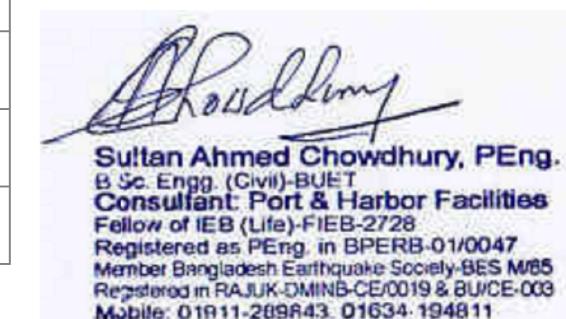


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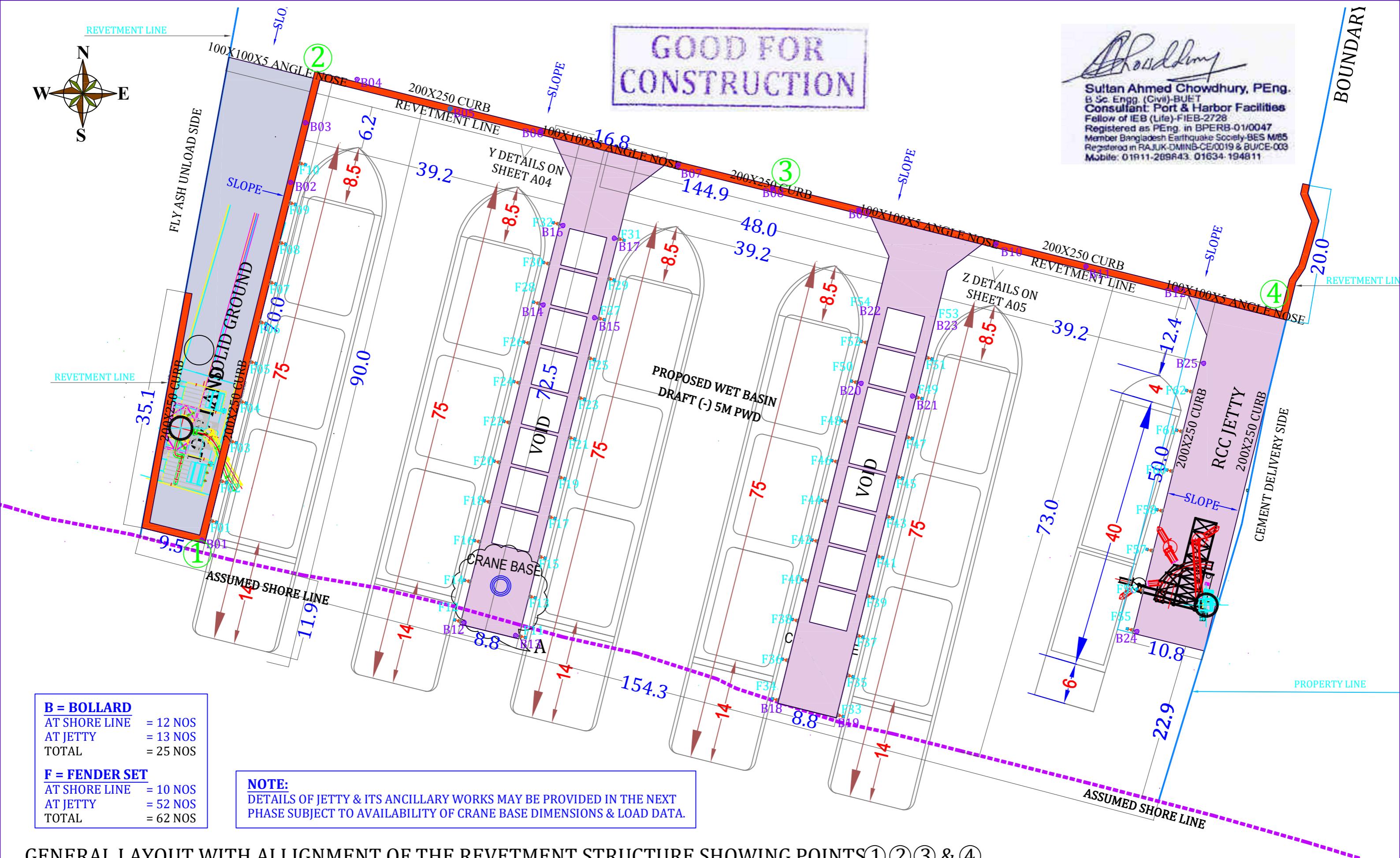
WORKING DRAWINGS GOOD FOR CONSTRUCTION

**IMPLEMENTATION OF REVETMENT STRUCTURE INTERFACING
BASIN & YARD FOR THE CEMENT MILL COMPLEX OF CONFIDENCE
CEMENT DHAKA LIMITED AT DANGA, GHORASAL, NARSINGDI**

SHEET NO	DRAWING TITLE
A-00	COVER PAGE
A-01	BLOW UP OF JETTY CONFIGURATION
A-02	BASINGENERAL LAYOUT OF REVETMENT STRUCTURE
A-03	PLAN & ELEVATION OF 1 - 2 SHOWING BOLLARD & FENDER LOCATION
A-04	PLAN & ELEVATION OF 2 - 3 SHOWING BOLLARD & FENDER LOCATION
A-05	PLAN & ELEVATION OF 3 - 4 SHOWING BOLLARD & FENDER LOCATION
S-01	PLAN & FRONT VIEW OF REVETMENT STRUCTURE (TYPICAL)
S-02	SECTIONAL ELEVATION & TOP VIEW OF REVETMEN STRUCTURE
S-03	REBAR DETAILS OF SHORE & ANCHOR PILES
S-04	REBAR DETAILS OF RETAINING WALL & INTERFAC STRUCTURE
S-05	DETAILS OF BOLLARD FOUNDATION & FENDER
S-06	DETAILS OF INSTALATION AND FIXING OF BOLLARD
S-07	SECTIONAL DETAILS OF ALL FENDERS



CLIENT : CONFIDENCE CEMENT DHAKA LTD. (CCDL)	DRAWING TITLE: COVER PAGE
PROJECT : DEVELOPMENT OF CEMENT MILL COMPLEX	CONSULTANT FIRM: BSO ASSOCIATE LTD.
LOCATION : DANGA, NARSINGDI, DHAKA.	DESIGN: ENGR. SULTAN AHMED CHOWDHURY, PEng. 01911-289843 DESIGN ASSOCIATE : ENGR. MD. JAHIDUL HASAN SHEET NO : A - 00 DATE : DECEMBER, 2018 REVISION NO. - 01 REVISION DATE - JANUARY, 2019



GENERAL LAYOUT WITH ALIGNMENT OF THE REVETMENT STRUCTURE SHOWING POINTS ①, ②, ③ & ④

NOTE: All DIMENSIONS ARE IN MM

CLIENT : CONFIDENCE CEMENT DHAKA LTD. (CCDL)
PROJECT : DEVELOPMENT OF CEMENT MILL COMPLEX
LOCATION : DANGA, NARSINGDI, DHAKA.

DRAWING TITLE : BLOW UP OF JETTY CONFIGURATION

CONSULTANT FIRM: BSO ASSOCIATE LTD.

DESIGN: ENGR. SULTAN AHMED CHOWDHURY, PEng. 01911-289843

DESIGN ASSOCIATE : ENGR. MD. JAHIDUL HASAN

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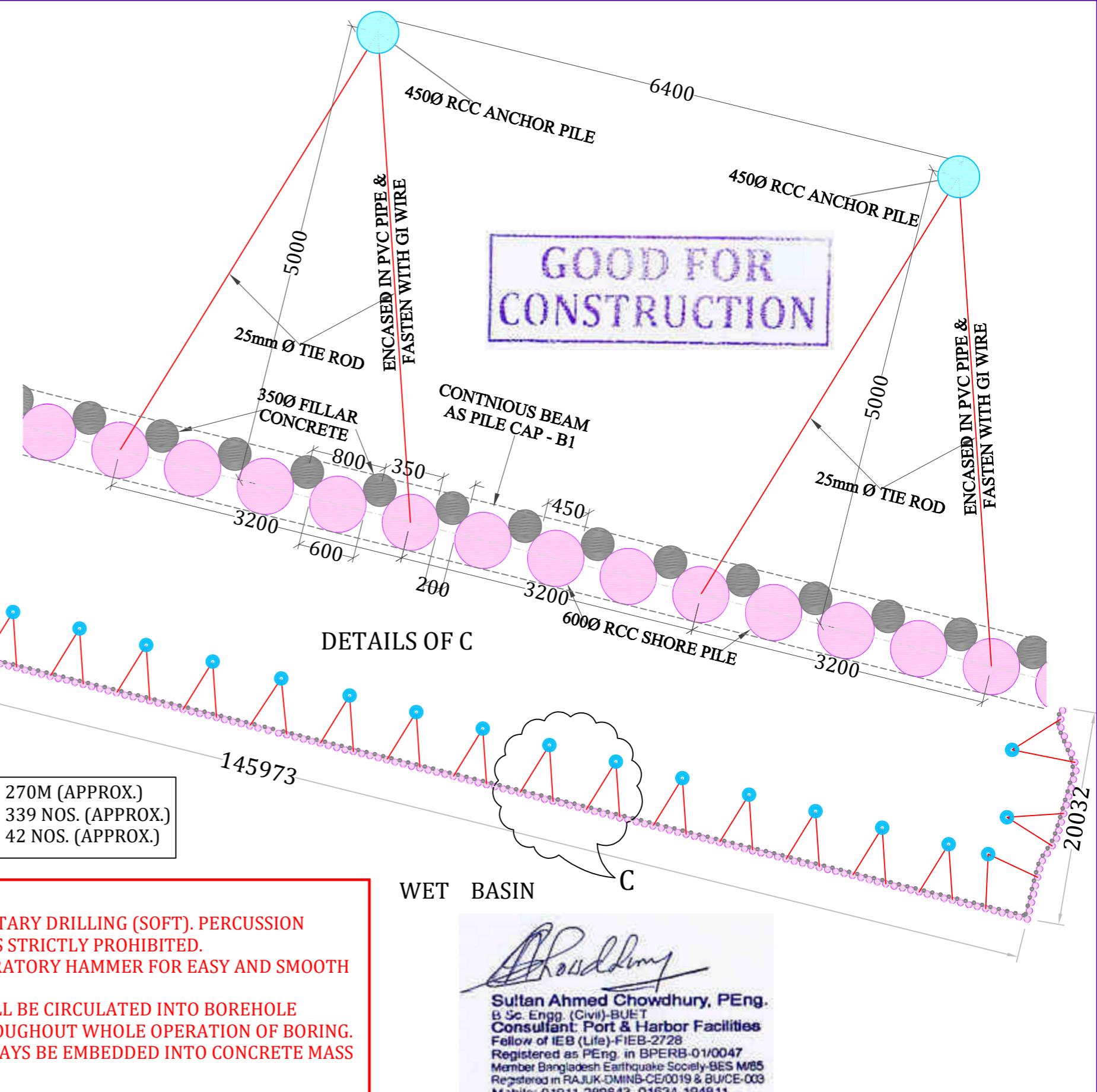
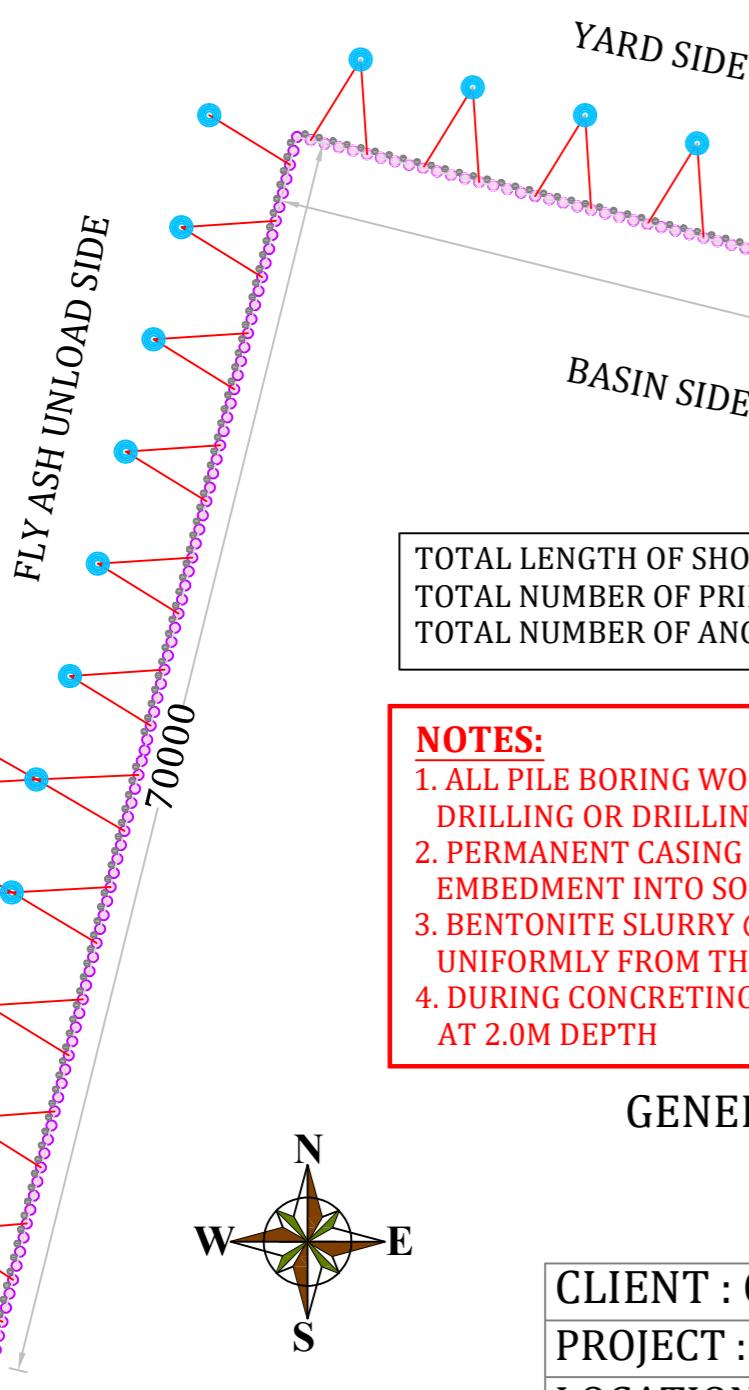
SHEET NO : A - 01

