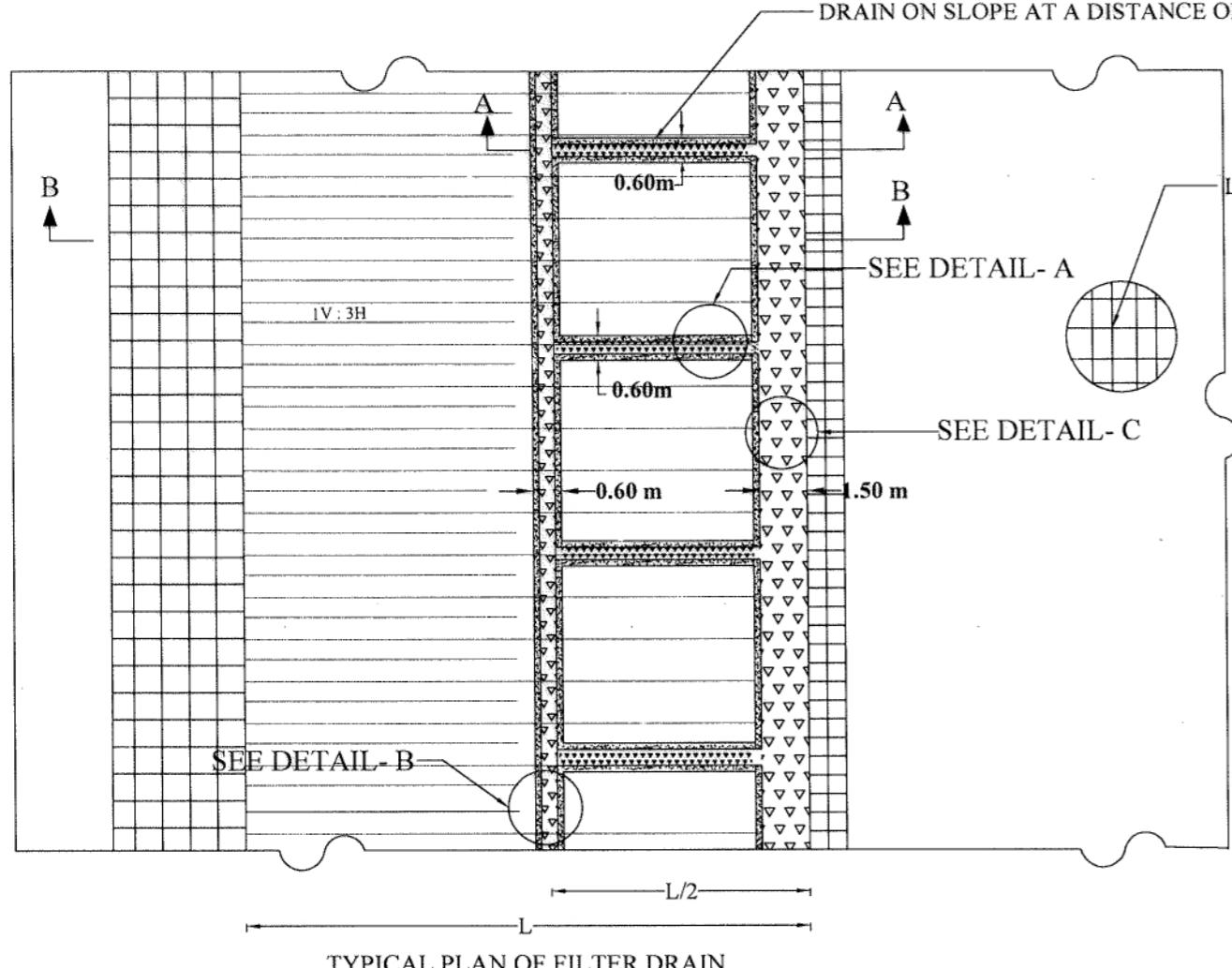
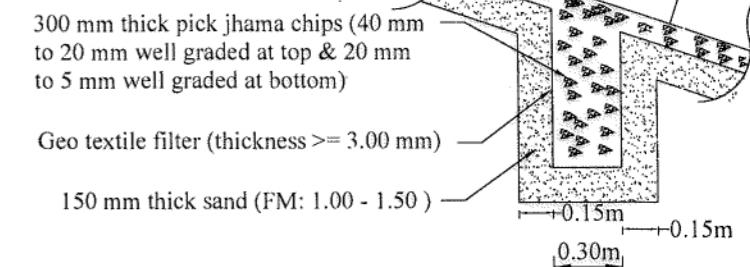
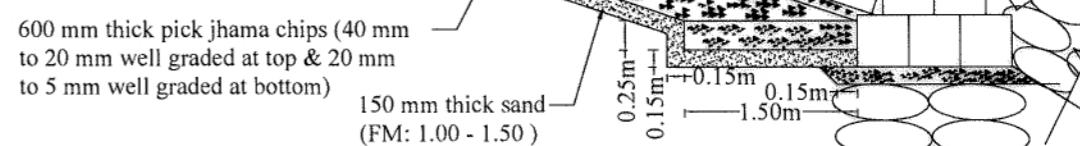
BANGLADESH WATER DEVELOPMENT BOARD
OFFICE OF THE SUPERINTENDING ENGINEER
DESIGN CIRCLE-5

"Protection of Talbaria area of Mirpur Upazila & Kamorkandi
area of Shelaibah Union of Kumarkhali Upazila in Kushtia District
from the erosion of Padma River"

Design of Protective Work along the R/B of Padma River from
KM 6.720 to KM 15.720=9.000 KM at Talbaria, Baruipara and
Bahalbaria union, Upazila: Mirpur, District: Kushtia
Kushtia O & M Division, BWDB, Kushtia.

SECTION OF PROTECTIVE WORK

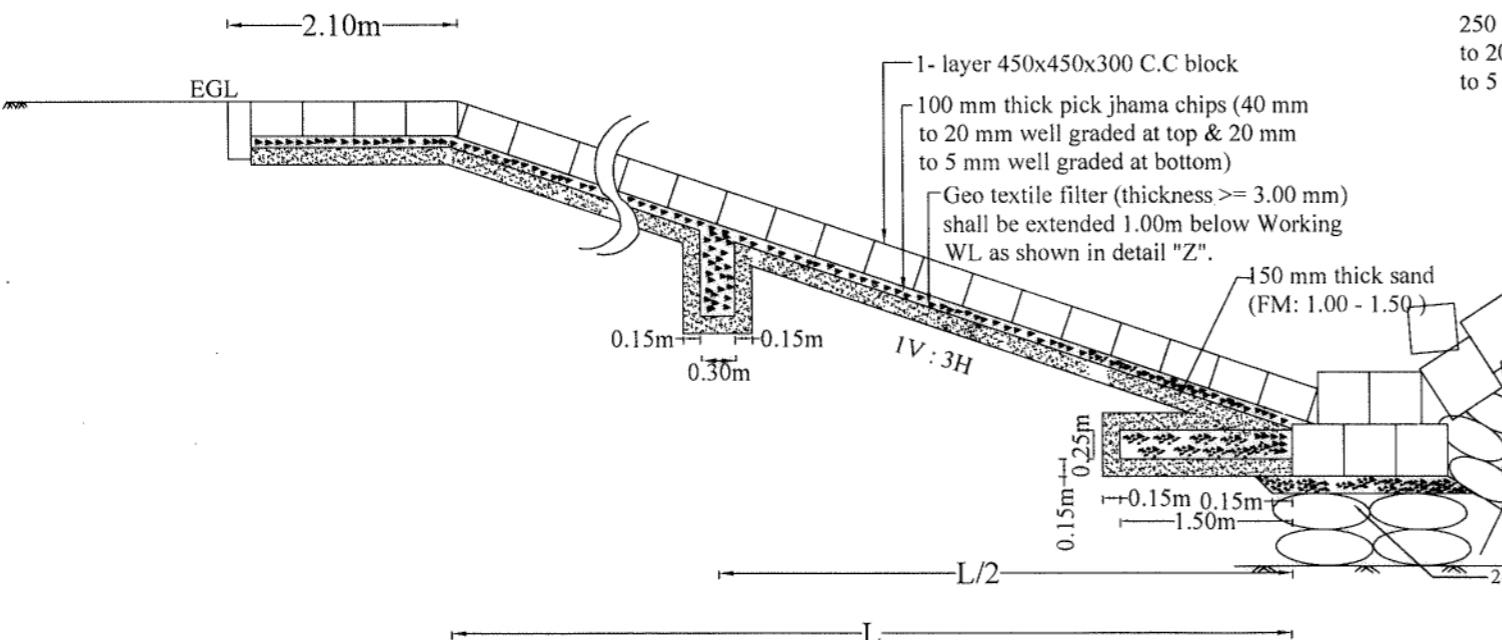
DESIGNED BY:	RECOMMENDED BY:					
CHECKED BY :		APPROVED BY :				
		27-02-2024				
(MST. TASLIM JAHAN), EE		(MD. ABDUL BASIT), CE, DESIGN				
DATE	PREPARED	CHD	REM	APPROVED	DATE: 27-02-2024	DWG NO.: DC-5-5712-21/33
REVISIONS						

**DETAIL 'A'****DETAIL 'B'****SECTION A-A**Geo textile filter (thickness ≥ 3.00 mm)

250 mm thick pick jhama chips (40 mm to 20 mm well graded at top & 20 mm to 5 mm well graded at bottom)

150 mm thick sand (FM: 1.00 - 1.50)

Working WL 5.00 m (PWD)

DETAIL 'C'**SECTION B-B**

BANGLADESH WATER DEVELOPMENT BOARD
OFFICE OF THE SUPERINTENDING ENGINEER
DESIGN CIRCLE-5

"Protection of Talbaria area of Mirpur Upazila & Kamarkandi area of Shelaiddah Union of Kumerkhalia Upazila in Kushtia District from the erosion of Padma River"

Design of Protective Work along the R/B of Padma River from KM 6.720 to KM 15.720=9.000 KM at Talbaria, Baruipara and Bahalbaria union, Upazila: Mirpur, District: Kushtia Kushtia O & M Division, BWDB, Kushtia.

DETAILS OF FILTER DRAIN

DESIGNED BY:	RECOMMENDED BY:
(SHAMMI AKHTER), SDE	(JAKARIA PERVEZ), SE
CHECKED BY:	APPROVED BY:
27-02-2023	27-02-2023
(MST. TASMEM JAHAN), EE	(MD. ABDUL BASIT), CE, DESIGN
DATE: 27-02-2024	DATE: 27-02-2023
REVISONS	DWG NO.: DC-5-712-22/33

