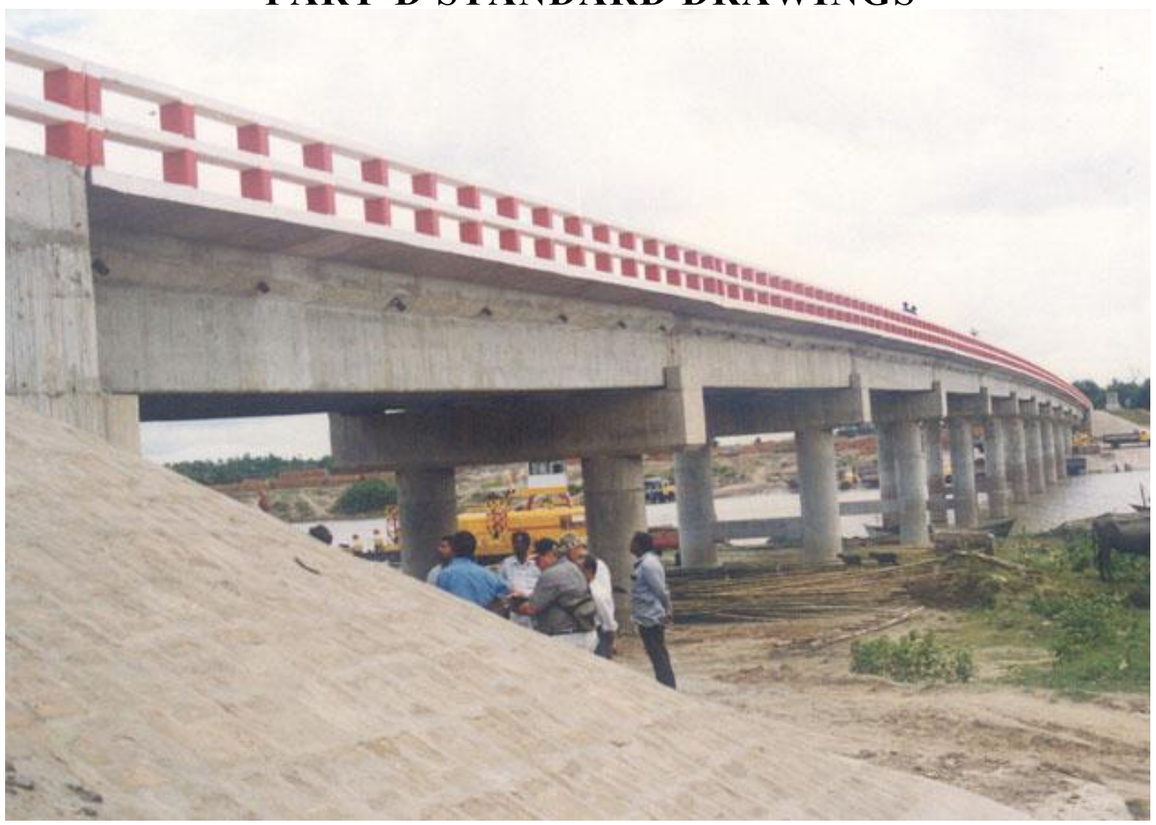
GOVERNMENT OF PEOPLE'S REPUBLIC OF BANGLADESH
MINISTRY OF LOCAL GOVERNMENT, RURAL DEVELOPMENT & CO-OPERATIVES
LOCAL GOVERNMENT ENGINEERING DEPARTMENT (LGED)

ROAD STRUCTURES MANUAL FOR SINGLE LANE BRIDGES

PART-D STANDARD DRAWINGS



SUPERSTRUCTURE:

RC DECK
RC GIRDER

SUBSTRUCTURE:

RC ABUTMENT-WING WALL

FOUNDATION:

CAST IN-PLACE BORED PILE

VOLUME-I: REINFORCED CONCRETE BRIDGES

PREPARED BY:
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DATE: FEBRUARY 2011

FUNDED BY:
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
THROUGH:
THE STRENGTHENING OF ACTIVITIES IN RDEC PROJECT

CONTENTS

PART D

VOLUME I STANDARD DESIGNS

1.0 INTRODUCTION

1.1 General

This Design Manual (RSM'10) provides standard designs of reinforced concrete (RC) girders connected with RC deck of span range 12.0 to 24.0 m at an interval of 2.00 m and abutment heights varying between 3.00 m to 7.00 m at an interval of 0.5 m. for single lane RC Girder Bridges. Reinforced elastomeric bridge bearings are provided. Abutments and wing walls are wall type with short projected cantilever/flag at the wing wall ends. Pile foundations for abutments-wing walls comprise of 500 mm dia. cast-in-situ RC bored piles for 3.0 to 4.5m heights and 600mm dia for 5.0 to 7.0m heights.

Load and resistance factor design method (LRFD) is used for analysis and design purpose in accordance with the AASHTO LRFD Bridge Design Specifications SI Units, 2007, hereinafter called AASHTO 07. Vehicular live loadings on the road ways of bridges/ culverts is used in accordance with the AASHTO 07 designated HL-93, which consisting of a combination of Design truck or design tandem, and Design lane load (Ref: AASHTO '07, Art. 3.6.1.2.1). Design truck is equivalent to the previous HS20-44 loading. For tandem and lane loading and for further details refer to part "A" Article 6.2.2.3

Structural analysis has been done using STAAD.Pro 2006. All drawings are prepared by AutoCad 2010.

Thus, the standard design of this RSM'10 will ensure sustainability to strengthen the design activities of RDEC.

1.2 Scope of the Manual

This manual contains the standard designs and drawings along with the bar bending schedule and quantities for the following components of the single lane Bridges upto 12.0-24.0 m simply supported span containing 3.0 to 7.0 m height abutments.

The contents of this Manual, Part-B Volume IV comprises of,

a) Deck slab:

Carriageway width	= 3.7 m
Width of 2 (two) sidewalks, each	= 0.6 m
Width of Railing each	= 0.175 m
Out to out deck width	= 5.35 m

b) RC Girder:

Span length = 12.00m to 24.00m
at an interval of 2.00 m.

c) Abutment-Wing walls:

Height ranges = 9 nos. between 3.00 m and 7.00 m at an interval of 0.5 m.

Design Types = 8 no.s

- TYPE AW1:	Height range	= 3.00 m & 3.50 m
- TYPE AW2:	Height range	= 4.00 m
- TYPE AW3:	Height range	= 4.50 m
- TYPE AW4:	Height range	= 5.00 m
- TYPE AW5:	Height range	= 5.50 m
- TYPE AW6:	Height range	= 6.00 m
- TYPE AW7:	Height range	= 6.50 m
- TYPE AW8:	Height range	= 7.00 m

d) Pile Cap: Types = 8 no.s

e) Piles: 500 mm dia. cast-in-situ bored piles for 3.00m to 4.50m (at an interval of 0.50 m) heights Abutments and span length 12.00 to 20.00m and 600 mm dia. cast-in-situ bored piles for 5.00 to 7.00m (at an interval of 0.50 m) heights Abutments with span ranges 12.00 to 24.00m (at an interval of 2.00 m). The pile arrangements and sizes have been design considering the sub-surface soil at loose to medium dense granular soil, and/or stiff cohesive soil. This will cover almost all types of soil under normal condition.

f) Bridge Bearings: Multi-layer reinforced elastomeric.

g) Railing: Precast rail bars and cast-in-situ rail posts.

h) Miscellaneous: Expansion joint, rain water down pipe, elastomeric bridge bearing, railing (rail post, rail bar) and sidewalk.

Part B, Volume IV comprises of 4 chapters.

Chapter 1- Introduction and Scope of the Manual.

Chapter 2- Selection criteria of length of bridge, height of abutment, longitudinal profile grade, cross-slope, deck type and geometry, RC girder, Abutment-wing wall types, pile cap, piles, bridge bearings, joints, railings, wearing course and free board.

Chapter 3- Bill of quantities and schedule of Concrete Quantities for Superstructure, Substructure and Foundation (Pile Cap).

Chapter 4- Standard designs and the bar bending schedules.

2.0 SELECTION CRITERIA

2.1 Length of the Bridge

Length of the bridge should be determined mainly from the consideration of regime width based on hydro-geological investigations. Narrow bridge increases unit discharge through the channel and thereby causes excessive scour depth around supports and the approaches. Further in scour calculation provision for actual grain size of the bed material has been kept.

For calculation of scour depth, usually the methods given by Lacey, Laursen and Blench are popular in the subcontinent, out of which Lacey's method is more popular in the sub-continent including Bangladesh. For the purpose of this manual, scour depth for the non-cohesive soil has been calculated using Lacey's method and the same for the cohesive soil has been calculated using the method of tractive forces given in R.V Farrady and F.G. Charlton, Hydraulic Factors in Bridge Design, Hydraulic Research, and Wallingford, U.K.

The selection criteria of the length of bridge incorporating the above factors are given in Flow Chart of Fig. 2.1. [Ref: Part B, Chapter 4 of this Manual].

2.2 Longitudinal Profile Grade

The horizontal profile grade has been chosen for the single span bridge of this RSM 10. It is suggested to adjust the height difference between the finished road surface at abutment and the top elevation of the approach road by providing slope with a maximum grade of 3% in the tangent line.

2.3 Cross- Slope

2.0% cross- slope has been provided in the deck to ensure effective drainage of the straight bridge.

2.4 Deck Type and Geometry

The overall deck width is 5.350 with carriage way width 3.70m and sidewalk 0.60m on both sides. 0.25m high curbs measured over deck concrete excluding wearing course has been provided.

2.5 RC Girder

Seven different heights of RC girder sections have been provided as shown in Table 2.1 below:

Table 2.1: Types of RC Girder

SL NO.	Overall Girder Length, m	Girder Height, m
1	12.0	1.0
2	14.0	1.1
3	16.0	1.3
4	18.0	1.4
5	20.0	1.5
6	22.0	1.8
7	24.0	2.0

2.6 Abutment and wing wall: Types and Heights

Full depth return type Abutment & wing wall have been provided. Abutments have been designed without counter fort except 7m height. For 7m height 3 counter forts have been provided at wings only.

Table 2.2: Types of Abutment – Wing Walls

SL NO.	Abutment Height, m	No of Counterforts in abutments	No of Counterforts in a wing wall
1	3.0-3.5	Nil	Nil
2	4.0	Nil	Nil
3	4.5	Nil	Nil
4	5.0	Nil	Nil
5	5.5	Nil	Nil
6	6.0	Nil	Nil
7	6.5	Nil	Nil
8	7.0	Nil	3

2.7 Abutment Pile cap

Abutments are designed for 3m to 7m heights at an interval of 0.5m with 9 Foundation Types. Details of pile cap sizes with pile No.s are given below in Table 2.3

Table 2.3: Types of abutment pile caps along with size of pile caps and no. of piles.

SI. No.	Abutment Height (m)	Foundation Type	No. of piles	Size of Pile Cap L(m) x B(m)xW(m)
1	3.0	A	09	6.00 x 4.60 x 0.60
2	3.5	B	09	6.00 x 4.60 x 0.75
3	4.0	C	12	6.00 x 4.75 x 0.75
4	4.5	D	12	6.00 x 5.25 x 0.75
5	5.0	E	12	6.00 x 5.75 x 0.80
6	5.5	F	16	6.30 x 6.95 x 0.85
7	6.0	G	16	6.30 x 7.15 x 0.85
8	6.5	H	16	6.30 x 7.75 x 0.90
9	7.0	I	18	6.30 x 8.55 x 1.00

The top of pile cap shall be placed about 1.00m below the prevailing natural ground level (NGL). The length of bridge and bottom elevation of abutment pile cap shall be so decided that the maximum scour below pile cap does not exceed 1.00 m.

2.8 Piles

500 mm dia RCC cast-in-situ bored piles have been provided for Abutment height range 3.0-4.5m & 600mm dia piles for Abutment height range 5.0-7.0m.

The design length of piles for any abutments completely depends on height of Abutment, span length type of sub soil & its geological condition. Therefore no typical design is applicable for different site conditions. Considering these realities we provide here a typical length of 20m both for 500mm & 600mm dia piles. As a guidance only. Actual pile length to be designed for each individual case using the design software provided in Part-A Chapter 11.

2.9 Bridge Bearings

Reinforced elastomeric bearings have been provided below each girder end. For design of the same and their specifications, refer to Part A, Chapter 12.0.

2.10 Bridge Joints

Steel plate joint has been provided as the expansion joint in accordance with the current practice of LGED and that is adequate for bridges on rural roads.

2.11Bridge Railing

Pre Cast rail bars & Cast-in-situ rail post have been provided here.

2.12 Wearing Course

50mm thick cement concrete wearing course have been provided. This has been proved to be suitable for single lane bridge deck.

2.13 Navigational Clearance

Navigational Clearance both for vertical and horizontal requirements must be considered as specified by the BIWTA for classified rivers and for non classified rivers it should be finalised according to the need of the local water transport users. The vertical navigational clearance should be maintained as the clear height from standard high water level (SHWL) to soffit of girder. For classified river SHWL should be collected from BIWTA. For non classified rivers it shall be determined as the average of five past HFLs. All the levels needed for Topographical survey and construction methodology shall be fixed up based on PWD BM.

3.0 General Description of Items for Bill of Quantities (BOQ)

General description of items for preparing BOQ, refer to LGED’s Technical Specifications for Bridges on the Upazila & Union Roads, March 2004 are given in the following table.

Fig.-2.1 Flow chart for selection of Bridge Length Abutment-Wing Wall Heights and clearance

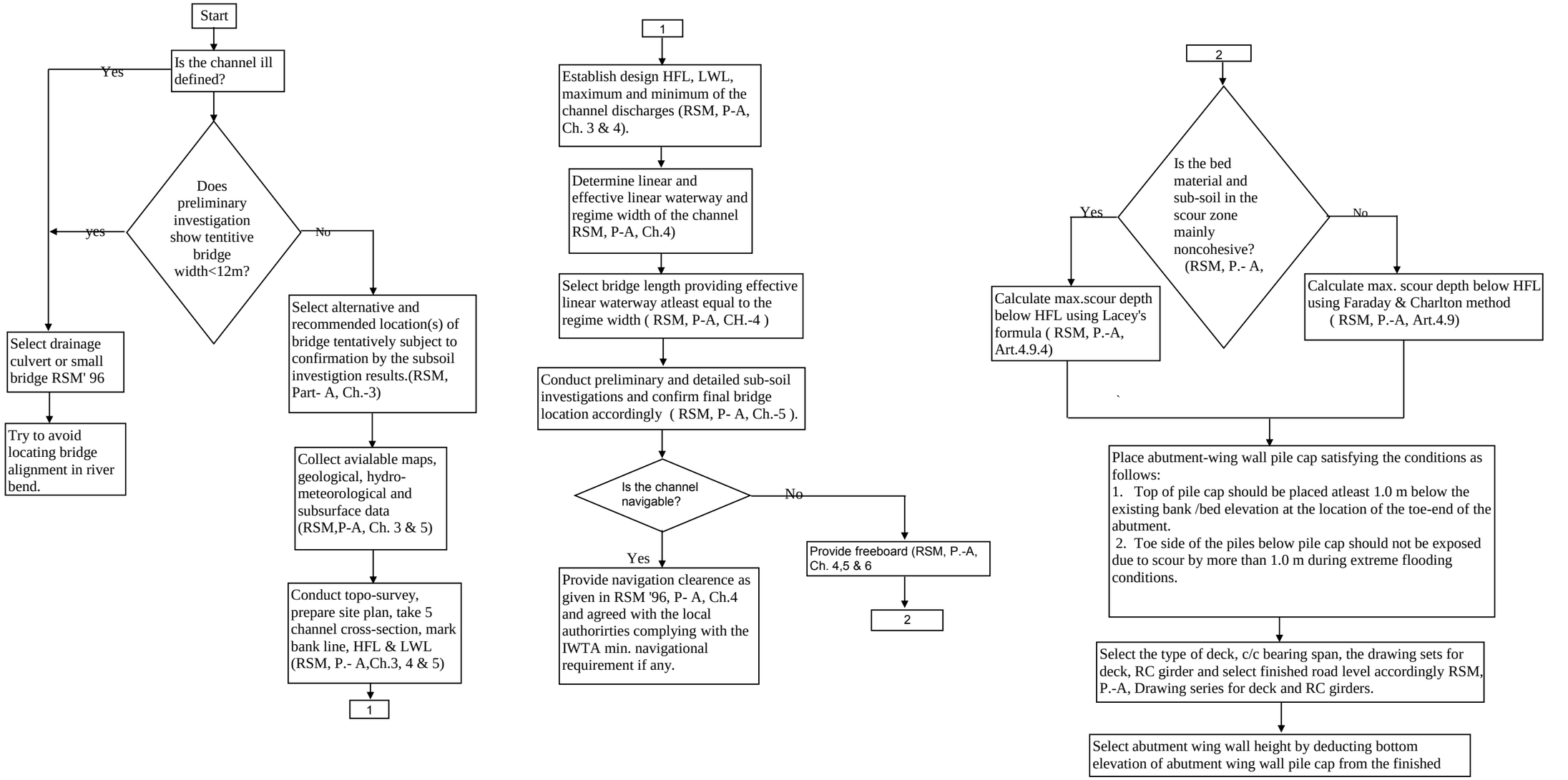
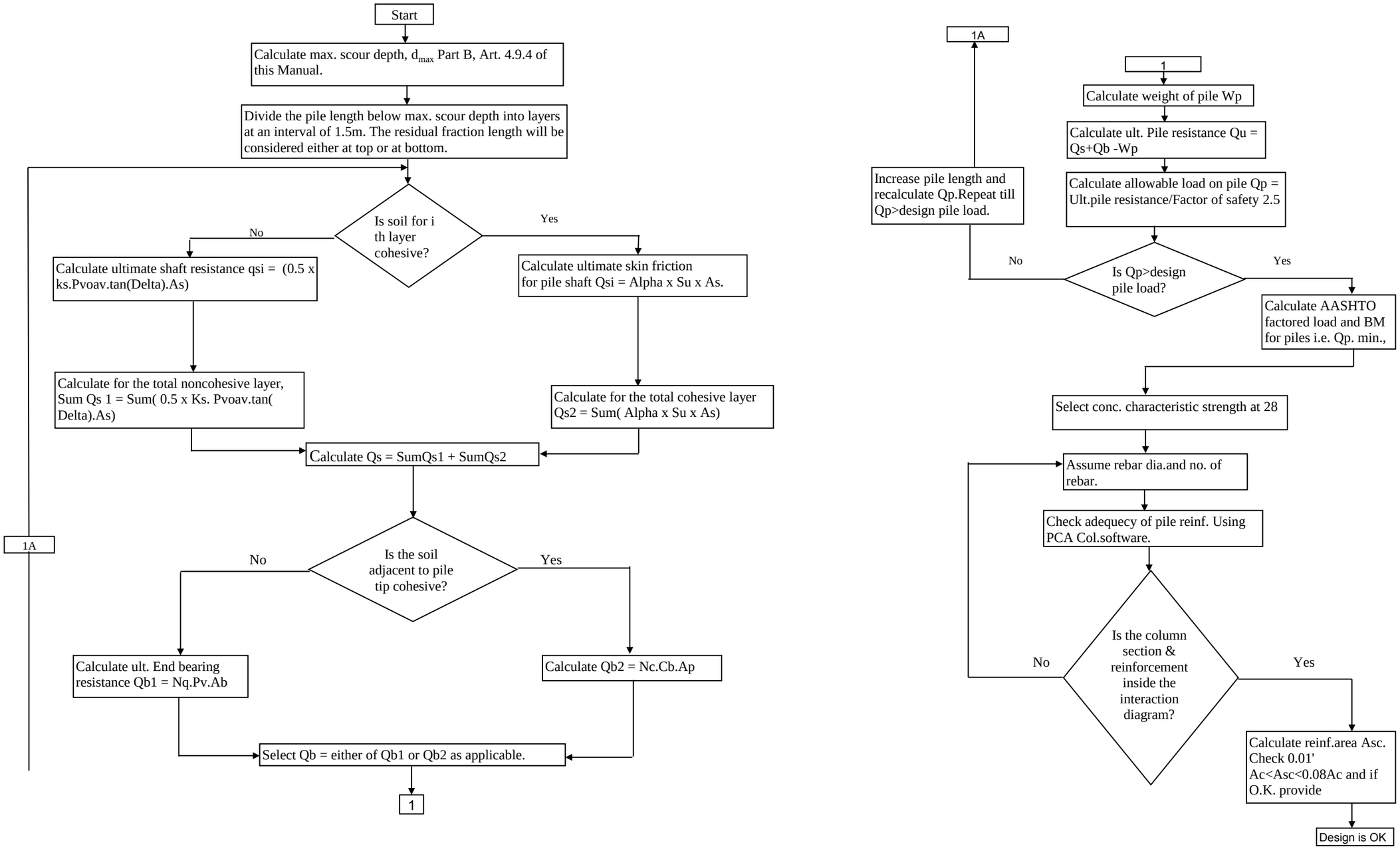


Fig.-2.2 Flow chart for selection of pile length



General Description of Items for Bridges

Item No.	Description of Items	Unit	Quantity	Rate (in taka) in Figures and Words	Amount (in Taka)
1.	2.	3.	4.	5.	6.
1.	[1.1.5] Mobilization of men, materials, and equipment, preparation of site, clearing of all existing debris, jungles and obstruction, construction of appurtenance, etc. for commencing the work as per direction of the E-I-C.	L.S			
2.	[1.1.7] Providing an maintaining the Engineer's office during construction, a temporary shed of minimum 3mx3mx2.6m size at site, made of CI sheet roofing with bullah/bamboo supports and tarja walls, floor with single brick flat soling at a minimum of 150mm high plinth above normal 2.33 year return period floods, plus toilet facilities. This will contain minimum one door (2mxo.8m) and one window (1.22mx0.9m), including furnishing of three wooden chairs and one wooden table (1.22mx0.9m) as per direction of the Engineer.	LS			
3.	[2.1] Providing a diversion with approaches at a place away from the construction site for the movement of the pedestrian/existing traffic including cost of all materials, labor, equipment, and maintaining the same till the newly constructed bridge/culvert is open to traffic, as directed by the Engineer.	LS			
4.	[2.2] Dismantling of existing structures of any type including removal of foundations down to the required depth, and superstructure, stacking the removed debris and materials in a safe place, supply of all labor, equipment, taking all precautionary measures, etc. complete as per direction of the Engineer. (The salvaged materials are the Government property.)	LS			
5.	[2.7] Sub-soil investigation at the actual location of each abutment and pier in accordance with the ASTM D 1586 and D 1587. The bore holes shall have a minimum diameter of 100mm and shall be lined throughout and shall be minimum 20m deep or to a depth as shown on drawings or as directed by the E-I-C from the existing GL and taking all precautions and steps o collect the disturbed and undisturbed samples and making the bore holes. The item is inclusive of all costs of materials, labors, field and laboratory tests, reports and records. a. 20m depth b. 25m depth c. 30m depth d. 35m depth e. 40m depth f. 45m depth g. 50m depth h. 55m depth i. 60m depth	 No. No. No. No. No. No. No. No. No.			

Item No.	Description of Items	Unit	Quantity	Rate (in taka) in Figures and Words	Amount (in Taka)
1.	2.	3.	4.	5.	6.
6.	[2.5] Making earthen ring/cross bundh of required height and width to prevent water from entering in the working area for any type of foundation with earth arranged and carried by the contractor including bullah/bamboo palasading and double tarja mat/drum sheets walling as and where necessary and maintaining the same till completion of work as per direction of the E-I-C. (70% of payment will be made after completion of the construction of the work. The balance amount will be paid after full removal of the same).	L.S			
7.	[2.3] Earth work in excavation in foundation trenches in all sorts of rocky, gravelly, slushy or organic type, up to a depth of 2m to the lines, grades and elevation as shown on the drawing, removing boulders, logs and other objectionable materials, clearing all loose materials, disposing of all excavated materials to a safe distance designated by the E-I-C for an initial lead of 20m, and cut to a firm surface including bailing out water, removal of spoils to a safe distance, back filling of sites of trenches up to original level, shoring if necessary etc. all complete as per requirement and instruction of the E-I-C. Back-filled materials shall be as specified and compacted to a density comparable with the adjacent undisturbed material.	cum			
8.	[2.3] Earth work in excavation in foundation trenches in all sorts of soil except rocky, gravelly, slushy or organic type, up to a depth of 2m to the lines, grades and elevation as shown on the drawing, removing boulders, logs and other objectionable materials, clearing all loose materials, disposing of all excavated materials to safe distance designated by the E-I-C for an initieal lead of 30madditional lead of 10m or part thereof beyond the initial 20m lead, and cut to a firm surface including bailing out water, removal of spoils to a safe distance, back filling of sites of trenches up to original level, shoring if necessary etc. all complete as per requirement and instruction of the E-I-C. Back-filled materials shall be compacted to a density comparable with the adjacent undisturbed material.	cum			

Item No.	Description of Items	Unit	Quantity	Rate (in taka) in Figures and Words	Amount (in Taka)
1.	2.	3.	4.	5.	6.
9.	[2.3] Earth work in excavation in foundation trenches in all sorts of soil except rocky, gravelly, slushy or organic type, up to a depth of 2m to the lines, grades and elevation as shown on the drawing, removing boulders, logs and other objectionable materials, clearing all loose materials, disposing of all excavated materials to a safe distance designated by the E-I-C for an additional lead l0m or part thereof beyond the initial 20rn lead, and cut to a firm surface including bailing out water, removal of spoils to a safe distance, back filling of sites of trenches up to original level, shoring if necessary etc. all complete as per requirement and instruction of the E I-C. Back-filled materials shall be compacted to a density comparable with the adjace undisturbed material.	Cum			
10.	[2.3] Pumping and bailing out water/de-watering of work site including supply, operation and maintenance of requisite number of water pumps. It should be carried out in such a manner as to keep the excavation yard dry and to preclude possibilities of the movement of water through or alongside any concrete being placed, etc. all complete as per direction of E-I-C.	LS			
11.	[2.3] Sand filling below culvert base or on the prepared foundation bed with sand of minimum FM 0.80 in difficult areas with 150mm in thickness of each layer including supplying, placing in conformity with the profile and level as per design including watering, compaction, etc. all complete as shown on the drawing or as per direction of the E-I-C.	Cum			
12.	[7.2] Single layer brick flat soling with 1st class or picked jhama kiln burnt bricks in foundation, filling the interstices tightly with sand of minimum FM 0.80, watering, leveling, dressing, etc. all complete as per instruction of the E-I-C.	sqm			

Item No.	Description of Items	Unit	Quantity	Rate (in taka) in Figures and Words	Amount (in Taka)
1.	2.	3.	4.	5.	6.
13.	[3.1] Supply and fabrication of MS/HY deformed reinforcement of required size and length for all types of RCC work including straightening the rod, removing ruts, cleaning, cutting, hooking, bending, binding with supply of 22 B.W.G. GI wire, placing in position, including lapping, spacing and securing them in position by concrete blocks (1:1), metal chairs, etc. complete including cost of all materials, labor, local handling, laboratory test, incidentals necessary to complete the work as per specifications, drawings and direction of the E-I-C. Laboratory test for physical property, strength, elongation% & bend to be performed as per ASTM A 615-87, Grade 60, min. fy = 413 MPa. (Measurement will be based on standard weight of 7800 kg/m³. Chairs, laps and separators will not be measures for payment. The cost of these will be included in the unit rate). a. HY deformed re-bars, min. fy = 413 MPa	kg			
14.	[2.8] Boring and casting of RC cast-in-situ piles up to the required depth and dia. using temporary steel casing in all types of soils including staging, drilling, driving, providing bentonite slurry in circulation, placing of reinforcement and concreting by using tremie concreting method. Minimum ultimate cylinder crushing strength of concrete shall be 25 MPa at 28 days. Allowable slump shall be between 150mm and 175mm, which will be achieved using approved admixture, keeping water cement ratio not exceeding 0.5. Minimum cement content shall be used 370 kg/m^3. Mix design will be made using current margin as allowed by ACI 318. The rate will include cost of all materials, labor, equipment and all incidental charges but excluding the cost of reinforcement and its fabrication, etc. all complete as per design, drawing, specifications and direction of the E-I-C. Additional quantity of cement will be added, if required to attain the afore-mentioned concrete strength, by the contractor at his own costs. **a) Boring** i) 500mm dia. Using percussion/Rotary drilling method ii) 600mm dia. Using percussion/Rotary drilling method **b) Concreting** i) 500mm dia. ii) 600mm dia.	 Lm Lm Cum Cum			

Item No.	Description of Items	Unit	Quantity	Rate (in taka) in Figures and Words	Amount (in Taka)
1.	2.	3.	4.	5.	6.
15.	Making artificial island in river/channel having standing water suitable for construction of bored cast-in-situ pile with earth arranged if necessary and carried by contractor by any means including cost of all materials required for the work, and maintaining the same till the completion of construction of pier/abutment for which the island is made etc. all complete as per direction and specification of the E-I-C. Beyond 900mm and up to 1500mm of standing water: Sizes of islands (outside) a) 11mx15m b) 11mx18m c) 11mx20m Beyond 900mm and up to 1500mm of standing water, extra for each additional depth 300mm above 1500mm and up to 3000mm depth of water. Sizes of islands (outside) a) 11mx15m b) 11mx18m c) 11mx20m Beyond 900mm and up to 1500mm of standing water, extra for each additional depth 300mm above 3000mm and up to 5500mm depth of water. Size s of islands (outside) a) 11mx15m b) 11mx18m c) 11mx20m	 each each each each each each each each each			

Item No.	Description of Items	Unit	Quantity	Rate (in taka) in Figures and Words	Amount (in Taka)
1.	2.	3.	4.	5.	6.
16.	[2.8] Labor for breaking head of cast-in-situ bored pile/pre-cast pile up to required length by any means and removing toe dismantled materials, such as, concrete to a safe distance including scrapping and removing concrete from steel/MS rods, preparation and making of platform where necessary, carrying, all sorts of handling, stacking the same properly after tearing, leveling and dressing the site and clearing the river bed, etc. all complete drawings, specification as per direction of the E-I-C. (Measurement will be given for the actual pile head volume to be broken).	cum			
17.	[2.12] Static load test of cast-in-situ/pre-cast concrete piles by the application of super imposed loads/Surcharge Method on the pile head, preparation of all arrangements including staging, supplying leads with approved means and keeping the full load in place for 24 hours minimum, measuring of settlements by calibrated gauges and subsequent removal of loads, staging and other temporary works, etc. complete. The test load shall not be less than double the design load of the pile and the applied load shall not be removed before 24 hours or until the rate of settlement is less than 0.01 inch (0.25mm) per half an hour, or as decided by the Engineer as per approved method. Applied Load: Up to 80 ton Applied Load : Above 60 Ton upto 150 ton	 each each			
18.	Integrity test of cast-in-situ/pre-cast pile by placing a small accelerometer on the top of a pile while hitting the pile head with a small hammer. The shock wave traveling through the pile propagate with the velocity of sound in concrete which is 3000-3500 m/s approximately or as decided by the Engineer, as per approved method. (For up to 10 nos. pile of a single bridge).	set			

Item No.	Description of Items	Unit	Quantity	Rate (in taka) in Figures and Words	Amount (in Taka)
1.	2.	3.	4.	5.	6.
19.	[2.13] Reinforced Cement Concrete work in abutment walls, wing walls, piers, columns, abutments of bridges and vertical and horizontal members of box culverts, with 20mm down graded stone chips (Preferably stone chips from Madhyapara, Dinajpur), (LAA value not exceeding 30), sand (minimum FM 2.6). Cement shall conform to BDS EN 197-1, Part 1. Minimum cement content shall be 365 kg/m^3. 28 days ultimate cylinder crushing strength of concrete shall be f'c = 25 MPa. The rate shall be excluding the cost of reinforcement but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing and direction of the E-I-C. a) Abutment, Wing wall and counter fort.	cum			
20.	[2.13] Reinforced Cement Concrete work in deck slab (including cantilever), side walk, curb, wheel guard, etc. in bridge with stone chips (preferably stone chips from Madhyapara, Dinajpur), sand (minimum FM 2.6). Minimum cement content shall be used 365 kg/m^3. The rate shall be excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing, specification and direction of the E-I-C. a) Concrete with fc' = 25 MPa. b) For each additional height of 1m beyond 5m add.	cum cum			
21.	Reinforced Cement Concrete work in railing and rail post with stone chips Preferably stone chips from Madhyapara, Dinajpur), sand (minimum FM 1.80 and cement having minimum 28 days ultimate cylinder crushing strength of 365kg/cm2 (suggested mix proportion 1:1.5:3) excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing and specification of the E-I-C.	cum			
22.	Providing 50mm average thick wearing course (1:1.5:3) on deck slab of bridge with cement, sand (minimum FM 1.80) and 6mm down graded boulder chips, mixing concrete, laying cost of all materials, labor and transportation to the site, etc. all complete as per direction of the E-I-C.	cum			
23.	[2.20] Providing rainwater down pipe including placing in position and cost of all materials as per specification and direction of the E-I-C. a) 38mm dia GI pipe b) 50mm dia GI pipe c) 50mm UPVC pipe d) 75mm UPVC pipe	 Lm Lm Lm Lm			
24.	Labor for dismantling of the damaged works for repair and rehabilitation in abutment, wing bases and walls, piers and well caps, columns, long and cross girders deck slabs, side walks, fillets, wheel-guards and railing, etc. by any means and removing the dismantled materials, such as, concrete and MS rods of different sizes to a safe distance including scrapping and removing concrete from MS rods, preparation and erection of platform where necessary, carrying, all sorts of handling, stacking the same properly after clearing, leveling and dressing the site and clearing the river bed, etc. all complete as per direction and specification of the E-I-C. a) RC works b) Plain concrete c) Brick works d) Steel Structure, if any	 cum cum cum LS			
25.	Providing nosing with MS angles (75mm x 75mm x 6mm) etc. conforming to ASTM A36/A/36M or equivalent, including cost of all materials, welding, carrying, etc. all complete as per design, drawing and direction of the of the E-I-C.	kg			
26.	Providing expansion joints between the abutment back walls and superstructure deck end or in between the decks for intermediate spans with aluminium sheet and filling the gap with sand and bitumen (80/100) as per design, drawing and direction of the E-I-C. The rate will include the cost of all material, their supply, labor, tools and equipment etc. all complete. Measurement and payment will be made for the complete works as per weight of the aluminium sheet only.	kg			
27.	Providing expansion joint including supply of 75mm x 75mm x 6mm MS angle and 12 mm thick MS plate, conforming to ASTM A36/A/36M or equivalent, over expansion joints as per drawing and design and providing 16mm dia. anchor bars welded to it @ 1000mm c/c including carrying cost of materials and placing in position on both sides of joints at the edge of entire section of slab etc. all complete as per drawing and direction of the Engineer.	Lm			

Item No.	Description of Items	Unit	Quantity	Rate (in taka) in Figures and Words	Amount (in Taka)
1.	2.	3.	4.	5.	6.
28.	[1.2.13] Supplying, fitting and fixing steel laminated Electrometric bearings in exact positions as per drawing, specifications conforming to ASTM D4014 and direction of the E-I-C including cost of all materials, labor, carrying etc. complete (The set shall mean all 100% virgin chloroprene rubber bearing consisting of one or more vulcanized electrometric material pads bonded to rolled mild steel metal plates to form a sandwich arrangement etc. to complete the support of a girder at each end). Laboratory test to be performed from BUET or approved laboratoes, Dhaka for compression set value maximum 35% after 22 hr. at 100 deg.C conforming to ASTM D-395 method B and Elastomer hardness limits=60±S duro conforming to ASTM D2240. This type of bearings will be used for bridge beyond 12.0m span. Bearing-sizes are as follows (one set extra for laboratory test). Size = length x breadth. a) Size: 320mmx400mm X 48mm b) Size : 350mmx500mmX 65mm c) Size : 350mmx600mmX 75mm d) Size : 450mmx650mmX 90mm	 set set set set			
29.	Construction of 2m wide temporary bamboo diversion bridge with 100mm average dia pucca borak bamboo in 4 (four) lines of posts longitudinally and required lines of posts 2m c/c transversely with beams and struts and every post with double bracing's and each post driven to at least 0.75m depth including half split bamboo decking including supplying nuts, bolts, etc. fitting, fixing and supply, carrying and cost of all materials & labor, etc. all complete as per direction of the E-I-C.	Lm			
30.	[2.3] Back filling of abutment with 50:50 best quality picked jhama brick khoa & sand of min. FM 1.00 of 450mm width, in layers of 150mm thickness free from dust impurities etc. including compacting using steel or concrete drop hammer (durmus), watering & dressing and including supply & cost of all materials, carrying and labor, arranging and, supplying of steel/concrete hammer and other tools required to work site etc. al complete as per direction of the E-I-C. Payment to be made for the compacted volume only for a compaction of 95% of the maximum dry density under standard proctor.	cum			
31.	Supplying and placing of selected Durba grass turf and sods as required and planting them in the slopes of the road embankment and in slopes around abutment and wing walls and water them to give a healthy stable growth in any weather and prevent erosion of the material in which it is planted. The rates shall include all cost of material, supply, labor, etc. complete.	sqm			
32.	[6.7, 6.9] Supplying and placing of precast cement concrete blocks (fc' = 15 MPa) using 19mm downgraded picked jhama brick chips as coarse aggregate on the embankment slopes and around abutment-wing walls over 150mm thick graded inverted filters using 40mm downgraded picked jhama bricks or geo textile mattress as shown on the drawings, and as per specification and direction of the Engineer. In case of geo textile filter material its thickness shall be not less than 6mm, tensile strength 12kN/m^2, weight not less than 0.8 kg/m^2, and permeability not less than $3.0x10^3$ m/s. . The rates shall include cost of material, supply, labor, equipment and tools, placing in position and complete in all respect. a) Supplying of 400mmx400mmx100mm blocks over geo textile mattress b) Supplying of 400mmx400mmx150mm blocks over geo textile mattress	 Each Each			
33.	[2.11] Supplying best quality sundari/gazari bullah piles free from rots, knots, sap and uniform in size at work site including, carrying, stacking, etc. all complete as per direction of the E-I-C. (Diameter will be measured at 1/3rd distance of total length from thick end) a) 150mm to 200mm dia b) 200mm to 250mm dia	 Lm Lm			
34.	[2.11] Labor for driving best quality sundari/bullah piles up to required depth with monkey, power winch, etc. including arranging and supply of all tools, equipment and accessories and hoisting piles in true and vertical position, etc. all complete as per direction of the E-1-C. a) 150mm to 200mm dia b) 200mm to 250mm dia	 Lm Lm			

Item No.	Description of Items	Unit	Quantity	Rate (in taka) in Figures and Words	Amount (in Taka)
1.	2.	3.	4.	5.	6.
35.	Supplying pre-cast RC pipes of different dia. manufactured as per design manual including casting, curing, laying in position, from finished type by steel form work as per the design manual RSM 08 all complete as per direction of the E-I-C. (The cost is inclusive of reinforcement and its fabrication).				
	a) 300mm internal dia, 50 mm thick	Lm			
	b) 300mm internal dia, 75mm thick	Lm			
	c) 300mm internal dia, 100mm thick	Lm			
	d) 600mm internal dia, 50mm thick	Lm			
	e) 600mm internal dia, 75mm thick	Lm			
	f) 600mm internal dia, 100mm thick	Lm			
	g) 900mm internal dia, 50mm thick	Lm			
	h) 900mm internal dia, 75mm thick	Lm			
	i) 900mm internal dia, 100mm thick	Lm			
	j) 1200mm internal dia, 50mm thick	Lm			
	k) 1200mm internal dia, 75mm thick	Lm			
	l) 1200mm internal dia, 100mm thick	Lm			
	m) 1500mm internal dia, 50mm thick	Lm			
	n) 1500mm internal dia, 75mm thick	Lm			
	o) 1500mm internal dia, 100mm thick	Lm			

Item No.	Description of Items	Unit	Quantity	Rate (in taka) in Figures and Words	Amount (in Taka)
1.	2.	3.	4.	5.	6.
36.	Welding at the splicing point of main reinforcement at 3 points (each point being 25mm in length) and each alternate contact point of spiral binder tie rod with the main vertical reinforcement of the bored piles using electrodes including the cost of all materials labors, tools and equipment, the cost of power, etc. all complete as per drawings, specifications and directions of the E-I-C.				
	a) For spiral spot welding	each			
	b) Lapping welding of main reinforcement	each			
37.	Providing weep hole of 75mm dia. in abutment/ retaining wall/ wing wall including placing and hand packing of 1st class/picked jhama bricks (material size 40mm - 63mm) @0.085 cum in the back of each weep hole etc. as shown on drawings and as per specification, all complete as per direction of the E-I-C.	each			
38.	Providing 50mm asphaltic concrete wearing course using bitumen of Penetration Grade 80/100 using approved job mix design and primer. The rate will include cost of the material, equipment, labor etc. complete as per drawing, specification and direction of the Engineer.	cum			

GENERAL NOTES FOR RC CONSTRUCTION

1. CONCRETE

a) FOR ALL COMPONENTS OF RC BRIDGES INCLUDING PILE FOUNDATION, SUBSTRUCTURE & SUPERSTRUCTURE

- 28 DAYS STANDARD CYLINDER CRUSHING STRENGTH OF CONCRETE: fc'= 25 MPa (3600 psi)

b) MIX-DESIGN PROCEDURE SHALL BE AS PER ASTM/AASHTO ACCORDANCE WITH THE PORTLAND CEMENT ASSOCIATION (PCA) METHOD OF MIX DESIGN

c) ALLOWABLE SLUMP SHALL BE BETWEEN

- FOR CAST IN SITU BORED PILE 100-150
- FOR OTHER COMPONENT CONCRETE 50-75

2. CEMENT

TYPE: PORTLAND CEMENT IN ACCORDANCE WITH BDS EN 197-1, APRIL, 2003, CEM I, CEM II/A-S, STRENGTH CLASS 42.5 OR EQUIVALENT

a) INITIAL SETTING TIME: NOT LESS THAN 50 MINUTES

b) SOUNDNESS (EXPANSION): NOT GREATER THAN 10 mm

c) LOSS ON IGNITION: NOT GREATER THAN 4.0% BY MASS

d) STRENGTH:

- 2 DAYS: NOT LESS THAN 8.0 MPa
- 28 DAYS: NOT LESS THAN 40.0 MPa

3. REINFORCEMENT

TYPE: DEFORMED AND PLAIN BILLET STEEL BARS IN ACCORDANCE WITH BDS 1313:1991 BANGLADESH STANDARD SPECIFICATION FOR STEEL BARS AND WIRES FOR THE REINFORCEMENT OF CONCRETE, ISSUED OCTOBER 1992

a) GRADE OF STEEL & MINIMUM YIELD STRENGTH fy:

- FOR ALL RC COMPONENTS OF SINGLE LANE BRIDGE THE YIELD STRENGTH FY OF DEFORMED BAR SHALL NOT BE LESS THAN 413 N/mm² (60000 PSi)

b) SPLICES IN MS/HY REINFORCEMENT, UNLESS OTHERWISE SHOWN ON THE DRAWING SHALL BE:

- FOR TENSION REINFORCEMENT WHERE 50% LAPS ARE STAGGERED LAP LENGTH= 40 x BAR DIA
- FOR TENSION REINFORCEMENT WHERE 100% BARS ARE CUT, LAP LENGTH= 56 x BAR DIA
- FOR TENSION REINFORCEMENT VER SUPPORT WHERE 100% BARS ARE CUT, LAP LENGTH= 78 x BAR DIA
- FOR COMPRESSION REINFORCEMENT 30 x BAR DIA
- SPLICES IN REINFORCEMENT AT POINTS OF MAXIMUM STRESS IN SLABS, BEAMS, AND GIRDERS SHOUD BE AVOIDED

4. COARSE AGGREGATE

- COARSE AGGREGATE FOR CONCRETE SHALL BE 19 mm DOWN GRADED STONE CHIPS CONFORMING TO ASTM C33.

5. CLEAR COVER OUTSIDE OF STIRRUPS/ OUTER REINFORCEMENTS

SL NO.	COMPONENTS	BAR	CLEAR COVER, mm
a.	RAIL POST		20
b.	RAIL BAR		20
c.	SIDE WALK		25
d.	SLAB	TOP	50
		BOTTOM	40
		SIDE	50
e.	GIRDER & CROSS-GIRDER	TOP	50
		BOTTOM	40
		SIDE	50
f.	ABUTMENT-WINGWALL	EARTH FACE	75
		WATER FACE	50
g.	PILE CAP	ALL FACES	75
h.	MEMBERS PERMANENTLY EXPOSED TO SALINE WATER/SOIL		100
i.	MEMBERS CAST AGAINST SOILD AND PERMANENTLY EXPOSED TO NON-SALINE WATER/SOIL		75

6. MIXER MACHINE AND VIBRATOR MUST BE USED IN ALL STRUCTURAL CONCRETING.

7. WRITTEN DIMENSIONS ARE TO BE USED IN PREFERENCE TO SCALED ONES

8. CONSTRUCTION JOINTS IN ADDITION TO THE PLACES SHOWN IN THE DRAWING IF REQUIRED SHALL BEPROVIDED AS PER DIRECTION OF THE ENGINEER IN CHARGE

9. GUIDE TO READ REINFORCEMENT ABBREVIATION:

EXAMPLE 1: R20-D2-200 INDICATES AS FOLLOWS

R20: 20mm DIA BAR
D2: BAR MARK
200: SPACING

EXAMPLE 2: 10-R20-K1 INDICATES AS FOLLOWS:

10: NO OF BARS
R20: BAR DIA
K1: BAR BARK

10. ABBREVIATION:

WC	-	WEARING COARSE(ASPHALTIC CONCRETE)
RC	-	REINFORCED CONCRETE
BF	-	BOTTOM FACE
TF	-	TOP FACE
CK	-	CRANK
WF	-	WATER FACE
EF	-	EARTH FACE

11. ALL DIMENSIONS ARE IN mm AND ELEVATIONS ARE IN mPWD UNLESS OTHERWISE SHOWN.

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
LOCAL GOVERNMENT ENGINEERING DEPARTMENT

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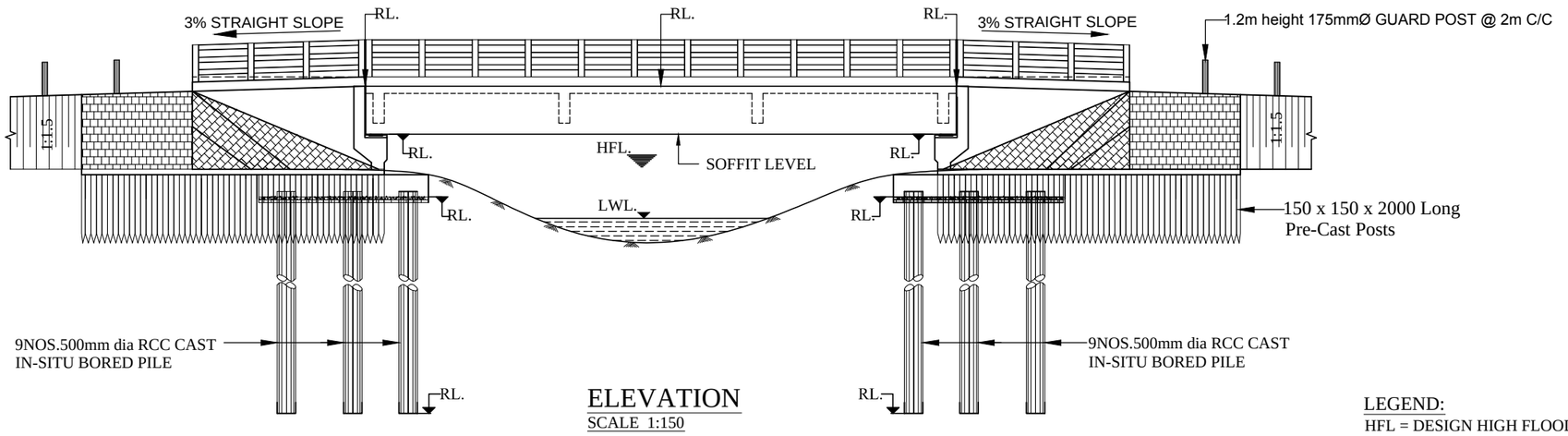
NAME OF PROJECT:
LOCATION:
UPAZILA:
DISTRICT:

DRAWING TITLE

GENERAL NOTES
REINFORCED CONCRETE CONSTRUCTION

DRAWING NO.

PAGE NO. P-12



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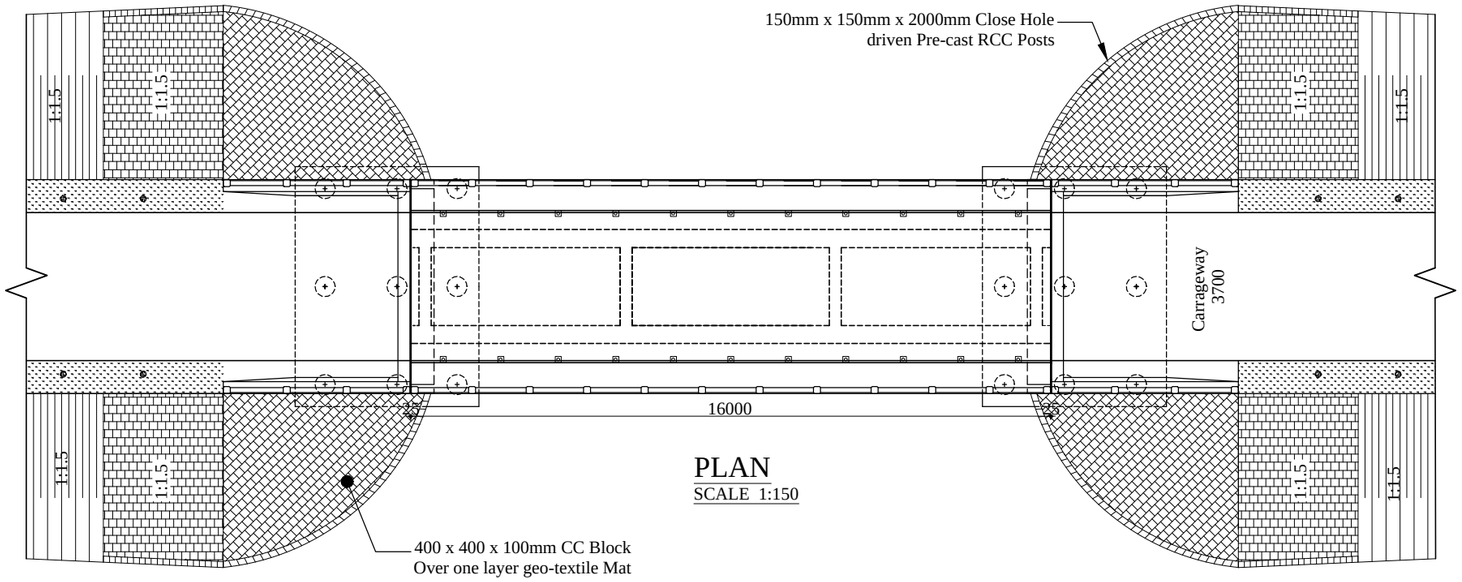

PLAN
SCALE 1:150

LEGEND:
HFL = DESIGN HIGH FLOOD LEVEL.
LWL = LOW WATER LEVEL.

NOTES:

1. All DIMENSIONS ARE IN mm UNLESS OTHERWISE SHOWN.
2. TO FIX SOFFIT LEVEL SEE GUIDE LINE IN THE FLOWCHART.
3. PILE FOUNDATION AND SUBSTRUCTURE DETAILS SHOWIN ARE TYPICAL ONLY.
4. OUT TO OUT WIDTH OF BRIDGE DECK: 5350mm
5. PILE LENGTH SHOULD BE DECIDED BASED ON SUB-SOIL REPORT.

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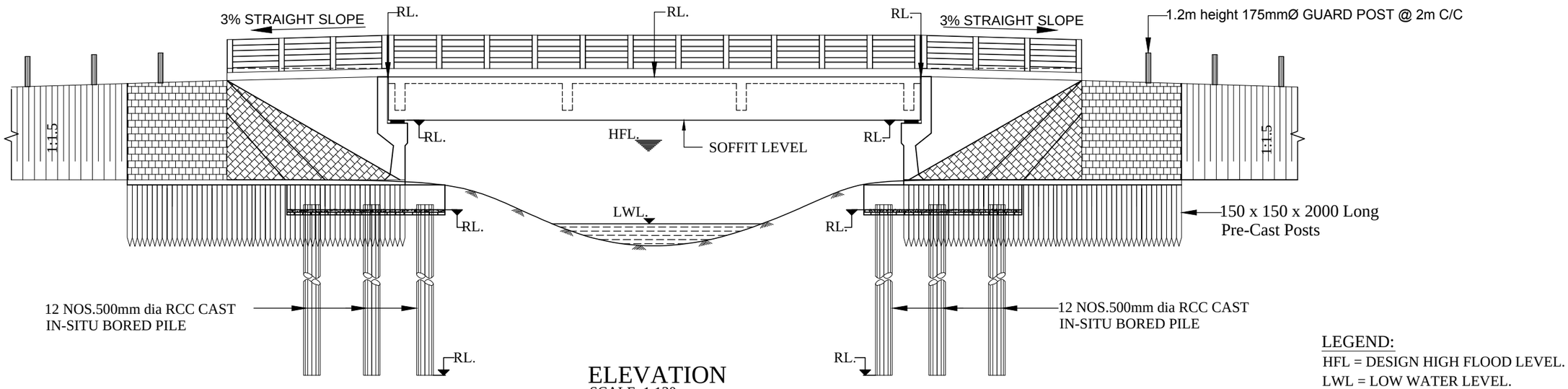
NAME OF PROJECT:
LOCATION:
UPAZILA:
DISTRICT:

DRAWING TITLE
General Arrangement
(Abutment 3.0m & Span 16m)
DRAWING NO. GA01
PAGE NO. P-13



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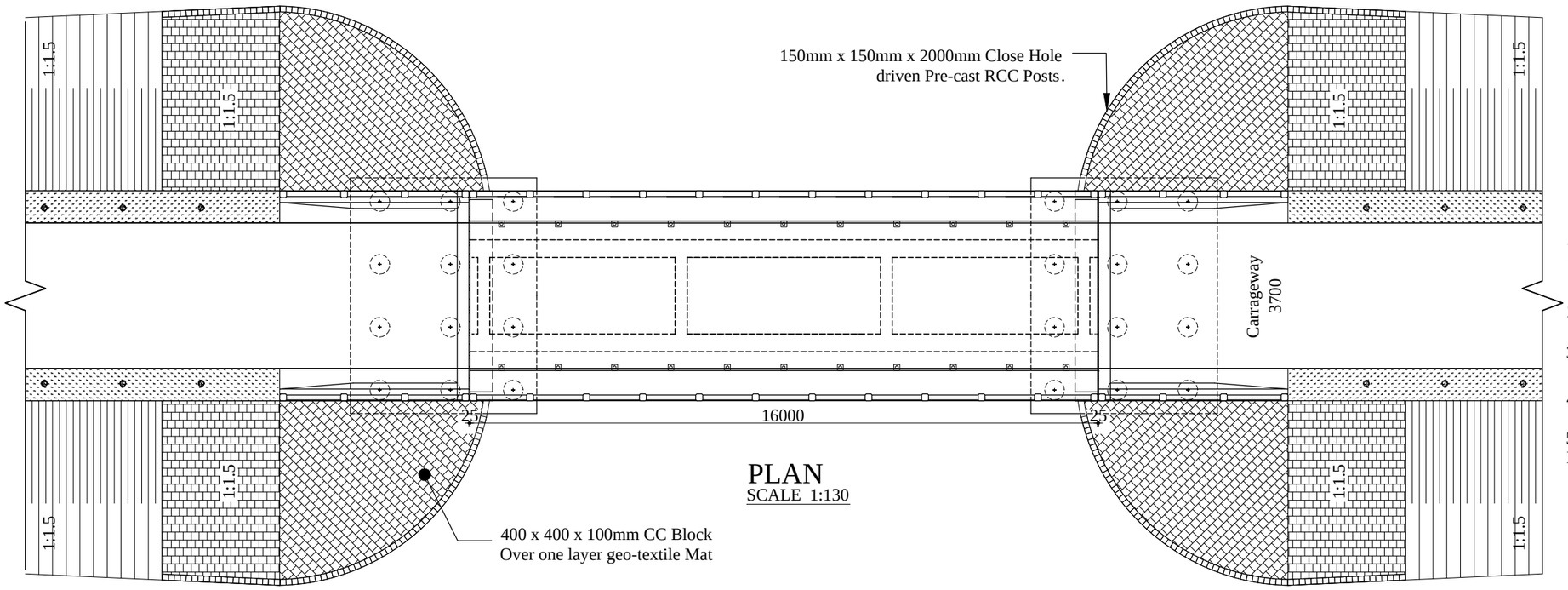
LEGEND:
HFL = DESIGN HIGH FLOOD LEVEL.
LWL = LOW WATER LEVEL.



PLAN
SCALE 1:130

NOTES:

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NAME OF PROJECT:
LOCATION:
UPAZILA:
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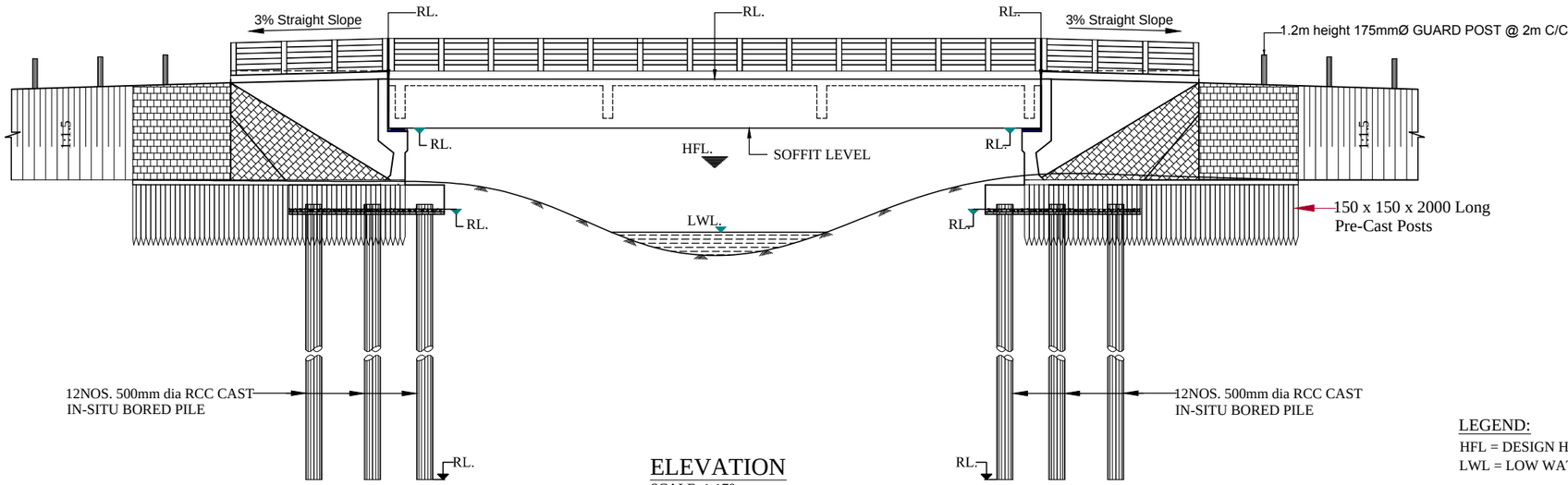
DRAWING TITLE
General Arrangement
(Abutment 4m & Span 16m)
DRAWING NO. GA02
PAGE NO. P-14



ELEVATION
SCALE 1:170

LEGEND:
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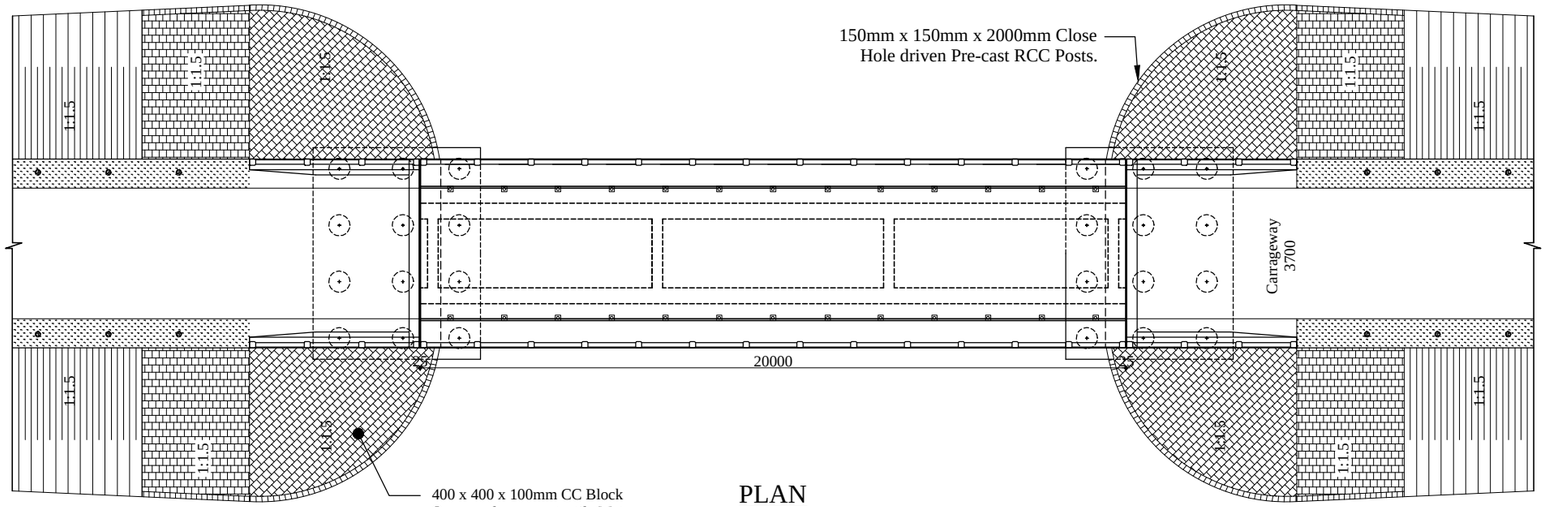
LWL = LOW WATER LEVEL.



PLAN
SCALE 1:170

NOTES:

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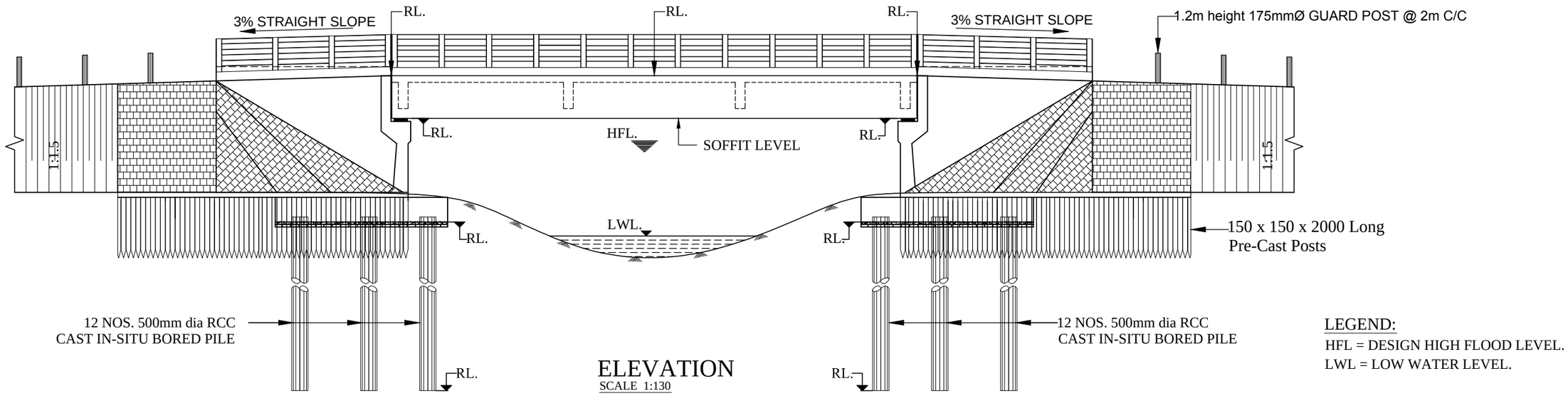
NAME OF PROJECT:
LOCATION:
UPAZILA:
DISTRICT:

DRAWING TITLE
General Arrangement
(Abutment 4m & Span 20m)
DRAWING NO. GA03
PAGE NO. P-15



ELEVATION
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LEGEND:
HFL = DESIGN HIGH FLOOD LEVEL.
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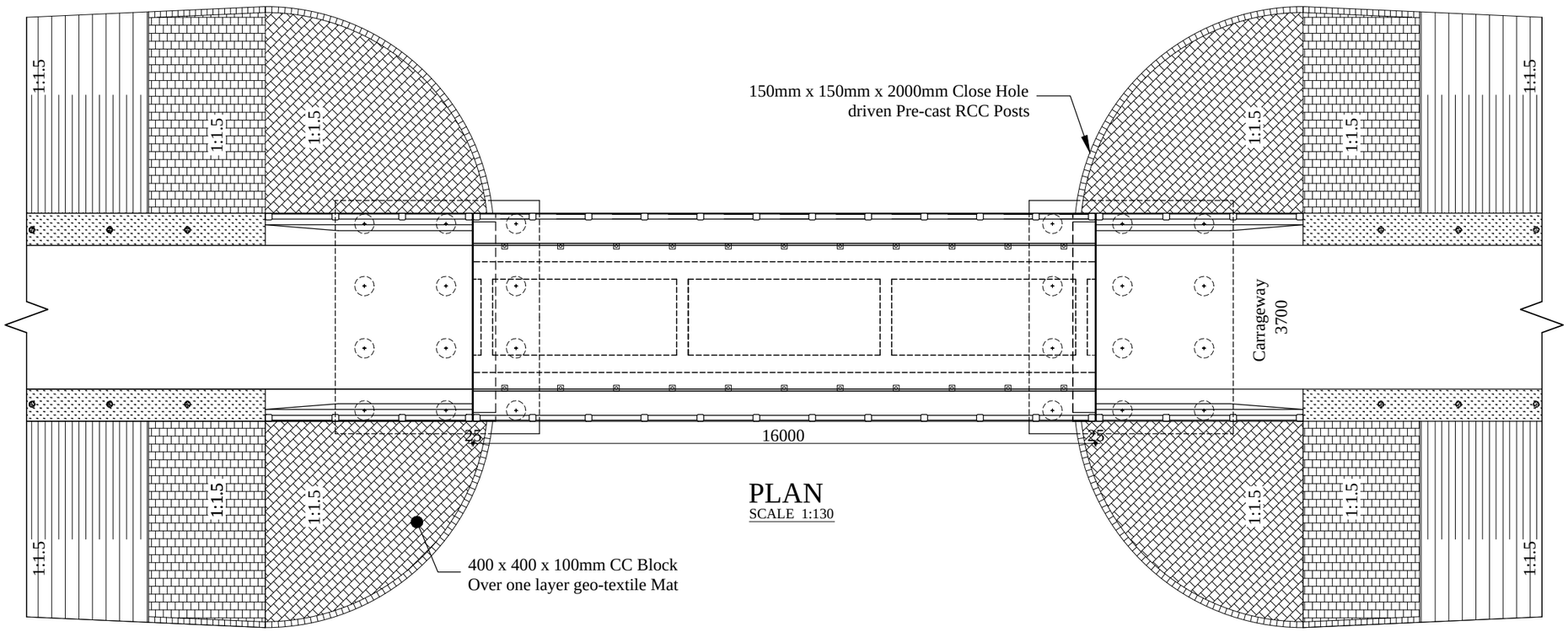

PLAN
SCALE 1:130

NOTES:

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NAME OF PROJECT:
LOCATION:
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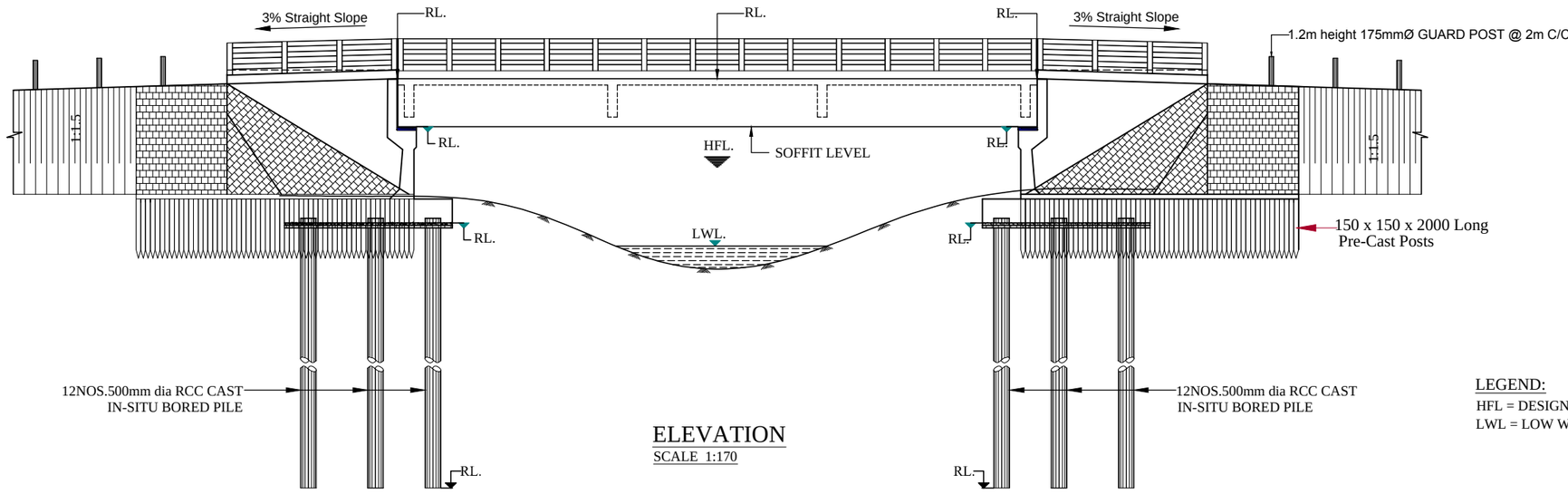
DISTRICT:

DRAWING TITLE

General Arrangement
(Abutment 4.5m & Span 16m)

DRAWING NO. GA04

PAGE NO. P-16



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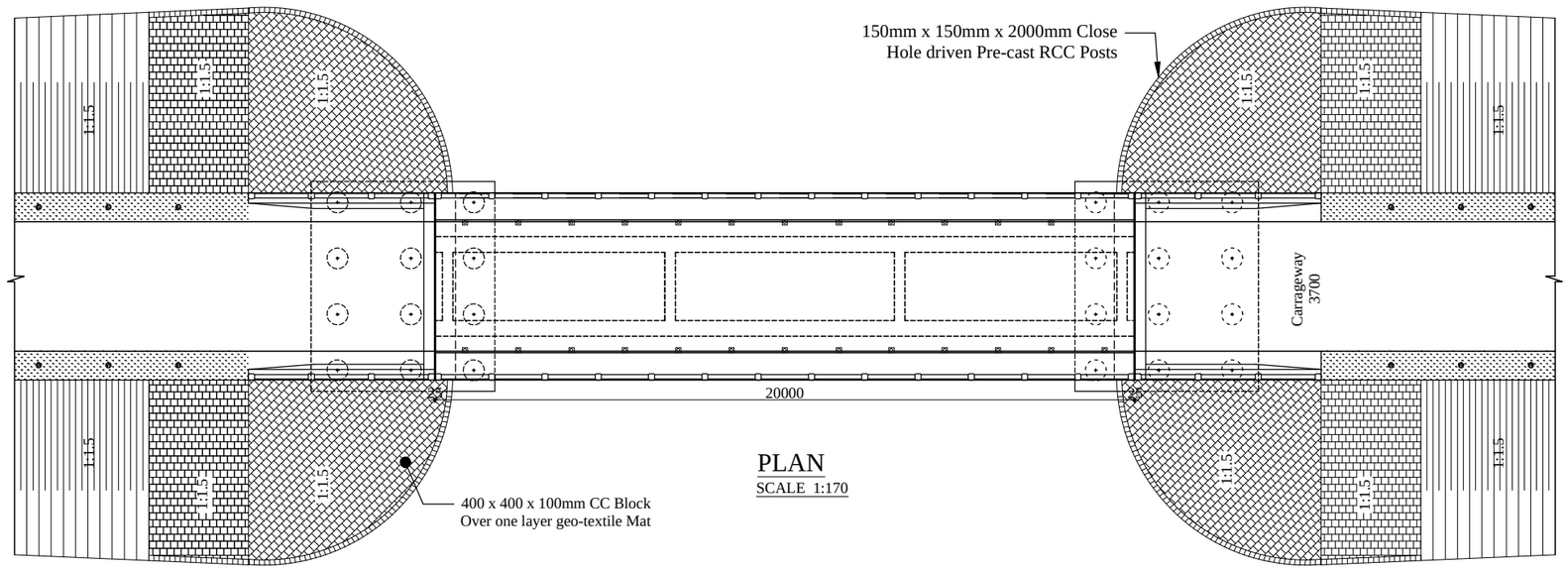

PLAN
SCALE 1:170

LEGEND:
HFL = DESIGN HIGH FLOOD LEVEL.
LWL = LOW WATER LEVEL.

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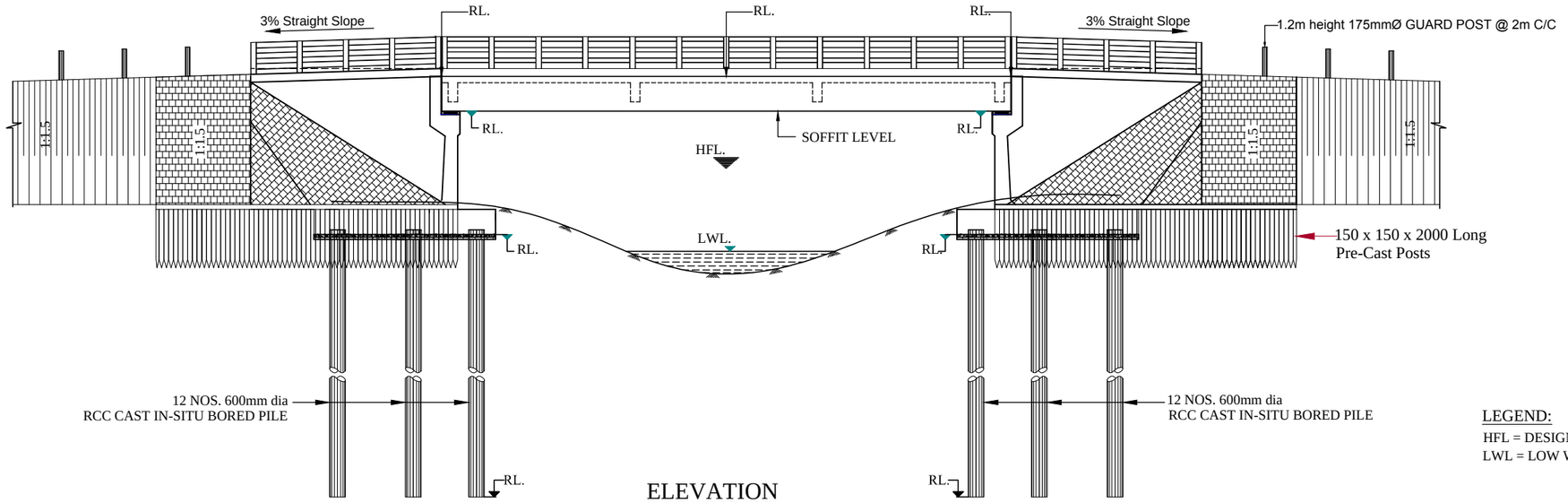
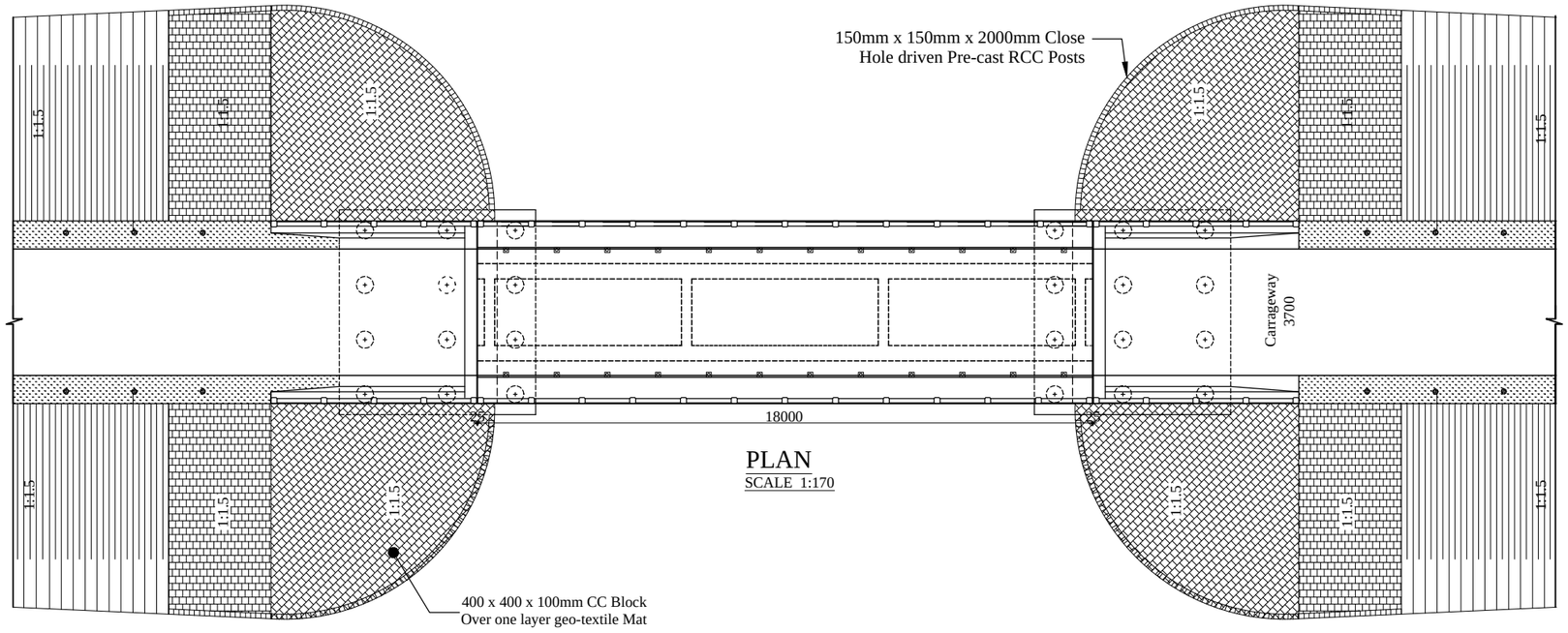
NAME OF PROJECT:
LOCATION:
UPAZILA:
DISTRICT:

DRAWING TITLE
General Arrangement
(Abutment 4.5m&Span 20m)
DRAWING NO. GA05
PAGE NO. P-17



ELEVATION
SCALE 1:170

LEGEND:
HFL = DESIGN HIGH FLOOD LEVEL.
LWL = LOW WATER LEVEL.