DATE : DECEMBER, 2018

REVISION DATE - JANUARY, 2019

GENERAL GUIDELINES FOR CONSTRUCTION SEQUENCE

1. PRIMARY SHORE PILING WORK (600 MM DIA.) SHALL BE TAKEN IN HAND FIRST AS SHOWN IN THE RELATED DRAWING SHEET(s).
2. FIRST PILE BORING/CONCRETING WORK MAY BE SELECTED AT ANY POINT IN THE ALIGNMENT.
3. NEXT PILE SHALL BE SELECTED AT LEAST 3.0 M AWAY FROM THE FIRST PILE AND THIS WAY PILE BORING/CONCRETING WORK CAN PROCEED AS PER ALIGNMENT ALONG ANY DIRECTION.
4. NEXT FILLER CONCRETE PILE BORING/CONCRETING SHALL BE TAKEN IN HAND IN BETWEEN PRIMARY SHORE PILES AFTER 21 DAYS OF CONCRETING HAVING MATURITY OF STRENGTH AND THIS WAY FILLER CONCRETE PILING AND PRIMARY SHORE PILING WORK CAN PROCEED SIDE BY SIDE.
5. AFTER COMPLETION OF ALL PRIMARY SHORE AND FILLER CONCRETE PILING WORK, HEADS OF ALL SELECTED PILES HAVING AT LEAST 7 (SEVEN) DAYS OF STRENGTH, MAY BE BROKEN TO THE SPECIFIED LEVEL AS SHOWN IN THE DRAWING AND THEN CONTINUOUS CAPPING BEAM WORK ON TOP OF ALL PILE HEADS MAY BE TAKEN IN HAND.
6. AT THIS STAGE, GAP BETWEEN SHORE ALIGNMENT AND ROAD SIDE MAY FILLED UP WITH MANUAL COMPACTION ONLY, MAKING A WORKING AREA FOR THE NEXT RETAINING WALL WORK.
7. THEN ANCHOR PILING (BORING/CONCRETING) AS WELL AS RETAINING WALL WORK CAN PROCEED SIDE BY SIDE.
8. RETAINING WALL CONCRETING SHALL BE DONE AT LEAST IN 3 (THREE) LIFTS AFTER PREPARATION OF STANDARD CONSTRUCTION JOINT PREFERABLY BY HILTY LOOSE CONCRETE REMOVING VIBRATOR.
9. FINALLY JOINTING OF THE TIE ROD MAY BE TAKEN IN HAND AFTER 21 DAYS OF THE CONCRETING OF THE RESPECTIVE ANCHOR PILE.
10. AFTER PROPER JOINTING BY WELDING AS SHOWN IN THE DRAWING 2 (TWO) COATS ANTI-CORROSION PAINT SHALL BE PROVIDED THEN ENCASING IN THE PVC PIPE, DIAMETER AS REQUIRED.
11. AFTER COMPLETION OF ALL EVENTS OF WORK ITEM FILLING BY SANDY SOIL MAY BE DONE IN LAYERS WITH OUT AFFECTING THE TIE RODS AND ANCHOR PILE HEADS.

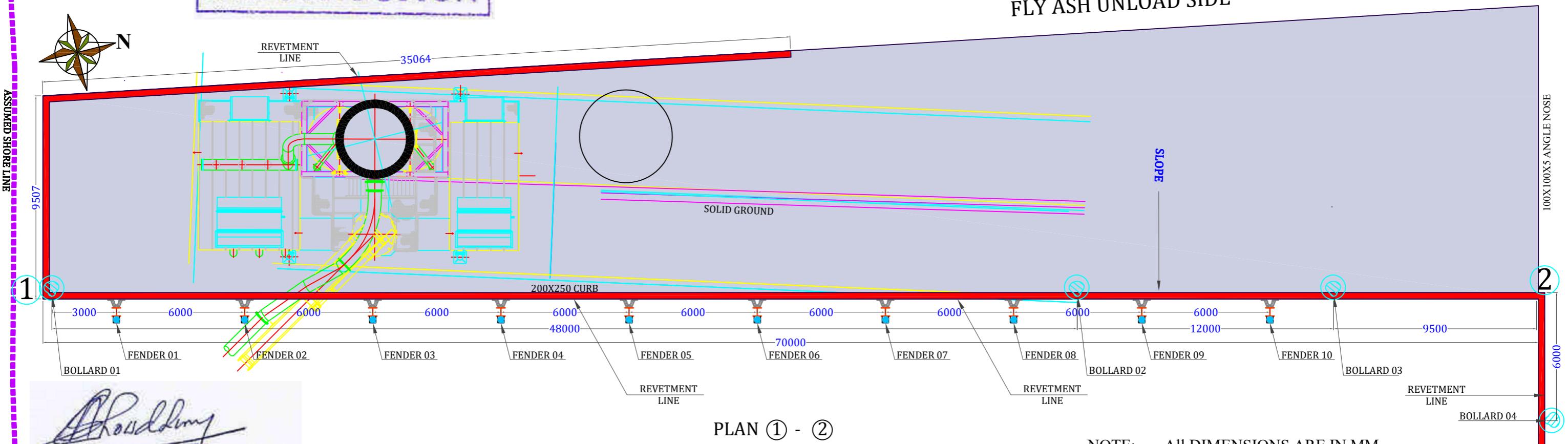
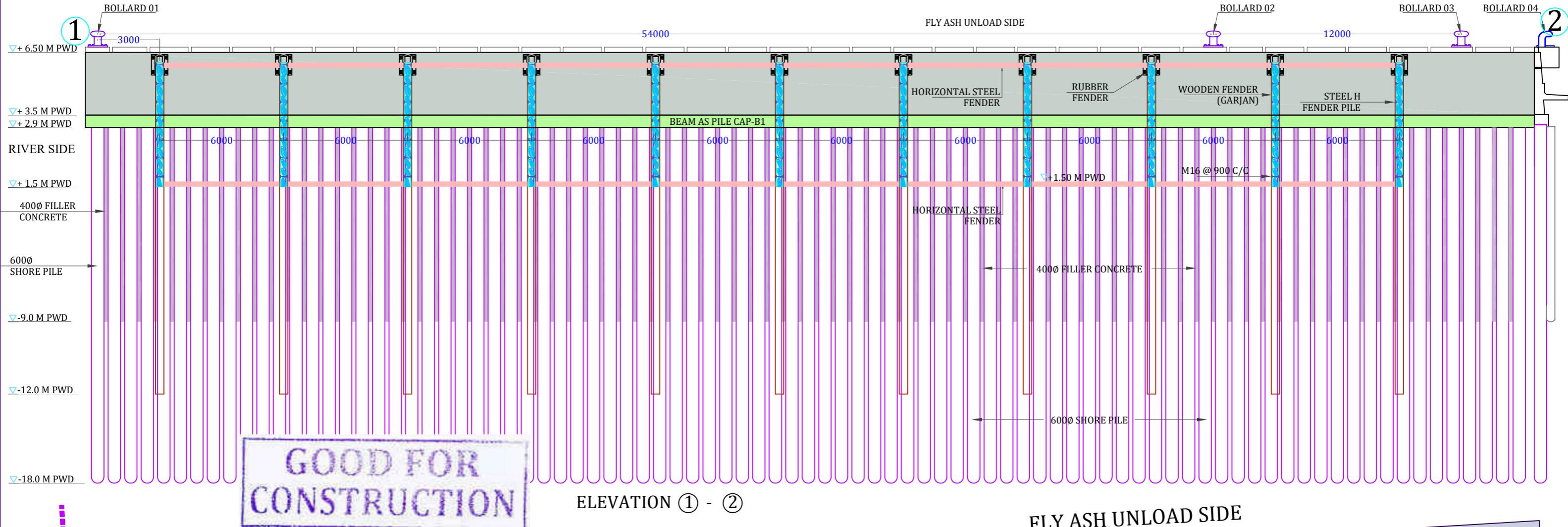


GENERAL LAYOUT WITH ALIGNMENT OF THE REVETMENT STRUCTURE WITH ANCHORING SYSTEM

NOTE: All DIMENSIONS ARE IN MM

CLIENT : CONFIDENCE CEMENT DHAKA LTD. (CCDL)
PROJECT : DEVELOPMENT OF CEMENT MILL COMPLEX
LOCATION : DANGA, NARSINGDI, DHAKA.

DRAWING TITLE : GENERAL LAYOUT OF REVETMENT STRUCTURE
CONSULTANT FIRM: BSO ASSOCIATE LTD.
DESIGN: ENGR. SULTAN AHMED CHOWDHURY, PEng. 01911-289843
DESIGN ASSOCIATE : ENGR. MD. JAHIDUL HASAN
REVISION NO. - 01
SHEET NO : A - 02 DATE : DECEMBER, 2018
REVISION DATE - JANUARY, 2019

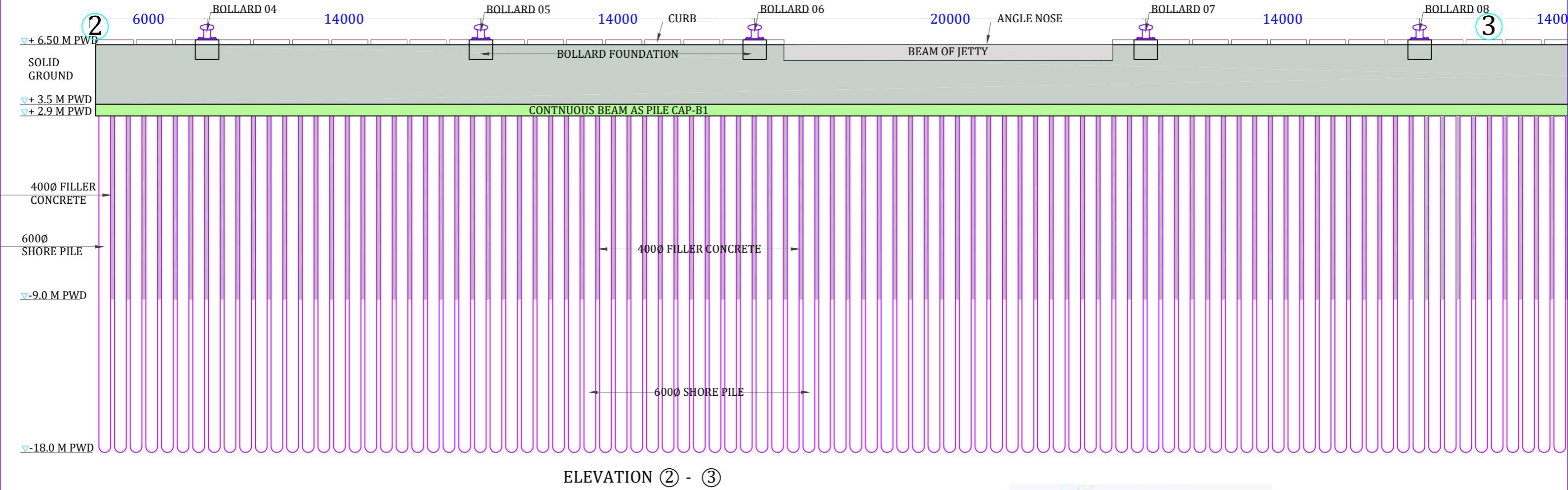


NOTE: All DIMENSIONS ARE IN MM

CLIENT : CONFIDENCE CEMENT DHAKA LTD. (CCDL)
PROJECT : DEVELOPMENT OF CEMENT MILL COMPLEX
LOCATION : DANGA, NARSINGDI, DHAKA.