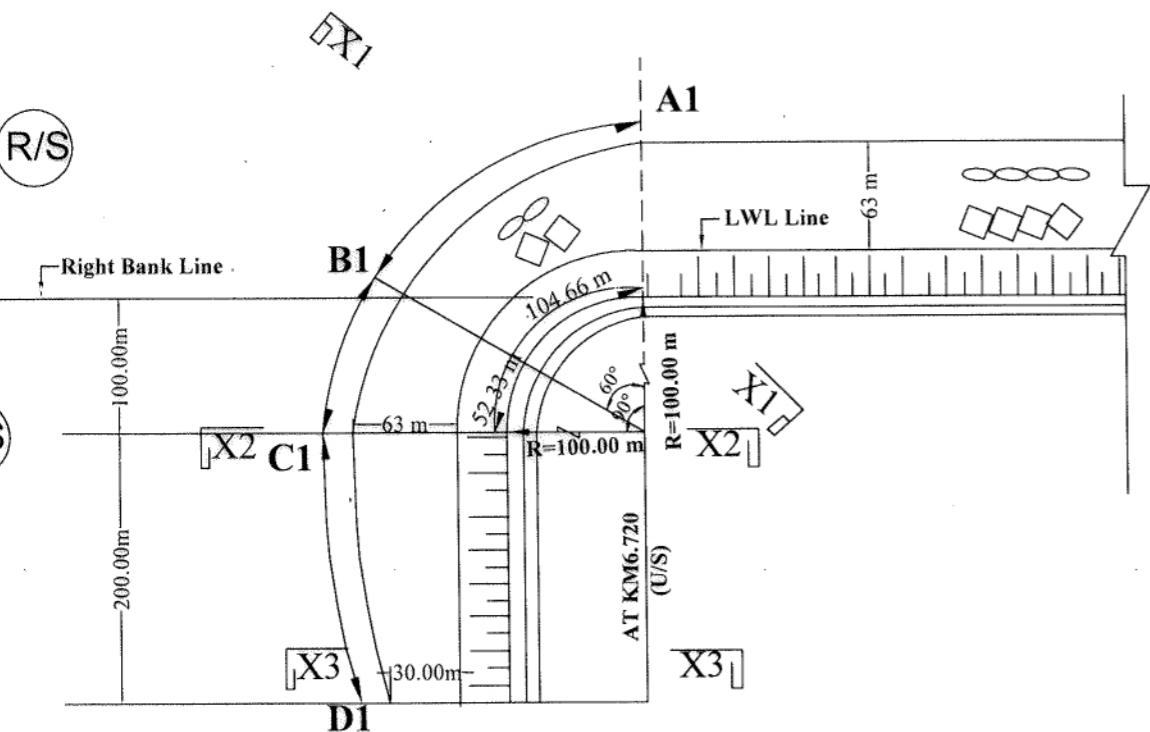
U/S

D/S

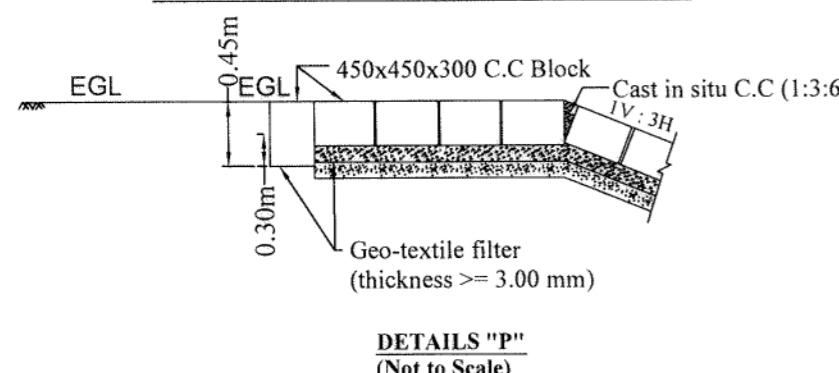
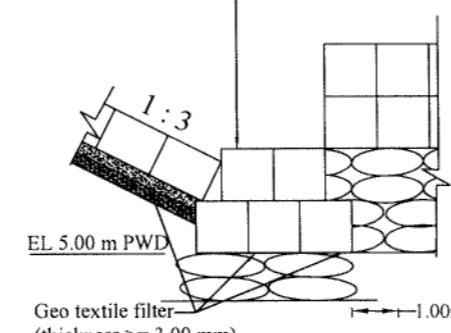
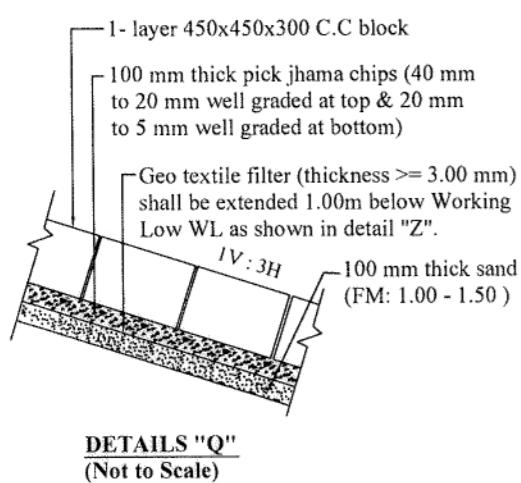
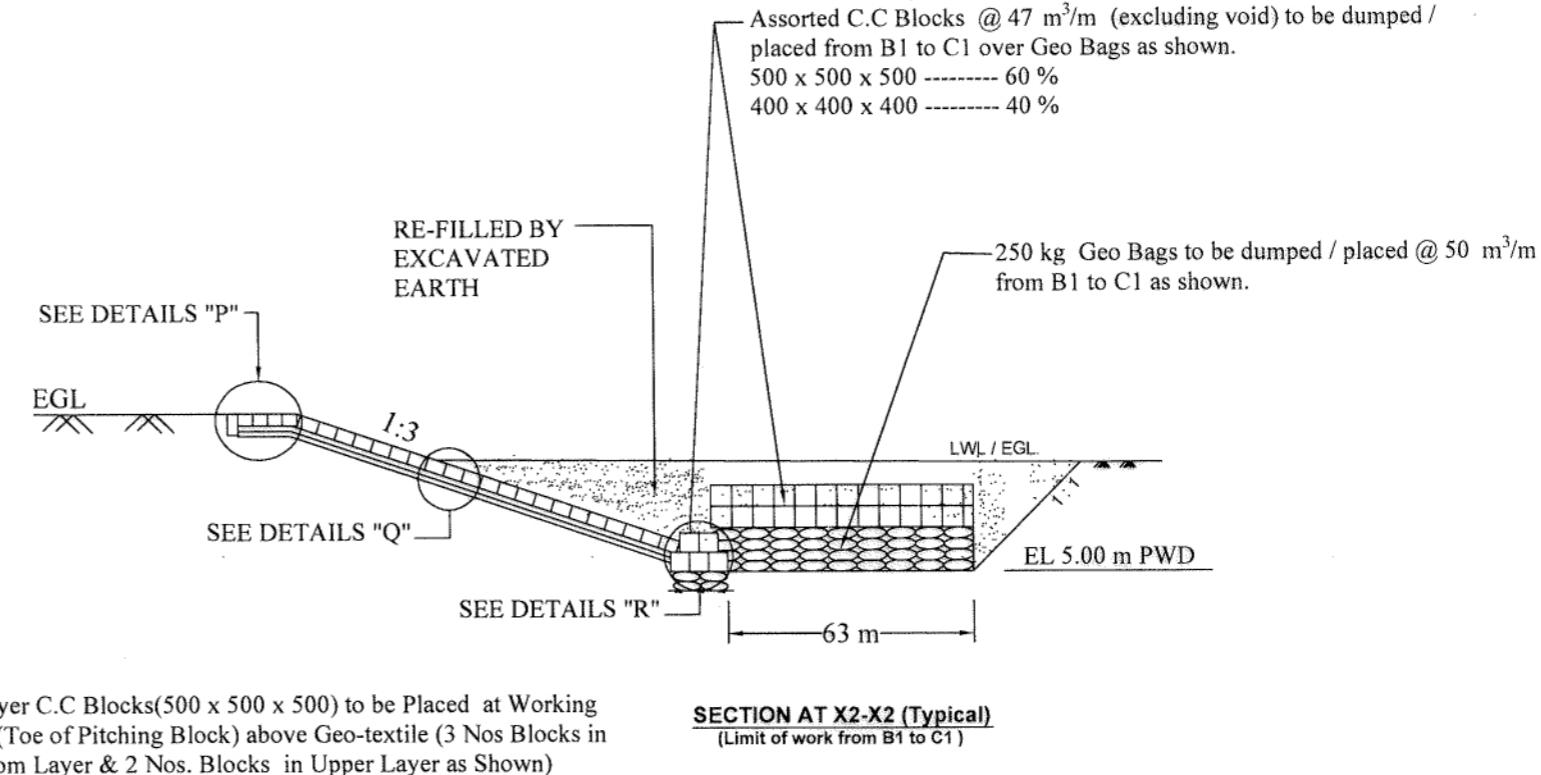
PADMA RIVER

R/S

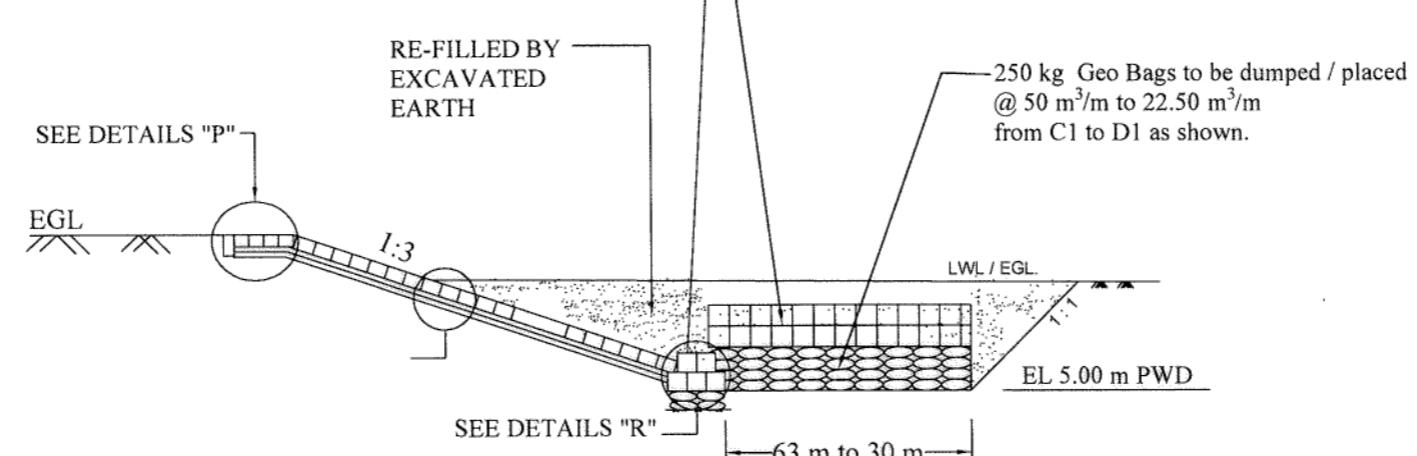
C/S



PLAN OF U/S END TERMINATION

DETAILS "P"
(Not to Scale)DETAILS "R"
(Not to Scale)DETAILS "Q"
(Not to Scale)

2-Layer C.C Blocks(500 x 500 x 500) to be Placed at Working WL (Toe of Pitching Block) above Geo-textile (3 Nos Blocks in Bottom Layer & 2 Nos. Blocks in Upper Layer as Shown)



Scale: Not To Scale

DATE PREPARED CHD REM APPROVED

REVISIONS

BANGLADESH WATER DEVELOPMENT BOARD

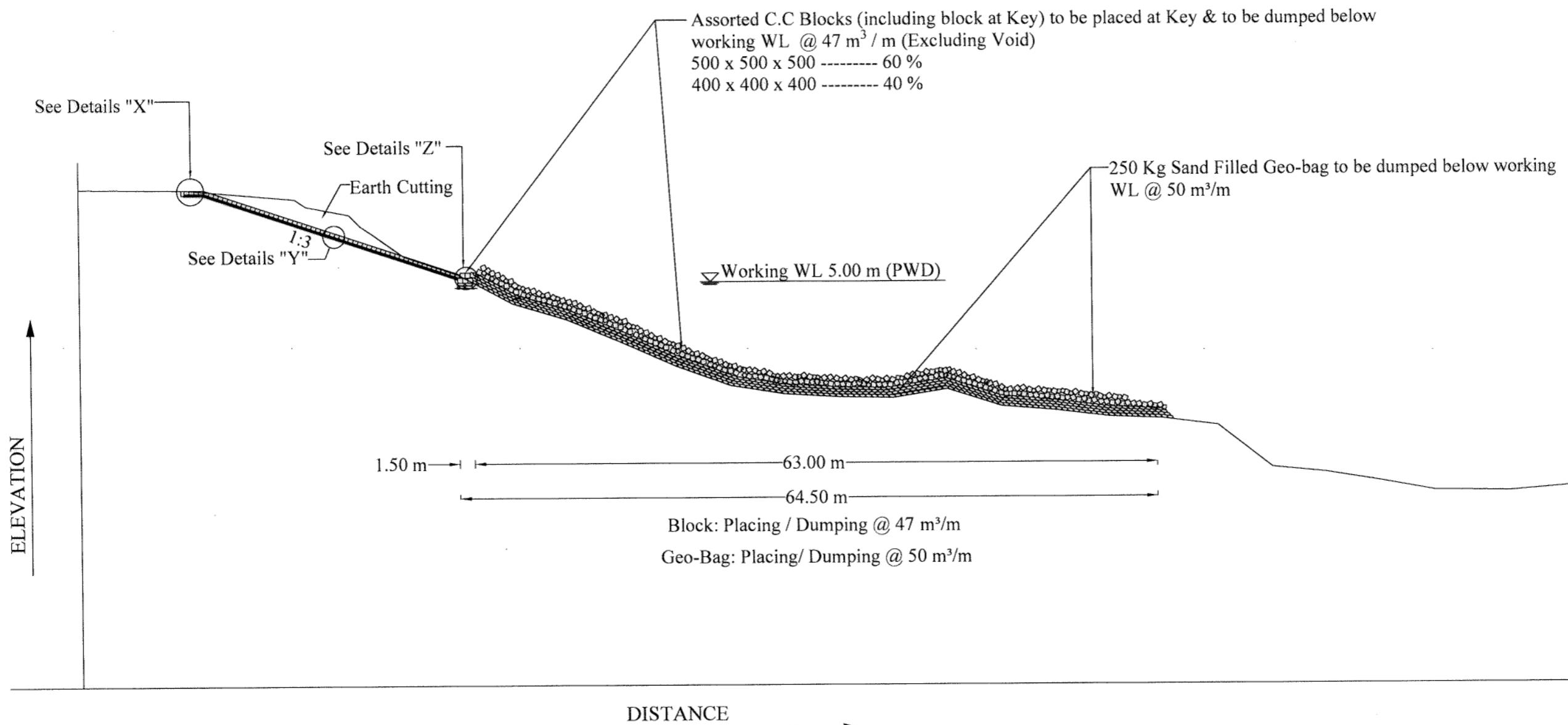
OFFICE OF THE SUPERINTENDING ENGINEER
DESIGN CIRCLE-5

"Protection of Talbaria area of Mirpur Upazila & Kamorkandi area of Shelaiddah Union of Kumarkhali Upazila in Kushtia District from the erosion of Padma River"

Design of Protective Work along the R/B of Padma River from KM 6.720 to KM 15.720=9.000 KM at Talbaria, Baruipara and Bahalbaria union, Upazila: Mirpur, District: Kushtia Kushtia O & M Division, BWDB, Kushtia.