PLAN
SCALE 1:170

NOTES:

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NAME OF PROJECT:
LOCATION:
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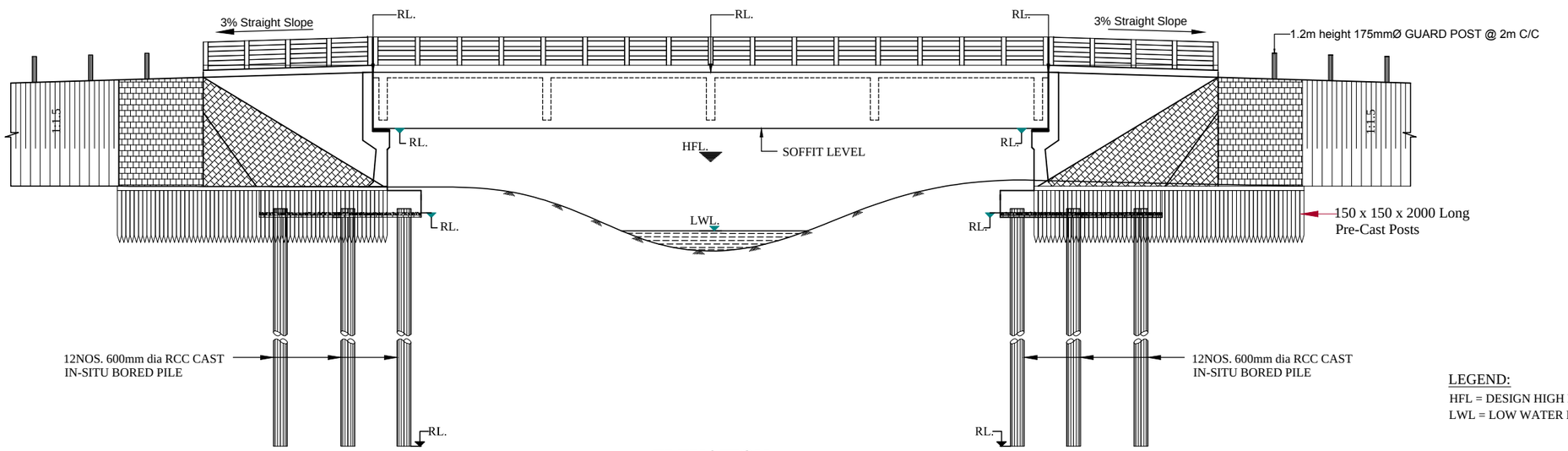
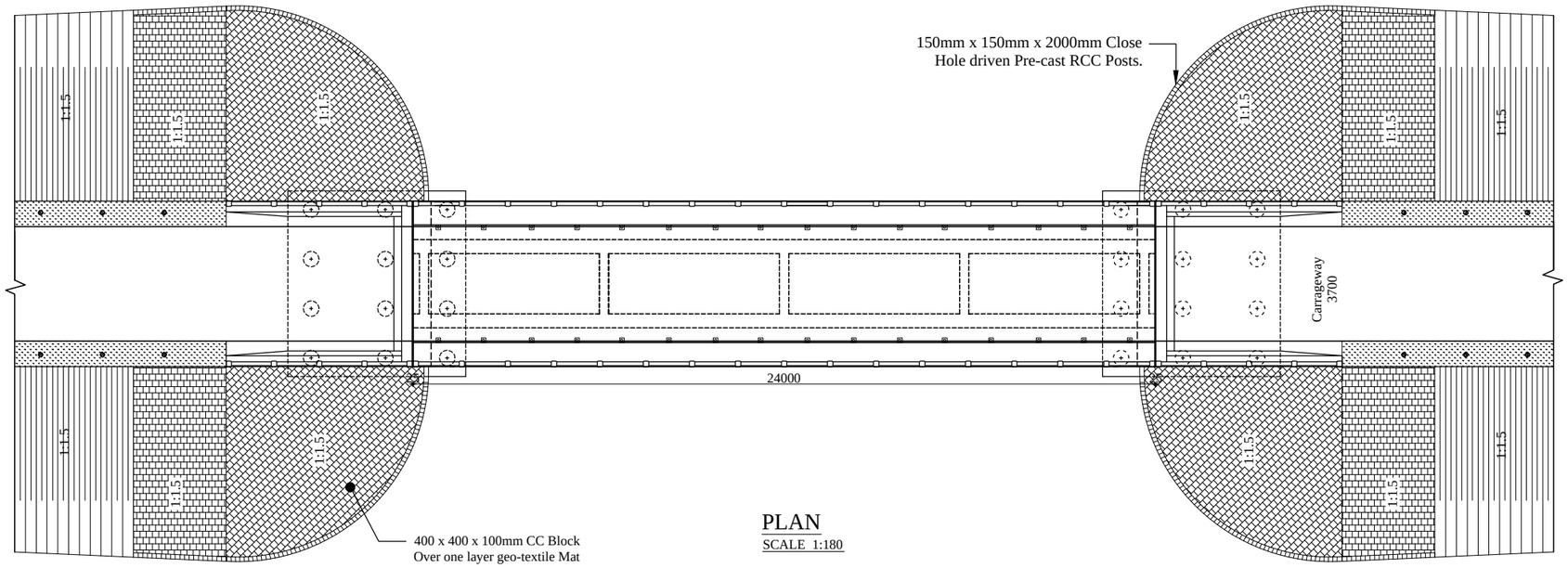
DRAWING TITLE
General Arrangement
(Abutment 5m & Span 18m)
DRAWING NO. GA06
PAGE NO. P-18



ELEVATION

SCALE 1:180



PLAN

SCALE 1:180

LEGEND:

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GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

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NAME OF PROJECT:

LOCATION:

UPAZILA:

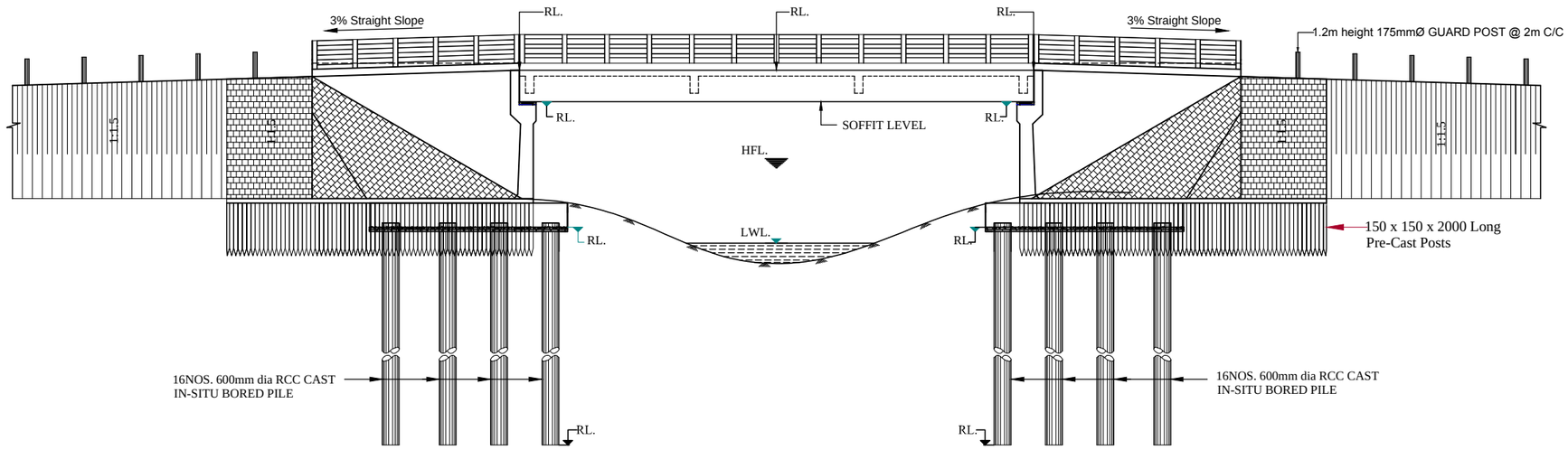
DISTRICT:

DRAWING TITLE

General Arrangement
(Abutment 5m & Span 24m)

DRAWING NO. GA07

PAGE NO. P-19



ELEVATION
SCALE 1:190

LEGEND:
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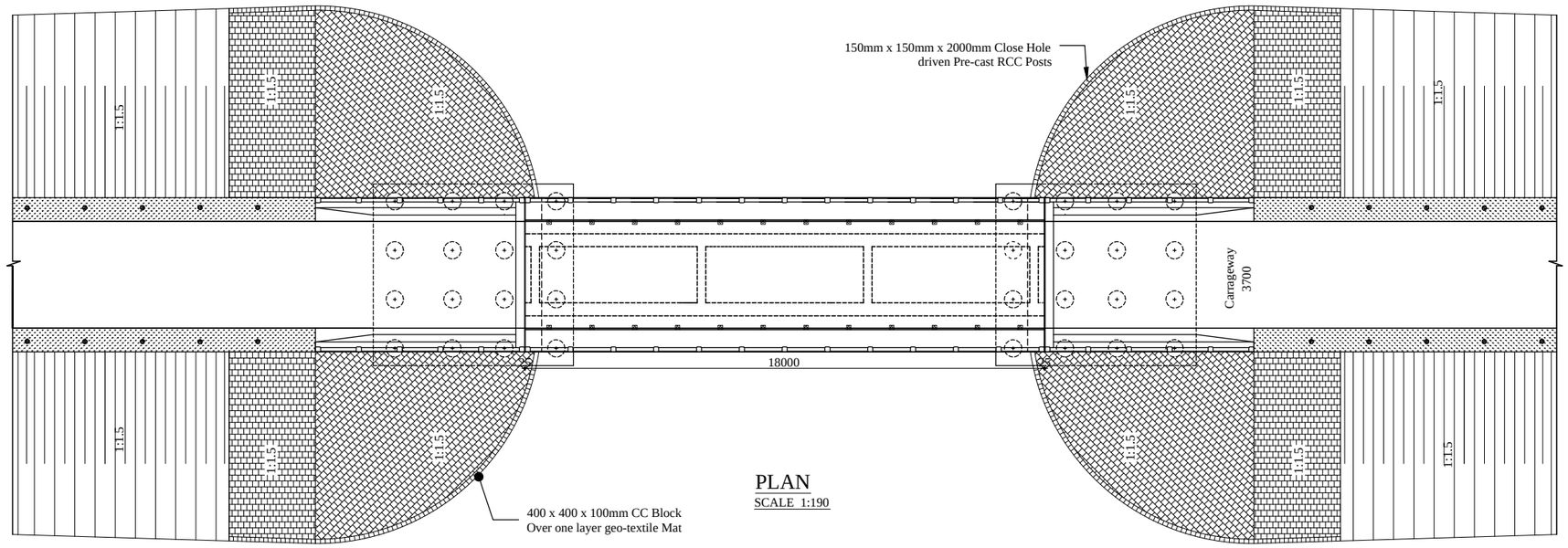
LWL = LOW WATER LEVEL.



PLAN
SCALE 1:190

NOTES:

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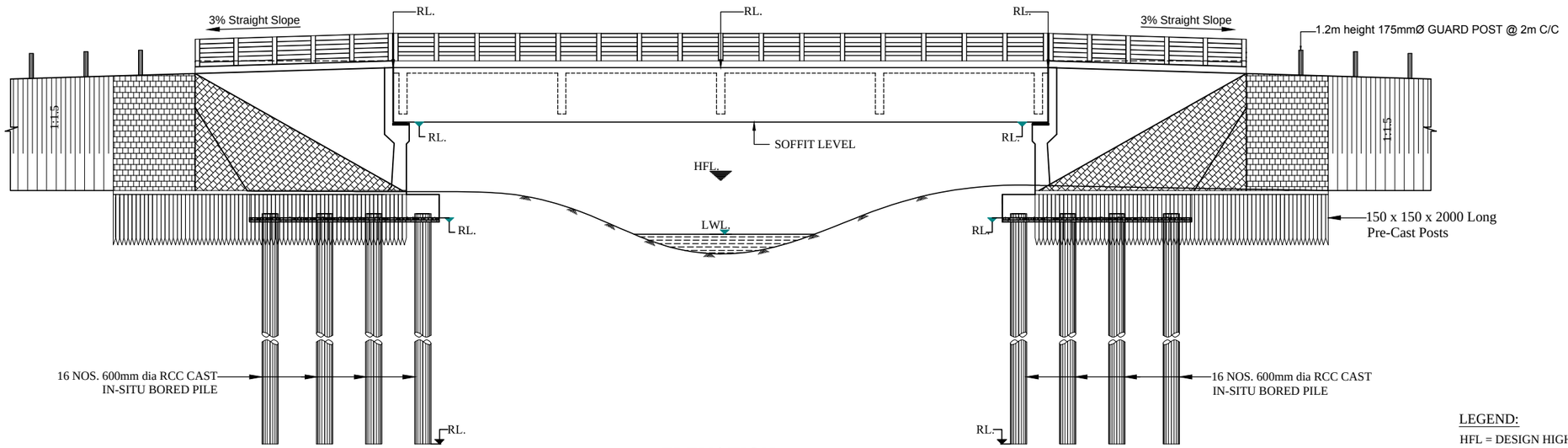
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219 Mobile :01711577016 E-mail:pprojltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE General Arrangement (Abutment 5.5m & Span 18m) DRAWING NO. GA08 PAGE NO. P-20



ELEVATION

SCALE 1:185

LEGEND:

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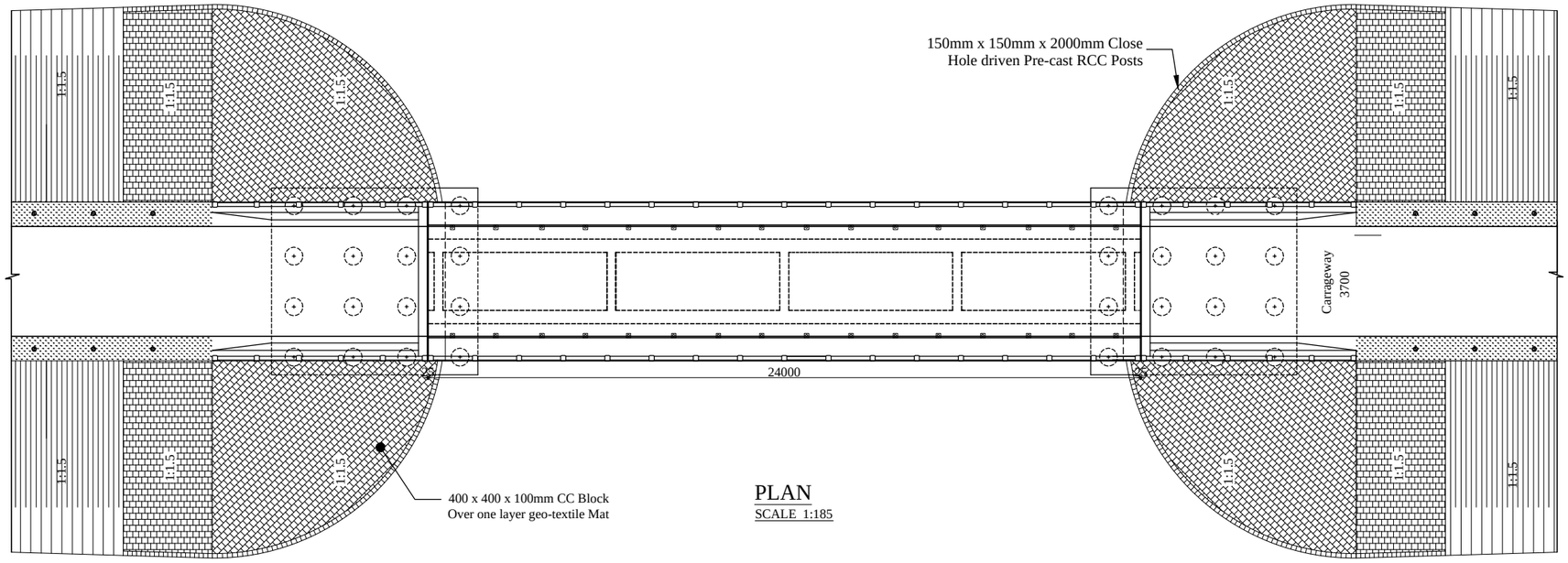

PLAN

SCALE 1:185

NOTES:

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GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

PURAKAUSHAL PROJUKTI LIMITED

House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219
Mobile :01711577016 E-mail:pprojltd@yahoo.com

NAME OF PROJECT:

LOCATION:

UPAZILA:

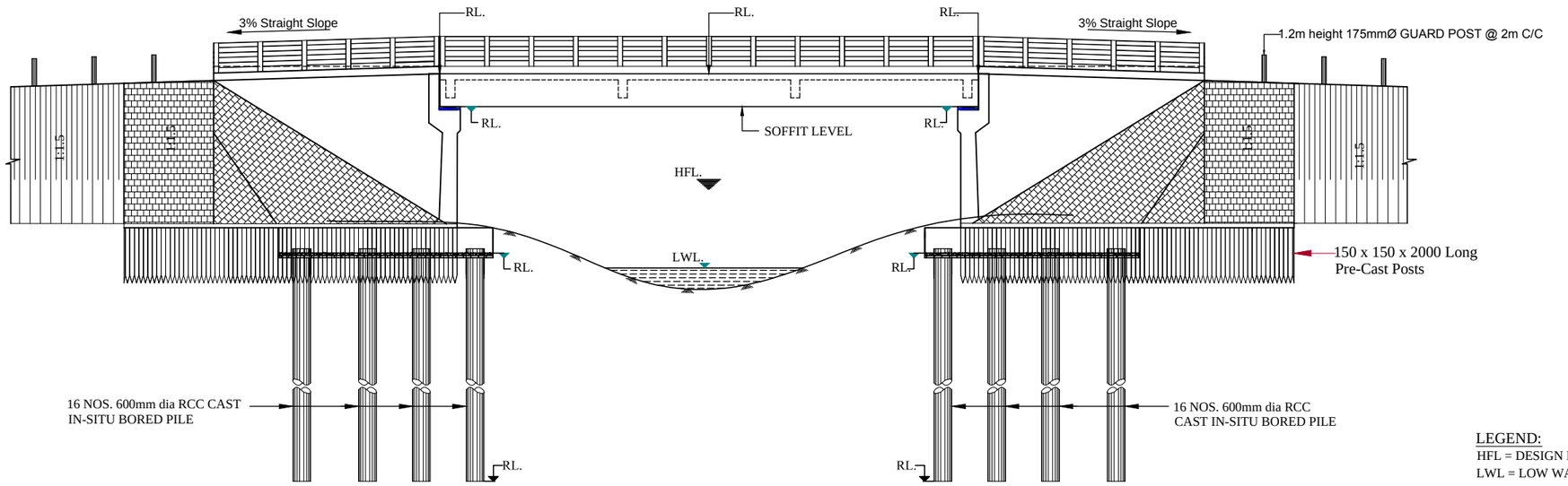
DISTRICT:

DRAWING TITLE

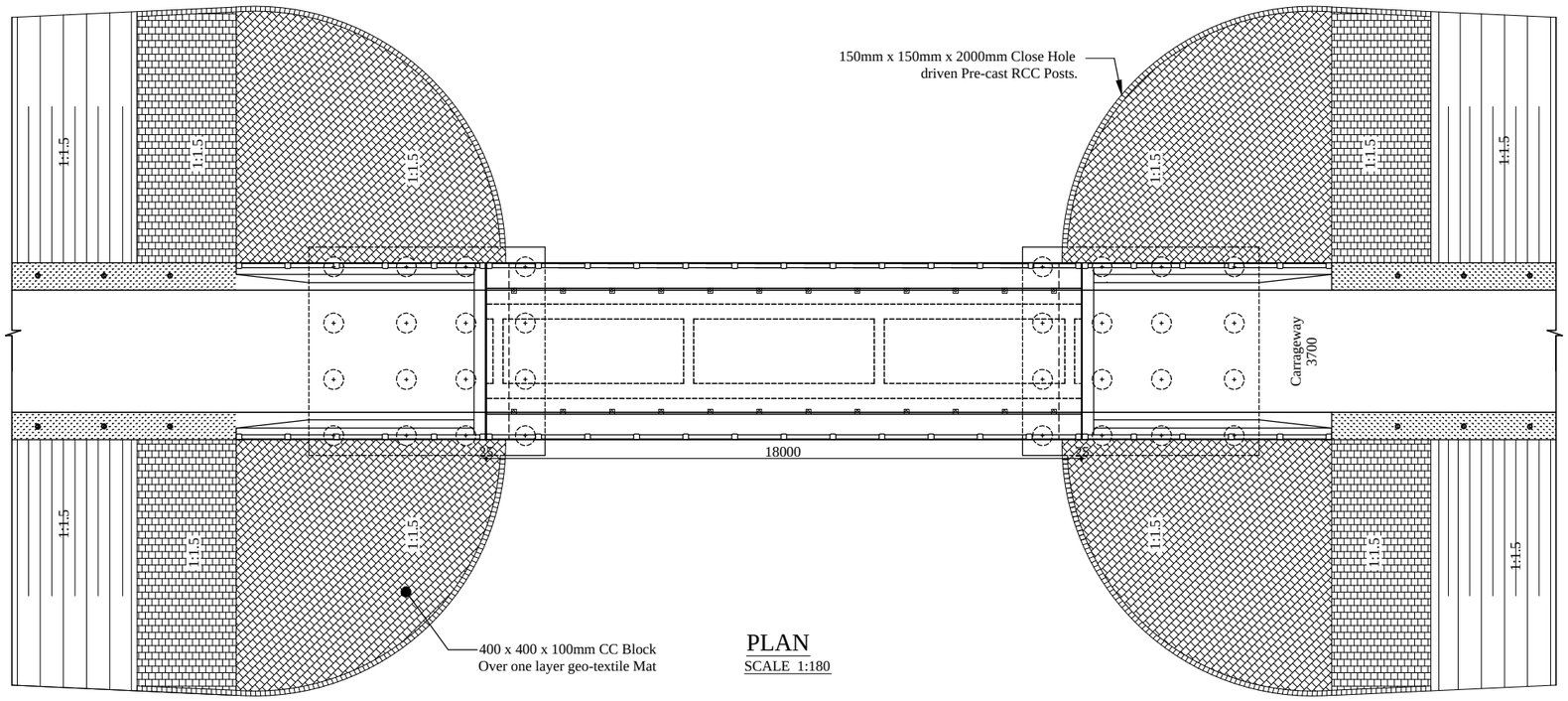
General Arrangement
(Abutment 5.5m & Span 24m)

DRAWING NO. GA09

PAGE NO. P-21



ELEVATION
SCALE 1:180



PLAN
SCALE 1:180

NOTES:

1. All DIMENSIONS ARE IN mm UNLESS OTHERWISE SHOWN.
2. TO FIX SOFFIT LEVEL SEE GUIDE LINE IN THE FLOWCHART.
3. PILE FOUNDATION AND SUBSTRUCTURE DETAILS SHOWIN ARE TYPICAL ONLY.
4. OUT TO OUT WIDTH OF BRIDGE DECK: 5350mm
5. PILE LENGTH SHOULD BE DECIDED BASED ON SUB-SOIL REPORT.

LEGEND:
HFL = DESIGN HIGH FLOOD LEVEL.
LWL = LOW WATER LEVEL.

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

PURAKAUSHAL PROJUKTI LIMITED

House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219
Mobile :01711577016 E-mail:pprojltd@yahoo.com

NAME OF PROJECT:

LOCATION:

UPAZILA:

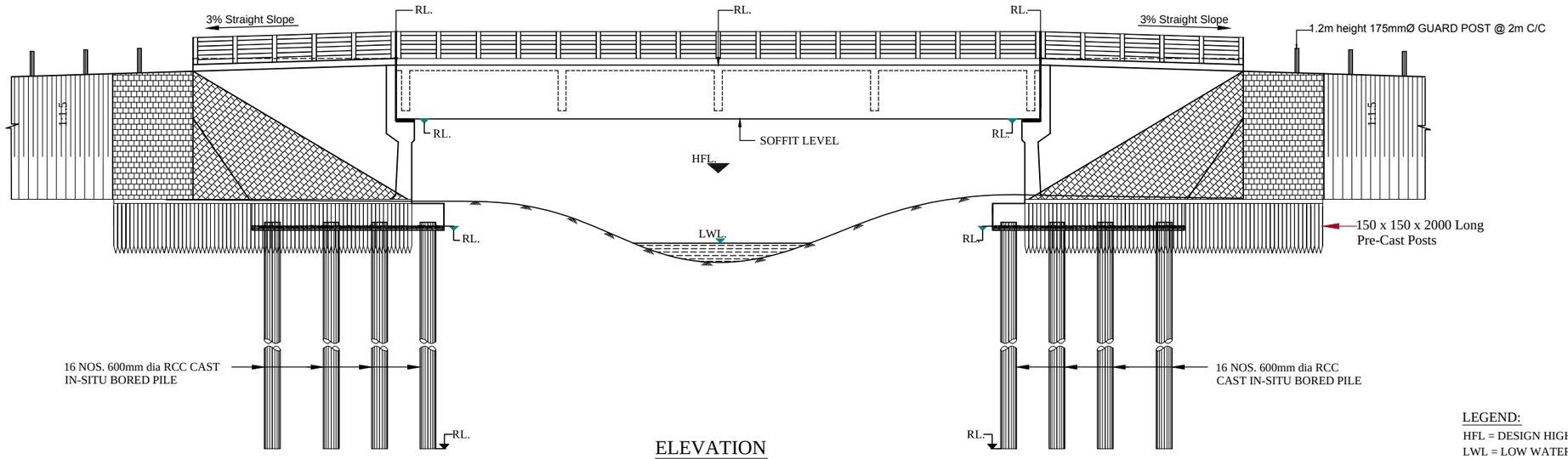
DISTRICT:

DRAWING TITLE

General Arrangement
(Abutment 6m & Span 18m)

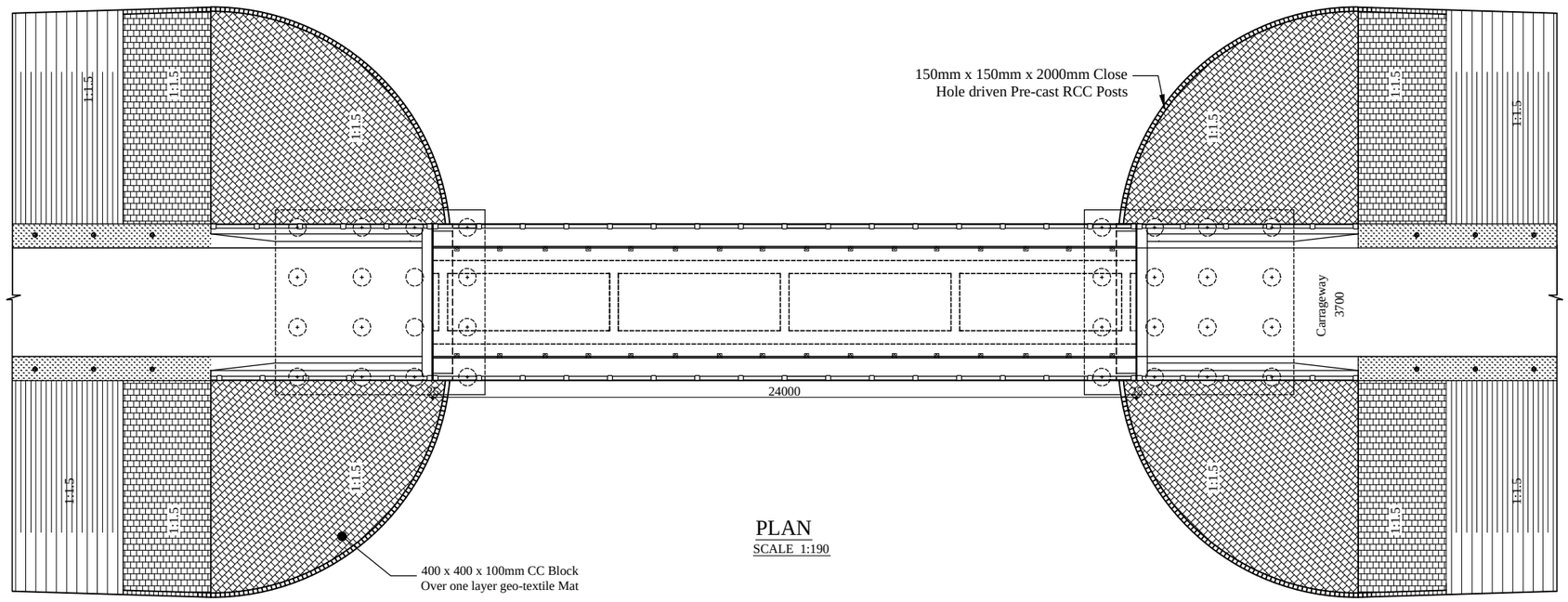
DRAWING NO. GA10

PAGE NO. P-22



ELEVATION
SCALE 1:190

LEGEND:
HFL = DESIGN HIGH FLOOD LEVEL.
LWL = LOW WATER LEVEL.



PLAN
SCALE 1:190

NOTES:
1. All DIMENSIONS ARE IN mm UNLESS OTHERWISE SHOWN.
2. TO FIX SOFFIT LEVEL SEE GUIDE LINE IN THE FLOWCHART.
3. PILE FOUNDATION AND SUBSTRUCTURE DETAILS SHOWIN ARE TYPICAL ONLY.
4. OUT TO OUT WIDTH OF BRIDGE DECK: 5350mm
5. PILE LENGTH SHOULD BE DECIDED BASED ON SUB-SOIL REPORT.

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
LOCAL GOVERNMENT ENGINEERING DEPARTMENT

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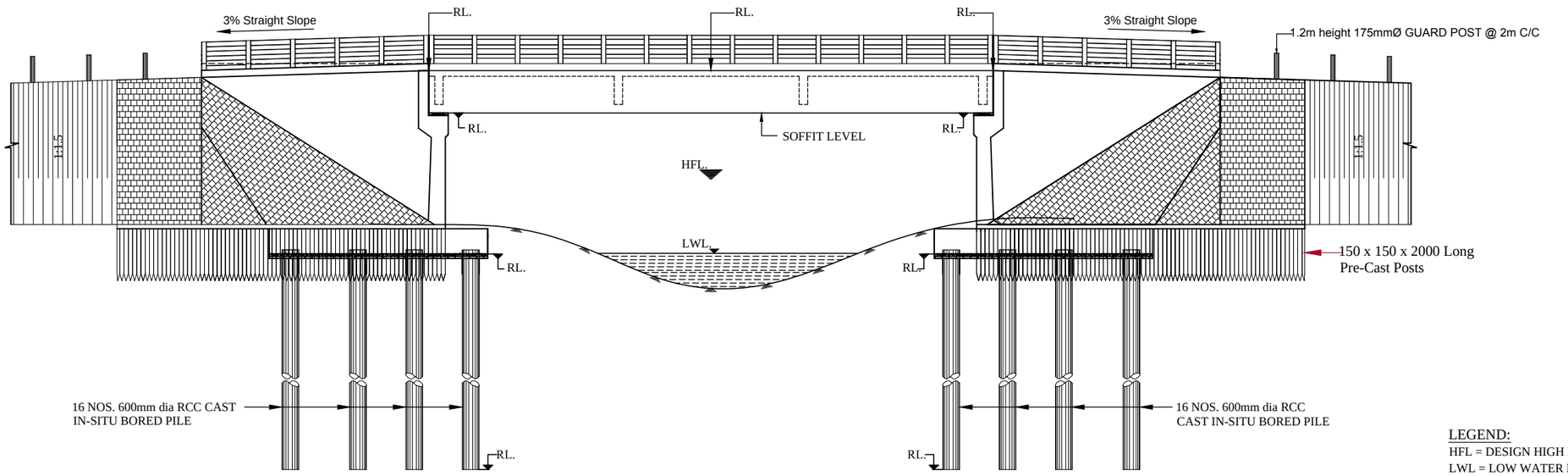
PURAKAUSHAL PROJUKTI LIMITED
House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219
Mobile :01711577016 E-mail:pprojltd@yahoo.com

NAME OF PROJECT:
LOCATION:
UPAZILA:
DISTRICT:

DRAWING TITLE
General Arrangement
(Abutment 6m & Span 24m)
DRAWING NO. GA11
PAGE NO. P-23



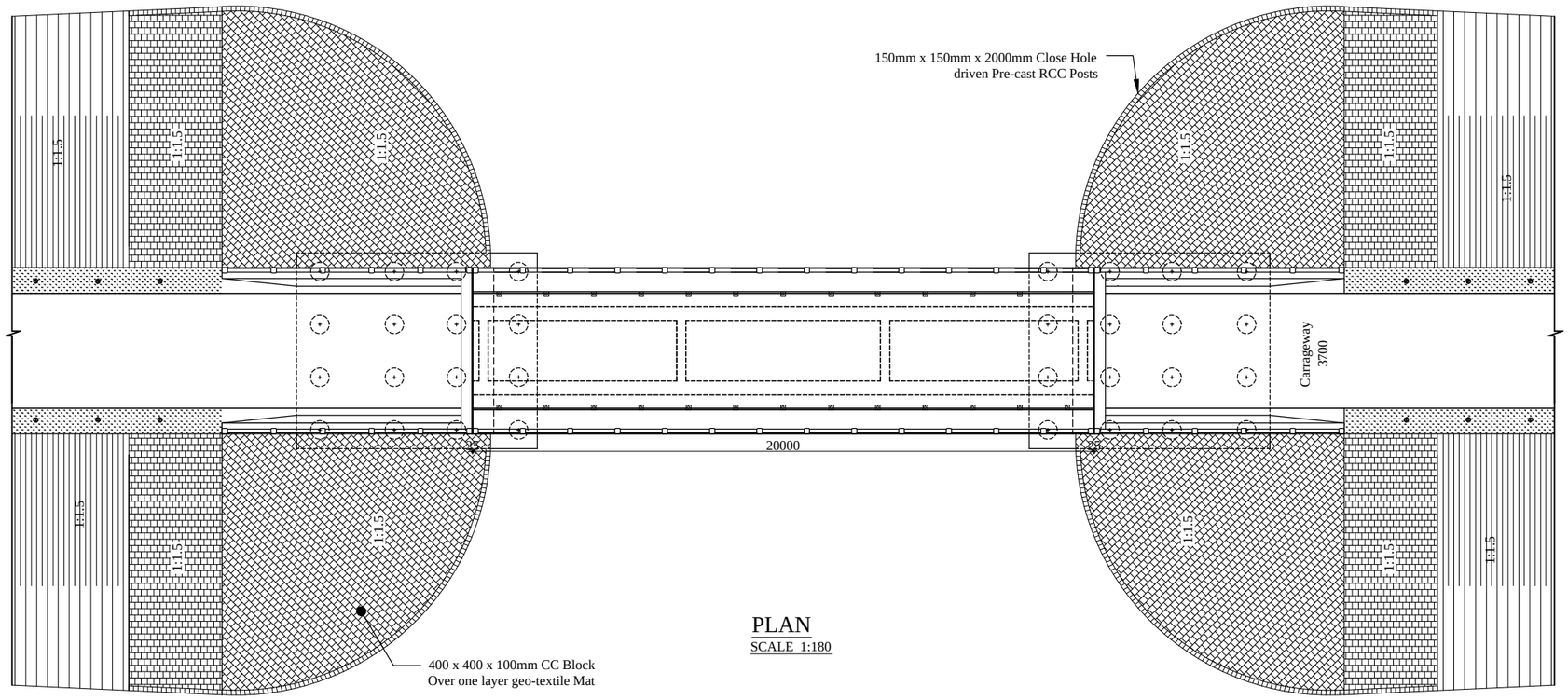
ELEVATION

SCALE 1:180

LEGEND:

HFL = DESIGN HIGH FLOOD LEVEL.

LWL = LOW WATER LEVEL.



PLAN

SCALE 1:180

NOTES:

1. All DIMENSIONS ARE IN mm UNLESS OTHERWISE SHOWN.
2. TO FIX SOFFIT LEVEL SEE GUIDE LINE IN THE FLOWCHART.
3. PILE FOUNDATION AND SUBSTRUCTURE DETAILS SHOWIN ARE TYPICAL ONLY.
4. OUT TO OUT WIDTH OF BRIDGE DECK: 5350mm
5. PILE LENGTH SHOULD BE DECIDED BASED ON SUB-SOIL REPORT.

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

LOCAL GOVERNMENT ENGINEERING DEPARTMENT

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Mobile :01711577016 E-mail:pprojltd@yahoo.com

NAME OF PROJECT:

LOCATION:

UPAZILA:

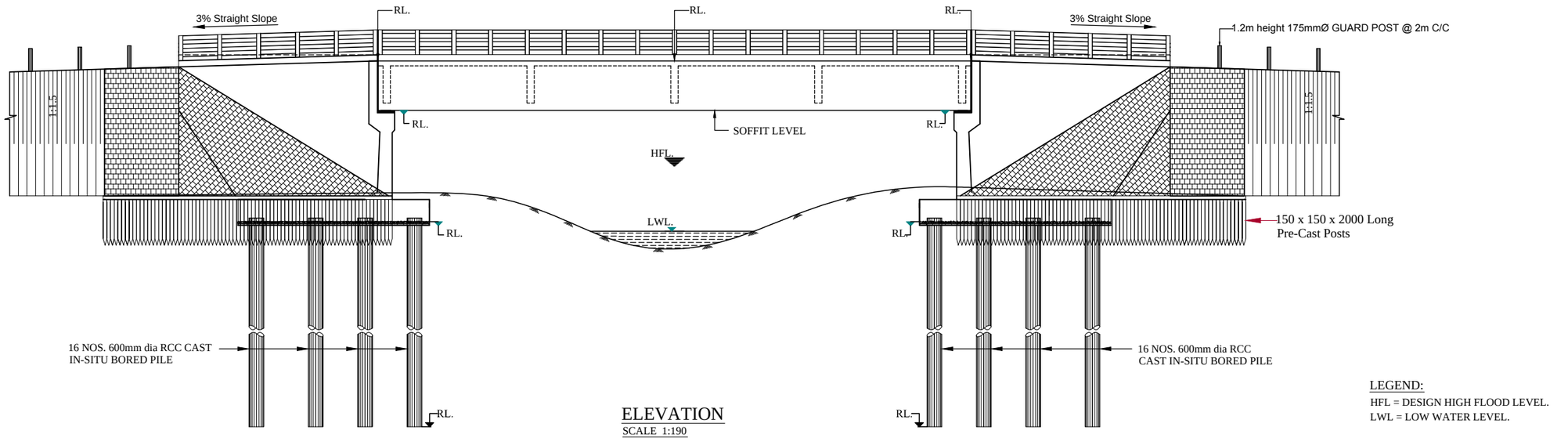
DISTRICT:

DRAWING TITLE

General Arrangement
(Abutment 6.5m & Span 20m)

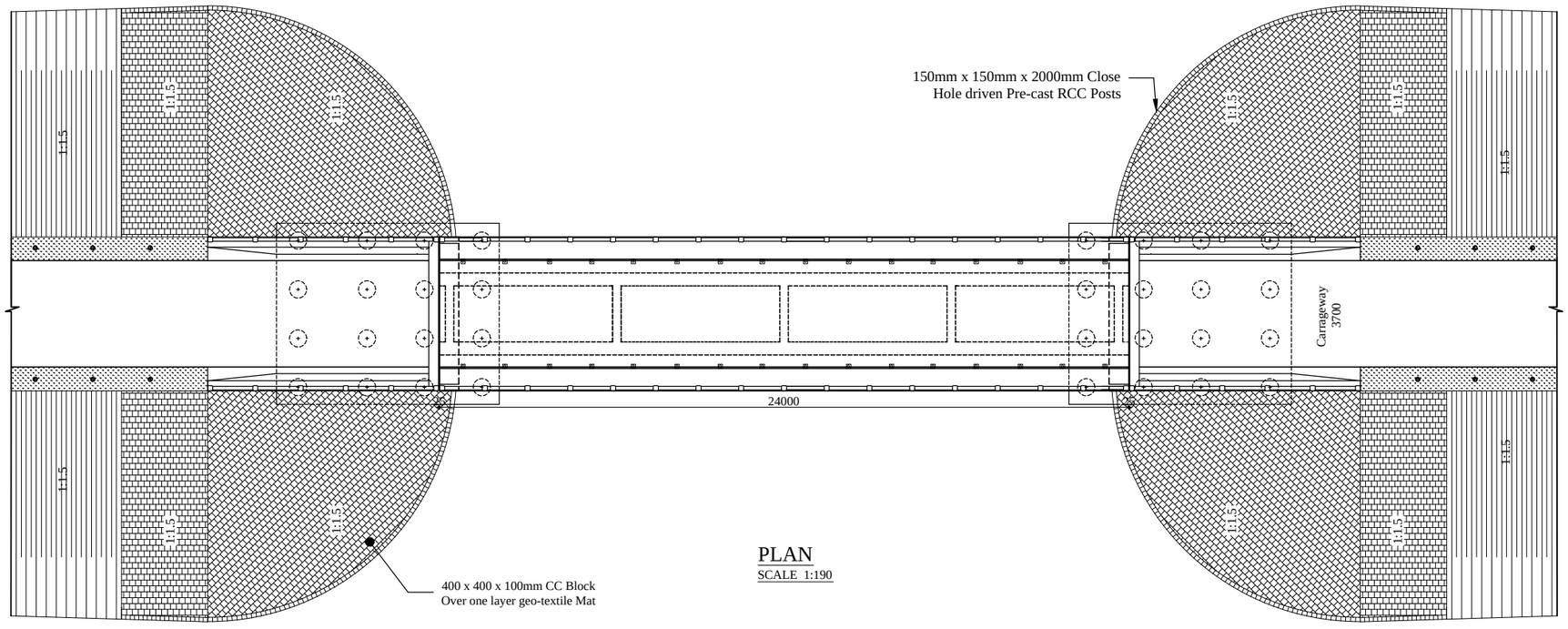
DRAWING NO. GA12

PAGE NO. P-24



ELEVATION
SCALE 1:190

LEGEND:
HFL = DESIGN HIGH FLOOD LEVEL.
LWL = LOW WATER LEVEL.



PLAN
SCALE 1:190

NOTES:

1. All DIMENSIONS ARE IN mm UNLESS OTHERWISE SHOWN.
2. TO FIX SOFFIT LEVEL SEE GUIDE LINE IN THE FLOWCHART.
3. PILE FOUNDATION AND SUBSTRUCTURE DETAILS SHOWIN ARE TYPICAL ONLY.
4. OUT TO OUT WIDTH OF BRIDGE DECK: 5350mm
5. PILE LENGTH SHOULD BE DECIDED BASED ON SUB-SOIL REPORT.

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

PURAKAUSHAL PROJUKTI LIMITED

House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219
Mobile :01711577016 E-mail:pprojltd@yahoo.com

NAME OF PROJECT:

LOCATION:

UPAZILA:

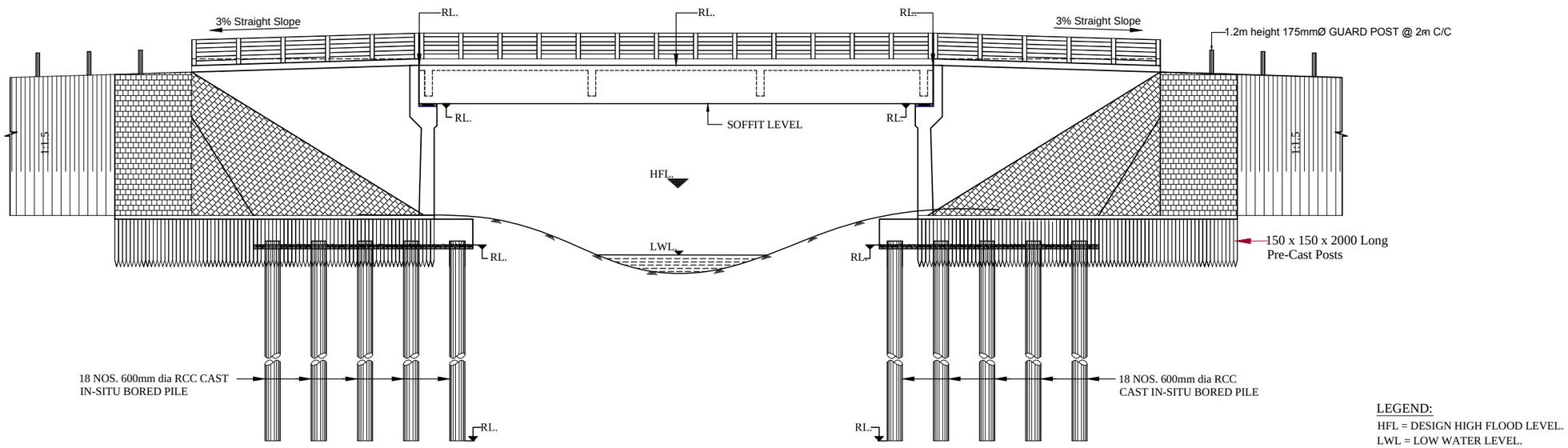
DISTRICT:

DRAWING TITLE

General Arrangement
(Abutment 6.5m & Span 24m)

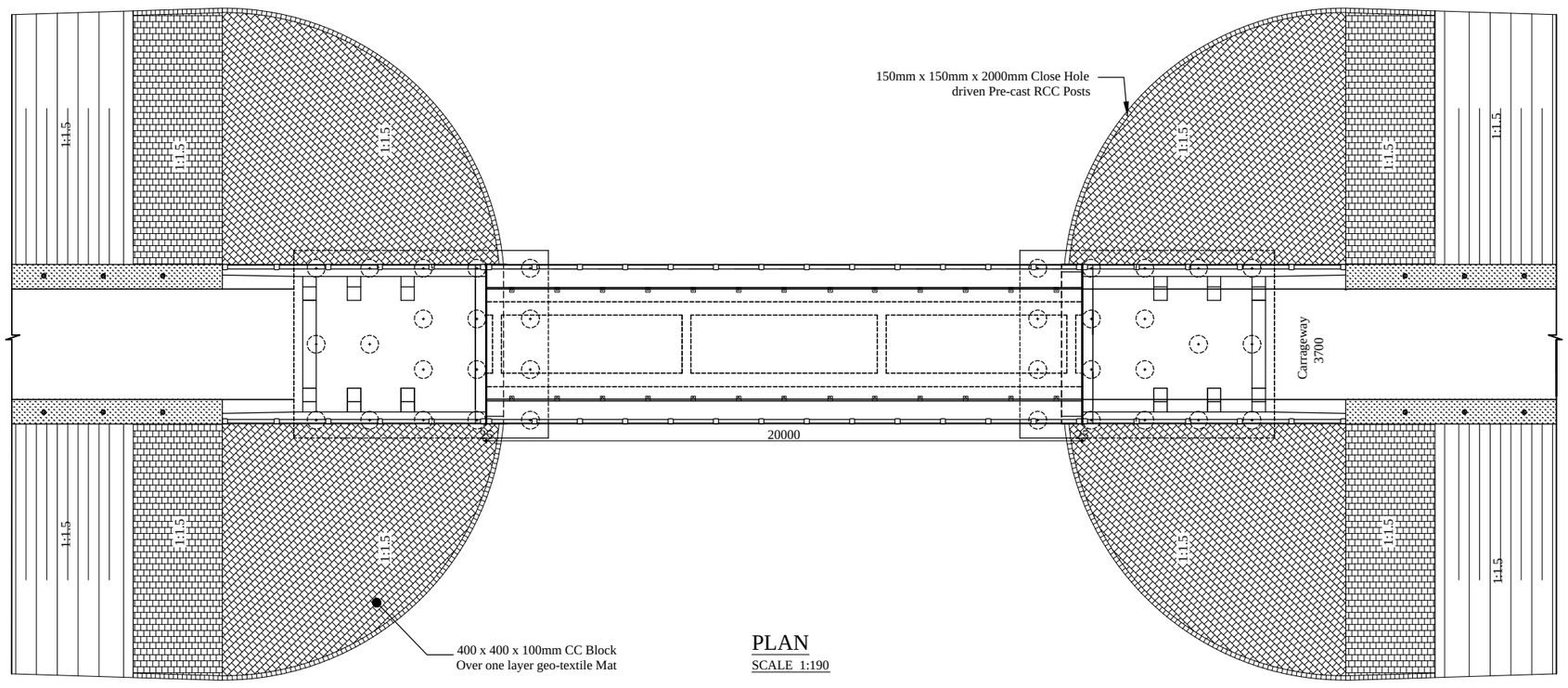
DRAWING NO. GA13

PAGE NO. P-25



LEGEND:
HFL = DESIGN HIGH FLOOD LEVEL.
LWL = LOW WATER LEVEL.

ELEVATION
SCALE 1:190



PLAN
SCALE 1:190

NOTES:
1. All DIMENSIONS ARE IN mm UNLESS OTHERWISE SHOWN.
2. TO FIX SOFFIT LEVEL SEE GUIDE LINE IN THE FLOWCHART.
3. PILE FOUNDATION AND SUBSTRUCTURE DETAILS SHOWIN ARE TYPICAL ONLY.
4. OUT TO OUT WIDTH OF BRIDGE DECK: 5350mm
5. PILE LENGTH SHOULD BE DECIDED BASED ON SUB-SOIL REPORT.

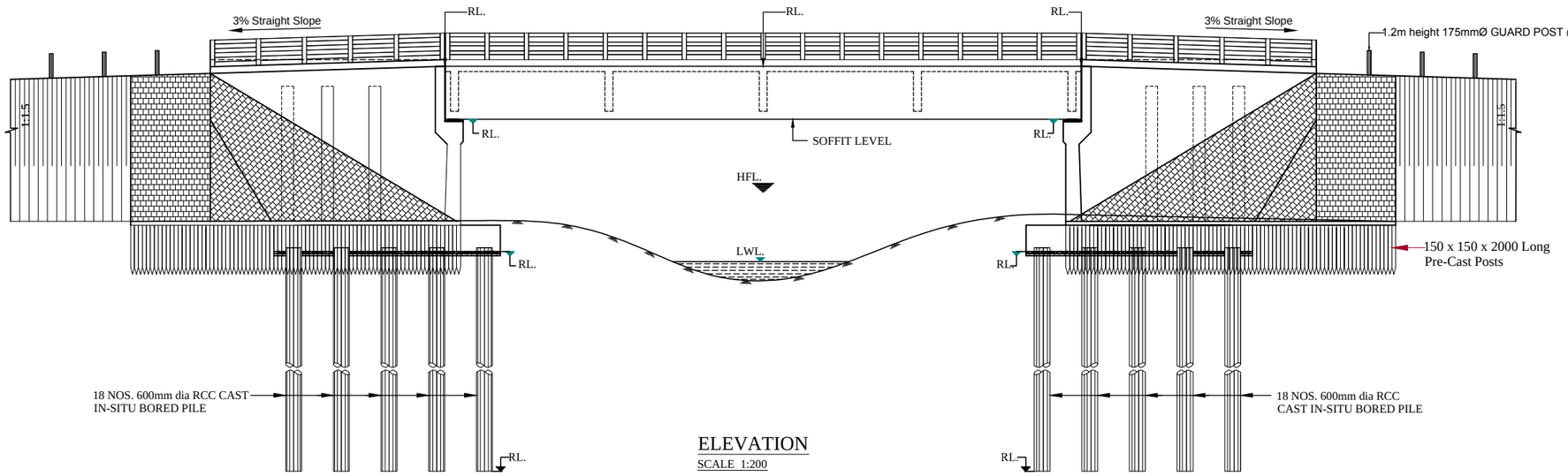
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

PURAKAUSHAL PROJUKTI LIMITED
House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219
Mobile :01711577016 E-mail:pprojltd@yahoo.com

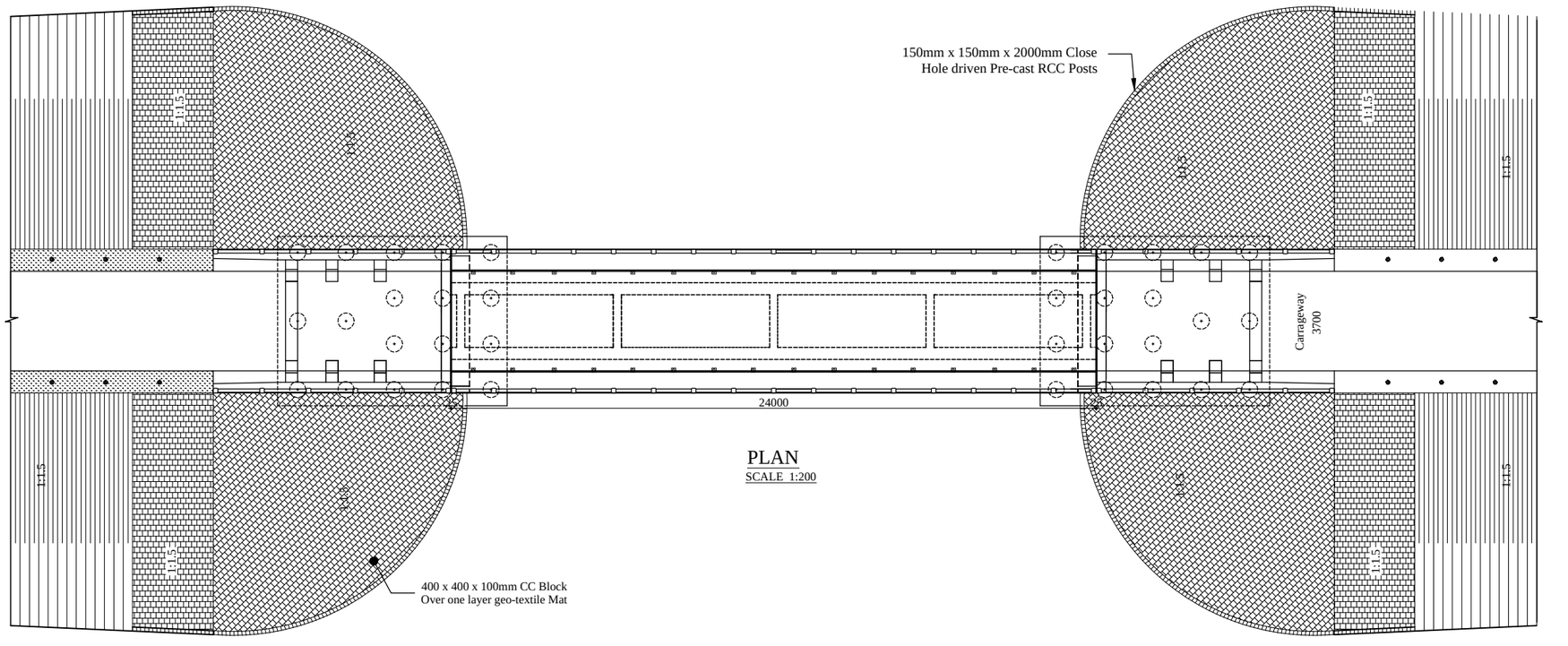
NAME OF PROJECT:
LOCATION:
UPAZILA:
DISTRICT:

DRAWING TITLE
General Arrangement
(Abutment 7m & Span 20m)
DRAWING NO. GA14
PAGE NO. P-26



ELEVATION
SCALE 1:200

LEGEND:
HFL = DESIGN HIGH FLOOD LEVEL.
LWL = LOW WATER LEVEL.



PLAN
SCALE 1:200

NOTES:

1. All DIMENSIONS ARE IN mm UNLESS OTHERWISE SHOWN.
2. TO FIX SOFFIT LEVEL SEE GUIDE LINE IN THE FLOWCHART.
3. PILE FOUNDATION AND SUBSTRUCTURE DETAILS SHOWIN ARE TYPICAL ONLY.
4. OUT TO OUT WIDTH OF BRIDGE DECK: 5350mm
5. PILE LENGTH SHOULD BE DECIDED BASED ON SUB-SOIL REPORT.

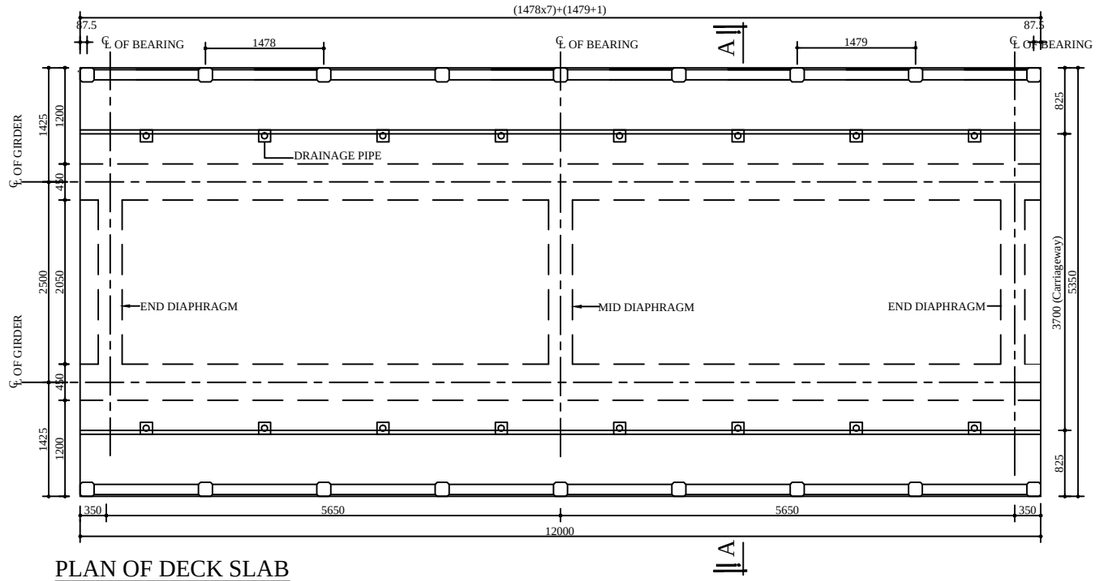
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

PURAKAUSHAL PROJUKTI LIMITED
House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219
Mobile :01711577016 E-mail:pprojltd@yahoo.com

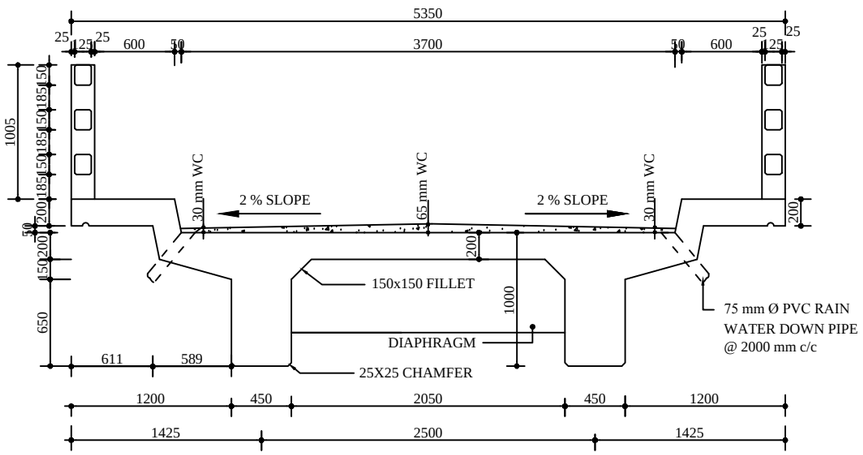
NAME OF PROJECT:
LOCATION:
UPAZILA:
DISTRICT:

DRAWING TITLE
General Arrangement
(Abutment 7m & Span 24m)
DRAWING NO. GA15
PAGE NO. P-27



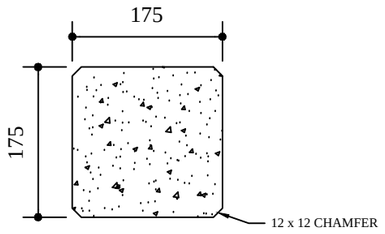
PLAN OF DECK SLAB

scale 1:75



SECTION A - A

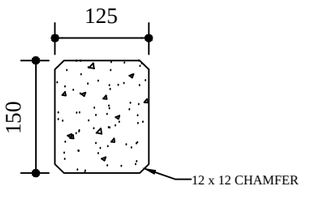
scale 1:45



CROSS SECTION

RAIL POST

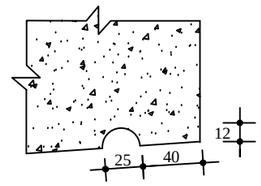
scale 1:8



CROSS SECTION

RAIL BAR

scale 1:8



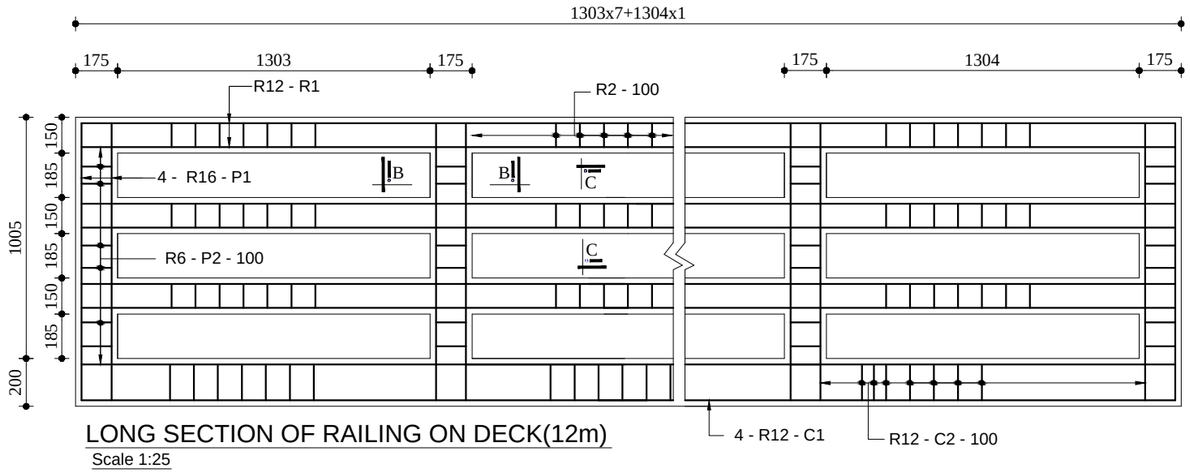
DETAIL "B"

scale 1:8

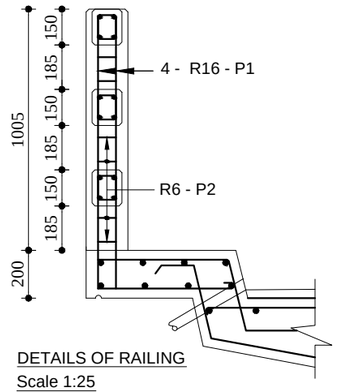
NOTES:

1. All dimensions are in milimeters unless othrwise mentioned.
2. 28 days standerd Cylinder strength of concrete: fc' = 25.00N/mm^2 (3600 psi)
3. For wearning course ultimates Cylinder crushing strength of Concrete: fc' = 25N/mm^2(3600 psi)
4. Yield strength of M.S deformed bar fy = 413N/mm² (60000psi)
5. Clear Cover to main reinforcement bar is to 40mm from the Bottom of slab.
7. Rain water down pipe shall be projected minimum 50mm from the bottom of slab.

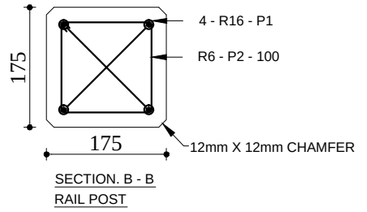
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Plan of Deck Slab With Railing DRAWING NO. DS-01 PAGE NO. P-28



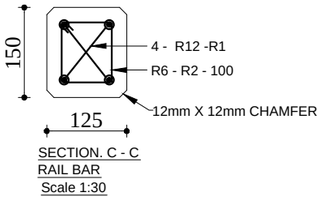
LONG SECTION OF RAILING ON DECK(12m)
Scale 1:25



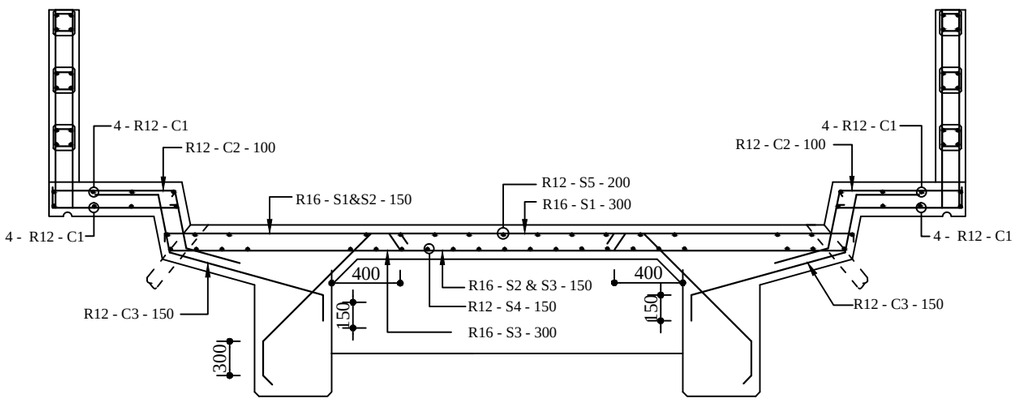
DETAILS OF RAILING
Scale 1:25



SECTION. B - B
RAIL POST



SECTION. C - C
RAIL BAR
Scale 1:30

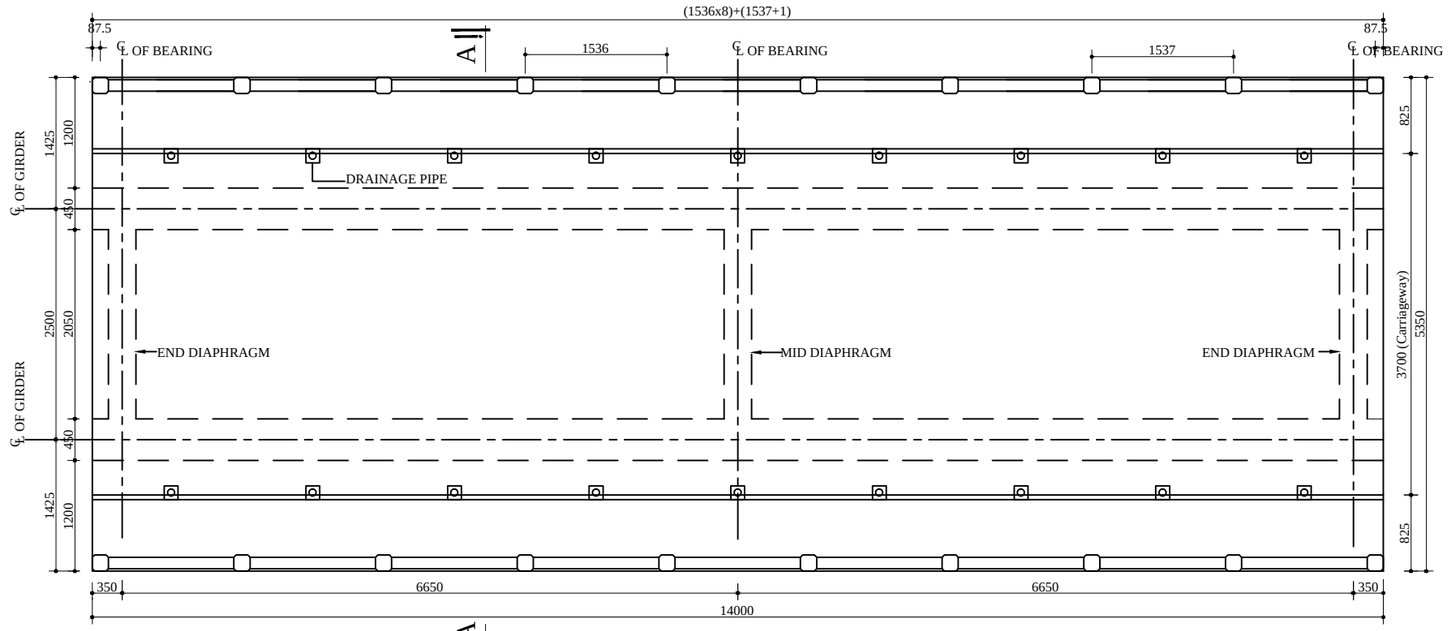


REINF . DETAILS OF DECK SLAB
scale 1:35

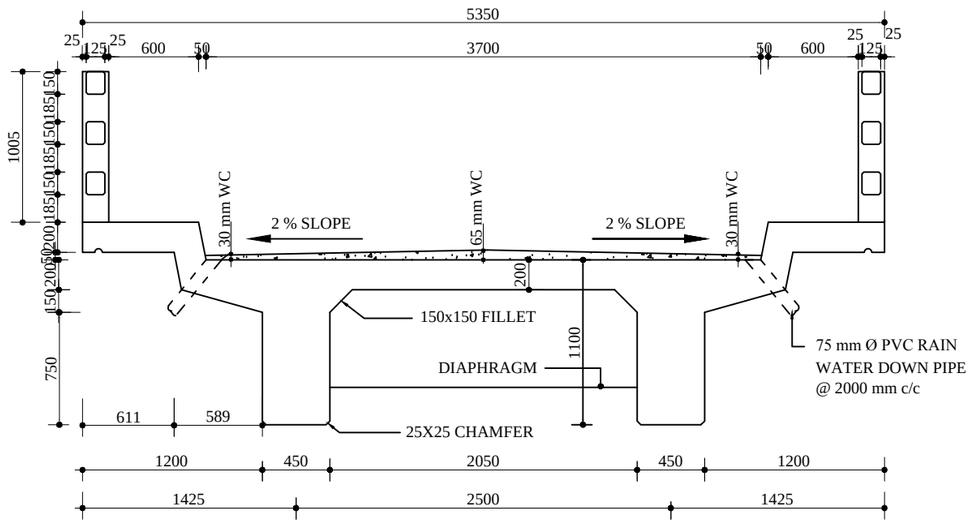
NOTES:

1. All dimensions are in milimeters unless otherwise mentioned.
2. 28 days standard cylinder strength of concrete:
   f 'c= 25.00 N/mm² (3600 psi)
3. Yield strength of M.S deformed bar fy = 413 N/mm² (60000psi)
4. Clear cover to main reinforcement is to be 25mm unless otherwise mentioned.
5. Rain water down pipe shall be projected minimum 50mm from the bottom of slab.

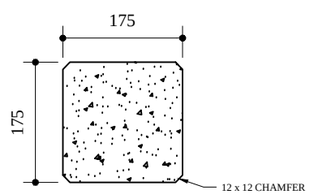
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Details of Deck Slab DRAWING NO. DS-02 PAGE NO. P-29



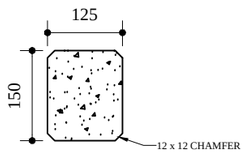
PLAN OF DECK SLAB
scale 1:65



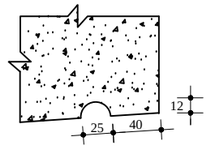
SECTION A - A
scale 1:40



CROSS SECTION
RAIL POST
scale 1:10



CROSS SECTION
RAIL BAR
scale 1:10

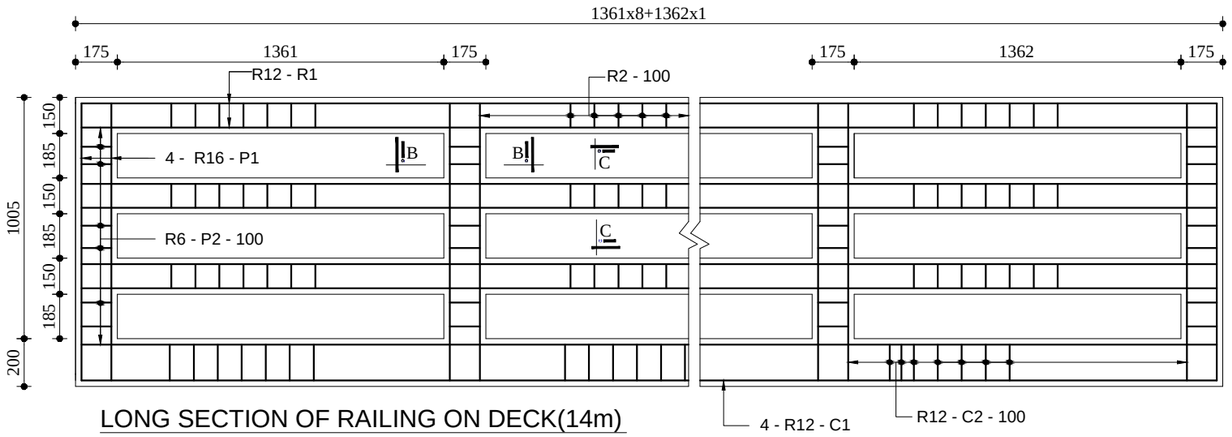


DETAIL "B"
scale 1:10

NOTES:

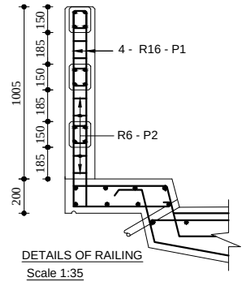
1. All dimensions are in milimeters unless othrwise mentioned.
2. 28 days standerd Cylinder strength of concrete: fc' = 25.00N/mm² (3600 psi)
3. For wearning course ultimates Cylinder crushing strength of Concrete: fc' = 25N/mm² (3600 psi)
4. Yield strength of M.S deformed bar fy = 413N/mm² (60000psi)
5. Clear Cover to main reinforcement bar is to 40mm from the Bottom of slab.
6. Rain water down pipe shall be projected minimum 50mm from the bottom of slab.

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Plan of Deck Slab With Railing DRAWING NO. DS-03 PAGE NO. P-30



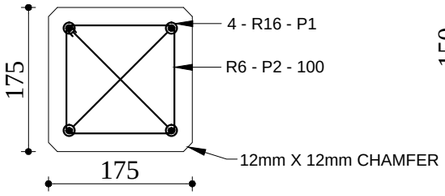
LONG SECTION OF RAILING ON DECK(14m)

Scale 1:25



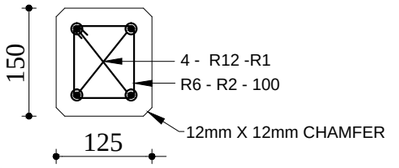
DETAILS OF RAILING

Scale 1:35



SECTION. B - B

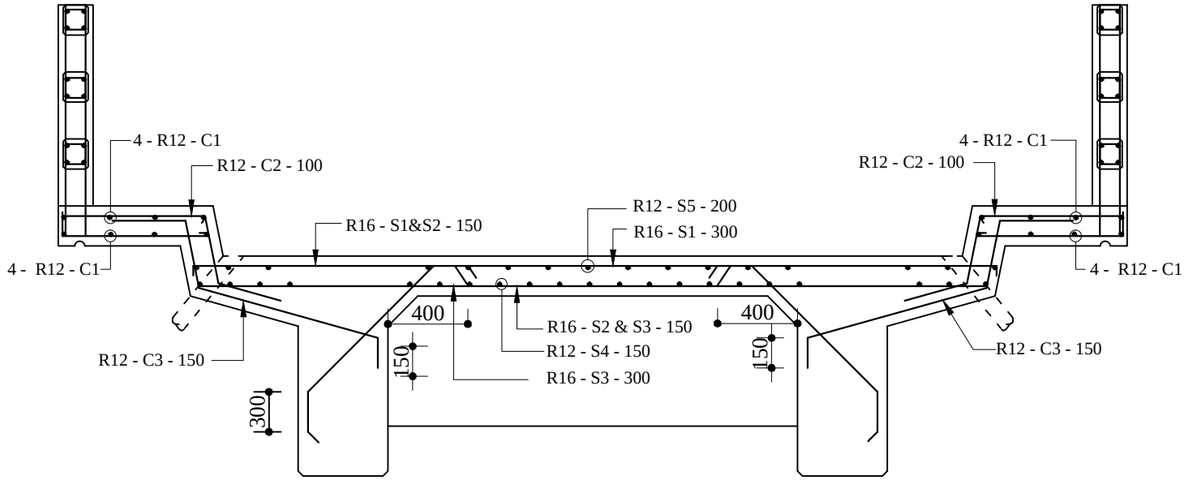
RAIL POST



SECTION. C - C

RAIL BAR

Scale 1:25



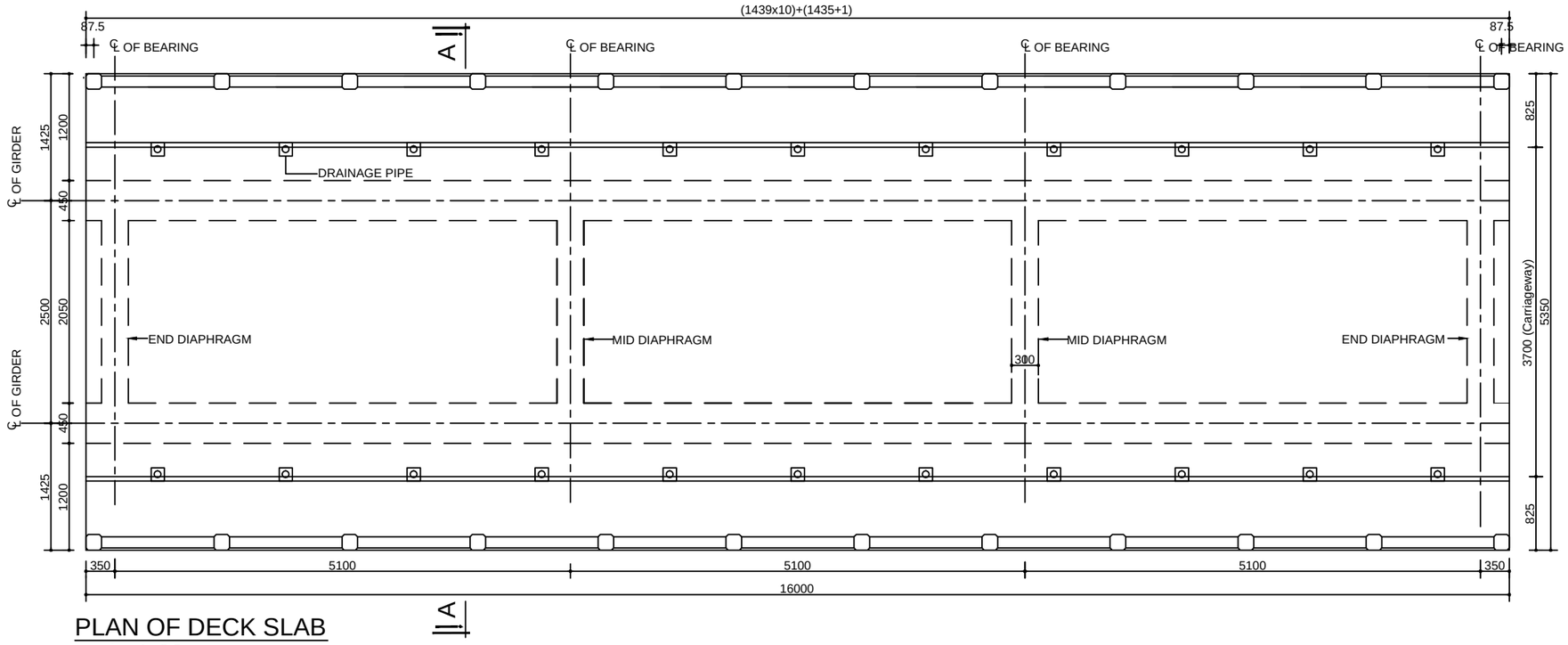
REINF . DETAILS OF DECK SLAB

scale 1:30

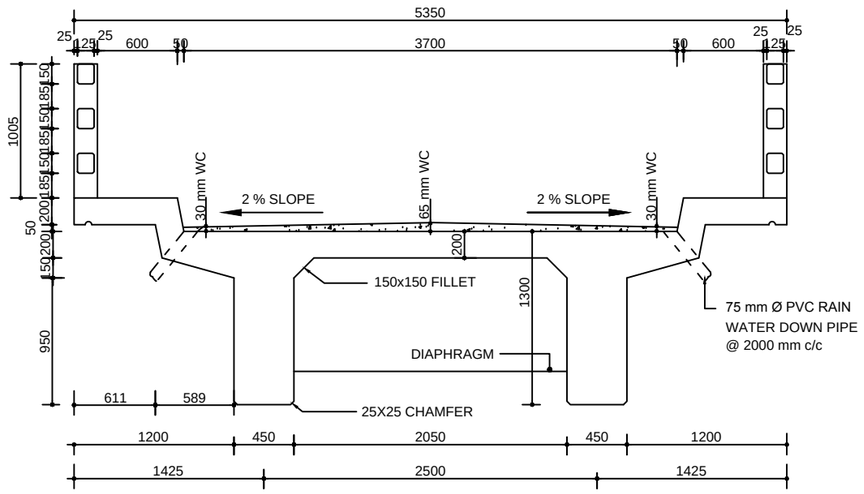
NOTES:

1. All dimensions are in milimeters unless otherwise mentioned.
2. 28 days standard cylinder strength of concrete:
   f 'c= 25.00 N/mm² (3600 psi)
3. Yield strength of M.S deformed bar fy = 413 N/mm² (60000psi)
4. Clear cover to main reinforcement is to be 25mm unless otherwise mentioned.
5. Rain water down pipe shall be projected minimum 50mm from the bottom of slab.

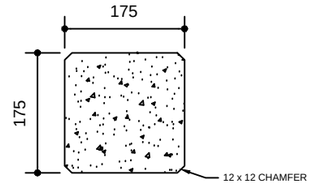
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Details of Deck Slab DRAWING NO. DS-04 PAGE NO. P-31



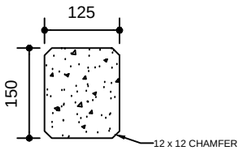
PLAN OF DECK SLAB
scale 1:60



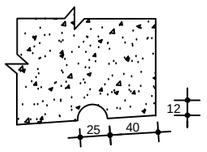
SECTION A - A
scale 1:45



CROSS SECTION
RAIL POST
scale 1:10



CROSS SECTION
RAIL BAR
scale 1:10

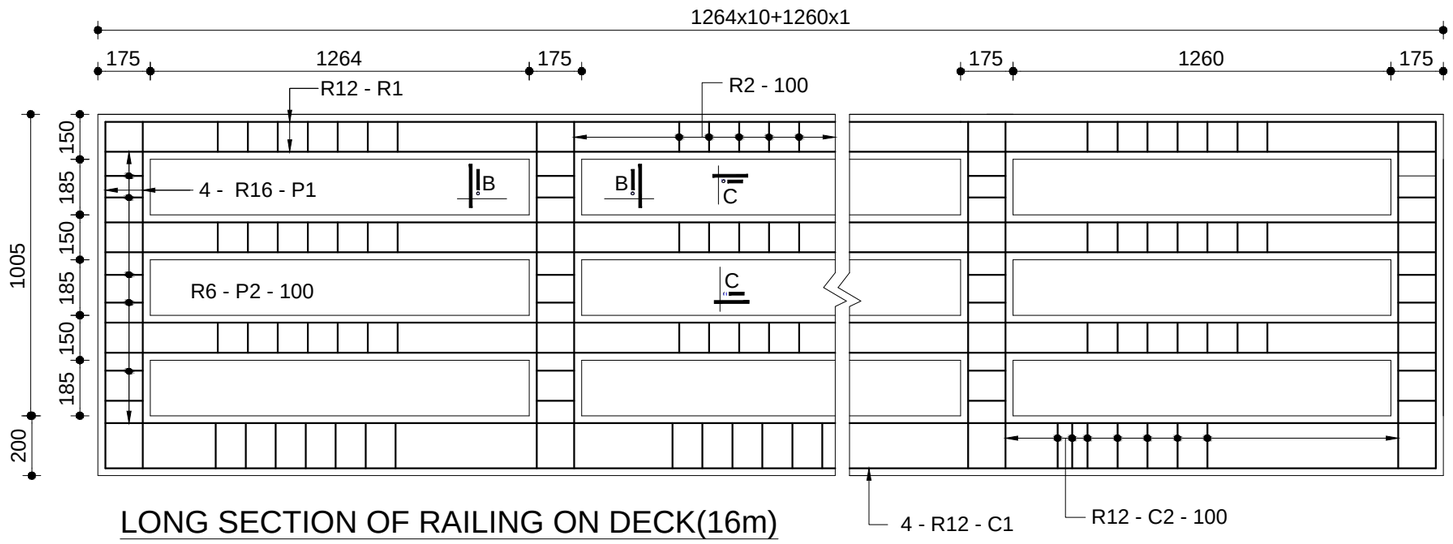


DETAIL "B"
scale 1:10

NOTES:

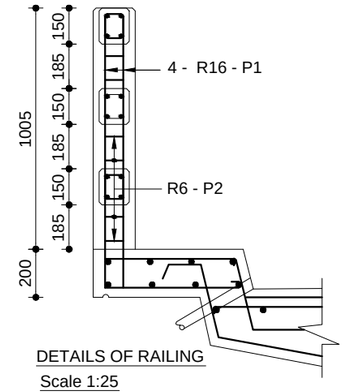
1. All dimensions are in milimeters unless othrwise mentioned.
2. 28 days standerd Cylinder strength of concrete: fc' = 25.00N/mm^2 (3600 psi)
3. For wearning course ultimates Cylinder crushing strength of Concrete: fc' = 25 N/mm² (3600 psi)
4. Yield strength of M.S deformed bar fy = 413N/mm² (60000psi)
5. Clear Cover to main reinforcement bar is to 40mm from the Bottom of slab.
6. Rain water down pipe shall be projected minimum 50mm from the bottom of slab.