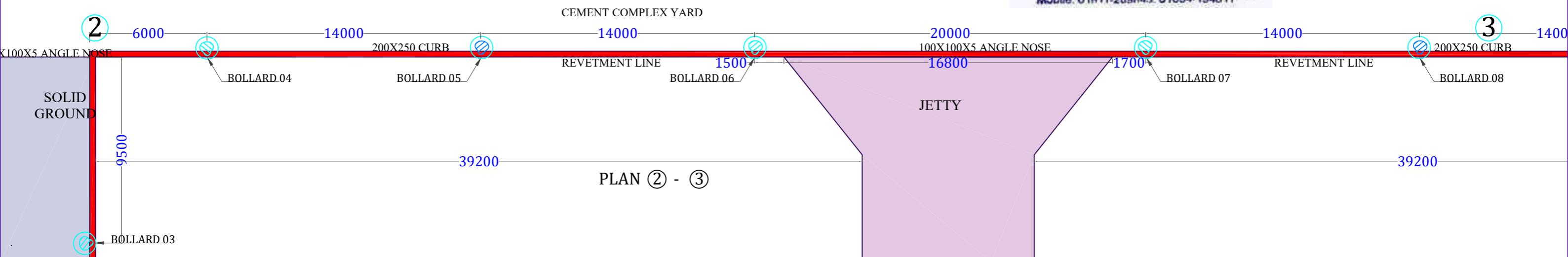
DRAWING TITLE : PLAN & ELEVATION OF ①-② SHOWING BOLLARD & FENDER LOCATION	CONSULTANT FIRM: BSO ASSOCIATE LTD.	F 01911-289843
DESIGN: ENGR. SULTAN AHMED CHOWDHURY, PEng.	DESIGN ASSOCIATE : ENGR. MD. JAHIDUL HASAN	REVISION NO. - 01
SHEET NO : A - 03	DATE : DECEMBER, 2018	REVISION DATE - JANUARY, 2019

Sultan Ahmed Chowdhury, PEng.
 B.Sc. Engg. (Civil)-BUET
 Consultant: Port & Harbor Facilities
 Fellow of IEB (Life)-FIEB-2728
 Registered as PEng. in BPERB-01/0047
 Member Bangladesh Earthquake Society-BES M/85
 Registered in RAJUK-DMINB-CE/0019 & BUCE-003
 Mobile: 01911-289843; 01634-194811



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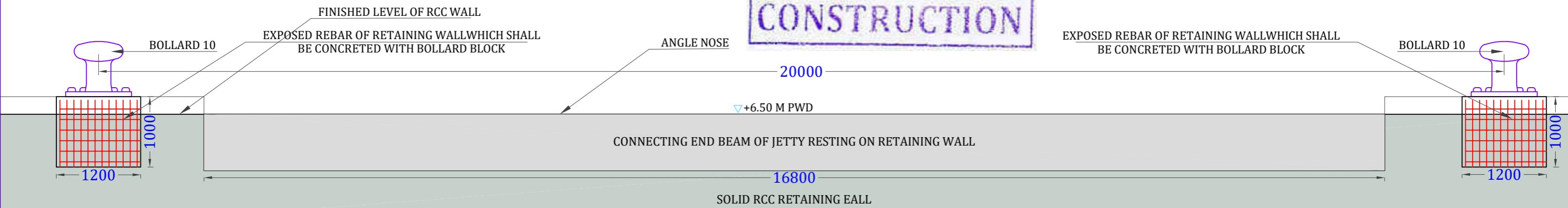


NOTE: All DIMENSIONS ARE IN MM

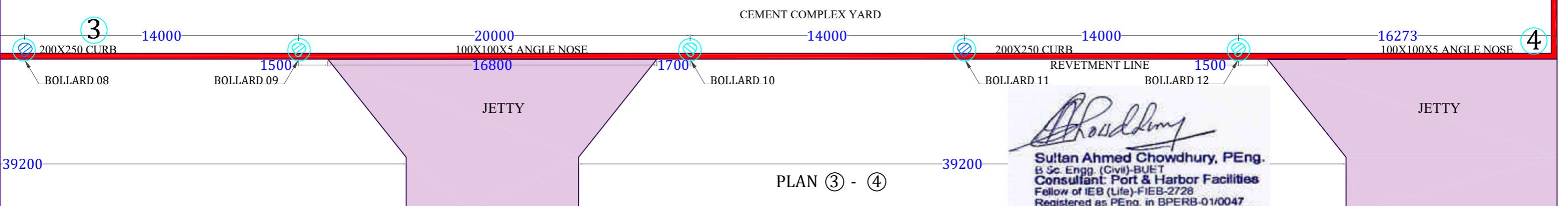
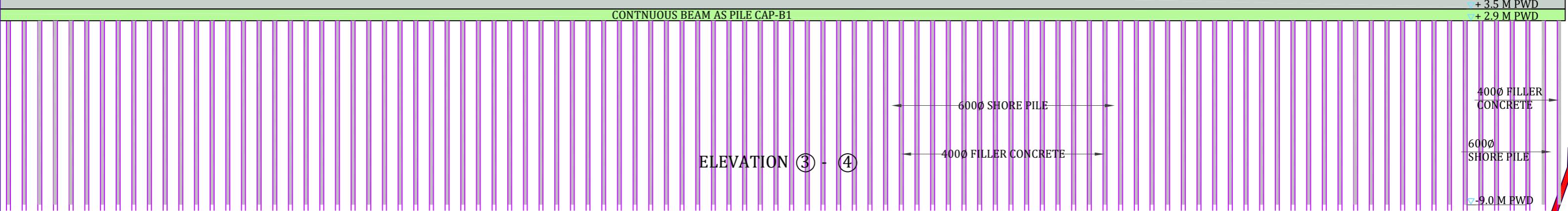
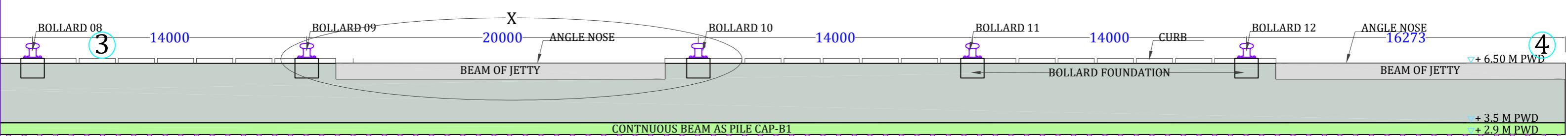
CLIENT : CONFIDENCE CEMENT DHAKA LTD. (CCDL)
PROJECT : DEVELOPMENT OF CEMENT MILL COMPLEX
LOCATION : DANGA, NARSINGDI, DHAKA.

DRAWING TITLE: PLAN & ELEVATION OF ②-③ SHOWING BOLLARD & FENDER LOCATION
CONSULTANT FIRM: BSO ASSOCIATE LTD.
DESIGN: ENGR. SULTAN AHMED CHOWDHURY, PEng. 01911-289843
DESIGN ASSOCIATE : ENGR. MD. JAHIDUL HASAN
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BLOW UP OF X



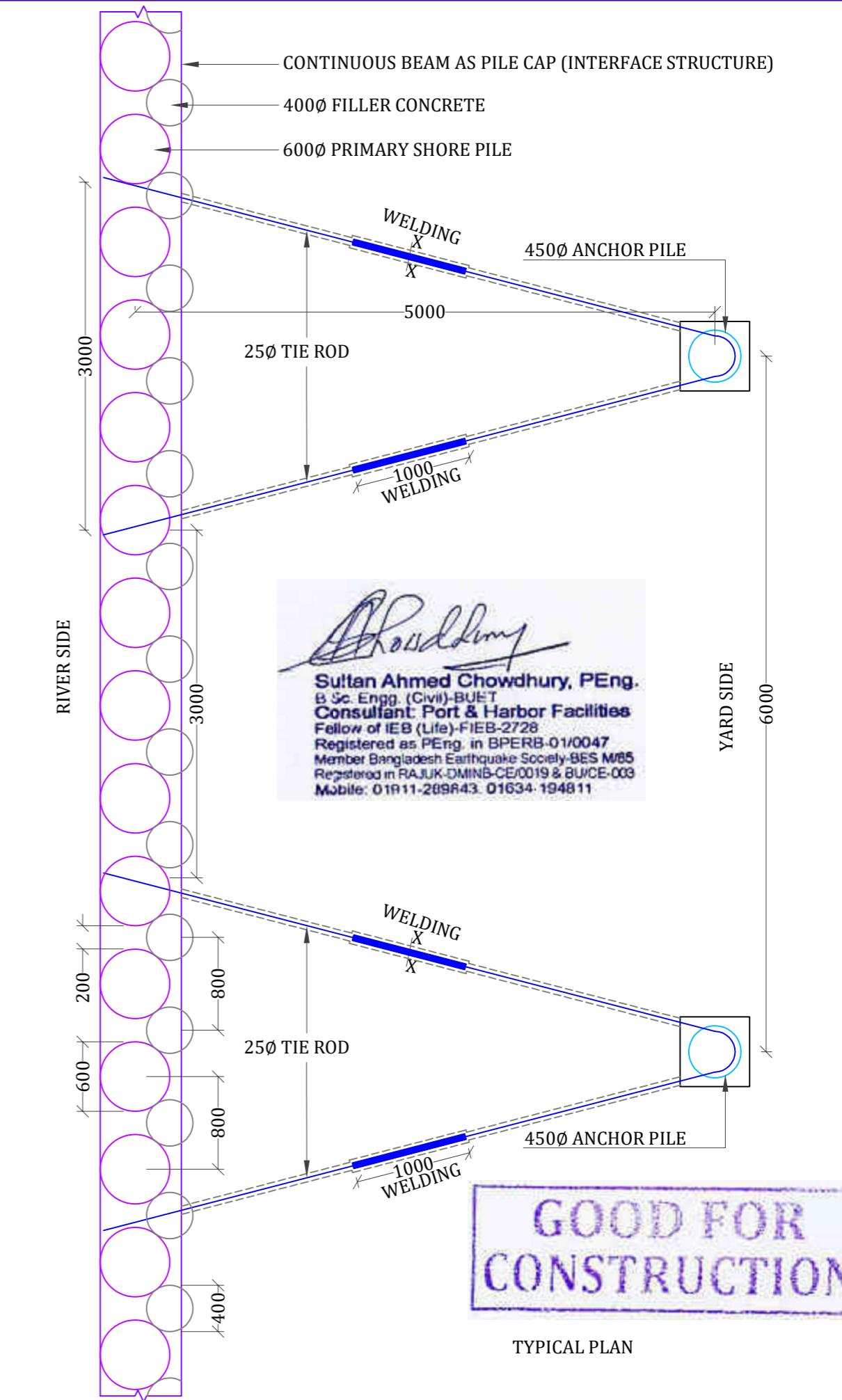
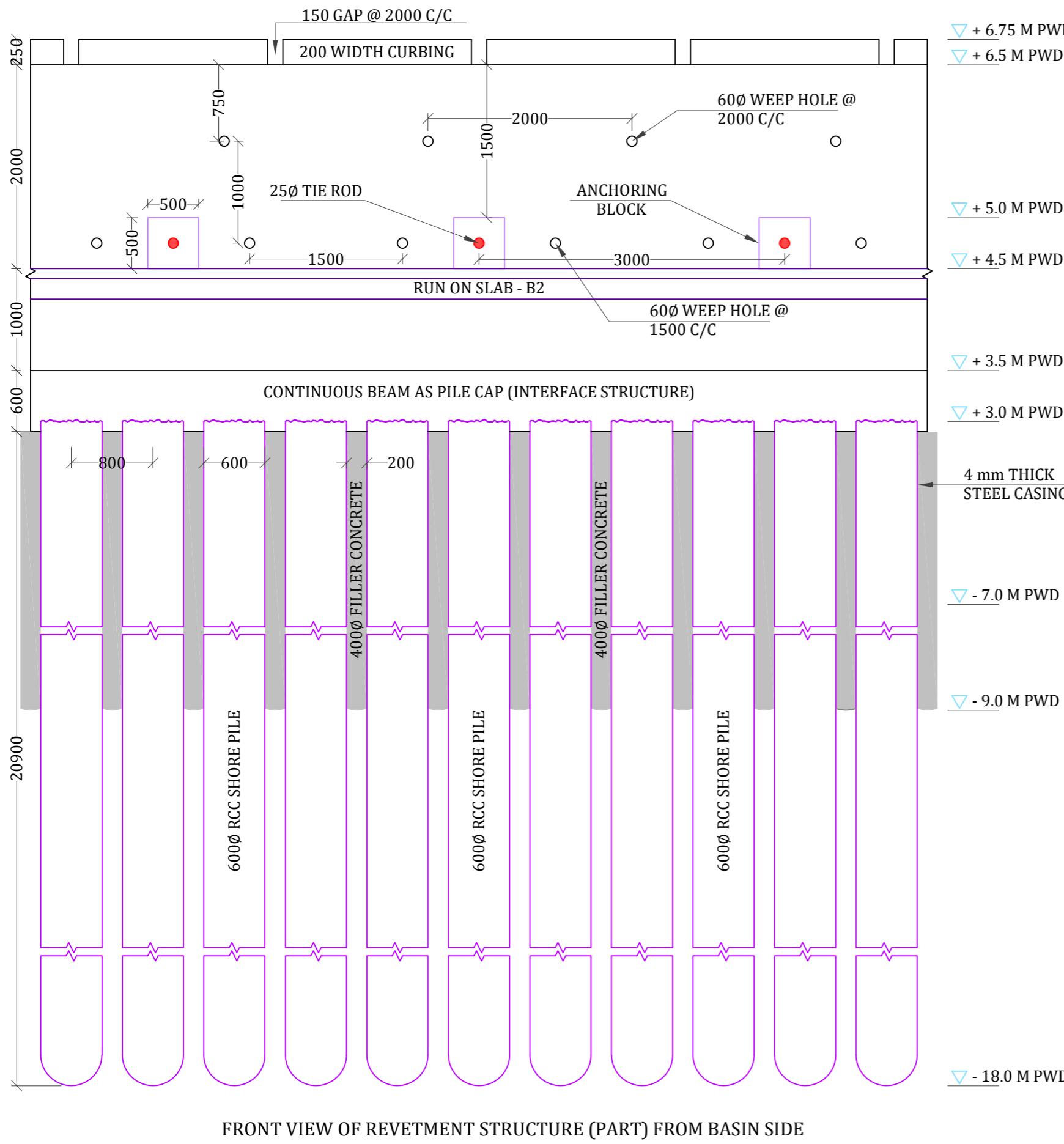
Sultan Ahmed Chowdhury
Sultan Ahmed Chowdhury, PEng.
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Registered as PEng. in BPERB-01/0047
Member Bangladesh Earthquake Society-BES M/85
Registered in RAJUK-DMINB-CE/0019 & BU/CE-003
Mobile: 01911-289843, 01634-194811