DETAILS OF PROTECTIVE WORK FOR U/S END TERMINATION

DESIGNED BY: 	RECOMMENDED BY:
(SHAMMI AKHTER), SDE	(JAKARIA PERVEZ), SE
CHECKED BY: 	APPROVED BY:
(MST. TASMEM JAHAN), EE	(MD. ABDUL BASIT), CE, DESIGN
DATE: 27-02-2024	DWG NO.: DC-5-5712-23/33



SECTION X1-X1
(Limit of work from A1 to B1)

N:B:-
a) For Details "X", "Y" & "Z" See Sheet No. 27 of 33

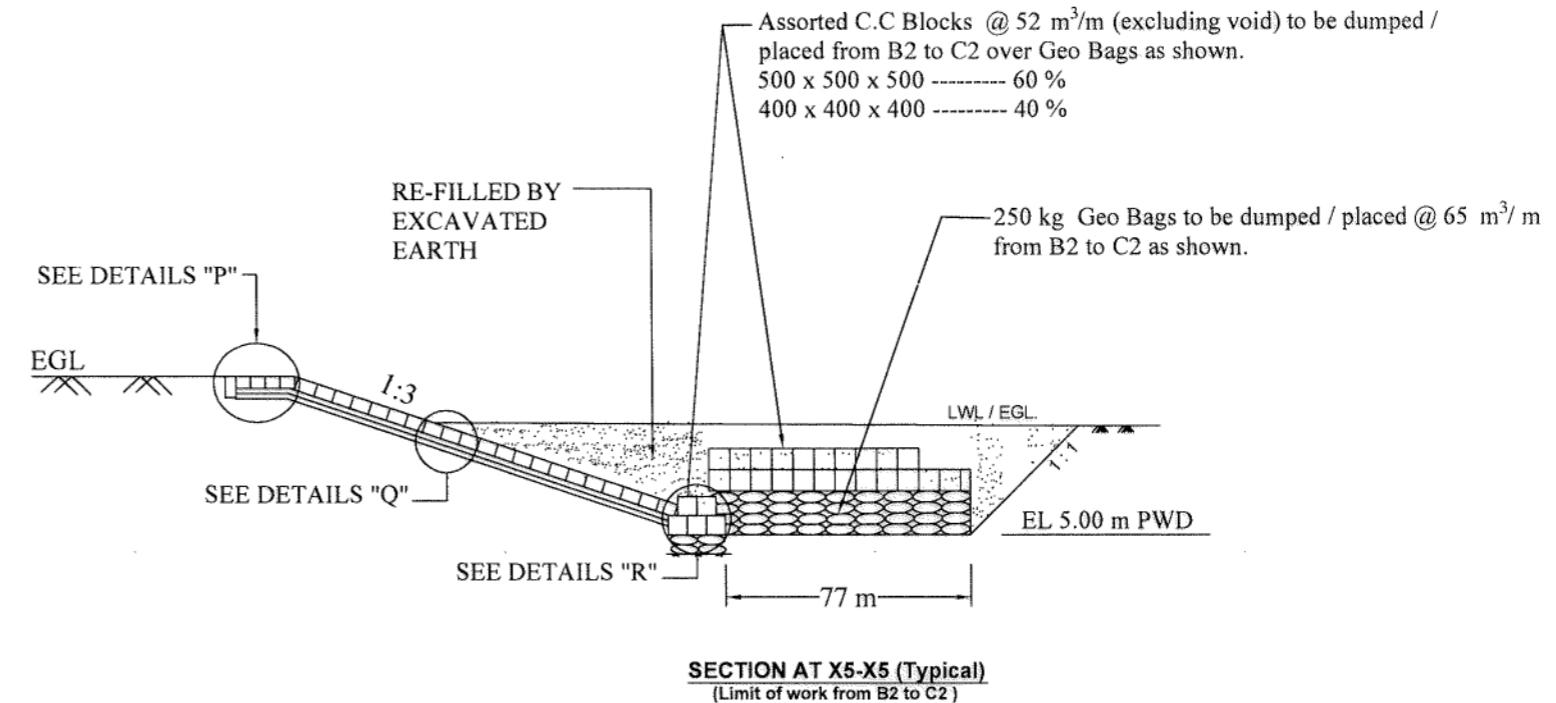
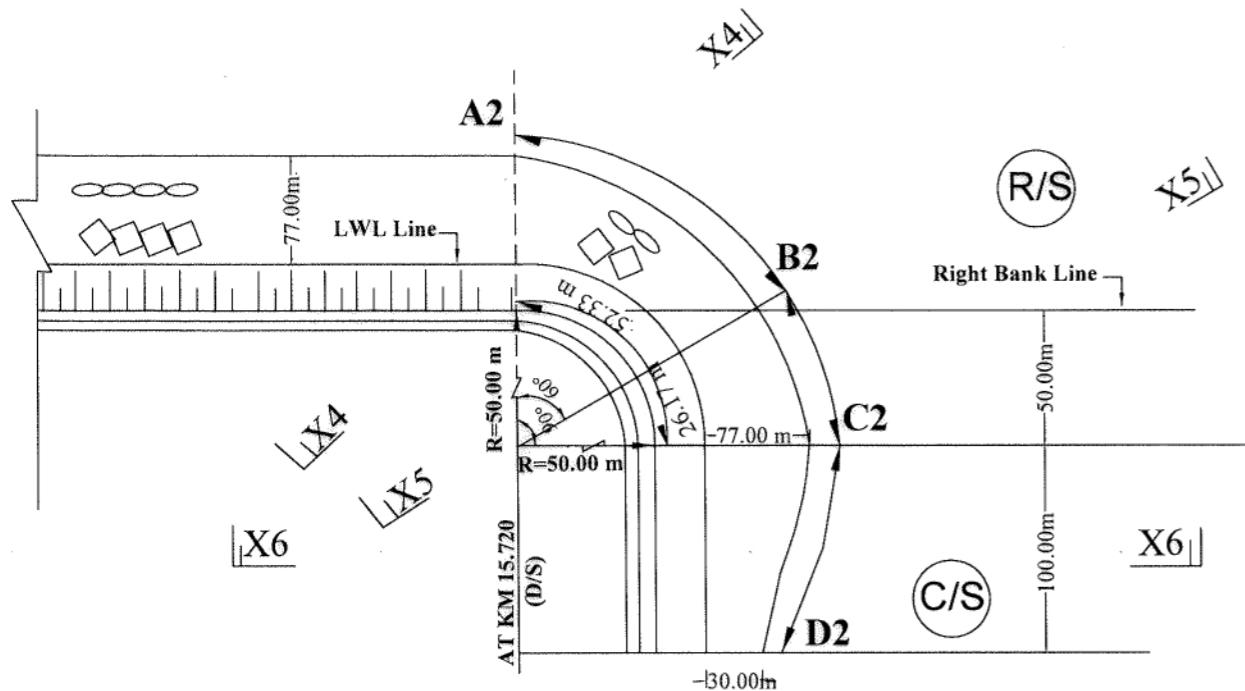
BANGLADESH WATER DEVELOPMENT BOARD					
OFFICE OF THE SUPERINTENDING ENGINEER					
DESIGN CIRCLE-5					
"Protection of Talbaria area of Mirpur Upazila & Kamorkandi area of Shelaidah Union of Kumarkhali Upazila in Kushtia District from the erosion of Padma River"					
Design of Protective Work along the R/B of Padma River from KM 6.720 to KM 15.720=9.000 KM at Talbaria, Baruipara and Bahalbaria union, Upazila: Mirpur, District: Kushtia Kushtia O & M Division, BWDB, Kushtia.					DETAILS OF U/S END TERMINATION
					DESIGNED BY:
					RECOMMENDED BY:
(SHAMMI AKHTER), SDE					CHECKED BY:
					APPROVED BY:
(MST. TASMEM JAHAN), EE					(MD. ABDUL BASIT), CE, DESIGN
					DATE: 27-02-2024 DWG NO.: DC-5-5712-24/33
					REVISIONS

U/S

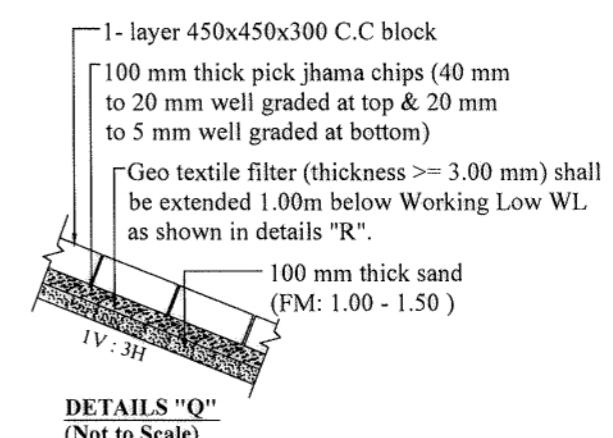
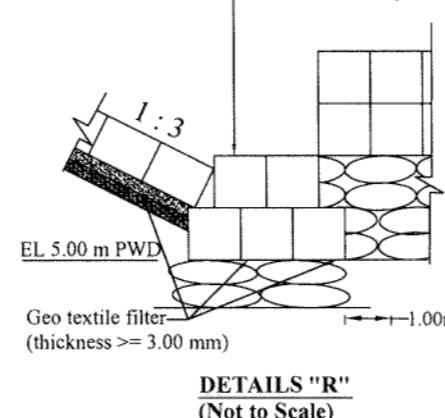
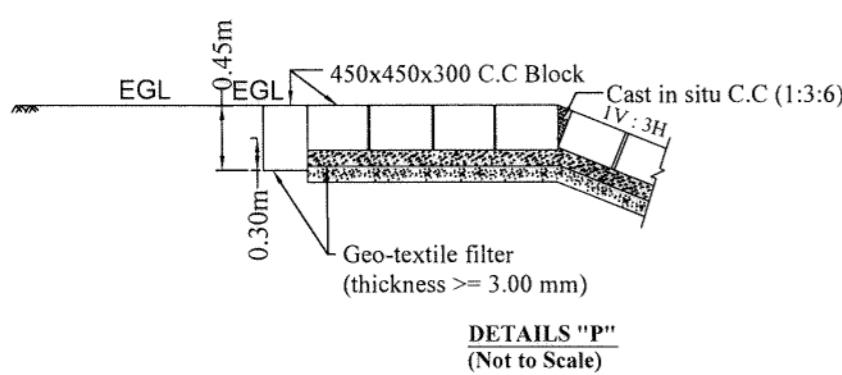
PADMA RIVER