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Plan of Deck Slab With Railing DRAWING NO. DS-05 PAGE NO. P-32



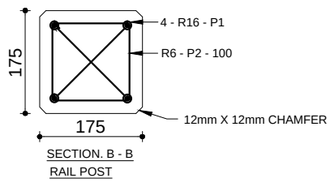
LONG SECTION OF RAILING ON DECK(16m)

Scale 1:20



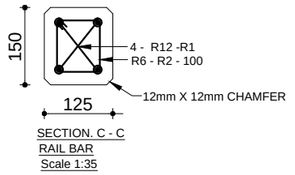
DETAILS OF RAILING

Scale 1:25



SECTION. B - B

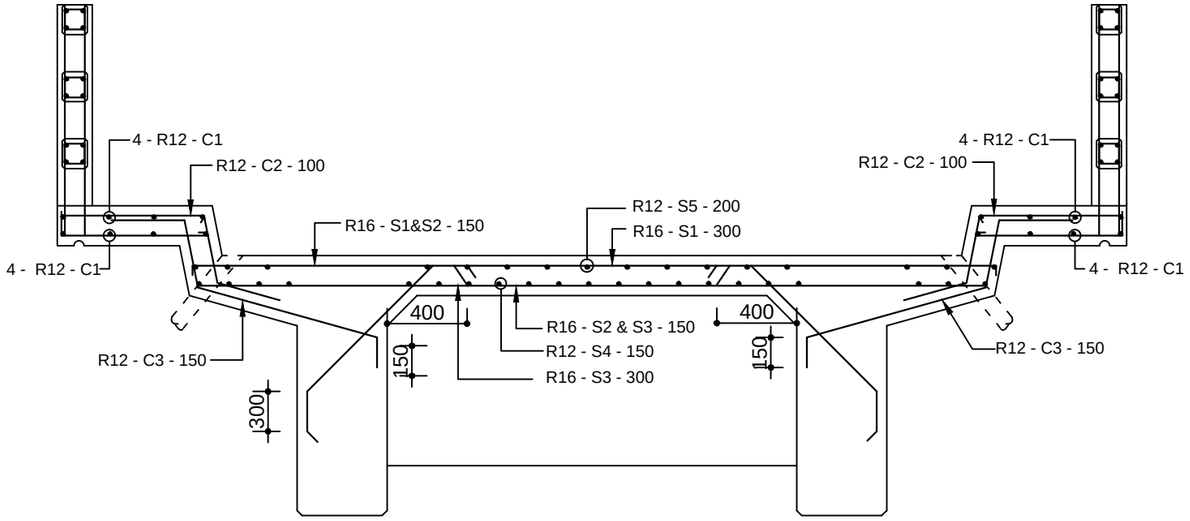
RAIL POST



SECTION. C - C

RAIL BAR

Scale 1:35



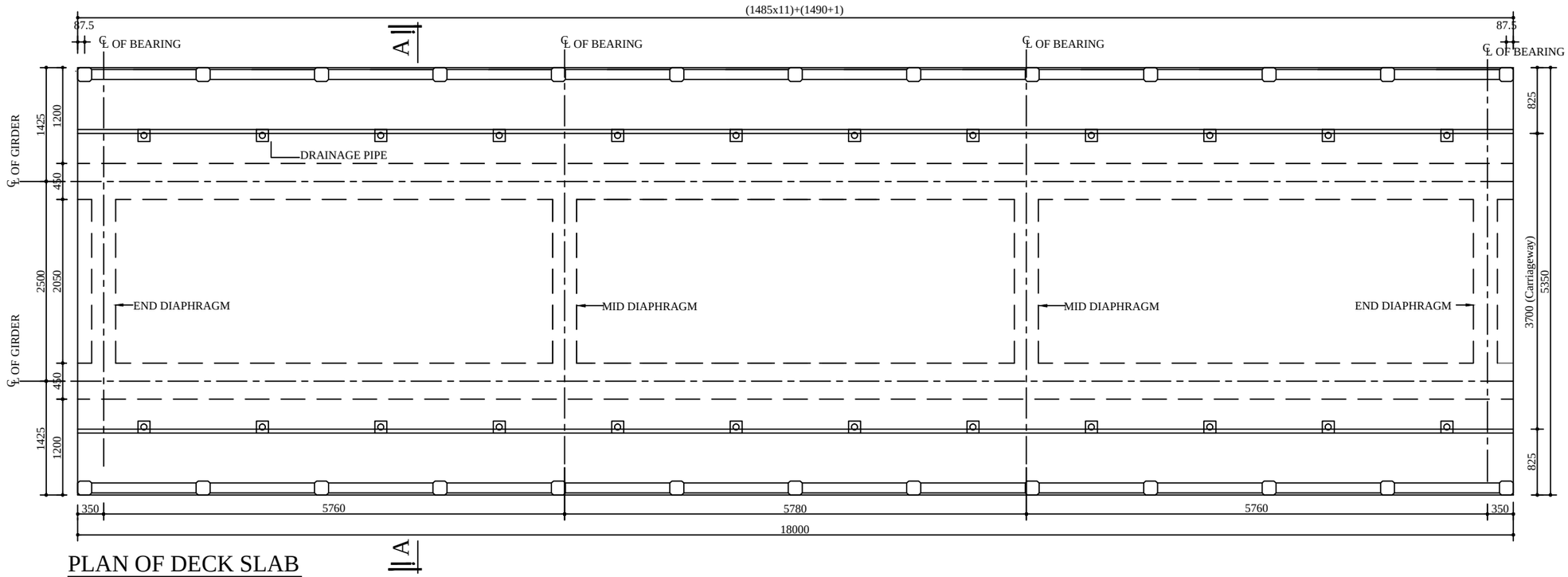
REINF . DETAILS OF DECK SLAB

scale 1:30

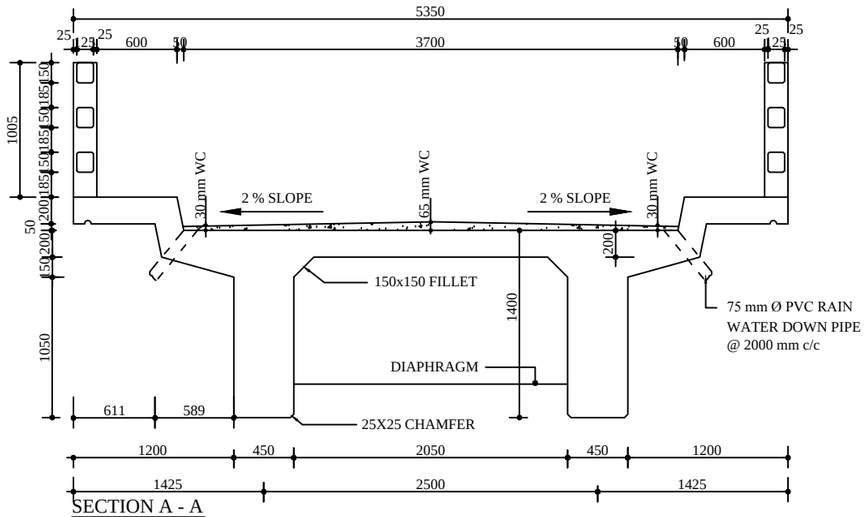
NOTES:

1. All dimensions are in milimeters unless otherwise mentioned.
2. 28 days standard cylinder strength of concrete:
   f 'c= 25.00 N/mm² (3600 psi)
3. Yield strength of M.S deformed bar fy = 413 N/mm² (60000psi)
4. Clear cover to main reinforcement is to be 25mm unless otherwise mentioned.
5. Rain water down pipe shall be projected minimum 50mm from the bottom of slab.

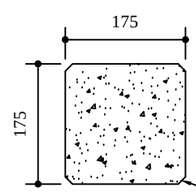
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Details of Deck Slab DRAWING NO. DS-06 PAGE NO. P-33



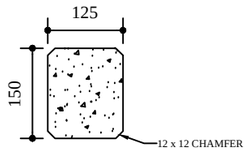
PLAN OF DECK SLAB
scale 1:60



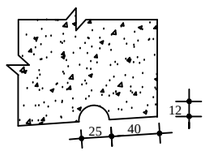
SECTION A - A
scale 1:45



CROSS SECTION
RAIL POST
scale 1:10



CROSS SECTION
RAIL BAR
scale 1:10

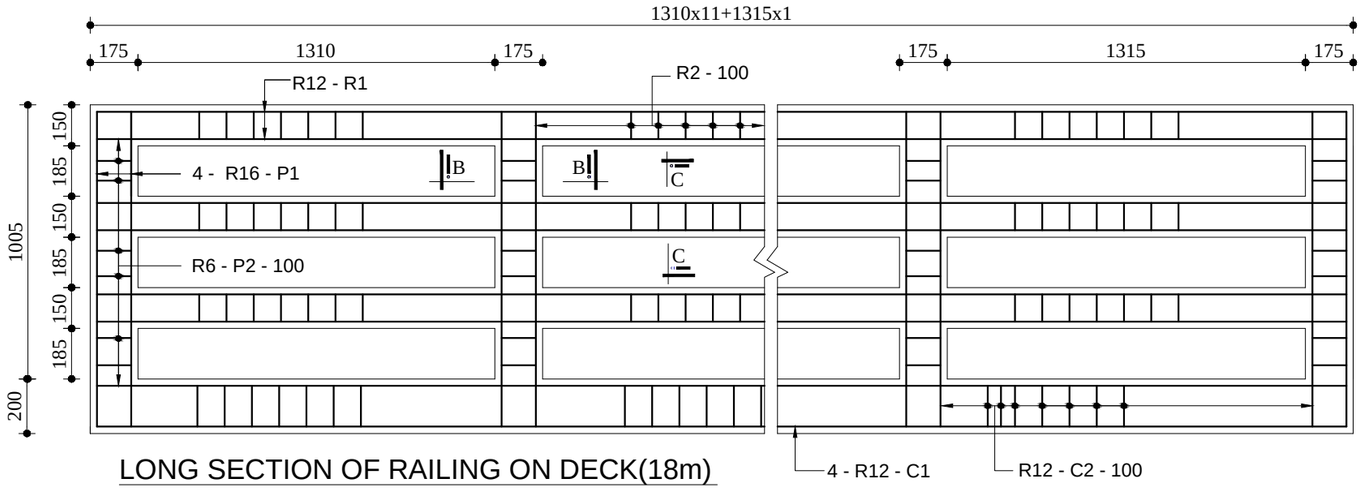


DETAIL "B"
scale 1:10

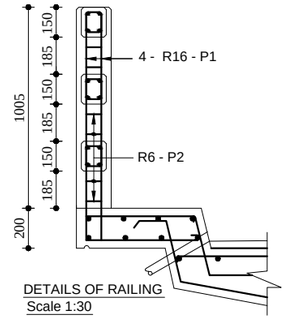
NOTES:

1. All dimensions are in milimeters unless othrwise mentioned.
2. 28 days standerd Cylinder strength of concrete: fc' = 25.00N/mm^2 (3600 psi)
3. For wearning course ultimates Cylinder crushing strength of Concrete: fc' = 25 N/mm² (3600 psi)
4. Yield strength of M.S deformed bar fy = 413 N/mm² (60000psi)
5. Clear Cover to main reinforcement bar is to 40mm from the Bottom of slab.
6. Rain water down pipe shall be projected minimum 50mm from the bottom of slab.

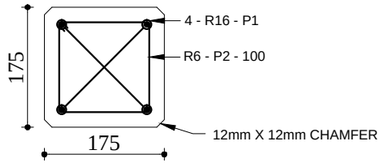
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Plan of Deck Slab With Railing DRAWING NO. DS-07 PAGE NO. P-34



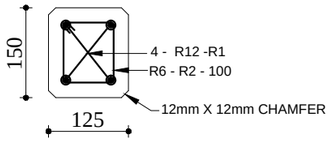
LONG SECTION OF RAILING ON DECK(18m)
Scale 1:22



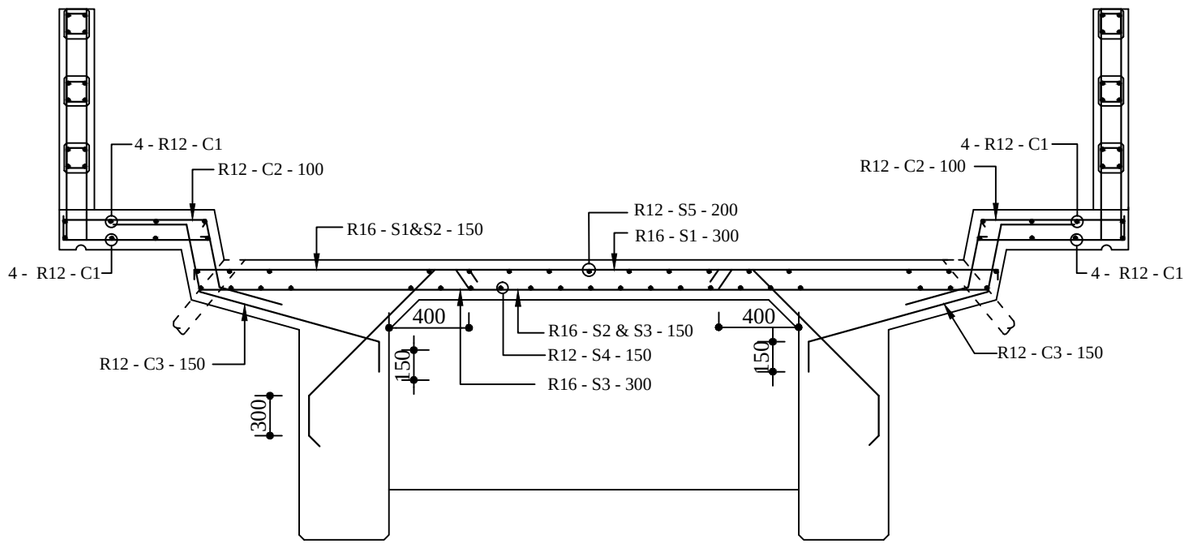
DETAILS OF RAILING
Scale 1:30



SECTION. B - B
RAIL POST



SECTION. C - C
RAIL BAR
Scale 1:30

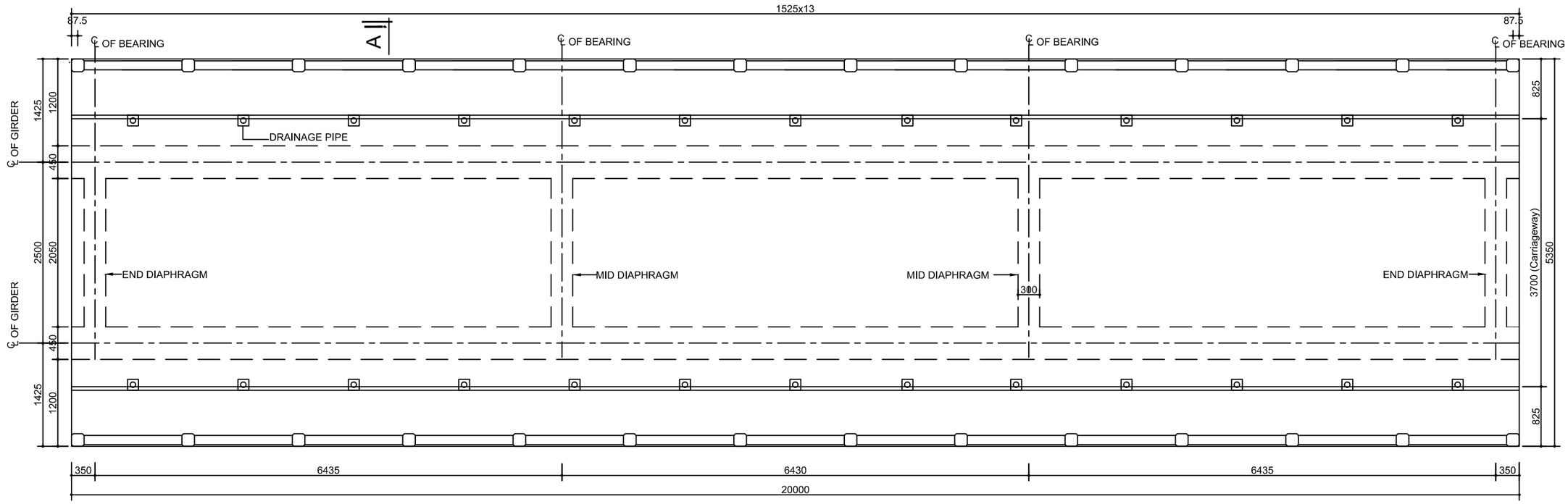


REINF . DETAILS OF DECK SLAB
scale 1:30

NOTES:

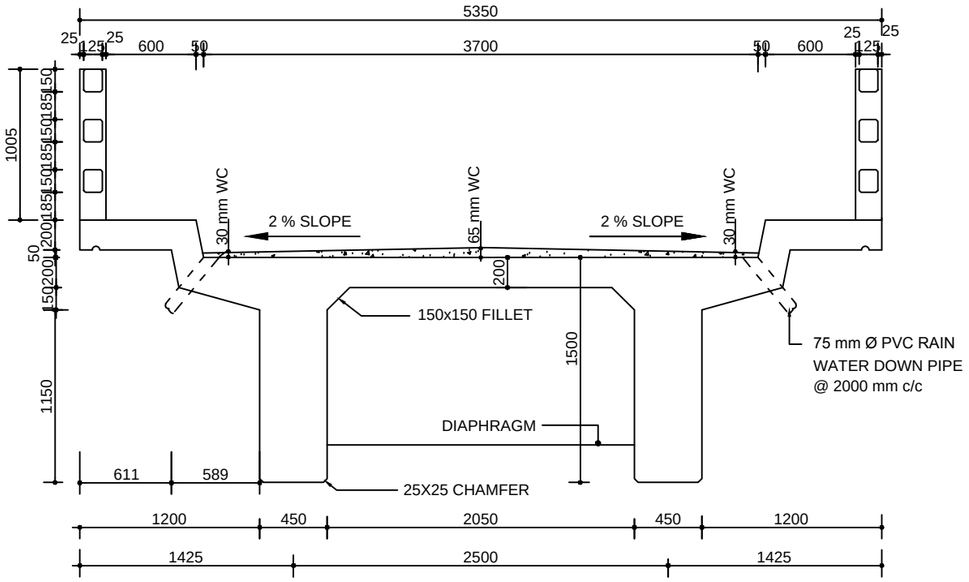
1. All dimensions are in milimeters unless otherwise mentioned.
2. 28 days standard cylinder strength of concrete:
   f 'c= 25.00 N/mm² (3600 psi)
3. Yield strength of M.S deformed bar fy = 413 N/mm² (60000psi)
4. Clear cover to main reinforcement is to be 25mm unless otherwise mentioned.
5. Rain water down pipe shall be projected minimum 50mm from the bottom of slab.

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Details of Deck Slab DRAWING NO. DS-08 PAGE NO. P-35



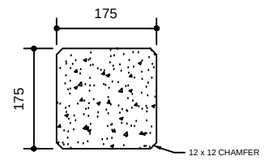
PLAN OF DECK SLAB

scale 1:60

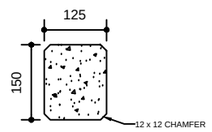


SECTION A - A

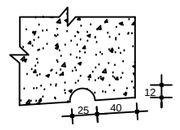
scale 1:40



CROSS SECTION
RAIL POST
scale 1:12



CROSS SECTION
RAIL BAR
scale 1:12

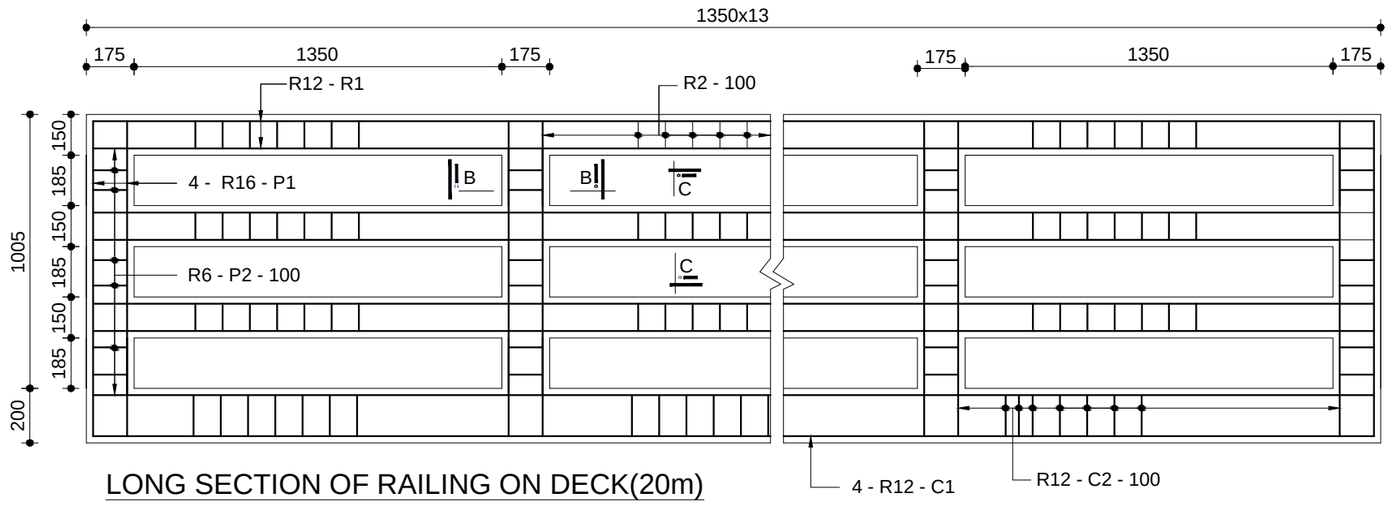


DETAIL "B"
scale 1:12

NOTES:

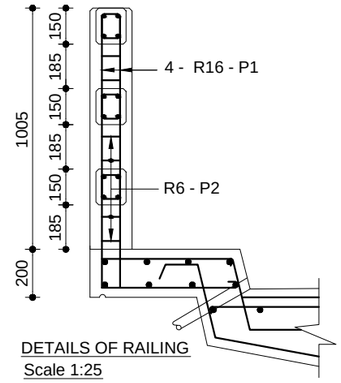
1. All dimensions are in milimeters unless othrwise mentioned.
2. 28 days standerd Cylinder strength of concrete: f 'c = 25.00N/mm² (3600 psi)
3. For wearning course ultimates Cylinder crushing strength of Concrete: f 'c = 25N/mm² (3600 psi)
4. Yield strength of M.S deformed bar fy = 413N/mm² (60000psi)
5. Clear Cover to main reinforcement bar is to 40mm from the Bottom of slab.
6. Rain water down pipe shall be projected minimum 50mm from the bottom of slab.

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Plan of Deck Slab With Railing DRAWING NO. DS-09 PAGE NO. P-36



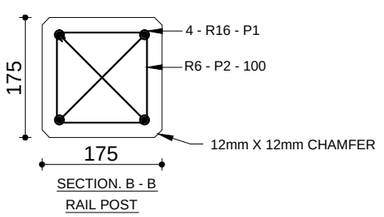
LONG SECTION OF RAILING ON DECK(20m)

Scale 1:22



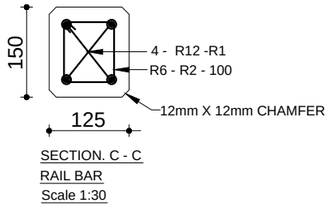
DETAILS OF RAILING

Scale 1:25



SECTION. B - B

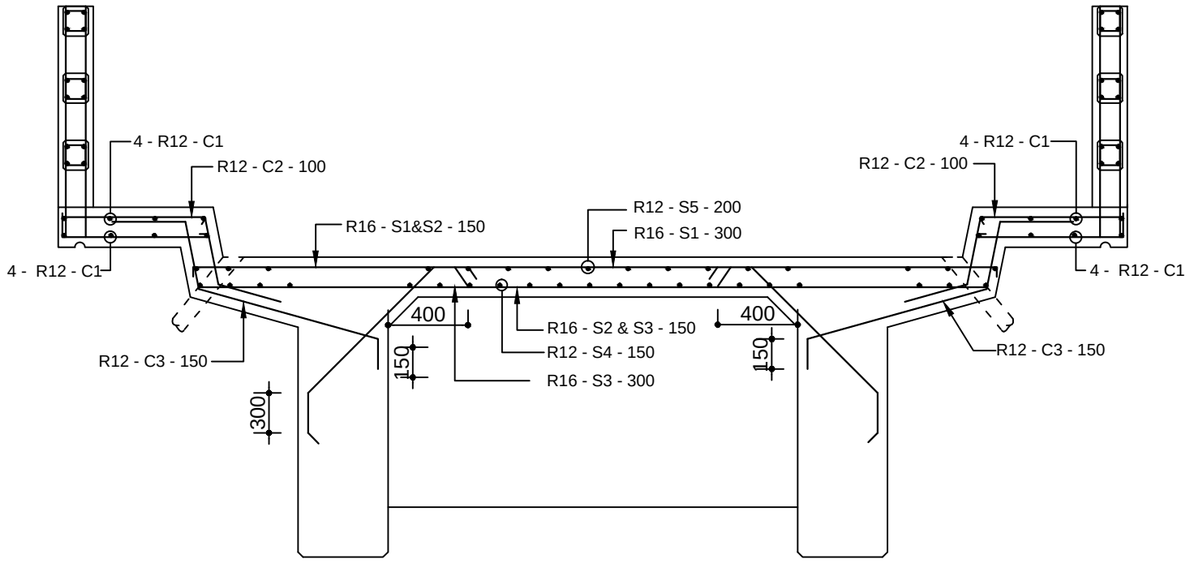
RAIL POST



SECTION. C - C

RAIL BAR

Scale 1:30



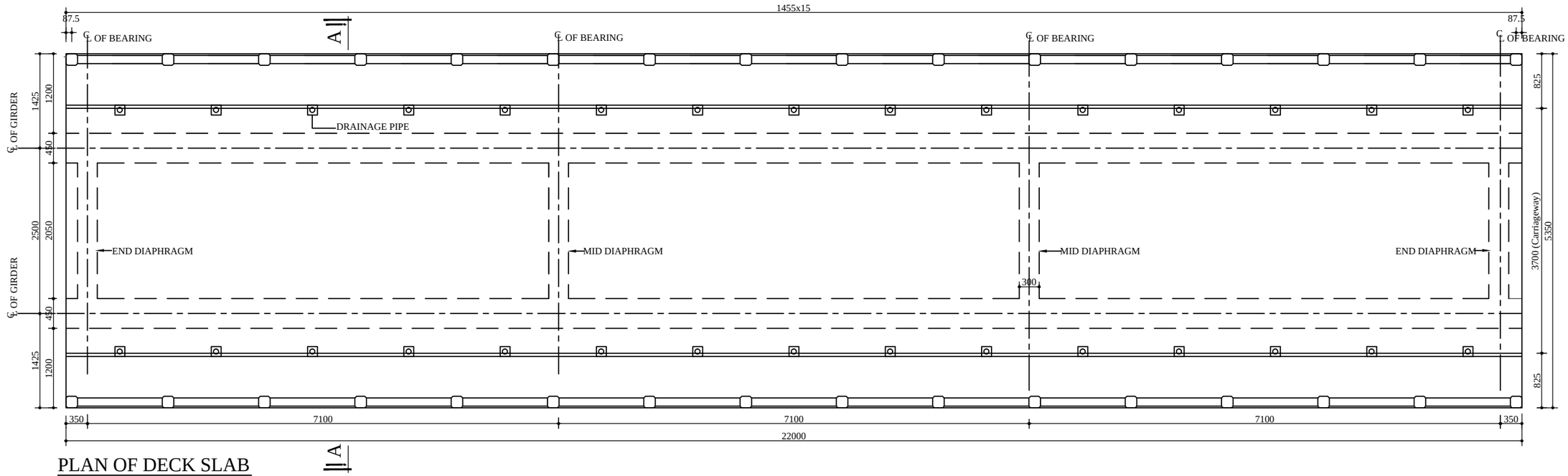
REINF . DETAILS OF DECK SLAB

scale 1:30

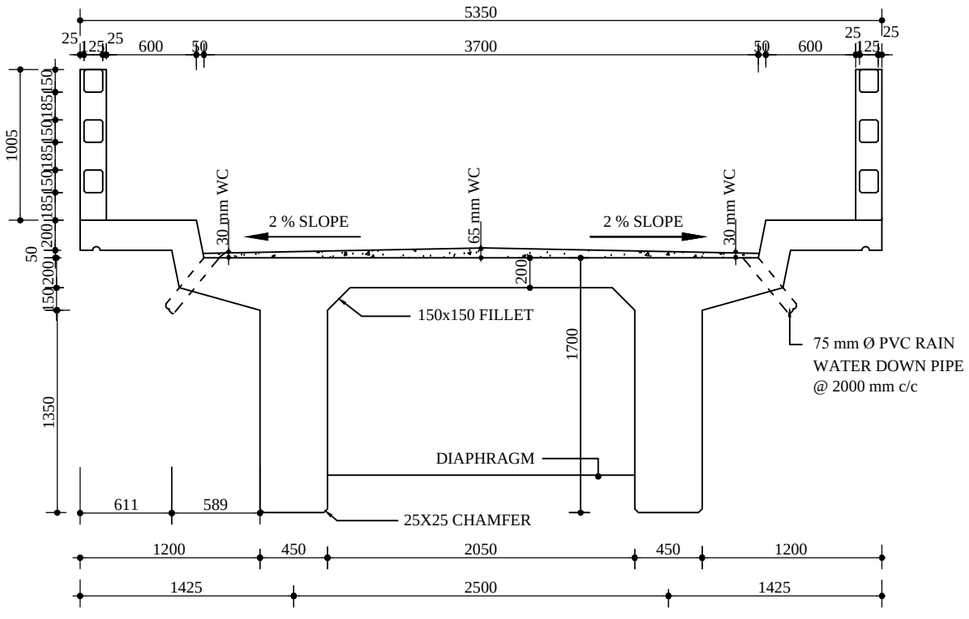
NOTES:

1. All dimensions are in milimeters unless otherwise mentioned.
2. 28 days standard cylinder strength of concrete:
   f 'c= 25.00 N/mm² (3600 psi)
3. Yield strength of M.S deformed bar fy = 413 N/mm² (60000psi)
4. Clear cover to main reinforcement is to be 25mm unless otherwise mentioned.
5. Rain water down pipe shall be projected minimum 50mm from the bottom of slab.

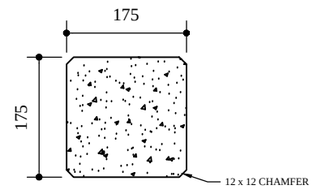
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Details of Deck Slab DRAWING NO. DS-10 PAGE NO. P-37



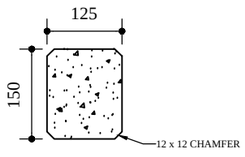
PLAN OF DECK SLAB
scale 1:65



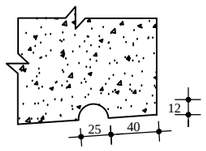
SECTION A - A
scale 1:40



CROSS SECTION
RAIL POST
scale 1:10



CROSS SECTION
RAIL BAR
scale 1:10



DETAIL "B"
scale 1:10

NOTES:

1. All dimensions are in milimeters unless othrwise mentioned.
2. 28 days standerd Cylinder strength of concrete: fc' = 25.00N/mm^2 (3600 psi)
3. For wearning course ultimates Cylinder crushing strength of Concrete: fc' = 25N/mm^2(3600 psi)
4. Yield strength of M.S deformed bar fy = 413N/mm² (60000psi)
5. Clear Cover to main reinforcement bar is to 40mm from the Bottom of slab.
6. Rain water down pipe shall be projected minimum 50mm from the bottom of slab.

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

PURAKAUSHAL PROJUKTI LIMITED
House # C10, Road # 4 ,Banasree, Rampura- 1219.
E-maill: pproiltd@yahoo.com

NAME OF PROJECT:

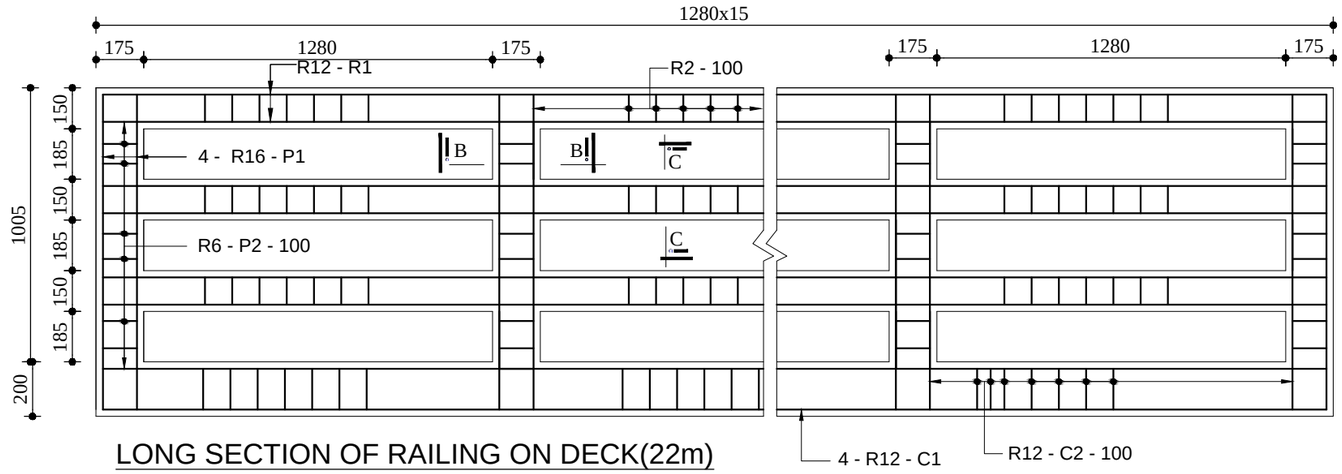
LOCATION:
UPAZILA:
DISTRICT:

DRAWING TITLE

Plan of Deck Slab With Railing

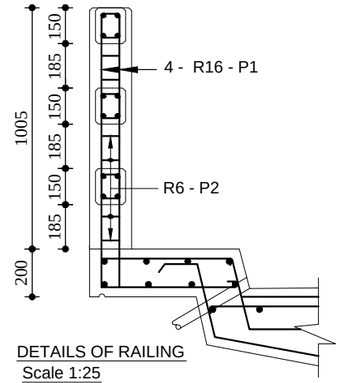
DRAWING NO. DS-11

PAGE NO. P-38



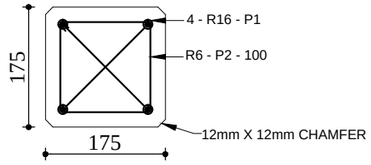
LONG SECTION OF RAILING ON DECK(22m)

Scale 1:22



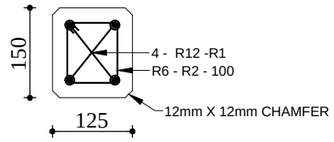
DETAILS OF RAILING

Scale 1:25



SECTION. B - B

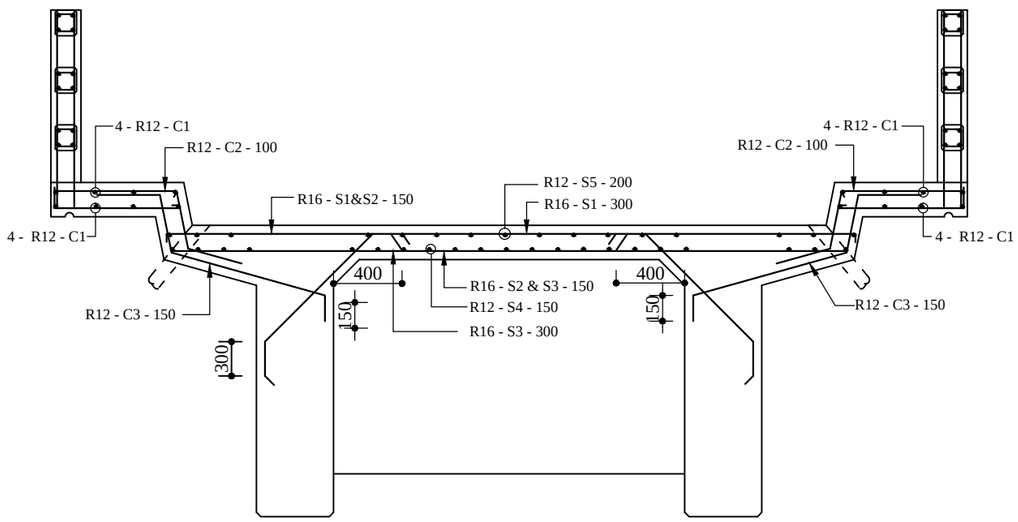
RAIL POST



SECTION. C - C

RAIL BAR

Scale 1:30



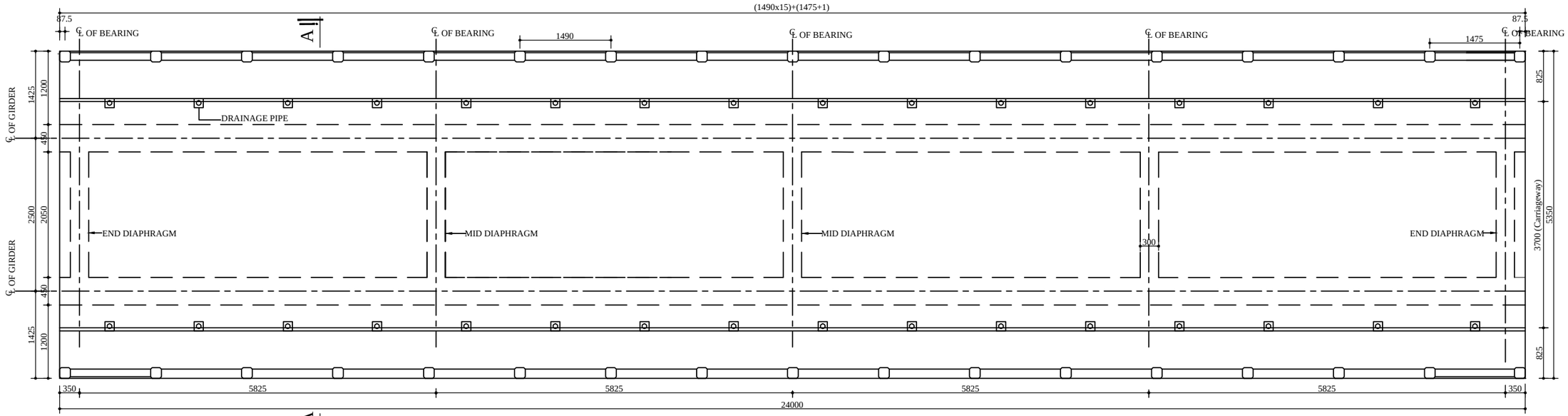
REINF . DETAILS OF DECK SLAB

scale 1:35

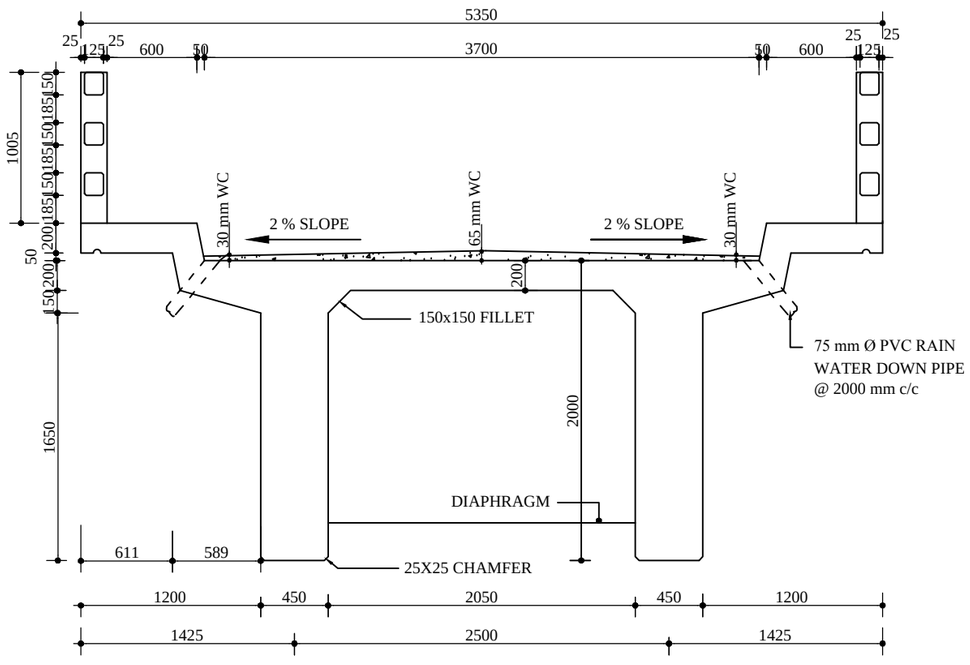
NOTES:

1. All dimensions are in milimeters unless otherwise mentioned.
2. 28 days standard cylinder strength of concrete:
   f 'c= 25.00 N/mm² (3600 psi)
3. Yield strength of M.S deformed bar fy = 413 N/mm² (60000psi)
4. Clear cover to main reinforcement is to be 25mm unless otherwise mentioned.
5. Rain water down pipe shall be projected minimum 50mm from the bottom of slab.

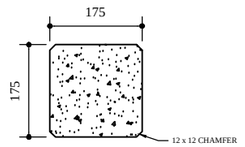
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Details of Deck Slab DRAWING NO. DS-12 PAGE NO. P-39



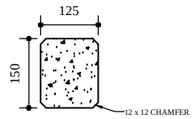
PLAN OF DECK SLAB
scale 1:70



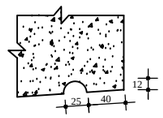
SECTION A - A
scale 1:40



CROSS SECTION
RAIL POST
scale 1:13



CROSS SECTION
RAIL BAR
scale 1:13

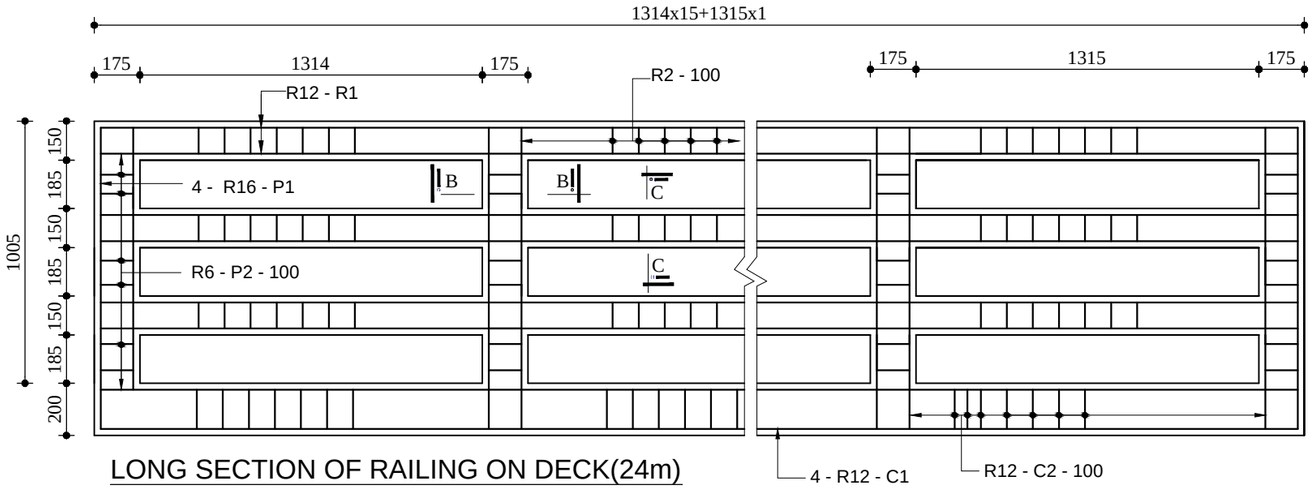


DETAIL "B"
scale 1:13

NOTES:

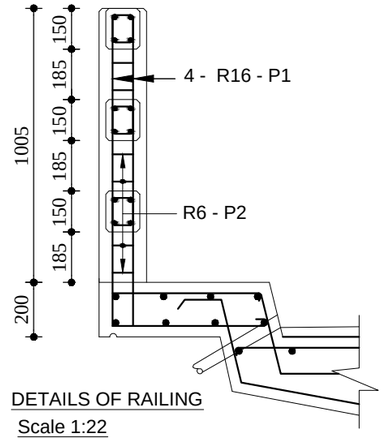
1. All dimensions are in milimeters unless othrwise mentioned.
2. 28 days standerd Cylinder strength of concrete: fc' = 25.00N/mm^2 (3600 psi)
3. For wearning course ultimates Cylinder crushing strength of Concrete: fc' = 25N/mm^2(3600 psi)
4. Yield strength of M.S deformed bar fy = 413N/mm² (60000psi)
5. Clear Cover to main reinforcement bar is to 40mm from the Bottom of slab.
6. Rain water down pipe shall be projected minimum 50mm from the bottom of slab.

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Plan of Deck Slab With Railing DRAWING NO. DS-13 PAGE NO. P-40



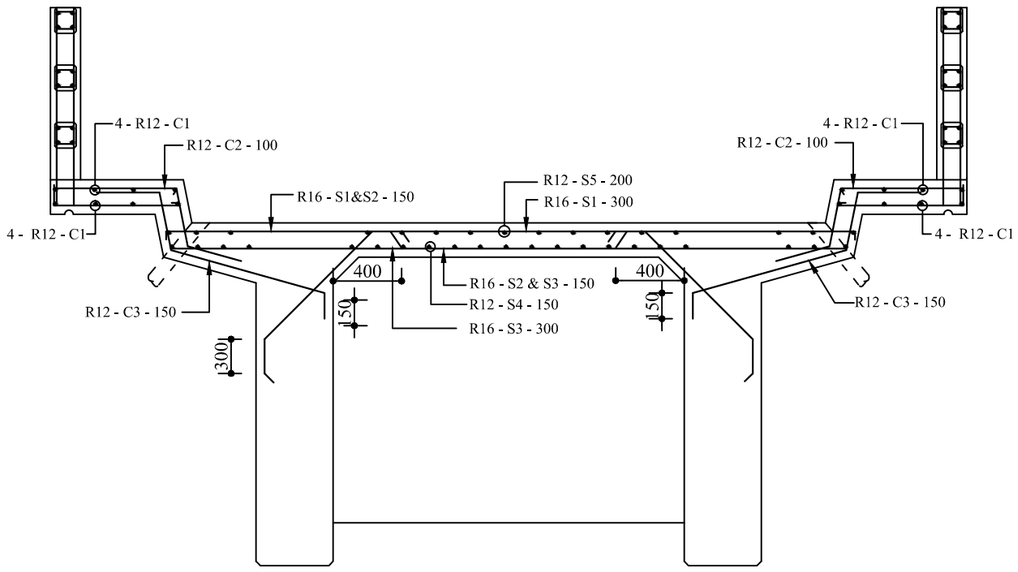
LONG SECTION OF RAILING ON DECK(24m)

Scale 1:23



DETAILS OF RAILING

Scale 1:22

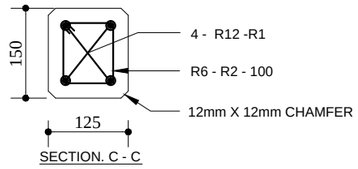


REINF . DETAILS OF DECK SLAB

scale 1:35

SECTION. B - B

RAIL POST



SECTION. C - C

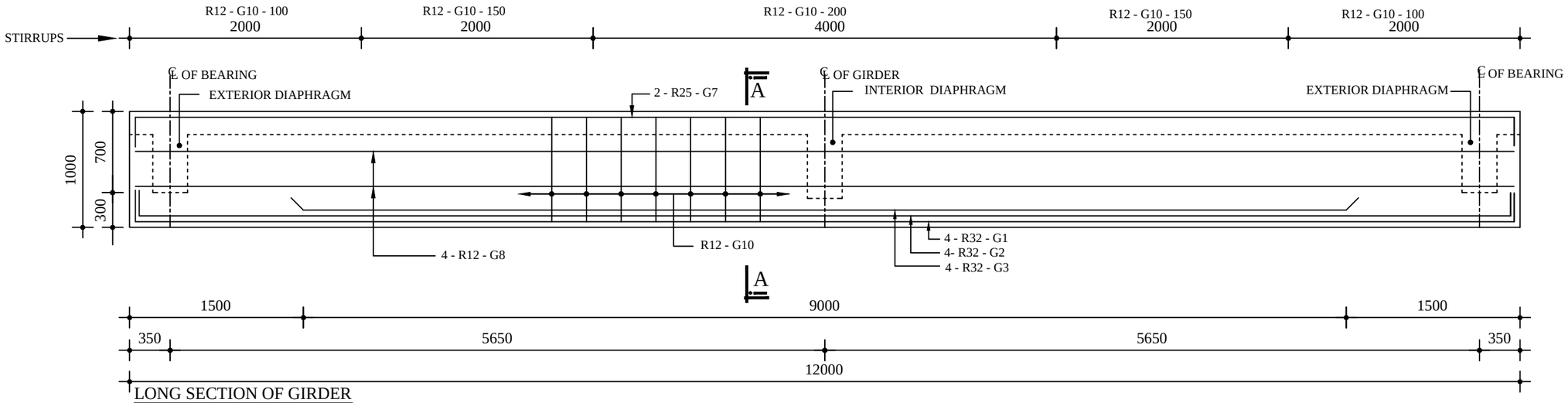
RAIL BAR

Scale 1:30

NOTES:

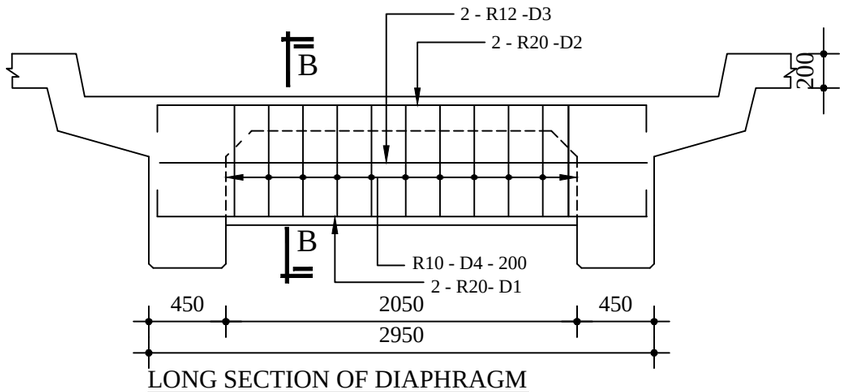
1. All dimensions are in milimeters unless otherwise mentioned.
2. 28 days standard cylinder strength of concrete:
   f 'c= 25.00 N/mm² (3600 psi)
3. Yield strength of M.S deformed bar fy = 413 N/mm² (60000psi)
4. Clear cover to main reinforcement is to be 25mm unless otherwise mentioned.
5. Rain water down pipe shall be projected minimum 50mm from the bottom of slab.

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Details of Deck Slab DRAWING NO. DS-14 PAGE NO. P-41



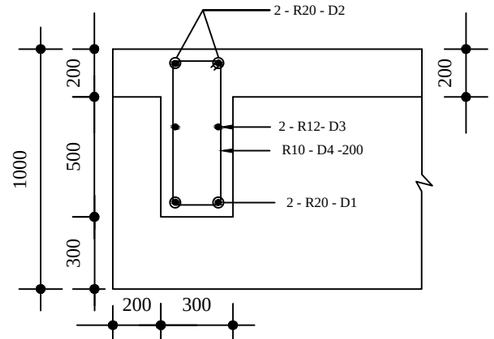
LONG SECTION OF GIRDER

SCALE 1:40



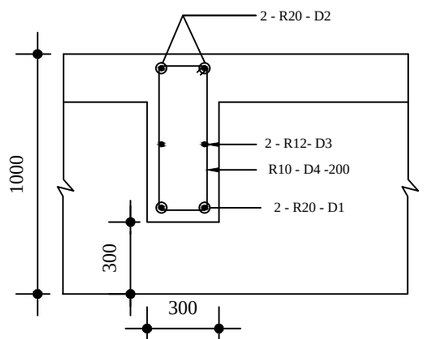
LONG SECTION OF DIAPHRAGM

SCALE 1:35



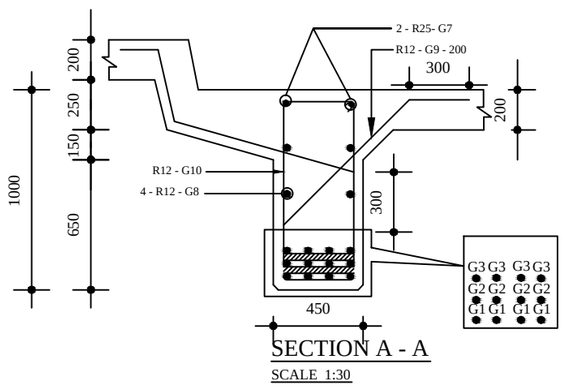
SECTION B - B (EXTERIOR DIAPHRAGM)

SCALE 1:25



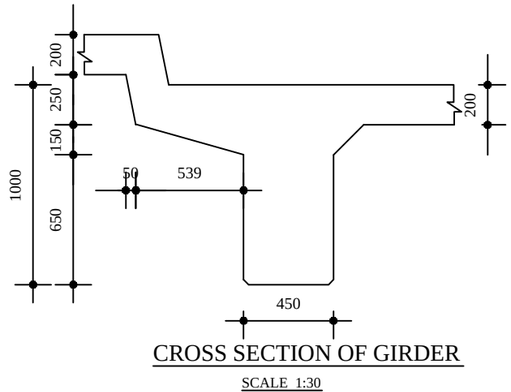
SECTION B - B (INTERIOR DIAPHRAGM)

SCALE 1:25



SECTION A - A

SCALE 1:30



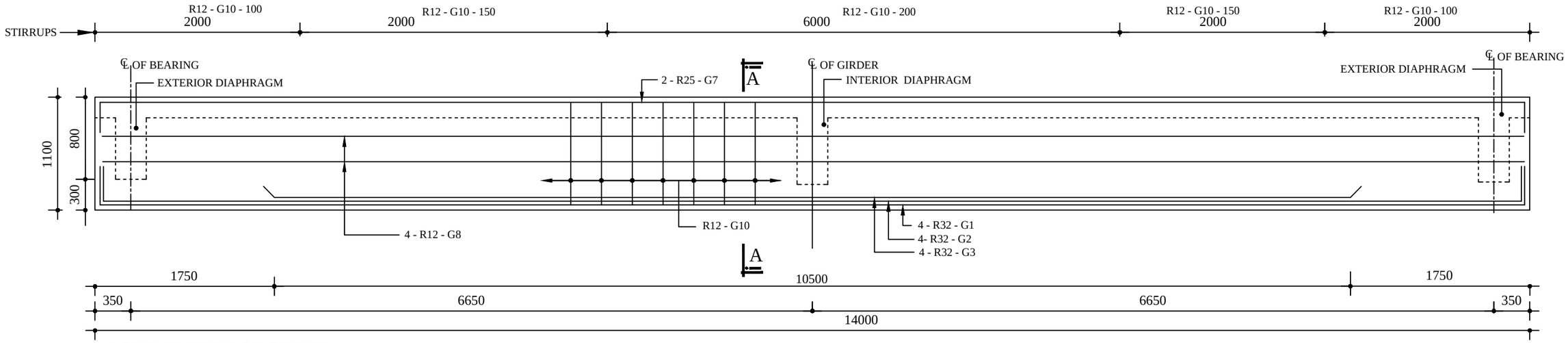
CROSS SECTION OF GIRDER

SCALE 1:30

NOTES:

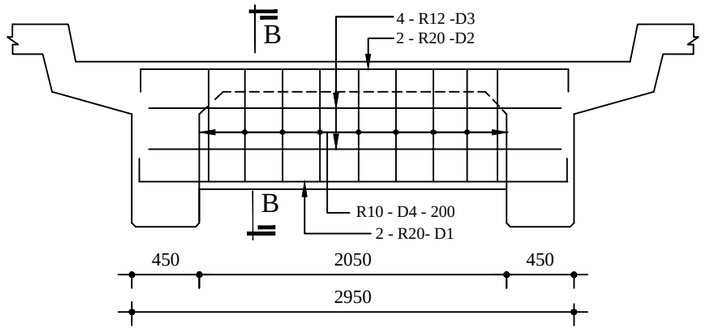
1. Minimum clear cover to main Reinforcement is to be 50mm. unless otherwise mentined.
2. All dimensions are in millimetre unless otherwise mentioned.
3. 28 days Cylinder crushing strength of concrete: fc' = 25.00N/mm^2(3600 Psi)
4. Yield strength of mild steel deformed bar fy = 413N/mm^2 (60000psi)

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Details OF Girder Span 12m DRAWING NO. GR-01 PAGE NO. P-42



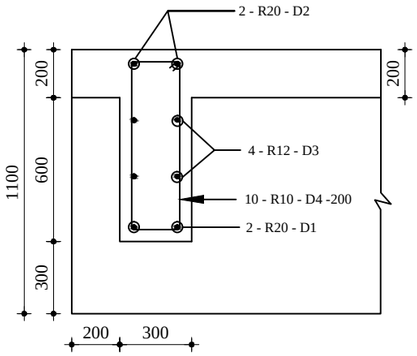
LONG SECTION OF GIRDER

SCALE 1:40



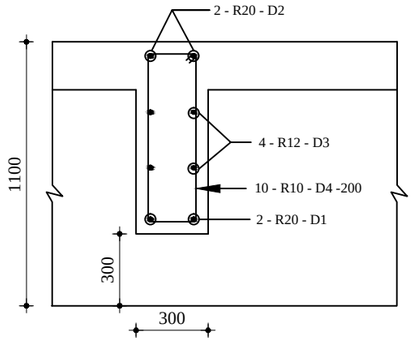
LONG SECTION OF DIAPHRAGM

SCALE 1:40



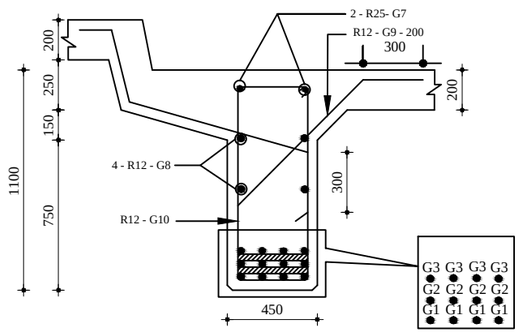
SECTION B - B(EXTERIOR DIAPHRAGM)

SCALE 1:25



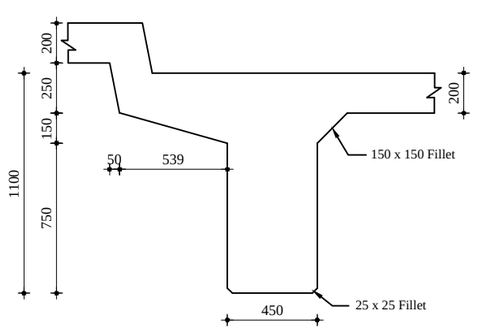
SECTION B - B(INTERIOR DIAPHRAGM)

SCALE 1:25



SECTION A - A

SCALE 1:30



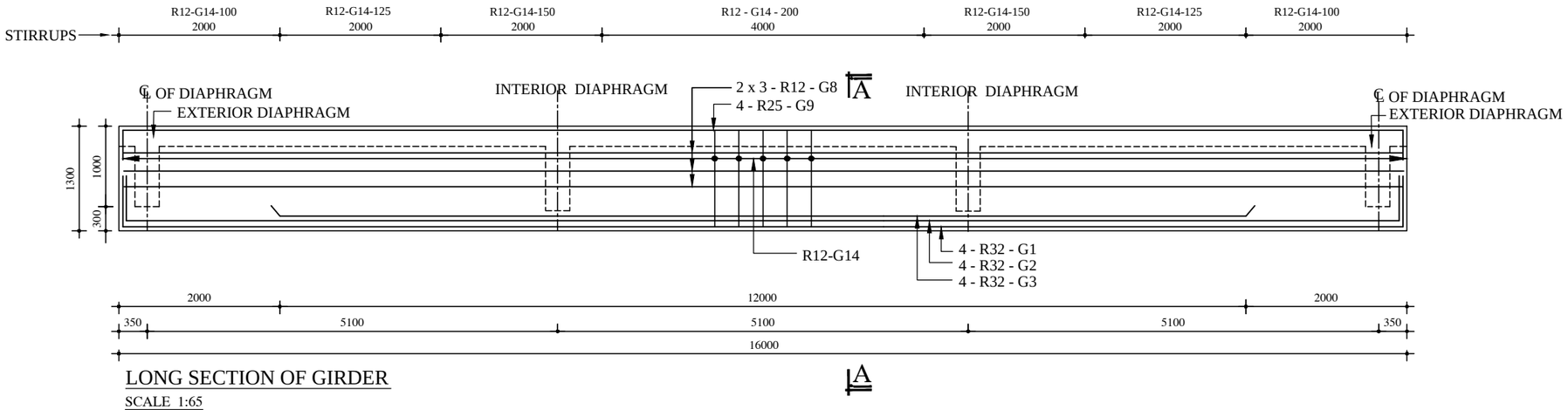
CROSS SECTION OF GIRDER

SCALE 1:30

NOTES:

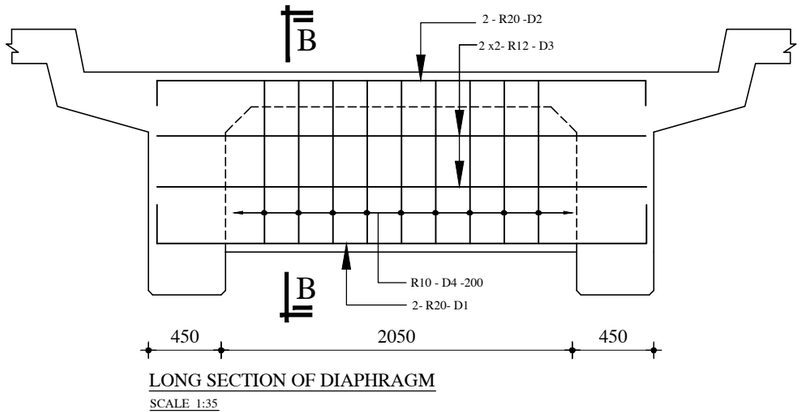
1. Minimum clear cover to main Reinforcement is to be 50mm. unless otherwise mentioned.
2. All dimensions are in millimetre unless otherwise mentioned.
3. 28 days Cylinder crushing strength of concrete: fc' = 25.00N/mm^2 (3600 psi)
4. Yield strength of mild steel deformed bar fy = 413N/mm^2 (60000psi)

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Details OF Girder Span 14m DRAWING NO. GR-02 PAGE NO. P-43



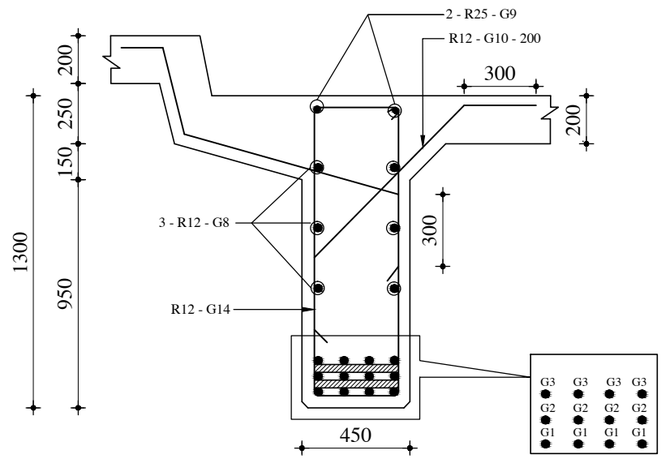
LONG SECTION OF GIRDER

SCALE 1:65



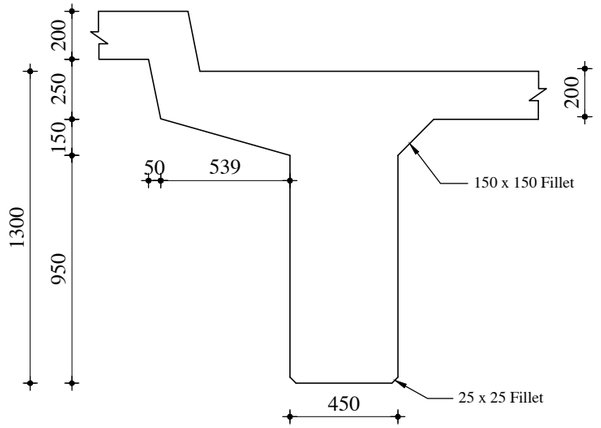
LONG SECTION OF DIAPHRAGM

SCALE 1:35



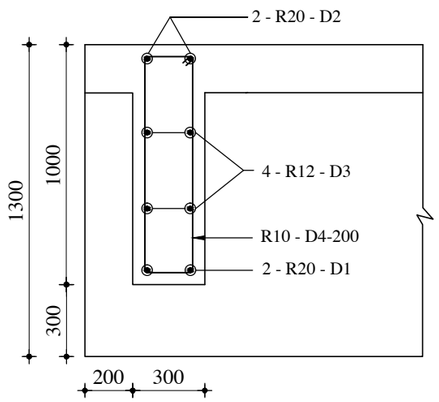
SECTION A - A

SCALE 1:25



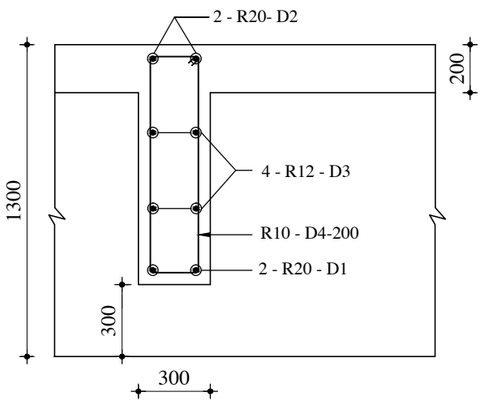
CROSS SECTION OF GIRDER

SCALE 1:25



SECTION B - B (EXTERIOR DIAPHRAGM)

SCALE 1:25



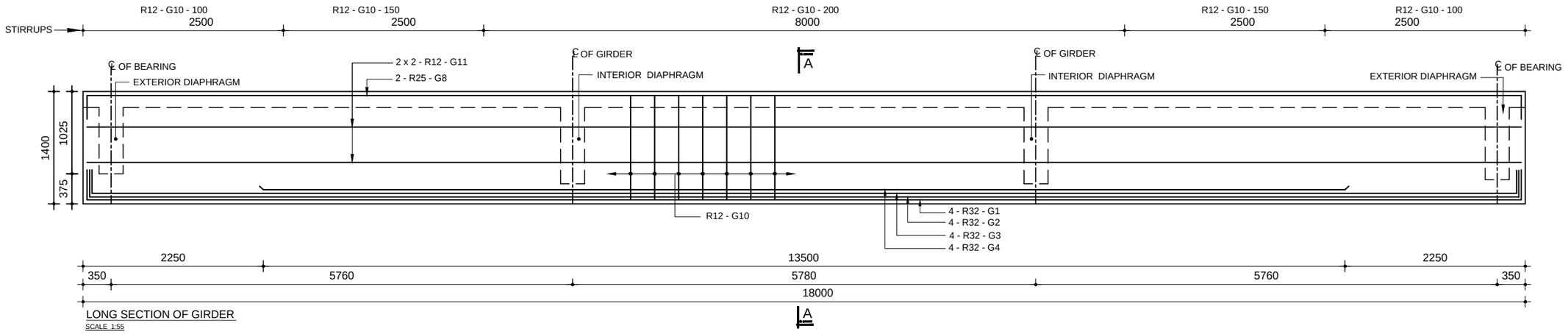
SECTION B - B (INTERIOR DIAPHRAGM)

SCALE 1:25

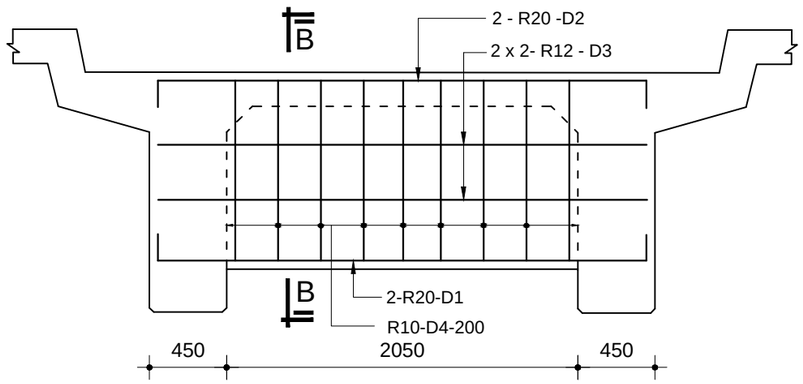
NOTES:

1. Minimum clear cover to main Reinforcement is to be 50mm. unless otherwise mentioned.
2. All dimensions are in millimetre unless otherwise mentioned.
3. 28 days Cylinder crushing strength of concrete: fc' = 25.00N/mm^2 (3600 psi)
4. Yield strength of mild steel deformed bar fy = 413N/mm^2(60000psi)

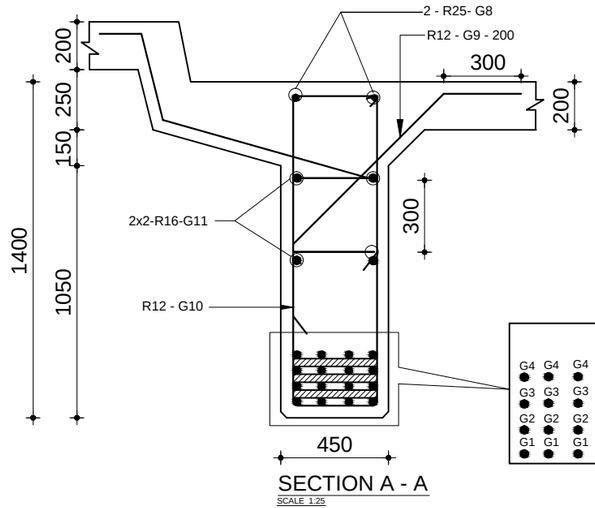
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE DETAILS OF GIRDER Span 16m DRAWING NO. GR-03 PAGE NO. P-44



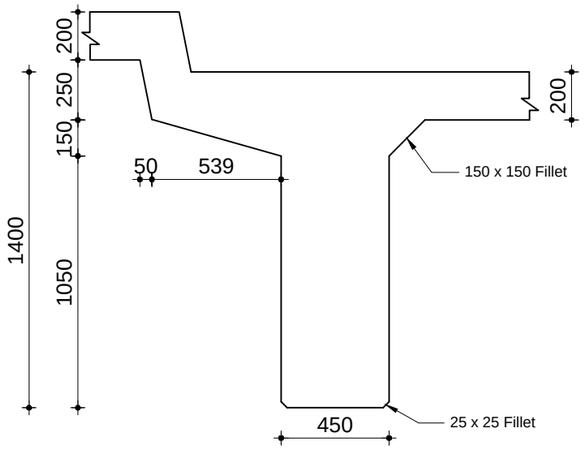
LONG SECTION OF GIRDER
SCALE 1:55



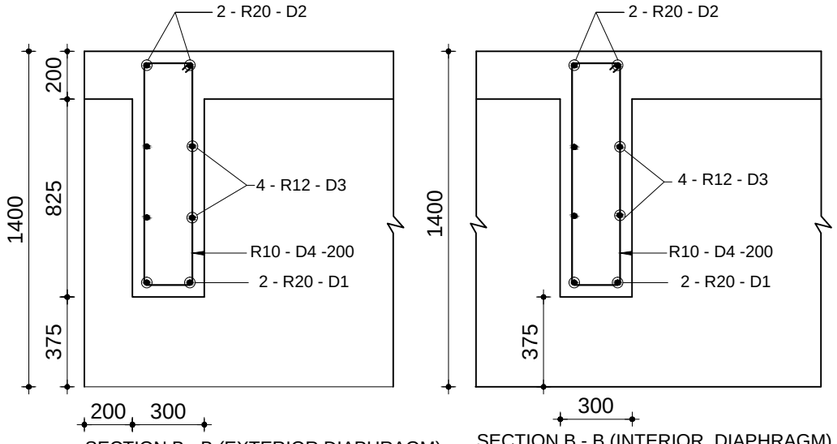
LONG SECTION OF DIAPHRAGM
SCALE 1:35



SECTION A - A
SCALE 1:25



CROSS SECTION OF GIRDER
SCALE 1:25



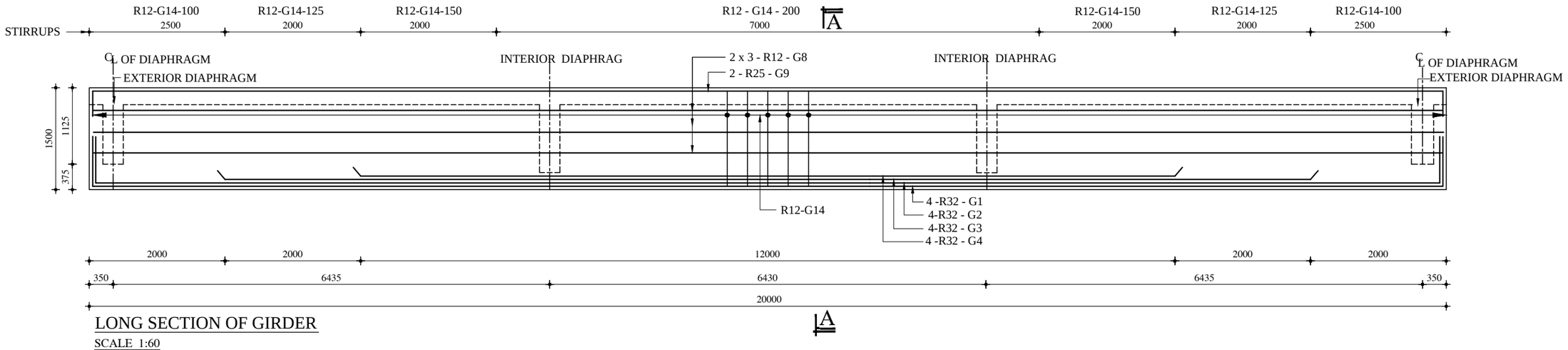
SECTION B - B (EXTERIOR DIAPHRAGM)
SCALE 1:25

SECTION B - B (INTERIOR DIAPHRAGM)
SCALE 1:25

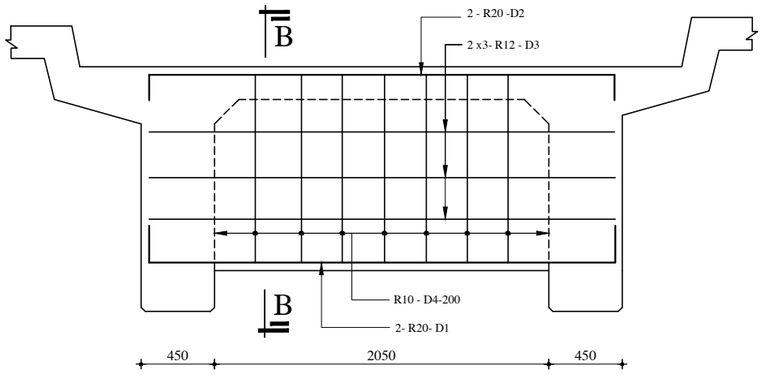
NOTES:

1. Minimum clear cover to main Reinforcement is to be 50mm. unless othrwise mentioned.
2. All dimensions are in millimetre unless otherwise mentioned.
3. 28 days Cylinder crushing strength of concrete: fc' = 25.00N/mm² (3600 psi)
4. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)

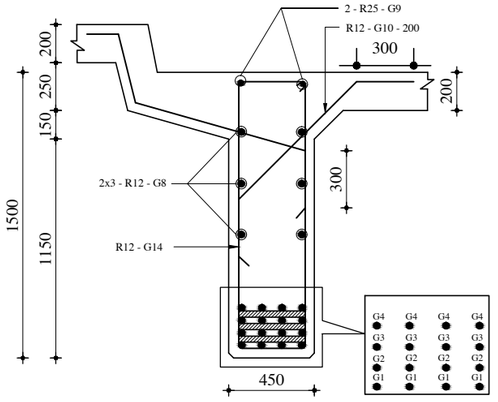
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE DETAILS OF GIRDER Span 18m DRAWING NO. GR-04 PAGE NO. P-45



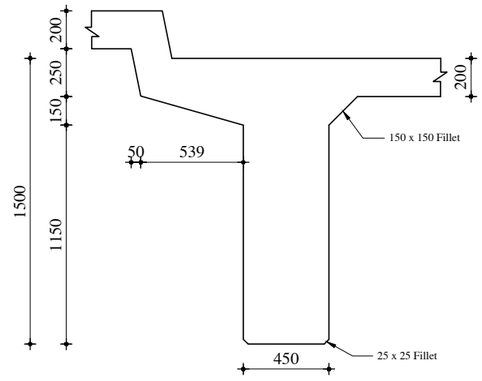
LONG SECTION OF GIRDER
SCALE 1:60



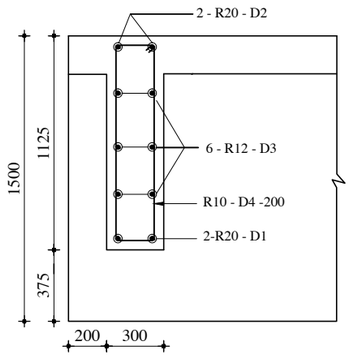
LONG SECTION OF DIAPHRAGM
SCALE 1:35



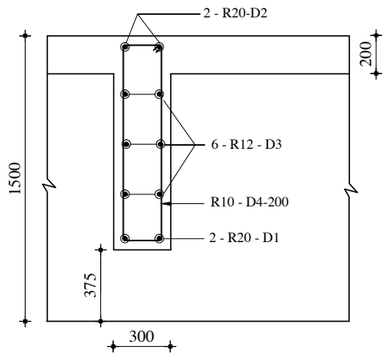
SECTION A - A
SCALE 1:30



CROSS SECTION OF GIRDER
SCALE 1:30



SECTION B - B (EXTERIOR DIAPHRAGM)
SCALE 1:30

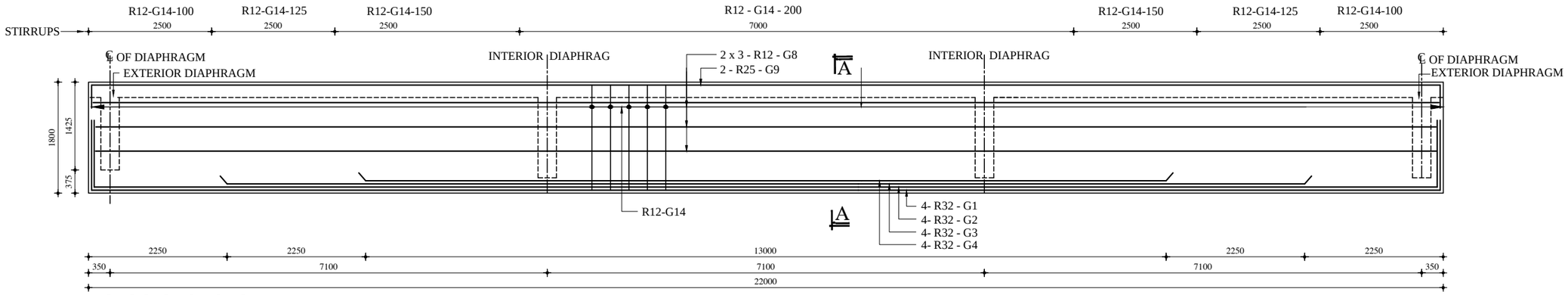


SECTION B - B (INTERIOR DIAPHRAG)
SCALE 1:30

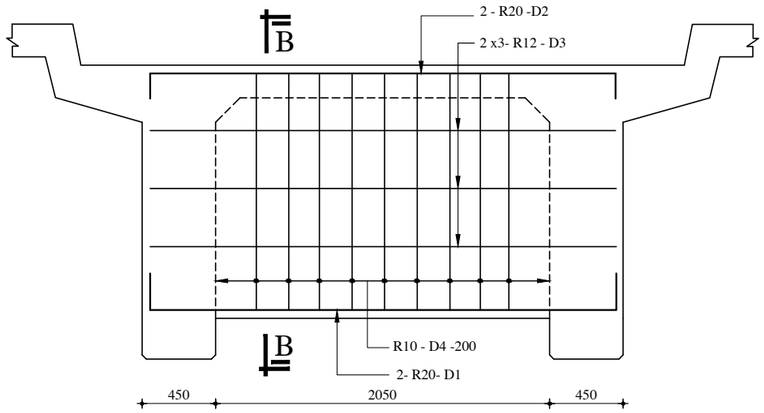
NOTES:

1. Minimum clear cover to main Reinforcement is to be 50mm. unless otherwise mentioned.
2. All dimensions are in millimetre unless otherwise mentioned.
3. 28 days Cylinder crushing strength of concrete: fc' = 25.00N/mm^2 (3600 psi)
4. Yield strength of mild steel deformed bar fy = 413N/mm^2(60000psi)

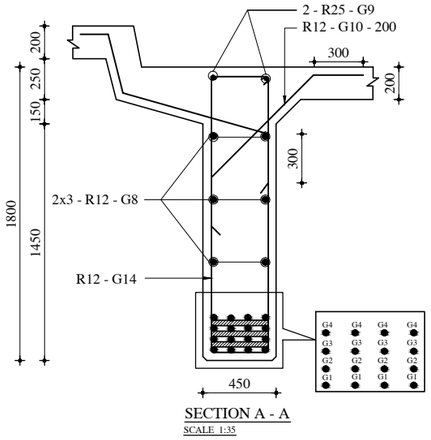
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Details Of Girder Span 20m DRAWING NO. GR-05 PAGE NO. P-46