NOTE: All DIMENSIONS ARE IN MM



CLIENT : CONFIDENCE CEMENT DHAKA LTD. (CCDL)
PROJECT : DEVELOPMENT OF CEMENT MILL COMPLEX
LOCATION : DANGA, NARSINGDI, DHAKA.

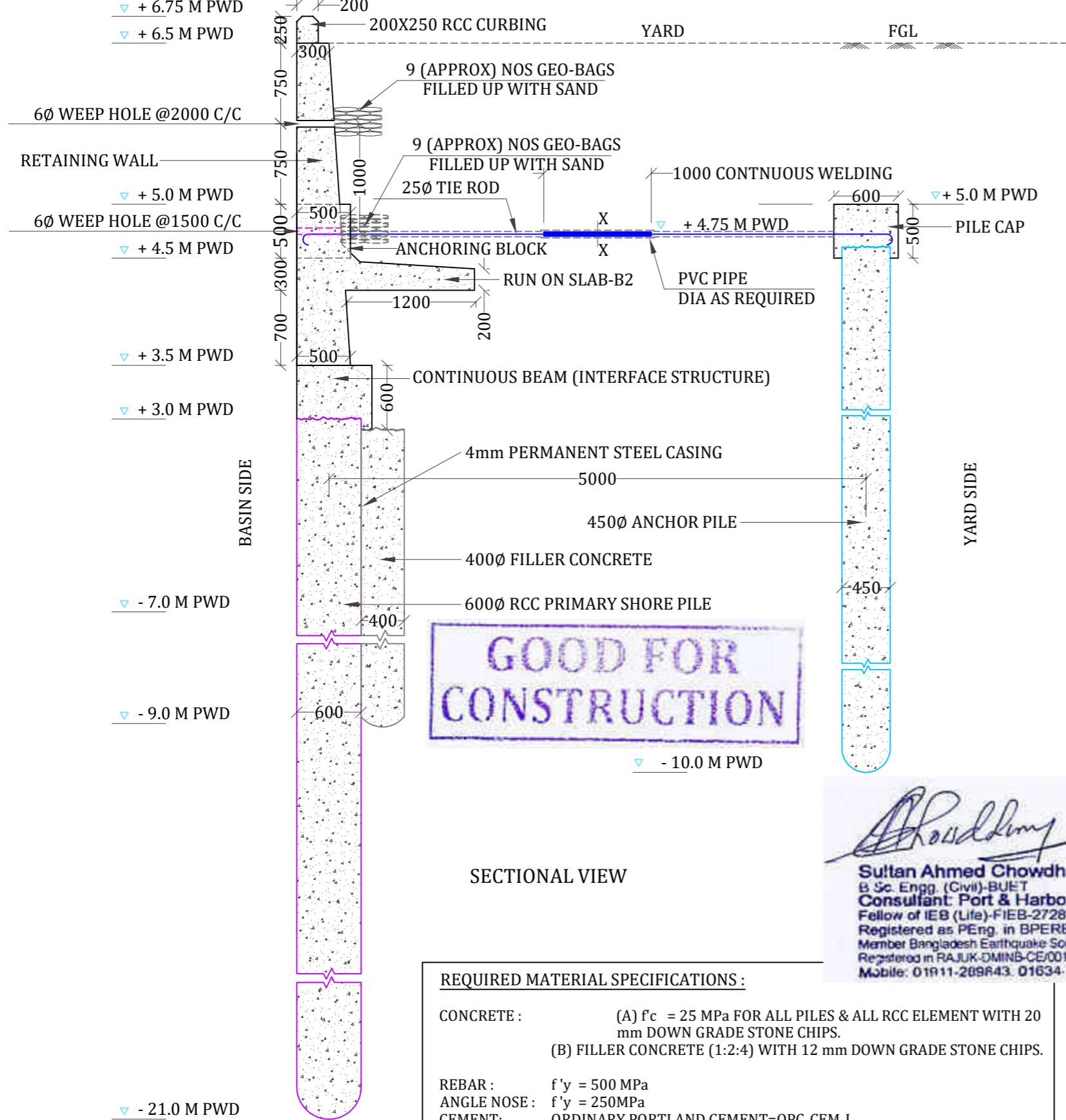
DRAWING TITLE: PLAN & ELEVATION OF ③-④ SHOWING BOLLARD & FENDER LOCATION
CONSULTANT FIRM: BSO ASSOCIATE LTD.
DESIGN: ENGR. SULTAN AHMED CHOWDHURY, PEng. 01911-289843
DESIGN ASSOCIATE : ENGR. MD. JAHIDUL HASAN
REVISION NO. - 01
SHEET NO : A - 05 DATE : DECEMBER, 2018
REVISED DATE - JANUARY, 2019



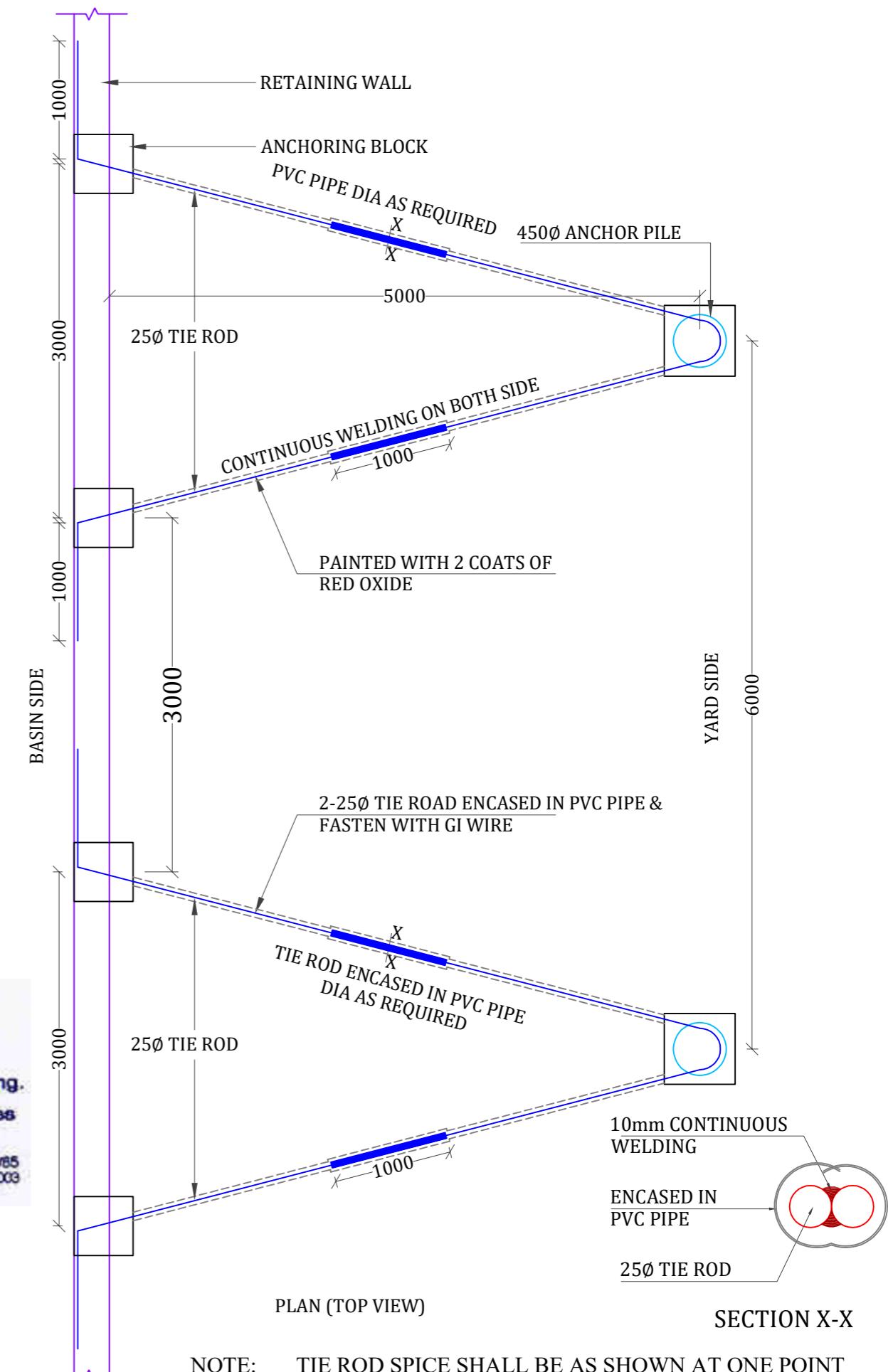
CLIENT : CONFIDENCE CEMENT DHAKA LTD. (CCDL)
PROJECT : DEVELOPMENT OF CEMENT MILL COMPLEX
LOCATION : DANGA, NARSINGDI, DHAKA.