D/S

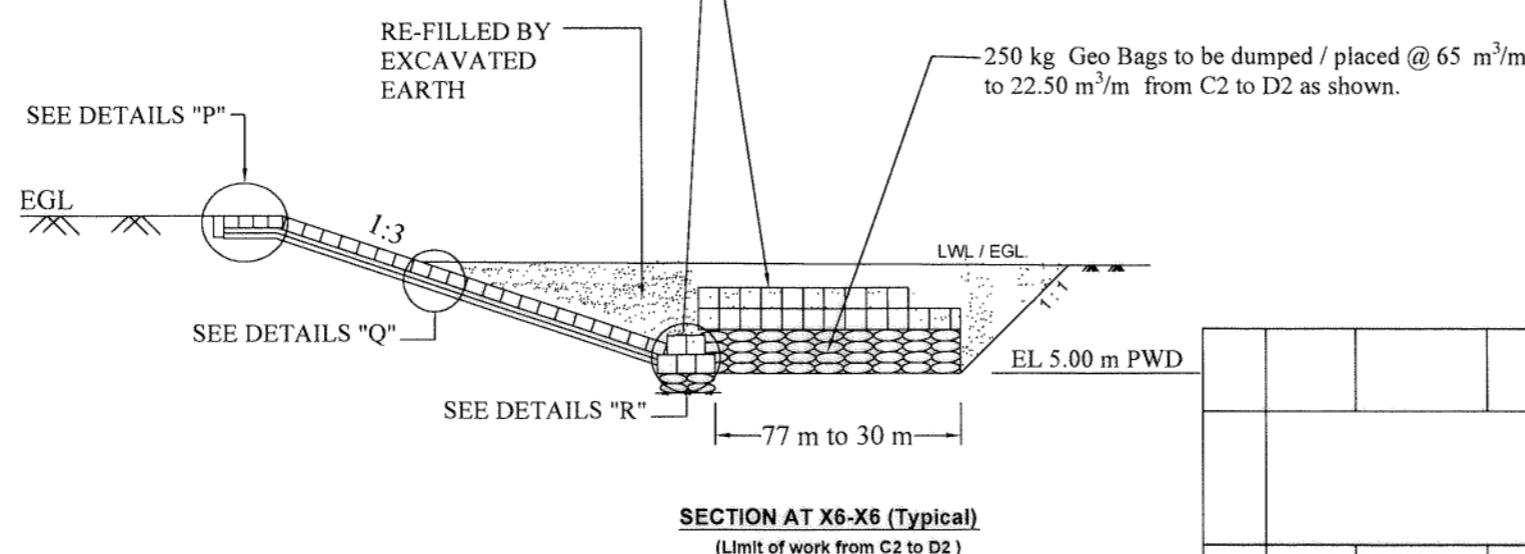
Sheet No. 25 of 33



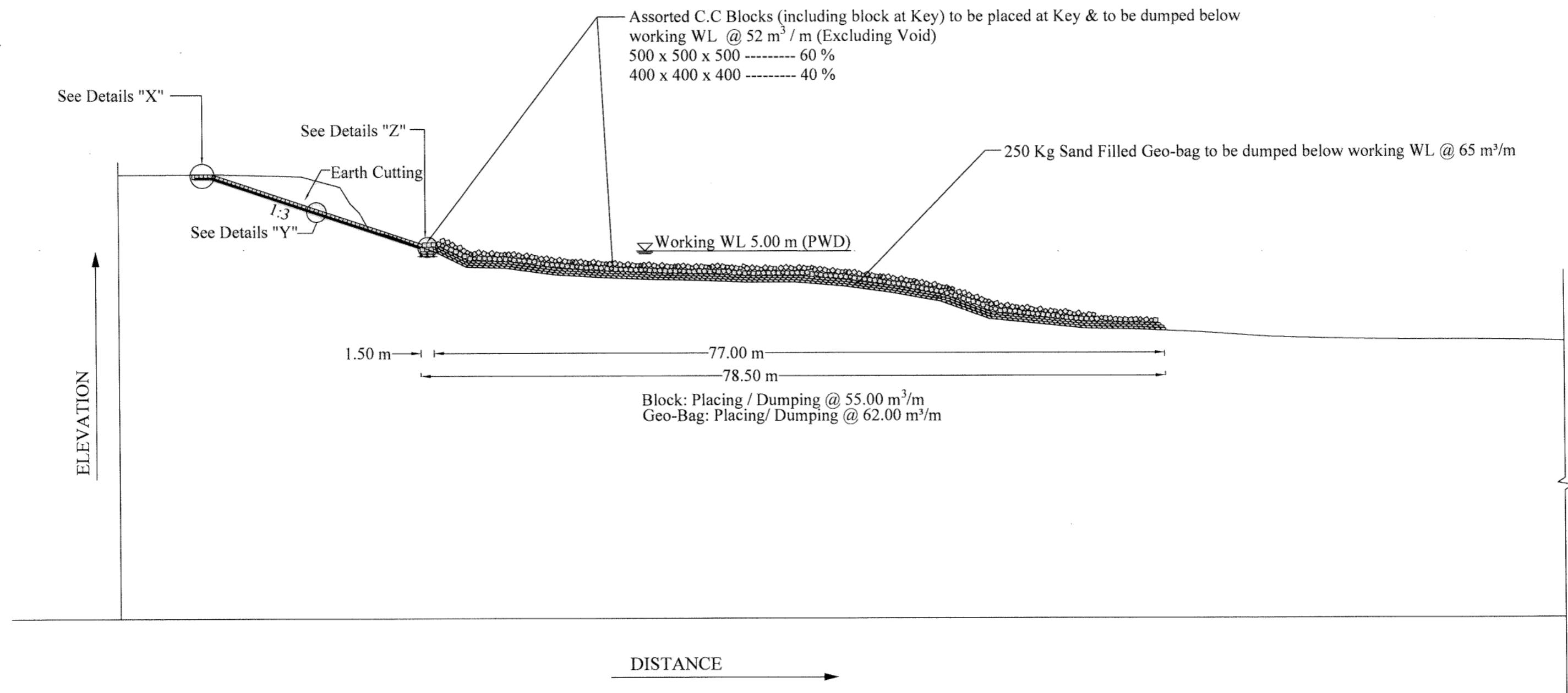
PLAN OF D/S END TERMINATION



Scale: Not To Scale



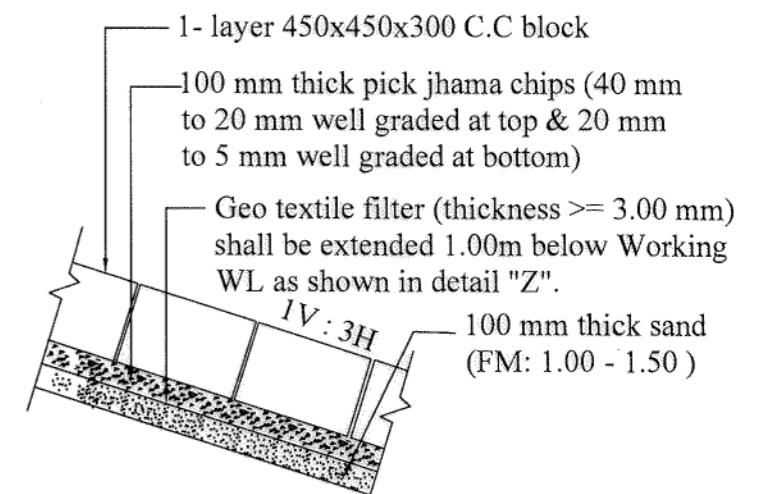
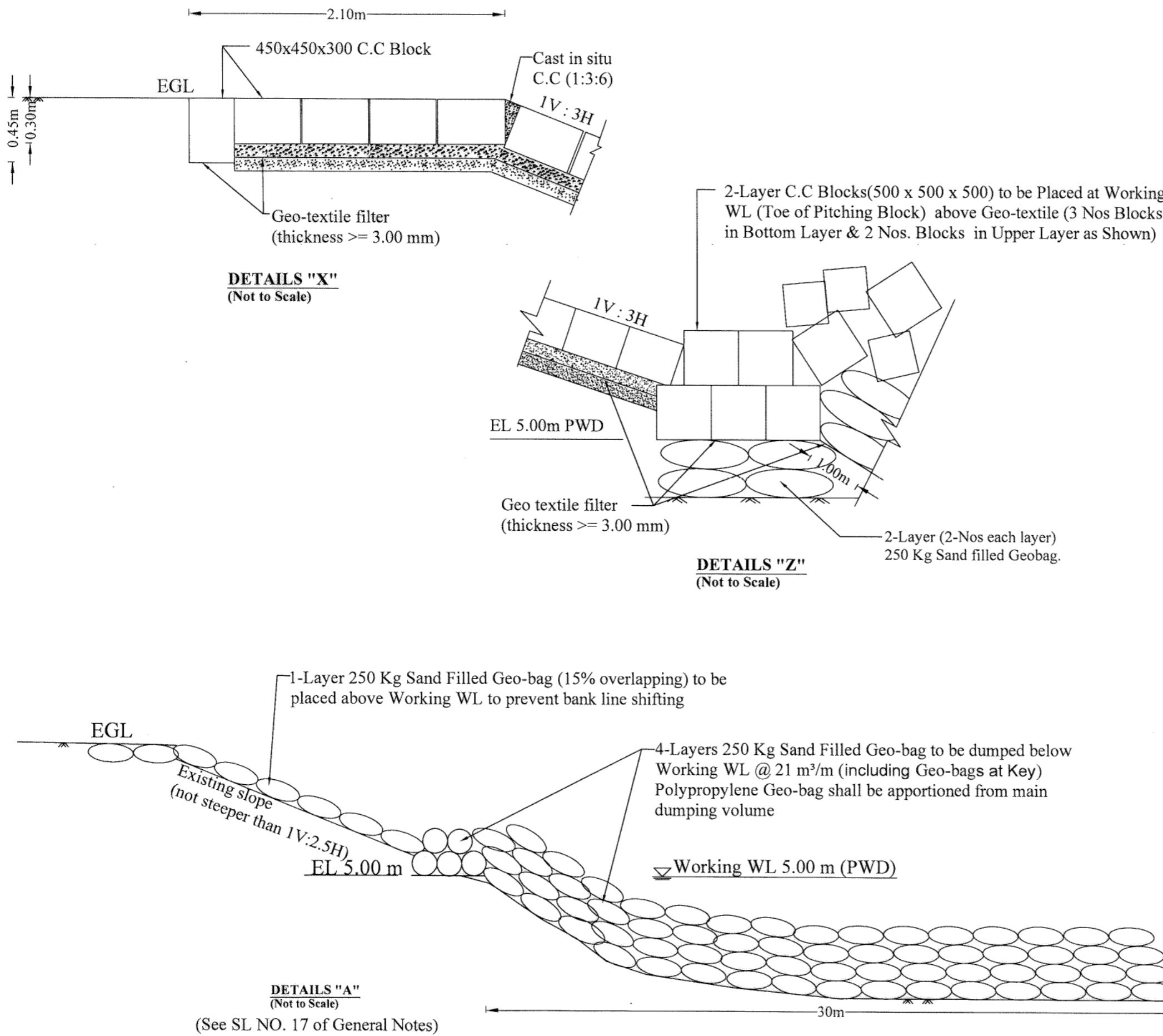
BANGLADESH WATER DEVELOPMENT BOARD OFFICE OF THE SUPERINTENDING ENGINEER DESIGN CIRCLE-5 "Protection of Talbaria area of Mirpur Upazila & Kamorkandi area of Shelaidah Union of Kumarkhali Upazila in Kushtia District from the erosion of Padma River"									
Design of Protective Work along the R/B of Padma River from KM 6.720 to KM 15.720=9.000 KM at Talbaria, Baruipara and Bahalbaria union, Upazila: Mirpur, District: Kushtia Kushtia O & M Division, BWDB, Kushtia.									
DETAILS OF PROTECTIVE WORK FOR D/S END TERMINATION									
DESIGNED BY: 		RECOMMENDED BY: 							
(SHAMMI AKHTER), SDE		(JAKARIA PERVEZ), SE							
CHECKED BY: 									
APPROVED BY: 									
DATE: 27-02-2024									
DWG NO.: DC-5-5712-25/33									
REVISIONS									



SECTION X4-X4
(Limit of work from A2 to B2)

N:B:-
a) For Details "X", "Y" & "Z" See Sheet No. 27 of 33

BANGLADESH WATER DEVELOPMENT BOARD OFFICE OF THE SUPERINTENDING ENGINEER DESIGN CIRCLE-5					
"Protection of Talbaria area of Mirpur Upazila & Kamorkandi area of Shelaidah Union of Kumarkhali Upazila in Kushtia District from the erosion of Padma River"					
Design of Protective Work along the R/B of Padma River from KM 6.720 to KM 15.720=9.000 KM at Talbaria, Baruipara and Bahalbaria union, Upazila: Mirpur, District: Kushtia Kushtia O & M Division, BWDB, Kushtia.					
DETAILS OF D/S END TERMINATION					
DESIGNED BY: 	RECOMMENDED BY: 				
(SHAMMI AKHTER), SDE	(JAKARIA PERVEZ), SE				
CHEKED BY: 	APPROVED BY: 				
DATE	PREPARED	CHD	REM	APPROVED	(MST. TASMEM JAHAN), EE (MD. ABDUL BASIT), CE, DESIGN
REVISIONS					DATE: 27-02-2024 DWG NO.: DC-5-5712-26/33



DETAILS "Y"
(Not to Scale)

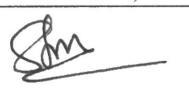
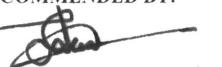
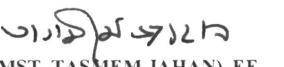
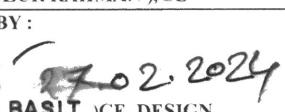
DATE PREPARED CHD REM APPROVED

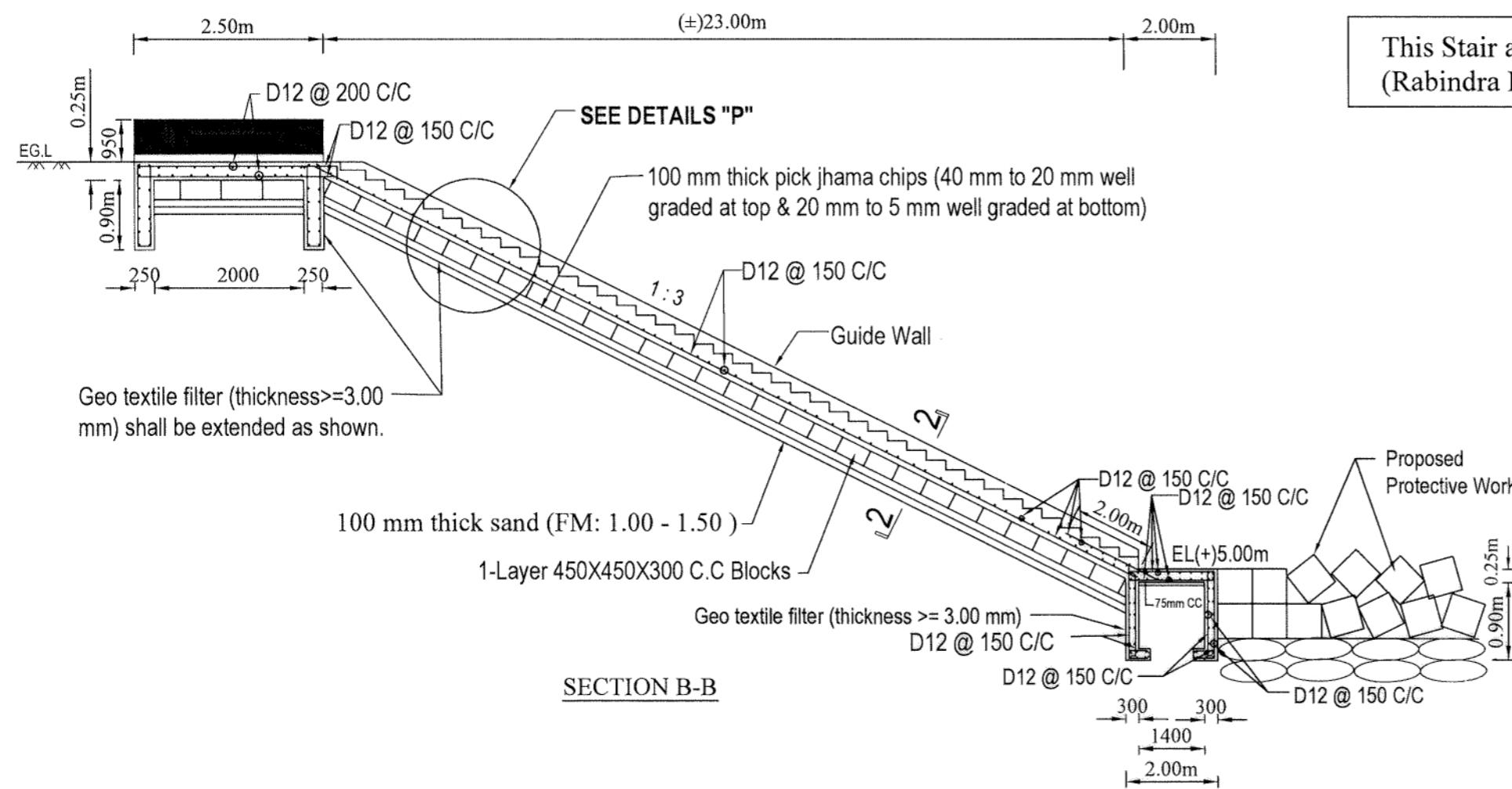
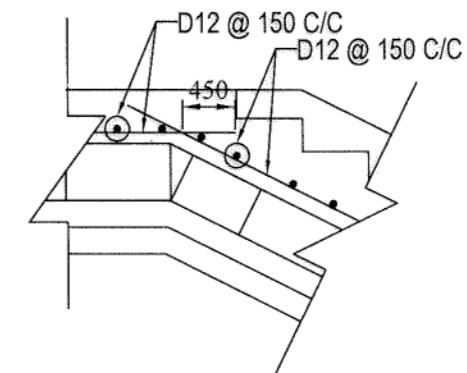
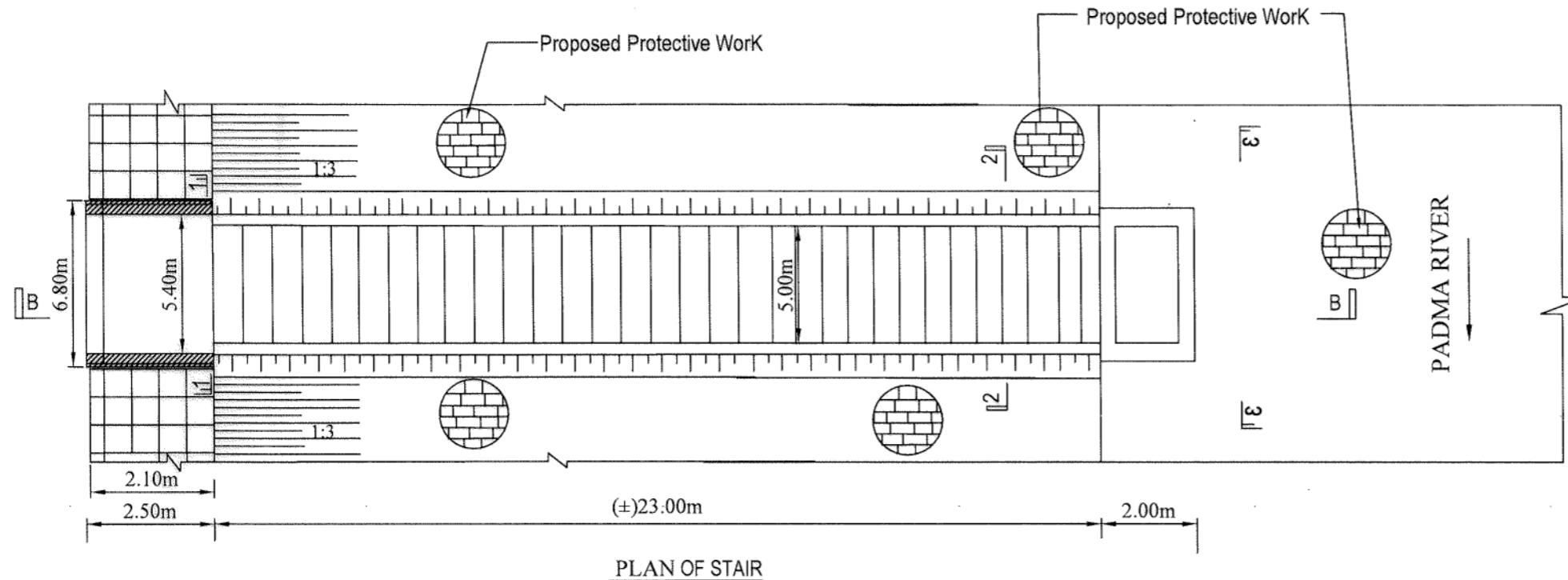
R E V I S I O N S