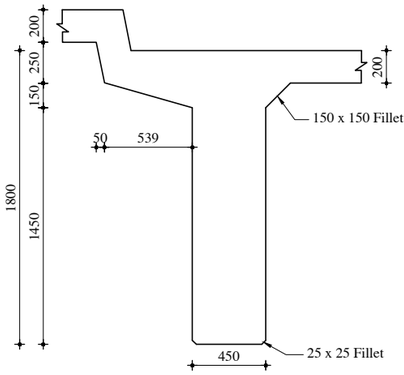
LONG SECTION OF GIRDER
SCALE 1:70



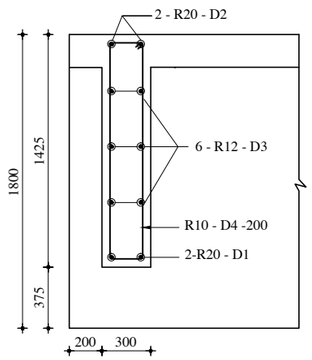
LONG SECTION OF DIAPHRAGM
SCALE 1:35



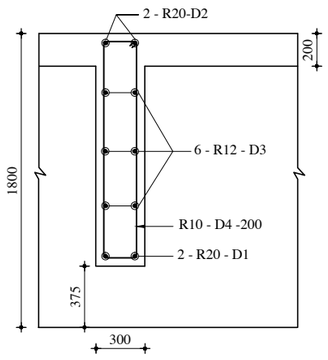
SECTION A - A
SCALE 1:35



CROSS SECTION OF GIRDER
SCALE 1:35



SECTION B - B (EXTERIOR DIAPHRAGM)
SCALE 1:35

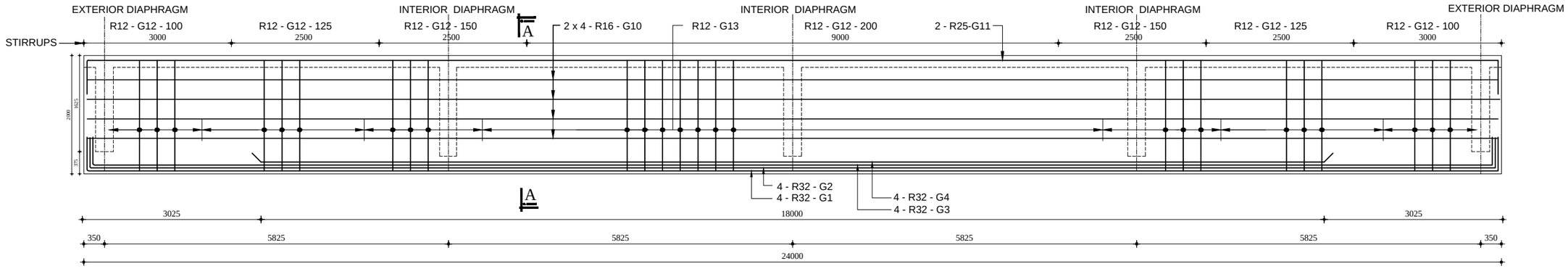


SECTION B - B (INTERIOR DIAPHRAG)
SCALE 1:35

NOTES:

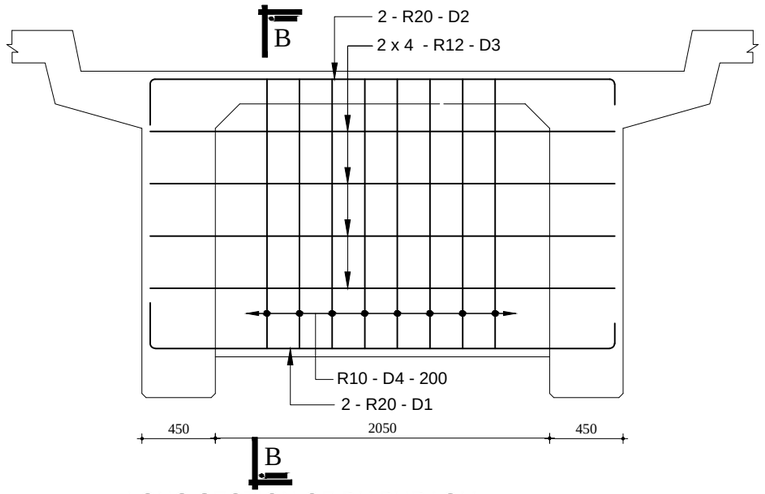
1. Minimum clear cover to main Reinforcement is to be 50mm. unless otherwise mentioned.
2. All dimensions are in millimetre unless otherwise mentioned.
3. 28 days Cylinder crushing strength of concrete: fc' = 25.00N/mm^2 (3600 psi)
4. Yield strength of mild steel deformed bar fy = 413N/mm^2(60000psi)

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Details Of Girder Span 22m DRAWING NO. GR-06 PAGE NO. P-47



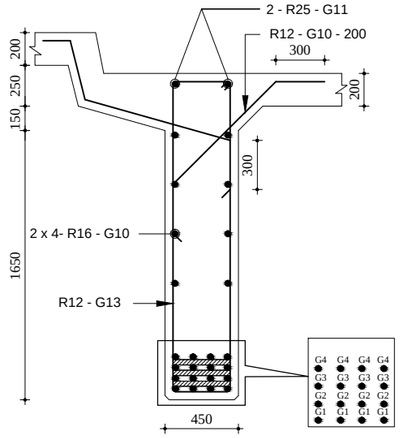
LONG SECTION OF GIRDER

SCALE 1:70



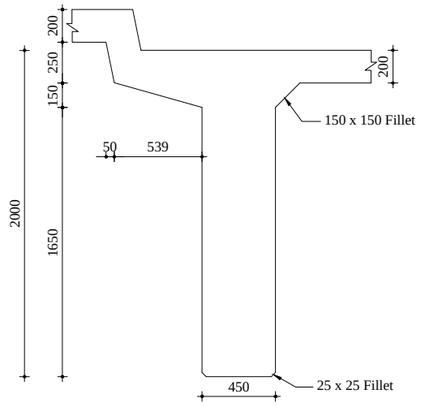
LONG SECTION OF DIAPHRAGM

SCALE 1:35



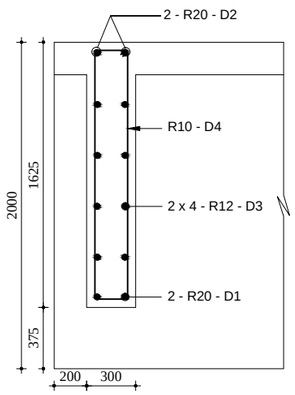
SECTION A - A

SCALE 1:35



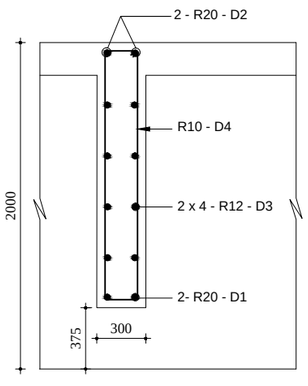
CROSS SECTION OF GIRDER

SCALE 1:35



SECTION B - B (EXTERIOR DIAPHRAGM)

SCALE 1:35



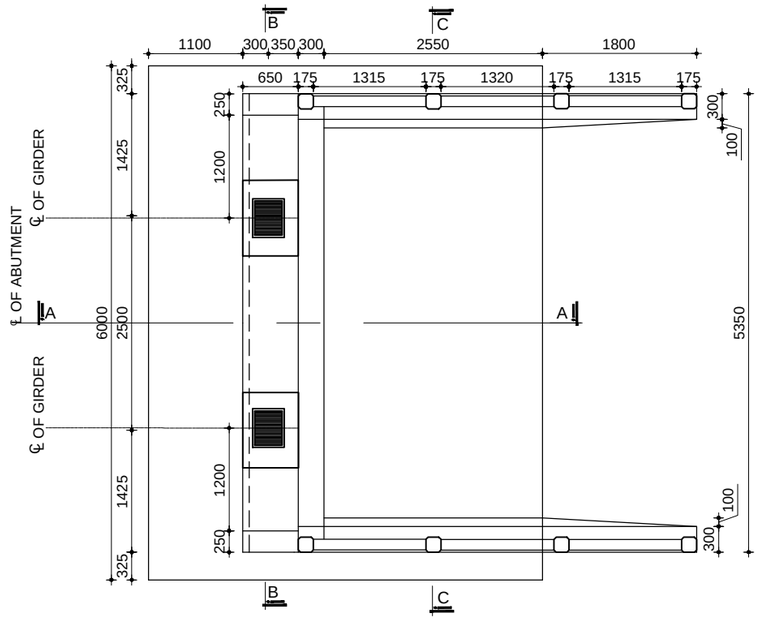
SECTION B - B (INTERIOR DIAPHRAGM)

SCALE 1:35

NOTES:

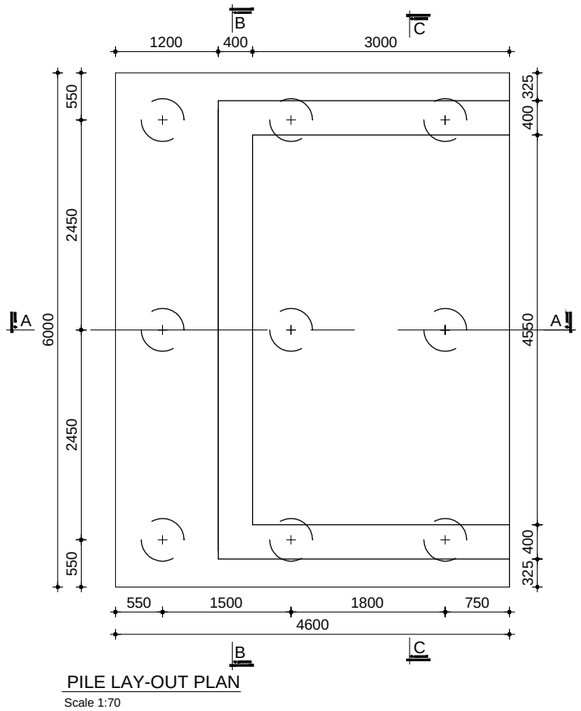
1. Minimum clear cover to main Reinforcement is to be 50mm. unless otherwise mentioned.
2. All dimensions are in millimetre unless otherwise mentioned.
3. 28 days Cylinder crushing strength of concrete: fc' = 25.00N/mm^2(3600 psi)
4. Yield strength of mild steel deformed bar fy = 413N/mm^2 (60000psi)

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Details of GIRDER Span 24m DRAWING NO. GR-07 PAGE NO. P-48



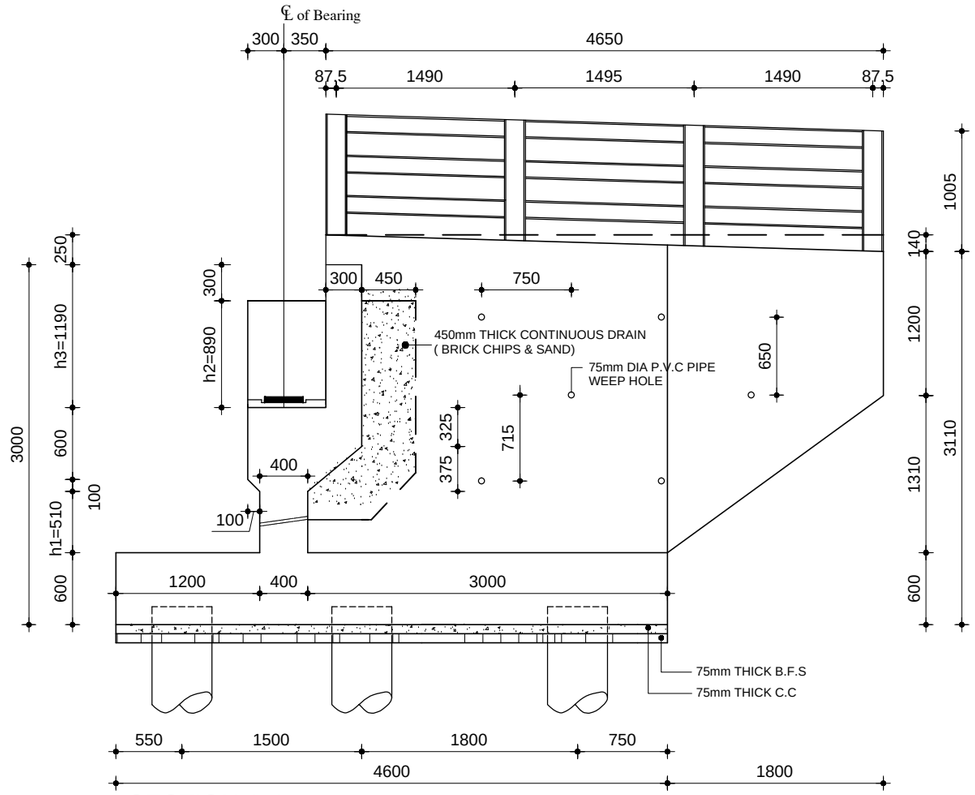
TOP PLAN OF ABUTMENT & WING WALL

Scale 1:70



PILE LAY-OUT PLAN

Scale 1:70



SECTION A-A

Scale 1:50

Abutment Height 3m. Table: 3a							
Span Length (m)	Girder Depth (mm)	h1(mm)	h2 (mm)	h3 (mm)	a1	a 2	a 3
12	1000	610	790	1090	300	350	300
14	1100	510	890	1190	300	350	300
16	1300	310	1090	1390	300	350	300

NOTES:

1. Abutment Details for 14m span.
2. For other span length Table No. 3a shall be followed.
3. All dimensions are in millimeter unless otherwise mentioned.
4. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
5. 28 days cylinder strength of concrete: f 'c = 25.00N/mm² (3600 psi)
6. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

PURAKAUSHAL PROJUKTI LIMITED

House # C10, Road # 4 ,Banasree, Rampura- 1219.
E-maill: pproiltd@yahoo.com

NAME OF PROJECT:

LOCATION:

UPAZILA:

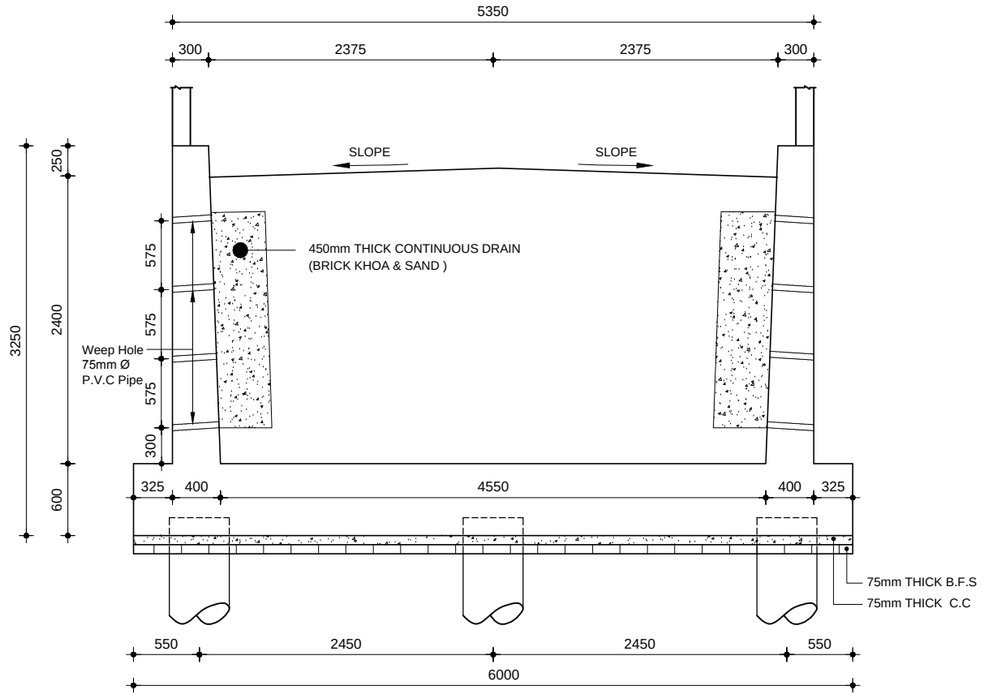
DISTRICT:

DRAWING TITLE

Details of Abutment
Span14m. Abutment Height 3m.

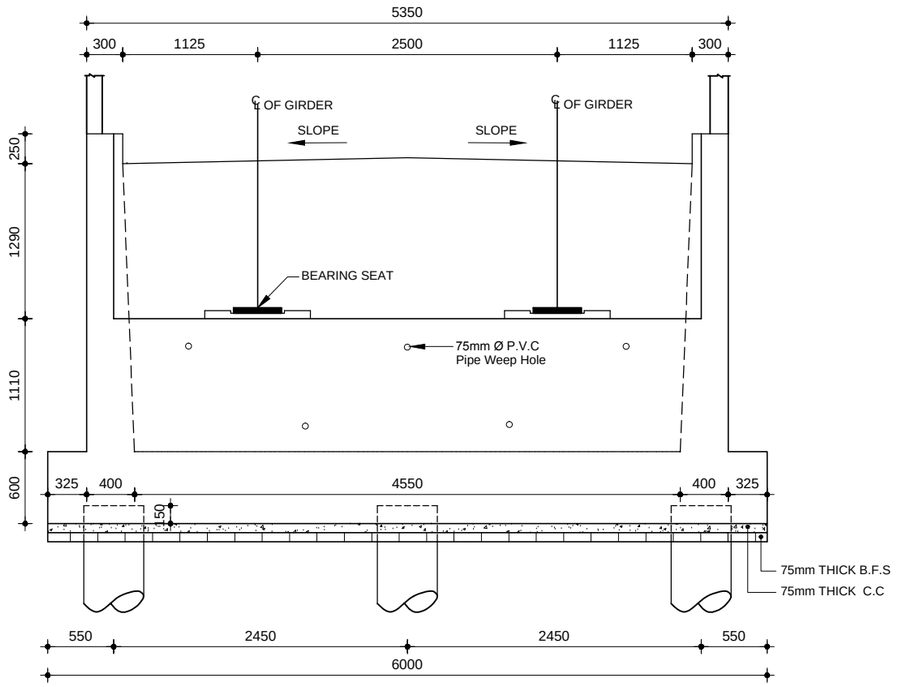
DRAWING NO. AB-001

PAGE NO. P-49



SECTION C - C

Scale 1:50



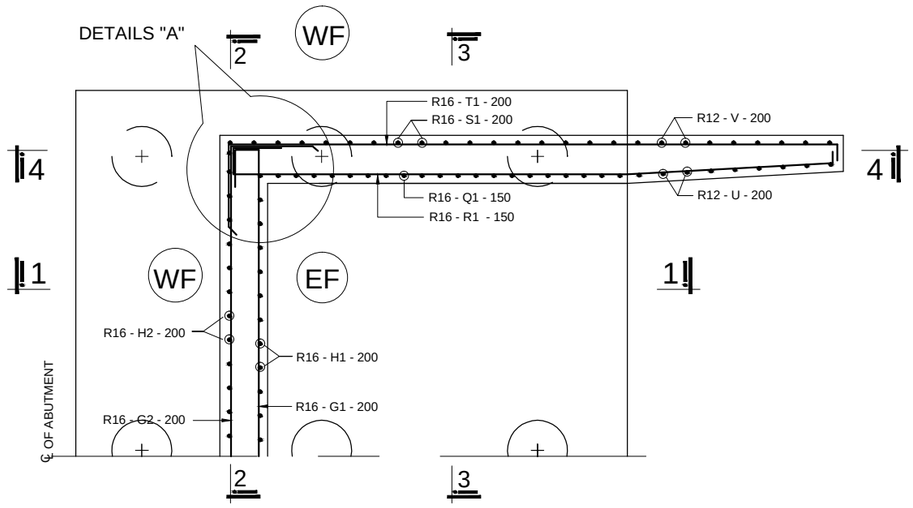
SECTION B - B

Scale 1:50

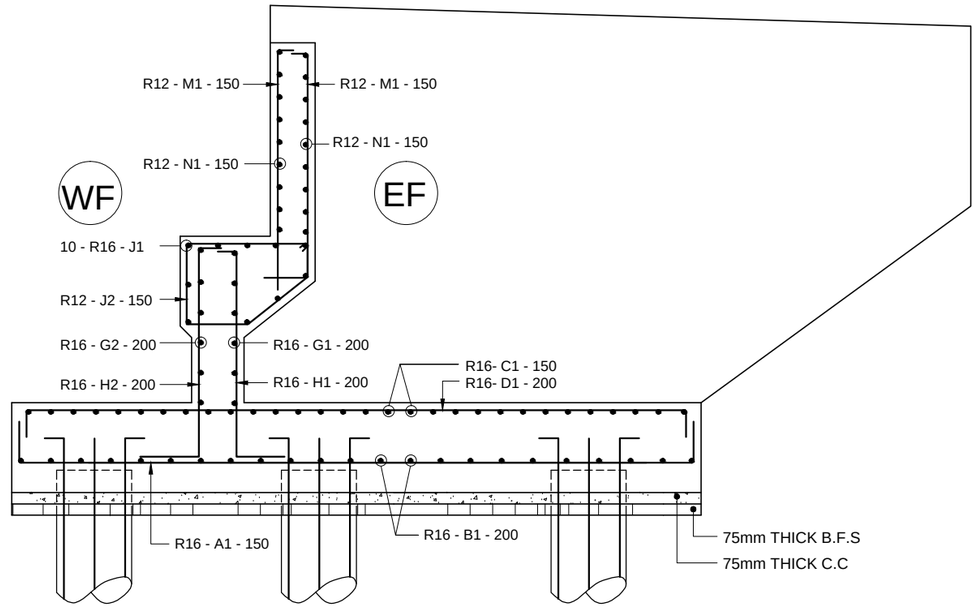
NOTES:

1. All dimensions are in millimeter unless otherwise mentioned.
2. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
3. 28 days cylinder strength of concrete: f 'c = 25.0N/mm² (3600 psi)
4. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)

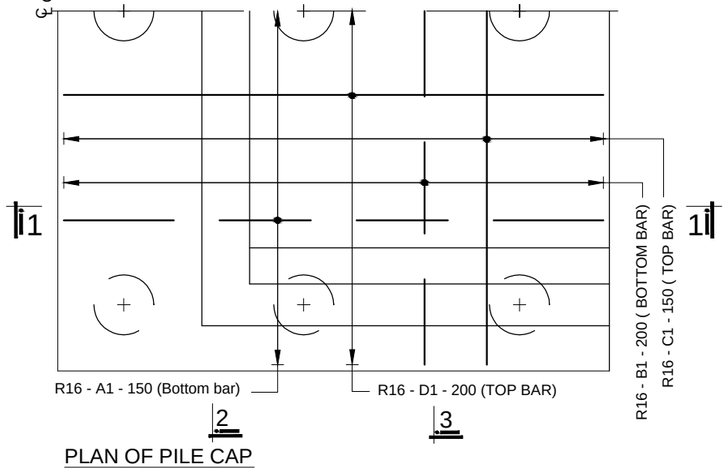
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Sectional Elevation of Abutment & Wing wall, Span14m. Abutment Height 3m. DRAWING NO. AB-002 PAGE NO. P-50



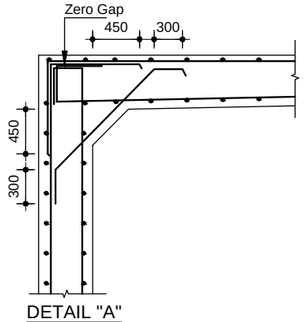
PLAN OF ABUTMENT & WINGWALL STEMS
SHOWING REINFORCEMENT



CROSS SECTION OF ABUTMENT (SECTION 1-1)
SHOWING REINFORCEMENT
Scale 1:40



PLAN OF PILE CAP
SHOWING REINFORCEMENT
Scale 1:50

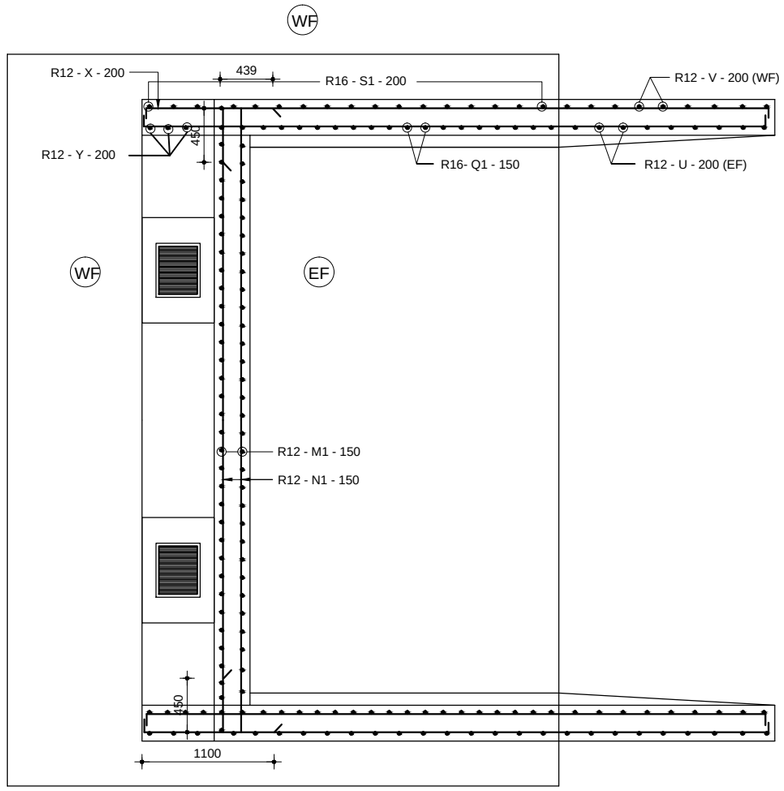


DETAIL "A"
Scale 1:50

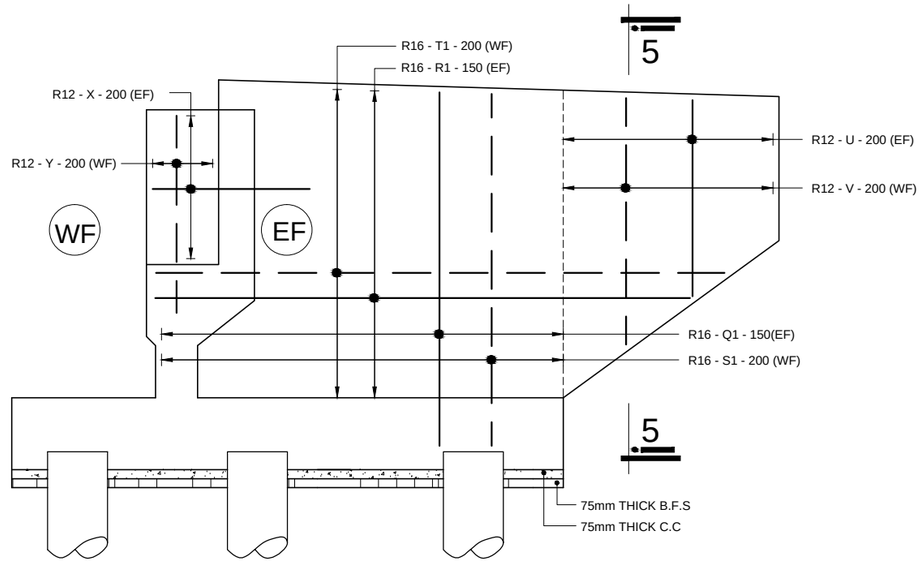
NOTES:

1. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
2. 28 days cylinder strength of concrete: f 'c = 25.0N/mm² (3600 psi)
3. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)
4. EF = Earth Face WF = Water Face

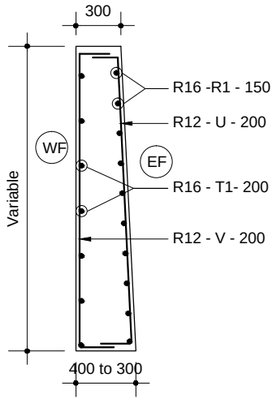
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Reinf. Details of Abutment & Wing wall, Span14m. Abutment Height 3m. DRAWING NO. AB-003 PAGE NO. P-51



TOP PLAN OF BALLAST WALL & WINGWALL
SHOWING TOP REINFORCEMENT
Scale 1:50



SECTIONAL ELEVATION OF WINGWALL (SEC. 4 - 4)
SHOWING TOP REINFORCEMENT
Scale 1:50

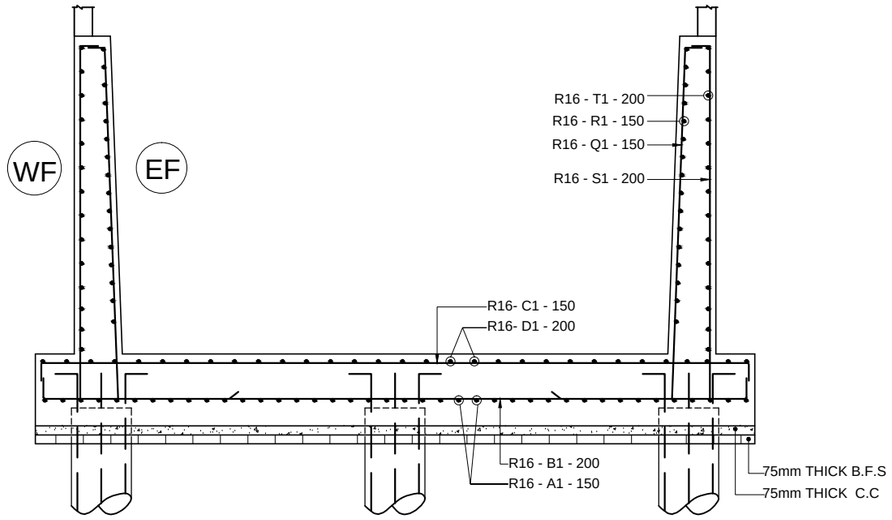


SEC. 5 - 5
Scale 1:40

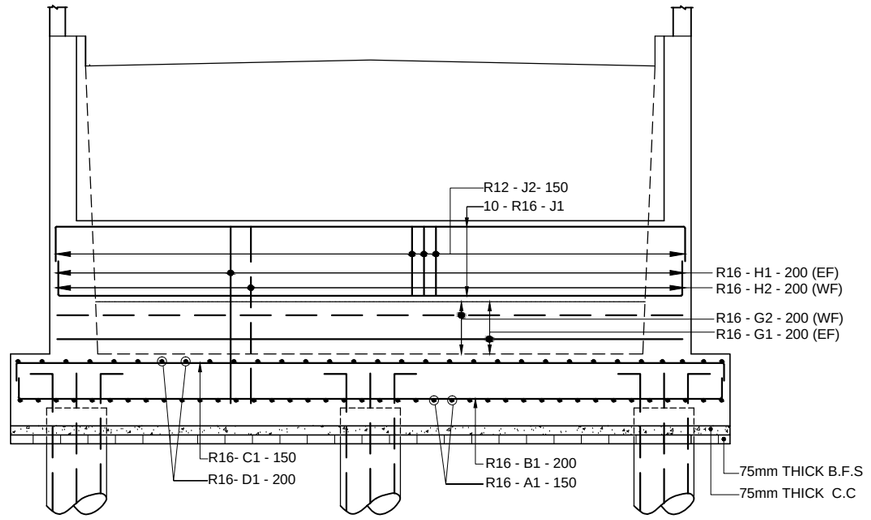
NOTES:

1. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
2. 28 days cylinder strength of concrete: f 'c = 25.0N/mm² (3600 psi)
3. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)
4. EF = Earth Face, WF = Water Face

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Reinf. Details of Abutment & Wing wall, Span14m. Abutment Height 3m. DRAWING NO. AB-004 PAGE NO. P-52



CROSS SECTION OF WINGWALL (SEC. 3 - 3)
SHOWING REINFORCEMENT
Scale 1:50

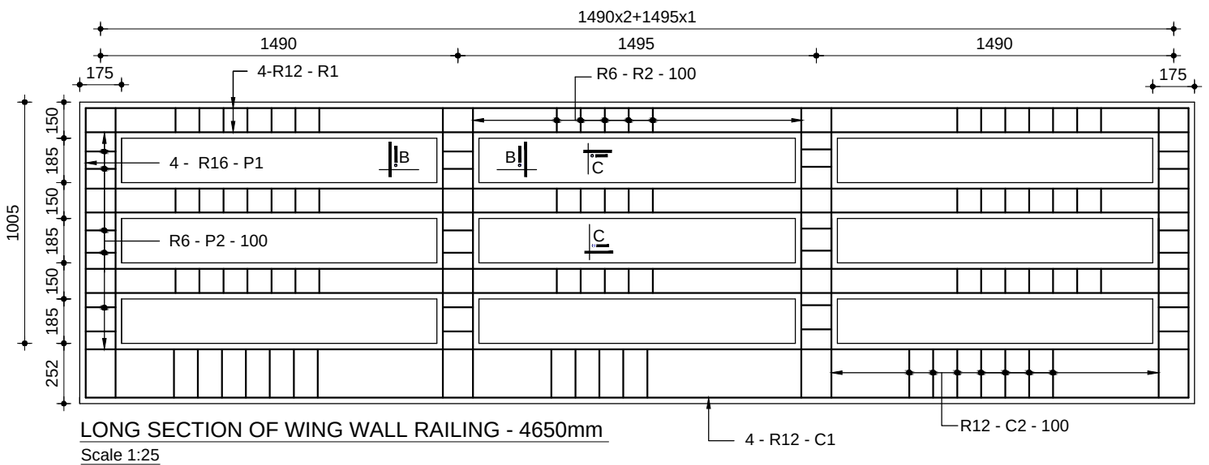


SECTIONAL FRONT ELEVATION OF ABUTMENT (SEC. 2 - 2)
SHOWING REINFORCEMENT
Scale 1:50

NOTES:

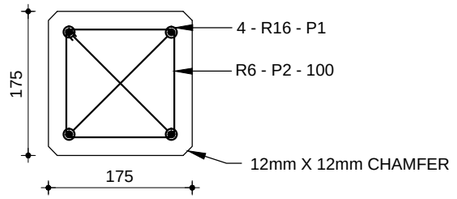
1. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
2. 28 days cylinder strength of concrete: f 'c = 25.0N/mm² (3600 psi)
3. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)
4. EF = Earth Face, WF = Water Face

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Cross Section of Wing wall Showing Reinf. Details, Span14m. Abutment Height 3m. DRAWING NO. AB-005 PAGE NO. P-53



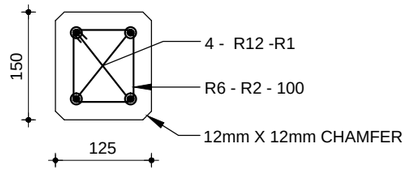
LONG SECTION OF WING WALL RAILING - 4650mm

Scale 1:25



SECTION. B - B

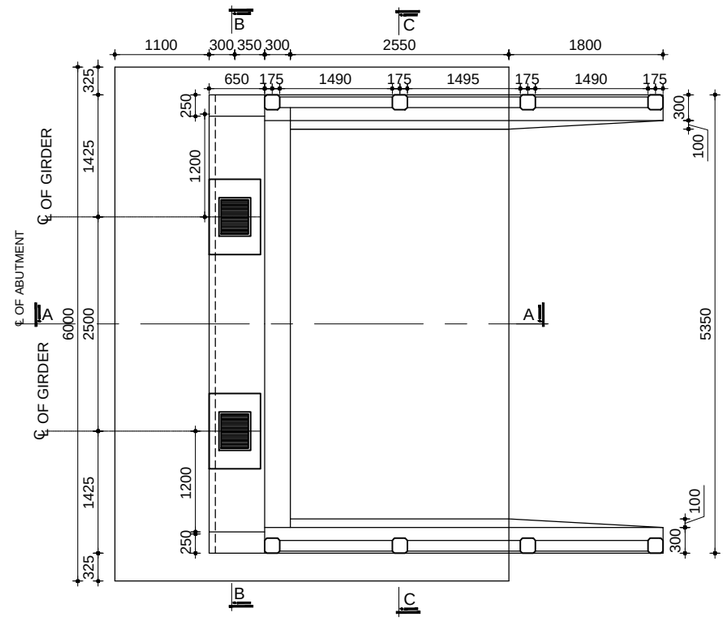
RAIL POST



SECTION. C - C

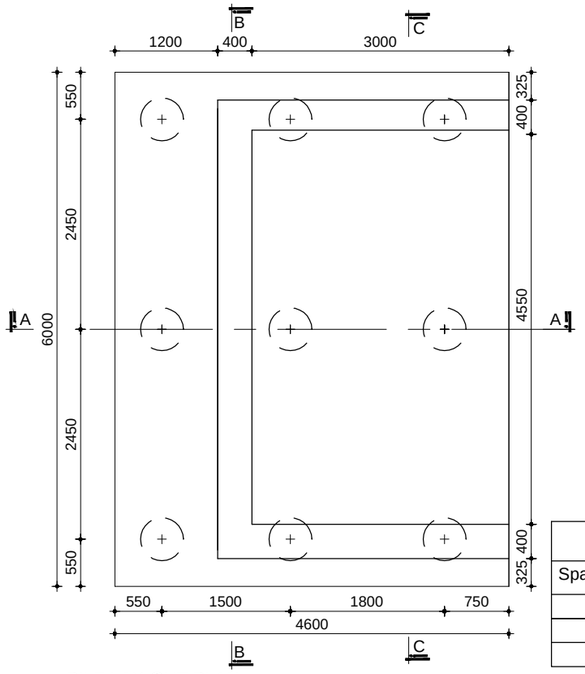
RAIL BAR

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Details of Railing on Wing wall Span14m. Abutment Height 3m. DRAWING NO. AB-006 PAGE NO. P-54



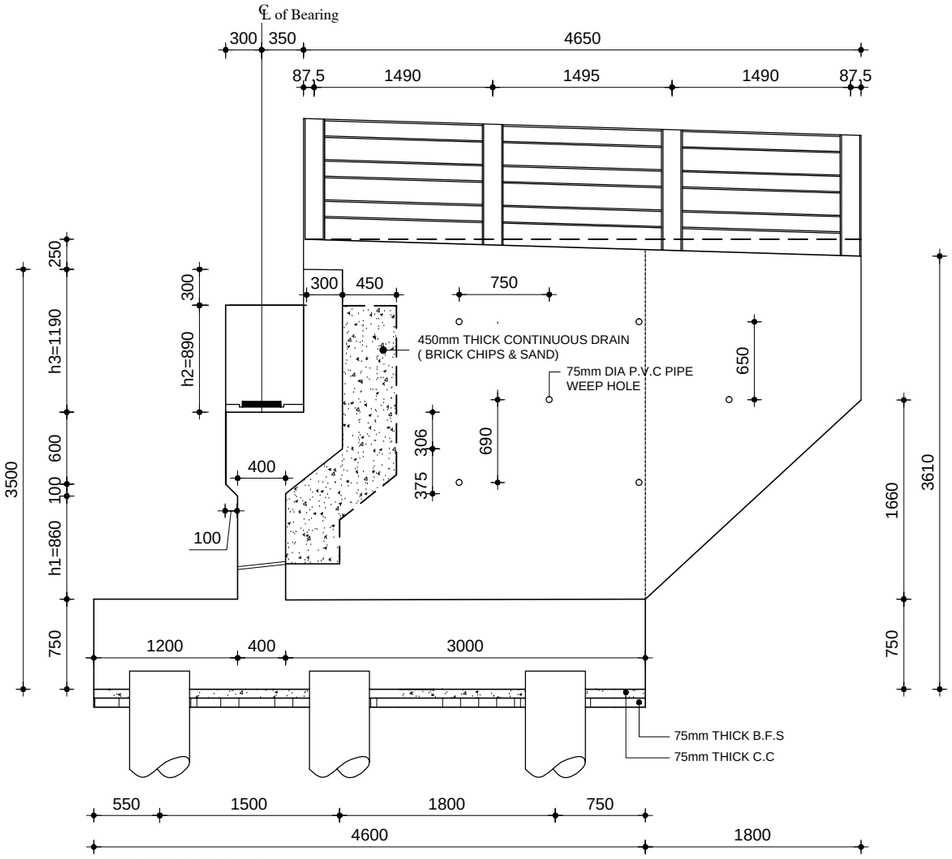
TOP PLAN OF ABUTMENT & WING WALL

Scale 1:65



PILE LAY-OUT PLAN

Scale 1:70



SECTION A-A

Scale 1:50

Abutment Height 3.5m. Table: 3b							
Span Length (m)	Girder Depth (mm)	h1(mm)	h2 (mm)	h3 (mm)	a1	a 2	a 3
12	1000	960	790	1090	300	350	300
14	1100	860	890	1190	300	350	300
16	1300	660	1090	1390	300	350	300

NOTES:

1. Abutment Details for 14m span.
2. For other span length Table No. 3b shall be followed.
3. All dimensions are in millimeter unless otherwise mentioned.
4. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
5. 28 days cylinder strength of concrete: f 'c = 25.00N/mm² (3600 psi)
6. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

PURAKAUSHAL PROJUKTI LIMITED

House # C10, Road # 4 ,Banasree, Rampura- 1219.
E-maill: pproiltd@yahoo.com

NAME OF PROJECT:

LOCATION:

UPAZILA:

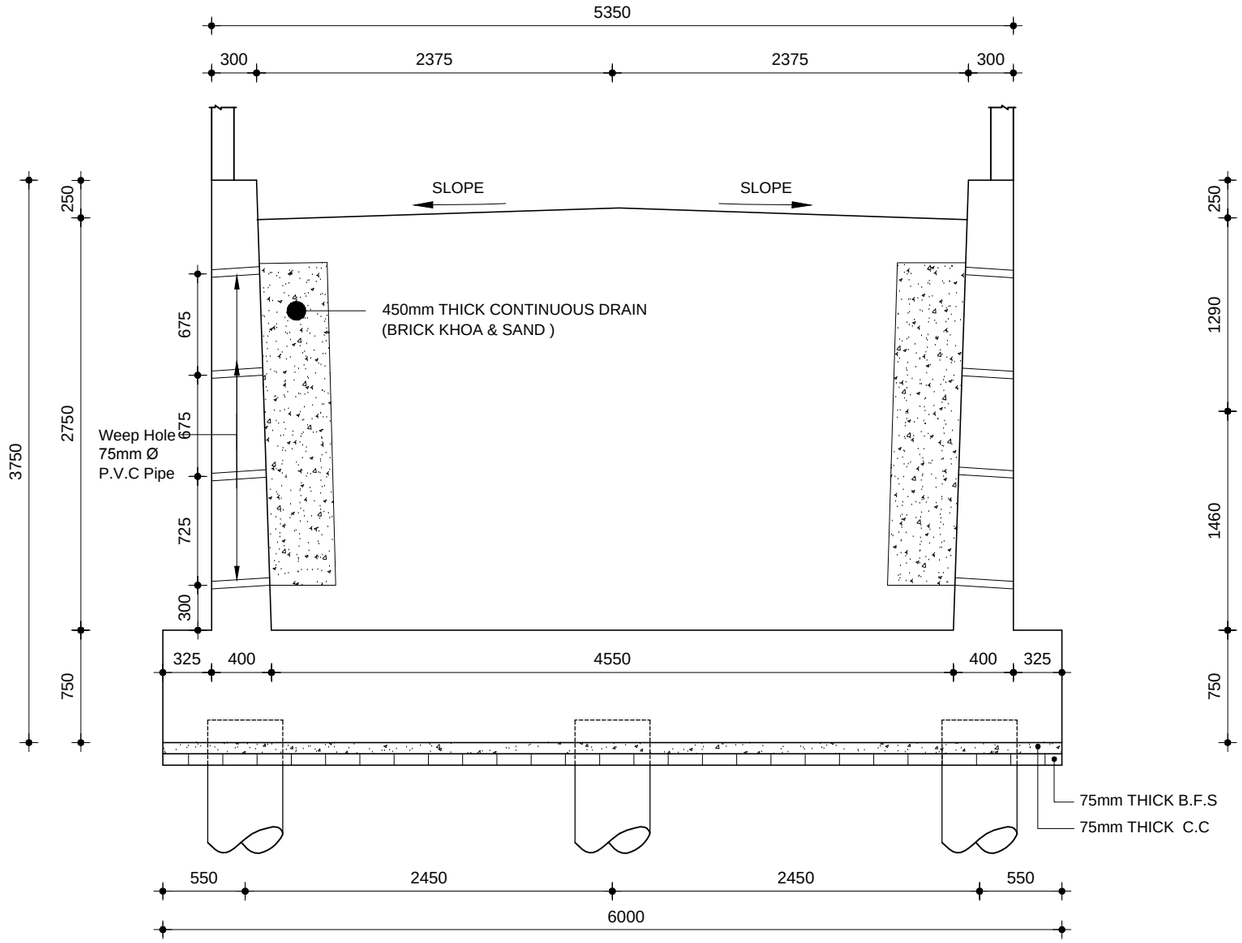
DISTRICT:

DRAWING TITLE

Details of Abutment
Span14m. Abutment Height 3.5m.

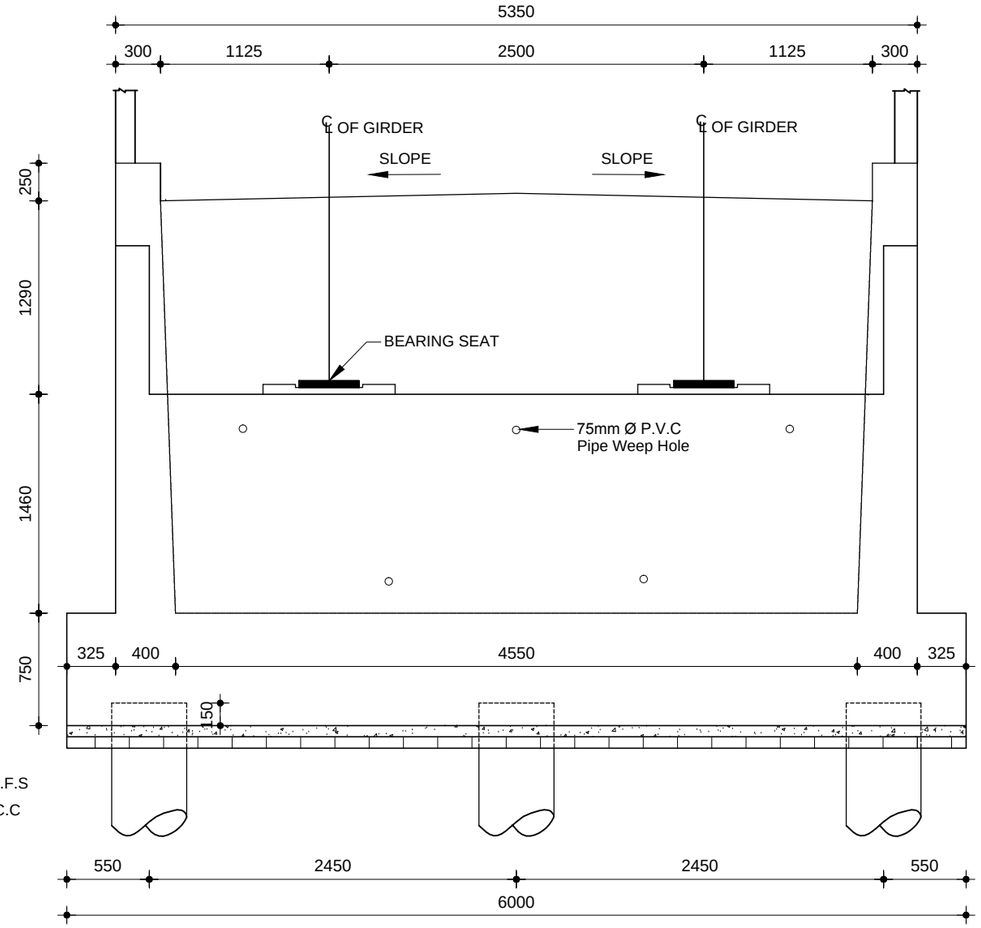
DRAWING NO. AB-101

PAGE NO. P-55



SECTION C - C

Scale 1:40



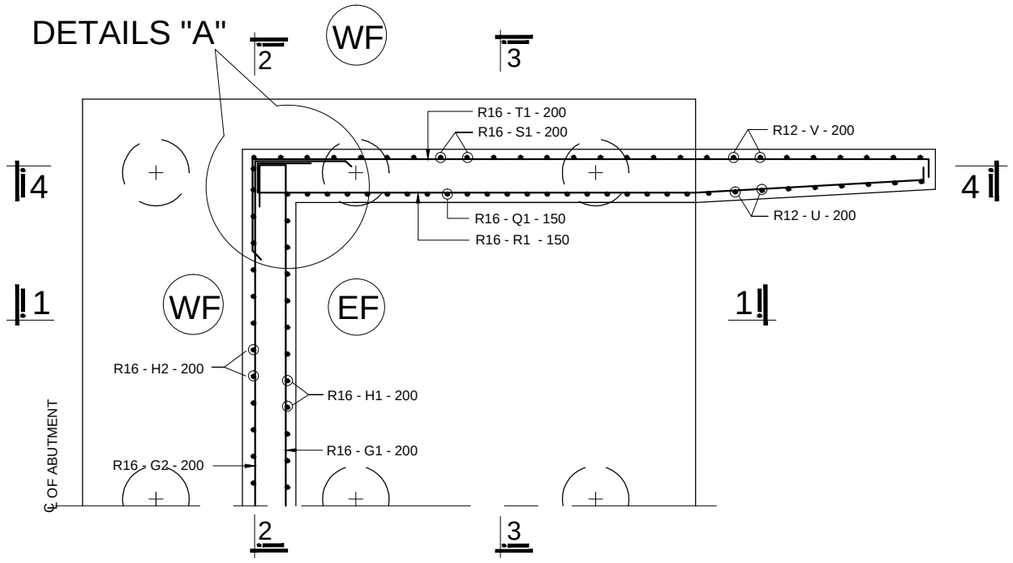
SECTION B - B

Scale 1:40

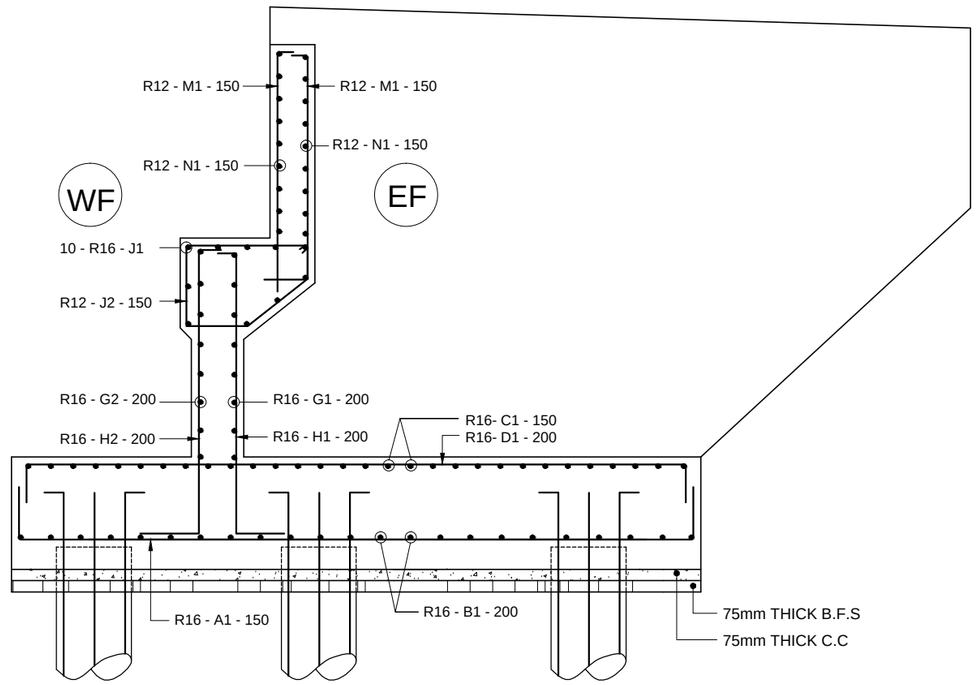
NOTES:

1. All dimensions are in millimeter unless otherwise mentioned.
2. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
3. 28 days cylinder strength of concrete: f 'c = 25.0N/mm² (3600 psi)
4. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)

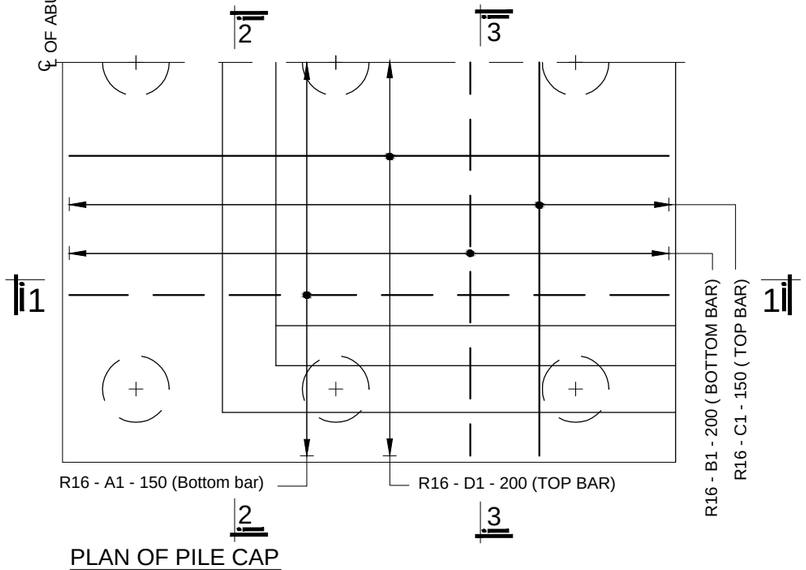
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Sectional Elevation of Abutment & Wing wall, Span14m. Abutment Height 3.5m. DRAWING NO. AB-102 PAGE NO. P-56



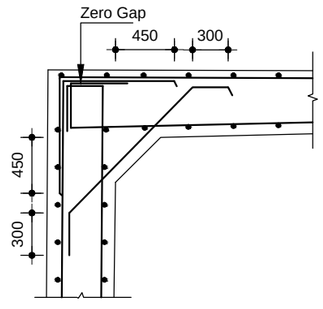
PLAN OF ABUTMENT & WINGWALL STEMS
SHOWING REINFORCEMENT
Scale 1:45



CROSS SECTION OF ABUTMENT (SECTION 1-1)
SHOWING REINFORCEMENT
Scale 1:40



PLAN OF PILE CAP
SHOWING REINFORCEMENT
Scale 1:45

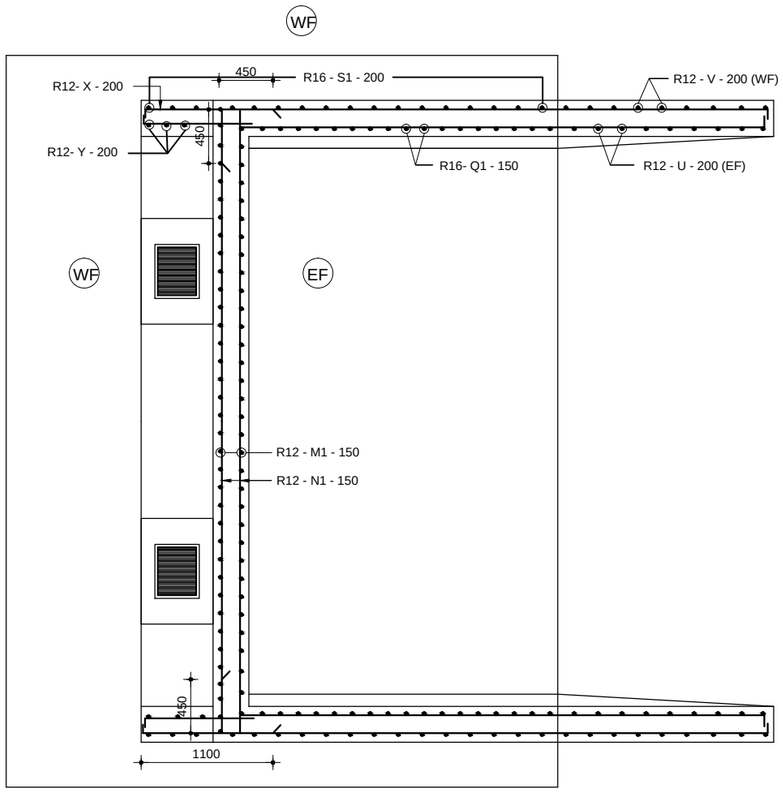


DETAIL "A"
Scale 1:40

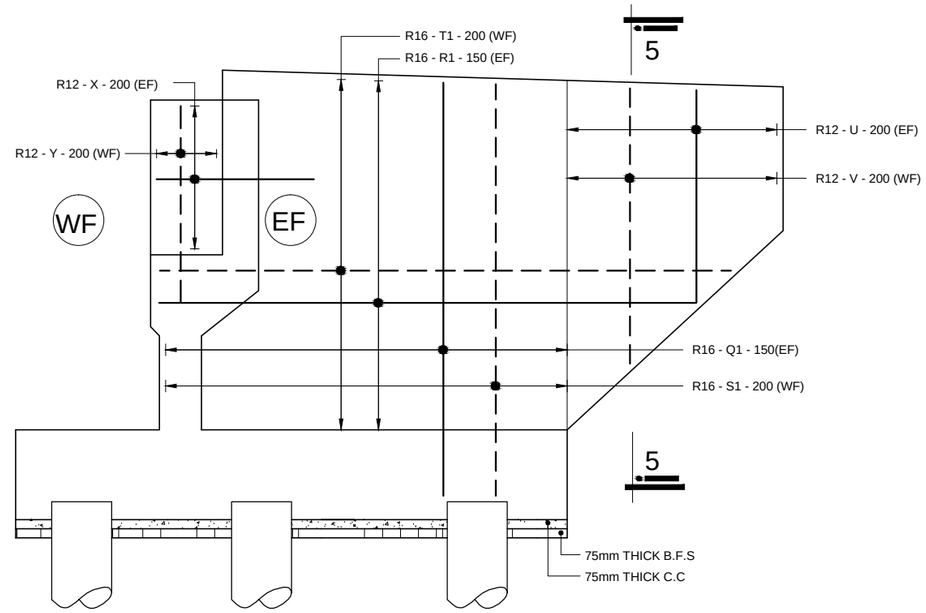
NOTES:

1. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
2. 28 days cylinder strength of concrete: f 'c = 25.0N/mm² (3600 psi)
3. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)
4. EF = Earth Face WF = Water Face

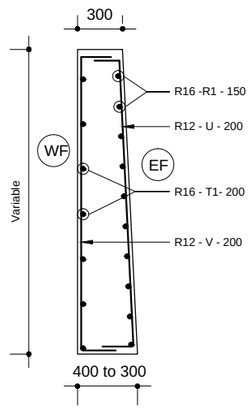
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Reinf. Details of Abutment & Wing wall, Span14m. Abutment Height 3.5m. DRAWING NO. AB-103 PAGE NO. P-57



TOP PLAN OF BALLAST WALL & WINGWALL
SHOWING TOP REINFORCEMENT
Scale 1:50



SECTIONAL ELEVATION OF WINGWALL (SEC. 4 - 4)
SHOWING TOP REINFORCEMENT
Scale 1:50

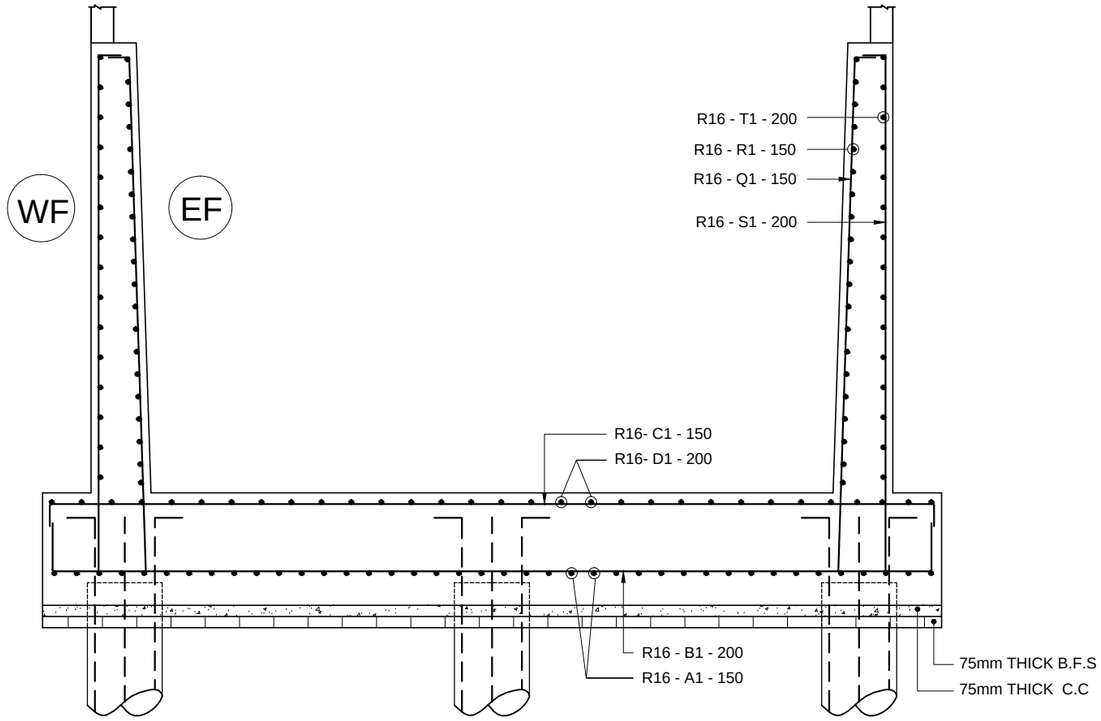


SEC. 5 - 5
Scale 1:40

NOTES:

1. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
2. 28 days cylinder strength of concrete: f 'c = 25.0N/mm² (3600 psi)
3. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)
4. EF = Earth Face, WF = Water Face

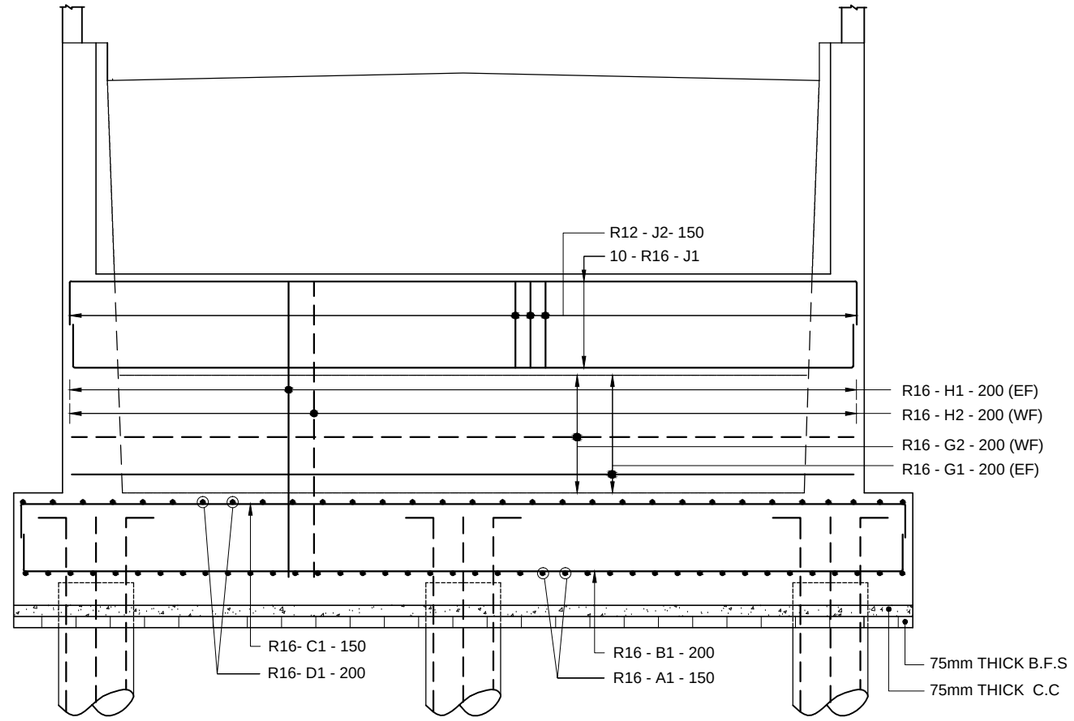
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Reinf. Details of Abutment & Wing wall, Span14m. Abutment Height 3.5m. DRAWING NO. AB-104 PAGE NO. P-58



CROSS SECTION OF WINGWALL (SEC. 3 - 3)

SHOWING REINFORCEMENT

Scale 1:40



SECTIONAL FRONT ELEVATION OF ABUTMENT (SEC. 2 - 2)

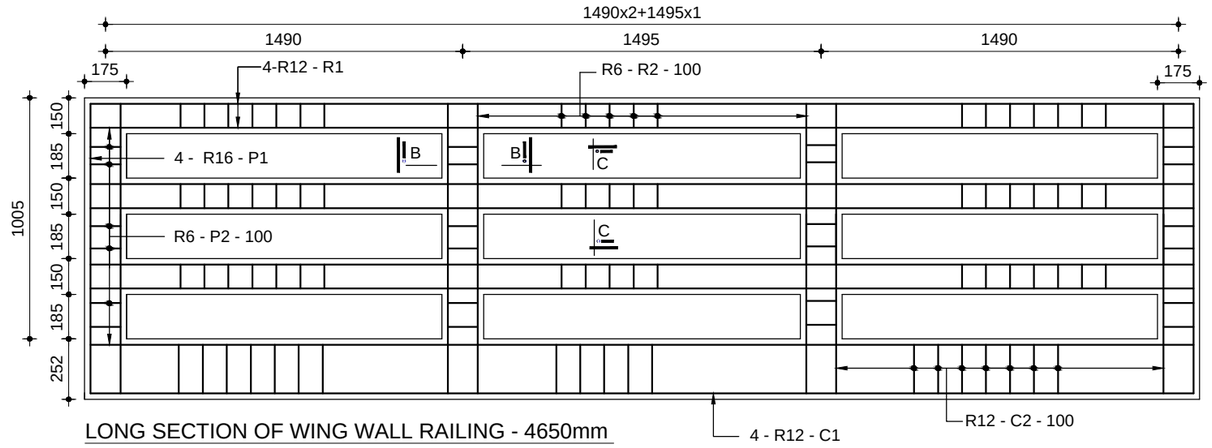
SHOWING REINFORCEMENT

Scale 1:40

NOTES:

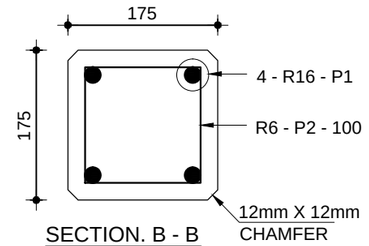
1. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
2. 28 days cylinder strength of concrete: f 'c = 25.0N/mm² (3600 psi)
3. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)
4. EF = Earth Face, WF = Water Face

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Cross Section of Wing wall Showing Reinf. Details, Span14m. Abutment Height 3.5m. DRAWING NO. AB-105 PAGE NO. P-59



LONG SECTION OF WING WALL RAILING - 4650mm

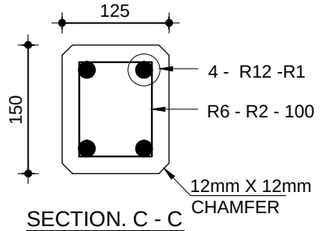
Scale 1:25



SECTION. B - B

RAIL POST

Scale 1:7

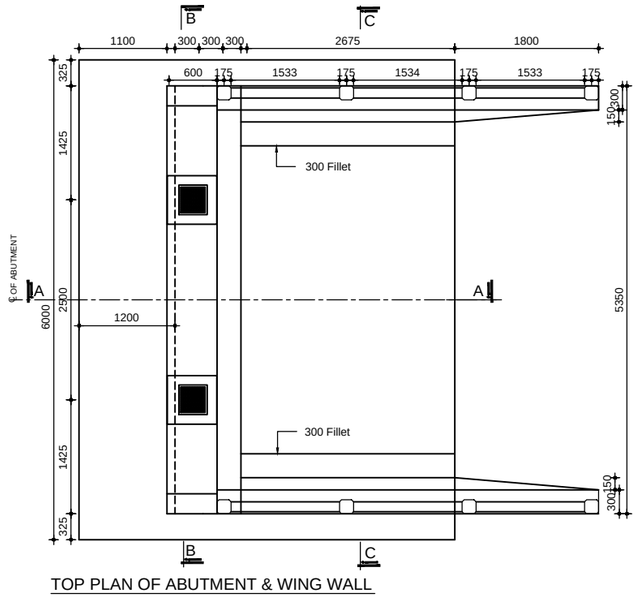


SECTION. C - C

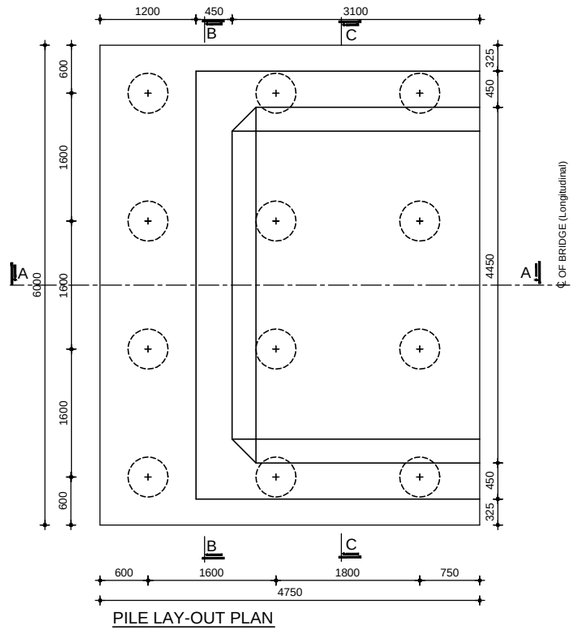
RAIL BAR

Scale 1:7

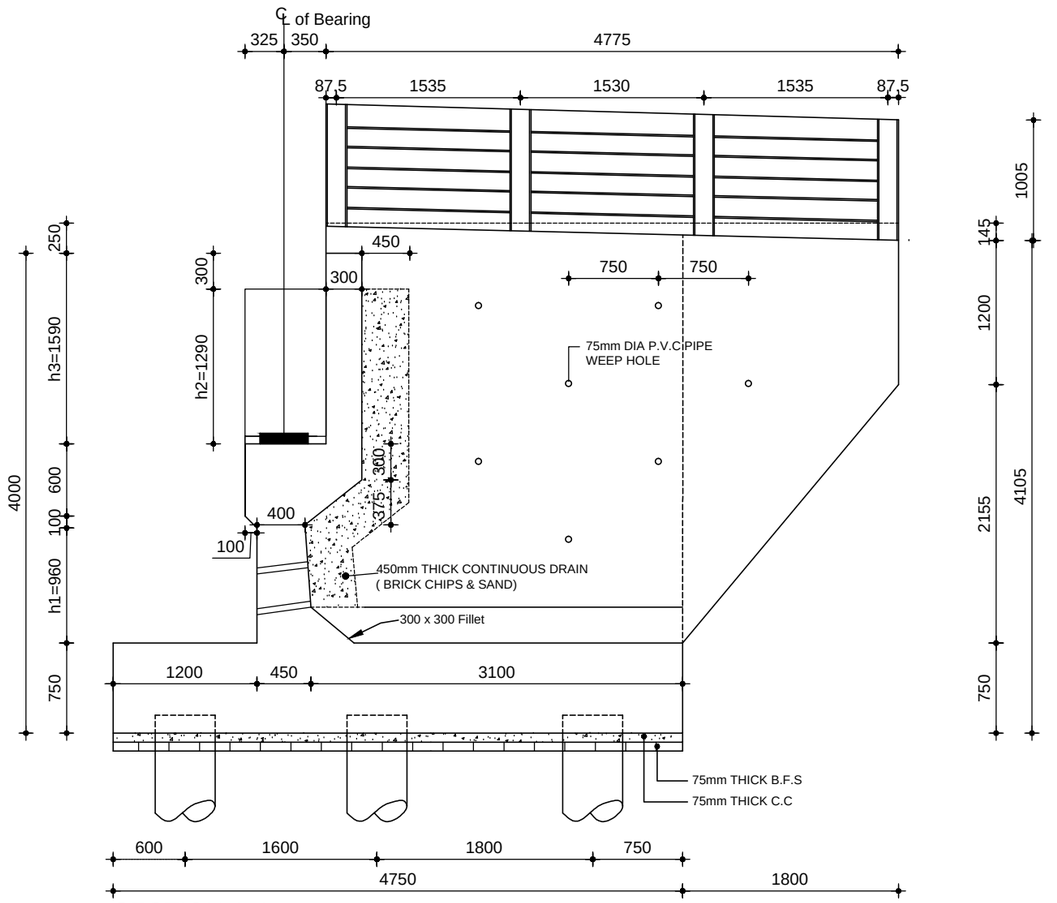
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Details of Railing on Wing wall, Span14m. Abutment Height 3.5m. DRAWING NO. AB-106 PAGE NO. P-60



TOP PLAN OF ABUTMENT & WING WALL



PILE LAY-OUT PLAN
Scale 1:75



SECTION A-A
Scale 1:50

Abutment Height 4m. Table: 4a							
Span Length (m)	Girder Depth (mm)	h1(mm)	h2 (mm)	h3 (mm)	a1	a2	a3
12	1000	1460	790	1090	300	350	300
14	1100	1360	890	1190	300	350	300
16	1300	1160	1090	1390	300	350	300
18	1400	1060	1190	1490	300	350	300
20	1500	960	1290	1590	300	350	300

NOTES:

1. Abutment Details for 20m span.
2. For other span length Table No. 4a shall be followed.
3. All dimensions are in millimeter unless otherwise mentioned.
4. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
5. 28 days cylinder strength of concrete: f 'c = 25.00N/mm² (3600 psi)
6. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

PURAKAUSHAL PROJUKTI LIMITED

House # C10, Road # 4 ,Banasree, Rampura- 1219.
E-maill: pproiltd@yahoo.com

NAME OF PROJECT:

LOCATION:

UPAZILA:

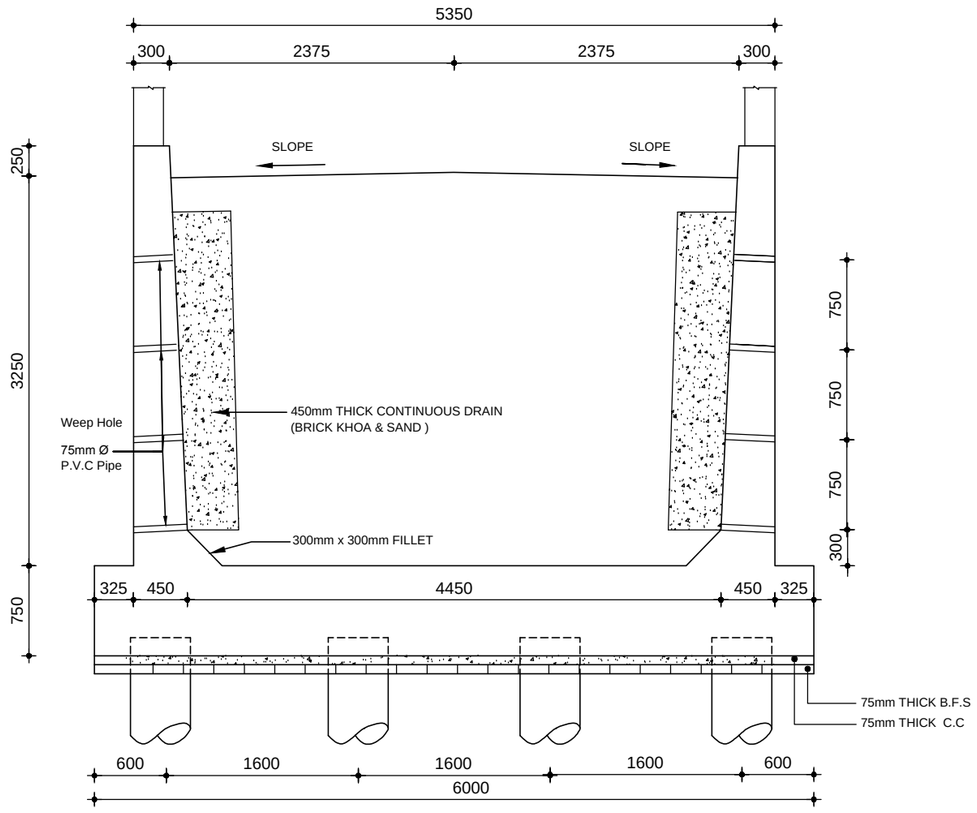
DISTRICT:

DRAWING TITLE

Details of Abutment
Span for 20m, Abutment Height 4m.

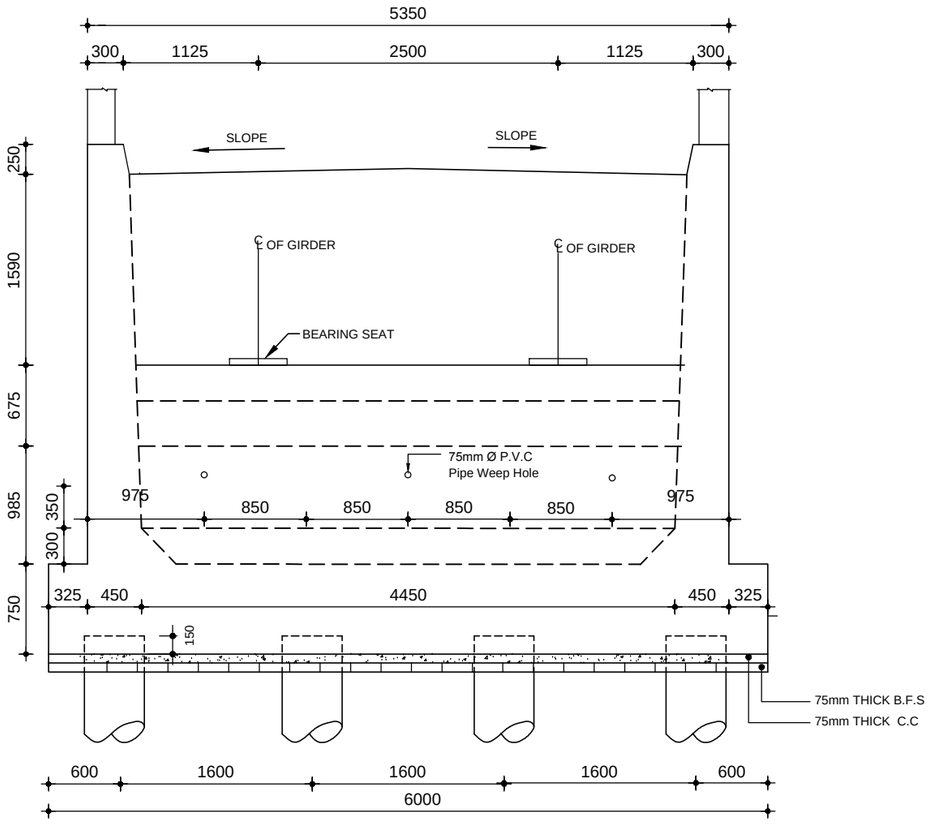
DRAWING NO. AB-201

PAGE NO. P-61



SECTION C - C

Scale 1:50



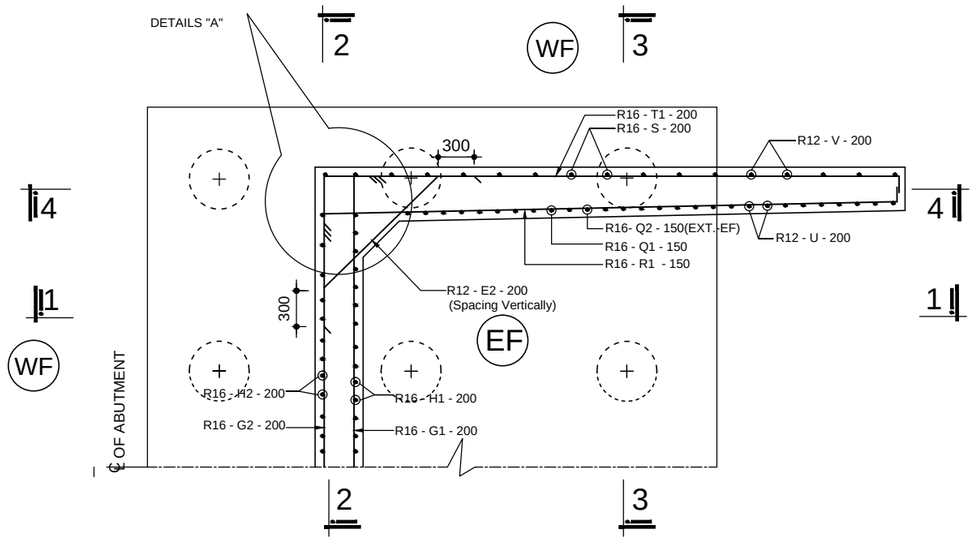
SECTION B - B

Scale 1:50

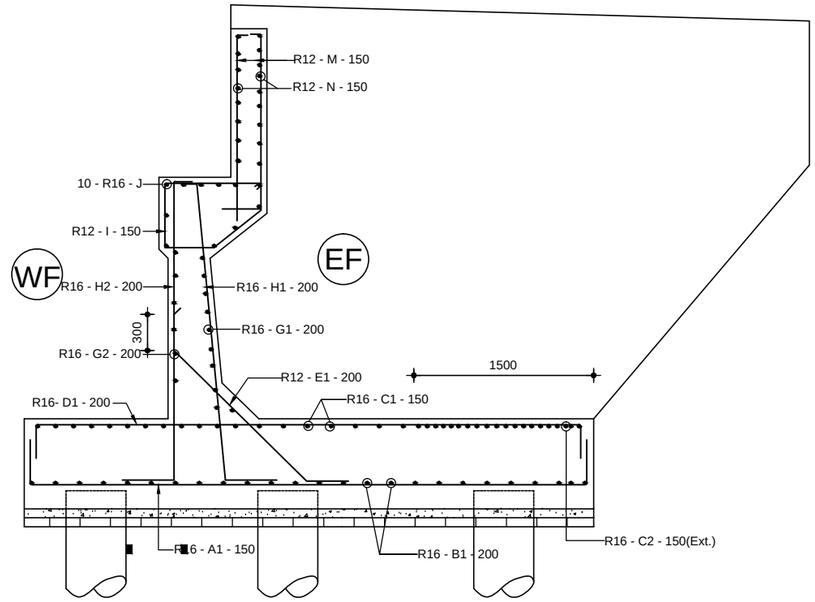
NOTES:

1. All dimensions are in millimeter unless otherwise mentioned.
2. 28 days cylinder strength of concrete: f 'c = 25.00N/mm² (3600 psi)
3. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)
4. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.