DRAWING TITLE : PLAN & FRONT VIEW OF REVETMENT STRUCTURE	
CONSULTANT FIRM: BSO ASSOCIATE LTD.	
DESIGN: ENGR. SULTAN AHMED CHOWDHURY, PEng.	01911-289843
DESIGN ASSOCIATE : ENGR. MD. JAHIDUL HASAN	REVISION NO. - 01
SHEET NO : S - 01	DATE : DECEMBER, 2018
REVISION DATE - JANUARY, 2019	

NOTE: All dimensions are in mm &
ALL LEVELS ARE WRT PWD DATUM



Sultan Ahmed Chowdhury, PEng.
B Sc. Engg. (Civil)-BUET
Consultant Port & Harbor Facilities
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Registered as PEng. in BPERB-01/0047
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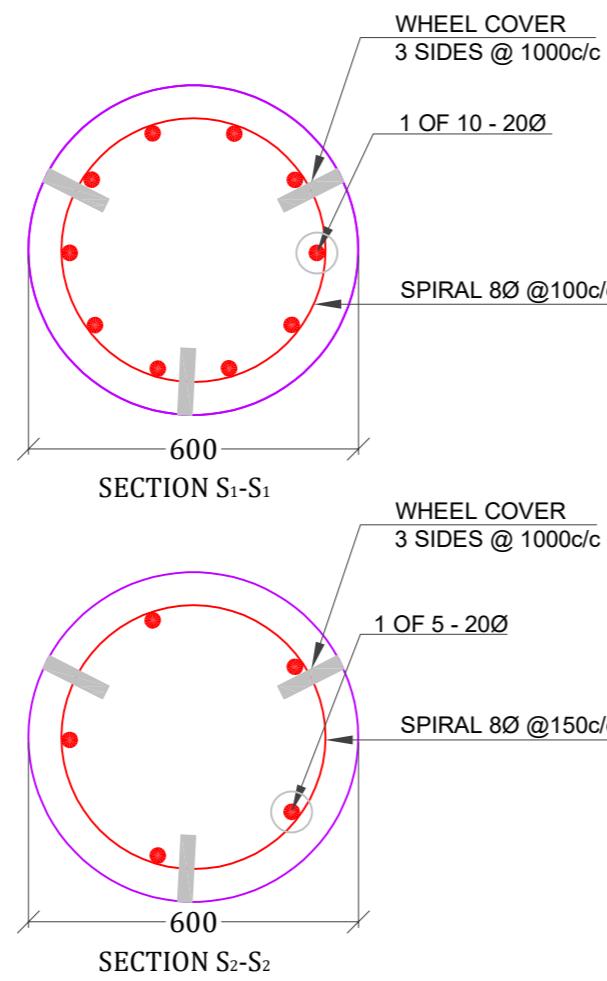
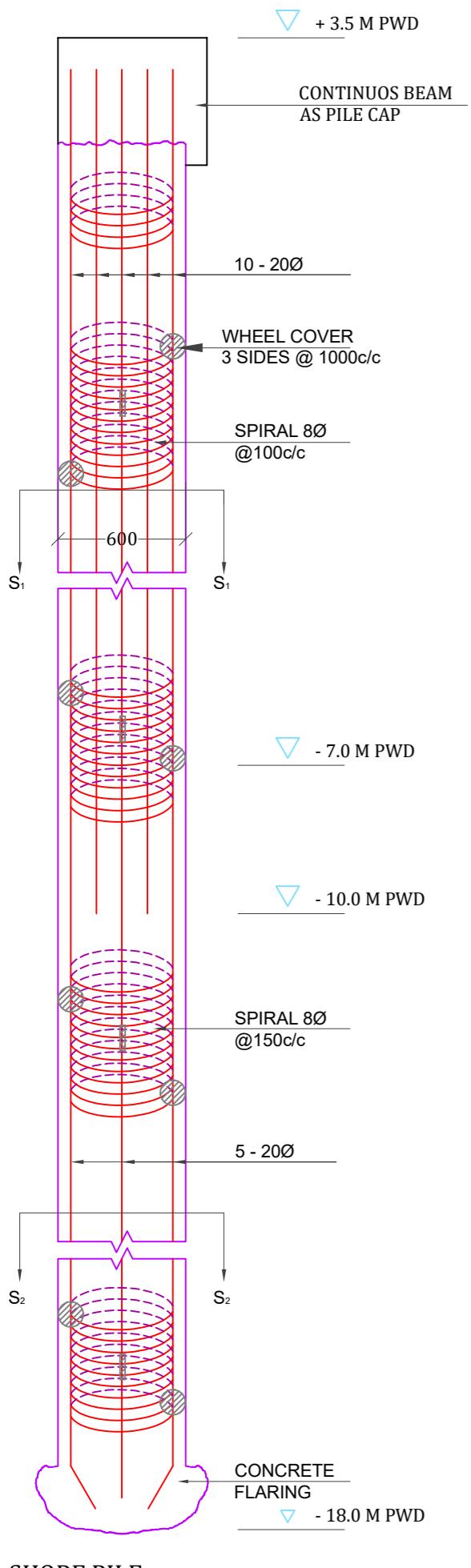
NOTE: TIE ROD SPICE SHALL BE AS SHOWN AT ONE POINT

NOTE: All DIMENSIONS ARE IN MM & ALL LEVELS ARE WRT PWD DATUM

CLIENT : CONFIDENCE CEMENT DHAKA LTD. (CCDL)
PROJECT : DEVELOPMENT OF CEMENT MILL COMPLEX
LOCATION : DANGA, NARSINGDI, DHAKA.

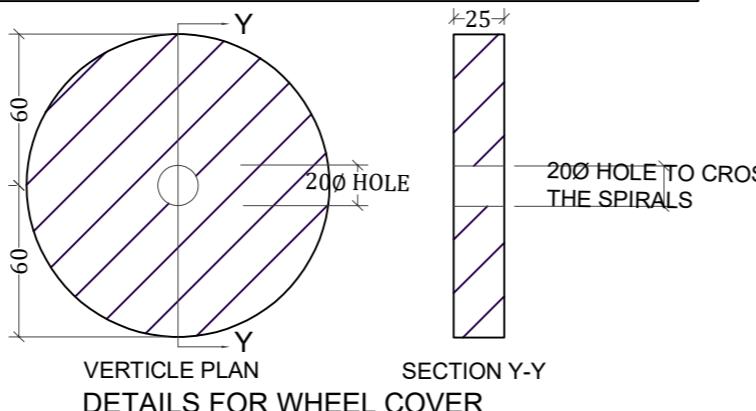
DRAWING TITLE : SECTIONAL ELEVATION & TOP VIEW OF REVETMENT
CONSULTANT FIRM: BSO ASSOCIATE LTD. **STRUCTURE**
DESIGN: ENGR. SULTAN AHMED CHOWDHURY, PEng. 01911-289843
DESIGN ASSOCIATE : ENGR. MD. JAHIDUL HASAN
REVISION NO. - 01
SHEET NO : S - 02 DATE : DECEMBER, 2018 REVISION DATE - JANUARY, 2019

BASIN SIDE



NOTES FOR WHEEL COVERS :

- ① WHEEL COVERS ARE MADE OF CEMENT MORTAR (1:2) IN WHICH MIX PROPORTION OF THE FINE AGGREGATE WITH SYLHET & LOCAL SAND WILL BE 1:1
- ② WHEELS SHALL BE PREPARED AT SITE AT LEAST 15 DAYS BEFORE PILE REINFORCEMENT WORK AND SHALL BE KEPT FOR CONSTANT CURING IN THE RESERVOIR AT SITE.

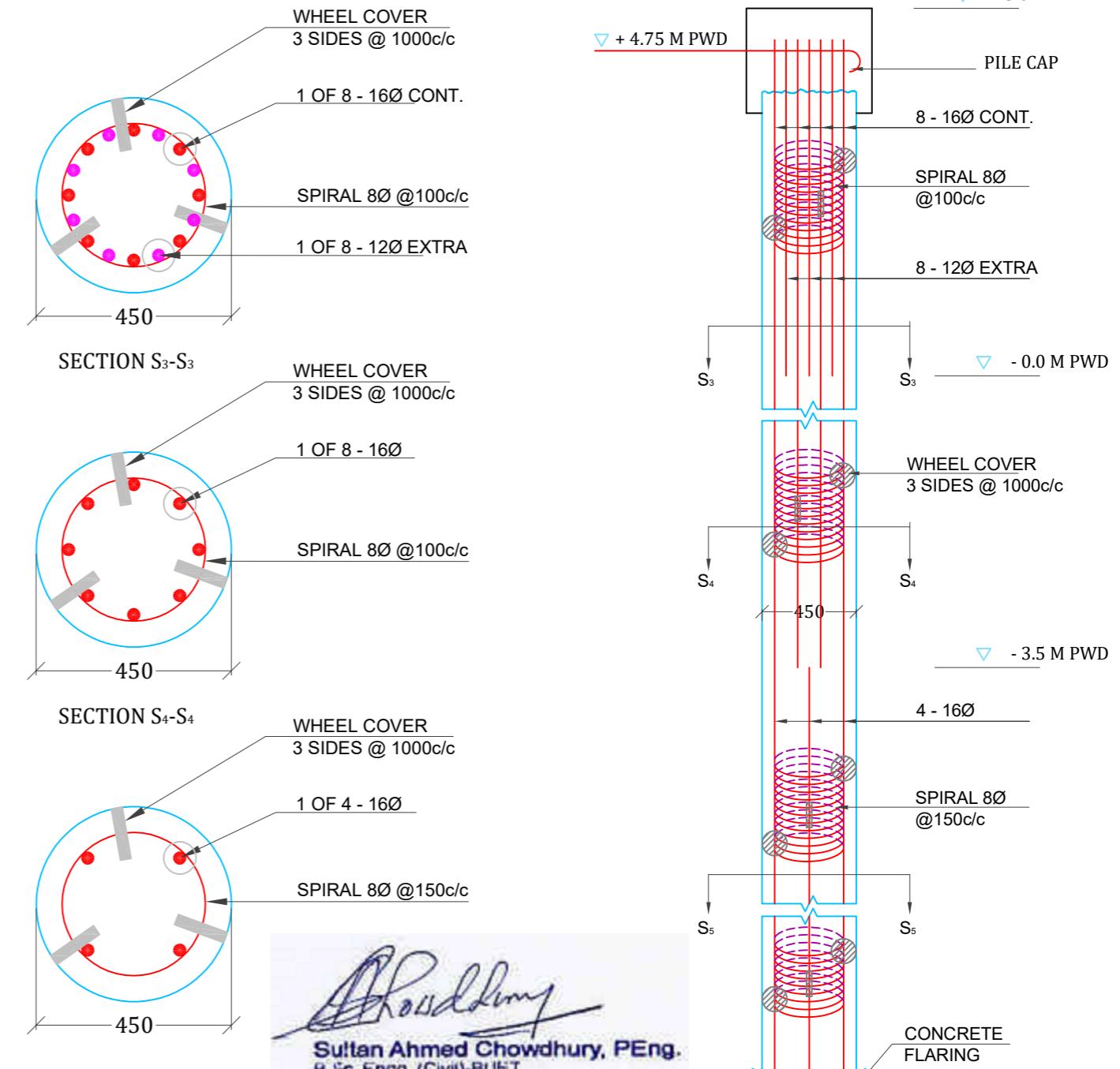


REQUIRED MATERIAL SPECIFICATIONS :

CONCRETE : (A) $f_c = 25$ MPa FOR ALL PILES & ALL RCC ELEMENT WITH 20 mm DOWN GRADE STONE CHIPS.
(B) FILLER CONCRETE (1:2:4) WITH 12 mm DOWN GRADE STONE CHIPS.

REBAR : $f_y = 500$ MPa
ANGLE NOSE : $f_y = 250$ MPa
CEMENT: ORDINARY PORTLAND CEMENT=OPC-CEM-I

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Fellow of IEB (Life)-FIEB-2728
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NOTES:

1. ALL PILE BORING WORK SHALL BE DONE BY ROTARY DRILLING (SOFT). PERCUSSION DRILLING OR DRILLING BY CHISELS/ HAMMER IS STRICTLY PROHIBITED.
2. PERMANENT CASING SHALL BE DRIVEN BY VIBRATORY HAMMER FOR EASY AND SMOOTH EMBEDMENT INTO SOIL WITHOUT BULKING.
3. BENTONITE SLURRY @ 8% OF WATER MIX SHALL BE CIRCULATED INTO BOREHOLE UNIFORMLY FROM THE RESERVOIR/ TANK THROUGHOUT WHOLE OPERATION OF BORING.
4. DURING CONCRETING TREMIE PIPE SHALL ALWAYS BE EMBEDDED INTO CONCRETE MASS AT 2.0M DEPTH

NOTE: All DIMENSIONS ARE IN MM & ALL LEVELS ARE WRT PWD DATUM

CLIENT : CONFIDENCE CEMENT DHAKA LTD. (CCDL)
PROJECT : DEVELOPMENT OF CEMENT MILL COMPLEX
LOCATION : DANGA, NARSINGDI, DHAKA.

DRAWING TITLE : REBAR DETAILS OF SHORE & ANCHOR PILES

CONSULTANT FIRM: BSO ASSOCIATE LTD.