BANGLADESH WATER DEVELOPMENT BOARD					
OFFICE OF THE SUPERINTENDING ENGINEER					
DESIGN CIRCLE-5					
"Protection of Talbaria area of Mirpur Upazila & Kamorkandi area of Shelaidah Union of Kumarkhali Upazila in Kushtia District from the erosion of Padma River"					
Design of Protective Work along the R/B of Padma River from KM 6.720 to KM 15.720=9.000 KM at Talbaria, Baruipara and Bahalbaria union, Upazila: Mirpur, District: Kushtia Kushtia O & M Division, BWDB, Kushtia.					
TITLE: DETAILS OF PROTECTIVE WORK					
DESIGNED BY:			RECOMMENDED BY:		
(SHAMMI AKHTER), SDE			(JAKARIA PERVEZ), SE		
CHECKED BY :			APPROVED BY :		
(MST. TASMEM JAHAN), EE			(MD. ABDUL BASIT), CE, DESIGN		
DATE: 27-02-2024			DWG NO.: DC-5-5712-27/33		

GENERAL NOTES FOR STAIR, R.C.C U-DRAIN & NAME PLATE :

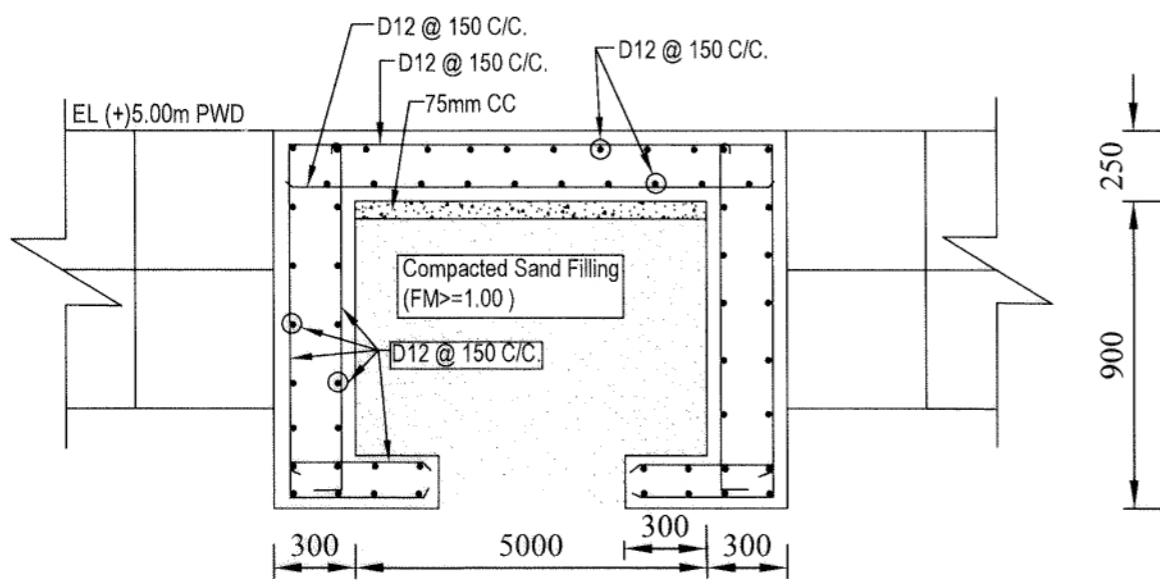
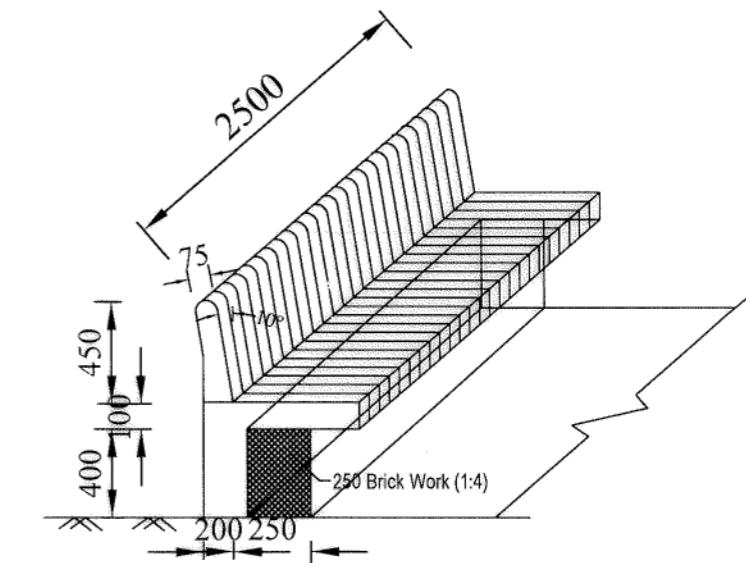
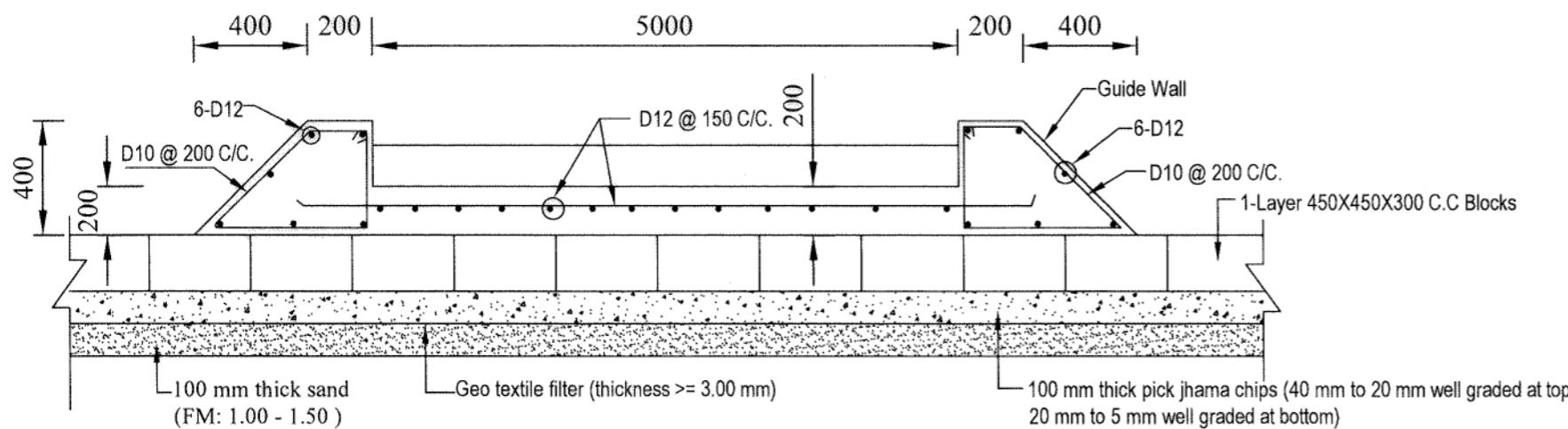
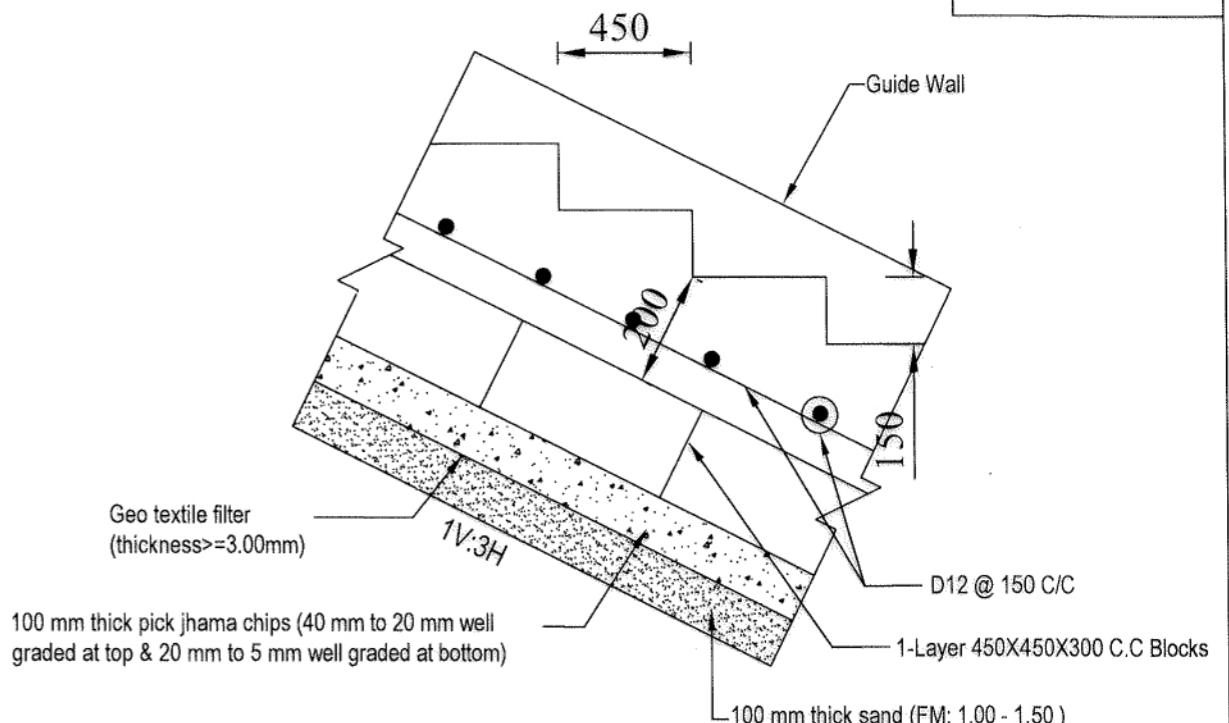
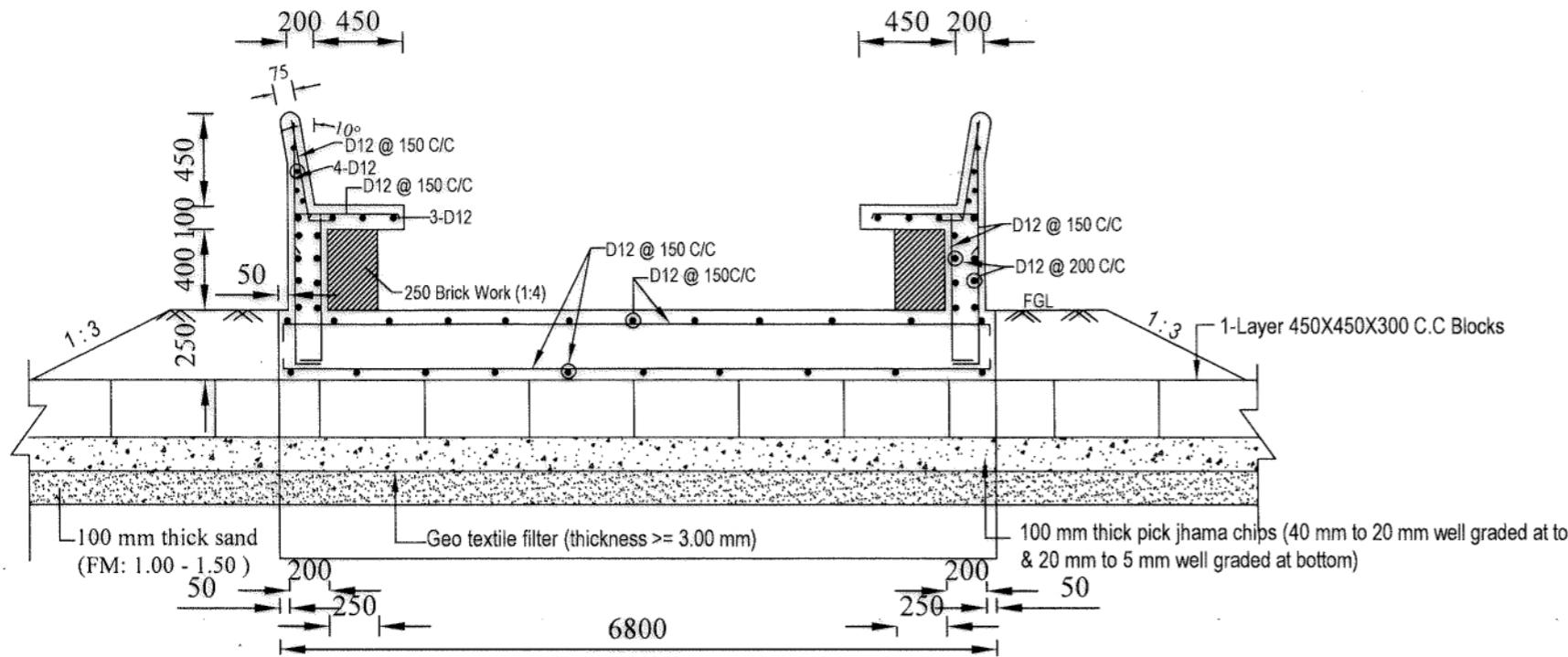
1. THE SPECIFICATION OF MATERIALS & WORKMANSHIP SHALL CONFORM TO THE STANDARD TECHNICAL SPECIFICATIO OF BWDB IN GENERAL.
2. THE FOLLOWING SPECIFICATION OF MATERIALS & WORKS SHALL BE FOLLOWED:
 - a. CONCRETE STRENGTH (CYLINDER TEST) IN R.C.C WORKS : 22 N/mm²
BLINDING LAYER CONCRETE : 1:3:6
 - b. YIELD STRENGTH OF RENIF. BAR (DEFORMED BAR) : 400 N/mm²
 - c. CLEAR COVER FOR R.C.C WORK : 65mm (unless otherwise mentioned in the drawing)
3. CONCRETE SHALL BE POURED IN DRY BED CONDITIONS.
4. CONCRETE MIXTURE SHALL BE POURED AS QUICK AS POSSIBLE BUT NOT LATER THAN 45 MINUTES AFTER MIXING.
5. THE SURFACE OF CONSTRUCTION JOINTS SHALL BE WASHED THOROUGHLY WITH WATER JET & SHALL BE CLEAN ENOUGH. SURFACE SHALL BE KEPT DRY PRIOR TO PLACEMENT OF ADJOINING CONCRETE.
6. COMPRESSIVE STRENGTH OF C.C. BLOCK SHOULD NOT BE LESS THAN 12.00 N/MM² BY CYLINDER TEST AT 28 DAYS AND USING STONE CHIPS AS COARSE AGGREGATE .
7. CURING OF C.C. BLOCK SHALL BE CONTINUED FOR MINIMUM 21 DAYS.
8. FILLING IN FOUNDATION TREATMENT SHALL BE DONE BY COMPACTED SAND OF F.M ≥ 1.00 AS SHOWN IN THE DRAWING (IF REQUIRED).
9. LAP LENGTH / DEVELOPMENT LENGTH OF REINFORCING BARS SHALL BE 40 BAR DIA.
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. LOCATION & NUMBERS OF RCC STAIR, R.C.C U-DRAIN & NAME PLATE SHALL BE FIXED BY FIELD OFFICE ACCORDING TO ACTUAL FIELD REQUIREMENT. STAIR AND DRAIN OF THIS DRAWING ALSO APPLICABLE FOR KM 7.970 TO KM 9.500=1.530 KM (RABINDRA KUTHIBARI AT SHELAIDHA).
13. DIMENSIONS AND LEVELS SHOWN IN THE DRAWINGS ARE IN MILLIMETER AND METER PWD RESPECTIVELY.
14. THE COMPACTION MUST BE ENSURED BY THE CONCERNED FIELD EXECUTIVE ENGINEER.
15. CUT-OFF WALL OF STAIR & R.C.C U-DRAIN MUST BE CONSTRUCTED FROM THE LOWER PART (NEAR LWL) TO UPWARDS.
16. DRAWING FOR STAIR, R.C.C U-DRAIN & NAME PLATE ARE AN INTEGRAL PART OF THIS PROPOSED PROTECTIVE WORKS.
17. ANY OMISSION / CORRECTION SHALL BE IMMEDIATELY INFORMED TO THE DESIGN CIRCLE-5, BWDB, DHAKA FOR TAKING NECESSARY ACTION.