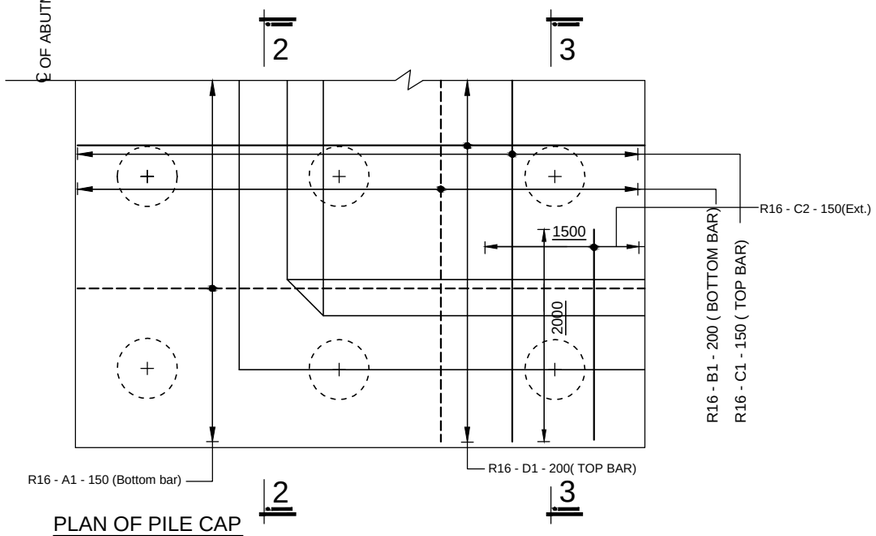
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Sectional Elevation of Abutment & Wing wall, Span for 20m, Abutment Height 4m. DRAWING NO. AB-202 PAGE NO. P-62



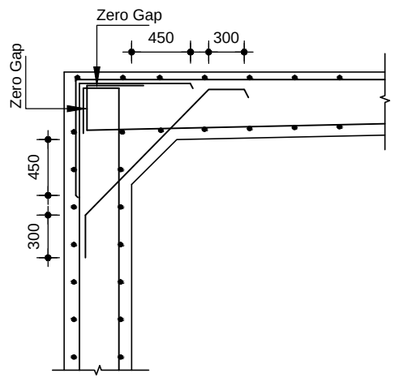
PLAN OF ABUTMENT & WINGWALL STEMS
SHOWING REINFORCEMENT
Scale 1:50



CROSS SECTION OF ABUTMENT (SECTION 1-1)
SHOWING REINFORCEMENT
Scale 1:50



PLAN OF PILE CAP
SHOWING REINFORCEMENT
Scale 1:50

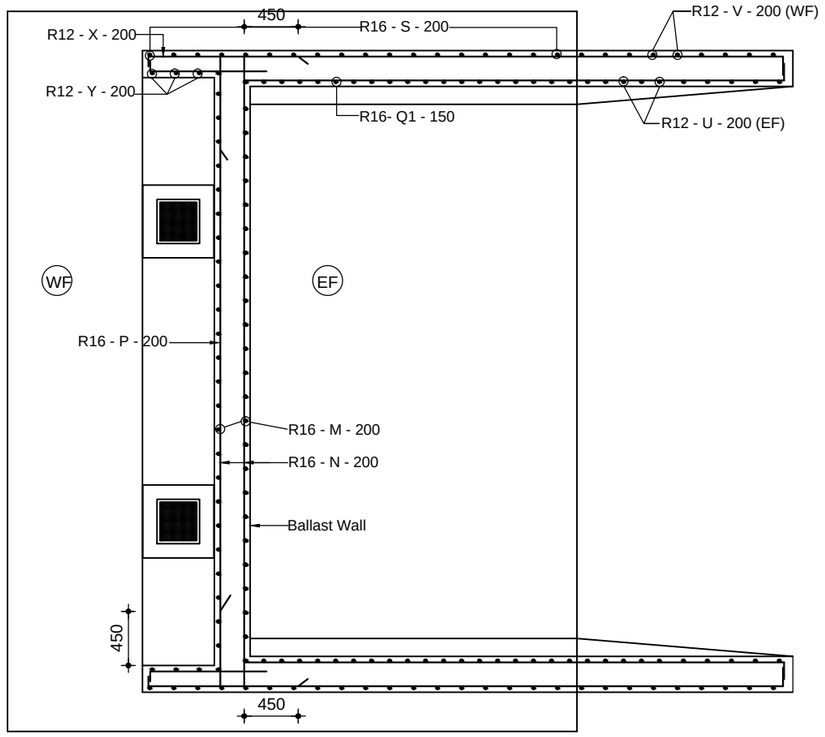


DETAIL "A"
Scale 1:40

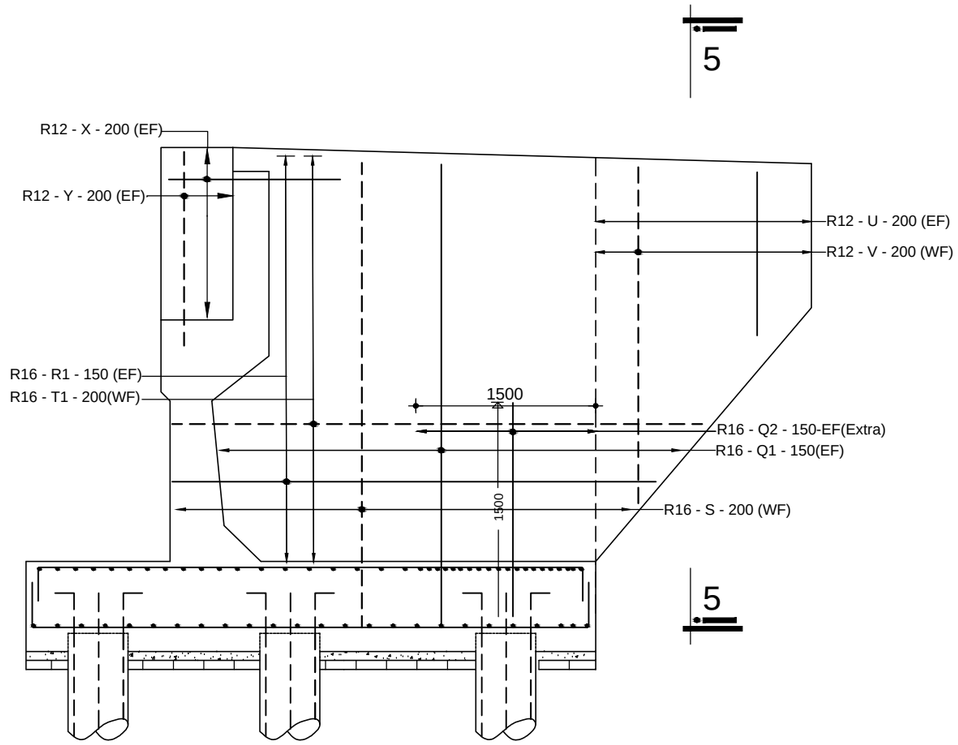
NOTES:

1. 28 days cylinder strength of concrete: f 'c = 25.00N/mm² (3600 psi)
2. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)
3. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
4. EF = Earth Face WF = Water Face

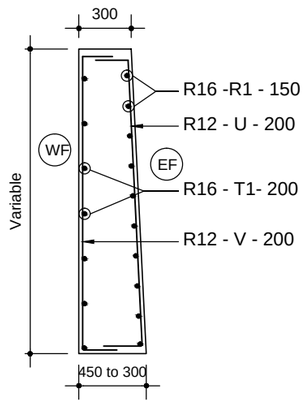
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Reinf. Details of Abutment & Wing wall, Span for 20m, Abutment Height 4m. DRAWING NO. AB-203 PAGE NO. P-63



TOP PLAN OF BALLAST WALL & WINGWALL
SHOWING TOP REINFORCEMENT
Scale 1:50



SECTIONAL ELEVATION OF WINGWALL (SEC. 4 - 4)
SHOWING TOP REINFORCEMENT
Scale 1:50

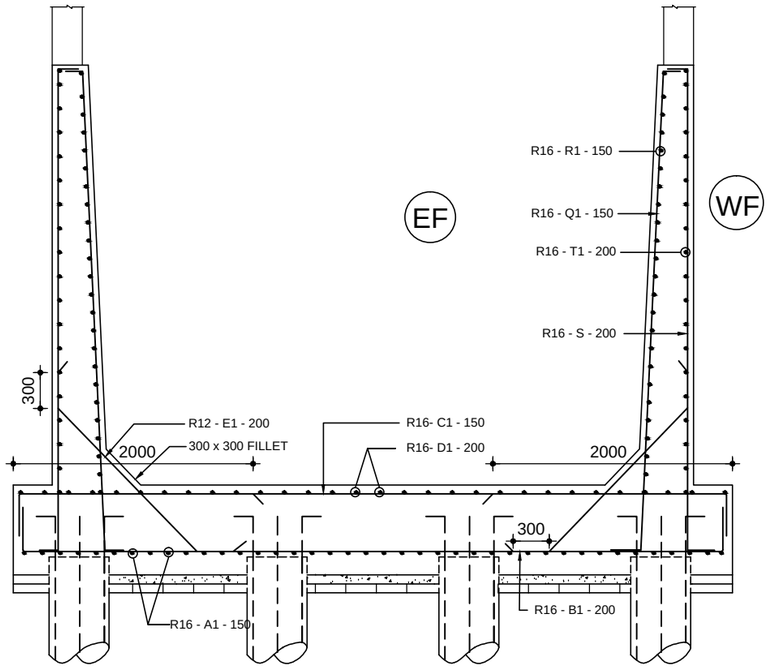


SEC. 5 - 5
Scale 1:40

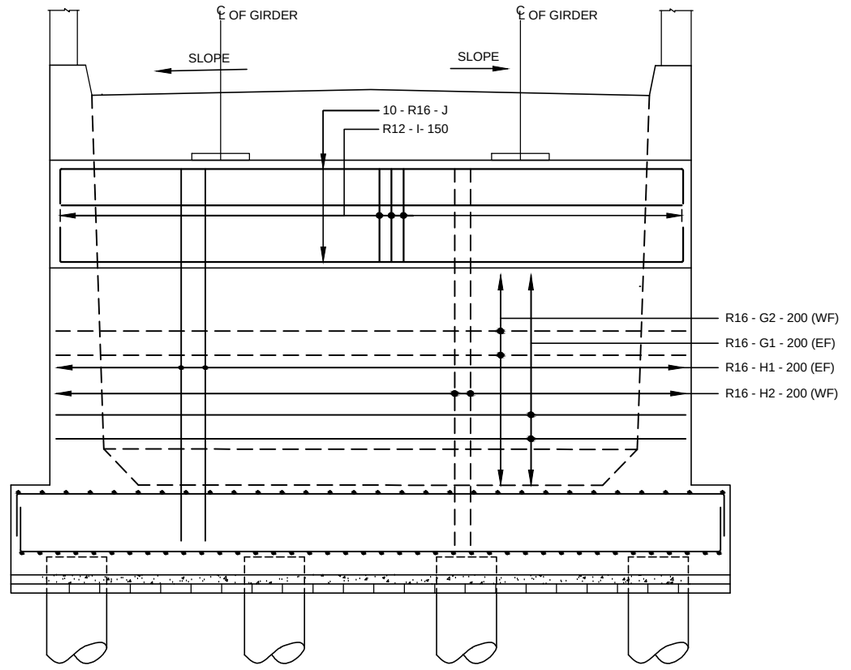
NOTES:

1. 28 days cylinder strength of concrete: f 'c = 25.00N/mm² (3600 psi)
2. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)
3. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
4. EF = Earth Face WF = Water Face

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Reinf. Details of Abutment & Wing wall, Span for 20m, Abutment Height 4m. DRAWING NO. AB-204 PAGE NO. P-64



CROSS SECTION OF WINGWALL (SEC. 3 - 3)
SHOWING REINFORCEMENT
Scale 1:50

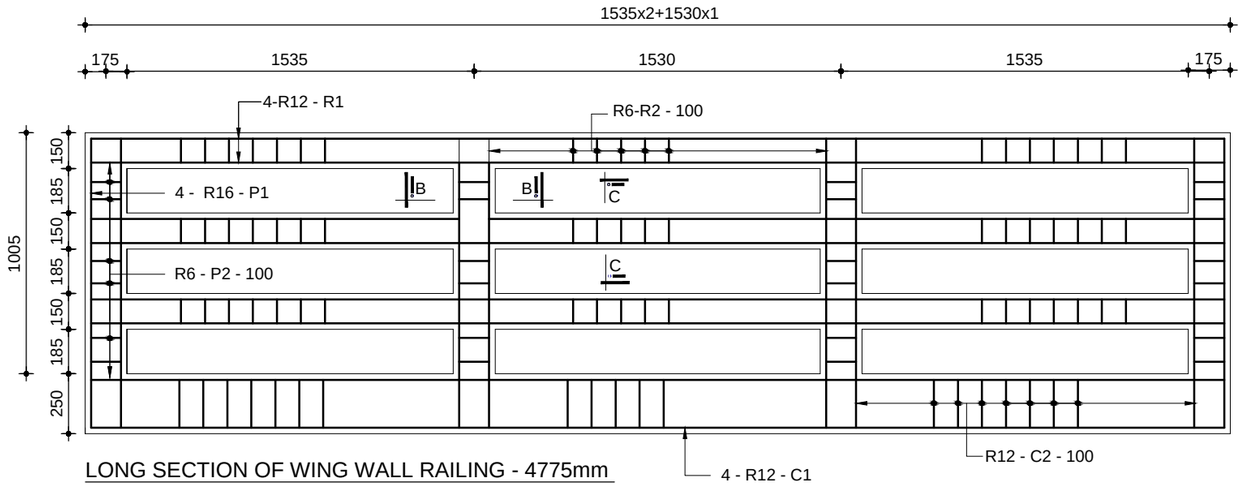


SECTIONAL FRONT ELEVATION OF ABUTMENT (SEC. 2 - 2)
SHOWING REINFORCEMENT
Scale 1:50

NOTES:

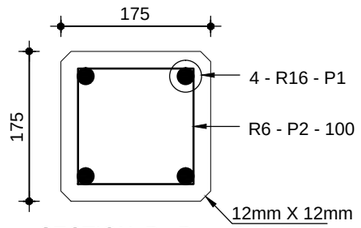
1. All dimensions are in millimeter unless otherwise mentioned.
2. 28 days cylinder strength of concrete: f 'c = 25.00N/mm² (3600 psi)
3. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)
4. EF = Earth Face WF = Water Face

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Cross Section of Wing wall Showing Reinf. Details, Span for 20m, Abutment Height 4m. DRAWING NO. AB-205 PAGE NO. P-65



LONG SECTION OF WING WALL RAILING - 4775mm

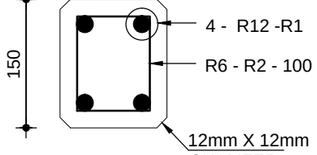
Scale 1:25



SECTION. B - B

RAIL POST

Scale 1:7

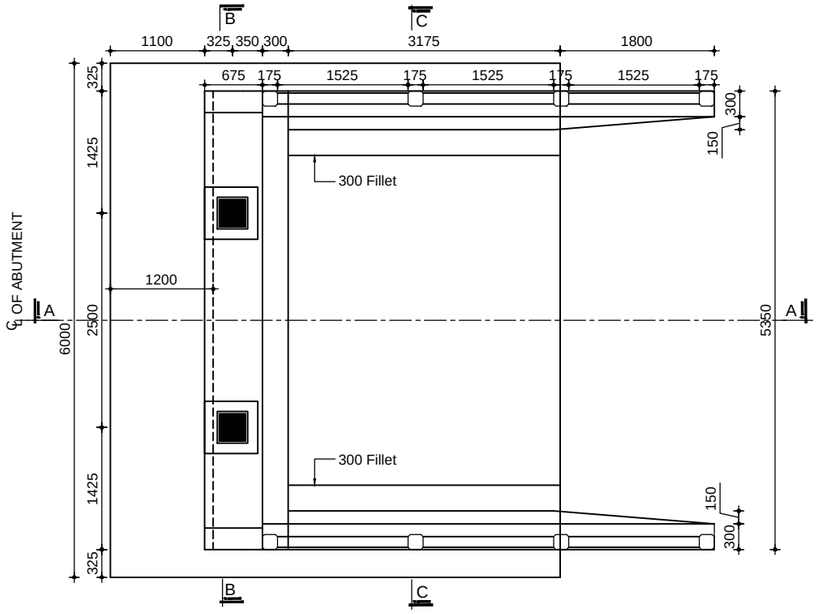


SECTION. C - C

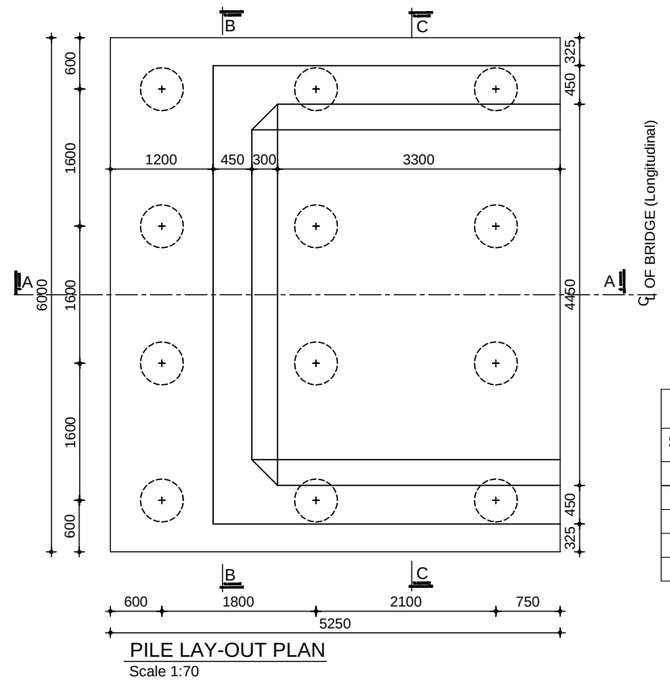
RAIL BAR

Scale 1:7

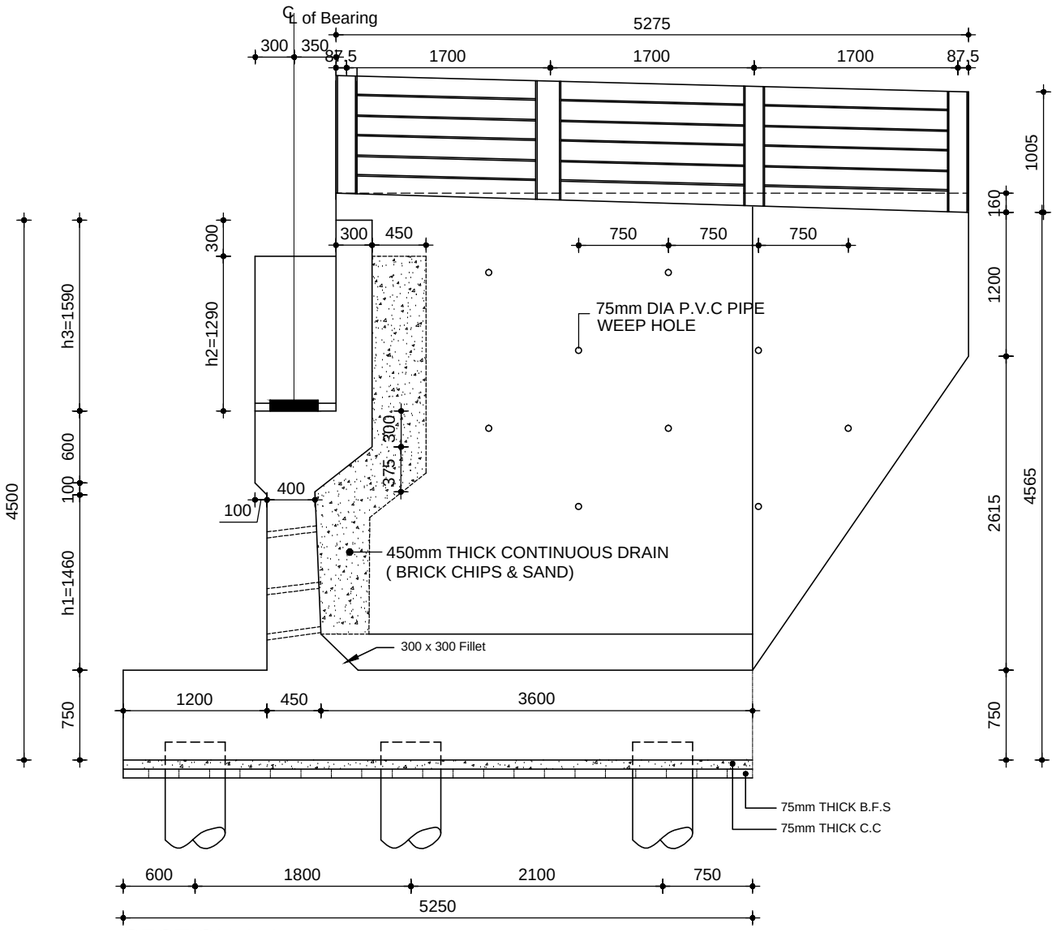
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Details of Abutment Railing, Span for 20m, Abutment Height 4m. DRAWING NO. AB-206 PAGE NO. P-66



TOP PLAN OF ABUTMENT & WING WALL



PILE LAY-OUT PLAN
Scale 1:70



SECTION A-A
Scale 1:50

Abutment Height 4.5m Table: 4b

Span Length (m)	Girder Depth (mm)	h1(mm)	h2 (mm)	h3 (mm)	a1	a 2	a 3
12	1000	1960	790	1090	300	350	300
14	1100	1860	890	1190	300	350	300
16	1300	1660	1090	1390	300	350	300
18	1400	1560	1190	1490	300	350	300
20	1500	1460	1290	1590	300	350	300

NOTES:

1. Abutment Details for 20m span.
2. For other span length Table No. 4b shall be followed.
3. All dimensions are in millimeter unless otherwise mentioned.
4. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
5. 28 days cylinder strength of concrete: f 'c = 25.00N/mm² (3600 psi)
6. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

PURAKAUSHAL PROJUKTI LIMITED
House # C10, Road # 4 ,Banasree, Rampura- 1219.
E-maill: pproiltd@yahoo.com

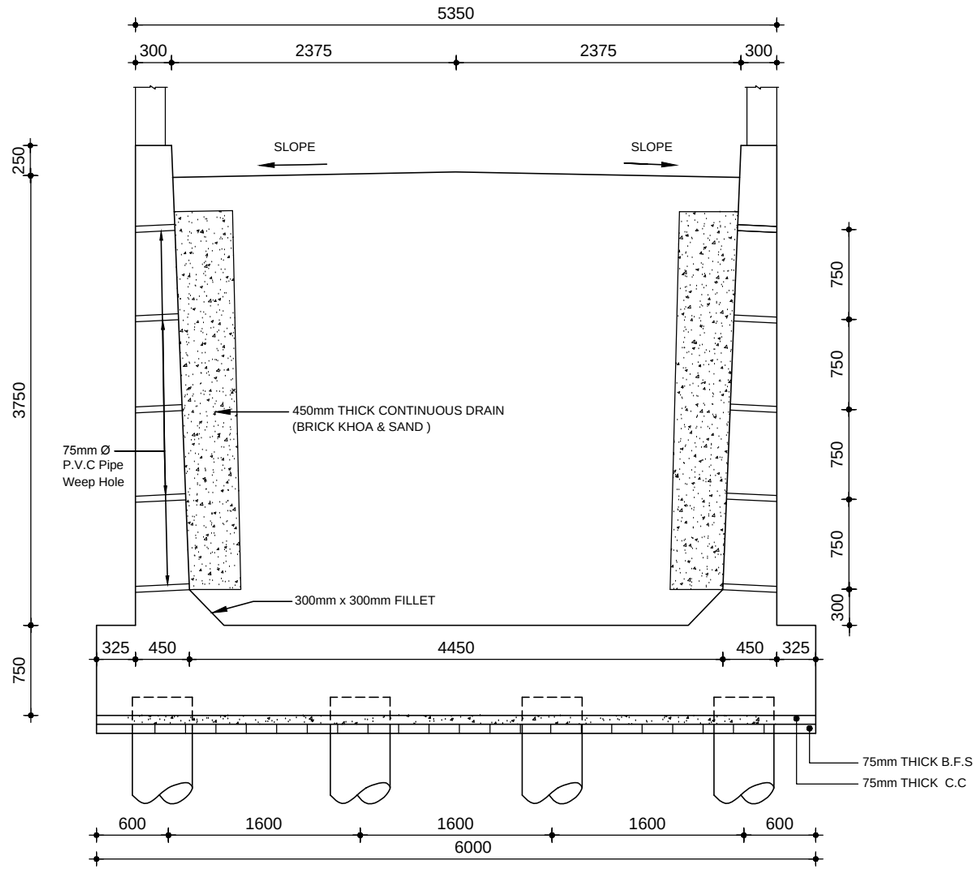
NAME OF PROJECT:
LOCATION:
UPAZILA:
DISTRICT:

DRAWING TITLE

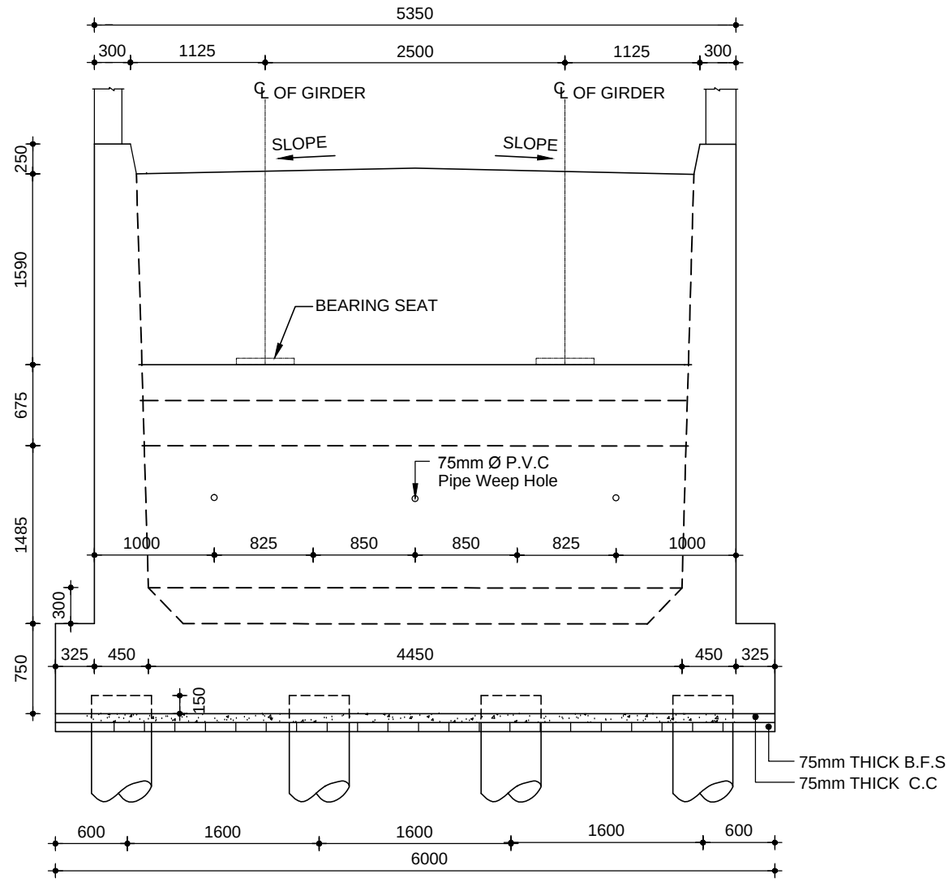
Details of Abutment
Span 20m, Abutment Height 4.5m.

DRAWING NO. AB-301

PAGE NO. P-67



SECTION C - C
Scale 1:50



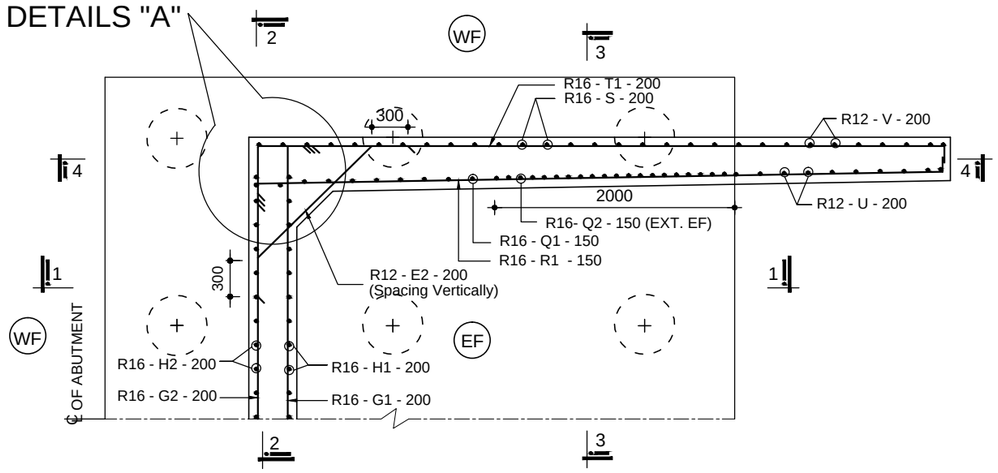
SECTION B - B
Scale 1:50

NOTES:

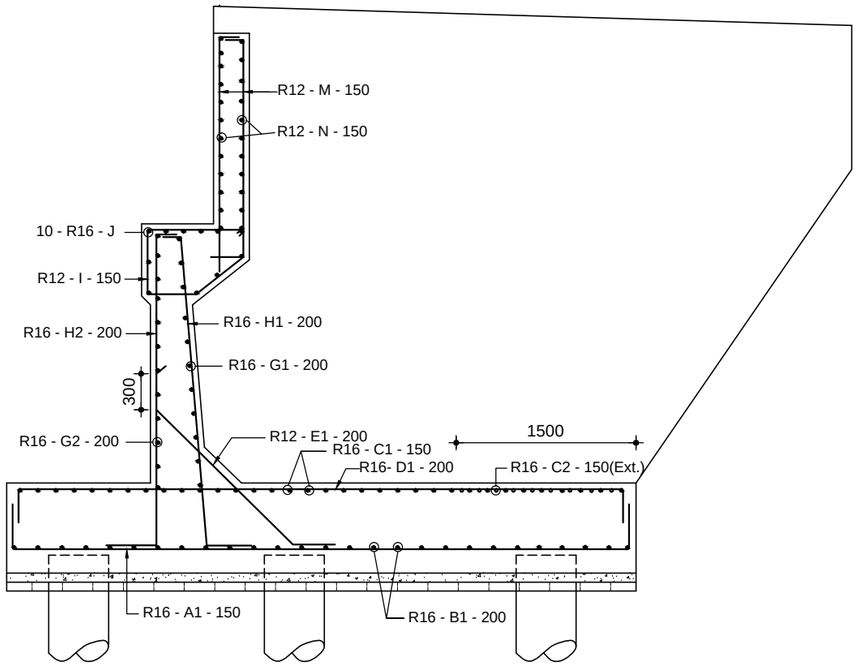
1. All dimensions are in millimeter unless otherwise mentioned.
2. 28 days cylinder strength of concrete: f 'c = 25.00N/mm² (3600 psi)
3. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)
4. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Sectional Elevation of Abutment & Wing wall, Span 20m, Abutment Height 4.5m. DRAWING NO. AB-302 PAGE NO. P-68

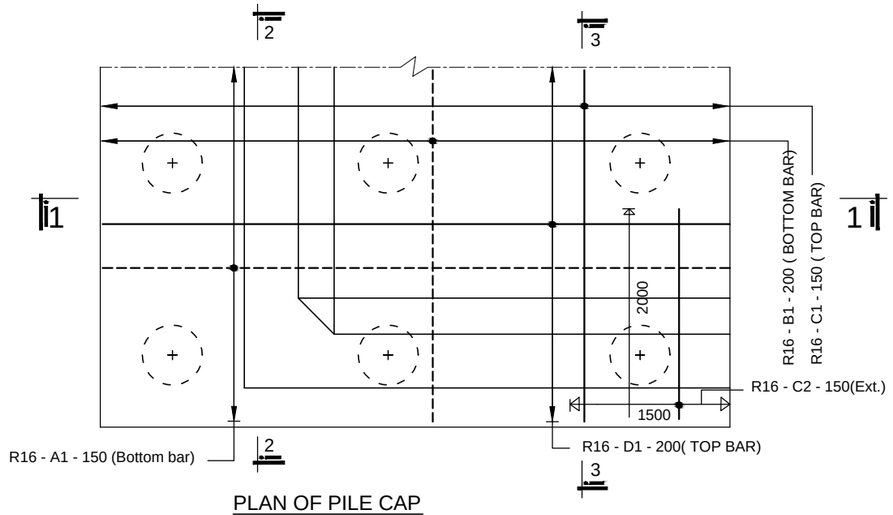
DETAILS "A"



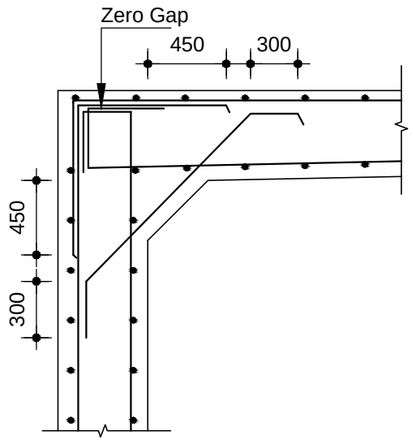
PLAN OF ABUTMENT & WINGWALL STEMS
SHOWING REINFORCEMENT
Scale 1:50



CROSS SECTION OF ABUTMENT (SEC. 1 - 1)
SHOWING REINFORCEMENT
Scale 1:50



PLAN OF PILE CAP
SHOWING REINFORCEMENT
Scale 1:50

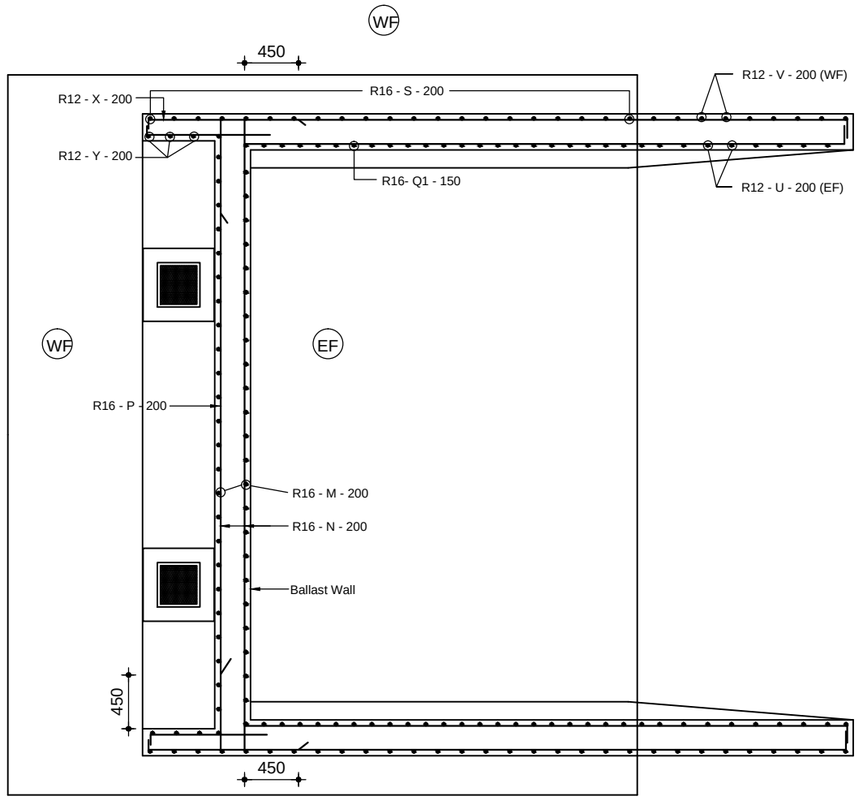


DETAIL "A"
Scale 1:30

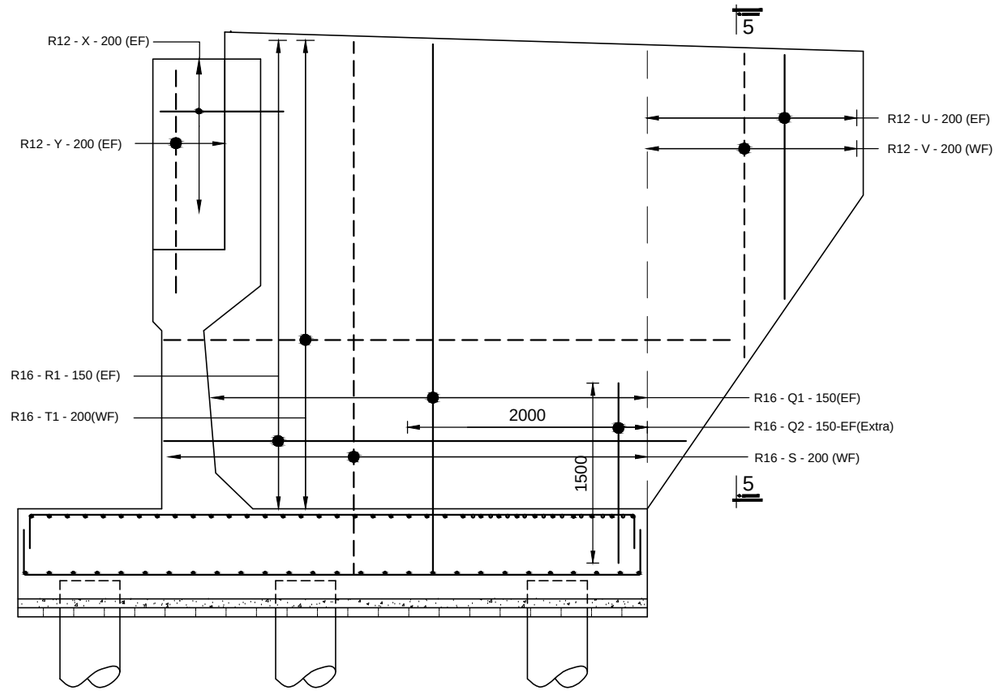
NOTES:

1. 28 days cylinder strength of concrete: f 'c = 25.00N/mm² (3600 psi)
2. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)
3. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
4. EF = Earth Face, WF = Water Face

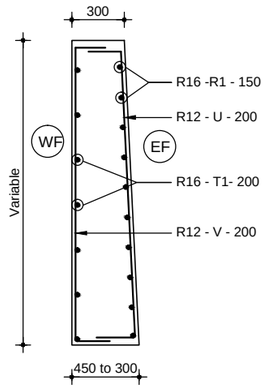
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Reinf. Details of Abutment & Wing wall, Span 20m, Abutment Height 4.5m. DRAWING NO. AB-303 PAGE NO. P-69



TOP PLAN OF BALLAST WALL & WINGWALL
SHOWING TOP REINFORCEMENT
Scale 1:50



SECTIONAL ELEVATION OF WINGWALL (SEC. 4 - 4)
SHOWING TOP REINFORCEMENT
Scale 1:50

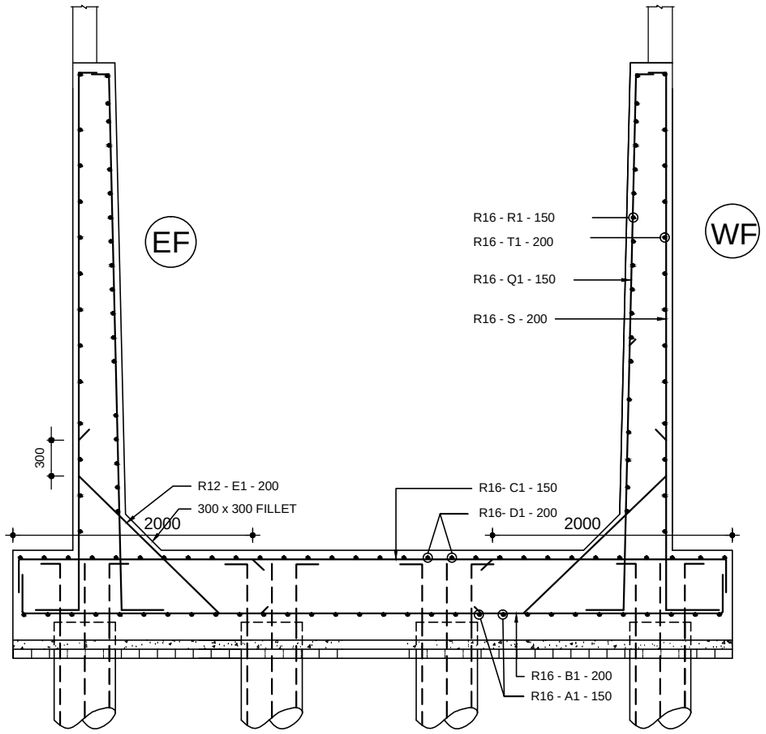


SEC. 5 - 5
Scale 1:40

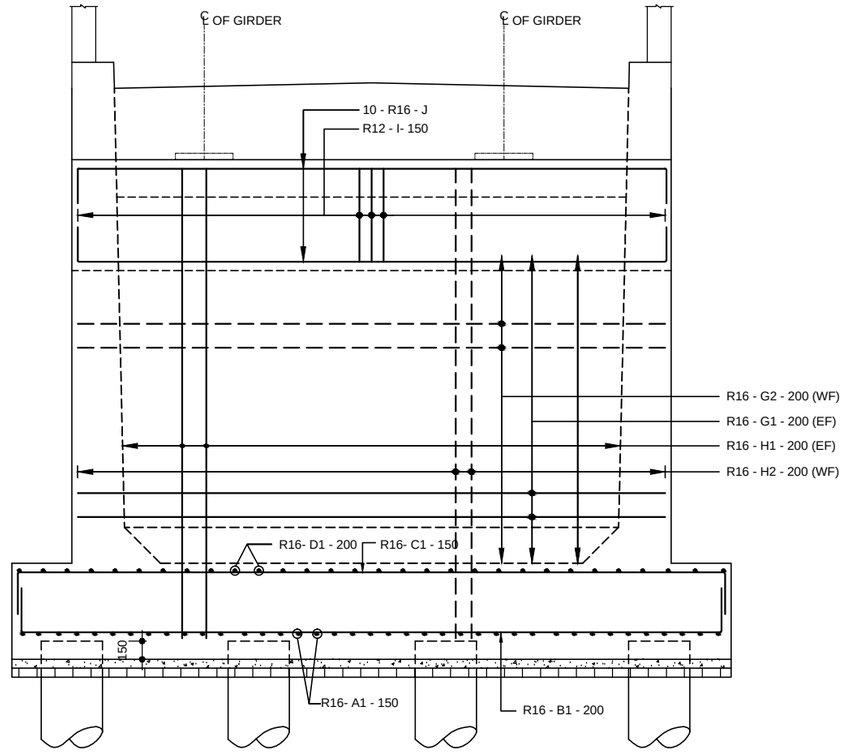
NOTES:

1. 28 days cylinder strength of concrete: f 'c = 25.00N/mm² (3600 psi)
2. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)
3. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
4. EF = Earth Face, WF = Water Face

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Reinf. Details of Abutment & Wing wall, Span 20m, Abutment Height 4.5m. DRAWING NO. AB-304 PAGE NO. P-70



CROSS SECTION OF WINGWALL (SEC. 3 - 3)
SHOWING REINFORCEMENT
Scale 1:50

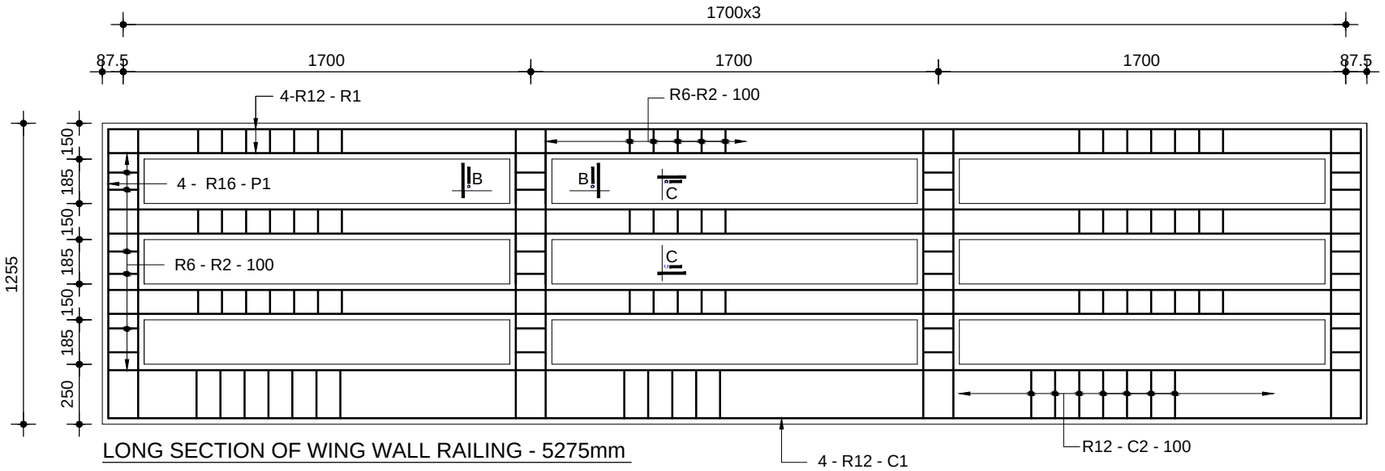


SECTIONAL FRONT ELEVATION OF ABUTMENT (SEC. 2 - 2)
SHOWING REINFORCEMENT
Scale 1:50

NOTES:

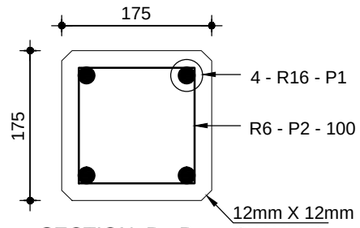
1. 28 days cylinder strength of concrete: f 'c = 25.00N/mm² (3600 psi)
2. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)
3. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
4. EF = Earth Face, WF = Water Face

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Cross Section of Wing wall Showing Reinf. Details, Span 20m, Abutment Height 4.5m. DRAWING NO. AB-305 PAGE NO. P-71



LONG SECTION OF WING WALL RAILING - 5275mm

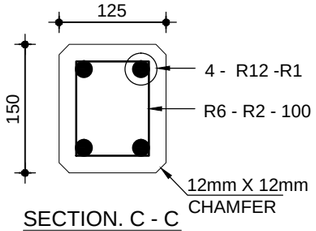
Scale 1:25



SECTION. B - B

RAIL POST

Scale 1:7

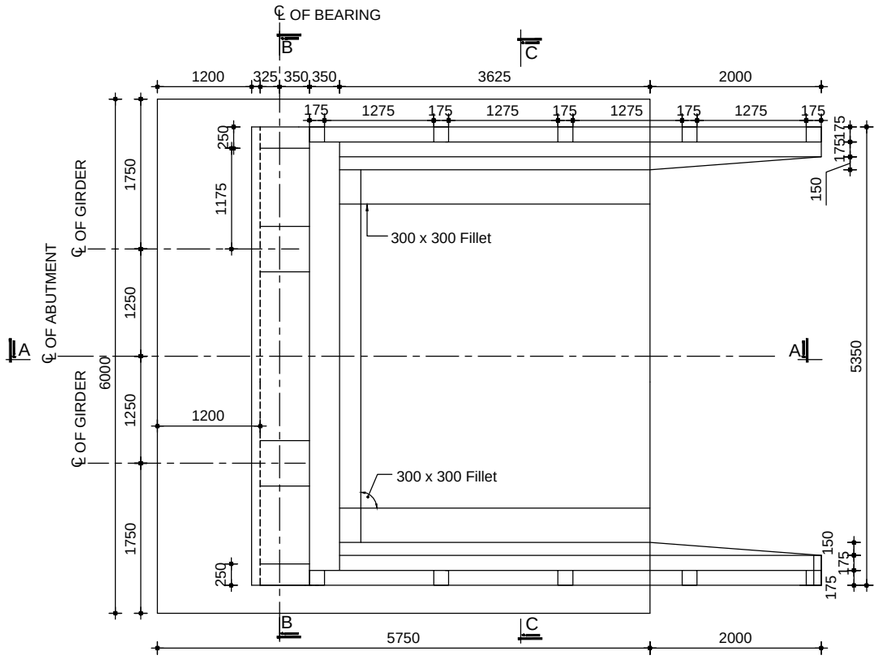


SECTION. C - C

RAIL BAR

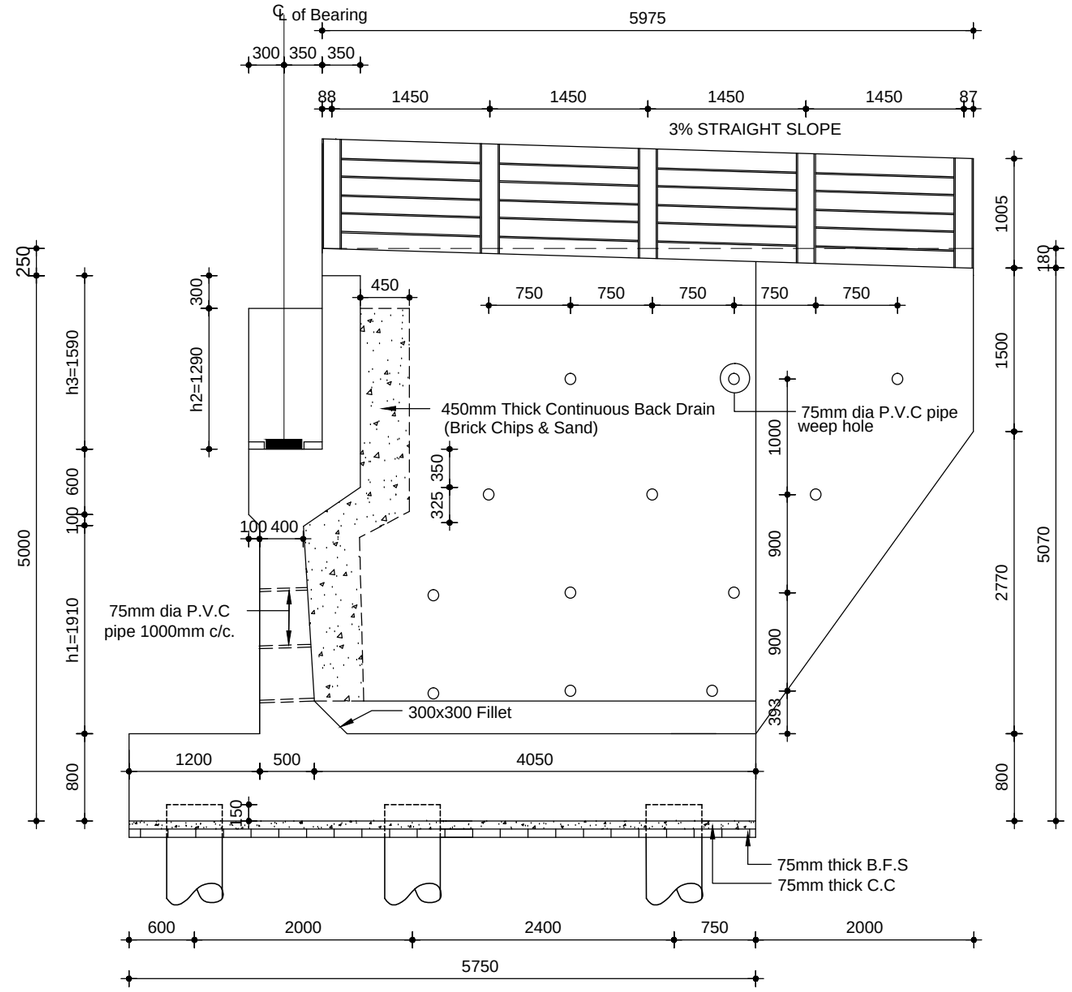
Scale 1:7

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Details of Railing on Wing wall, Span 20m, Abutment Height 4.5m. DRAWING NO. AB-306 PAGE NO. P-72



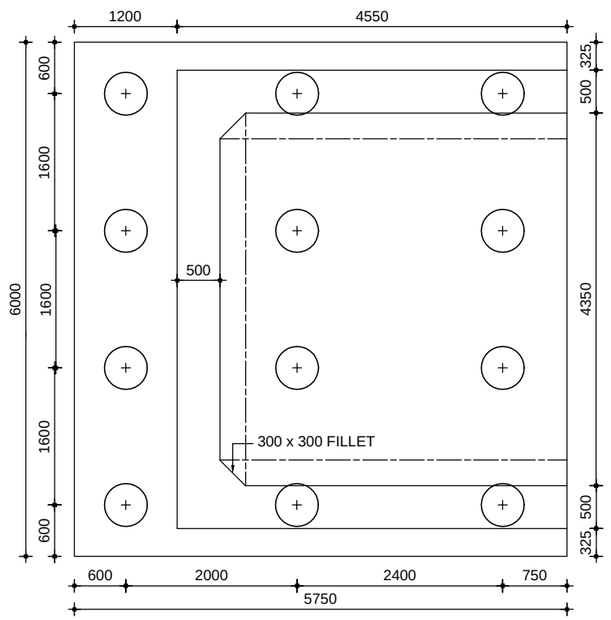
TOP PLAN OF ABUTMENT & WING WALL

Scale 1:70



SECTION A-A

Scale 1:55



PILE LAY-OUT PLAN

Scale 1:70

Table: 5a							
Span Length (m)	Girder Depth (mm)	h1(mm)	h2 (mm)	h3 (mm)	a1	a 2	a 3
14	1100	2310	890	1190	300	350	350
16	1300	2110	1090	1390	300	350	350
18	1400	2010	1190	1490	300	350	350
20	1500	1910	1290	1590	300	350	350
22	1800	1610	1590	1890	300	350	350
24	2000	1410	1790	2090	300	350	350

NOTES:

1. Abutment Details for 20m span.
2. For other span length Table No. 5a shall be followed.
3. All dimensions are in millimeter unless otherwise mentioned.
4. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned
5. 28 days cylinder strength of concrete: f 'c = 25.00N/mm² (3600 psi)
6. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

PURAKAUSHAL PROJUKTI LIMITED

House # C10, Road # 4 ,Banasree, Rampura- 1219.
E-maill: pproiltd@yahoo.com

NAME OF PROJECT:

LOCATION:

UPAZILA:

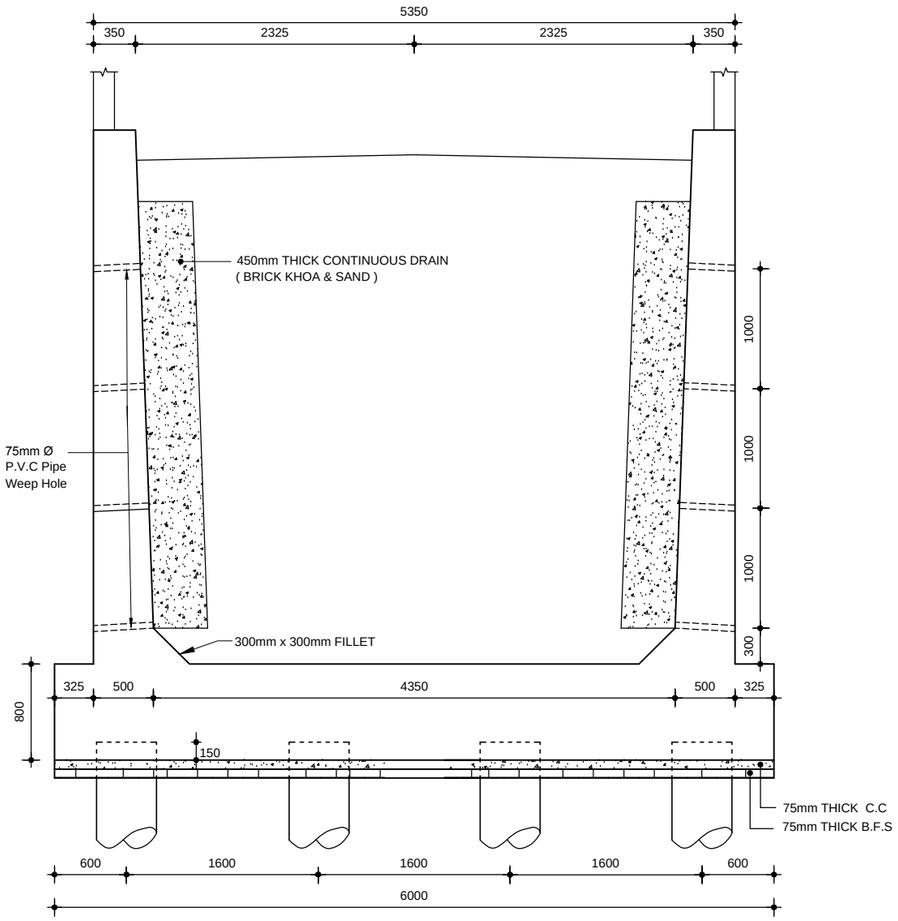
DISTRICT:

DRAWING TITLE

Details of Abutment
Span 20m, Abutment Height 5m.

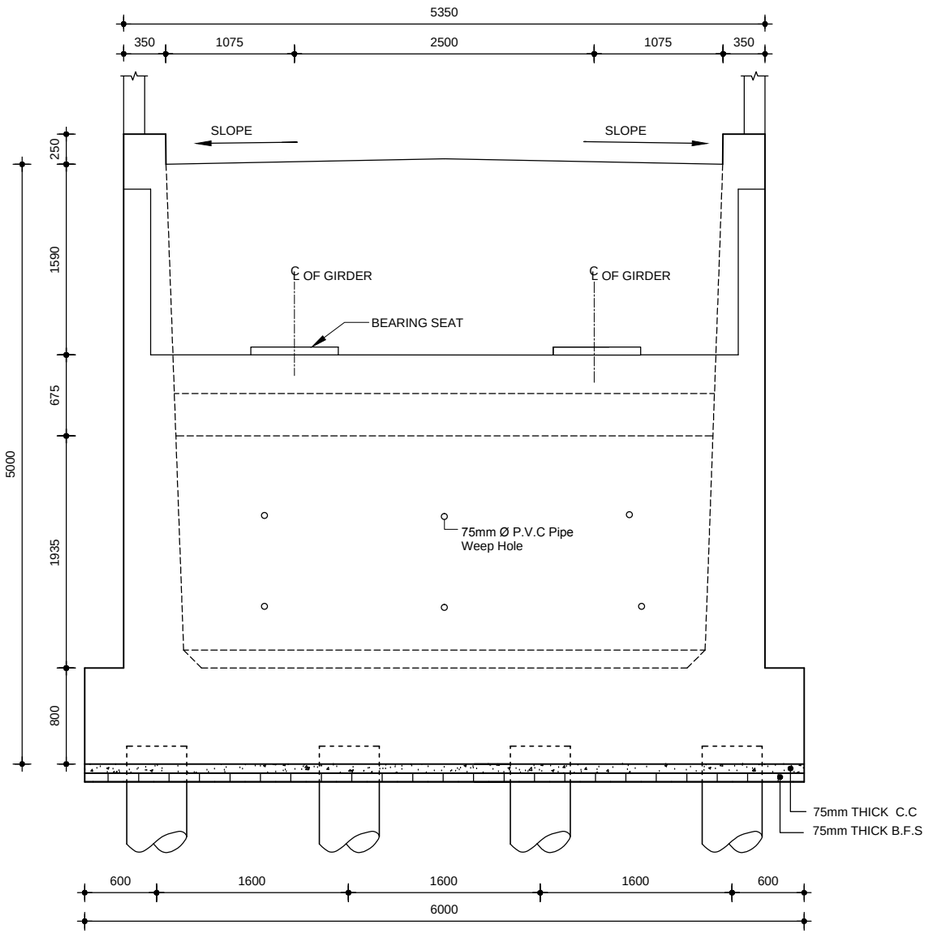
DRAWING NO. AB-401

PAGE NO. P-73



SECTION: C - C

Scale 1:50



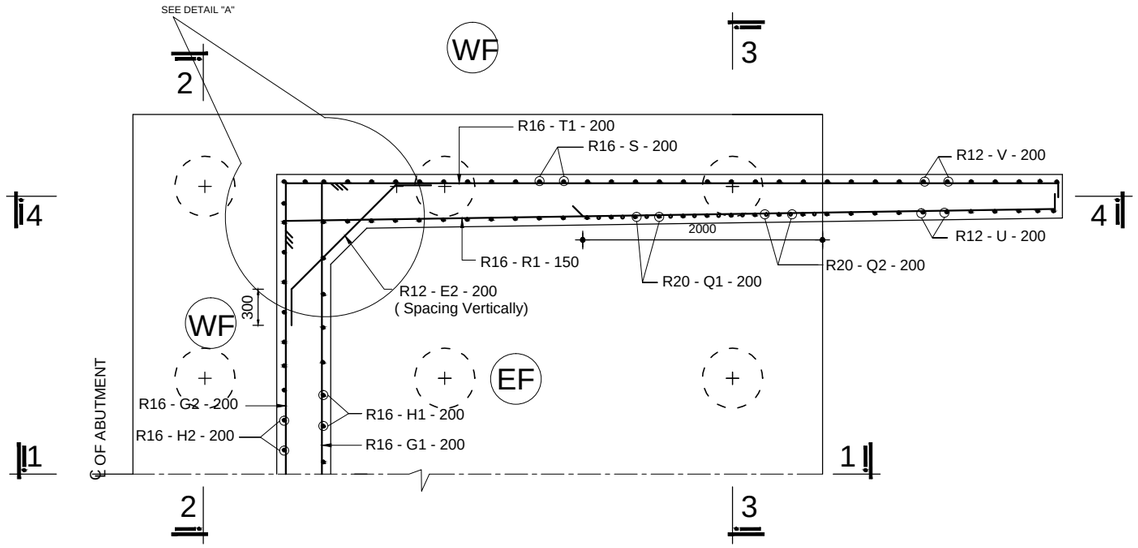
SECTION: B - B

Scale 1:50

NOTES:

1. All dimensions are in millimeter unless otherwise mentioned.
2. 28 days cylinder strength of concrete: f 'c = 25.00N/mm² (3600 psi)
3. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)
4. Clear cover to main reinforcement bar is to be 50mm unless otherwise mentioned.

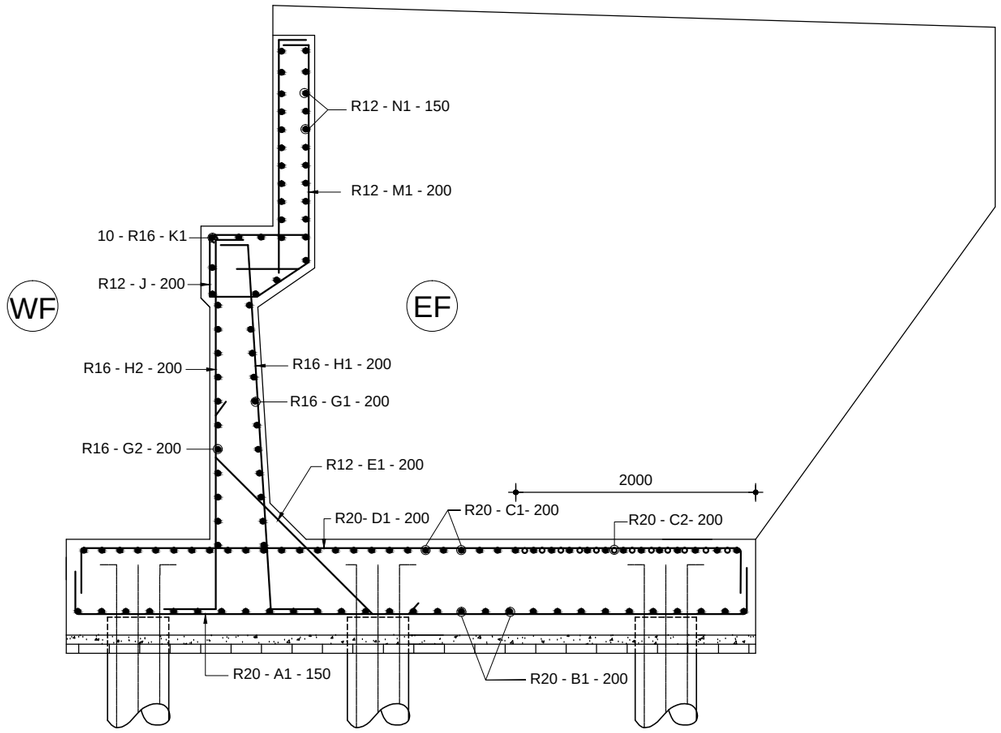
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Sectional Elevation of Abutment & Wing wall, Span 20m, Abutment Height 5m. DRAWING NO. AB-402 PAGE NO. P-74



PLAN OF ABUTMENT & WINGWALL

SHOWING REINFORCEMENT

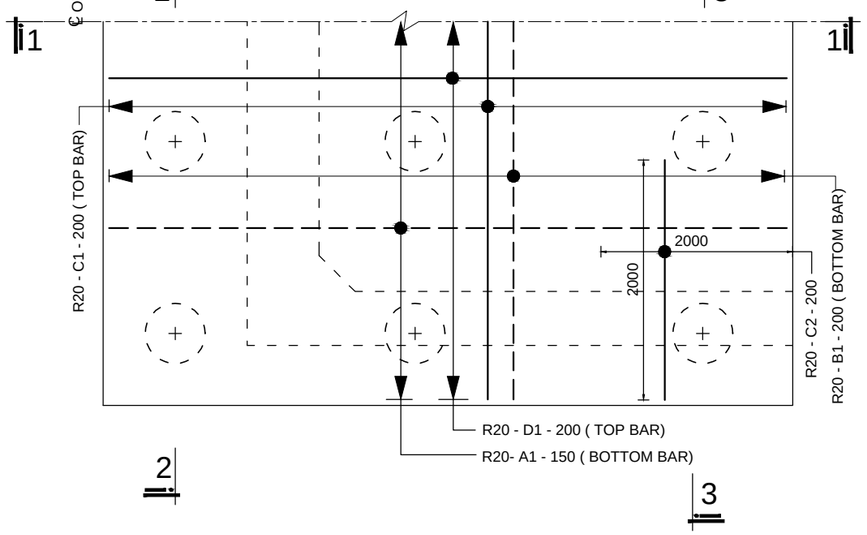
Scale 1:50



CROSS SECTION OF ABUTMENT (SECTION 1-1)

SHOWING REINFORCEMENT DETAILS

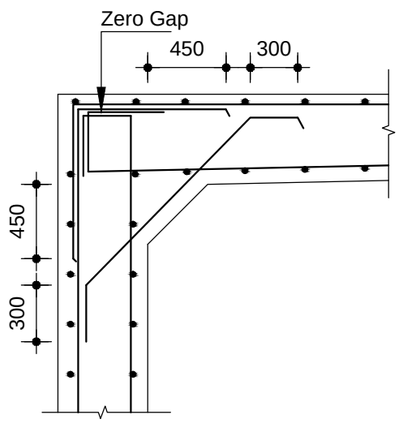
Scale 1:50



PLAN OF PILE CAP

SHOWING REINFORCEMENT

Scale 1:50



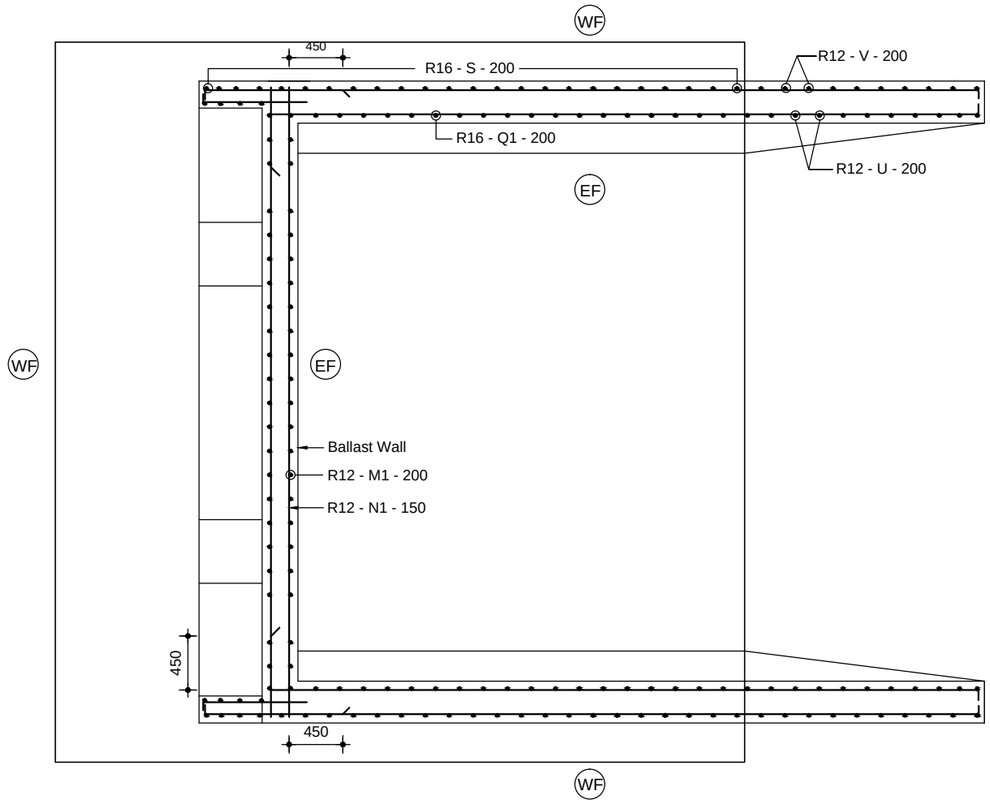
DETAIL "A"

Scale 1:30

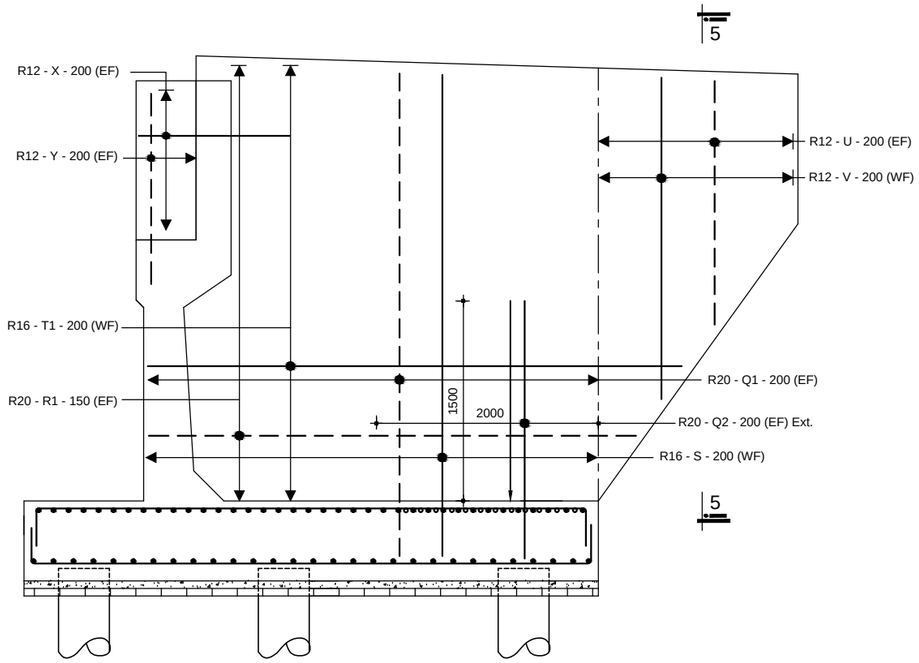
NOTES:

1. 28 days cylinder strength of concrete: f 'c = 25.00N/mm² (3600 psi)
2. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)
3. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
4. EF = Earth Face, WF = Water Face

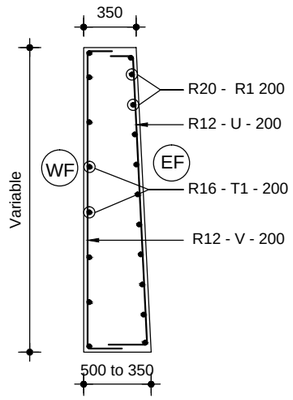
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Reinf. Details of Abutment & Wing wall, Span 20m, Abutment Height 5m. DRAWING NO. AB-403 PAGE NO. P-75



TOP PLAN OF BALLAST WALL & WINGWALL
SHOWING TOP REINFORCEMENT
Scale 1:50



SECTIONAL ELEVATION OF WINGWALL (SEC. 4 - 4)
SHOWING TOP REINFORCEMENT
Scale 1:60

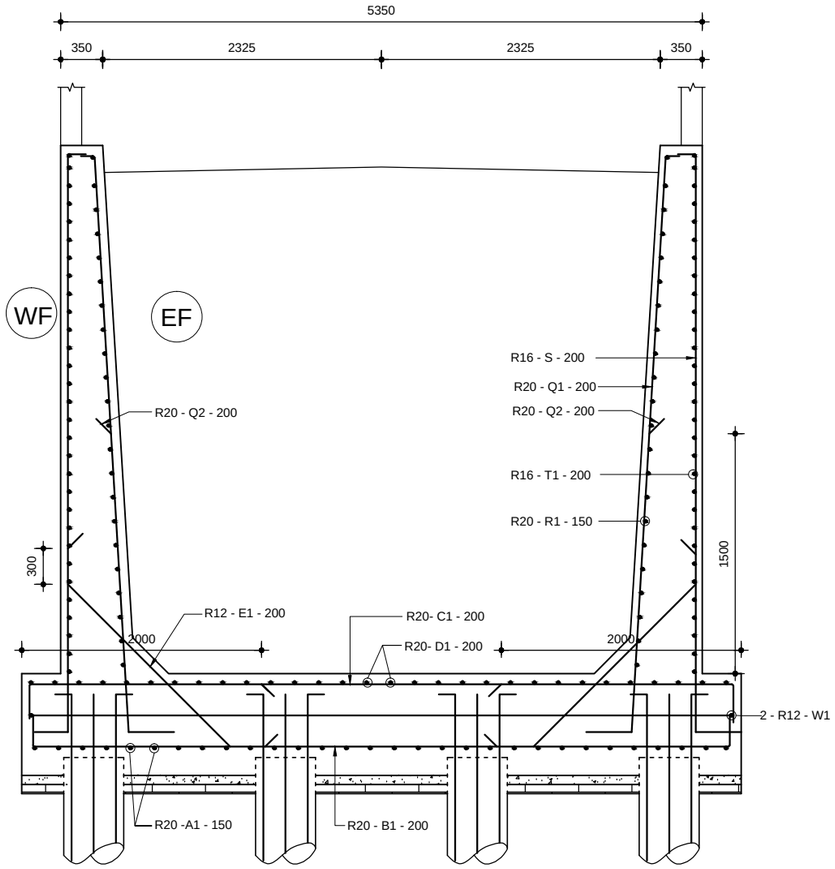


SEC. 5 - 5
Scale 1:40

NOTES:

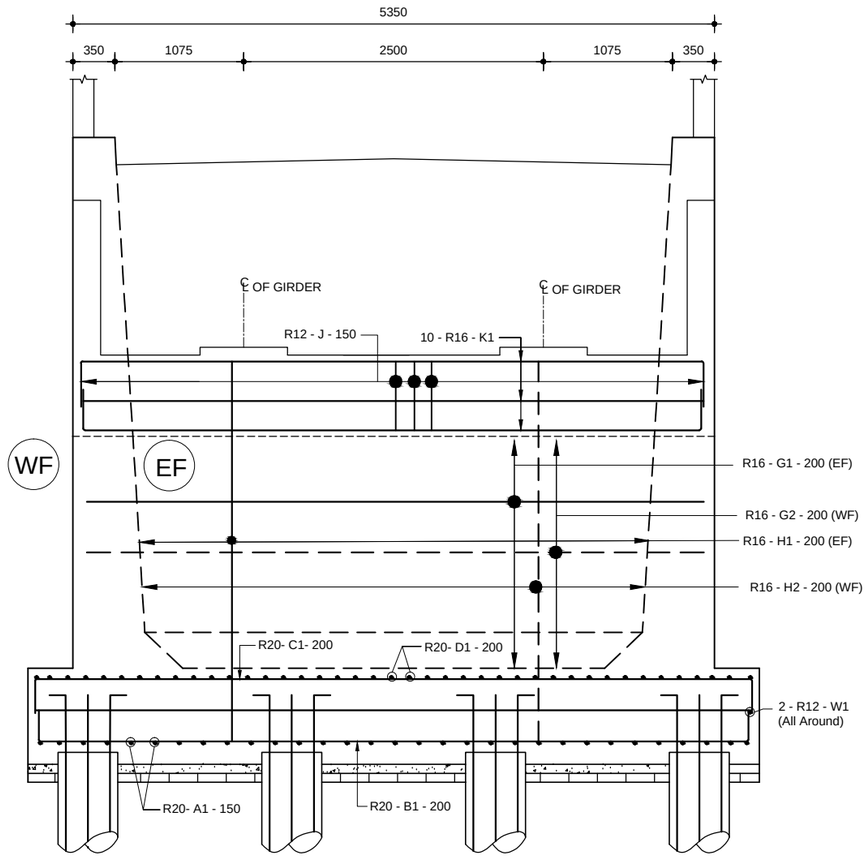
1. 28 days cylinder strength of concrete: f 'c = 25.00N/mm² (3600 psi)
2. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)
3. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
4. EF = Earth Face, WF = Water Face

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Reinf. Details of Abutment & Wing wall, Span 20m, Abutment Height 5m. DRAWING NO. AB-404 PAGE NO. P-76



CROSS SECTION OF WINGWALL (SEC. 3 - 3)
SHOWING REINFORCEMENT

Scale 1:50



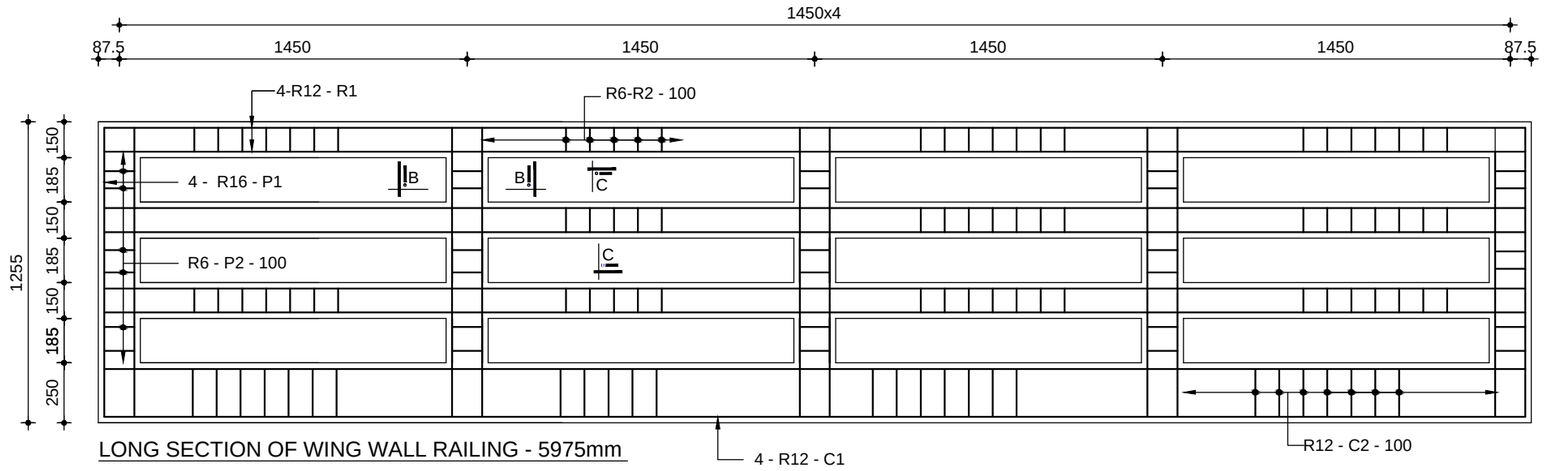
SECTIONAL FRONT ELEVATION OF ABUTMENT (SEC. 2 - 2)
SHOWING REINFORCEMENT

Scale 1:50

NOTES:

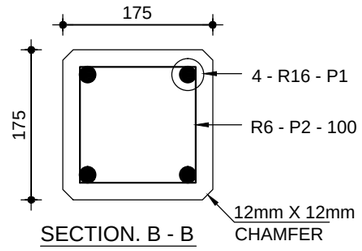
1. All dimensions are in millimeter unless otherwise mentioned.
2. 28 days cylinder strength of concrete: f 'c = 25.00N/mm² (3600 psi)
3. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)
4. EF = Earth Face, WF = Water Face

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Cross Section of Wing wall Showing Reinf. Details, Span 20m, Abutment Height 5m. DRAWING NO. AB-405 PAGE NO. P-77