DESIGN: ENGR. SULTAN AHMED CHOWDHURY, PEng. 01911-289843

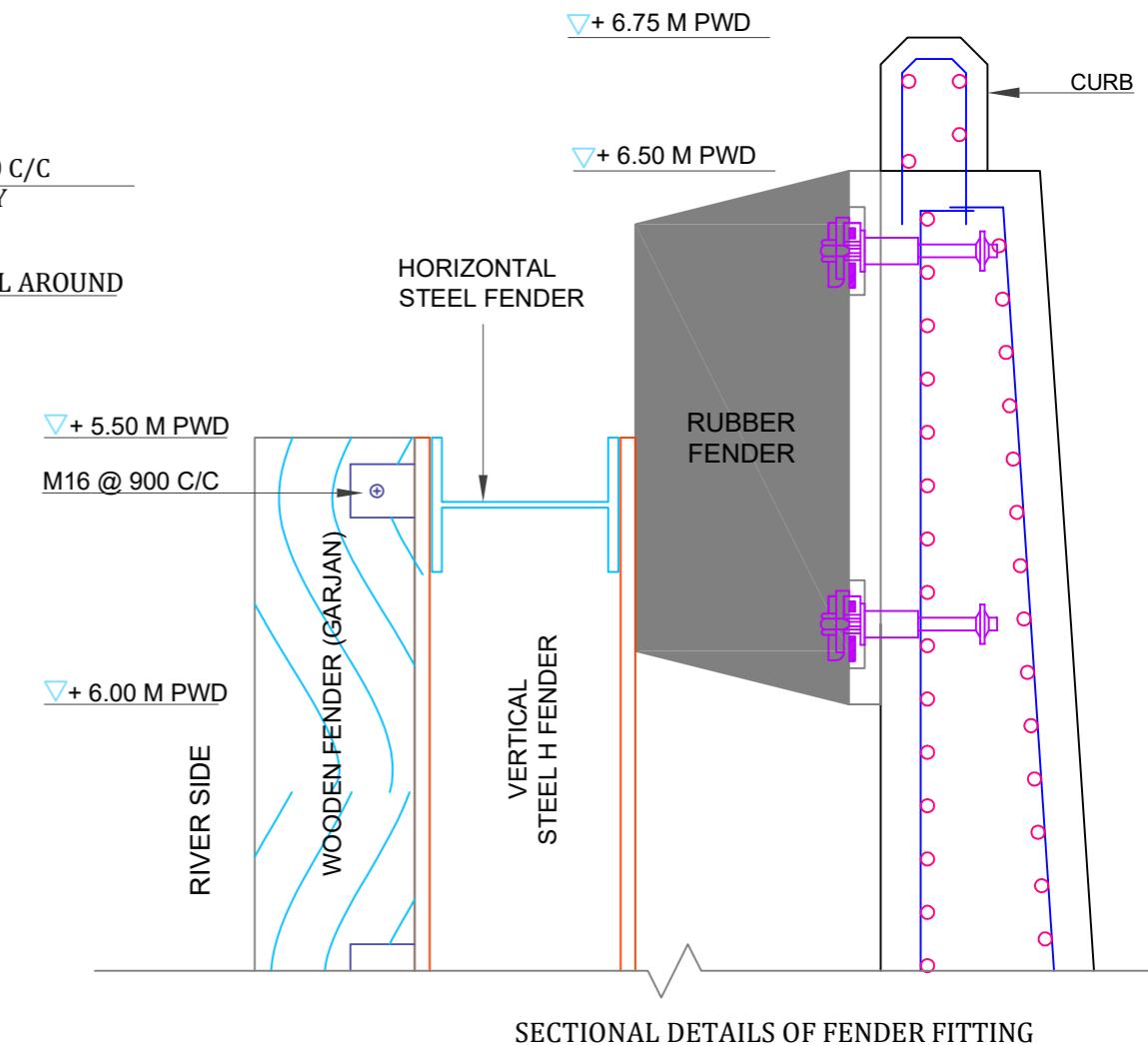
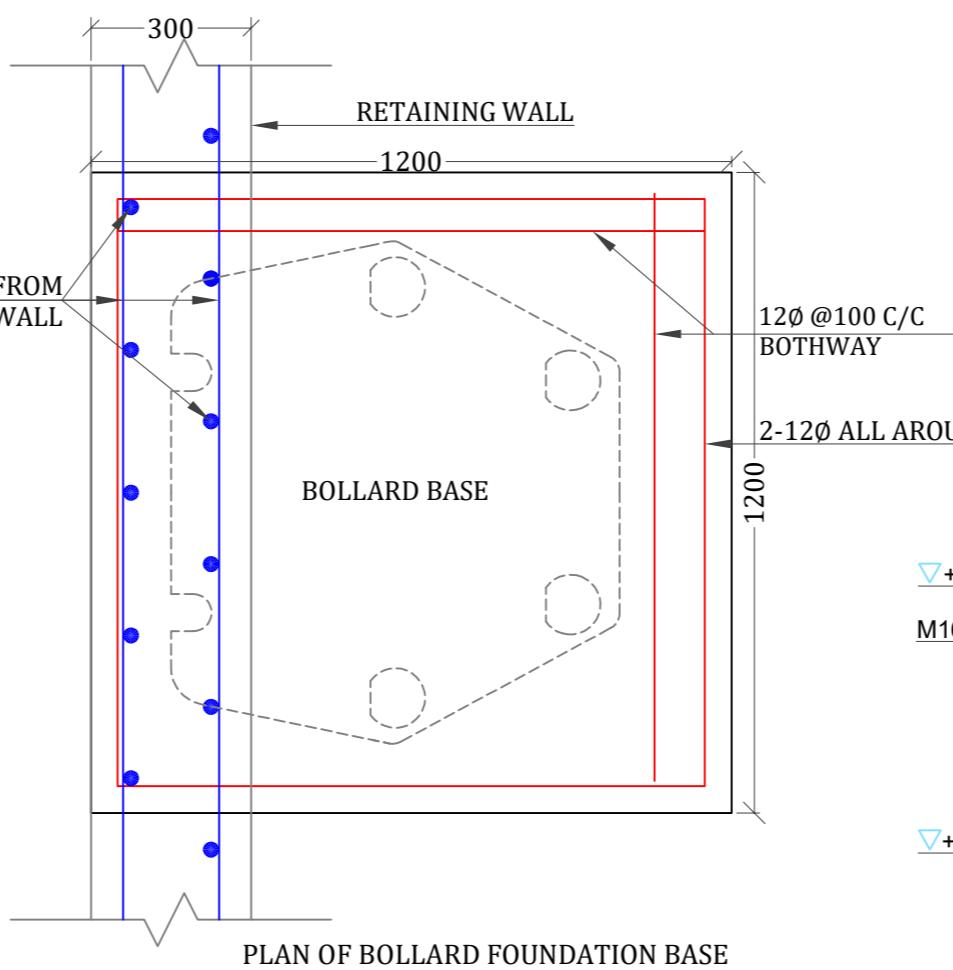
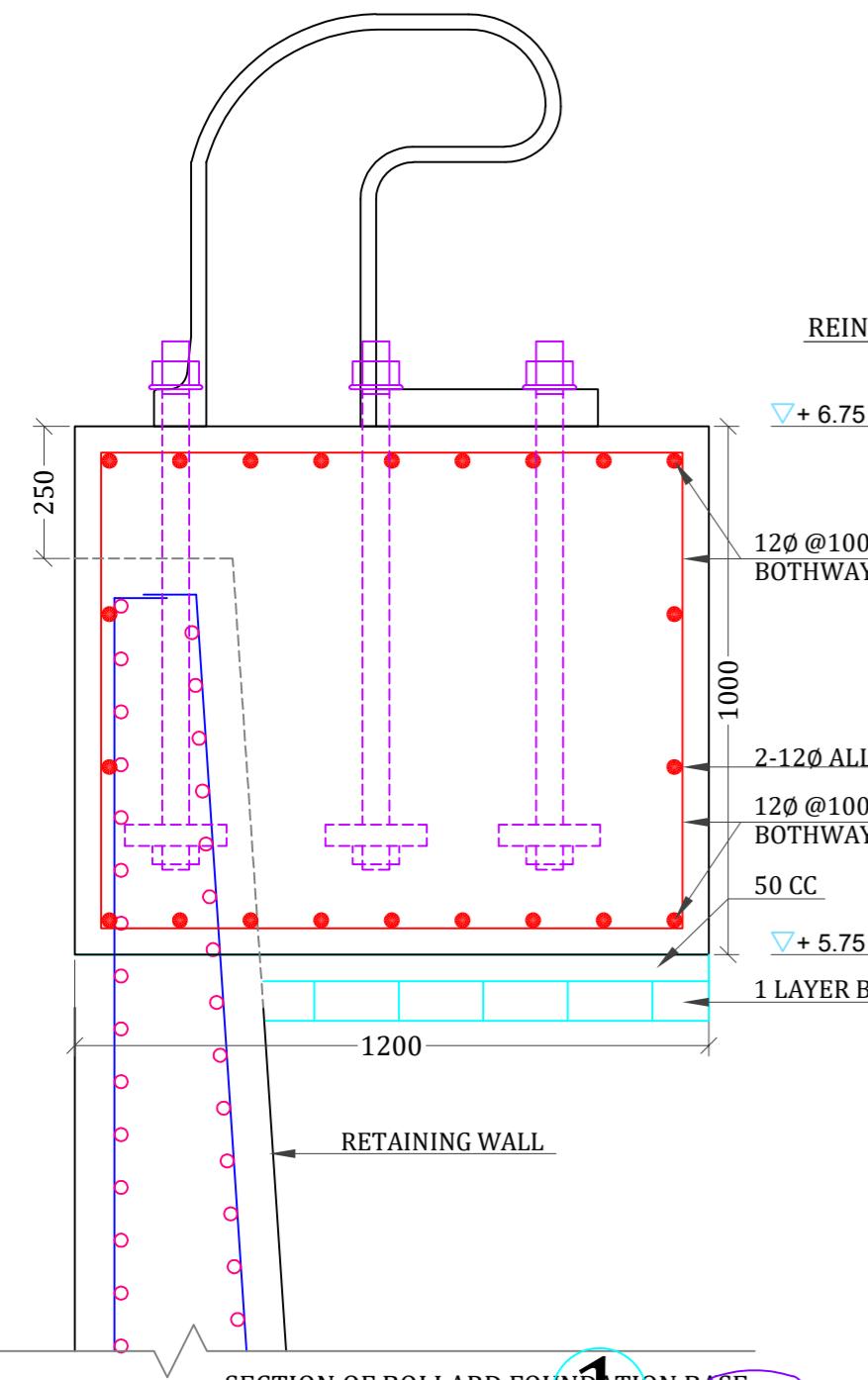
DESIGN ASSOCIATE : ENGR. MD. JAHIDUL HASAN

REVISION NO. - 01

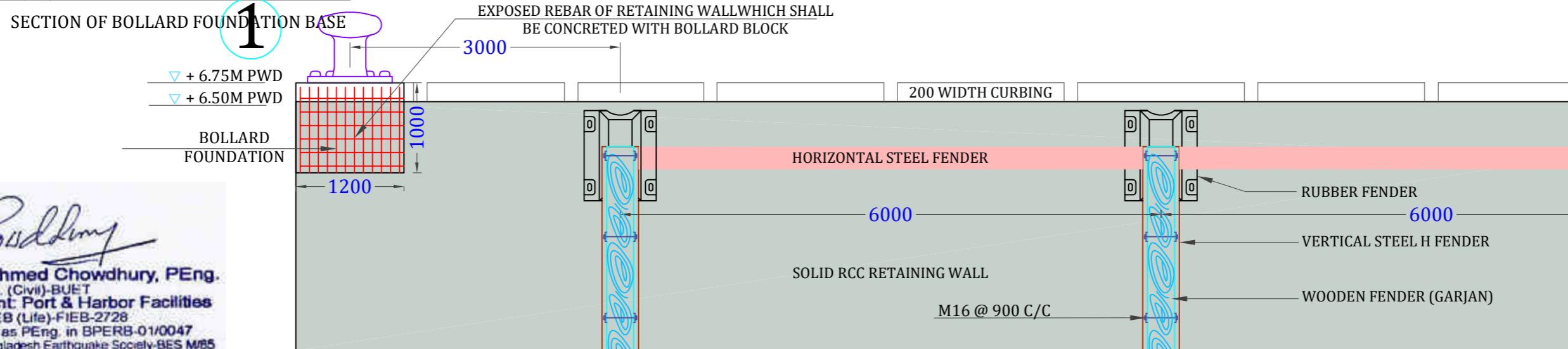
SHEET NO : S - 03

DATE : DECEMBER, 2018

REVISION DATE - JANUARY, 2019



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FRONT VIEW OF BOLLARD & FENDER (TYPICAL)

Sultan Ahmed Chowdhury, PEng.
B.Sc. Engg. (Civil)-BUET
Consultant: Port & Harbor Facilities
Fellow of IEB (Life)-FIEB-2728
Registered as PEng. in BPERB-01/0047
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NOTE: All DIMENSIONS ARE IN MM & ALL LEVELS ARE WRT PWD DATUM

CLIENT : CONFIDENCE CEMENT DHAKA LTD. (CCDL)
PROJECT : DEVELOPMENT OF CEMENT MILL COMPLEX
LOCATION : DANGA, NARSINGDI, DHAKA.