	NOTES FOR STAIR, R.C.C U-DRAIN & NAME PLATE				
DESIGNED BY:		RECOMMENDED BY:			
(SHAMMI AKHTER), SDE		(MD. MAHFUZUR RAHMAN), SE			
CHECKED BY:					
(MST. TASLIM JAHAN), EE		APPROVED BY:			
	DATE	PREPARED	CHD	REM	APPROVED
	REVISIONS				
	DATE: 27-02-2024				
	DWG NO.: DC-5-5712-28/33				



This Stair also Applicable for KM 7.970 TO KM 9.500=1.530 KM
(Rabindra Kuthibari at Shelaiddaha)

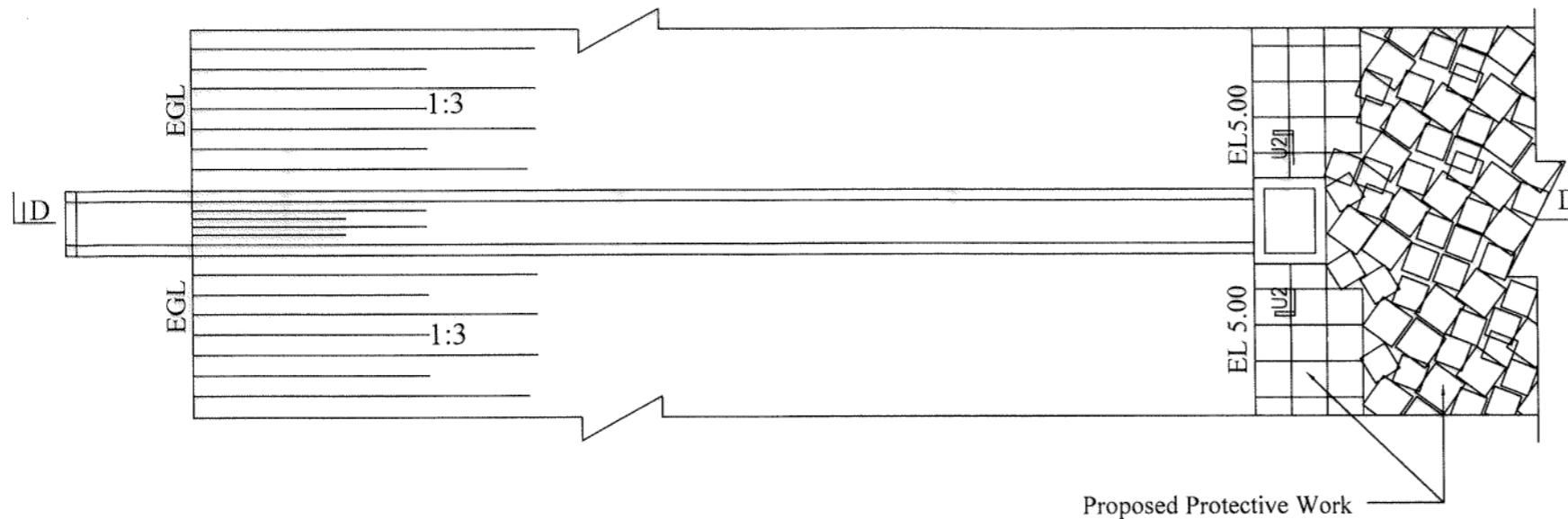
DATE	PREPARED	CHD	REM	APPROVED
REVISIONS				
BANGLADESH WATER DEVELOPMENT BOARD				
OFFICE OF THE SUPERINTENDING ENGINEER				
DESIGN CIRCLE-5				
"Protection of Talbaria area of Mirpur Upazila & Kamorkandi area of Shelaiddah Union of Kumarkhali Upazila in Kushtia District from the erosion of Padma River"				
Design of Protective Work along the R/B of Padma River from KM 6.720 to KM 15.720=9.000 KM at Talbaria, Baruipara and Bahalbaria union, Upazila: Mirpur, District: Kushtia Kushtia O & M Division, BWDB, Kushtia.				
PLAN & SECTION OF STAIR				
DESIGNED BY: 	RECOMMENDED BY: 			
(SHAMMI AKHTER), SDE	(JAKARIA PERVEZ), SE			
CHECKED BY: 	APPROVED BY: 			
(MST. TASMEM JAHAN), EE	(MD. ABDUL BASIT), CE, DESIGN			
DATE: 27-02-2024	DWG NO.: DC-5-5712-29/33			



This Stair also Applicable for
KM 7.970 TO KM 9.500=1.530 KM
(Rabindra Kuthibari at Shelaiddaha)

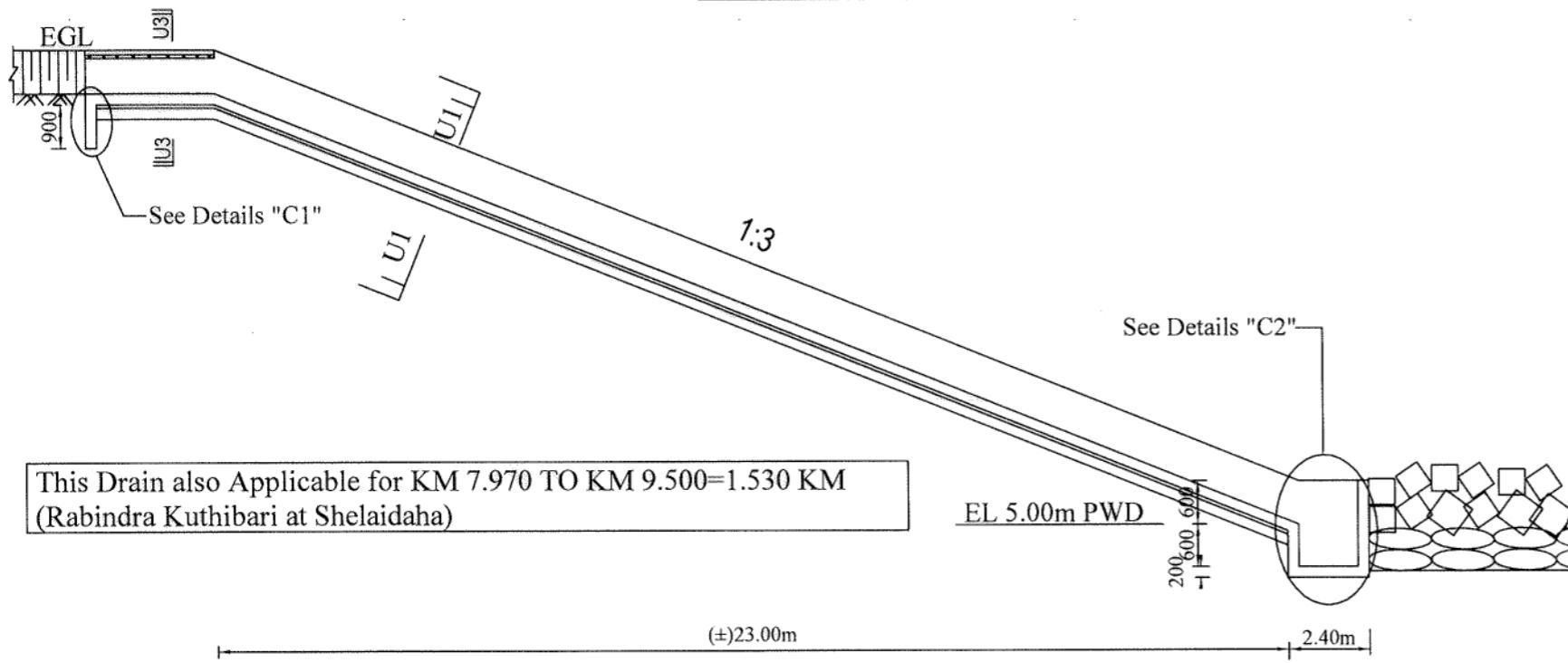
Scale: Not to Scale

DESIGNED BY:	RECOMMENDED BY:
(SHAMMI AKHTER), SDE	(JAKARIA PERVEZ), SE
CHECKED BY :	APPROVED BY :
(MST. TASLIM JAHAN), EE	(MD. ABDUL BASIT), CE, DESIGN
DATE: 27-02-2024	DATE: 27-02-2024
REVISONS	DWG NO.: DC-5-5712-30/33