LONG SECTION OF WING WALL RAILING - 5975mm

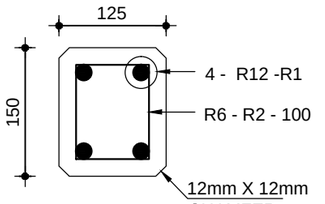
Scale 1:25



SECTION. B - B

RAIL POST

Scale 1:7



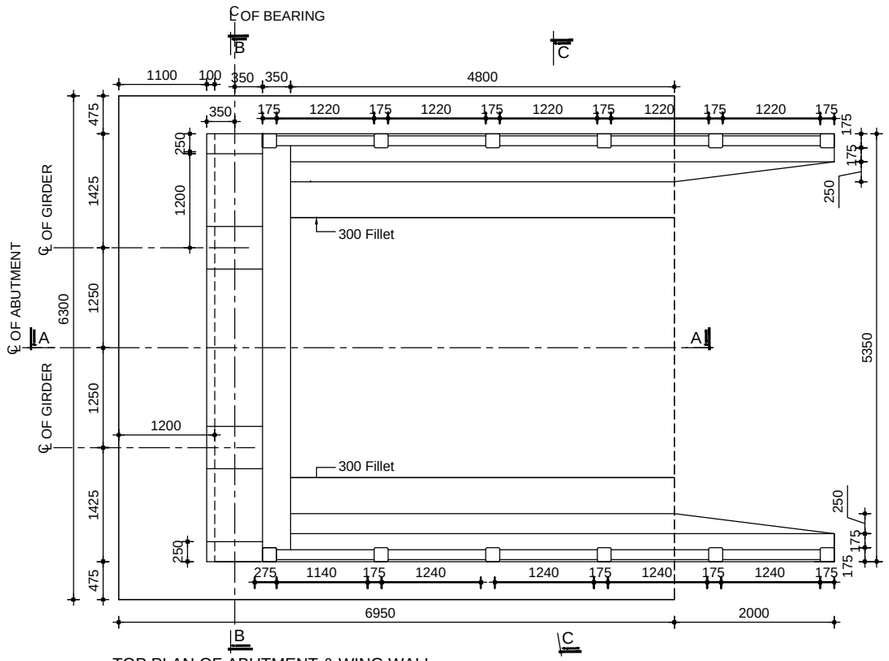
SECTION. C - C

RAIL BAR

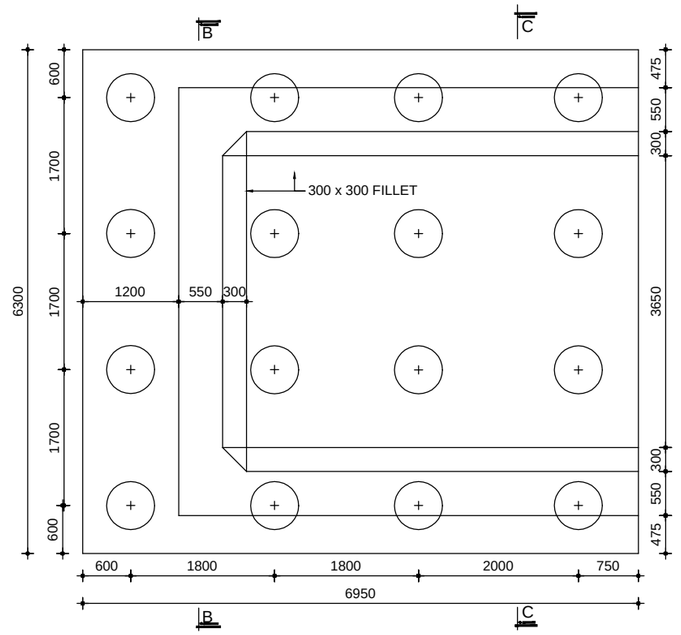
Scale 1:7

Details of Railing on Wing wall

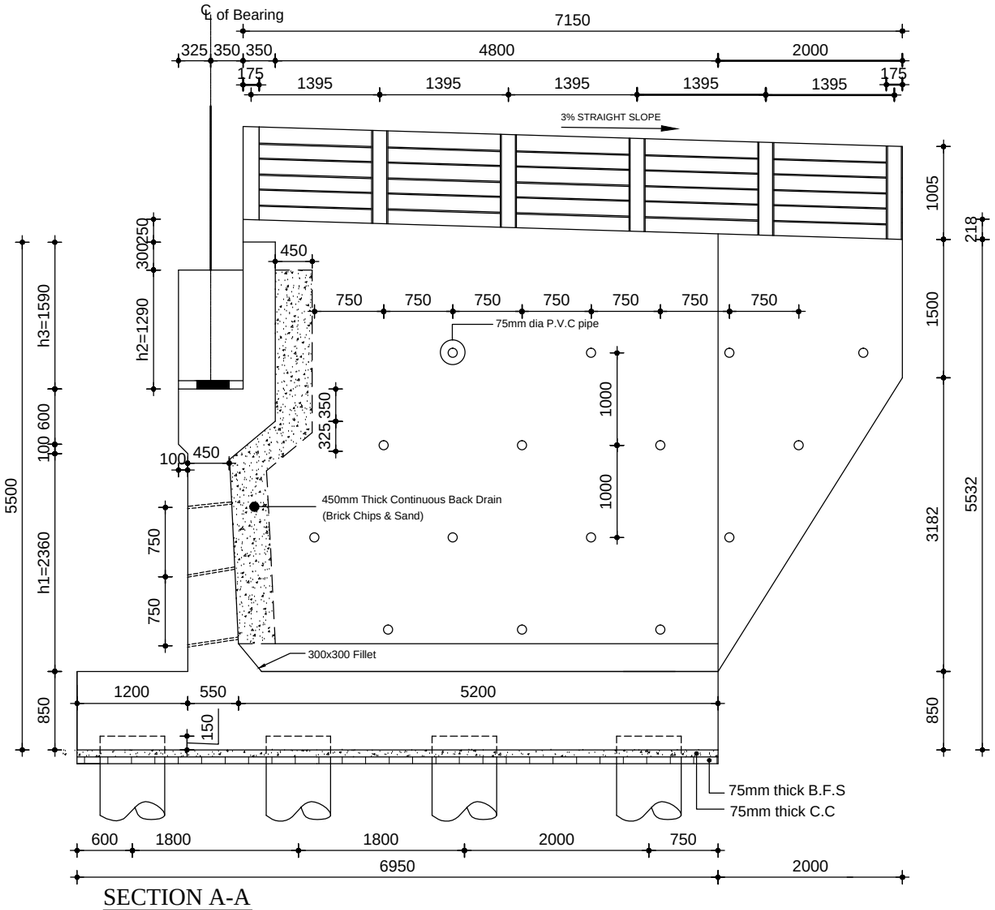
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Details of Railing on Wing wall, Span 20m, Abutment Height 5m. DRAWING NO. AB-406 PAGE NO. P-78



TOP PLAN OF ABUTMENT & WING WALL



PILE LAY-OUT PLAN
Scale 1:75



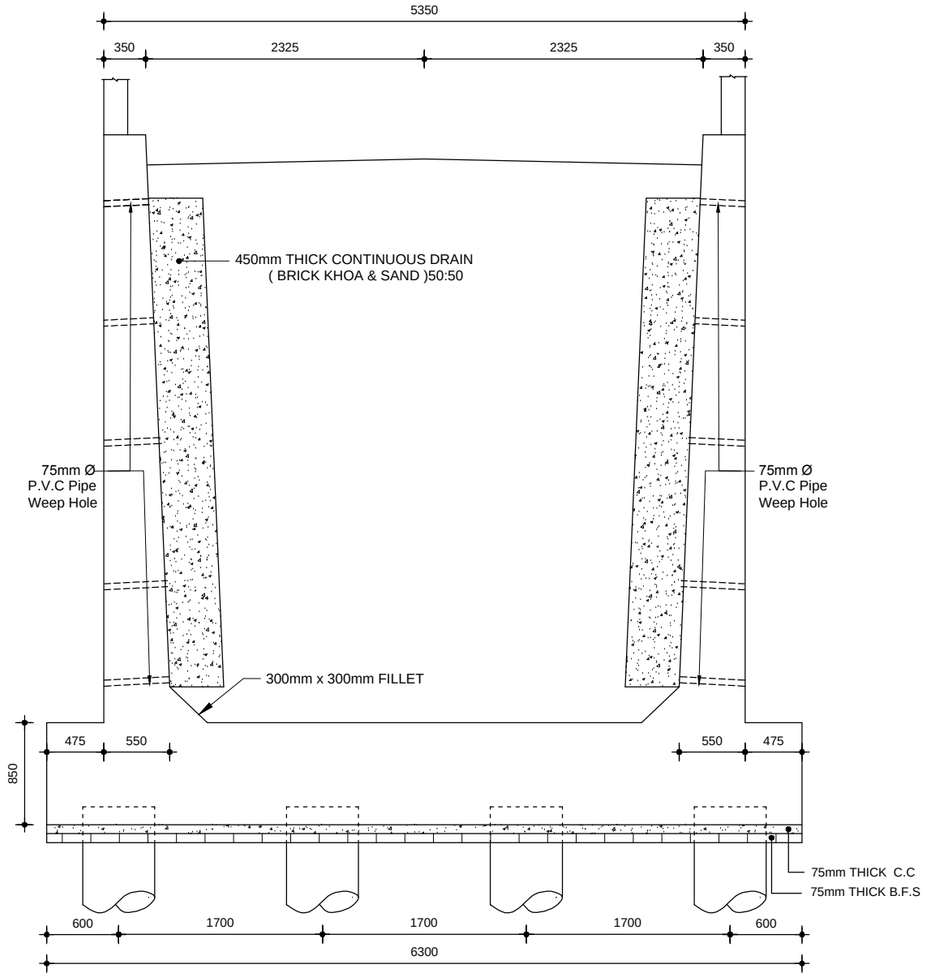
SECTION A-A
Scale 1:65

Table: 5b							
Span Length (m)	Girder Depth (mm)	h1(mm)	h2 (mm)	h3 (mm)	a1	a 2	a 3
14	1100	2760	890	1190	325	350	350
16	1300	2560	1090	1390	325	350	350
18	1400	2460	1190	1490	325	350	350
20	1500	2360	1290	1590	325	350	350
22	1800	2060	1590	1890	325	350	350
24	2000	1860	1790	2090	325	350	350

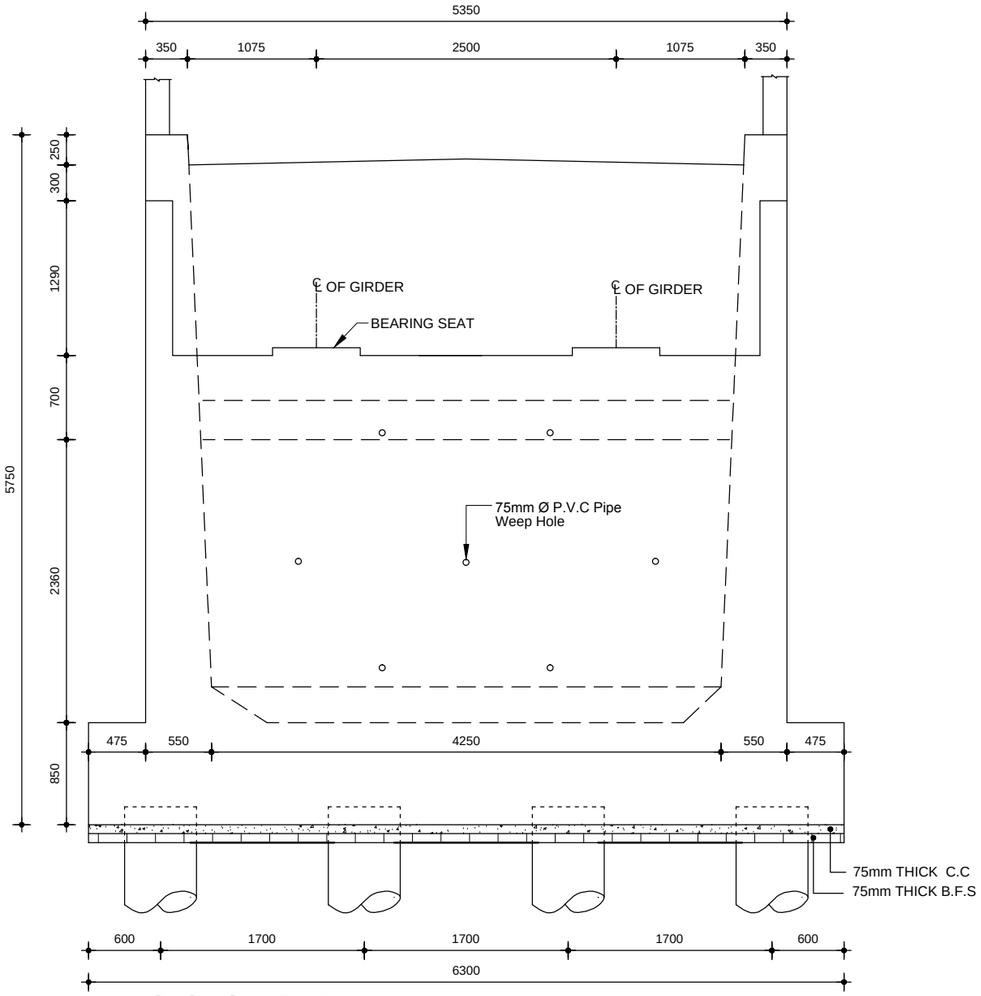
NOTES:

1. Abutment Details for 20m span..
2. For other span length Table No. 5b shall be followed.
3. All dimensions are in millimeter unless otherwise mentioned.
4. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
5. 28 days cylinder strength of concrete: f 'c = 25.0N/mm² (3600 psi)
6. Yield strength of mild steel deforme bar fy = 413N/mm² (60000psi)

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Details of Abutment Span 20m, Abutment Height 5.5m DRAWING NO. AB-501 PAGE NO. P-79



SECTION: C - C
Scale 1:50

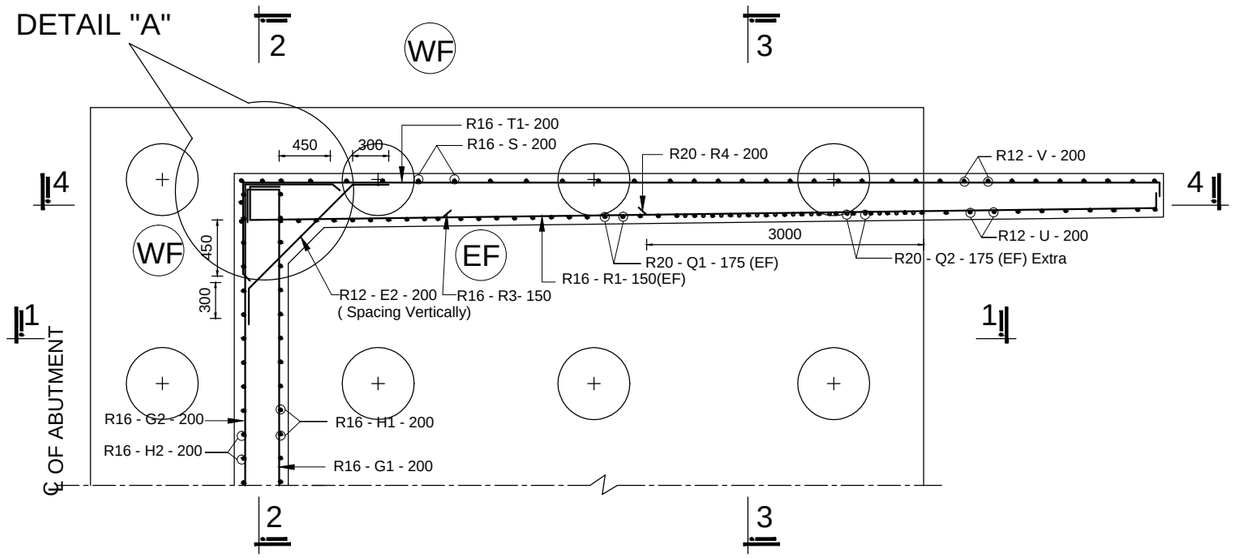


SECTION: B - B
Scale 1:50

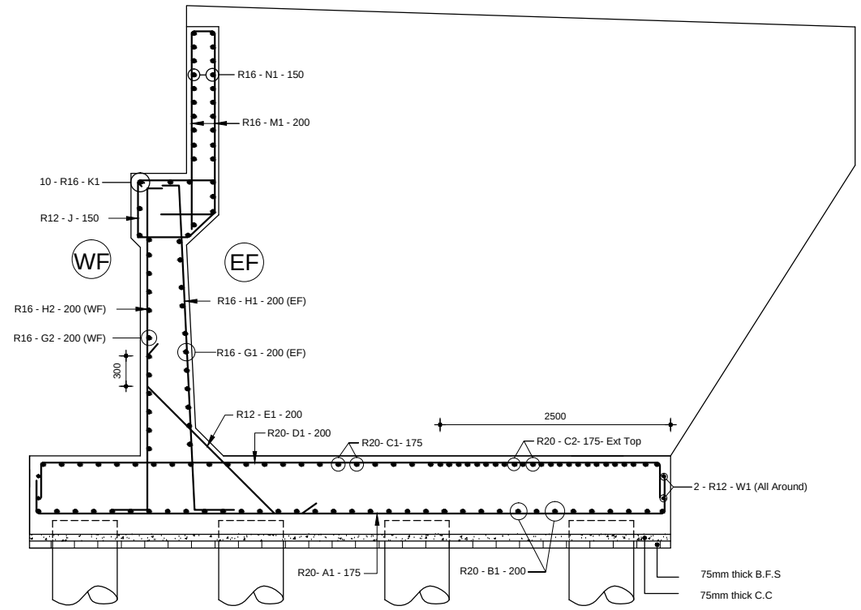
NOTES:

1. All dimensions are in millimeter unless otherwise mentioned.
2 Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
3. 28 days cylinder strength of concrete: f 'c = 25.0N/mm² (3600 psi)
4. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)

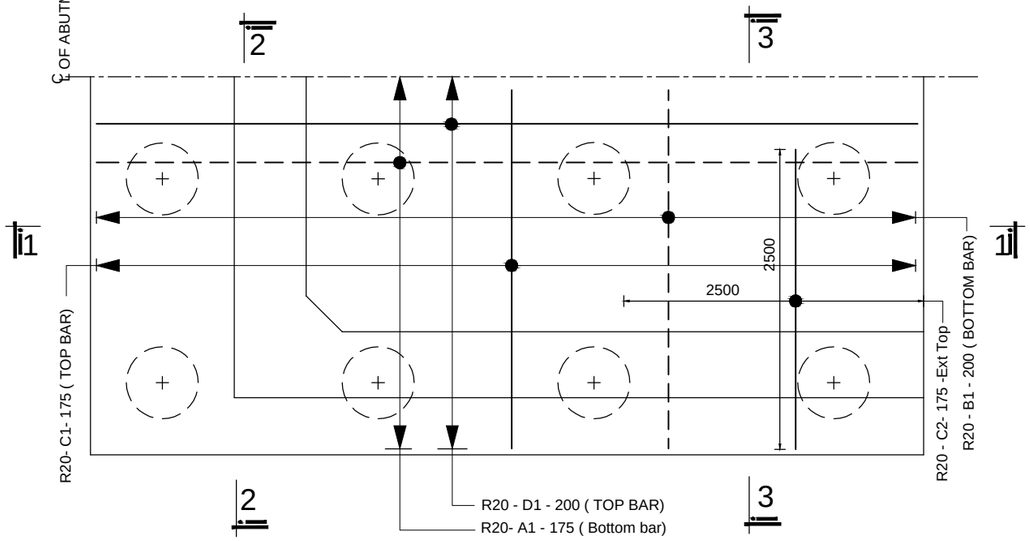
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY		DRAWING TITLE
	PURAKAUSHAL PROJUKTI LIMITED	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	Sectional Elevation of Abutment & Wing wall, Span 20m, Abutment Height 5.5m DRAWING NO. AB-502 PAGE NO. P-80



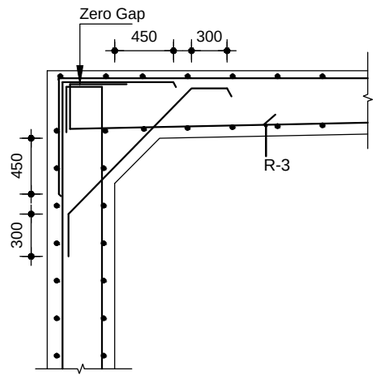
PLAN OF ABUTMENT & WINGWALL
SHOWING REINFORCEMENT



CROSS SECTION OF ABUTMENT (SECTION 1-1)
SHOWING REINFORCEMENT DETAILS
Scale 1:65



PLAN OF PILE CAP
SHOWING REINFORCEMENT
Scale 1:50

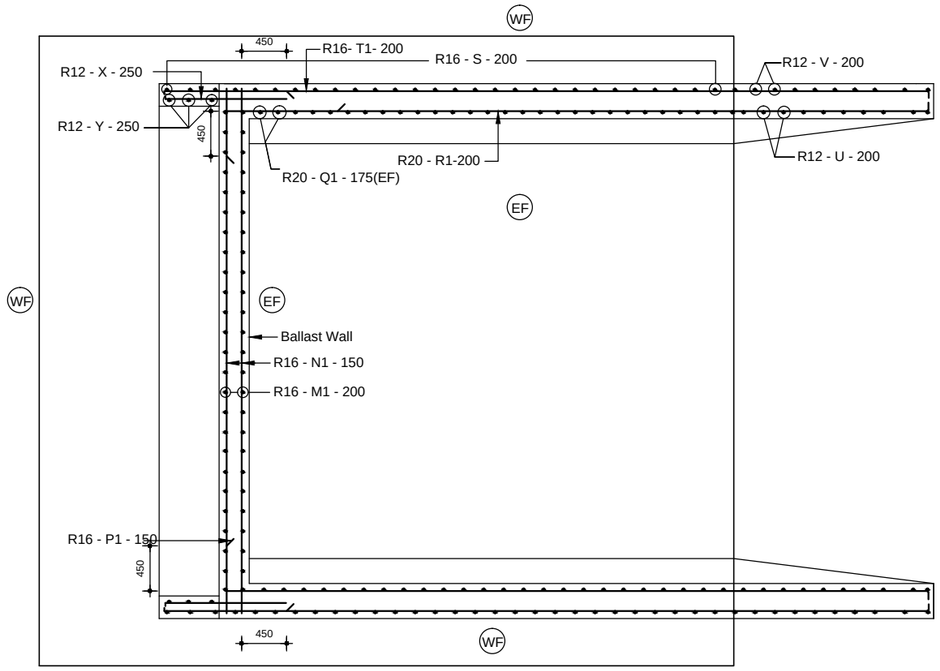


DETAIL "A"
Scale 1:40

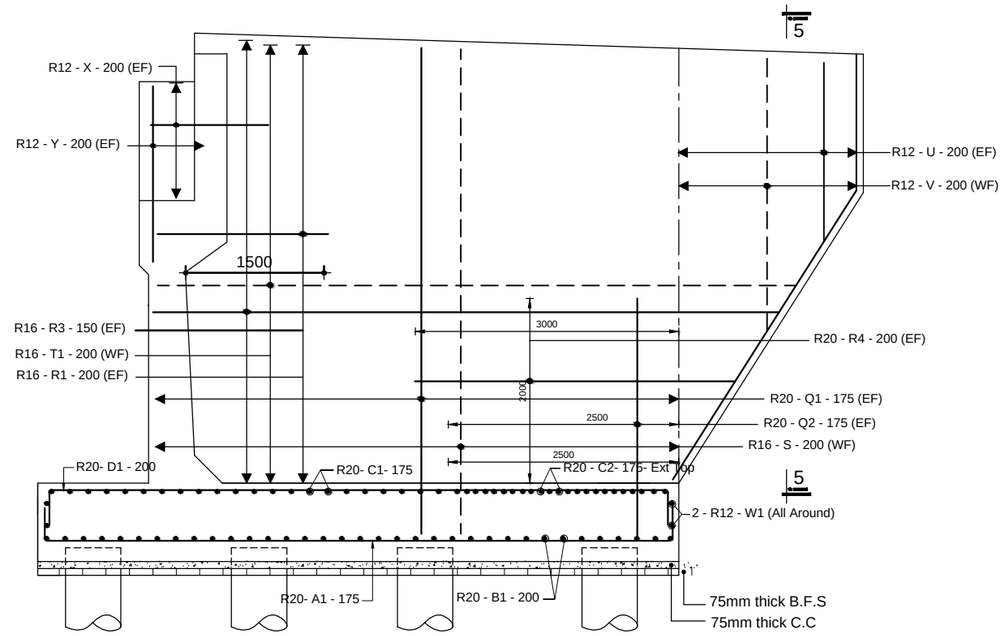
NOTES:

1. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
2. 28 days cylinder strength of concrete: f 'c = 25.0N/mm² (3600 psi)
3. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)
4. EF = Earth Face WF = Water Face

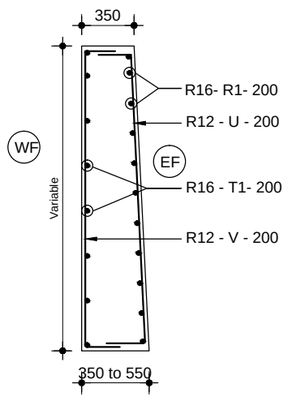
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Reinf. Details of Abutment & Wing wall, Span 20m, Abutment Height 5.5m DRAWING NO. AB-503 PAGE NO. P-81



TOP PLAN OF BALLAST WALL & WINGWALL
SHOWING TOP REINFORCEMENT
Scale 1:60



SECTIONAL ELEVATION OF WINGWALL (SEC. 4 - 4)
SHOWING REINFORCEMENT
Scale 1:65

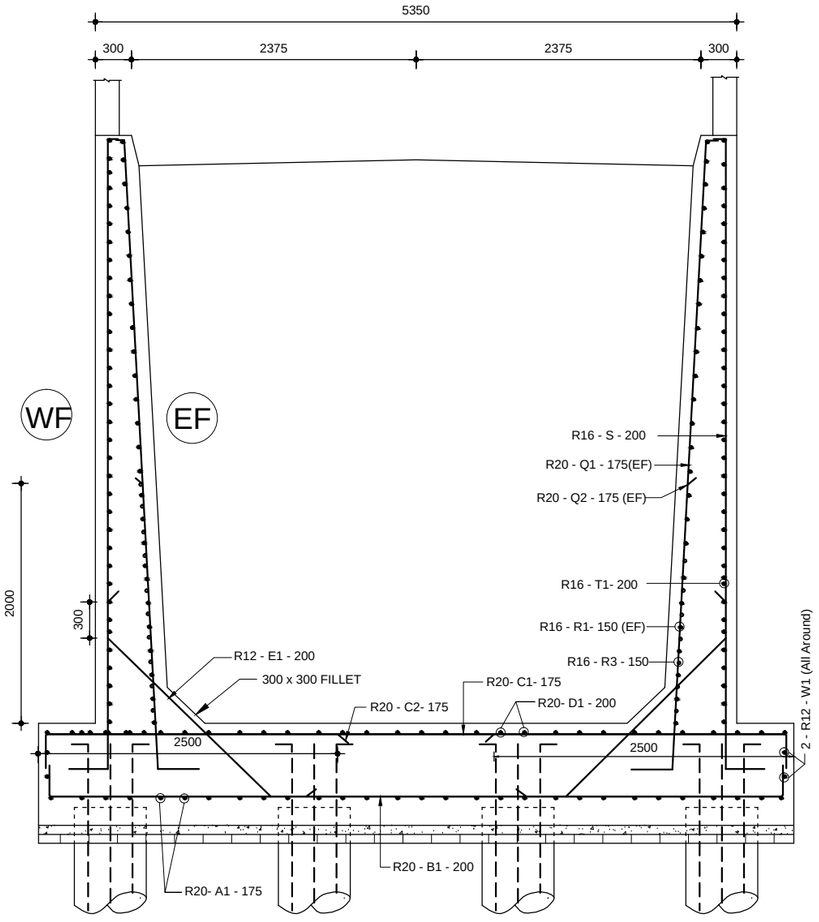


SEC. 5 - 5
Scale 1:40

NOTES:

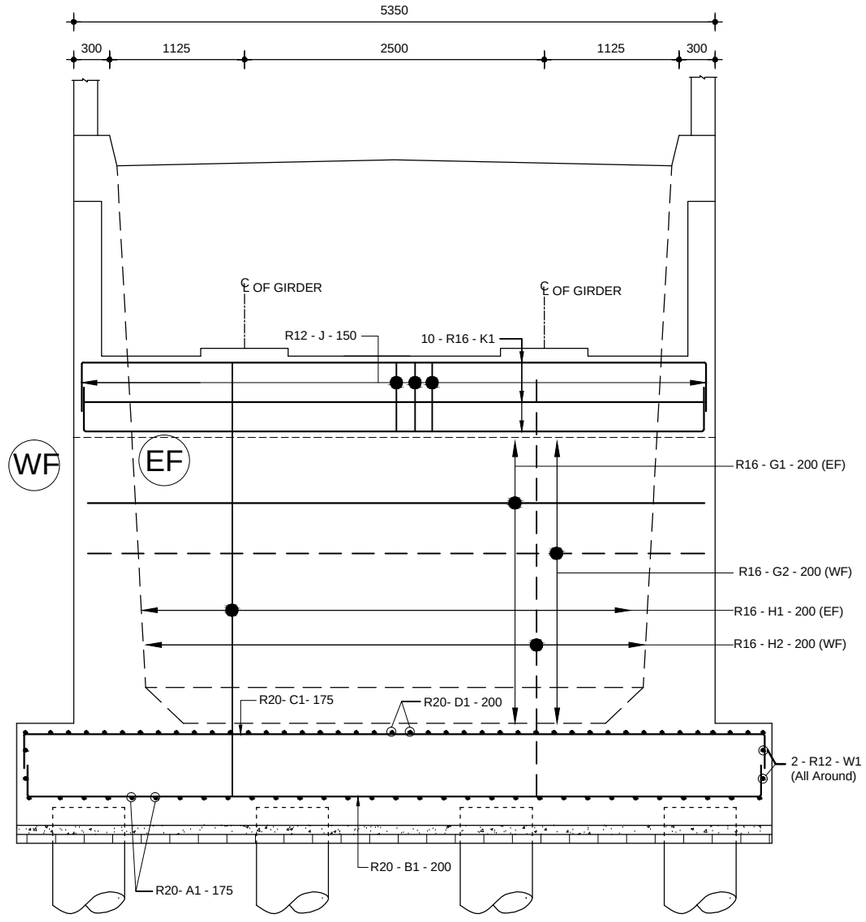
1. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
2. 28 days cylinder strength of concrete: f 'c = 25.0N/mm² (3600 psi)
3. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)
4. EF = Earth Face, WF = Water Face

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY		DRAWING TITLE
	PURAKAUSHAL PROJUKTI LIMITED	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	Reinf. Details of Abutment & Wing wall,Span 20m, Abutment Height 5.5m DRAWING NO. AB-504 PAGE NO. P-82



CROSS SECTION OF WINGWALL (SEC. 3 - 3)
SHOWING REINFORCEMENT

Scale 1:50



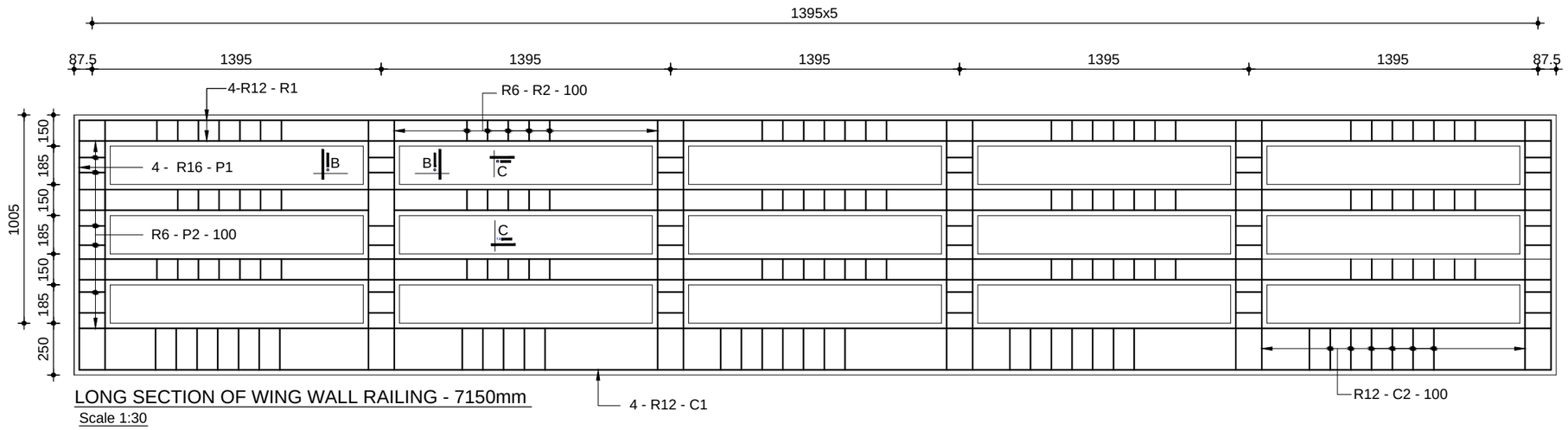
SECTIONAL FRONT ELEVATION OF ABUTMENT (SEC. 2 - 2)
SHOWING REINFORCEMENT

Scale 1:50

NOTES:

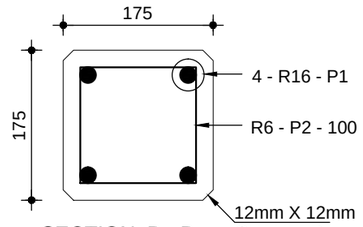
1 Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
2. 28 days cylinder strength of concrete: f 'c = 25.0N/mm² (3600 psi)
3. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)
4. EF = Earth Face, WF = Water Face

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY		DRAWING TITLE
	PURAKAUSHAL PROJUKTI LIMITED	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	Cross Section of Wing wall Showing Reinf. Details, Span 20m, Abutment Height 5.5m DRAWING NO. AB-505 PAGE NO. P-83



LONG SECTION OF WING WALL RAILING - 7150mm

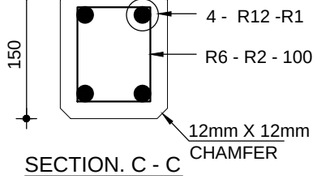
Scale 1:30



SECTION. B - B

RAIL POST

Scale 1:7

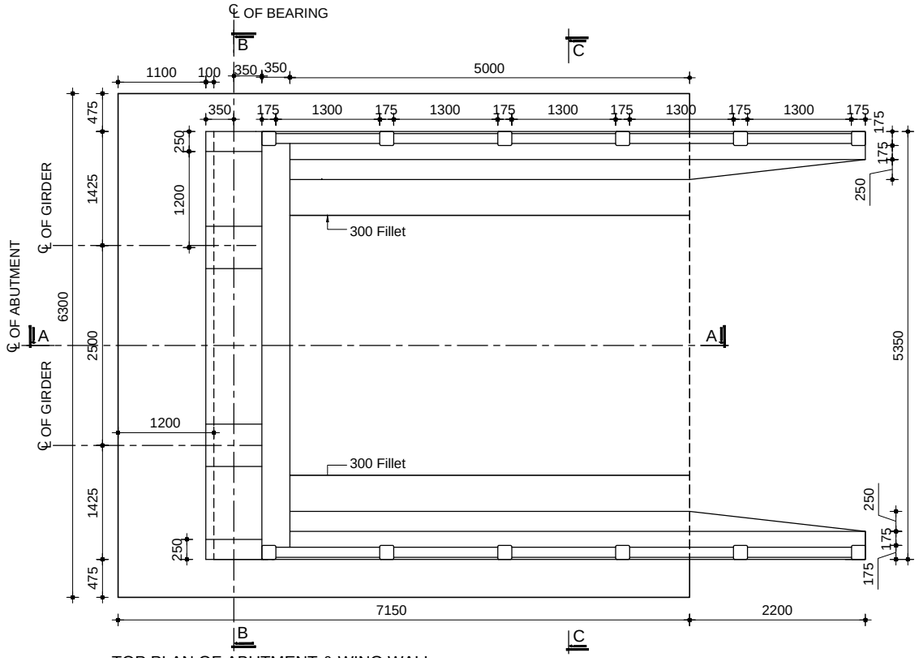


SECTION. C - C

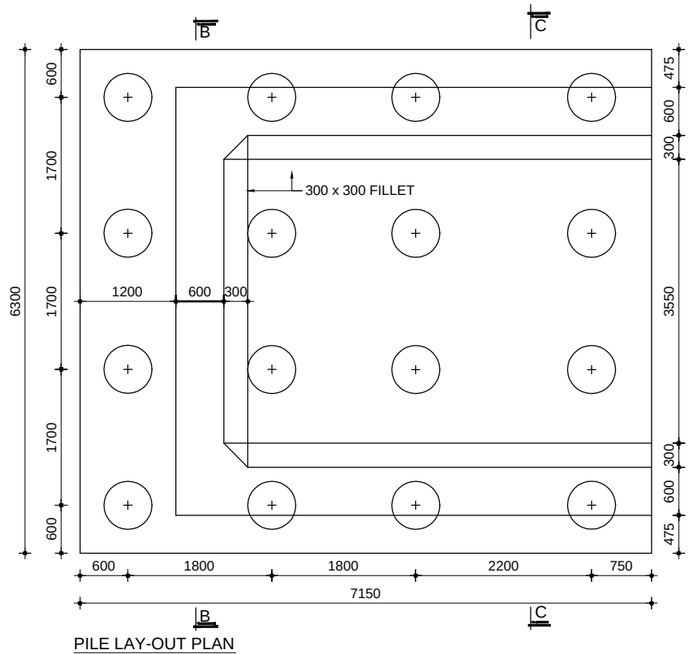
RAIL BAR

Scale 1:7

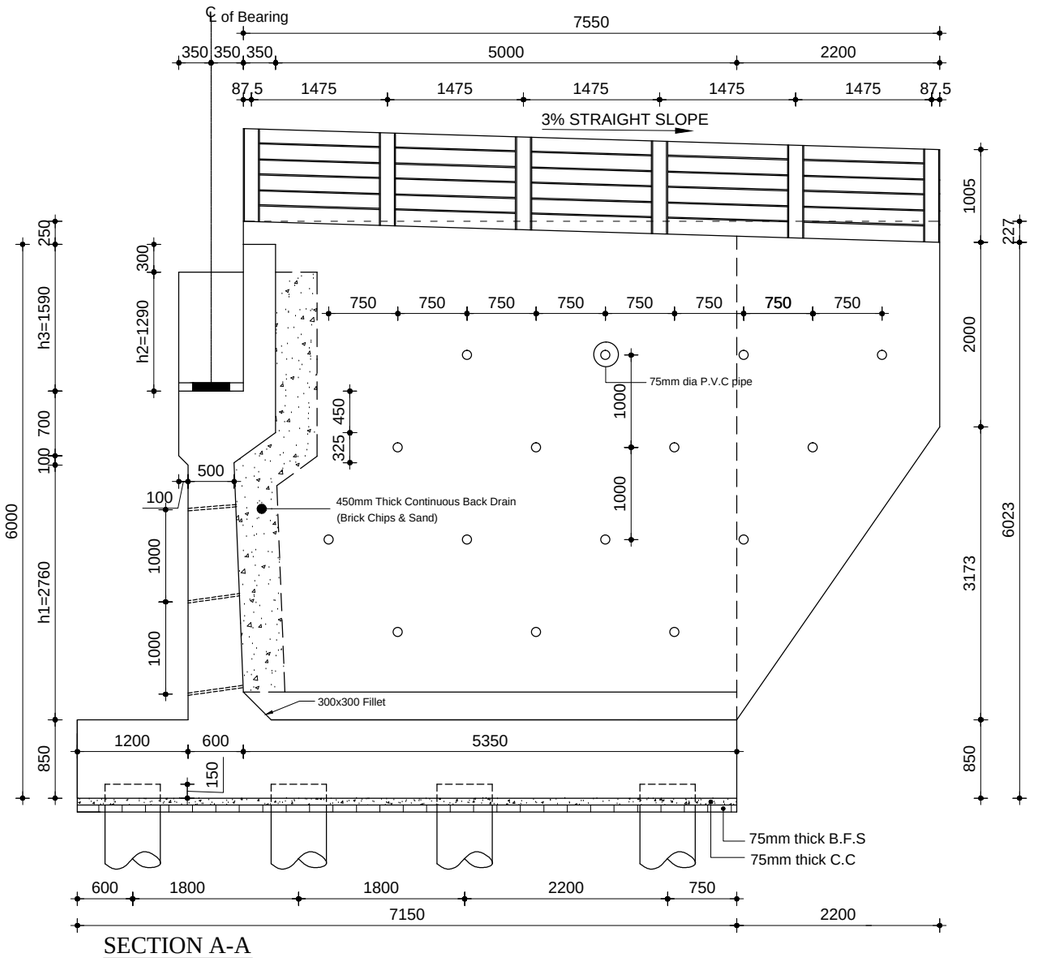
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Details of Railing on Wing wall, Span 20m, Abutment Height 5.5m DRAWING NO. AB-506 PAGE NO. P-84



TOP PLAN OF ABUTMENT & WING WALL



PILE LAY-OUT PLAN
Scale 1:75



SECTION A-A
Scale 1:65

Abutment Height 6m. Table: 6a							
Span Length (m)	Girder Depth (mm)	h1(mm)	h2 (mm)	h3 (mm)	a1	a2	a3
14	1100	3160	890	1190	350	350	350
16	1300	2960	1090	1390	350	350	350
18	1400	2860	1190	1490	350	350	350
20	1500	2760	1290	1590	350	350	350
22	1800	2460	1590	1890	350	350	350
24	2000	2260	1790	2090	350	350	350

NOTES:

1. Abutment Details for 20m span.
2. For other span length Table No. 6a shall be followed.
3. All dimensions are in millimeter unless otherwise mentioned.
4. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
5. 28 days cylinder strength of concrete: f 'c = 25.0N/mm² (3600 psi)
6. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

PURAKAUSHAL PROJUKTI LIMITED

House # C10, Road # 4 ,Banasree, Rampura- 1219.
E-maill: pproiltd@yahoo.com

NAME OF PROJECT:

LOCATION:

UPAZILA:

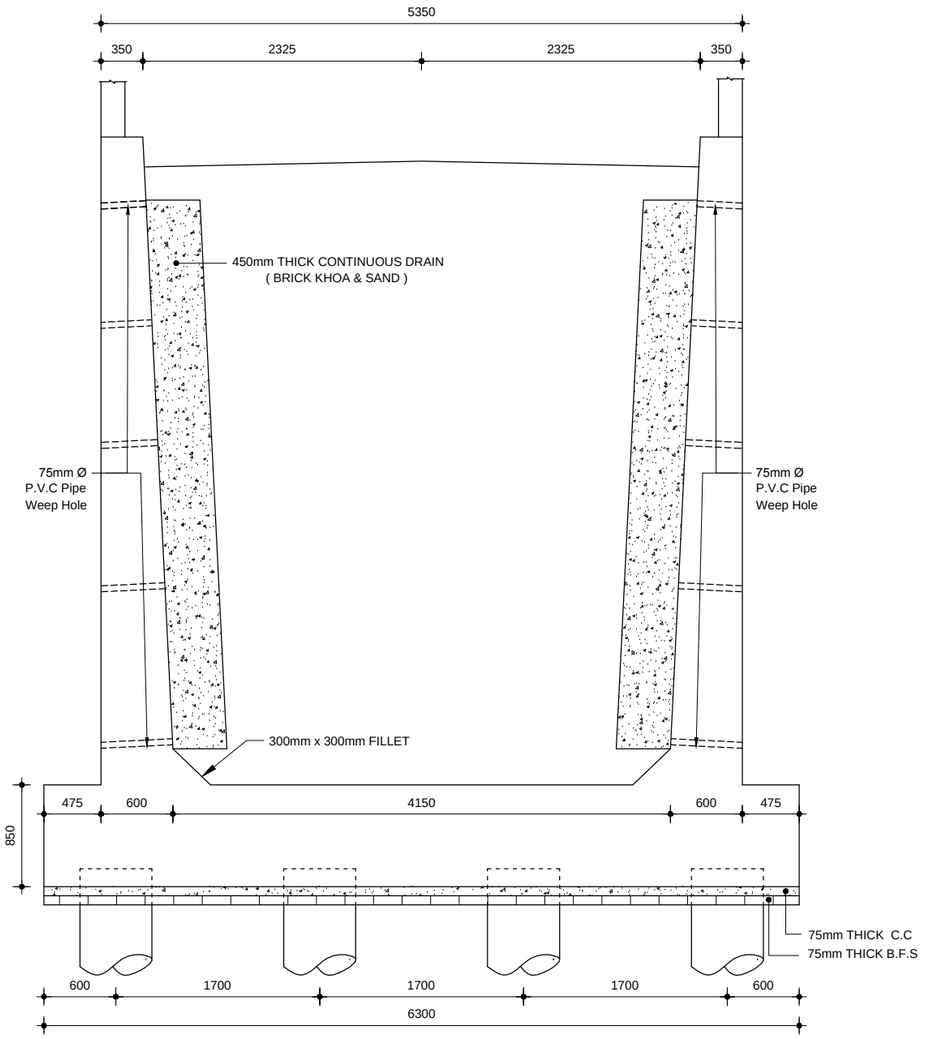
DISTRICT:

DRAWING TITLE

Details of Abutment
Span 20m, Abutment Height 6m.

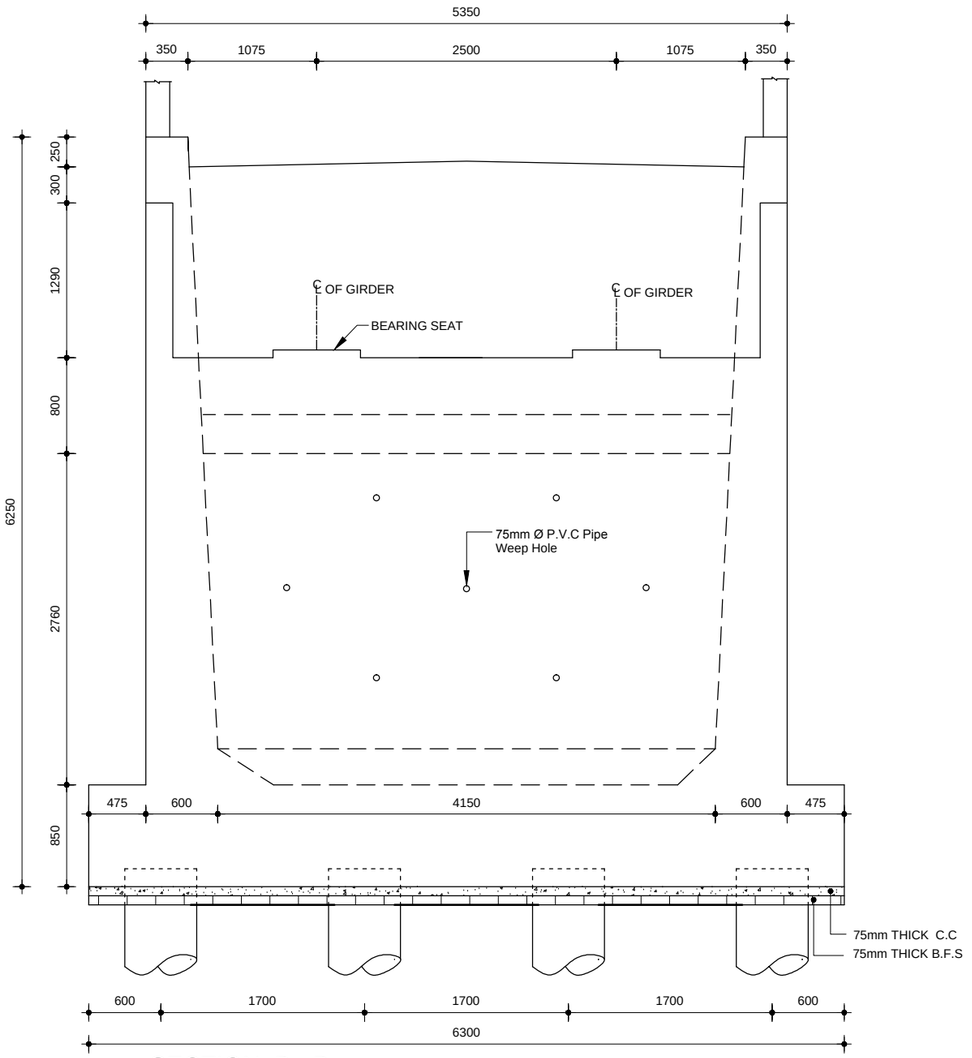
DRAWING NO. AB-601

PAGE NO. P-85



SECTION: C - C

Scale 1:50



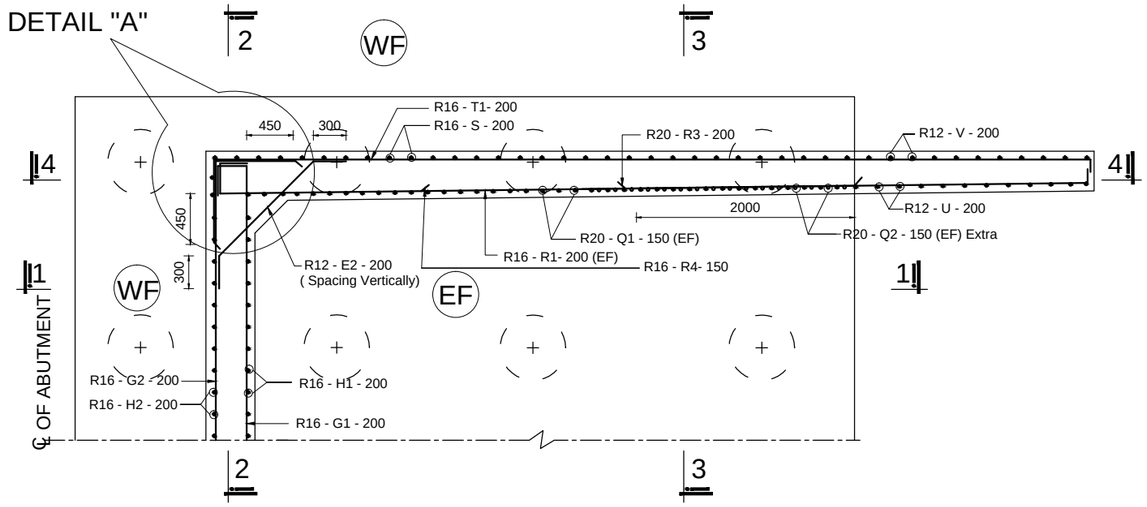
SECTION: B - B

Scale 1:50

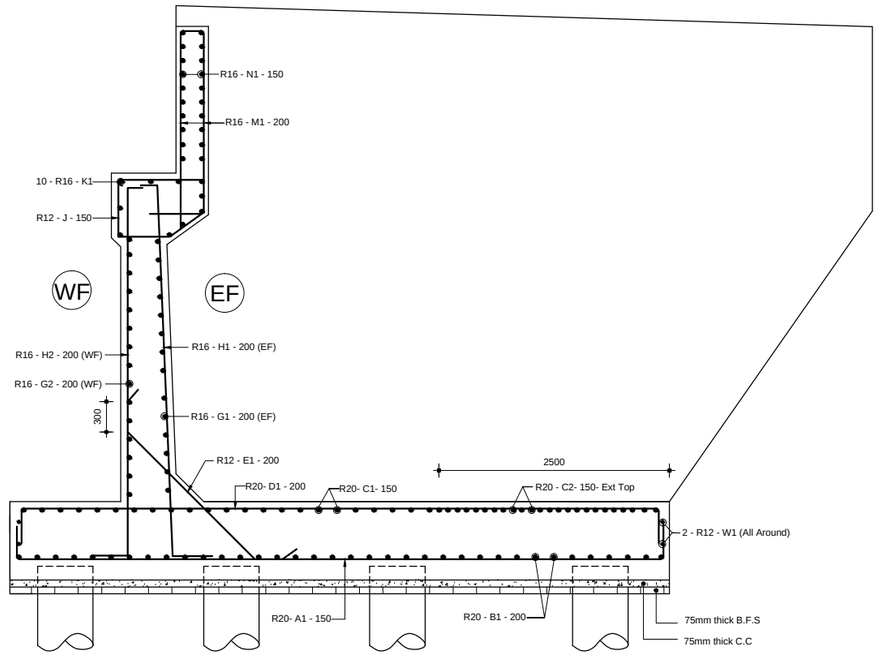
NOTES:

1. All dimensions are in millimeter unless otherwise mentioned.
2. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
3. 28 days cylinder strength of concrete: f 'c = 25.0N/mm² (3600 psi)
4. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)

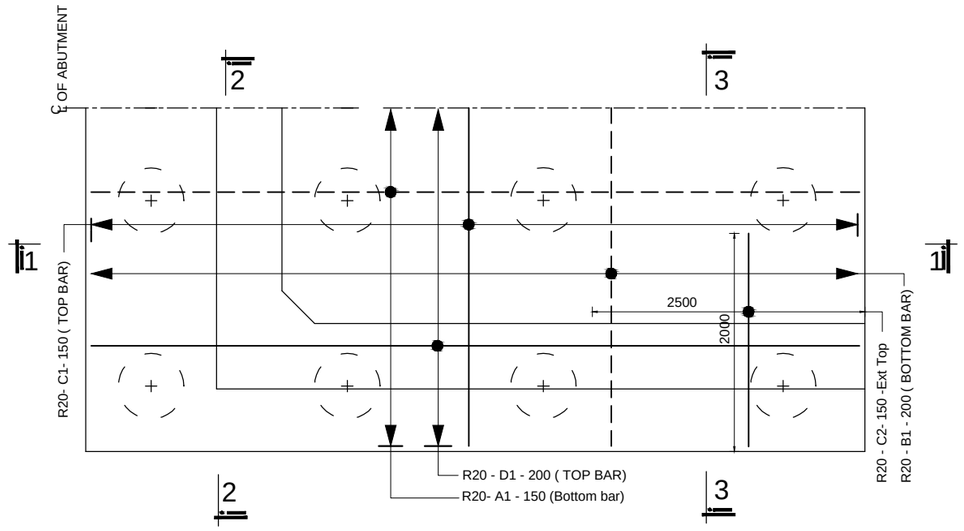
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Sectional Elevation of Abutment & Wing wall, Span 20m, Abutment Height 6m. DRAWING NO. AB-602 PAGE NO. P-86



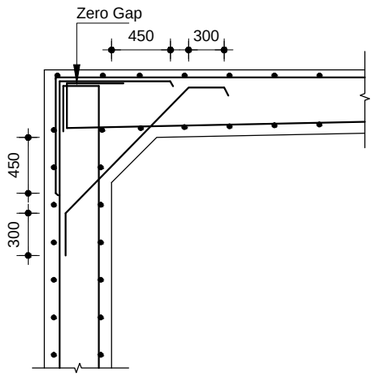
PLAN OF ABUTMENT & WINGWALL
SHOWING REINFORCEMENT



CROSS SECTION OF ABUTMENT (SECTION 1-1)
SHOWING REINFORCEMENT DETAILS
Scale 1:65



PLAN OF PILE CAP
SHOWING REINFORCEMENT
Scale 1:55

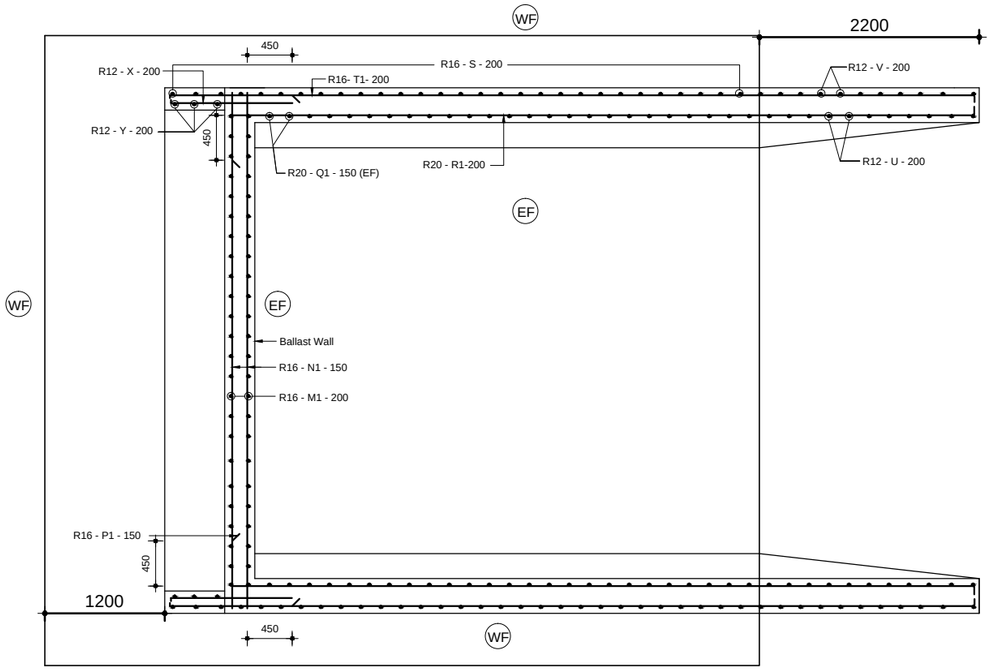


DETAIL "A"
Scale 1:40

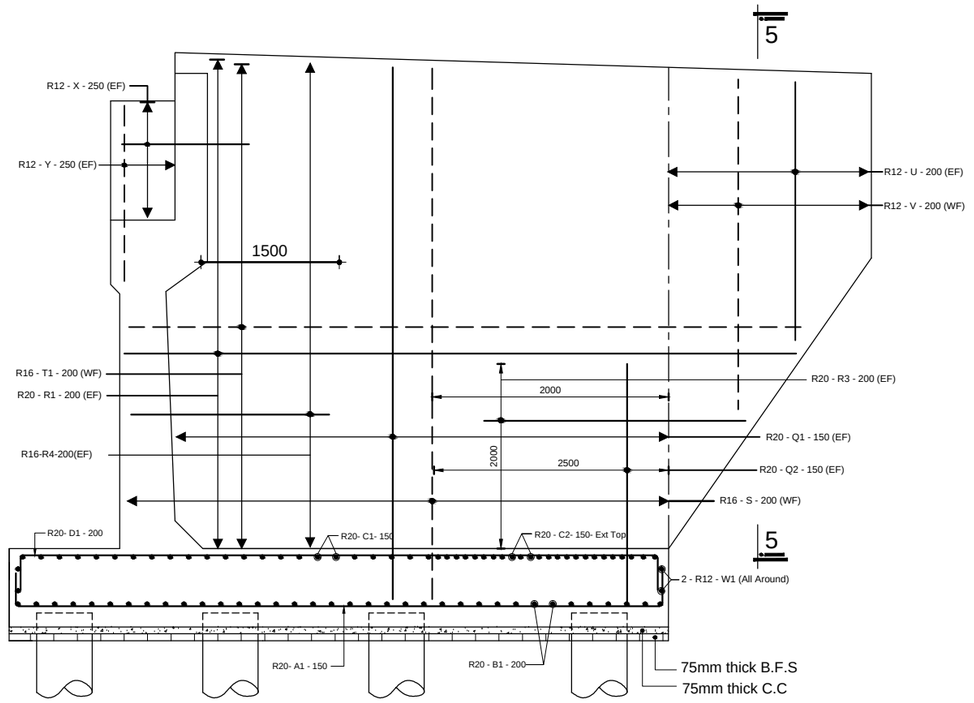
NOTES:

1. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
2. 28 days cylinder strength of concrete: f 'c = 25.0N/mm² (3600 psi)
3. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)
4. EF = Earth Face WF = Water Face

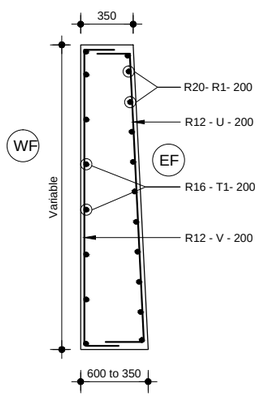
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Reinf. Details of Abutment & Wing wall, Span 20m, Abutment Height 6m. DRAWING NO. AB-603 PAGE NO. P-87



TOP PLAN OF BALLAST WALL & WINGWALL
SHOWING TOP REINFORCEMENT
Scale 1:60



SECTIONAL ELEVATION OF WINGWALL (SEC. 4 - 4)
SHOWING REINFORCEMENT
Scale 1:65

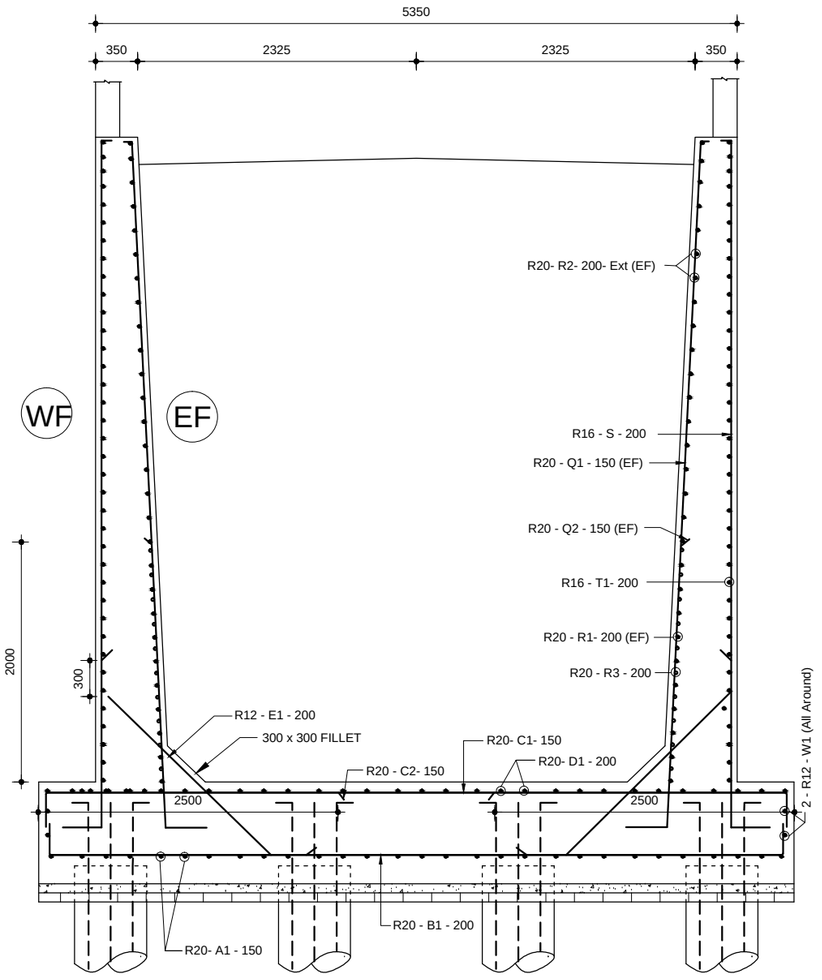


SEC. 5 - 5
Scale 1:40

NOTES:

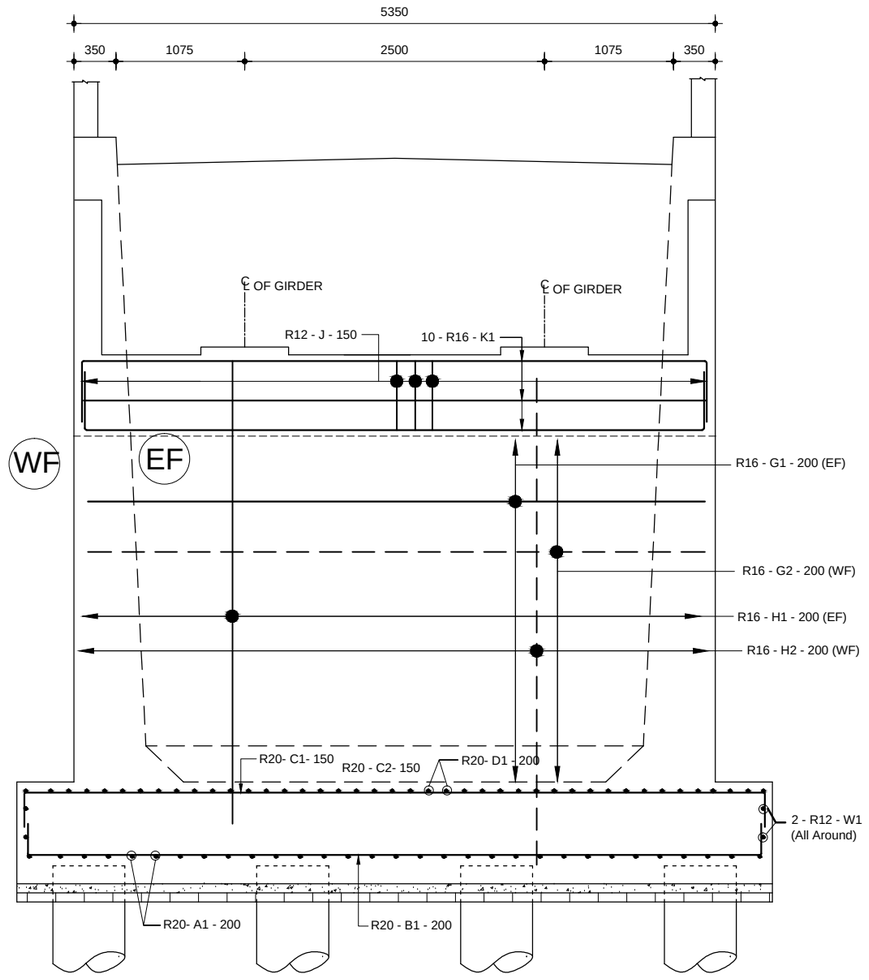
1. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
2. 28 days cylinder strength of concrete: f 'c = 25.0N/mm² (3600 psi)
3. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)
4. EF = Earth Face, WF = Water Face

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Reinf. Details of Abutment & Wing wall, Span 20m, Abutment Height 6m. DRAWING NO. AB-604 PAGE NO. P-88



CROSS SECTION OF WINGWALL (SEC. 3 - 3)
SHOWING REINFORCEMENT

Scale 1:50



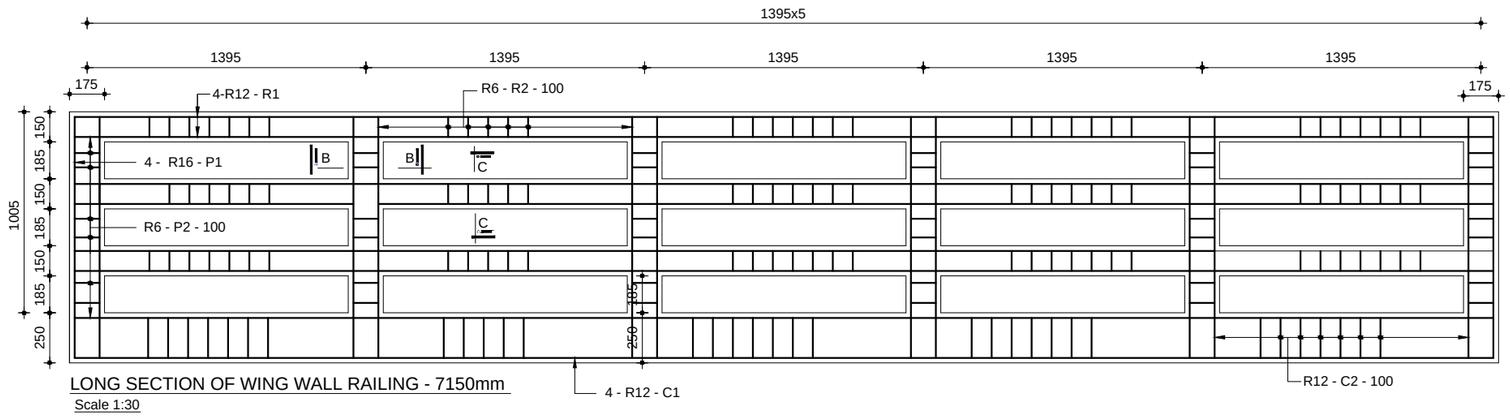
SECTIONAL FRONT ELEVATION OF ABUTMENT (SEC. 2 - 2)
SHOWING REINFORCEMENT

Scale 1:50

NOTES:

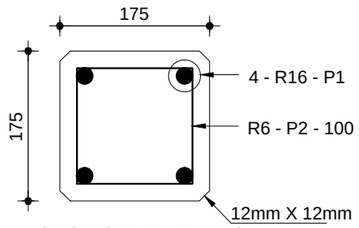
1. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
2. 28 days cylinder strength of concrete: f 'c = 25.0N/mm² (3600 psi)
3. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)
4. EF = Earth Face, WF = Water Face

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Cross Section of Wing wall Showing Reinf. Details, Span 20m, Abutment Height 6m. DRAWING NO. AB-605 PAGE NO. P-89



LONG SECTION OF WING WALL RAILING - 7150mm

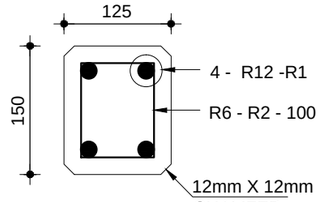
Scale 1:30



SECTION. B - B

RAIL POST

Scale 1:7

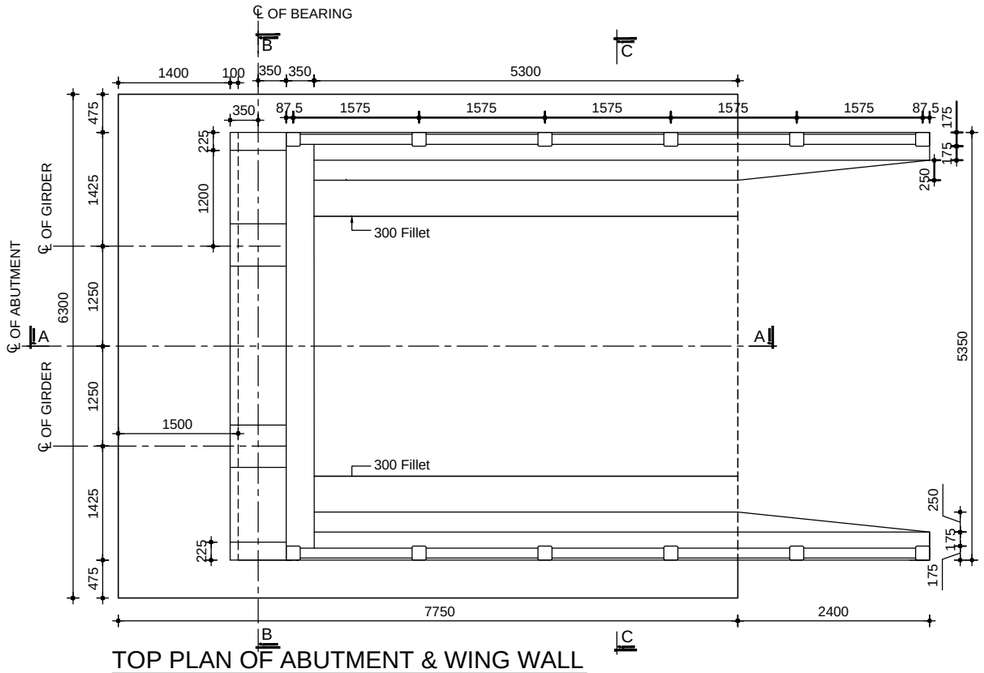


SECTION. C - C

RAIL BAR

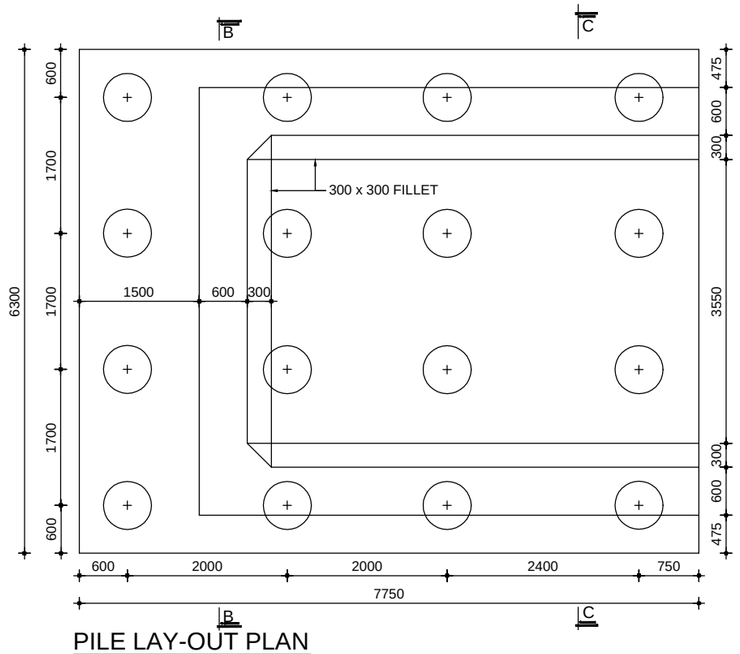
Scale 1:7

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Details of Abutment Railing, Span 20m, Abutment Height 6m. DRAWING NO. AB-606 PAGE NO. P-90



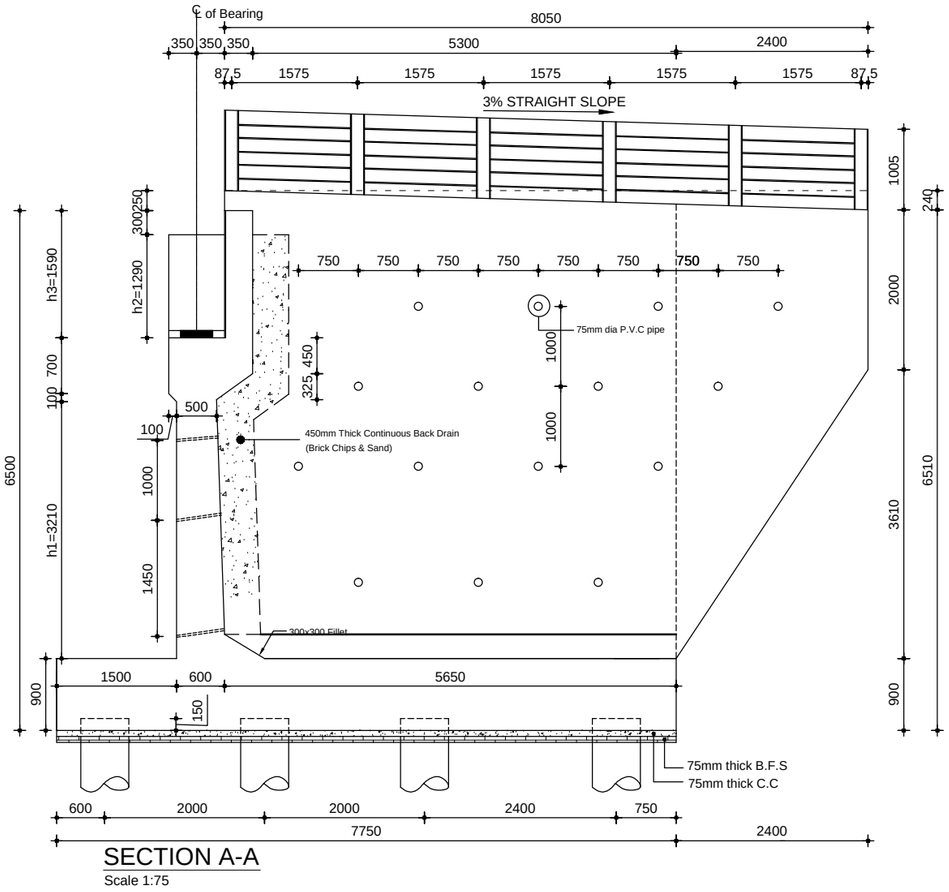
TOP PLAN OF ABUTMENT & WING WALL

Scale 1:75



PILE LAY-OUT PLAN

Scale 1:75



SECTION A-A

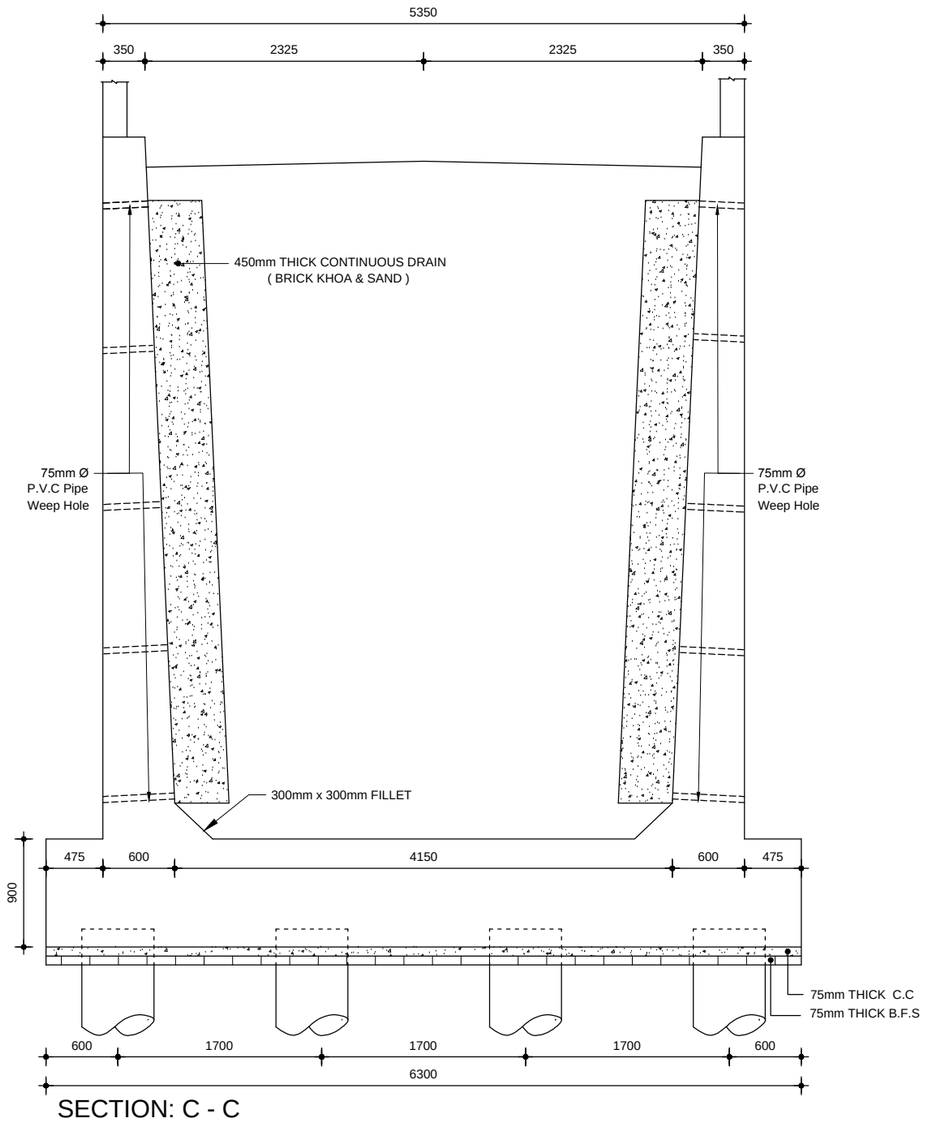
Scale 1:75

Abutment Details for 20m. Span Table: 6b							
Span Length (m)	Girder Depth (mm)	h1(mm)	h2 (mm)	h3 (mm)	a1	a2	a3
18	1400	3310	1190	1490	350	350	350
20	1500	3210	1290	1590	350	350	350
22	1800	2910	1590	1890	350	350	350
24	2000	2710	1790	2090	350	350	350

NOTES:

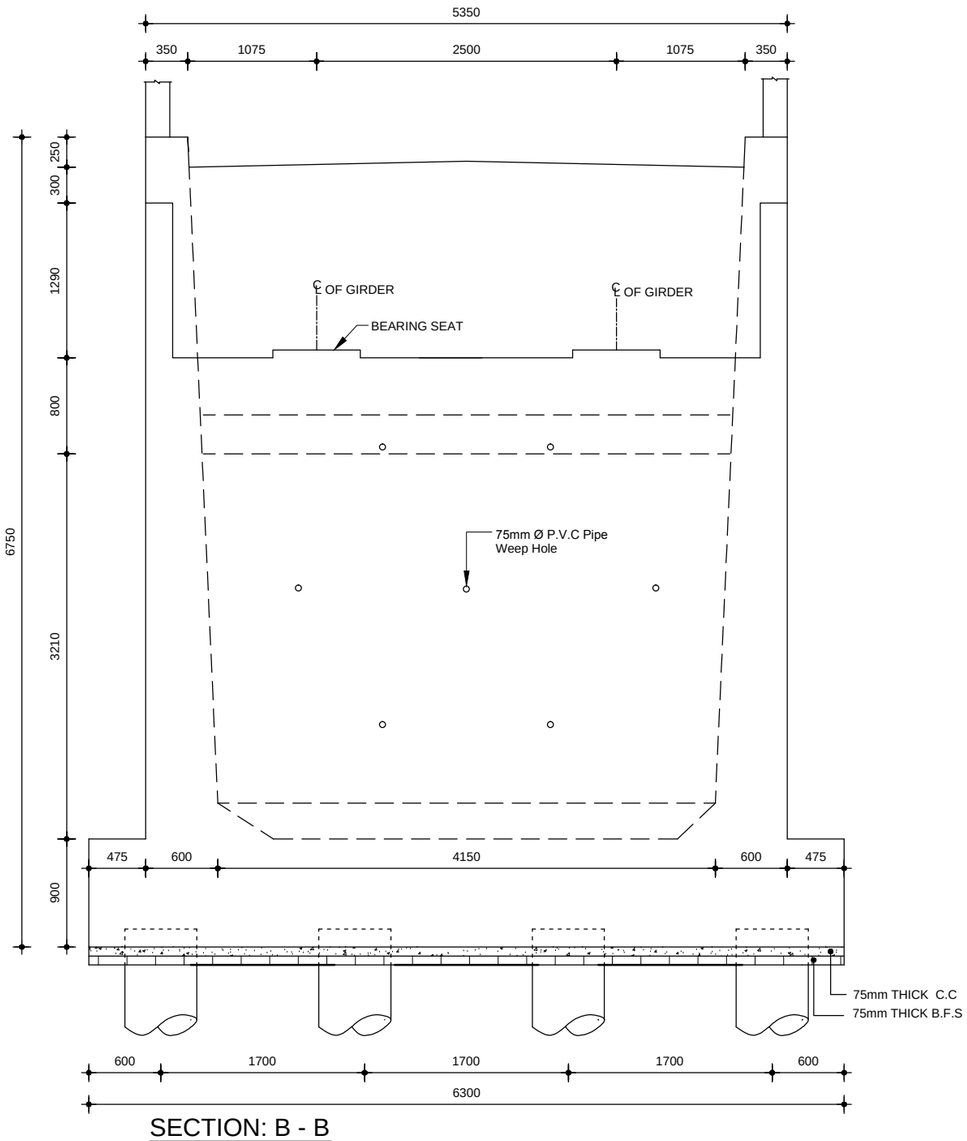
1. Abutment Details for 20m. span.
2. For other span length Table No. 6b shall be followed.
3. All dimensions are in millimeter unless otherwise mentioned.
4. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
5. 28 days cylinder strength of concrete: f 'c = 25.0N/mm² (3600 psi)
6. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Details of Abutment Span 20m, Abutment Height 6.5m DRAWING NO. AB-701 PAGE NO. P-91