DRAWING TITLE : DETAILS OF BOLLARD FOUNDATION & FENDER

CONSULTANT FIRM: BSO ASSOCIATE LTD.

DESIGN: ENGR. SULTAN AHMED CHOWDHURY, PEng. 01911-289843

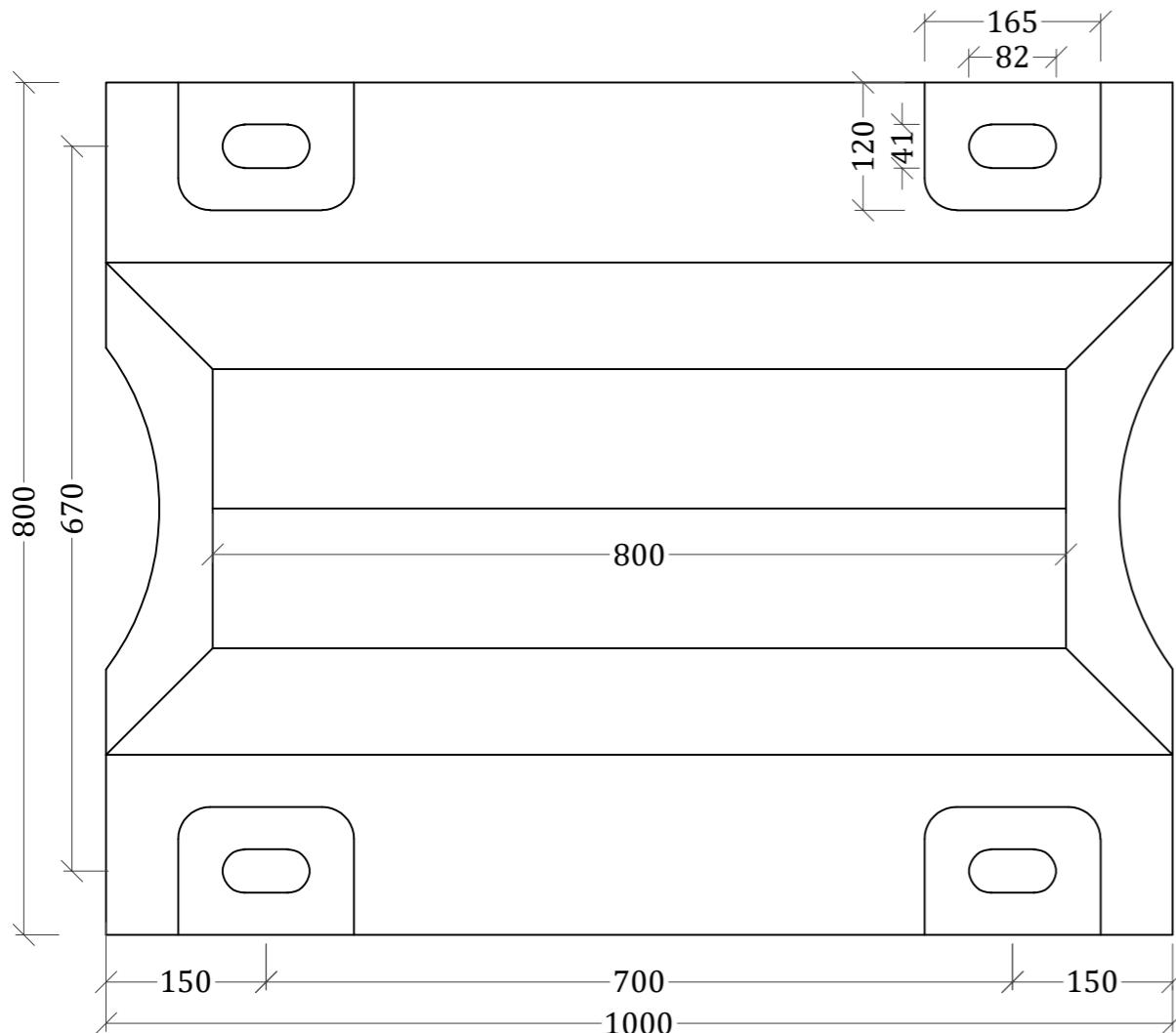
DESIGN ASSOCIATE : ENGR. MD. JAHIDUL HASAN

REVISION NO. - 01

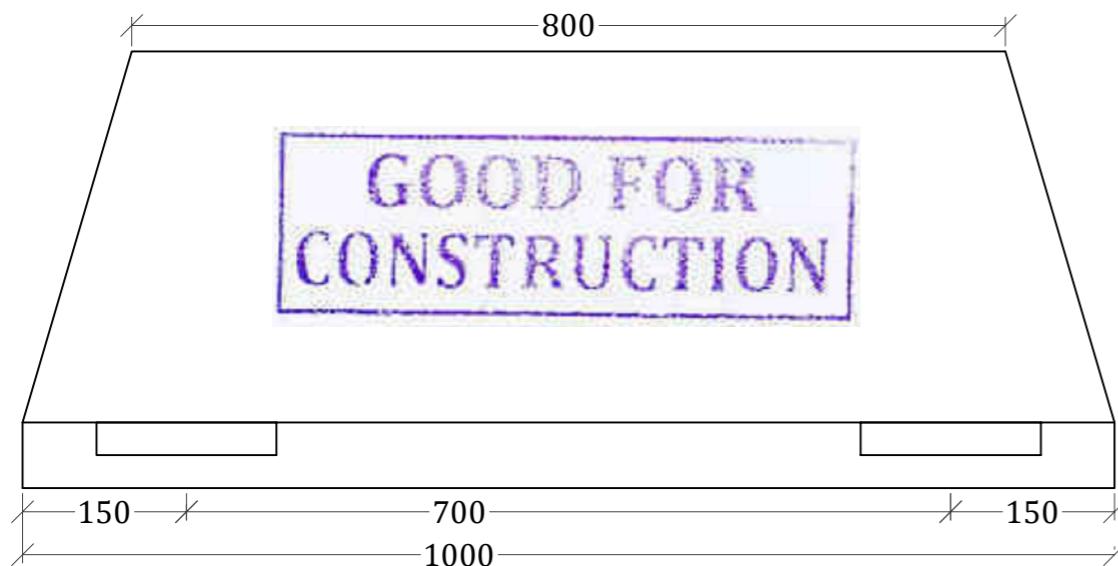
SHEET NO : S - 05

DATE : DECEMBER, 2018

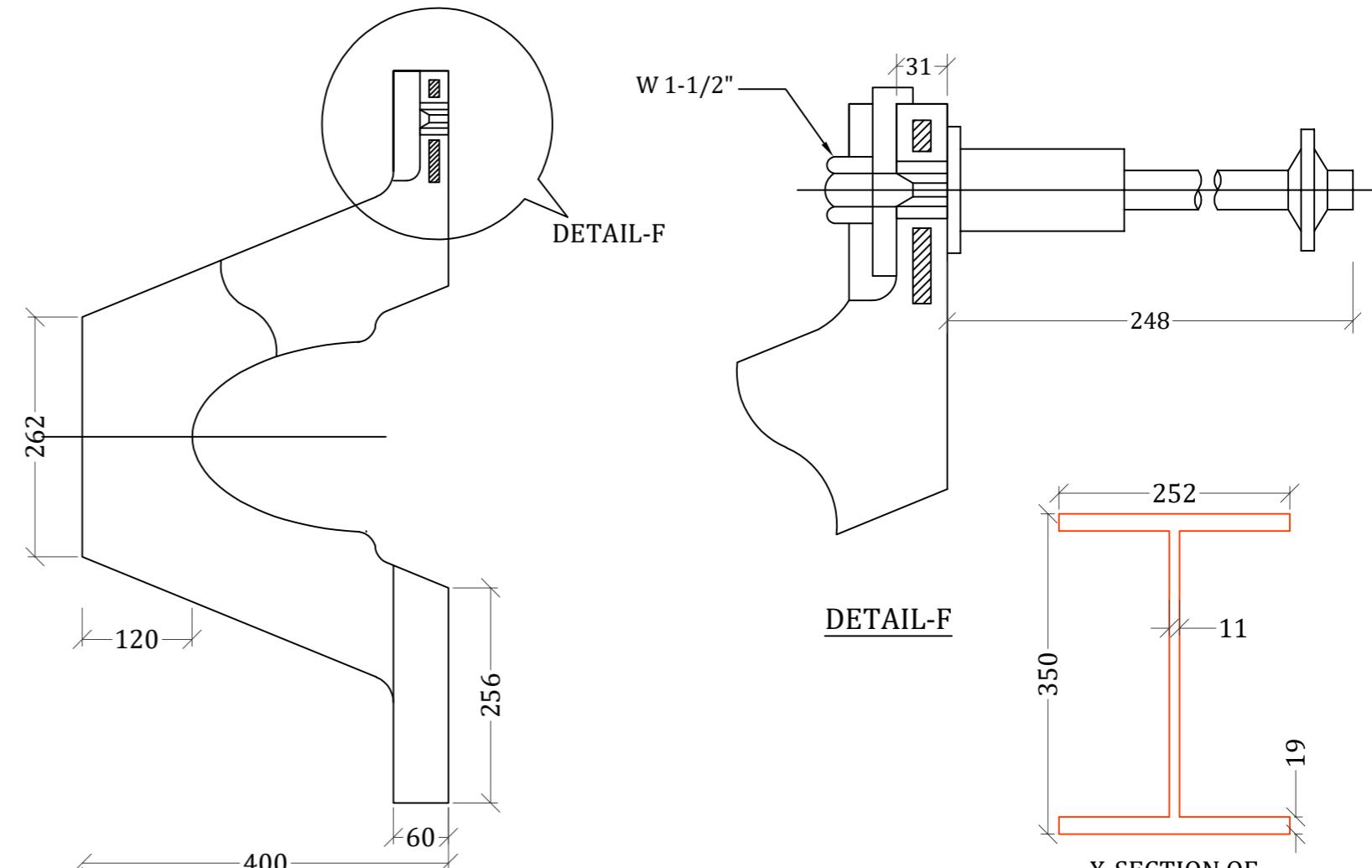
REVISION DATE - JANUARY, 2019



PLAN OF RUBBER FENDER

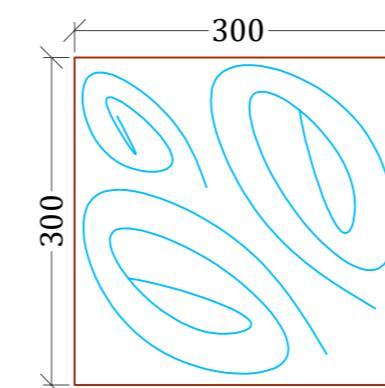


SIDE ELEVATION OF RUBBER FENDER



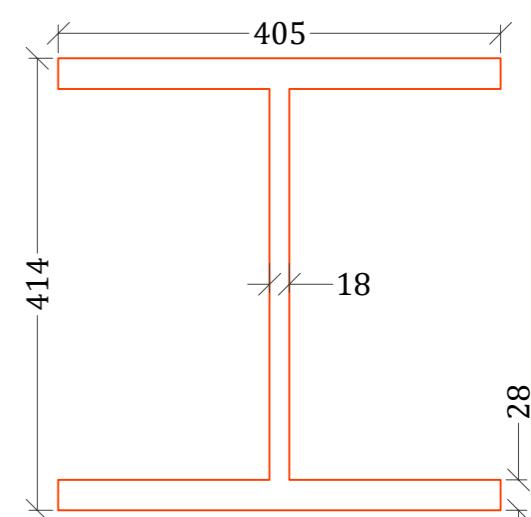
SIDE ELEVATION OF RUBBER FENDER

NOTE : CONTRACTOR CAN PROPOSE / SELECT EQUIVALENT / ALTERNATIVE TYPE FENDER CONFORMING TO INTERNATIONAL STANDARD



X-SECTION OF
WOODEN FENDER
(GARJAN)