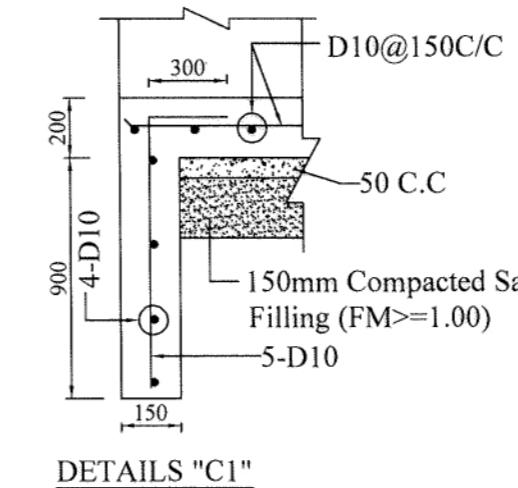


SECTION U1-U1

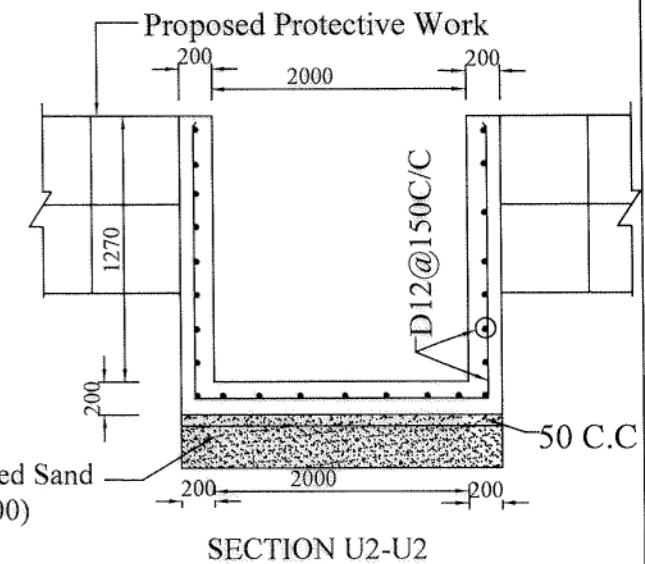
PLAN OF TYPICAL R.C.C U-DRAIN



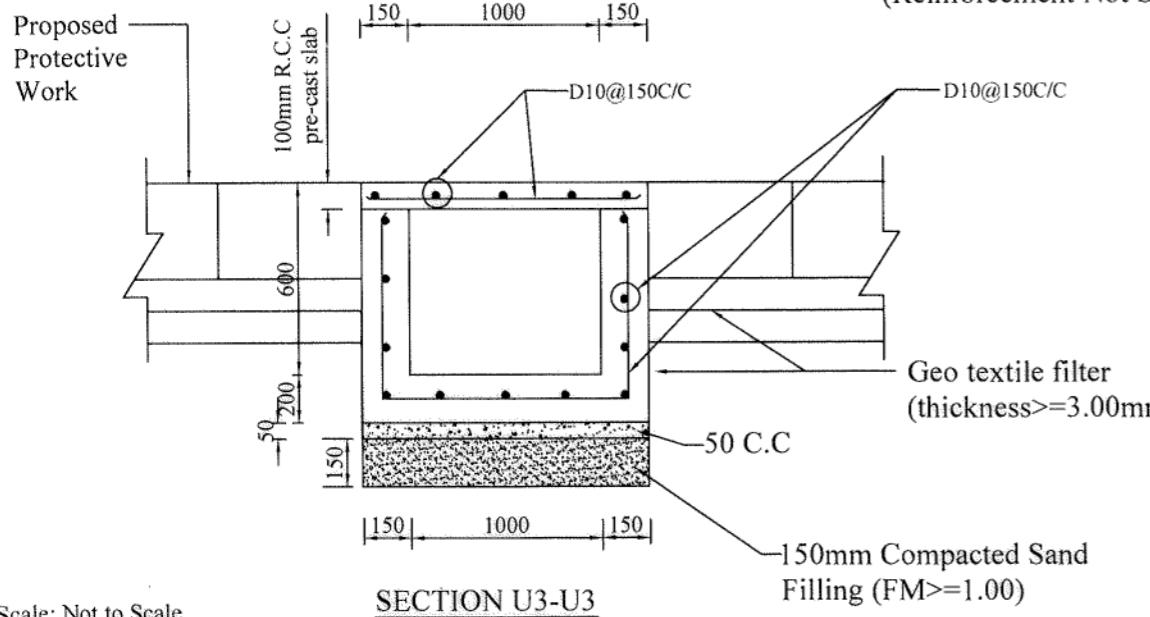
This Drain also Applicable for KM 7.970 TO KM 9.500=1.530 KM
(Rabindra Kuthibari at Shelaiddaha)



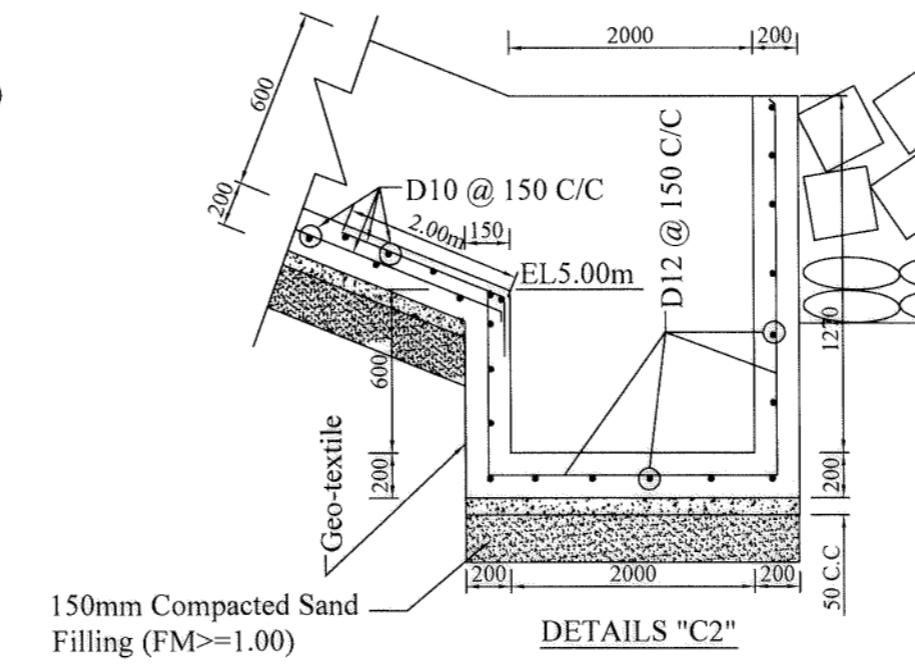
150mm Compacted Sand
Filling (FM >= 1.00)



SECTION U2-U2



Scale: Not to Scale



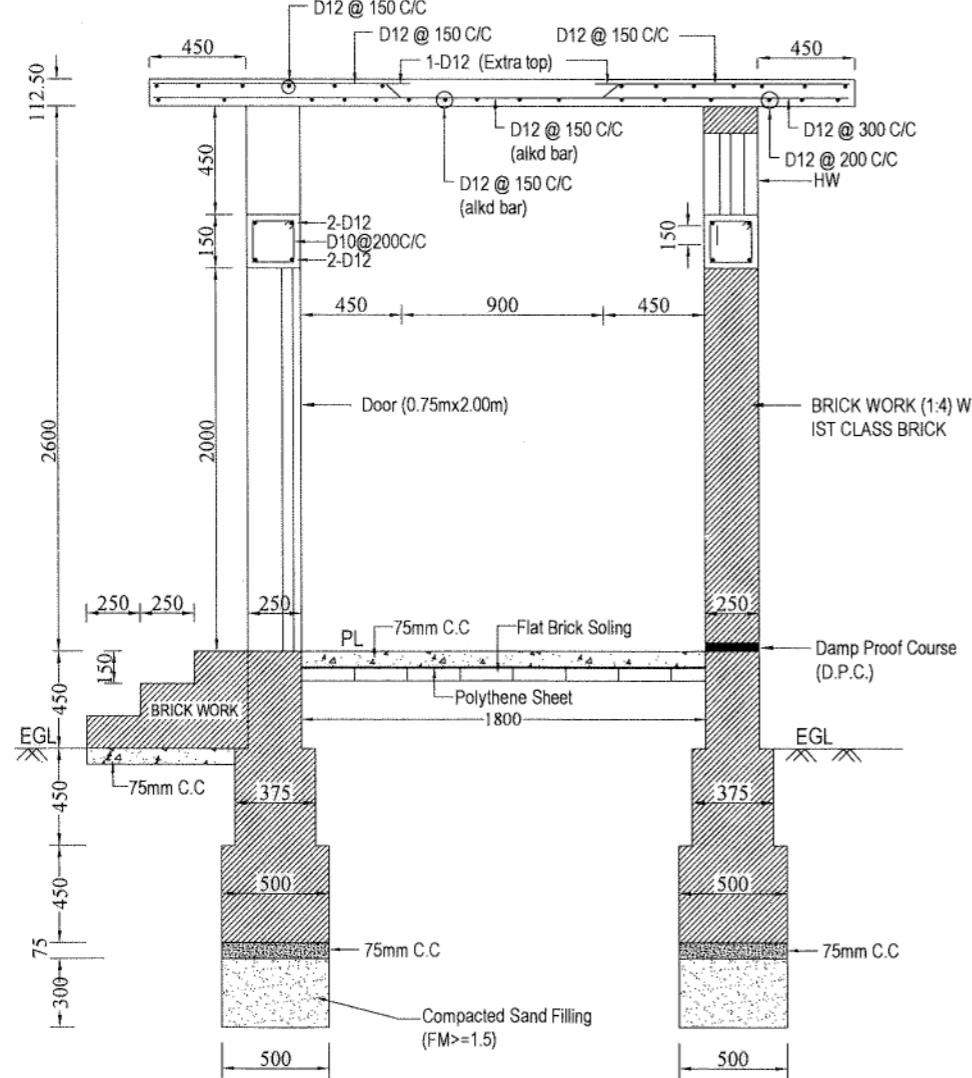
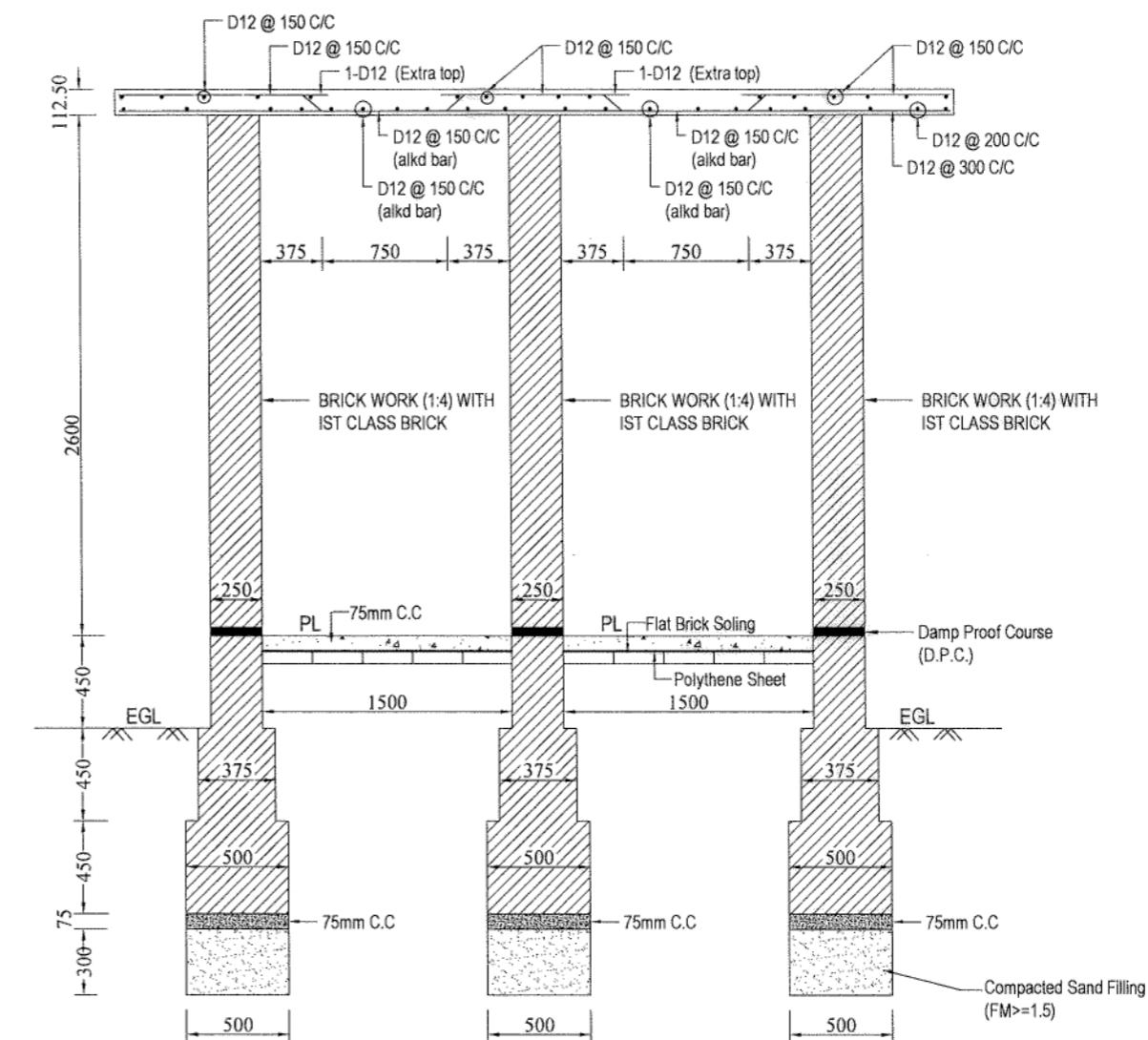
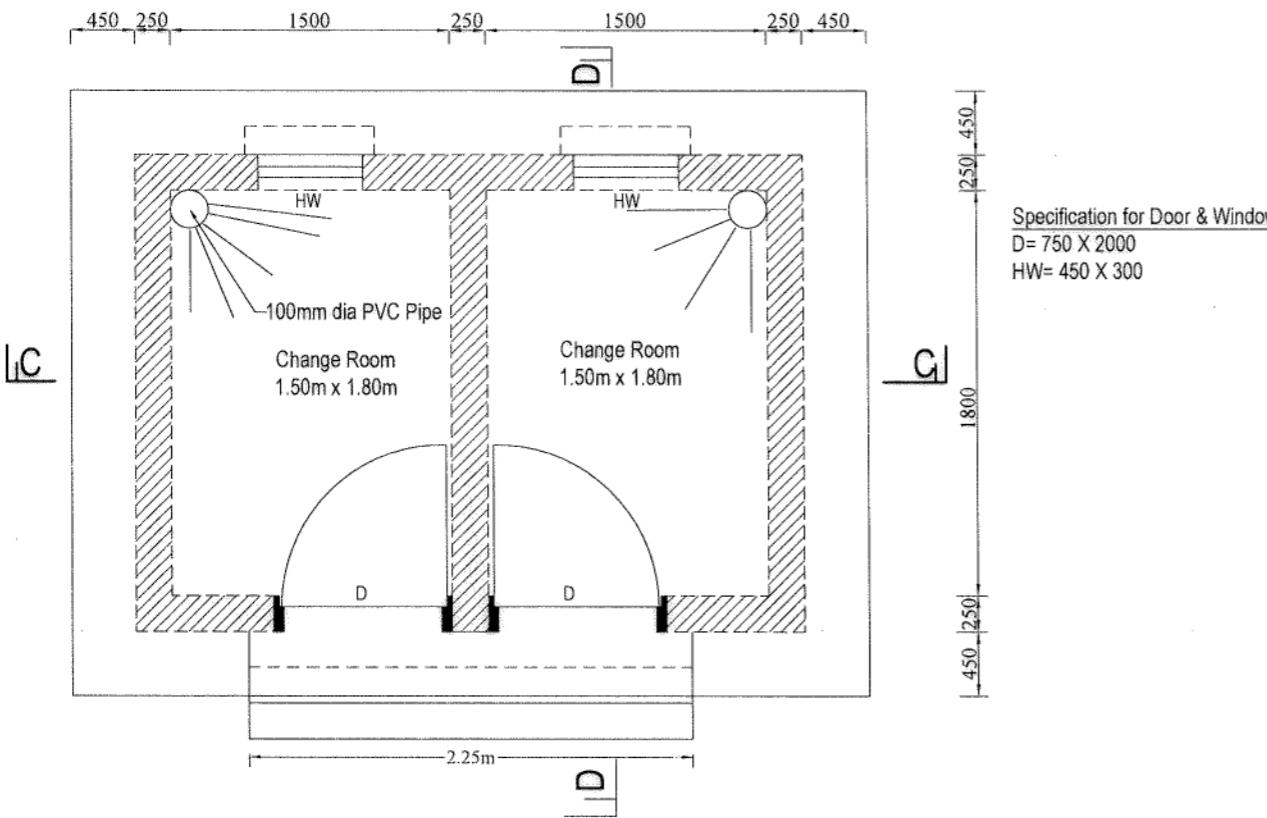
BANGLADESH WATER DEVELOPMENT BOARD
OFFICE OF THE SUPERINTENDING ENGINEER
DESIGN CIRCLE-5

"Protection of Talbaria area of Mirpur Upazila & Kamorkandi area of Shelaiddah Union of Kumarkhali Upazila in Kushtia District from the erosion of Padma River"

Design of Protective Work along the R/B of Padma River from KM 6.720 to KM 15.720=9.000 KM at Talbaria, Baruipara and Bahalbaria union, Upazila: Mirpur, District: Kushtia Kushtia O & M Division, BWDB, Kushtia.