SECTION: C - C

Scale 1:50



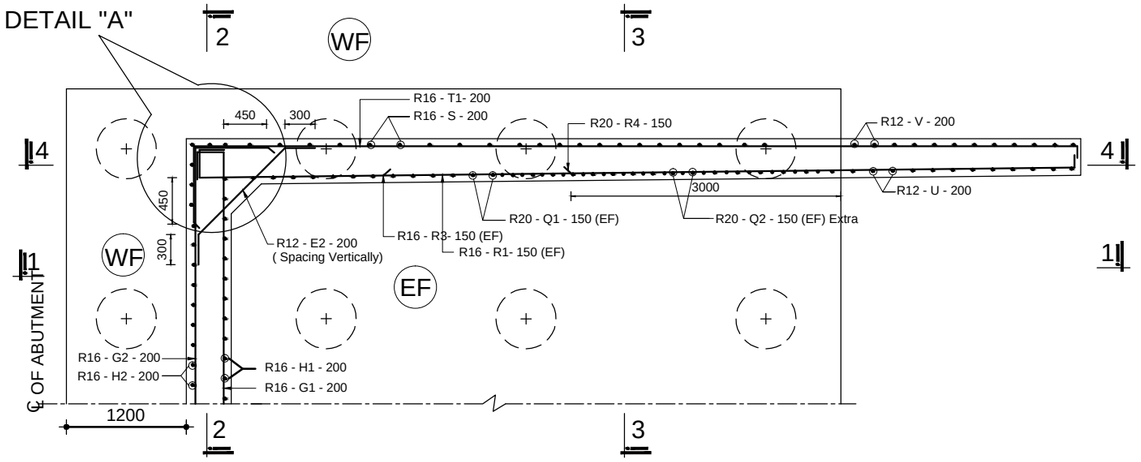
SECTION: B - B

Scale 1:50

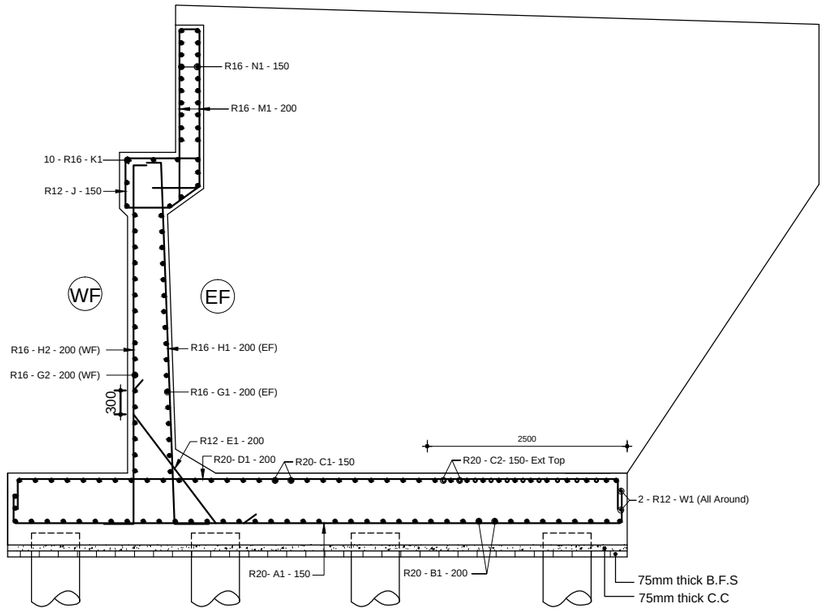
NOTES:

1. All dimensions are in millimeter unless otherwise mentioned.
2. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
3. 28 days cylinder strength of concrete: f 'c = 25.0N/mm² (3600 psi)
4. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)

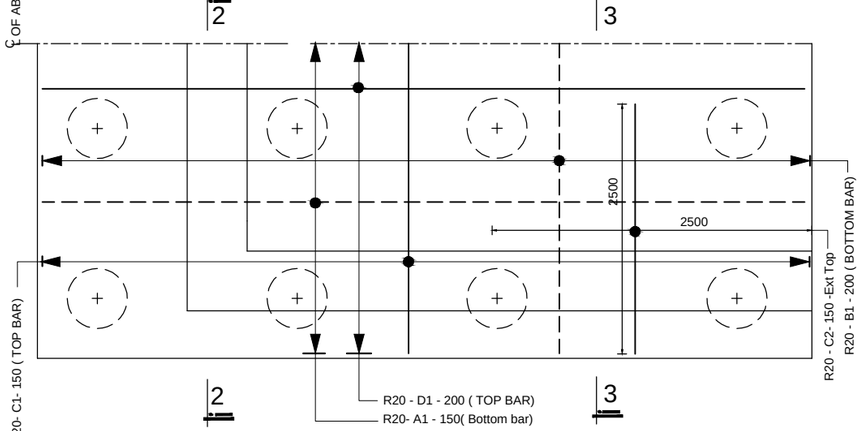
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Sectional Elevation of Abutment & Wing wall, Span 20m Abutment Height 6.5m DRAWING NO. AB-702 PAGE NO. P-92



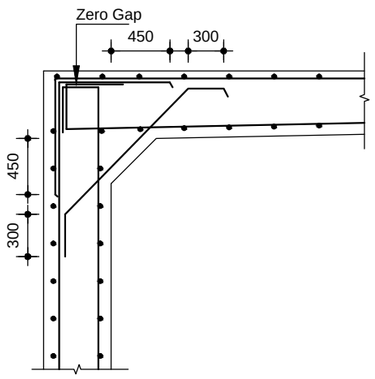
PLAN OF ABUTMENT & WINGWALL
SHOWING REINFORCEMENT



CROSS SECTION OF ABUTMENT (SECTION 1-1)
SHOWING REINFORCEMENT DETAILS
Scale 1:75



PLAN OF PILE CAP
SHOWING REINFORCEMENT
Scale 1:60

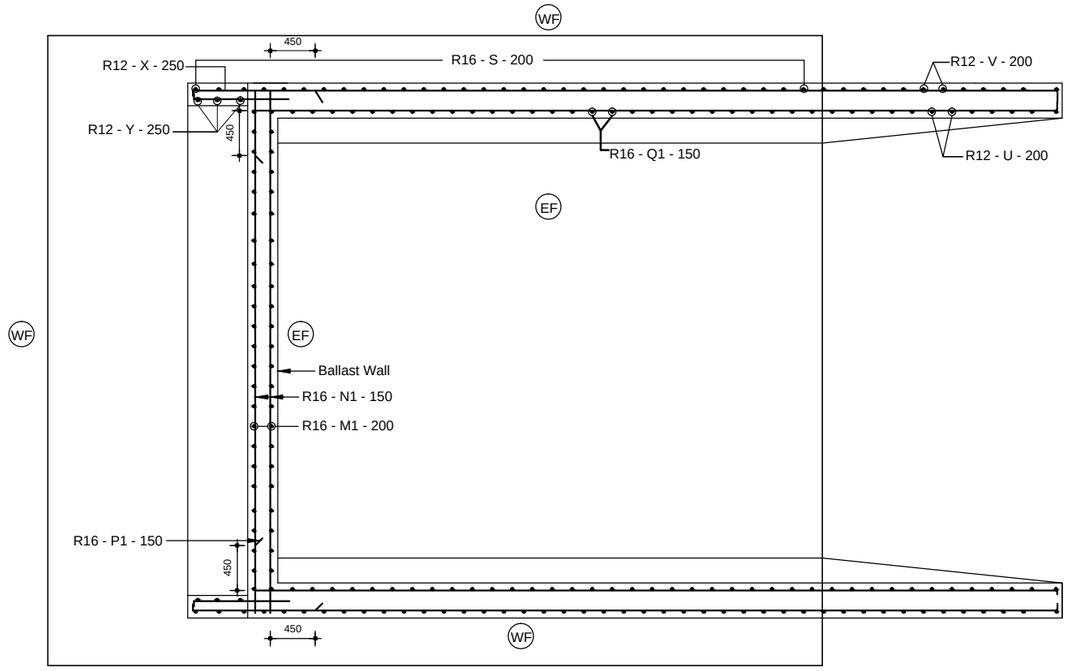


DETAIL "A"
Scale 1:40

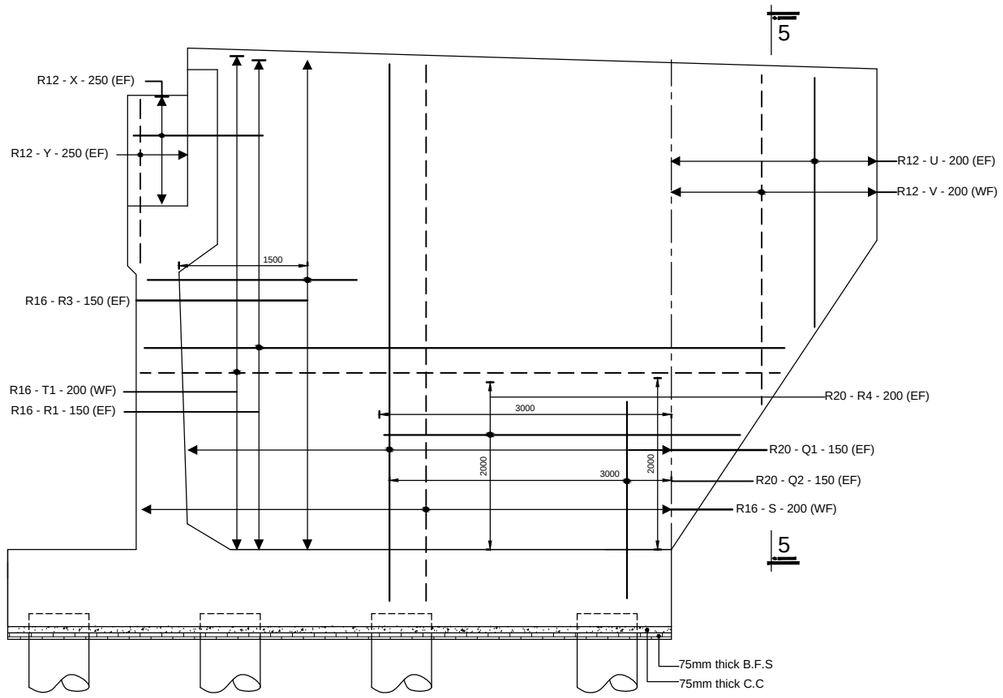
NOTES:

1. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
2. 28 days cylinder strength of concrete: f 'c = 25.0N/mm² (3600 psi)
3. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)
4. EF = Earth Face WF = Water Face

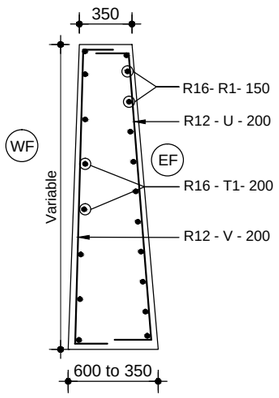
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY		DRAWING TITLE
	PURAKAUSHAL PROJUKTI LIMITED	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	Reinf. Details of Abutment & Wing wall, Span 20m Abutment Height 6.5m DRAWING NO. AB-703 PAGE NO. P-93



TOP PLAN OF BALLAST WALL & WINGWALL
SHOWING TOP REINFORCEMENT
Scale 1:60



SECTIONAL ELEVATION OF WINGWALL (SEC. 4 - 4)
SHOWING REINFORCEMENT
Scale 1:70

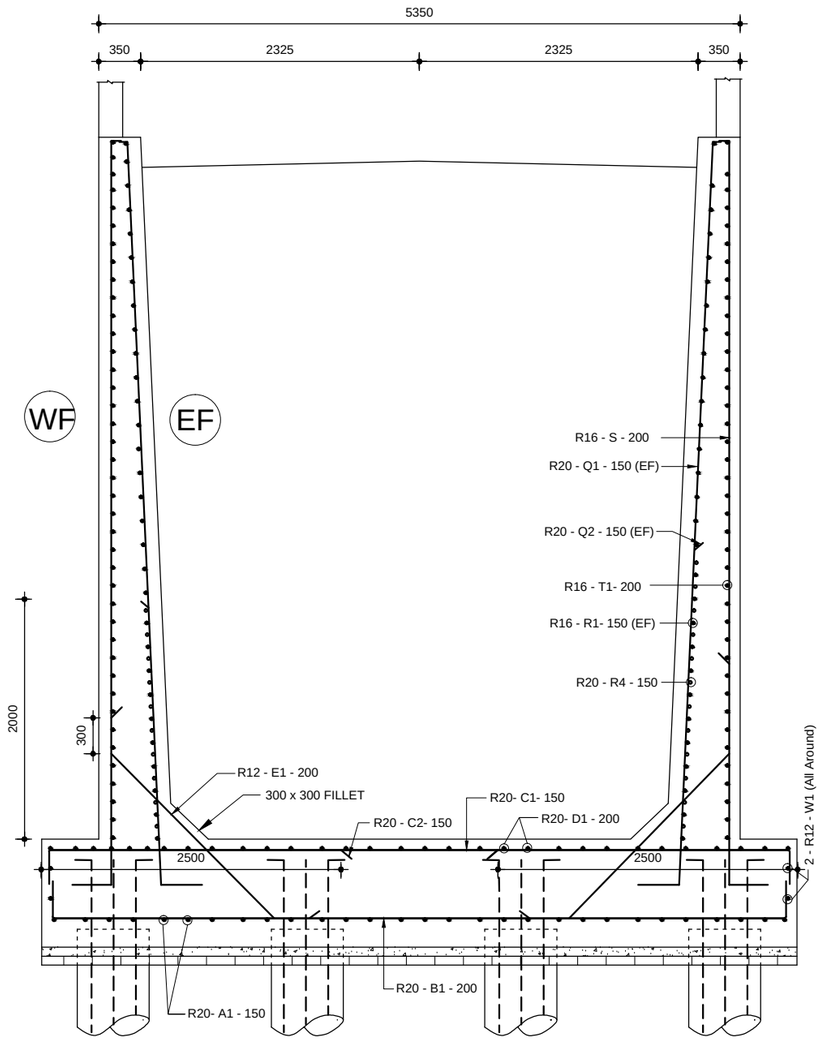


SEC. 5 - 5
Scale 1:40

NOTES:

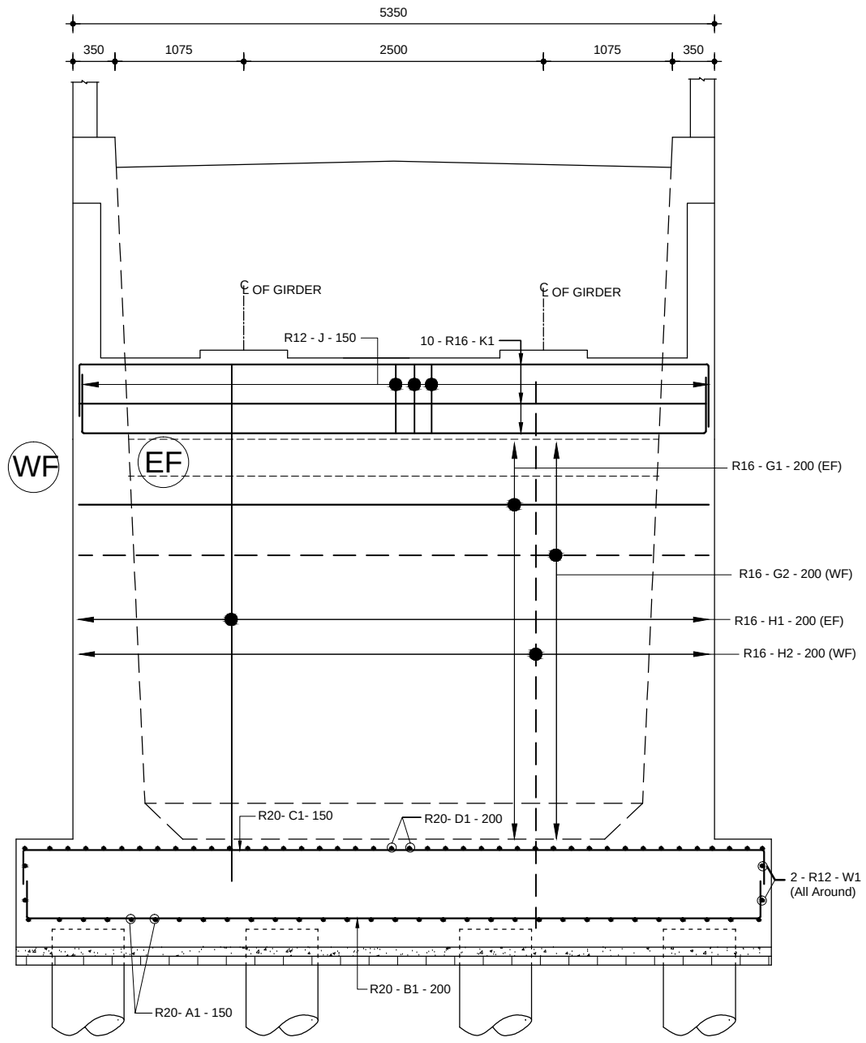
1. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
2. 28 days cylinder strength of concrete: f 'c = 25.0N/mm (3600 psi)
3. Yield strength of mild steel deformed bar fy = 413N/mm (60000psi)
4. EF = Earth Face, WF = Water Face

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY		DRAWING TITLE
	PURAKAUSHAL PROJUKTI LIMITED	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	Reinf. Details of Abutment & Wing wall, Span 20m Abutment Height 6.5m DRAWING NO. AB-704 PAGE NO. P-94



CROSS SECTION OF WINGWALL (SEC. 3 - 3)
SHOWING REINFORCEMENT

Scale 1:50



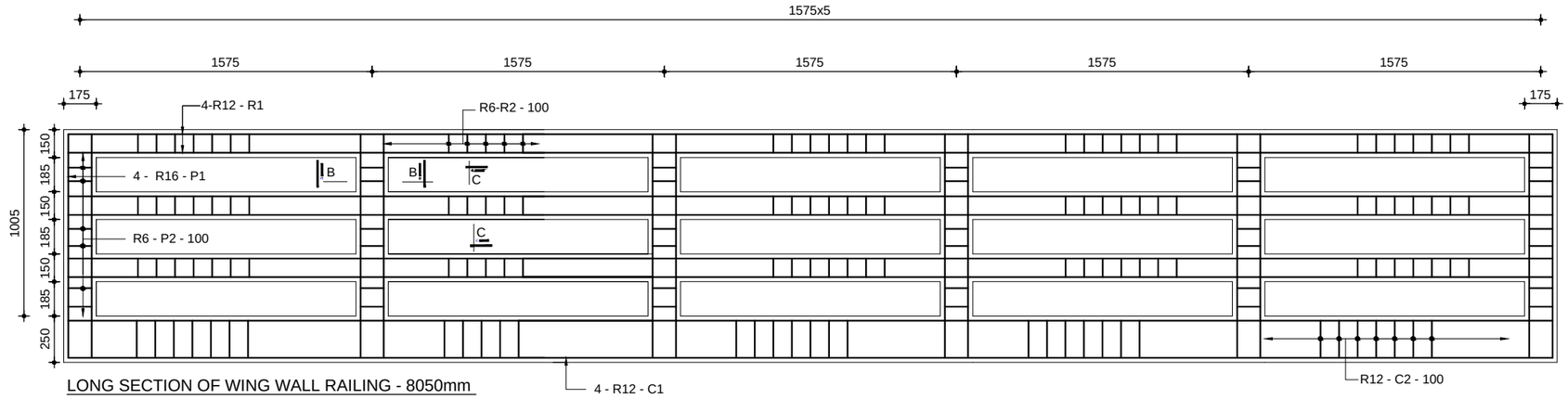
SECTIONAL FRONT ELEVATION OF ABUTMENT (SEC. 2 - 2)
SHOWING REINFORCEMENT

Scale 1:50

NOTES:

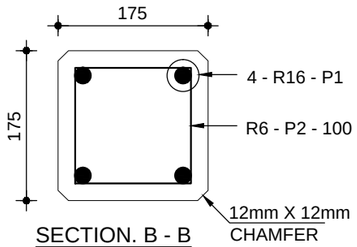
1. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
2. 28 days cylinder strength of concrete: f 'c = 25.0N/mm² (3600 psi)
3. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)
4. EF = Earth Face, WF = Water Face

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY		DRAWING TITLE
	PURAKAUSHAL PROJUKTI LIMITED	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	Cross Section of Wing wall Showing Reinf. Details, Span 20m Abutment Height 6.5m DRAWING NO. AB-705 PAGE NO. P-95



LONG SECTION OF WING WALL RAILING - 8050mm

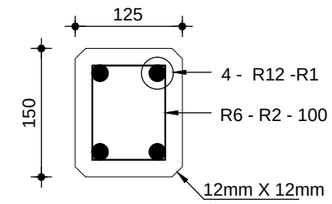
Scale 1:30



SECTION. B - B

RAIL POST

Scale 1:7

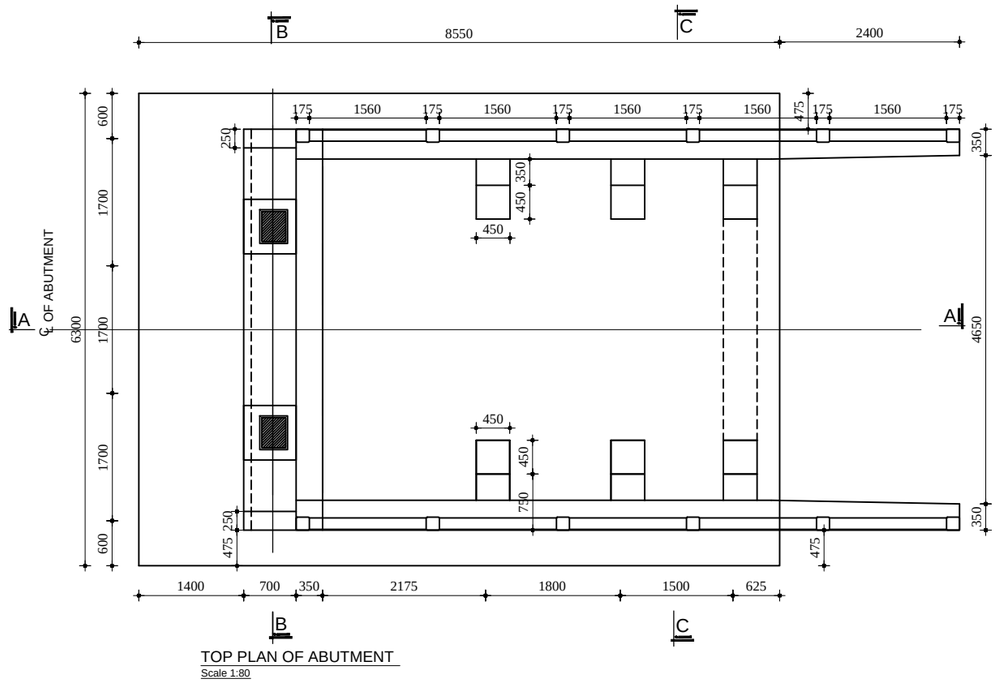


SECTION. C - C

RAIL BAR

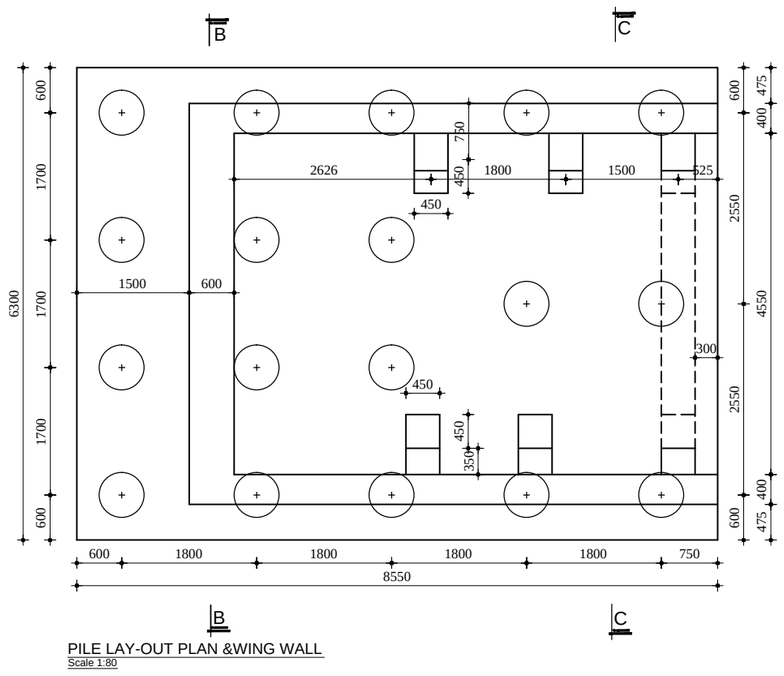
Scale 1:7

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY		DRAWING TITLE
	PURAKAUSHAL PROJUKTI LIMITED	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	Details of Abutment Railing, Span 20m Abutment Height 6.5m DRAWING NO. AB-706 PAGE NO. P-96



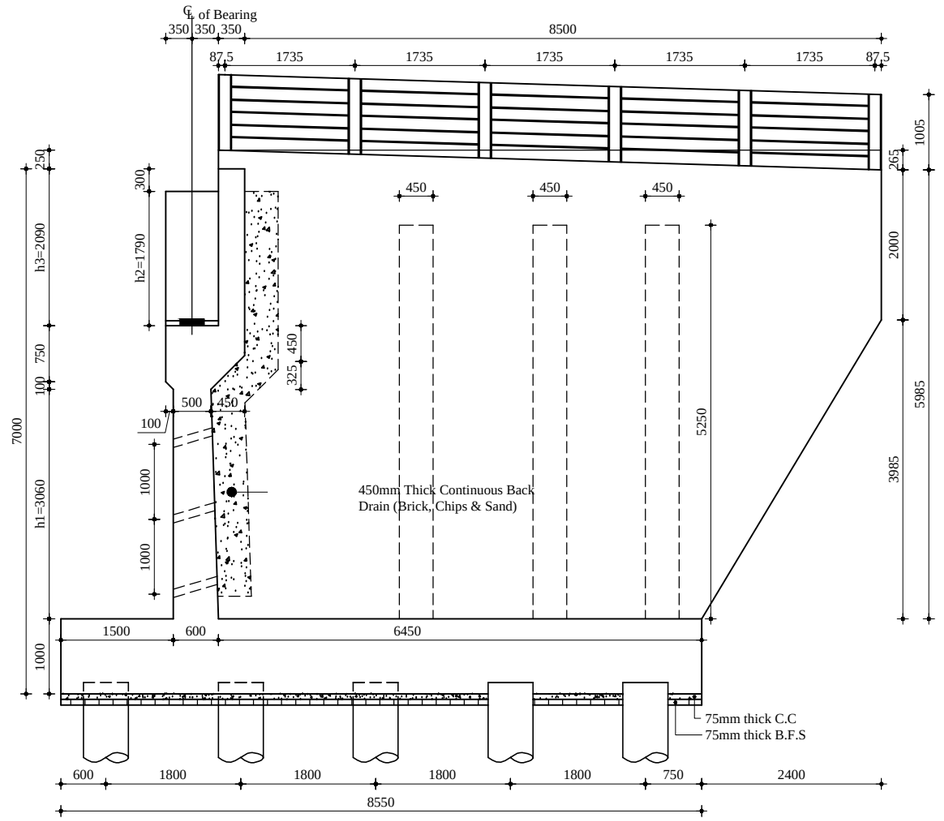
TOP PLAN OF ABUTMENT

Scale 1:80



PILE LAY-OUT PLAN &WING WALL

Scale 1:80



SECTION A-A

Scale 1:80

Abutment Height 7m. Table: 7a							
Span Length (m)	Girder Depth (mm)	h1(mm)	h2 (mm)	h3 (mm)	a1	a2	a3
18	1400	3660	1190	1490	350	350	350
20	1500	3560	1290	1590	350	350	350
22	1800	3260	1590	1890	350	350	350
24	2000	3060	1790	2090	350	350	350

NOTES:

1. Abutment Details for 24m span.
2. For other span length Table No. 7a shall be followed.
3. All dimensions are in millimeter unless otherwise mentioned.
4. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
5. 28 days cylinder strength of concrete: f 'c = 25.0N/mm² (3600 psi)
6. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

PURAKAUSHAL PROJUKTI LIMITED

House # C10, Road # 4 ,Banasree, Rampura- 1219.
E-maill: pproiltd@yahoo.com

NAME OF PROJECT:

LOCATION:

UPAZILA:

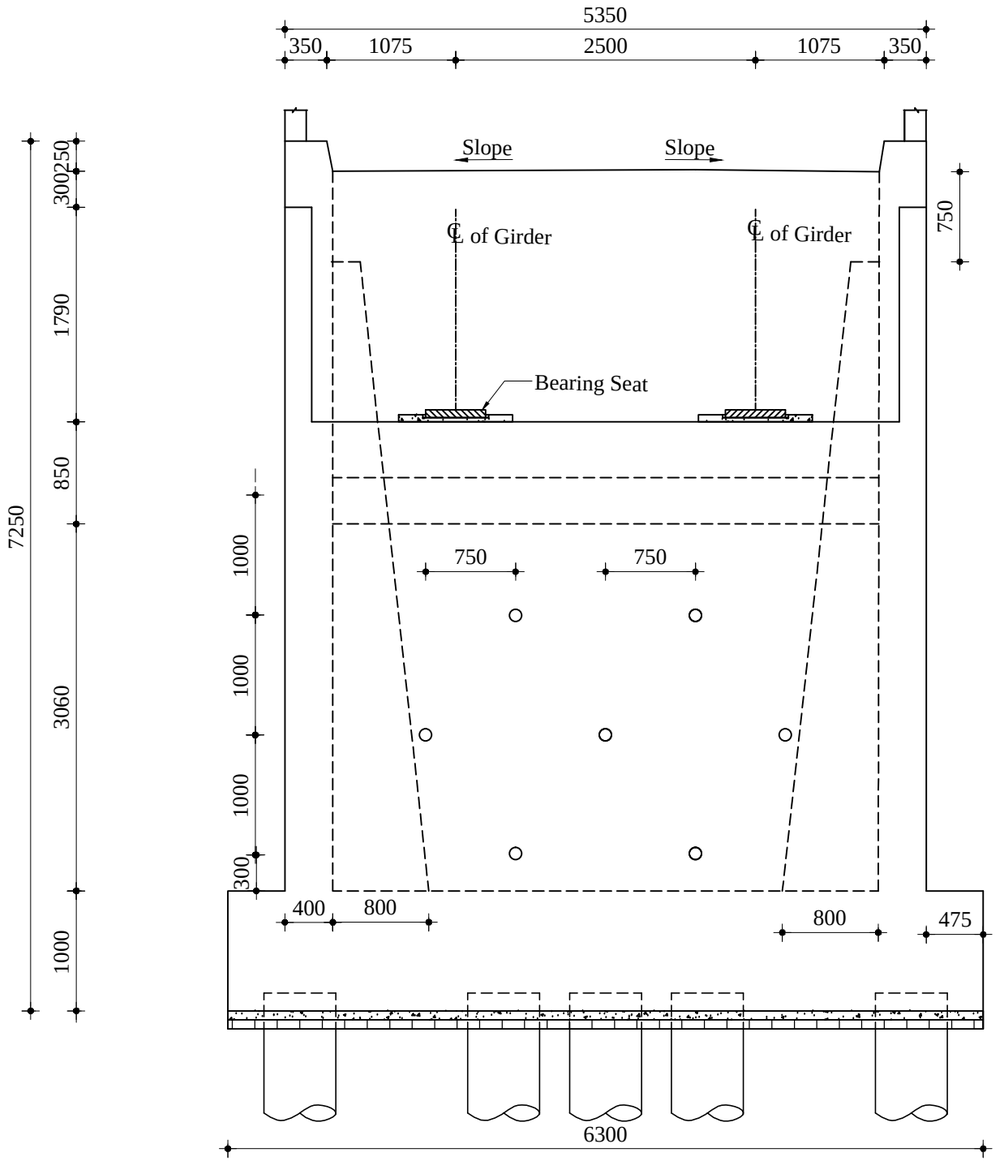
DISTRICT:

DRAWING TITLE

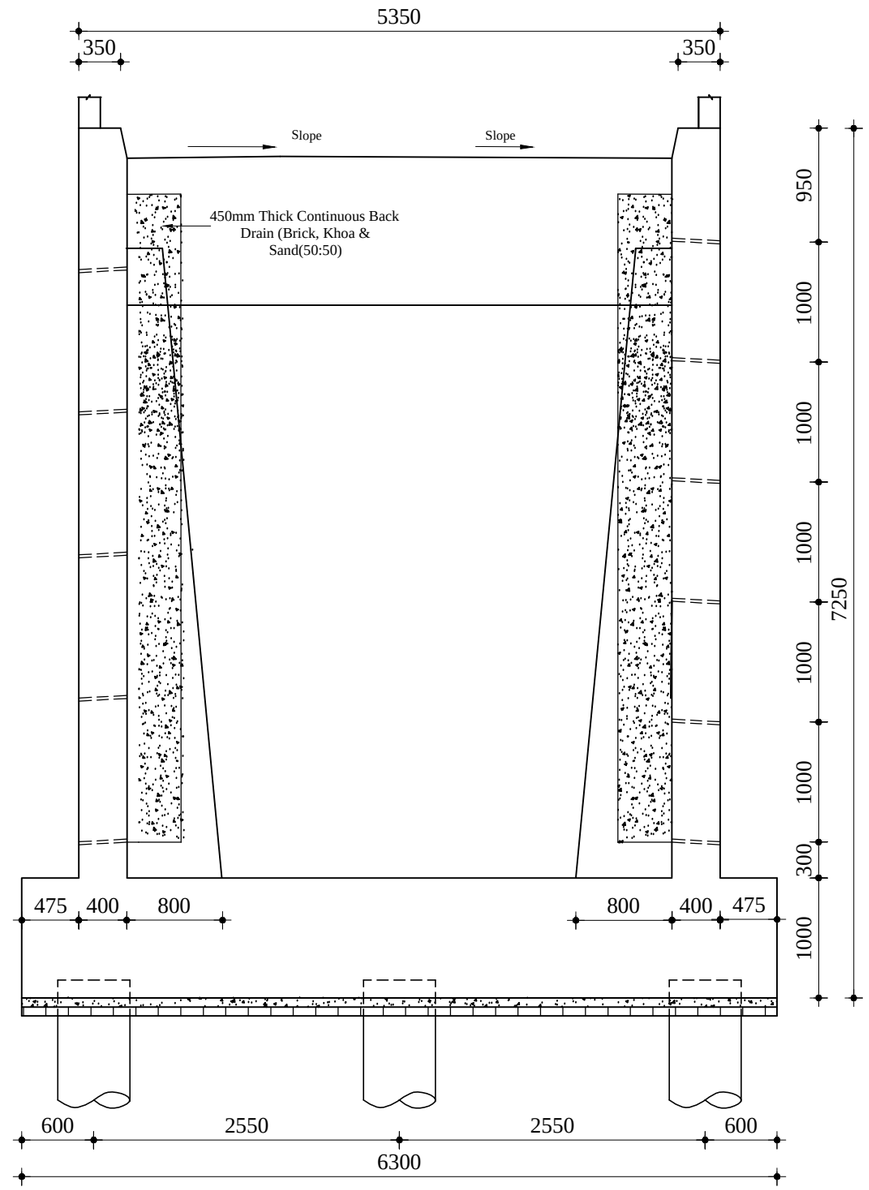
Details of Abutment
Span 24m Abutment Height 7m.

DRAWING NO. AB-801

PAGE NO. P-97



SECTION B-B
Scale 1:50

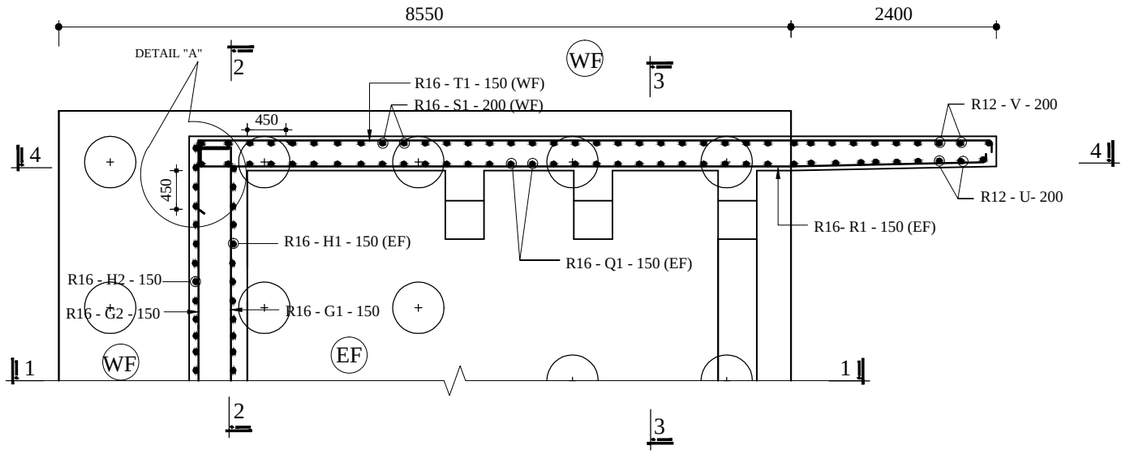


SECTION C-C
Scale 1:50

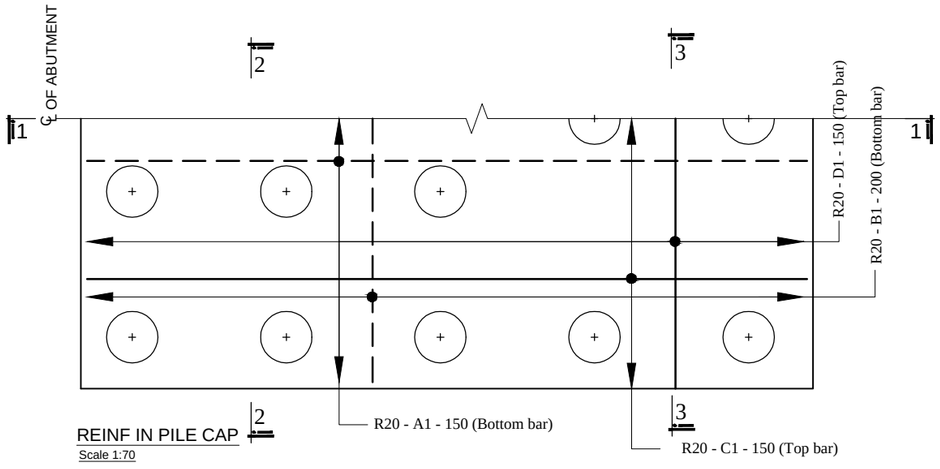
NOTES:

1. All dimensions are in millimeter unless otherwise mentioned.
2. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
3. 28 days cylinder strength of concrete: f 'c = 25.0N/mm² (3600 psi)
4. Yield strength of mild steel deformed bar fy = 413N/mm² (60000psi)

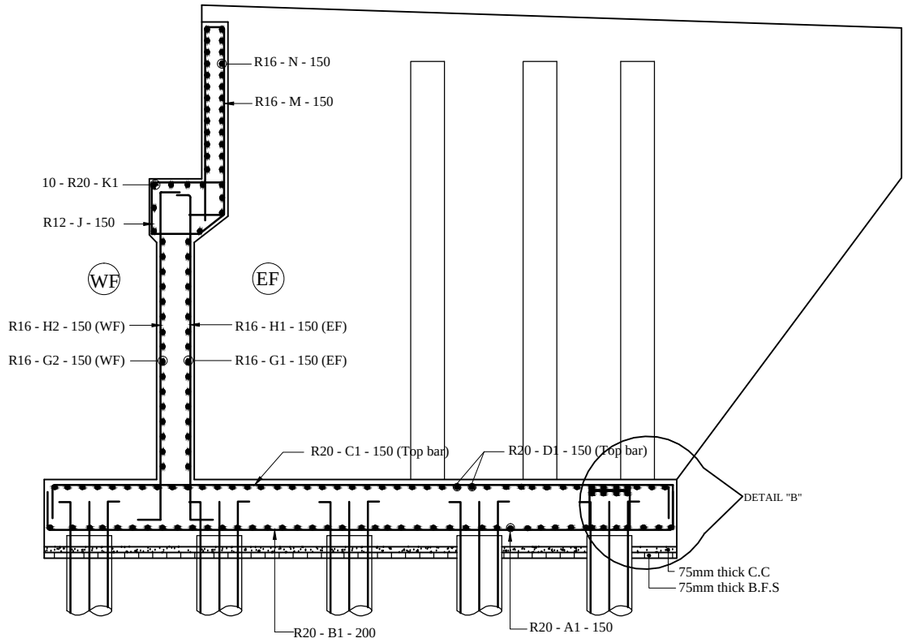
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Sectional Elevation of Abutment & Wing wall, Span 24m Abutment Height 7m. DRAWING NO. AB-802 PAGE NO. P-98



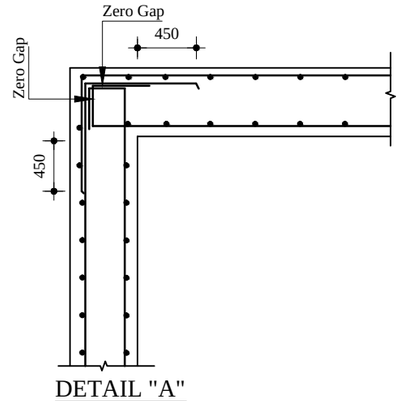
REINF IN ABUTMENT & WING WALL
Scale 1:70



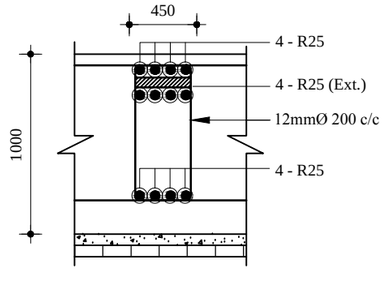
REINF IN PILE CAP
Scale 1:70



CROSS SECTION OF ABUTMENT (SECTION 1-1)
SHOWING REINFORCEMENT DETAILS
Scale 1:80



DETAIL "A"
Scale 1:40

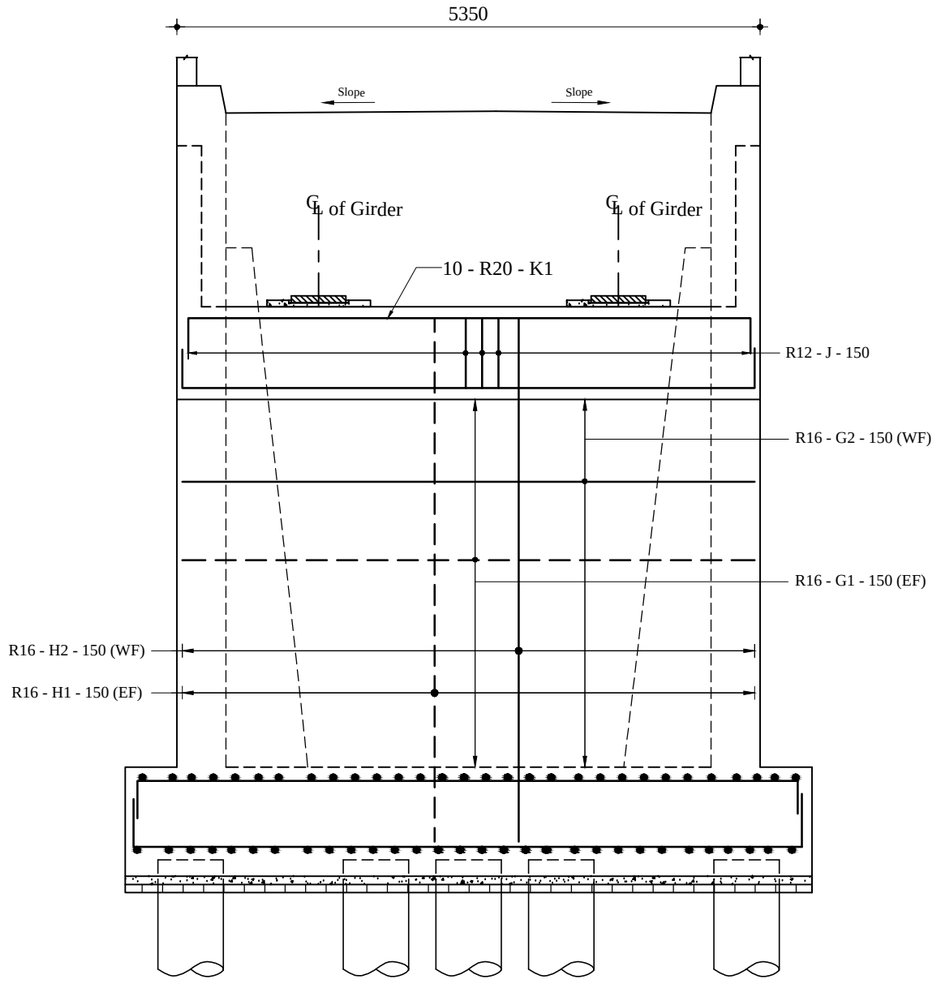


DETAIL "B"
Scale 1:40

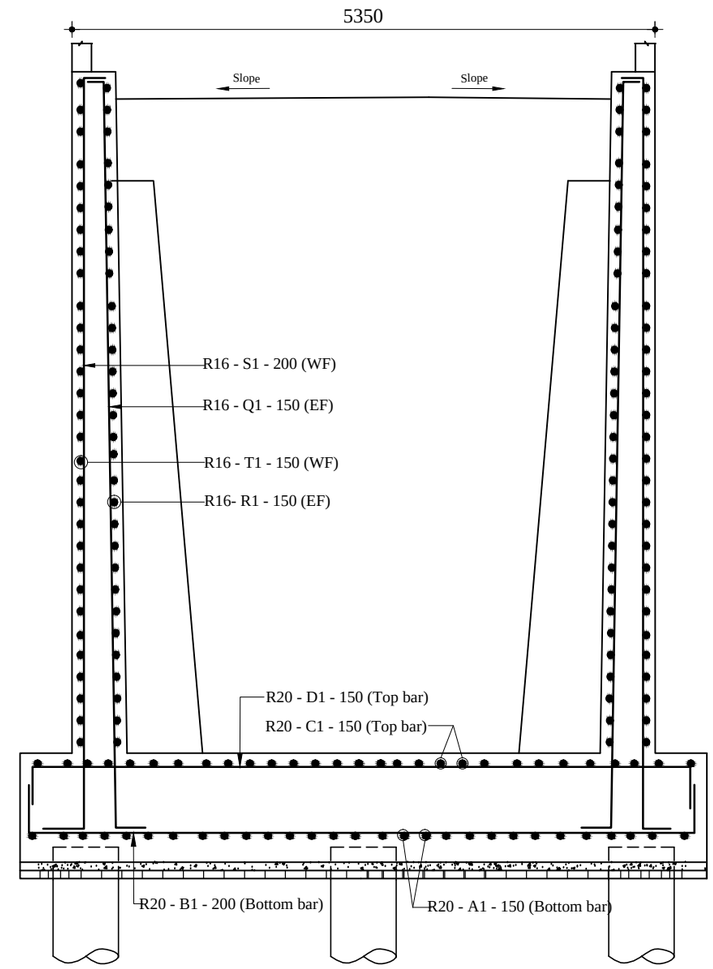
NOTES:

1. All dimensions are in millimeter unless otherwise mentioned.
2. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
3. 28 days cylinder strength of concrete: f 'c = 25.0N/mm² (3600 psi)
4. EF = Earth Face WF = Water Face

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Reinf. Details of Abutment & Wing wall, Span 24m Abutment Height 7m. DRAWING NO. AB-803 PAGE NO. P-99



SECTIONAL FRONT ELEVATION OF ABUTMENT (SECTION 2-2)
SHOWING REINFORCEMENT
Scale 1:55

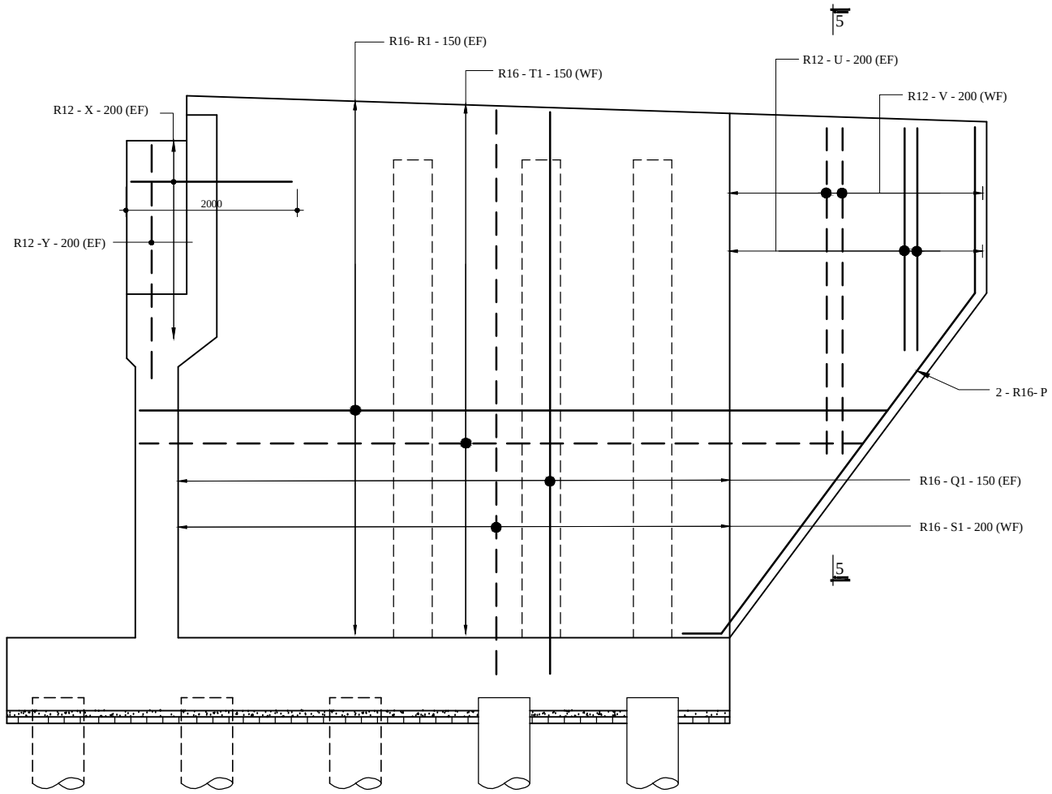


CROSS-SECTION OF WINGWALL (SEC.3-3)
SHOWING REINFORCEMENT
Scale 1:55

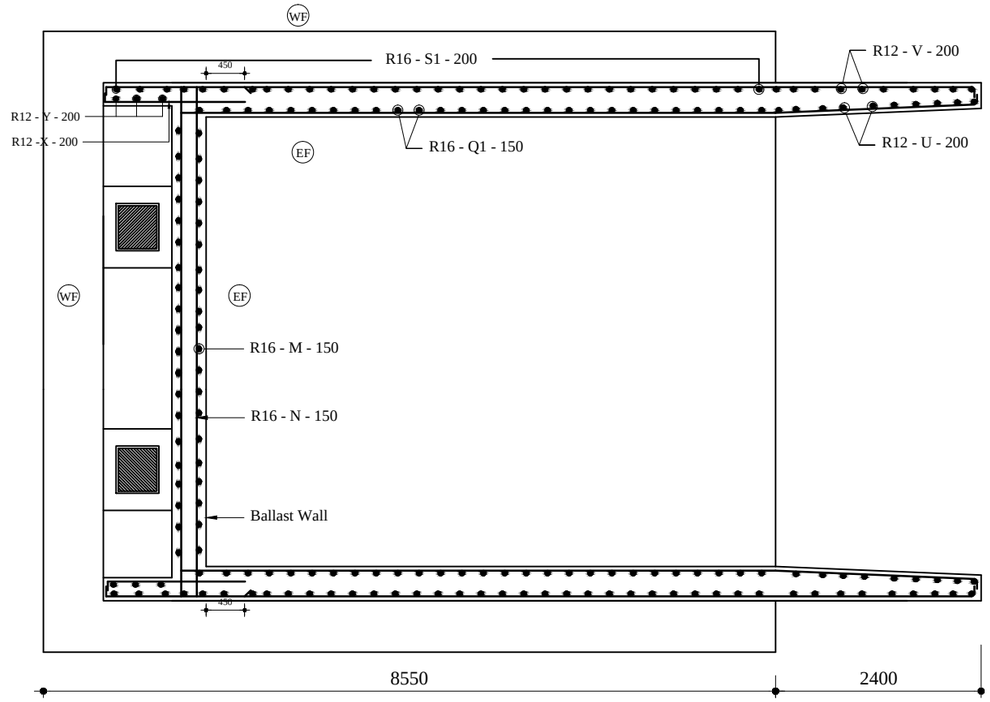
NOTES:

1. All dimensions are in millimeter unless otherwise mentioned.
2. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
3. 28 days cylinder strength of concrete: f 'c = 25.0N/mm² (3600 psi)
4. EF = Earth Face, WF = Water Face

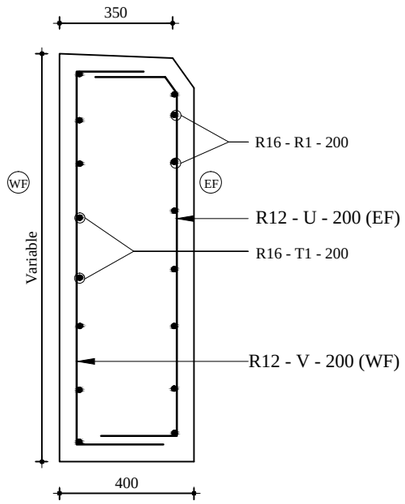
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Reinf. Details Sectional Elevation of Abutment & Wing wall, Span 24m Abutment Height 7m. DRAWING NO. AB-804 PAGE NO. P-100



SECTIONAL ELEVATION OF WINGWALL (SEC. 4 - 4)
SHOWING REINFORCEMENT
Scale 1:70



TOP PLAN OF BALLASTWALL & WINGWALL
SHOWING TOP REINFORCEMENT
Scale 1:70

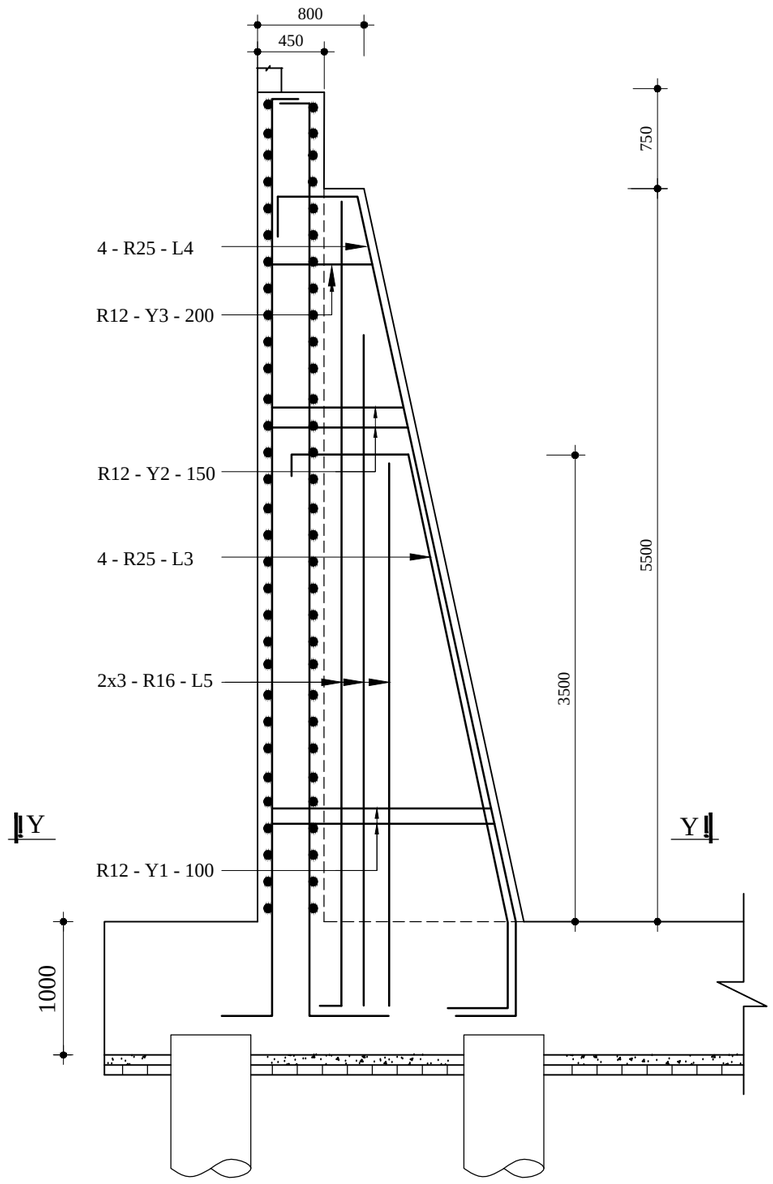


SEC 5-5
Scale 1:70

NOTES:

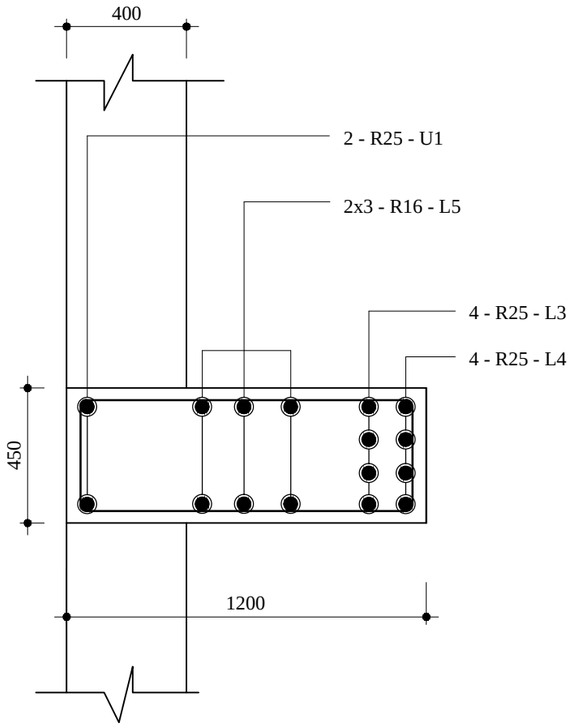
1. All dimensions are in millimeter unless otherwise mentioned.
2. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
3. 28 days cylinder strength of concrete: f 'c = 25.0N/mm² (3600 psi)
4. EF = Earth Face WF = Water Face

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Reinf. Details of Abutment & Wing wall, Span 24m Abutment Height 7m. DRAWING NO. AB-805 PAGE NO. P-101



REINF. DETAILS OF WING WALL COUNTER FORT

Scale 1:45



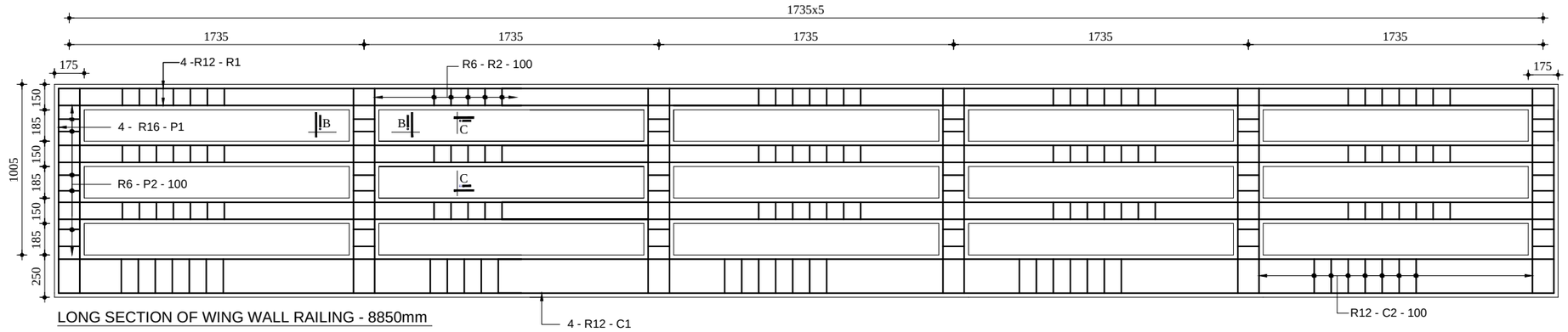
SECTION Y -Y

Scale 1:20

NOTES:

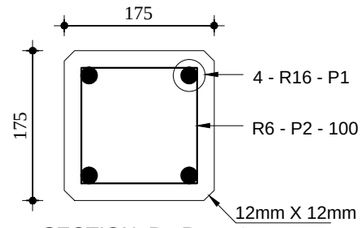
1. All dimensions are in millimeter unless otherwise mentioned.
2. Clear cover to main reinforcement bar is to be 50mm. unless otherwise mentioned.
3. 28 days cylinder strength of concrete: f 'c = 25.0N/mm² (3600 psi)
4. EF = Earth Face WF = Water Face

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Reinf. Details of Counter fort, Span 24m Abutment Height 7m. DRAWING NO. AB-806 PAGE NO. P-102



LONG SECTION OF WING WALL RAILING - 8850mm

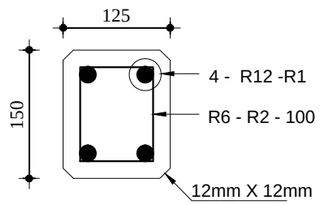
Scale 1:30



SECTION. B - B

RAIL POST

Scale 1:7

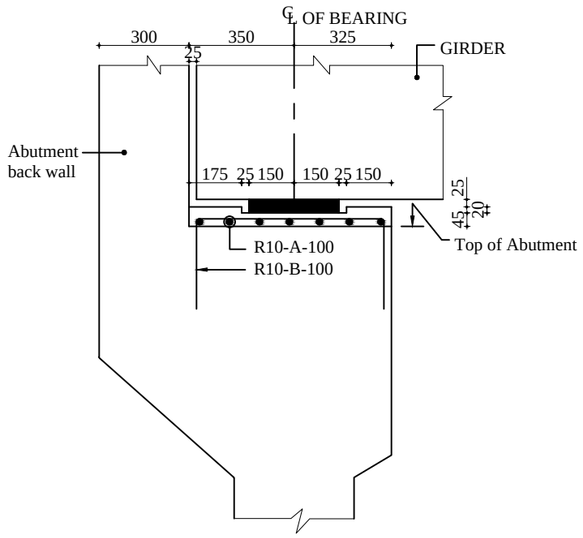


SECTION. C - C

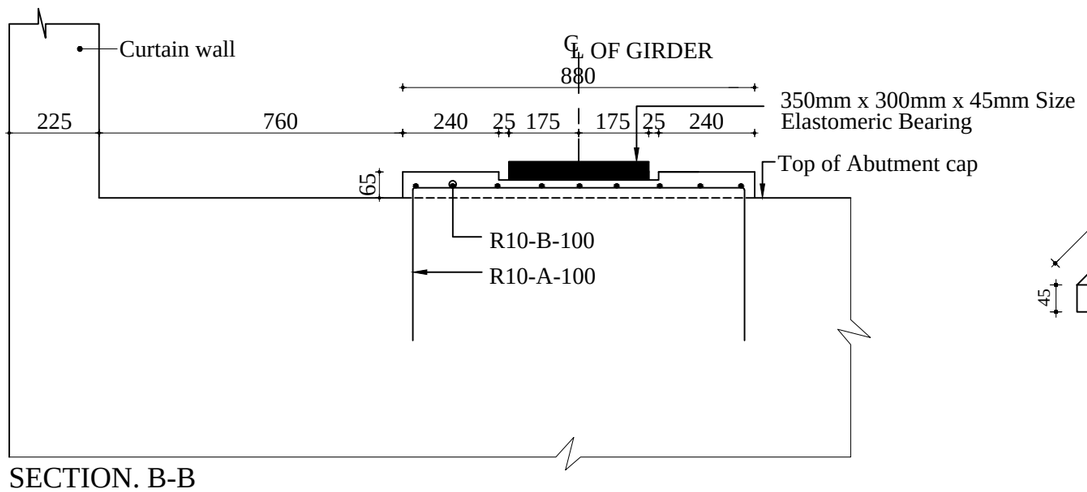
RAIL BAR

Scale 1:7

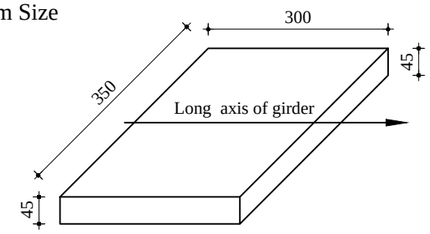
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # C10, Road # 4 ,Banasree, Rampura- 1219. E-maill: pproiltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Details of Abutment Railing, Span 24m Abutment Height 7m. DRAWING NO. AB-807 PAGE NO. P-103



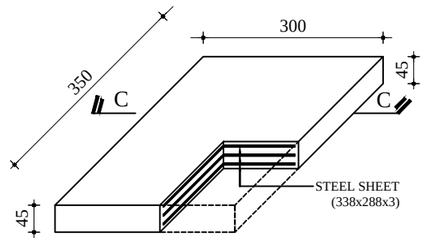
SECTION. A-A
Scale 1:20



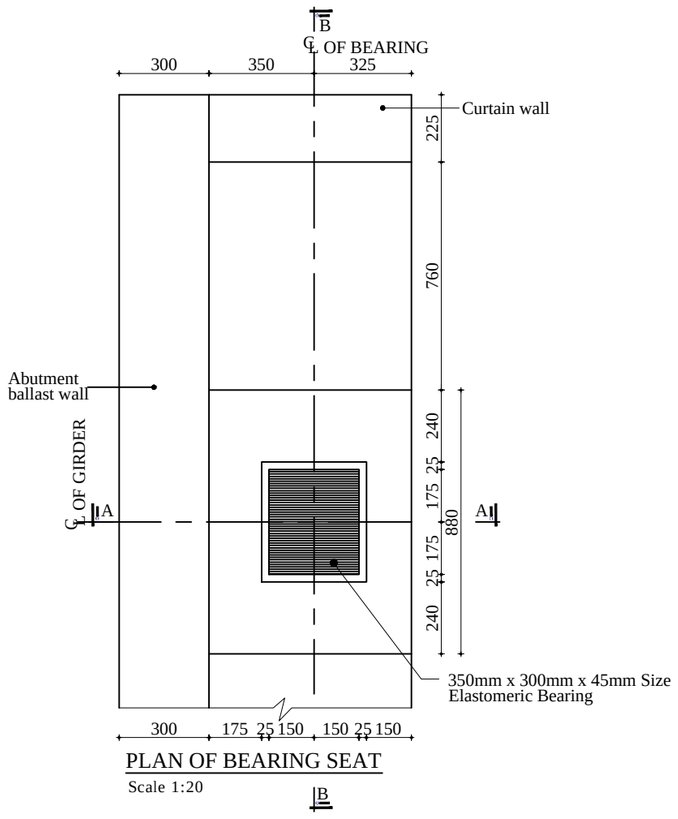
SECTION. B-B
Scale 1:15



ELASTOMERIC (NEOPRENE) BEARING
ISOMERIC VIEW
Scale 1:10



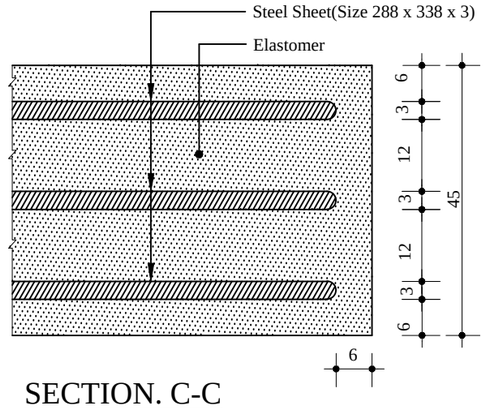
ELASTOMERIC (NEOPRENE) BEARING
Scale 1:10



PLAN OF BEARING SEAT
Scale 1:20

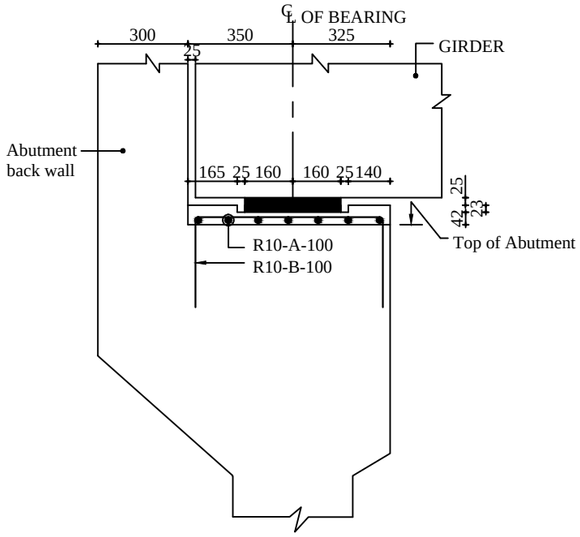
NOTES:

1. Size 350 x 300 x 45m for Span Length 12 to 16m.
2. All dimensions are in millimetre unless otherwise mentioned.
3. Elastomer hardness 60 ± 5 duro
4. Provide two layer polythene sheet between the elastomeric bearing pad and the girder.
5. Clear cover to top bar of bearing seat is to be 20mm.unless otherwise mentioned.
6. Top of bearing seat is to be adjusted according to the longitudinal slope of girder as shown on the elevation drawing of bridge.

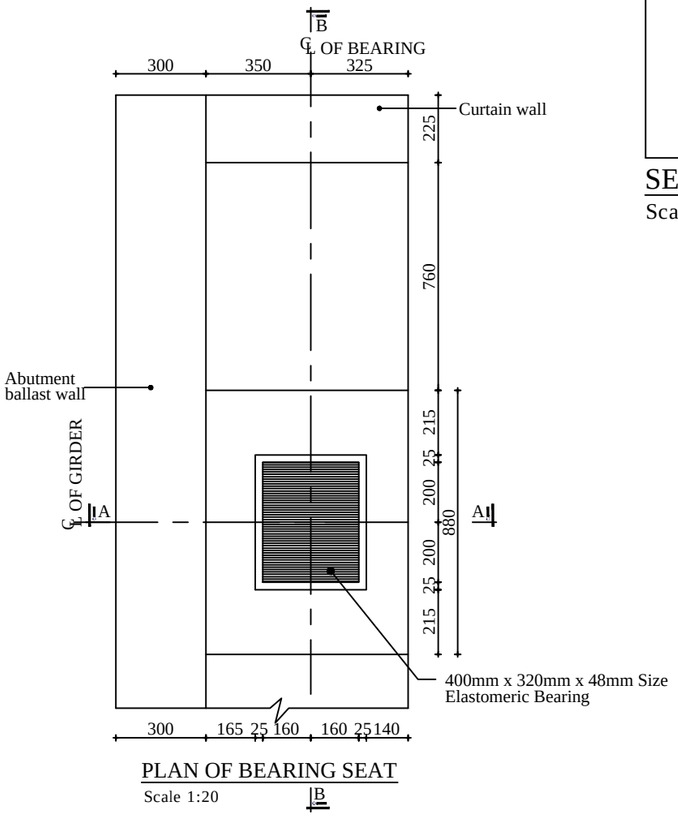


SECTION. C-C
Scale 1:1

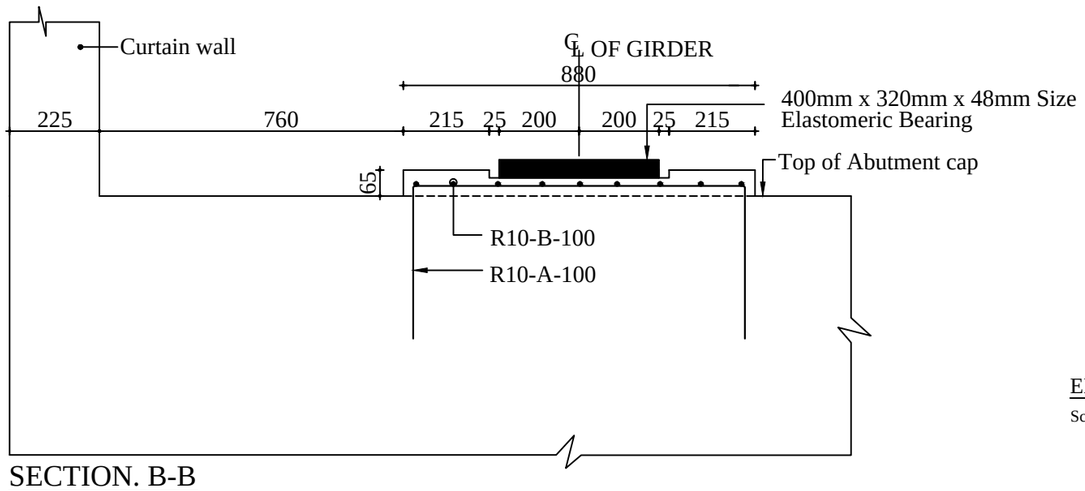
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219 Mobile :01711577016 E-mail:pprojltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE BEARING SEAT FOR SPAN 12m to 16m (Typical Abutment) DRAWING NO. BS-01 PAGE NO. P-104



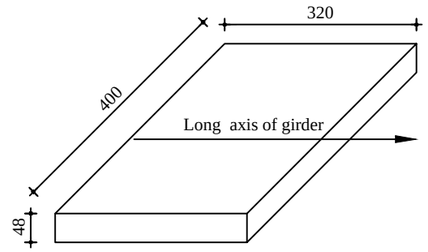
SECTION. A-A
Scale 1:20



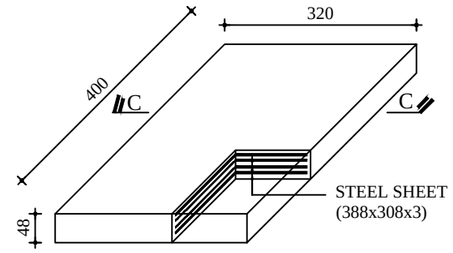
PLAN OF BEARING SEAT
Scale 1:20 B



SECTION. B-B
Scale 1:15



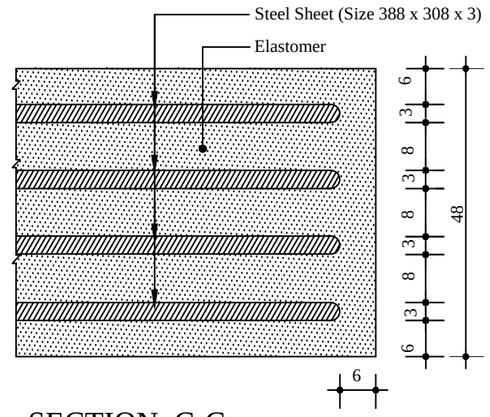
ELASTOMERIC (NEOPRENE) BEARING
ISOMERIC VIEW
Scale 1:10



ELASTOMERIC (NEOPRENE) BEARING
Scale 1:10

NOTES:

1. Size 400 x 320 x 48m for Span Length 18 & 20m.
2. All dimensions are in millimetre unless otherwise mentioned.
3. Elastomer hardness 60 ± 5 duro
4. Provide two layer polythene sheet between the elastomeric bearing pad and the girder.
5. Clear cover to top bar of bearing seat is to be 20mm.unless otherwise mentioned.
6. Top of bearing seat is to be adjusted according to the longitudinal slope of girder as shown on the elevation drawing of bridge.



SECTION. C-C
Scale 1:1

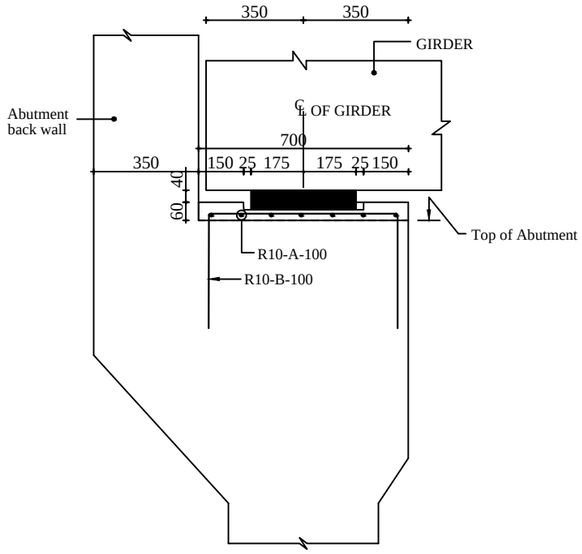
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

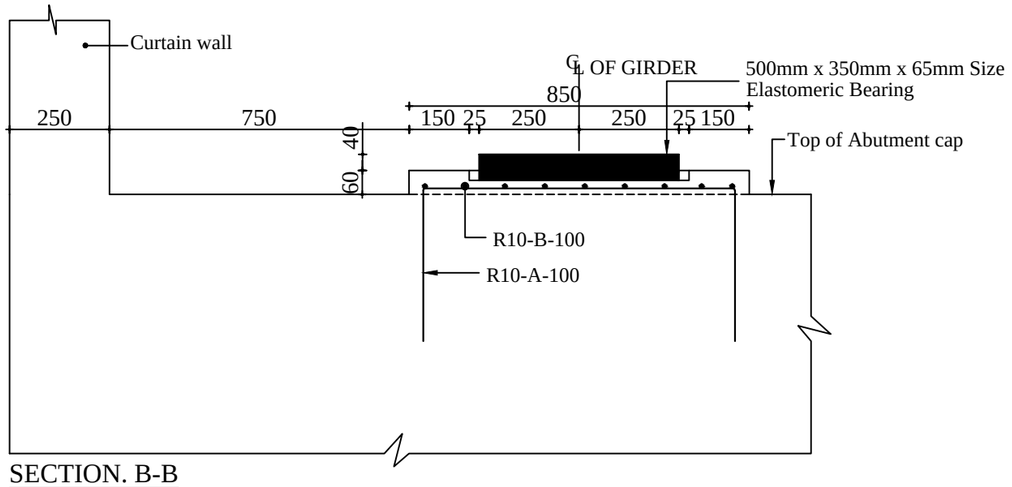
PURAKAUSHAL PROJUKTI LIMITED
House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219
Mobile :01711577016 E-mail:pprojltd@yahoo.com

NAME OF PROJECT:
LOCATION:
UPAZILA:
DISTRICT:

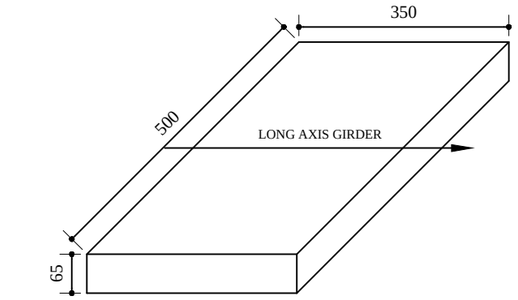
DRAWING TITLE
BEARING SEAT FOR SPAN
18m & 20m (Typical Abutment)
DRAWING NO. BS-02
PAGE NO. P-105



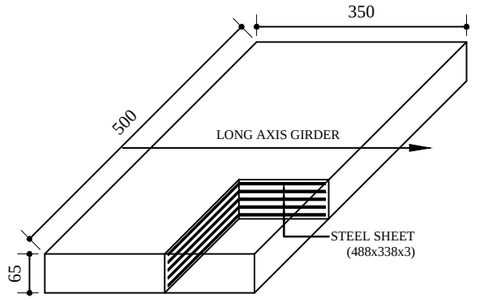
SECTION. A-A
Scale 1:20



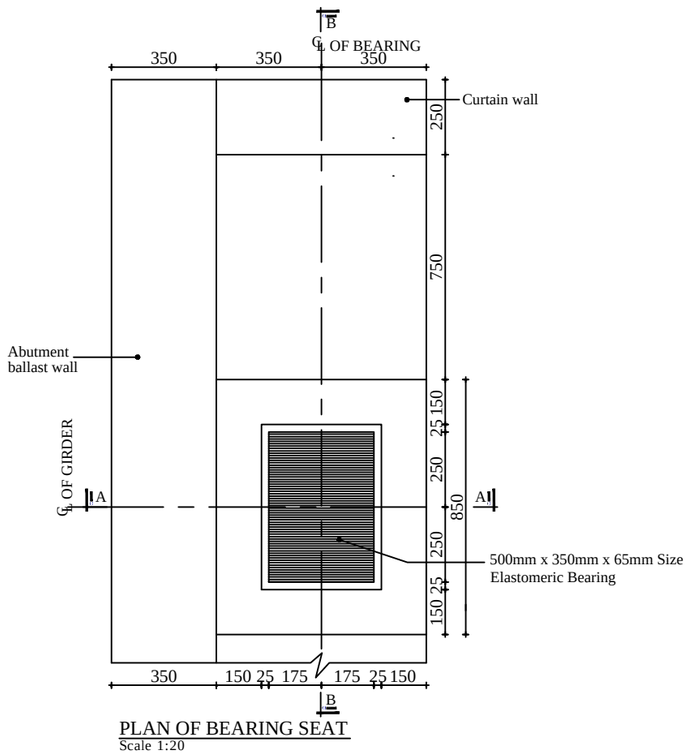
SECTION. B-B
Scale 1:15



ELASTOMERIC BEARING
ISOMERIC VIEW
Scale 1:10



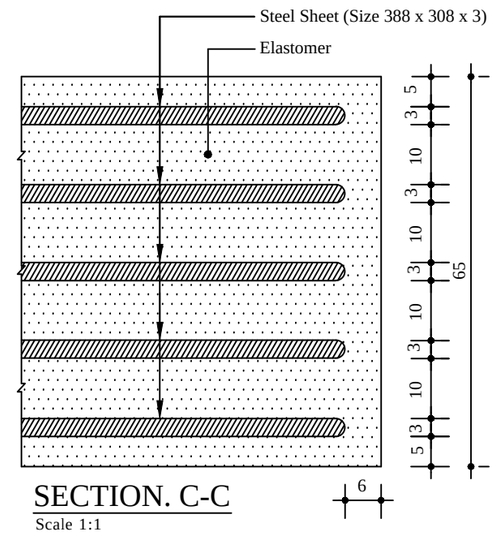
ELASTOMERIC (NEOPRENE) BEARING
SHOWING STEEL SHEET
Scale 1:10



PLAN OF BEARING SEAT
Scale 1:20

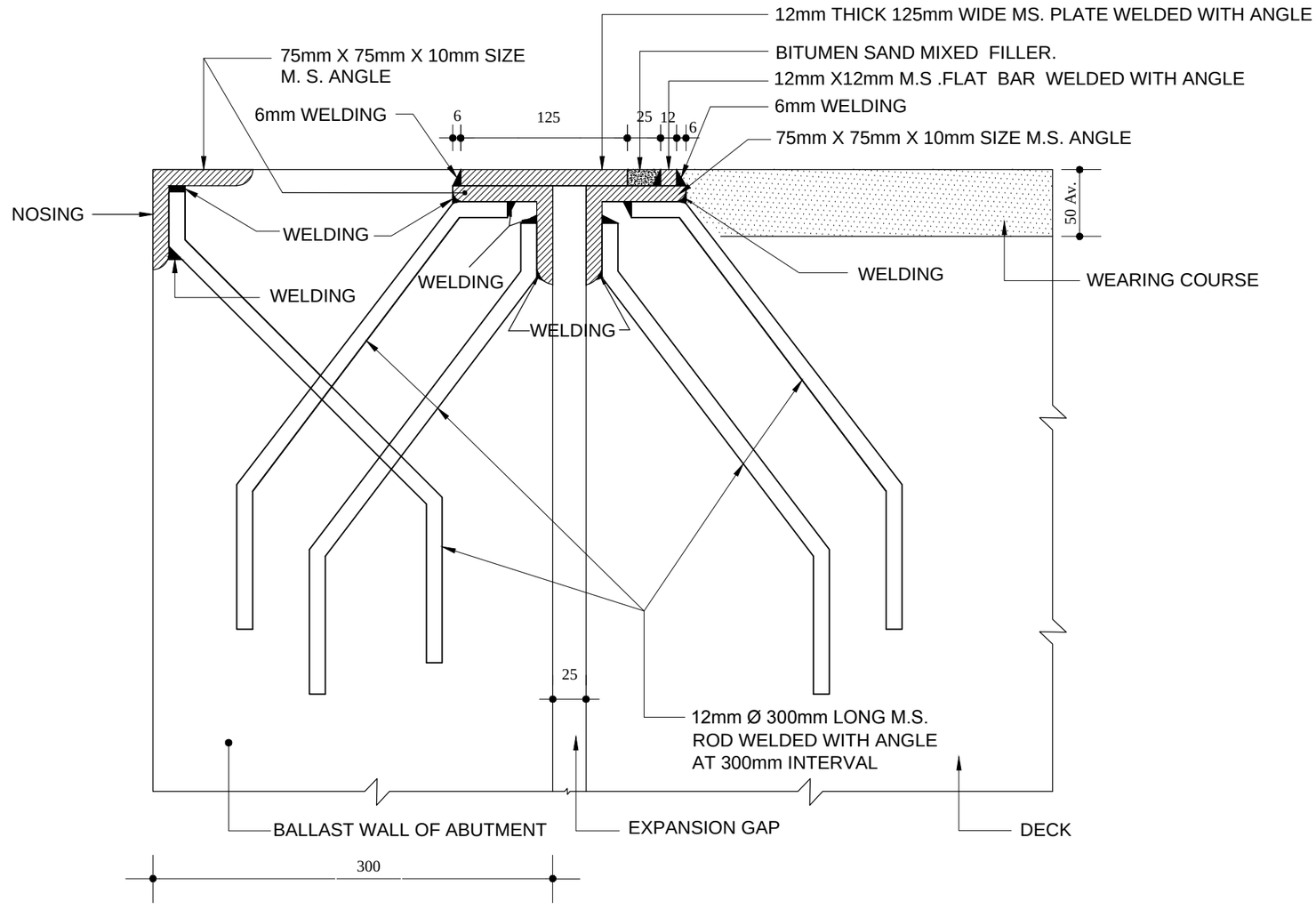
NOTES:

1. The Elastomeric (Neprone) Bearing Size 500x350x65 Shall be used for Span Length 22 & 24m.
2. All dimensions are in millimetre unless otherwise mentioned.
3. Elastomer hardness 60 ± 5 duro
4. Provide two layer polythene sheet between the elastomeric bearing pad and the girder.
5. Clear cover to top bar of bearing seat is to be 20mm.unless otherwise mentioned.
6. Top of bearing seat is to be adjusted according to the longitudinal slope of girder as shown on the elevation drawing of bridge.