Sultan Ahmed Chowdhury, PEng.
B.Sc. Engg. (Civil)-BUET
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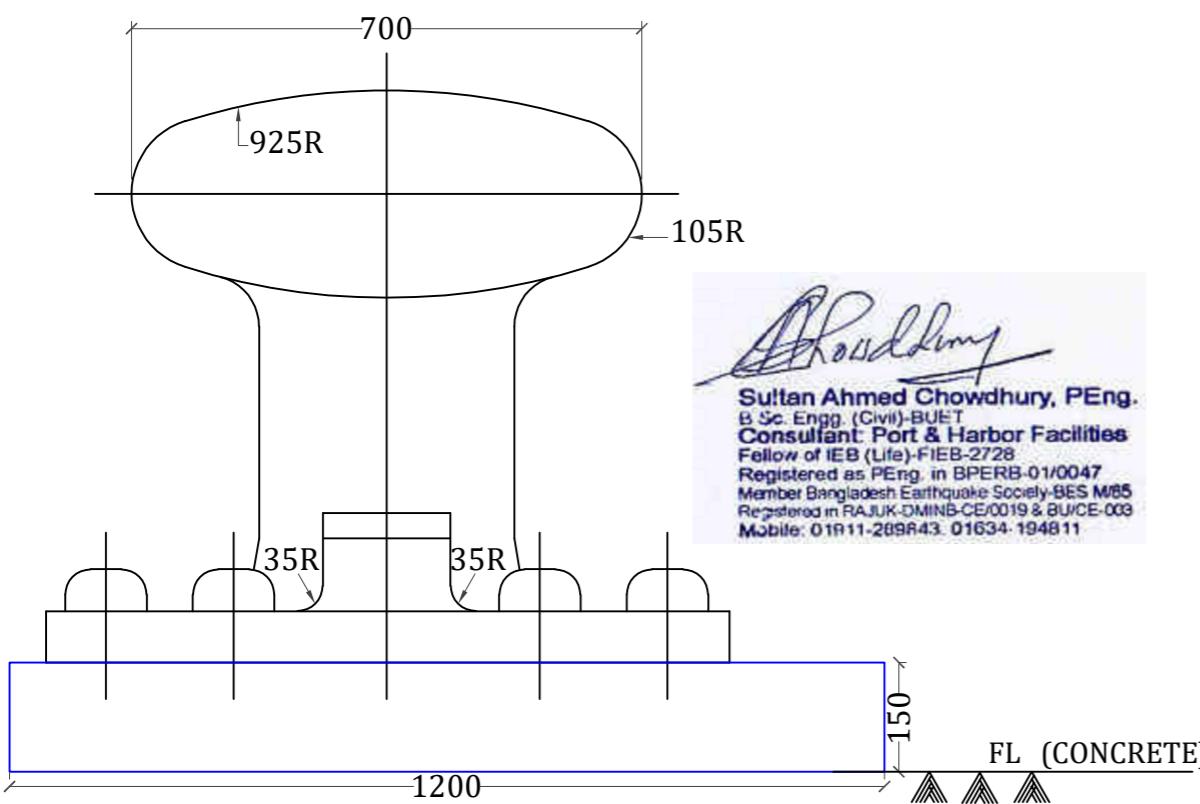
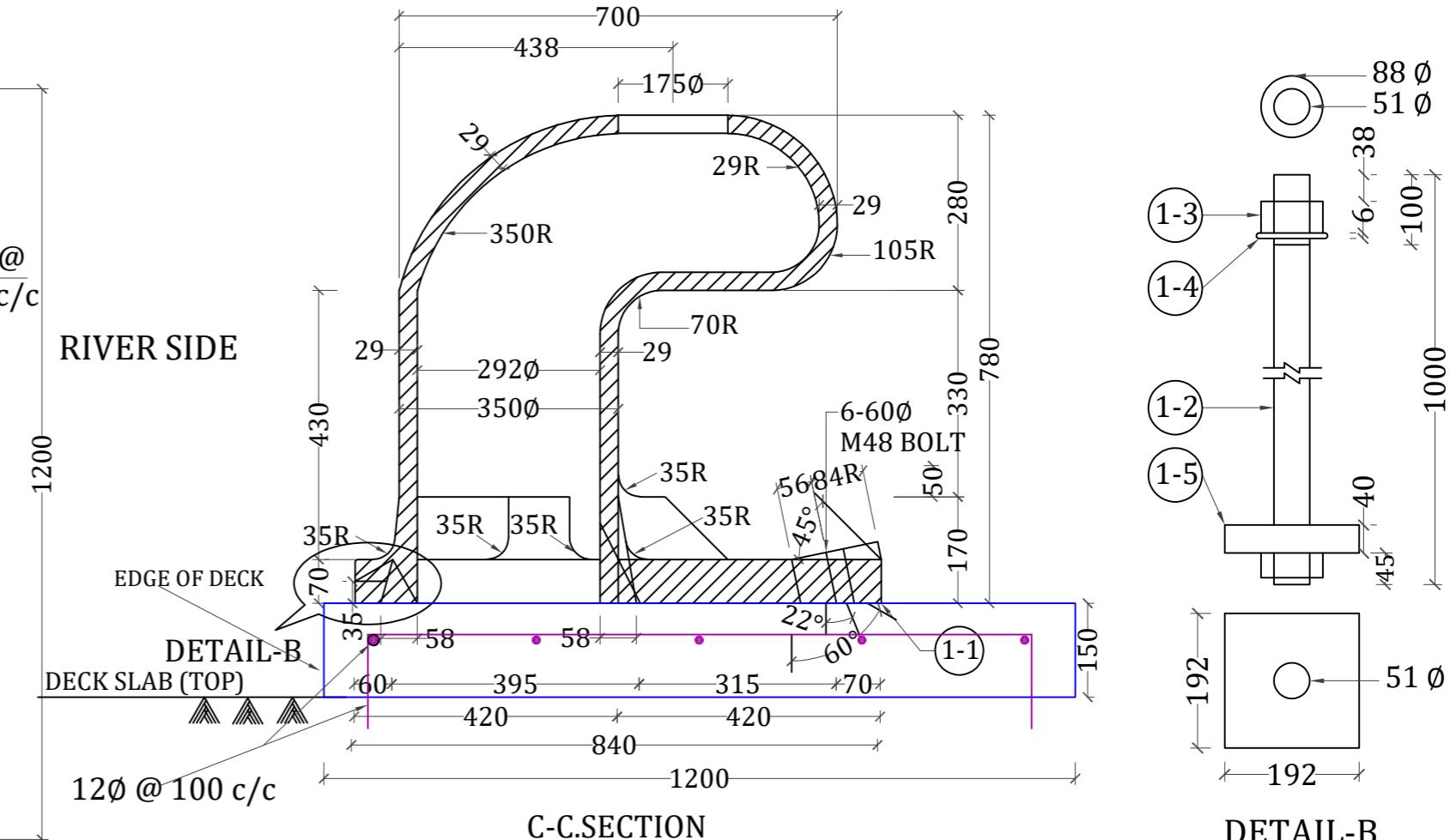
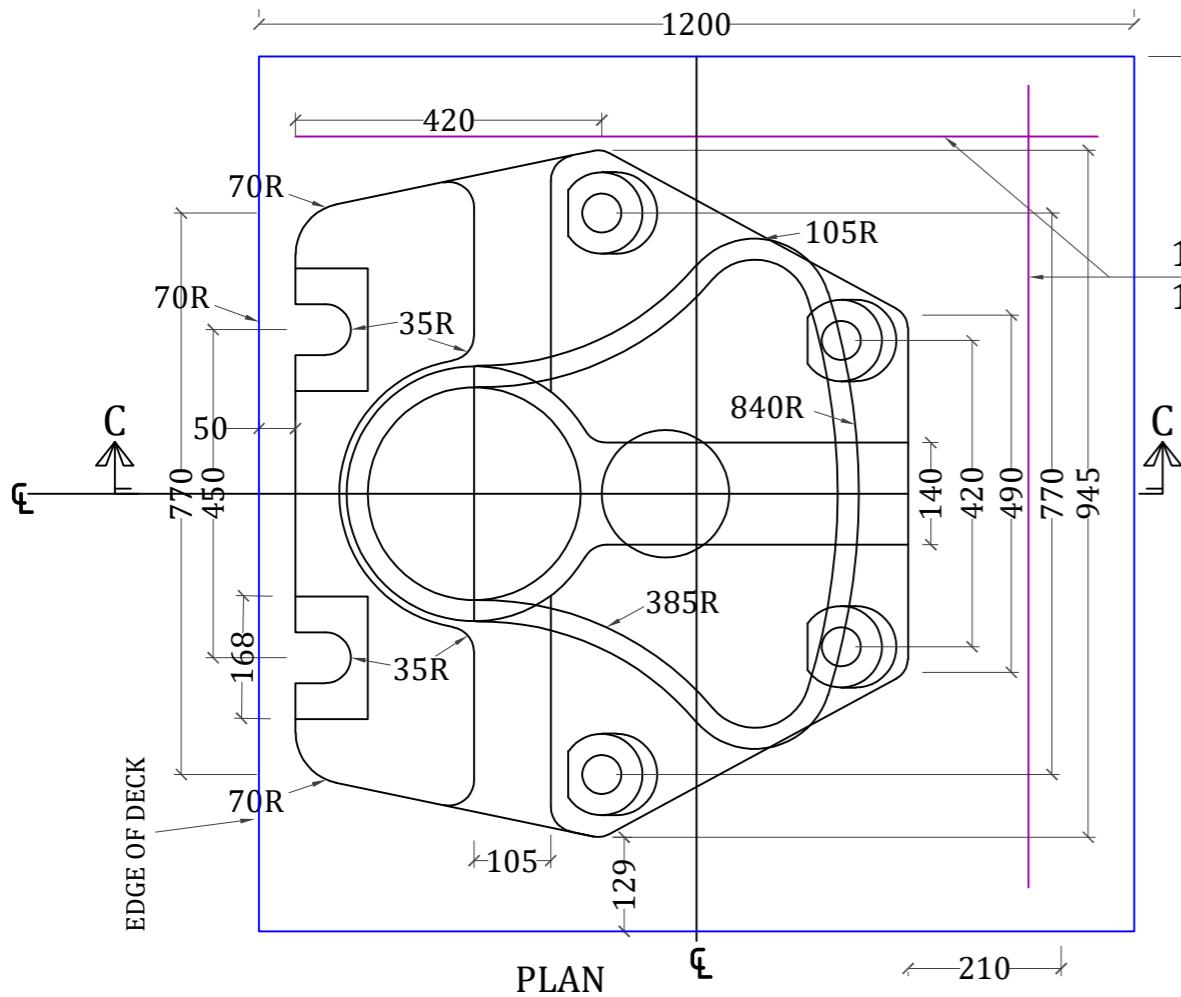
X-SECTION OF VERTICAL
STEEL H FENDER PILE
414X405X18X28

NOTE: All DIMENSIONS ARE IN MM

CLIENT : CONFIDENCE CEMENT DHAKA LTD. (CCDL)
PROJECT : DEVELOPMENT OF CEMENT MILL COMPLEX
LOCATION : DANGA, NARSINGDI, DHAKA.

DRAWING TITLE : SECTIONAL DETAILS OF ALL FENDERS
CONSULTANT FIRM: BSO ASSOCIATE LTD.
DESIGN: ENGR. SULTAN AHMED CHOWDHURY, PEng. 01911-289843
DESIGN ASSOCIATE : ENGR. MD. JAHIDUL HASAN
REVISION NO. - 01
SHEET NO : S - 07
DATE : DECEMBER, 2018
REVISION DATE - JANUARY, 2019

50 TON CURVED TYPE



FRONT ELEVATION

CLIENT : CONFIDENCE CEMENT DHAKA LTD. (CCDL)
PROJECT : DEVELOPMENT OF CEMENT MILL COMPLEX
LOCATION : DANGA, NARSINGDI, DHAKA.

PARTS LIST						
MARK	PARTICULARS	MATERIAL	NO. REQUIRED PER ONE		WEIGHT (KG) PER ONE	REMARKS
			WORKING	SPARE		
1-1	BODY	SS 41	1		665	JIS G 5101
1-2	M48 ANCHOR. BOLT	SS 41	6		14	JIS G 3101 JIS B 0205
1-3	M48 NUT	SS41	12		-	JIS B 1181
1-4	WASHER	SS 41	6		-	JIS B 1256
1-5	ANCHOR ↗	SC 46	6		12	JIS G 3101

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CONSTRUCTION**

NOTE: All dimensions are in mm

) DRAWING TITLE : DETAILS OF INSTALATION AND FIXING OF BOLLARD

CONSULTANT FIRM: BSO ASSOCIATE LTD

CONSULTANT FIRM: BSO ASSOCIATE LTD.
DESIGN: ENGR. SULTAN AHMED CHOWDHURY, PEng. 01911-289843

DESIGN ASSOCIATE : ENGR. MD. JAHIDUL HASAN

REVISION NO. - 01

REVISION DATE - JANUARY, 2019