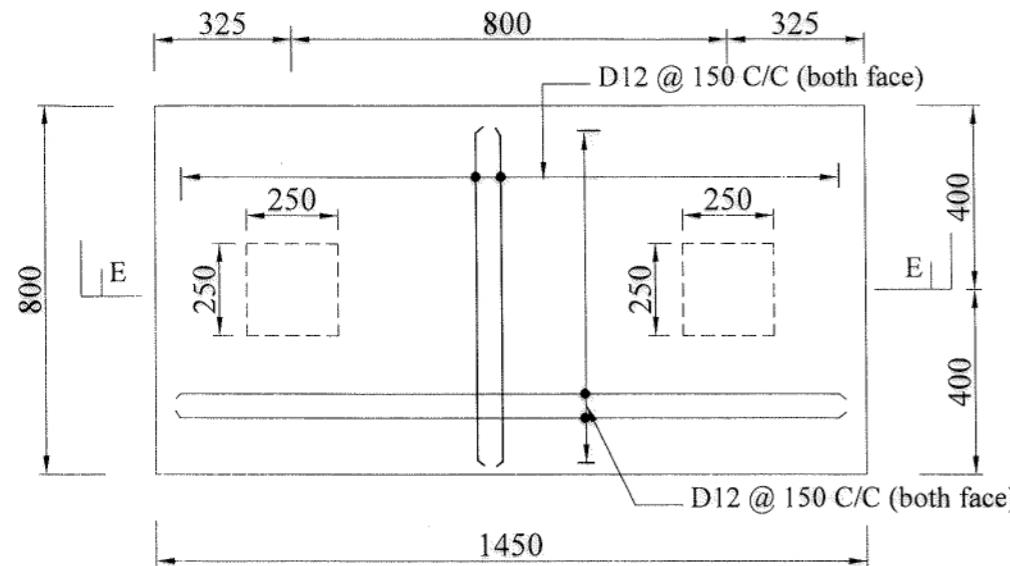
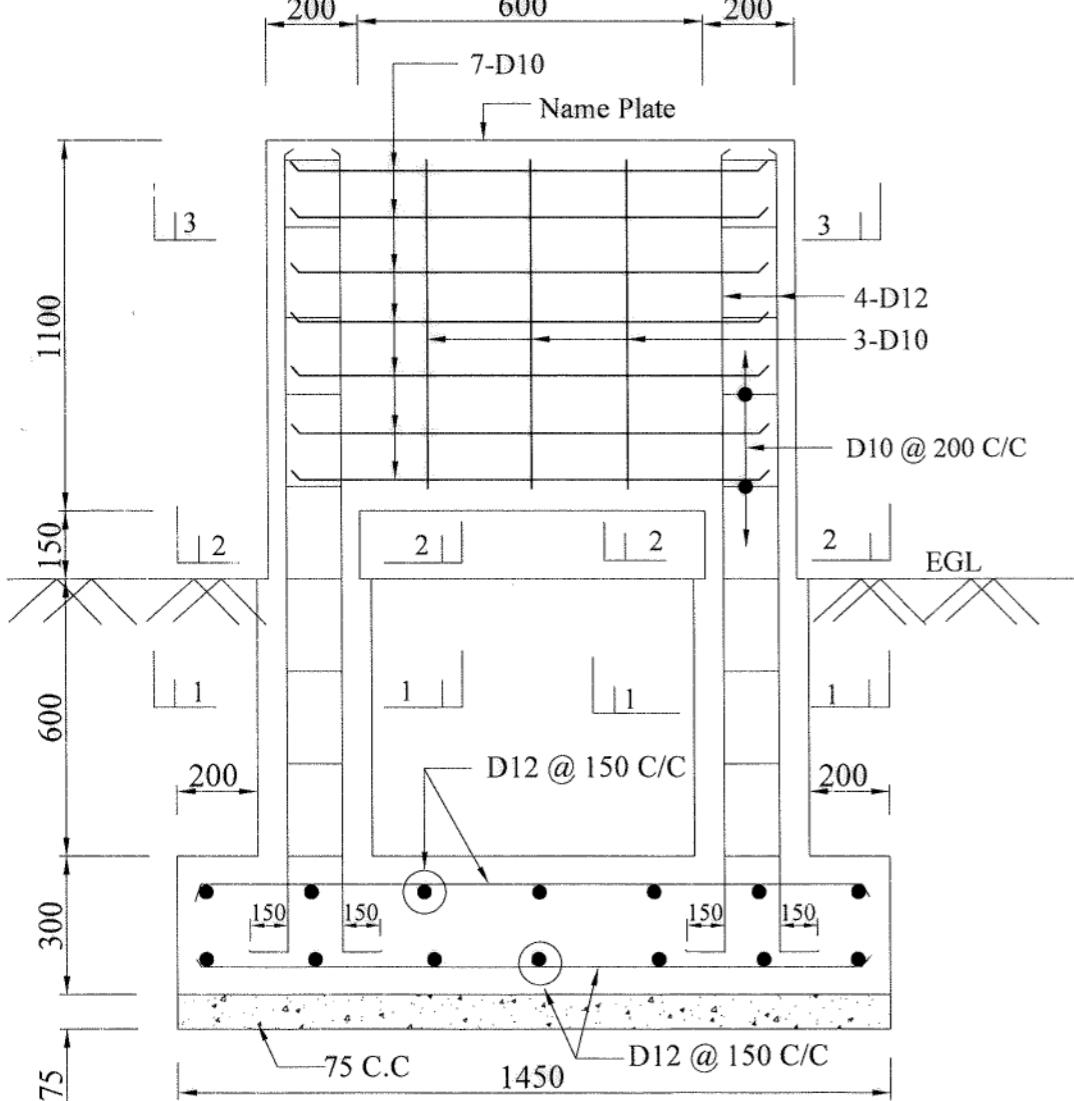
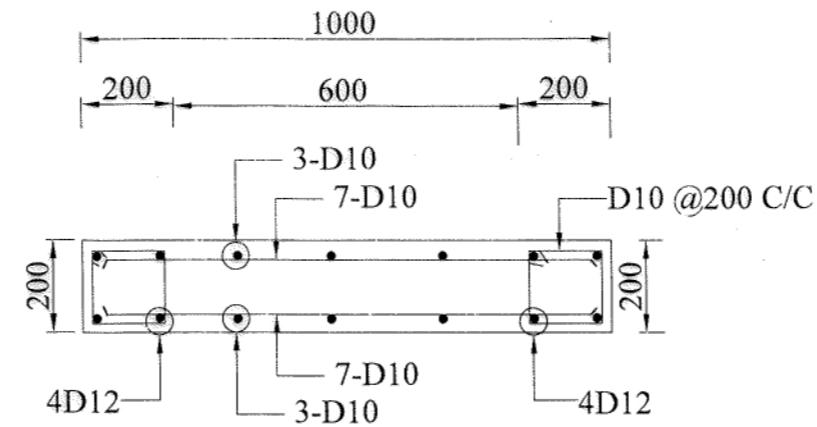
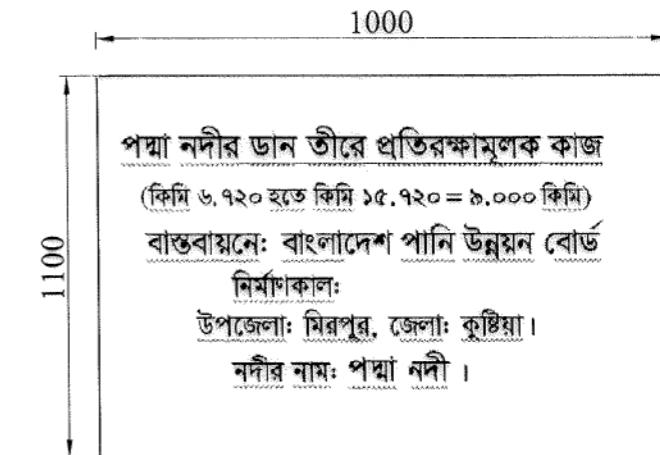
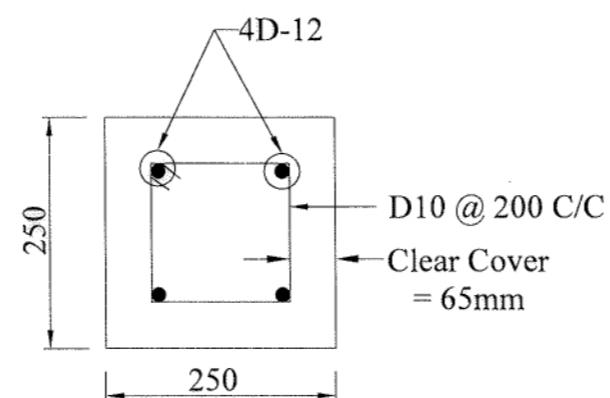
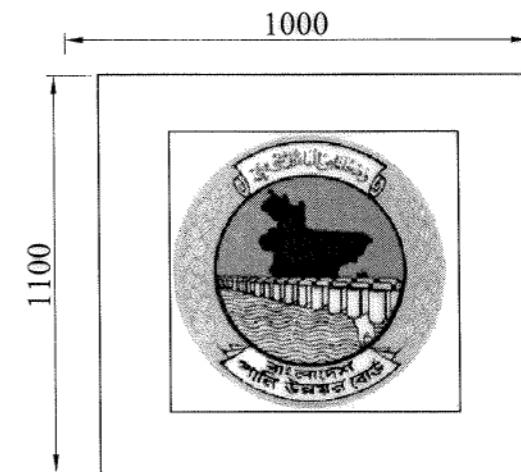
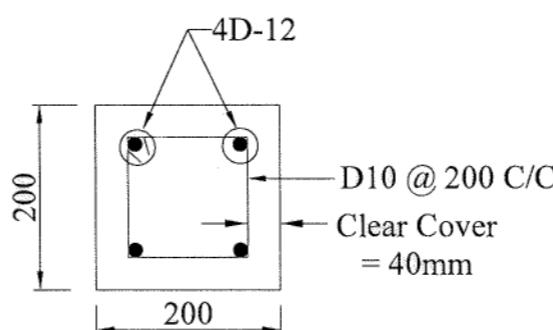
DETAILS OF R.C.C U-DRAIN

DESIGNED BY:	RECOMMENDED BY:
(SHAMMI AKHTER), SDE	(JAKARIA PERVEZ), SE
CHECKED BY:	APPROVED BY:
(MST. TASMIN JAHAN), EE	(MD. ABDUR BASIT), CE, DESIGN
DATE: 27-02-2024	DWG NO.: DC-5-5712-31/33



Scale : Not to Scale

BANGLADESH WATER DEVELOPMENT BOARD					
OFFICE OF THE SUPERINTENDING ENGINEER					
DESIGN CIRCLE-5					
"Protection of Talbaria area of Mirpur Upazila & Kamorkandi area of Shelaibah Union of Kumarkhali Upazila in Kushtia District from the erosion of Padma River"					
Design of Protective Work along the R/B of Padma River from KM 6.720 to KM 15.720=9.000 KM at Talbaria, Baruipara and Bahalbaria union, Upazila: Mirpur, District: Kushtia Kushtia O & M Division, BWDB, Kushtia.					
DETAILS OF TYPICAL CHANGE ROOM					
DESIGNED BY:					RECOMMENDED BY:
(SHAMMI AKHTER), SDE					(JAKARIA PERVEZ), SE
CHEKED BY:					APPROVED BY:
(MST. TASMEM JAHAN), EE					(MD. ABDUL BASIT), CE, DESIGN
DATE: 27-02-2024	PREPARED	CHD	REM	APPROVED	DWG NO.: DC-5-5712-32/33
REVISIONS					

**FOOTING FOR NAME PLATE****SECTION E-E****SECTION 3-3****TYPICAL NAME PLATE****SECTION 1-1****TYPICAL NAME PLATE (OTHER FACE)****SECTION 2-2**

BANGLADESH WATER DEVELOPMENT BOARD OFFICE OF THE SUPERINTENDING ENGINEER DESIGN CIRCLE-5					
"Protection of Talbaria area of Mirpur Upazila & Kamorkandi area of Shelaidah Union of Kumarkhali Upazila in Kushtia District from the erosion of Padma River"					
Design of Protective Work along the R/B of Padma River from KM 6.720 to KM 15.720=9.000 KM at Talbaria, Baruipara and Bahalbaria union, Upazila: Mirpur, District: Kushtia Kushtia O & M Division, BWDB, Kushtia.					
DETAILS OF NAME PLATE					
DESIGNED BY:				RECOMMENDED BY:	
(SHAMMI AKHTER), SDE				(JAKARIA PERVEZ), SE	
CHECKED BY:				APPROVED BY:	
DATE: 21-01-2024	PREPARED: MST. TASMEM JAHAN, EE	CHD: (MD. ABDUL BASIT), CE, DESIGN	REM: (DWG NO.: DC-5-5712-33/33	APPROVED: (MD. ABDUL BASIT), CE, DESIGN	DATE: 27-02-2024
REVISIONS					