SECTION. C-C
Scale 1:1

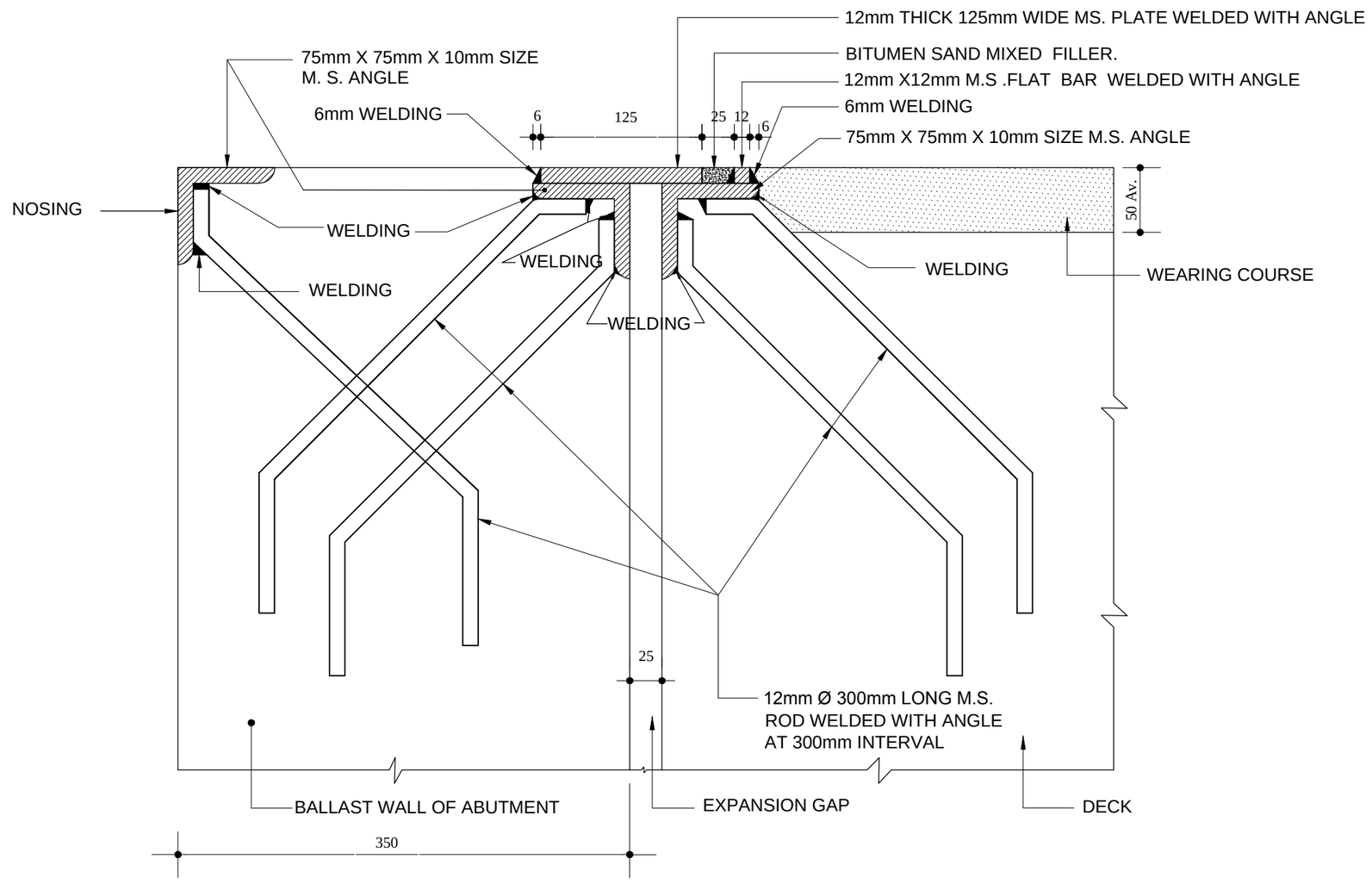
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE BEARING SEAT FOR SPAN 22m & 24m (Typical Abutment) DRAWING NO. BS-03 PAGE NO. P-106



CROSS SECTION OF EXPANSION JOINT OVER ABUTMENT

SCALE 1:4

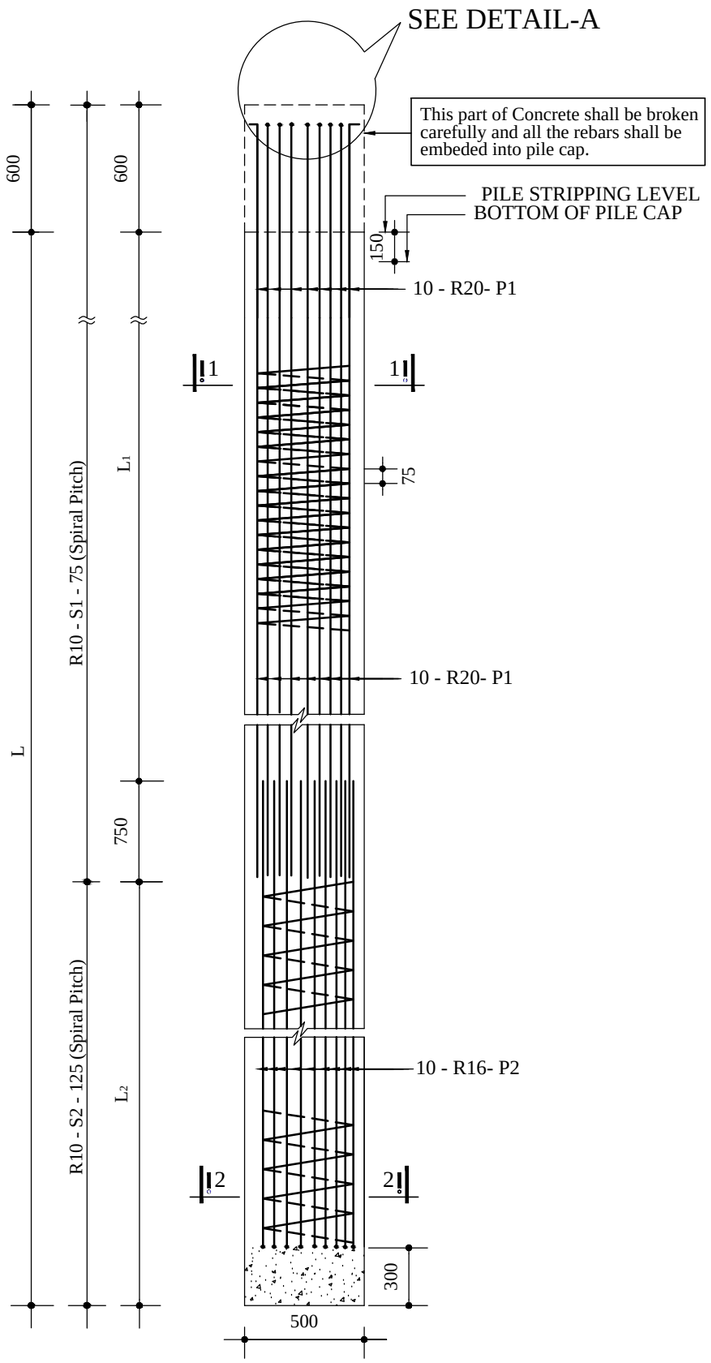
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219 Mobile :01711577016 E-mail:pprojltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE EXPANSION JOINT FOR SPAN 12m to 18m DRAWING NO. EX-01 PAGE NO. P-107



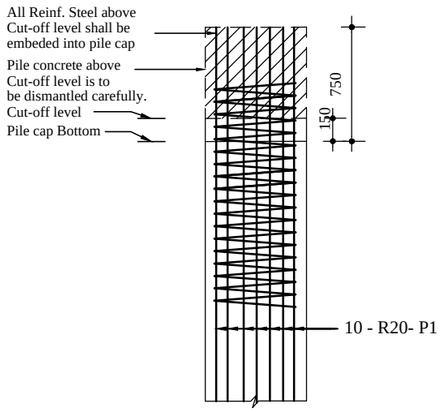
CROSS SECTION OF EXPANSION JOINT OVER ABUTMENT

SCALE 1:4

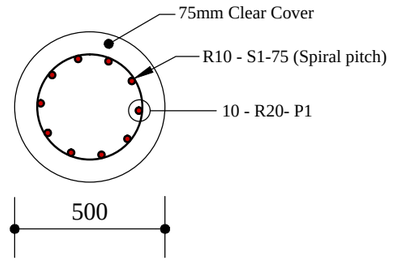
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219 Mobile :01711577016 E-mail:pprojltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE EXPANSION JOINT FOR SPAN 20m to 24m DRAWING NO. EX-02 PAGE NO. P-107 (A)



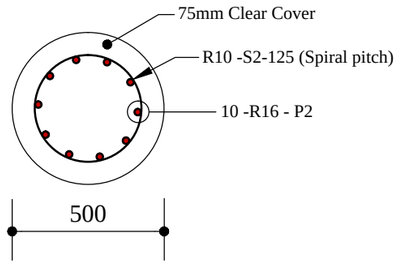
Pile For Abutment



DETAIL-A



SECTION 1-1



SECTION 2-2

NOTES:

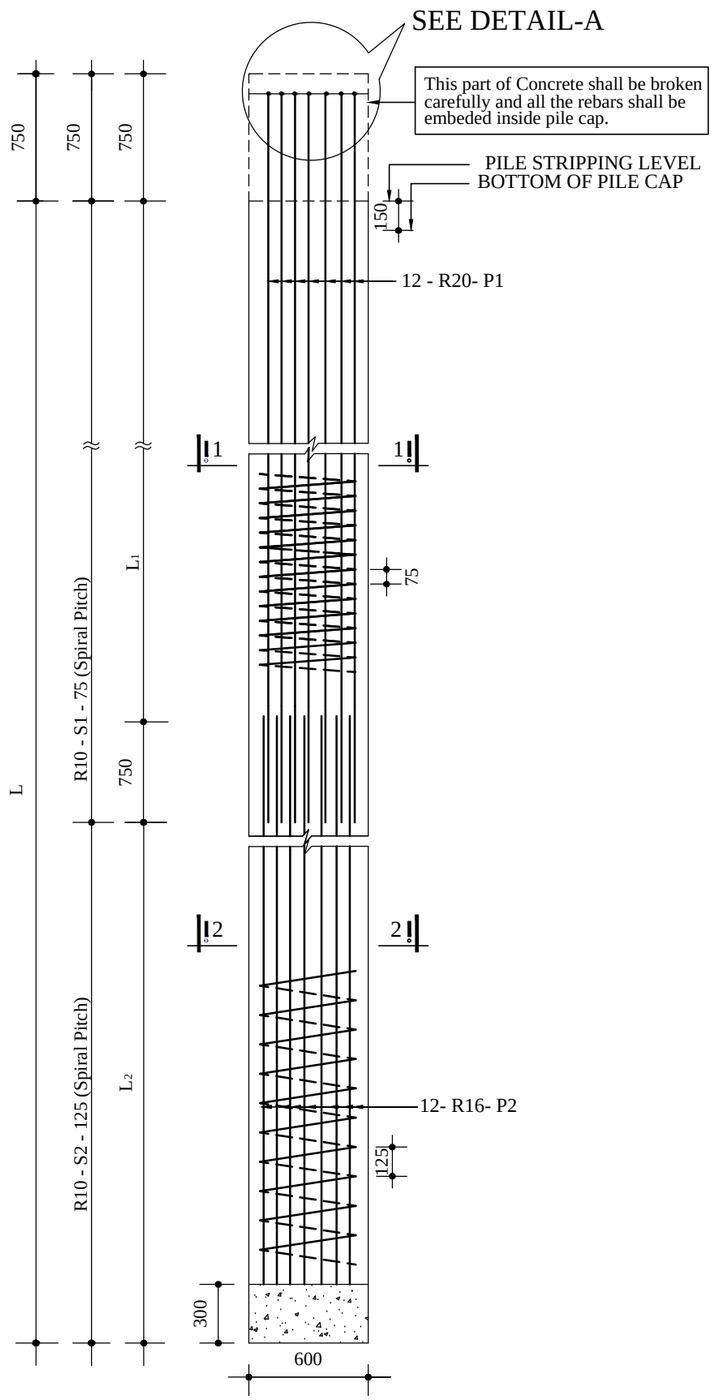
Cast-in-situ Pile:

1. All dimensions are in millimeters unless otherwise mentioned .
2. 28 days cylinder crushing strength of concrete f'c= 25 N/mm ^{2} (3600 psi)
3. Yield strength of M.S deformed reinforcement bar fy = 413 N/mm ^{2} (60000 psi)
4. Clear Cover to main reinforcement bar is to be 75mm. unless otherwise mentioned.
5. When concreting at the top of Pile one batch of concrete must be over flowed to insure fresh concrete at Pile head.
6. The spiral reinforcement should preferably be tack welded to the main Reinforceing bars.
7. The lapping portion of main reinforcement shall be joint welded .
8. Design load of Pile under service load condition shall be taken from table in page no. P-110.
9. Test load shall be taken double of service load.
10. One pilot pile shall be done as specified for abutment pile & pile capacity is to be confirmed by static pile load test on this pilot pile.

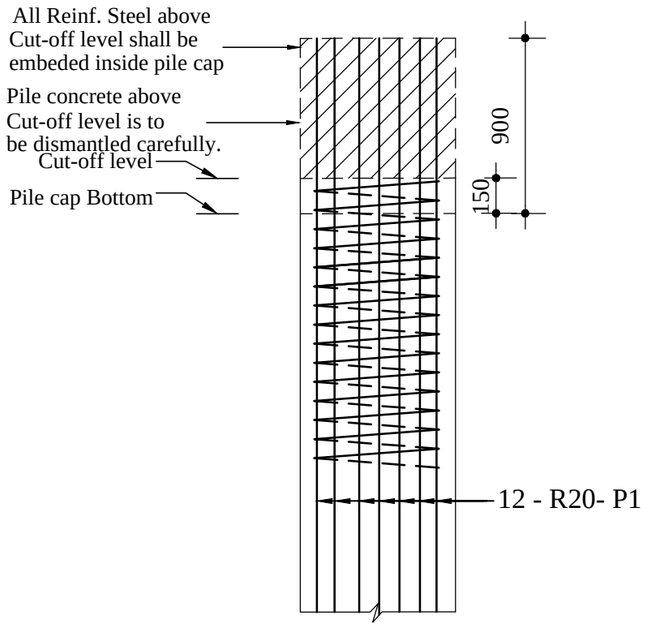
N.B.

Design service load capacity of piles under Abutment of 3.0m to 7.0m heights have been provided at page no. P-110 in a tabular form.

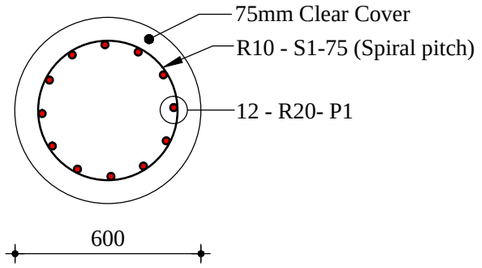
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219 Mobile :01711577016 E-mail:pprojltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Typical Structural Drawing For 18m Long 500mm Dia Cast-in-situ pile Upto 4.5m Height Abutment DRAWING NO. PR-01 PAGE NO. P-108



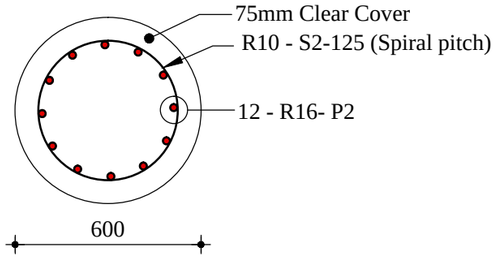
REINF. DETAILS OF ABUTMENT PILE



DETAIL-A



SECTION 1-1



SECTION 2-2

NOTES:

Cast-in-situ Pile:

1. All dimensions are in millimeters unless otherwise mentioned .
2. 28 days cylinder crushing strength of concrete f'c= 25 N/mm ^{2} (3600 psi)
3. Yield strength of M.S deformed reinforcement bar fy = 413 N/mm ^{2} (60000 psi)
4. Clear Cover to main reinforcement bar is to be 75mm. unless otherwise mentioned.
5. When concreting at the top of Pile one batch of concrete must be over flowed to insure fresh concrete at Pile head.
6. The spiral reinforcement should preferably be tack welded to the main Reinforceing bars.
7. The lapping portion of main reinforcement shall be joint welded .
8. Design load of Pile under service load condition shall be taken from table in page no. P-110.
9. Test load shall be taken double of service load.
10. One pilot pile shall be done as specified for abutment pile & pile capacity is to be confirmed by static pile load test on this pilot pile.

N.B.

Design service load capacity of piles under Abutment of 3.0m to 7.0m heights have been provided at page no. P-110 in a tabular form.

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219 Mobile :01711577016 E-mail:pprojltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE Typical Structural Drawing For 20m Long 600mm Dia Cast-in-situ Pile For 5.0m to 7.0m Height Abutment DRAWING NO. PR-02 PAGE NO. P-109

Design Capacity of Pile Under Service Load Condition							
Abutment Height (m)	Span Length (m)						
	12	14	16	18	20	22	24
3.0	40	40	40	45	50		
3.5	40	40	45	45	50		
4.0	40	40	45	50	50	55	55
4.5	45	45	50	50	55	55	60
5.0	50	50	55	55	60	60	60
5.5	50	55	55	60	60	65	70
6.0	60	60	60	60	65	70	70
6.5	70	70	70	75	75	75	80
7.0	75	75	75	75	75	80	80

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

PURAKAUSHAL PROJUKTI LIMITED
House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219
Mobile :01711577016 E-mail:pprojltd@yahoo.com

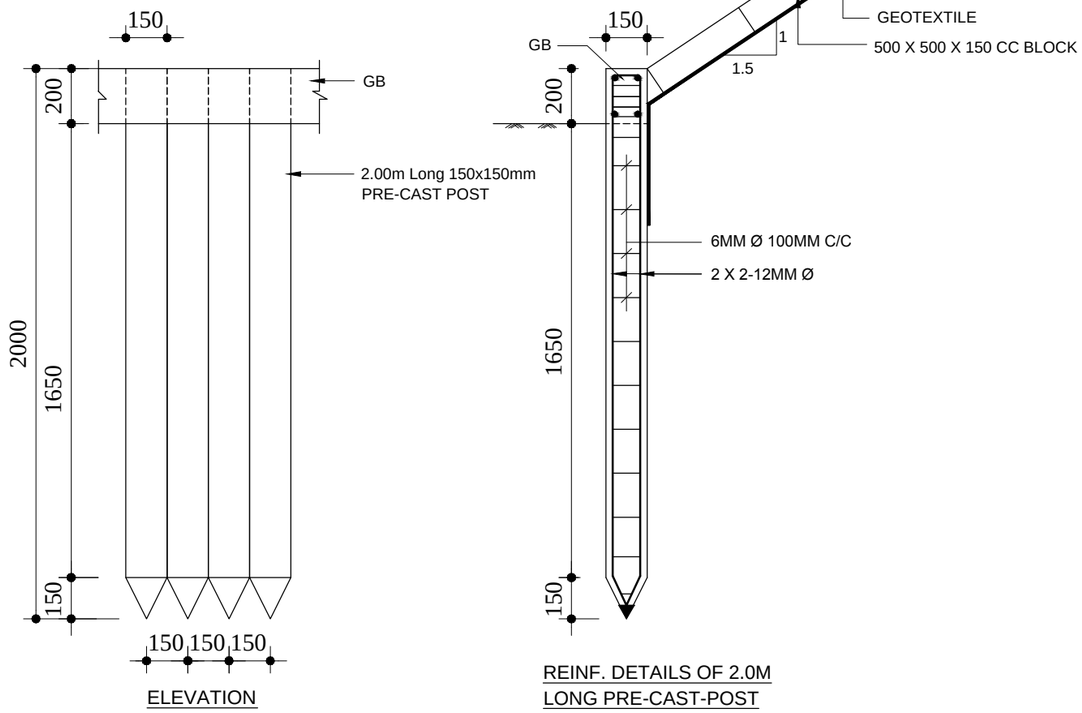
NAME OF PROJECT:

LOCATION:
UPAZILA:
DISTRICT:

DRAWING TITLE

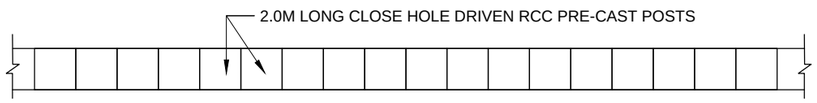
Design Service Loads on Piles under Abutments of Height Range 3.0m to 7.0m and Span Range 12m to 24m

DRAWING NO. PR-03

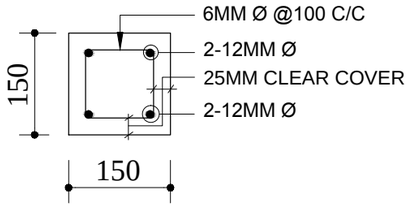


ELEVATION

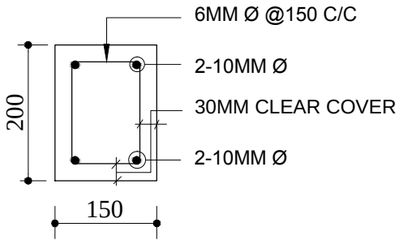
REINF. DETAILS OF 2.0M
LONG PRE-CAST-POST



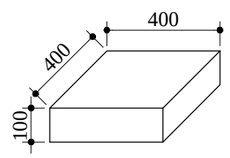
PART PLAN OF PROTECTION WORK AROUND ABUTMENT



SEC OF PRE-CAST POST

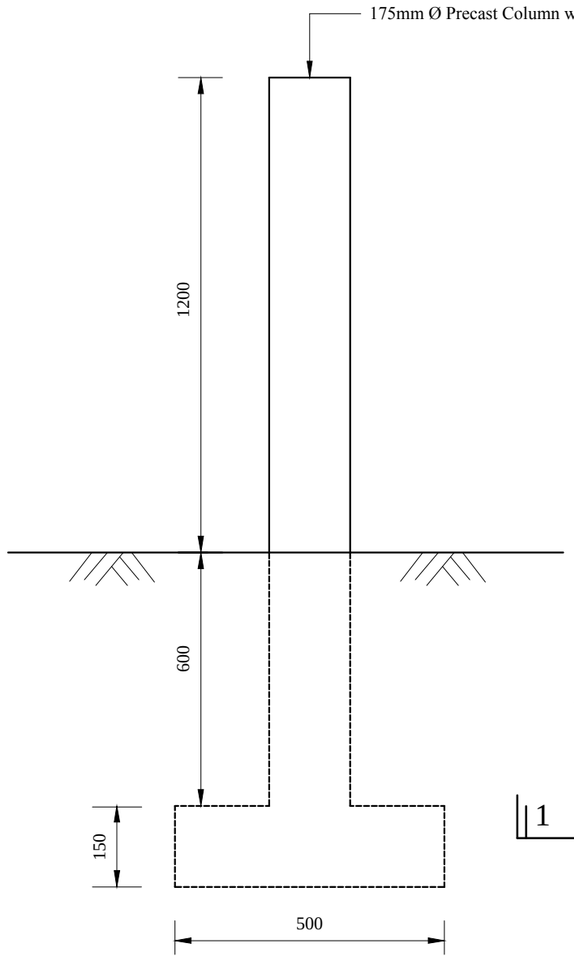


SEC OF GRADE BEAM

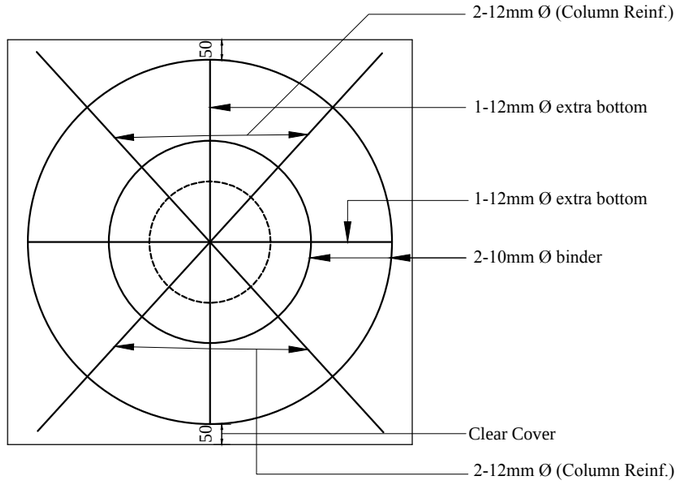


C.C. BLOCK

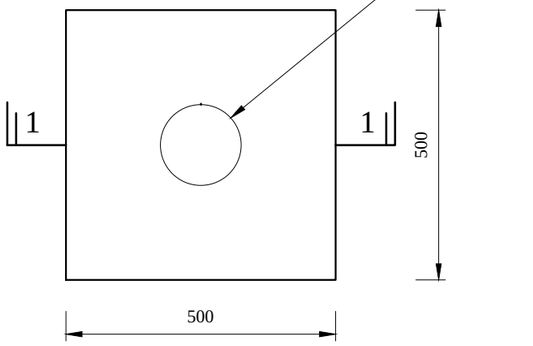
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219 Mobile :01711577016 E-mail:pprojltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE REINF. DETAILS OF SLOPE PROTECTION WORK DRAWING NO. SPW-01 PAGE NO. P-111



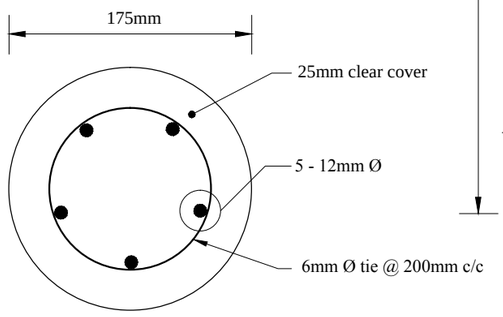
ELEVATION OF GUARD POST



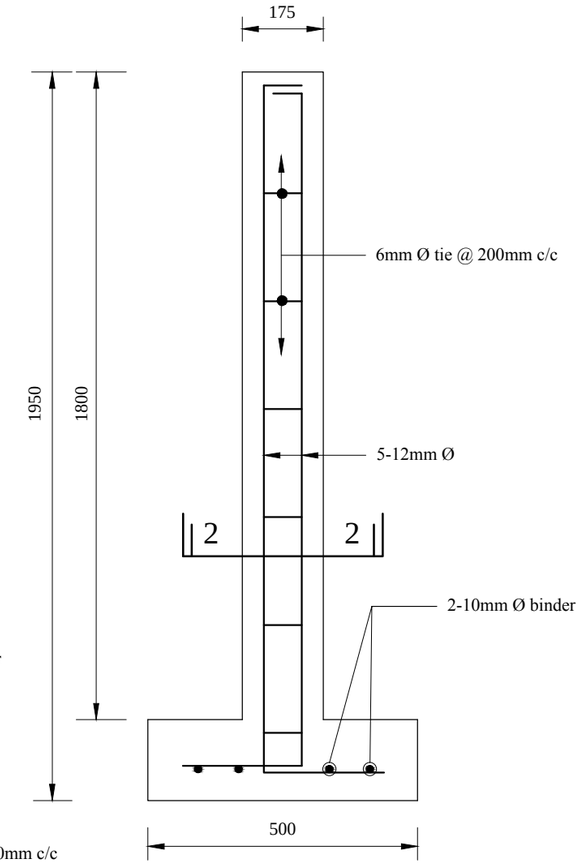
REINF.PLAN OF BASE



PLAN OF GUARD POST



SECTION 2-2



SECTION 1-1

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH **LOCAL GOVERNMENT ENGINEERING DEPARTMENT**	DESIGNED ,DRAWN & CHECKED BY PURAKAUSHAL PROJUKTI LIMITED House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219 Mobile :01711577016 E-mail:pprojltd@yahoo.com	NAME OF PROJECT: LOCATION: UPAZILA: DISTRICT:	DRAWING TITLE REINF. DETAILS OF GUARD POST DRAWING NO. GP-01 PAGE NO. P-111 (A)

12.0m DECK SLAB

DECK SLAB

SHAPE CODE	BAR SHAPE	BAR MARK	SPECING	BAR DIA (mm)	BAR LENGTH (mm)	NO MEMBER	NO OF BARS IN EACH MEMBER	TOTAL NO OF BARS	TOTAL LENGTH (m)	UNIT WEIGHT (kg)	TOTAL WEIGHT (kg)	SHAPE CODE	DIMENSIONS (mm)				
													a	b	c	d	e
1	a	S1	300	16	4000	1	41	41	164	1.58	259.46	1	4000				
2	b a c	S2	300	16	4000	1	41	41	164	1.58	259.46	1	4000				
		S3	300	16	4240	1	40	40	169.6	1.58	268.32	37	4000	2x120			
		S4	150	12	11900	1	25	25	297.5	0.89	264.75	1	11900				
		S5	200	12	12100	1	19	19	229.9	0.89	204.59	1	11900				
										SUB TOTAL	1256.59	kg					
										TOTAL=(S.T.X1)	**1256.59**	**kg**					
8	c b d a	**WALK WAY**															
		C1		12	11900	1	8	8	95.2	0.89	84.72	1	11900				
21	a b c d e	C2	100	12	2570	1	120	120	308.4	0.89	274.45	21	725	150	775	300	500
		C3	150	12	1850	1	80	80	148	0.89	131.71	63	400	300	1000	150	
		C4		12	11900	1	3	3	35.7	0.89	31.77	1	11900				
										SUB TOTAL	522.65	kg					
										TOTAL=(S.T.X2)	**1045.30**	**kg**					
37	b c d a	**RAILING BRIDGE**															
		P1		16	1380	9	4	36	49.68	1.58	78.60	2	1130	200	50		
		P2	100	6	620	9	9	81	50.22	0.22	11.17	8	125	125	125	125	
		R1		12	11900	1	12	12	142.8	0.89	127.08	1	11900				
63	a b c d	R2	100	6	470	24	13	312	146.64	0.22	32.62	8	100	75	100	75	
										SUB TOTAL	249.48	kg					
										TOTAL=(S.T.X2)	**498.95**	**kg**					
										GRAND-TOTAL=	**2800.84**	**kg**					

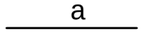
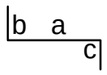
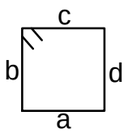
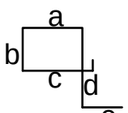
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

PURAKAUSHAL PROJUKTI LIMITED
House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219
E-mail:pprojltd@yahoo.com

NAME OF PROJECT:
LOCATION:
UPAZILA:
DISTRICT:

DRAWING TITLE
Bar Bending Schedule
Deck Slab 12m
DRAWING NO.
PAGE NO. P-112

SHAPE CODE	BAR SHAPE
1	
2	
8	
21	
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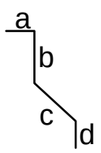
63	

14.0m DECK SLAB

DECK SLAB

BAR MARK	SPECING	BAR DIA (mm)	BAR LENGTH (mm)	NO MEMBER	NO OF BARS IN EACH MEMBER	TOTAL NO OF BARS	TOTAL LENGTH (m)	UNIT WEIGHT (kg)	TOTAL WEIGHT (kg)	SHAPE CODE	DIMENSIONS (mm)				
											a	b	c	d	e
S1	300	16	4000	1	47	47	188	1.58	297.43	1	4000				
S2	300	16	4000	1	47	47	188	1.58	297.43	1	4000				
S3	300	16	4240	1	46	46	195.04	1.58	308.57	37	4000	2x120			
S4	150	12	13900	1	25	25	347.5	0.89	309.25	1	13900				
S5	200	12	13900	1	19	19	264.1	0.89	235.03	1	13900				
								SUB TOTAL	1447.71	kg					
								TOTAL=(S.T.X1)	**1447.71**	**kg**					
WALK WAY															
C1		12	13900	1	8	8	111.2	0.89	98.96	1	13900				
C2	100	12	2570	1	140	140	359.8	0.89	320.19	21	725	150	775	300	500
C3	150	12	1850	1	94	94	173.9	0.89	154.76	63	400	300	1000	150	
C4		12	13900	1	3	3	41.7	0.89	37.11	1	13900				
								SUB TOTAL	611.02	kg					
								TOTAL=(S.T.X2)	**1222.04**	**kg**					
RAILING BRIDGE															
P1		16	1380	10	4	40	55.2	1.58	87.33	2	1130	200	50		
P2	100	6	620	10	9	90	55.8	0.22	12.41	8	125	125	125	125	
R1		12	13900	1	12	12	166.8	0.89	148.44	1	13900				
R2	100	6	470	27	13	351	164.97	0.22	36.70	8	100	75	100	75	
								SUB TOTAL	284.89	kg					
								TOTAL=(S.T.X2)	**569.77**	**kg**					
								GRAND-TOTAL=	**3239.52**	**kg**					

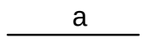
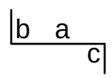
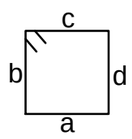
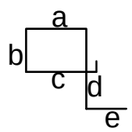
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

PURAKAUSHAL PROJUKTI LIMITED
House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219
E-mail:pprojltd@yahoo.com

NAME OF PROJECT:
LOCATION:
UPAZILA:
DISTRICT:

DRAWING TITLE
Bar Bending Schedule
Deck Slab 14m
DRAWING NO.
PAGE NO. P-113

SHAPE CODE	BAR SHAPE
1	
2	
8	
21	
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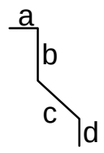
63	

16.0m DECK SLAB

DECK SLAB

BAR MARK	SPECING	BAR DIA (mm)	BAR LENGTH (mm)	NO MEMBER	NO OF BARS IN EACH MEMBER	TOTAL NO OF BARS	TOTAL LENGTH (m)	UNIT WEIGHT (kg)	TOTAL WEIGHT (kg)	SHAPE CODE	DIMENSIONS (mm)				
											a	b	c	d	e
S1	300	16	4000	1	54	54	216	1.58	341.73	1	4000				
S2	300	16	4000	1	54	54	216	1.58	341.73	1	4000				
S3	300	16	4240	1	53	53	224.72	1.58	355.53	37	4000	2x120			
S4	150	12	15900	1	25	25	397.5	0.89	353.74	1	15900				
S5	200	12	15900	1	19	19	302.1	0.89	268.84	1	15900				
								SUB TOTAL	1661.57	kg					
								TOTAL=(S.T.X1)	**1661.57**	**kg**					

WALK WAY

C1		12	15900	1	8	8	127.2	0.89	113.20	4	15900				
C2	100	12	2570	1	160	160	411.2	0.89	365.94	21	725	150	775	300	500
C3	150	12	1850	1	107	107	197.95	0.89	176.16	63	400	300	1000	150	
C4		12	15900	1	3	3	47.7	0.89	42.45	1	15900				
								SUB TOTAL	697.74	kg					
								TOTAL=(S.T.X2)	**1395.48**	**kg**					

RAILING BRIDGE

P1		16	1380	12	4	48	66.24	1.58	104.80	2	1130	200	50		
P2	100	6	620	12	9	108	66.96	0.22	14.90	8	125	125	125	125	
R1		12	15900	1	12	12	190.8	0.89	169.80	1	15900				
R2	100	6	470	33	13	429	201.63	0.22	44.86	8	100	75	100	75	
								SUB TOTAL	334.35	kg					
								TOTAL=(S.T.X2)	**668.70**	**kg**					
								GRAND-TOTAL=	**3725.75**	**kg**					

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

PURAKAUSHAL PROJUKTI LIMITED
House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219
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NAME OF PROJECT:

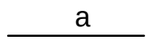
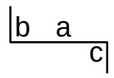
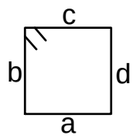
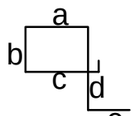
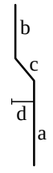
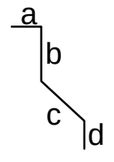
LOCATION:
UPAZILA:
DISTRICT:

DRAWING TITLE

Bar Bending Schedule
Deck Slab 16m

DRAWING NO.

PAGE NO. P-114

SHAPE CODE	BAR SHAPE
1	
2	
8	
21	
37	
63	

18.0m DECK SLAB

DECK SLAB

BAR MARK	SPECING	BAR DIA (mm)	BAR LENGTH (mm)	NO MEMBER	NO OF BARS IN EACH MEMBER	TOTAL NO OF BARS	TOTAL LENGTH (m)	UNIT WEIGHT (kg)	TOTAL WEIGHT (kg)	SHAPE CODE	DIMENSIONS (mm)				
											a	b	c	d	e
S1	300	16	4000	1	61	61	244	1.58	386.03	1	4000				
S2	300	16	4000	1	61	61	244	1.58	386.03	1	4000				
S3	300	16	4240	1	60	60	254.4	1.58	402.48	37	4000	2x120			
S4	150	12	17900	1	25	25	447.5	0.89	398.24	1	17900				
S5	200	12	17900	1	19	19	340.1	0.89	302.66	1	17900				
								SUB TOTAL	1875.44	kg					
								TOTAL=(S.T.X1)	**1875.44**	**kg**					

WALK WAY

C1		12	17900	1	8	8	143.2	0.89	127.44	4	17900				
C2	100	12	2570	1	180	180	462.6	0.89	411.68	21	725	150	775	300	500
C3	150	12	1850	1	120	120	222	0.89	197.56	63	400	300	1000	150	
C4		12	17900	1	3	3	53.7	0.89	47.79	1	17900				
								SUB TOTAL	784.46	kg					
								TOTAL=(S.T.X2)	**1568.93**	**kg**					

RAILING BRIDGE

P1		16	1380	13	4	52	71.76	1.58	113.53	2	1130	200	50		
P2	100	6	620	13	9	117	72.54	0.22	16.14	8	125	125	125	125	
R1		12	17900	1	12	12	214.8	0.89	191.15	1	17900				
R2	100	6	470	36	13	468	219.96	0.22	48.94	8	100	75	100	75	
								SUB TOTAL	369.76	kg					
								TOTAL=(S.T.X2)	**739.52**	**kg**					
								GRAND-TOTAL=	**4183.89**	**kg**					

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
LOCAL GOVERNMENT ENGINEERING DEPARTMENT

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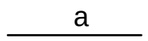
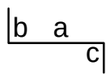
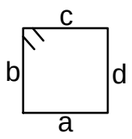
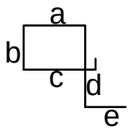
E-mail:pprojltd@yahoo.com

NAME OF PROJECT:
LOCATION:
UPAZILA:
DISTRICT:

DRAWING TITLE
Bar Bending Schedule
Deck Slab 18m
DRAWING NO.
PAGE NO. P-115

SHAPE CODE	BAR SHAPE
1	
2	
8	
21	
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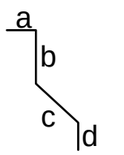
63	

20.0m DECK SLAB

DECK SLAB

BAR MARK	SPECING	BAR DIA (mm)	BAR LENGTH (mm)	NO MEMBER	NO OF BARS IN EACH MEMBER	TOTAL NO OF BARS	TOTAL LENGTH (m)	UNIT WEIGHT (kg)	TOTAL WEIGHT (kg)	SHAPE CODE	DIMENSIONS (mm)				
											a	b	c	d	e
S1	300	16	4000	1	67	67	268	1.58	424.00	1	4000				
S2	300	16	4000	1	67	67	268	1.58	424.00	1	4000				
S3	300	16	4240	1	66	66	279.84	1.58	442.73	37	4000	2x120			
S4	150	12	19900	1	25	25	497.5	0.89	442.74	1	19900				
S5	200	12	19900	1	19	19	378.1	0.89	336.48	1	19900				
								SUB TOTAL	2069.94	kg					
								TOTAL=(S.T.X1)	**2069.94**	**kg**					
WALK WAY															
C1		12	19900	1	8	8	159.2	0.89	141.68	4	19900				
C2	100	12	2570	1	200	200	514	0.89	457.42	21	725	150	775	300	500
C3	150	12	1850	1	134	134	247.9	0.89	220.61	63	400	300	1000	150	
C4		12	19900	1	3	3	59.7	0.89	53.13	1	19900				
								SUB TOTAL	872.83	kg					
								TOTAL=(S.T.X2)	**1745.67**	**kg**					
RAILING BRIDGE															
P1		16	1380	14	4	56	77.28	1.58	122.26	2	1130	200	50		
P2	100	6	620	14	9	126	78.12	0.22	17.38	8	125	125	125	125	
R1		12	17900	1	12	12	214.8	0.89	191.15	1	17900				
R2	100	6	470	39	13	507	238.29	0.22	53.01	8	100	75	100	75	
								SUB TOTAL	383.81	kg					
								TOTAL=(S.T.X2)	**767.63**	**kg**					
								GRAND-TOTAL=	**4583.23**	**kg**					

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
LOCAL GOVERNMENT ENGINEERING DEPARTMENT

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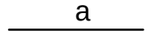
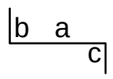
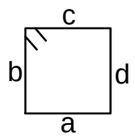
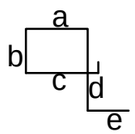
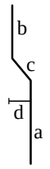
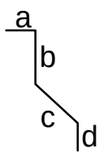
NAME OF PROJECT:
LOCATION:
UPAZILA:
DISTRICT:

DRAWING TITLE
Bar Bending Schedule
Deck Slab 20m
DRAWING NO.
PAGE NO. P-116

SHAPE CODE	BAR SHAPE
1	
2	
8	
21	
37	
63	

22.0m DECK SLAB

DECK SLAB

BAR MARK	SPECING	BAR DIA (mm)	BAR LENGTH (mm)	NO MEMBER	NO OF BARS IN EACH MEMBER	TOTAL NO OF BARS	TOTAL LENGTH (m)	UNIT WEIGHT (kg)	TOTAL WEIGHT (kg)	SHAPE CODE	DIMENSIONS (mm)				
											a	b	c	d	e
S1	300	16	4000	1	74	74	296	1.58	468.30	1	4000				
S2	300	16	4000	1	74	74	296	1.58	468.30	1	4000				
S3	300	16	4240	1	73	73	309.52	1.58	489.69	37	4000	2x120			
S4	150	12	21900	1	25	25	547.5	0.89	487.23	1	21900				
S5	200	12	21900	1	19	19	416.1	0.89	370.30	1	21900				
								SUB TOTAL	2283.80	kg					
								TOTAL=(S.T.X1)	**2283.80**	**kg**					
WALK WAY															
C1		12	21900	1	8	8	175.2	0.89	155.91	4	21900				
C2	100	12	2570	1	200	200	514	0.89	457.42	21	725	150	775	300	500
C3	150	12	1850	1	134	134	247.9	0.89	220.61	63	400	300	1000	150	
C4		12	21900	1	3	3	65.7	0.89	58.47	1	21900				
								SUB TOTAL	892.41	kg					
								TOTAL=(S.T.X2)	**1784.82**	**kg**					
RAILING BRIDGE															
P1		16	1380	16	4	64	88.32	1.58	139.73	2	1130	200	50		
P2	100	6	620	16	9	144	89.28	0.22	19.86	8	125	125	125	125	
R1		12	21900	1	12	12	262.8	0.89	233.87	1	21900				
R2	100	6	470	45	13	585	274.95	0.22	61.17	8	100	75	100	75	
								SUB TOTAL	454.63	kg					
								TOTAL=(S.T.X2)	**909.27**	**kg**					
								GRAND-TOTAL=	**4977.90**	**kg**					

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

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NAME OF PROJECT:

LOCATION:

UPAZILA:

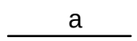
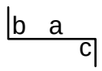
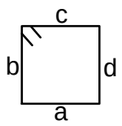
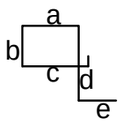
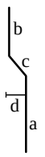
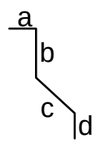
DISTRICT:

DRAWING TITLE

Bar Bending Schedule
Deck Slab 22m

DRAWING NO.

PAGE NO. P-117

SHAPE CODE	BAR SHAPE
1	
2	
8	
21	
37	
63	

24.0m DECK SLAB

DECK SLAB

BAR MARK	SPECING	BAR DIA (mm)	BAR LENGTH (mm)	NO MEMBER	NO OF BARS IN EACH MEMBER	TOTAL NO OF BARS	TOTAL LENGTH (m)	UNIT WEIGHT (kg)	TOTAL WEIGHT (kg)	SHAPE CODE	DIMENSIONS (mm)				
											a	b	c	d	e
S1	300	16	4000	1	81	81	324	1.58	512.59	1	4000				
S2	300	16	4000	1	81	81	324	1.58	512.59	1	4000				
S3	300	16	4240	1	80	80	339.2	1.58	536.64	37	4000	2x120			
S4	150	12	23900	1	25	25	597.5	0.89	531.73	1	23900				
S5	200	12	23900	1	19	19	454.1	0.89	404.11	1	23900				
								SUB TOTAL	2497.67	kg					
								TOTAL=(S.T.X1)	**2497.67**	**kg**					
WALK WAY															
C1		12	23900	1	8	8	191.2	0.89	170.15	4	23900				
C2	100	12	2570	1	240	240	616.8	0.89	548.90	21	725	150	775	300	500
C3	150	12	1850	1	160	160	296	0.89	263.42	63	400	300	1000	150	
C4		12	23900	1	3	3	71.7	0.89	63.81	1	23900				
								SUB TOTAL	1046.28	kg					
								TOTAL=(S.T.X2)	**2092.56**	**kg**					
RAILING BRIDGE															
P1		16	1380	17	4	68	93.84	1.58	148.46	2	1130	200	50		
P2	100	6	620	17	9	153	94.86	0.22	21.10	8	125	125	125	125	
R1		12	23900	1	12	12	286.8	0.89	255.23	1	23900				
R2	100	6	470	48	13	624	293.28	0.22	65.25	8	100	75	100	75	
								SUB TOTAL	490.04	kg					
								TOTAL=(S.T.X2)	**980.09**	**kg**					
								GRAND-TOTAL=	**5570.32**	**kg**					

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
LOCAL GOVERNMENT ENGINEERING DEPARTMENT

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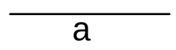
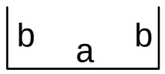
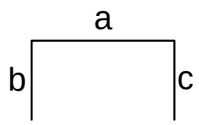
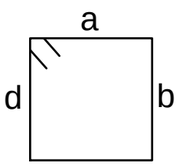
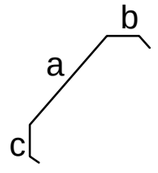
NAME OF PROJECT:
LOCATION:
UPAZILA:
DISTRICT:

DRAWING TITLE

Bar Bending Schedule
Deck Slab 24m

DRAWING NO.

PAGE NO. P-118

SHAPE CODE	BAR SHAPE
1	
4	
5	
8	
49	

12.00m RCC GIRDER

COMPONENT	SPECING	BAR MARK	BAR DIA (mm)	BAR LENGTH (mm)	NO MEMBER	NO OF BARS IN EACH MEMBER	TOTAL NO OF BARS	TOTAL LENGTH (m)	UNIT WEIGHT (kg)	TOTAL WEIGHT (kg)	SHAPE CODE	DIMENSIONS (mm) a	b	c	d	e
GIRDER -12.00m		G1	32	12900	1	4	4	51.60	6.33	326.54	4	11900	500	500		
		G2	32	12900	1	4	4	51.60	6.33	326.54	4	11900	500	500		
		G3	32	9000	1	4	4	36.00	6.33	227.82	1	9000				
		G7	25	12900	1	2	2	25.80	3.86	99.65	5	11900	500	500		
		G8	12	11900	1	4	4	47.60	0.89	42.36	1	11900				
	200	G9	12	1500	1	61	61	91.50	0.89	81.43	49	900	300	300		
		G10	12	2740	1	77	77	210.98	0.89	187.76	8	900	350	900	350	
									SUB TOTAL	1292.10	kg					
									TOTAL=(S.T.X2)	**2584.20**	**kg**					
DIAPHRAGM																
		D1	20	3450	1	2	2	6.90	2.47	17.06	4	2850	300	300		
		D2	20	3450	1	2	2	6.90	2.47	17.06	1	2850	300	300		
	200	D4	10	1900	1	10	10	19.00	0.62	11.74	8	200	650	200	650	
									SUB TOTAL	45.86	kg					
									TOTAL=(S.T.X3)	**137.57**	**kg**					
									GRAND TOTAL	**2721.76**	**kg**					

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

PURAKAUSHAL PROJUKTI LIMITED

House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219
E-mail:pprojltd@yahoo.com

NAME OF PROJECT:

LOCATION:

UPAZILA:

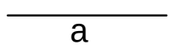
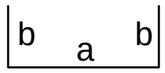
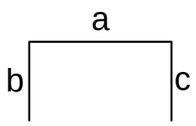
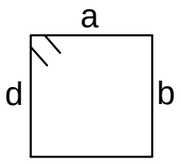
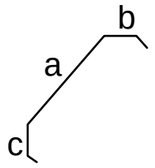
DISTRICT:

DRAWING TITLE

Bar Bending Schedule
12m RCC Girder

DRAWING NO.

PAGE NO. P-119

SHAPE CODE	BAR SHAPE
1	
4	
5	
8	
49	

14m RCC GIRDER

COMPO-NENT	SPECING	BAR MARK	BAR DIA (mm)	BAR LENGTH (mm)	NO MEMBER	NO OF BARS IN EACH MEMBER	TOTAL NO OF BARS	TOTAL LENGTH (m)	UNIT WEIGHT (kg)	TOTAL WEIGHT (kg)	SHAPE CODE	DIMENSIONS (mm) a	b	c	d	e
GIRDER -14.00m		G1	32	14900	1	4	4	59.60	6.33	377.17	4	13900	500	500		
		G2	32	14900	1	4	4	59.60	6.33	377.17	4	13900	500	500		
		G3	32	10500	1	4	4	42.00	6.33	265.79	1	10500				
		G7	25	14900	1	2	2	29.80	3.86	115.10	5	13900	500	500		
		G8	12	13900	1	4	4	55.60	0.89	49.48	1	13900				
	200	G9	12	1500	1	71	71	106.50	0.89	94.78	49	900	300	300		
		G10	12	2940	1	87	87	255.78	0.89	227.62	8	1000	350	1000	350	
									SUB TOTAL	1507.11	kg					
									TOTAL=(S.T.X2)	**3014.21**	**kg**					
DIAPHRAGM																
		D1	20	3450	1	2	2	6.90	2.47	17.06	4	2850	300	300		
		D2	20	3450	1	2	2	6.90	2.47	17.06	1	2850	300	300		
		D3	12	2850	1	4	4	11.40	0.89	10.15	1	2850				
	200	D4	10	2100	1	10	10	21.00	0.62	12.98	8	200	750	200	750	
									SUB TOTAL	57.24	kg					
									TOTAL=(S.T.X3)	**171.71**	**kg**					
									GRAND TOTAL	**3185.92**	**kg**					

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

PURAKAUSHAL PROJUKTI LIMITED
House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219
E-mail:pprojltd@yahoo.com

NAME OF PROJECT:
LOCATION:
UPAZILA:
DISTRICT:

DRAWING TITLE
Bar Bending Schedule
14m RCC Girder
DRAWING NO.
PAGE NO. P-120

SHAPE CODE	BAR SHAPE
1	a
4	b a b
5	a b c
8	a d b
49	b a c

16.00 m RCC GIRDER

COMPO-NENT	SPECING	BAR MARK	BAR DIA (mm)	BAR LENGTH (mm)	NO MEMBER	NO OF BARS IN EACH MEMBER	TOTAL NO OF BARS	TOTAL LENGTH (m)	UNIT WEIGHT (kg)	TOTAL WEIGHT (kg)	SHAPE CODE	DIMENSIONS (mm)				
												a	b	c	d	e
GIRDER -16.00m		G1	32	16900	1	4	4	67.60	6.33	427.79	4	15900	500	500		
		G2	32	16900	1	4	4	67.60	6.33	427.79	4	15900	500	500		
		G3	32	12000	1	4	4	48.00	6.33	303.76	1	12000				
		G8	12	15900	1	6	6	95.40	0.89	84.90	1	15900				
		G9	25	16900	1	2	2	33.80	3.86	130.55	5	15900	500	500		
	200	G10	12	1500	1	81	81	121.50	0.89	108.13	49	900	300	300		
		G14	12	3340	1	109	109	364.06	0.89	323.98	8	1200	350	1200	350	
									SUB TOTAL	1806.91	kg					
									TOTAL=(S.T.X2)	**3613.82**	**kg**					
DIAPHRAGM																
		D1	20	3450	1	2	2	6.90	2.47	17.06	4	2850	300	300		
		D2	20	3450	1	2	2	6.90	2.47	17.06	1	2850	300	300		
		D3	12	2850	1	4	4	11.40	0.89	10.15	1	2850				
	200	D4	10	2500	1	10	10	25.00	0.62	15.45	8	200	950	200	950	
									SUB TOTAL	59.71	kg					
									TOTAL=(S.T.X4)	**238.83**	**kg**					
									GRAND TOTAL	**3852.65**	**kg**					

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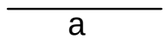
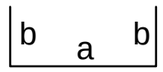
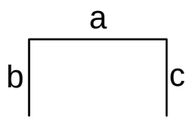
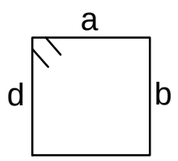
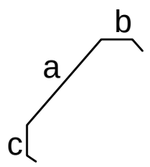
NAME OF PROJECT:
LOCATION:
UPAZILA:
DISTRICT:

DRAWING TITLE
Bar Bending Schedule
16m RCC Girder
DRAWING NO.
PAGE NO. P-121

SHAPE CODE	BAR SHAPE
1	
4	
5	
8	
49	

18.00 m RCC GIRDER

COMPO-NENT	SPECING	BAR MARK	BAR DIA (mm)	BAR LENGTH (mm)	NO MEMBER	NO OF BARS IN EACH MEMBER	TOTAL NO OF BARS	TOTAL LENGTH (m)	UNIT WEIGHT (kg)	TOTAL WEIGHT (kg)	SHAPE CODE	DIMENSIONS (mm)				
												a	b	c	d	e
GIRDER -18.00m		G1	32	18900	1	4	4	75.60	6.33	478.42	4	17900	500	500		
		G2	32	18900	1	4	4	75.60	6.33	478.42	4	17900	500	500		
		G3	32	18900	1	4	4	75.60	6.33	478.42	4	17900	500	500		
		G4	32	13500	1	4	4	54.00	6.33	341.73	1	13500				
		G8	25	18900	1	2	2	37.80	3.86	146.00	5	17900	500	500		
	200	G9	12	1500	1	91	91	136.50	0.89	121.47	49	900	300	300		
		G10	12	3540	1	107	107	378.78	0.89	337.08	8	1300	350	1300	350	
		G11	16	17900	1	4	4	71.60	1.58	113.28	1	17900				
									SUB TOTAL	2494.83	kg					
									TOTAL=(S.T.X2)	4989.66	kg					
DIAPHRAGM																
		D1	20	3450	1	2	2	6.90	2.47	17.06	4	2850	300	300		
		D2	20	3450	1	2	2	6.90	2.47	17.06	1	2850	300	300		
		D3	12	2850	1	4	4	11.40	0.89	10.15	1	2850				
	200	D4	10	2700	1	10	10	27.00	0.62	16.69	8	200	1050	200	1050	
									SUB TOTAL	60.94	kg					
									TOTAL=(S.T.X4)	243.78	kg					
									GRAND TOTAL	5233.44	kg					

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

PURAKAUSHAL PROJUKTI LIMITED

House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219
E-mail:pprojltd@yahoo.com

NAME OF PROJECT:

LOCATION:

UPAZILA:

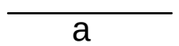
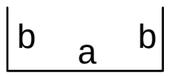
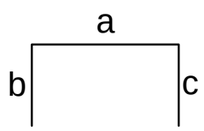
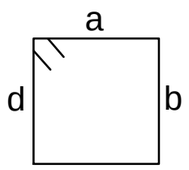
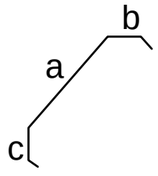
DISTRICT:

DRAWING TITLE

Bar Bending Schedule
18m RCC Girder

DRAWING NO.

PAGE NO. P-122

SHAPE CODE	BAR SHAPE
1	
4	
5	
8	
49	

20.00m RCC GIRDER

COMPO-NENT	SPECING	BAR MARK	BAR DIA (mm)	BAR LENGTH (mm)	NO MEMBER	NO OF BARS IN EACH MEMBER	TOTAL NO OF BARS	TOTAL LENGTH (m)	UNIT WEIGHT (kg)	TOTAL WEIGHT (kg)	SHAPE CODE	DIMENSIONS (mm)				
												a	b	c	d	e
GIRDER -20.00m		G1	32	20900	1	4	4	83.60	6.33	529.05	4	19900	500	500		
		G2	32	20900	1	4	4	83.60	6.33	529.05	4	19900	500	500		
		G3	32	16000	1	4	4	64.00	6.33	405.01	1	16000				
		G4	32	12000	1	4	4	48.00	6.33	303.76	1	12000				
		G8	12	19900	1	6	6	119.40	0.89	106.26	1	19900				
		G9	25	20900	1	2	2	41.80	3.86	161.45	5	19900	500	500		
	200	G10	12	1500	1	101	101	151.50	0.89	134.82	49	900	300	300		
		G14	12	3740	1	134	134	501.16	0.89	445.99	8	1400	350	1400	350	
									SUB TOTAL	2615.39	kg					
									TOTAL=(S.T.X2)	**5230.78**	**kg**					
DIAPHRAGM																
		D1	20	3450	1	2	2	6.90	2.47	17.06	4	2850	300	300		
		D2	20	3450	1	2	2	6.90	2.47	17.06	1	2850	300	300		
		D3	12	2850	1	4	4	11.40	0.89	10.15	1	2850				
	200	D4	10	2900	1	10	10	29.00	0.62	17.92	8	200	1150	200	1150	
									SUB TOTAL	62.18	kg					
									TOTAL=(S.T.X4)	**248.72**	**kg**					
									GRAND TOTAL	**5479.50**	**kg**					

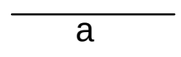
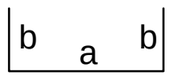
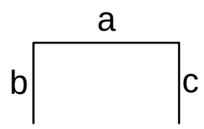
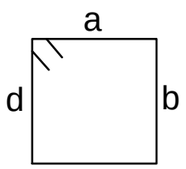
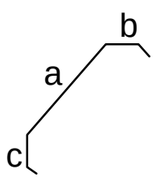
GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

PURAKAUSHAL PROJUKTI LIMITED
House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219
E-mail:pprojltd@yahoo.com

NAME OF PROJECT:
LOCATION:
UPAZILA:
DISTRICT:

DRAWING TITLE
Bar Bending Schedule
20m RCC Girder
DRAWING NO.
PAGE NO. P-123

SHAPE CODE	BAR SHAPE
1	
4	
5	
8	
49	

22.00 m RCC GIRDER

COMPO-NENT	SPECING	BAR MARK	BAR DIA (mm)	BAR LENGTH (mm)	NO MEMBER	NO OF BARS IN EACH MEMBER	TOTAL NO OF BARS	TOTAL LENGTH (m)	UNIT WEIGHT (kg)	TOTAL WEIGHT (kg)	SHAPE CODE	DIMENSIONS (mm)				
												a	b	c	d	e
GIRDER -22.00m		G1	32	23400	1	4	4	93.60	6.33	592.33	4	21900	750	750		
		G2	32	23400	1	4	4	93.60	6.33	592.33	4	21900	750	750		
		G3	32	17500	1	4	4	70.00	6.33	442.98	1	17500				
		G4	32	13000	1	4	4	52.00	6.33	329.07	1	13000				
		G8	12	21900	1	6	6	131.40	0.89	116.94	1	21900				
		G9	25	23400	1	2	2	46.80	3.86	180.77	5	21900	750	750		
	200	G10	12	1500	1	111	111	166.50	0.89	148.17	49	900	300	300		
		G14	12	4340	1	150	150	651.00	0.89	579.34	8	1700	350	1700	350	
									SUB TOTAL	2981.93	kg					
									TOTAL=(S.T.X2)	**5963.85**	**kg**					
DIAPHRAGM																
		D1	20	3450	1	2	2	6.90	2.47	17.06	4	2850	300	300		
		D2	20	3450	1	2	2	6.90	2.47	17.06	1	2850	300	300		
		D3	12	2850	1	6	6	17.10	0.89	15.22	1	2850				
	200	D4	10	3500	1	10	10	35.00	0.62	21.63	8	200	1450	200	1450	
									SUB TOTAL	70.96	kg					
									TOTAL=(S.T.X5)	**354.81**	**kg**					
									GRAND TOTAL	**6318.66**	**kg**					

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

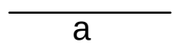
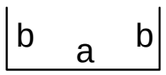
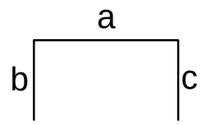
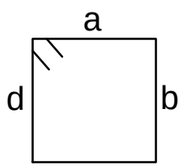
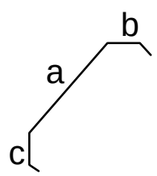
PURAKAUSHAL PROJUKTI LIMITED
House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219
E-mail:pprojltd@yahoo.com

NAME OF PROJECT:
LOCATION:
UPAZILA:
DISTRICT:

DRAWING TITLE
Bar Bending Schedule
22m RCC Girder

DRAWING NO.

PAGE NO. P-124

SHAPE CODE	BAR SHAPE
1	
4	
5	
8	
49	

24.00 m RCC GIRDER

COMPONENT	SPECING	BAR MARK	BAR DIA (mm)	BAR LENGTH (mm)	NO MEMBER	NO OF BARS IN EACH MEMBER	TOTAL NO OF BARS	TOTAL LENGTH (m)	UNIT WEIGHT (kg)	TOTAL WEIGHT (kg)	SHAPE CODE	DIMENSIONS (mm)				
												a	b	c	d	e
GIRDER -24.00m		G1	32	24900	1	4	4	99.60	6.33	630.30	4	23900	500	500		
		G2	32	24900	1	4	4	99.60	6.33	630.30	4	23900	500	500		
		G3	32	24900	1	4	4	99.60	6.33	630.30	1	23900	500	500		
		G4	32	18000	1	4	4	72.00	6.33	455.64	1	18000				
		G9	16	23900	1	8	8	191.20	1.58	302.49	1	23900				
	200	G10	12	1500	1	120	120	180.00	0.89	160.19	49	900	300	300		
		G11	25	24900	1	2	2	49.80	3.86	192.35	5	23900	500	500		
		G13	12	4740	1	170	170	805.80	0.89	717.10	8	1900	350	1900	350	
									SUB TOTAL	3718.67	kg					
									TOTAL=(S.T.X2)	**7437.34**	**kg**					
DIAPHRAGM																
		D1	20	3450	1	2	2	6.90	2.47	17.06	4	2850	300	300		
		D2	20	3450	1	2	2	6.90	2.47	17.06	1	2850	300	300		
		D3	12	2850	1	6	6	17.10	0.89	15.22	1	2850				
	200	D4	10	3800	1	10	10	38.00	0.62	23.48	8	200	1600	200	1600	
									SUB TOTAL	72.82	kg					
									TOTAL=(S.T.X5)	**364.08**	**kg**					
									GRAND TOTAL	**7801.42**	**kg**					

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

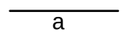
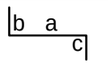
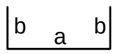
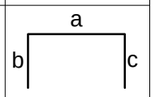
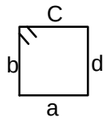
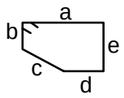
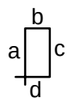
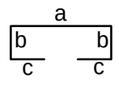
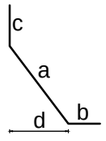
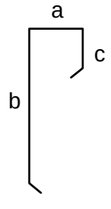
PURAKAUSHAL PROJUKTI LIMITED
House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219
E-mail:pprojltd@yahoo.com

NAME OF PROJECT:
LOCATION:
UPAZILA:
DISTRICT:

DRAWING TITLE
Bar Bending Schedule
24m RCC Girder

DRAWING NO.

PAGE NO. P-125

SHAPE CODE	BAR SHAPE
1	
2	
4	
5	
	
10	
12	
13	
49	
62	

ABUTMENT - 3.00m

BAR MARK	SPECING	BAR DIA (mm)	BAR LENGTH (mm)	NO MEMBER	NO OF BARS IN EACH MEMBER	TOTAL NO OF BARS	TOTAL LENGTH (m)	UNIT WEIGHT (kg)	TOTAL WEIGHT (kg)	SHAPE CODE	DIMENSIONS (mm)				
											a	b	c	d	e
ABUTMENT PILE CAP(6100x4600x600)															
A1	150	16	5200	1	41	41	213.20	1.58	337.30	4	4500	350	350		
B1	200	16	6700	1	24	24	160.80	1.58	254.40	4	6000	350	350		
C1	150	16	6700	1	31	31	207.70	1.58	328.60	5	6000	350	350		
D	200	16	5200	1	31	31	161.20	1.58	255.03	5	4500	350	350		
B1		12	4500	1	4	4	18.00	0.89	16.02	1	4500				
B2		12	6000	1	4	4	24.00	0.89	21.36	1	6000				
								SUB TOTAL	1212.70	kg					
								TOTAL=(S.T.X2)	**2425.41**	**kg**					
ABUTMENT WALL E.F(4650+350+350=5350)															
G1	200	16	7250	1	3	3	21.75	1.58	34.41	13	5250	2x300	2x700		
H1	200	16	2010	1	24	24	48.24	1.58	76.32	2	1510	300	200		
E1	200	12	2580	1	24	24	61.92	0.89	55.10	49	1980	300	300		
E2	200	12	1500	1	13	13	19.5	0.89	17.35	49	900	300	300		
								SUB TOTAL	183.19	kg					
								TOTAL=(S.T.X2)	**366.37**	**kg**					
ABUTMENT WALL R.F															
G2	200	16	7250	1	3	3	21.75	1.58	34.41	13	5250	2x300	2x700		
H2	200	16	2010	1	27	27	54.27	1.58	85.86	2	1510	300	200		
								SUB TOTAL	120.27	kg					
								TOTAL=(S.T.X2)	**240.54**	**kg**					
ABUTMENT CAP& BACK WALL(4650x900x675)															
I	150	12	2390	1	32	32	76.48	0.89	68.06	10	575	800	325	250	200
J		16	5250	1	10	10	52.50	1.58	83.06	1	5250				
M	150	12	4000	1	32	32	128.00	0.89	113.91	12	1700	200	1600	500	
N	150	12	5250	2	10	20	105.00	0.89	93.44	1	5250				
								SUB TOTAL	358.47	kg					
								TOTAL=(S.T.X2)	**716.94**	**kg**					
WING WALL E.F &R.F(3000+400=3400+1800=5200)															
Q1	150	16	3300	1	21	21	69.30	1.58	109.64	2	2800	300	200		
R1	150	16	4200	1	10	10	42.00	1.58	66.45	62	200	3300	700		
	150	16	5475	1	8	8	43.80	1.58	69.30	62	200	4575	700		
U	200	12	2000	1	10	10	20.00	0.89	17.80	4	1700	200	100		
X	250	12	1500	1	6	6	9.00	0.89	8.01	1	1500				
Y	250	12	1900	1	3	3	5.70	0.89	5.07	2	1600	200	100		
E1	200	12	2580	1	16	16	41.28	0.89	36.74	49	1980	300	300		
S	200	16	3300	1	18	18	59.40	1.58	93.98	2	2800	300	200		
T1	200	16	4200	1	8	8	33.60	1.58	53.16	62	200	3300	700		
T1	200	16	5475	1	6	6	32.85	1.58	51.97	62	200	4575	700		
V	200	12	2000	1	10	10	20.00	0.89	17.80	4	1700	200	100		
								SUB TOTAL	529.90	kg					
								TOTAL=(S.T.X4)	**2119.60**	**kg**					
WING WALL RAILING - 4675,4nos															
P1		16	1850	4	4	16	29.60	1.58	46.83	4	1600	200	50		
P2	100	6	620	4	9	36	22.32	0.22	4.97	8	125	125	125	125	
R1		12	4575	1	12	12	54.90	0.89	48.86	1	4575				
R2	100	6	470	9	13	117	54.99	0.22	12.23	8	100	75	100	75	
								SUB TOTAL	112.89	kg					
								TOTAL=(S.T.X4)	**451.54**	**kg**					
								GRAND-TOTAL=	**6320.41**	**kg**					

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

PURAKAUSHAL PROJUKTI LIMITED

House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219
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NAME OF PROJECT:

LOCATION:

UPAZILA:

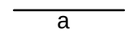
DISTRICT:

DRAWING TITLE

Bar Bending Schedule Abutment 3.0m

DRAWING NO.

PAGE NO. P-126

SHAPE CODE	BAR SHAPE
1	
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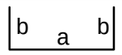
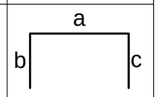
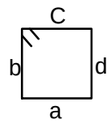
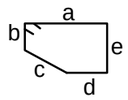
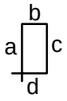
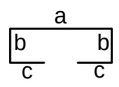
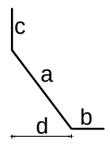
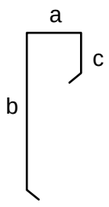
4	
5	
8	
10	
12	
13	
49	
62	

BAR MARK	SPECING	BAR DIA (mm)	BAR LENGTH (mm)	NO MEMBER	NO OF BARS IN EACH MEMBER	TOTAL NO OF BARS	TOTAL LENGTH (m)	UNIT WEIGHT (kg)	TOTAL WEIGHT (kg)	SHAPE CODE	DIMENSIONS (mm) a	b	c	d	e
ABUTMENT - 3.500m															
ABUTMENT PILE CAP															
A1	150	16	5300	1	41	41	217.30	1.58	343.79	4	4500	400	400		
B1	200	16	6800	1	24	24	163.20	1.58	258.20	4	6000	400	400		
C1	150	16	6800	1	31	31	210.80	1.58	333.50	5	6000	400	400		
D	200	16	5300	1	31	31	164.30	1.58	259.94	5	4500	400	400		
B1		12	4500	1	4	4	18.00	0.89	16.02	1	4500				
B2		12	6000	1	4	4	24.00	0.89	21.36	1	6000				
								SUB TOTAL	1232.80	kg					
								TOTAL=(S.T.X2)	**2465.59**	**kg**					
ABUTMENT WALL E.F															
G1	200	16	7250	1	5	5	36.25	1.58	57.35	13	5250	2x300	2x700		
H1	200	16	2510	1	24	24	60.24	1.58	95.30	2	2010	300	200		
E1	200	12	2580	1	24	24	61.92	0.89	55.10	49	1980	300	300		
E2	200	12	1500	1	15	15	22.5	0.89	20.02	49	900	300	300		
								SUB TOTAL	227.78	kg					
								TOTAL=(S.T.X2)	**455.56**	**kg**					
ABUTMENT WALL R.F															
G2	200	16	7250	1	5	5	36.25	1.58	57.35	13	5250	2x300	2x700		
H2	200	16	2510	1	27	27	67.77	1.58	107.22	2	2010	300	200		
								SUB TOTAL	164.57	kg					
								TOTAL=(S.T.X2)	**329.14**	**kg**					
ABUTMENT CAP& BACK WALL															
I	150	12	2390	1	32	32	76.48	0.89	68.06	10	575	800	325	250	200
J		16	5250	1	10	10	52.50	1.58	83.06	1	5250				
M	150	12	4000	1	32	32	128.00	0.89	113.91	12	1700	200	1600	500	
N	150	12	5250	2	10	20	105.00	0.89	93.44	1	5250				
								SUB TOTAL	358.47	kg					
								TOTAL=(S.T.X2)	**716.94**	**kg**					
WING WALL E.F &R.F															
Q1	150	16	3800	1	21	21	79.80	1.58	126.25	2	3300	300	200		
R1	150	16	4200	1	12	12	50.40	1.58	79.74	62	200	3300	700		
	150	16	5475	1	8	8	43.80	1.58	69.30	62	500	4575	1000		
U	200	12	2175	1	10	10	21.75	0.89	19.36	4	1875	200	100		
X	250	12	1500	1	6	6	9.00	0.89	8.01	1	1500				
Y	250	12	1900	1	3	3	5.70	0.89	5.07	2	1600	200	100		
E1	200	12	2580	1	16	16	41.28	0.89	36.74	49	1980	300	300		
S	200	16	3800	1	18	18	68.40	1.58	108.21	2	3300	300	200		
T1	200	16	4200	1	9	9	37.80	1.58	59.80	62	200	3300	700		
T1	200	16	5475	1	6	6	32.85	1.58	51.97	62	200	4575	700		
V	200	12	2175	1	10	10	21.75	0.89	19.36	4	1875	200	100		
								SUB TOTAL	583.80	kg					
								TOTAL=(S.T.X4)	**2335.20**	**kg**					
WING WALL RAILING															
P1		16	1850	4	4	16	29.60	1.58	46.83	4	1600	200	50		
P2	100	6	620	4	9	36	22.32	0.22	4.97	8	125	125	125	125	
R1		12	4575	1	12	12	54.90	0.89	48.86	1	4575				
R2	100	6	470	9	13	117	54.99	0.22	12.23	8	100	75	100	75	
								SUB TOTAL	112.89	kg					
								TOTAL=(S.T.X4)	**451.54**	**kg**					
								GRAND-TOTAL=	**6753.98**	**kg**					

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

PURAKAUSHAL PROJUKTI LIMITED

House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219
E-mail:pprojltd@yahoo.com

NAME OF PROJECT:

LOCATION:

UPAZILA:

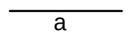
DISTRICT:

DRAWING TITLE

Bar Bending Schedule Abutment 3.5m

DRAWING NO.

PAGE NO. P-127

SHAPE CODE	BAR SHAPE
1	
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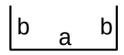
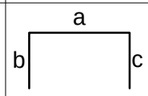
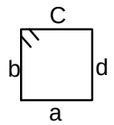
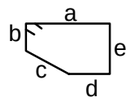
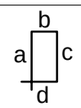
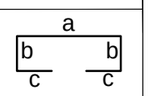
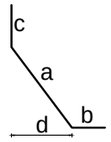
4	
5	
8	
10	
12	
13	
49	
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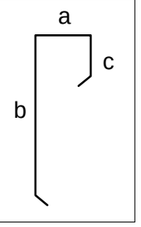
62	

ABUTMENT - 4.00m

BAR MARK	SPECING	BAR DIA (mm)	BAR LENGTH (mm)	NO MEMBER	NO OF BARS IN EACH MEMBER	TOTAL NO OF BARS	TOTAL LENGTH (m)	UNIT WEIGHT (kg)	TOTAL WEIGHT (kg)	SHAPE CODE	DIMENSIONS (mm) a	b	c	d	e
ABUTMENT PILE CAP															
A1	150	16	5450	1	40	40	218.00	1.58	344.89	4	4650	400	400		
B1	200	16	6700	1	24	24	160.80	1.58	254.40	4	5900	400	400		
C1	150	16	6700	1	32	32	214.40	1.58	339.20	5	5900	400	400		
C2	150	16	2400	1	11	11	26.40	1.58	41.77	52	2000	400			
D	200	16	5450	1	31	31	168.95	1.58	267.29	5	4650	400	400		
B1		12	4650	1	4	4	18.60	0.89	16.55	1	4650				
B2		12	5900	1	4	4	23.60	0.89	21.00	1	5900				
								SUB TOTAL	1285.10	kg					
								TOTAL=(S.T.X2)	**2570.21**	**kg**					
ABUTMENT WALL E.F															
G1	200	16	7550	1	6	6	45.3	1.58	71.67	13	5250	2x350	2x800		
H1	200	16	2710	1	23	23	62.33	1.58	98.61	2	2210	300	200		
E1	200	12	2580	1	23	23	59.34	0.89	52.81	49	1980	300	300		
E2	200	12	1500	1	17	17	25.5	0.89	22.69	49	900	300	300		
								SUB TOTAL	245.78	kg					
								TOTAL=(S.T.X2)	**491.56**	**kg**					
ABUTMENT WALL R.F															
G2	200	16	7550	1	6	6	45.30	1.58	71.67	13	5250	2x350	2x800		
H2	200	16	2710	1	27	27	73.17	1.58	115.76	2	2210	300	200		
								SUB TOTAL	187.43	kg					
								TOTAL=(S.T.X2)	**374.86**	**kg**					
ABUTMENT CAP& BACK WALL															
I	150	12	2440	1	31	31	75.64	0.89	67.31	10	575	800	325	250	250
J		16	5250	1	10	10	52.50	1.58	83.06	1	5250				
M	150	12	4200	1	31	31	130.20	0.89	115.87	12	1800	200	1700	500	
N	150	12	5250	2	9	18	94.50	0.89	84.10	1	5250				
								SUB TOTAL	350.34	kg					
								TOTAL=(S.T.X2)	**700.68**	**kg**					
WING WALL E.F &R.F															
Q1	150	16	4300	1	22	22	94.60	1.58	149.66	2	3800	300	200		
Q2	150	16	2000	1	11	11	22.00	1.58	34.81	2	1500	300	200		
R1	150	16	5450	1	15	15	81.75	1.58	129.34	62	300	4350	800		
	150	16	5825	1	8	8	46.60	1.58	73.72	62	300	4725	800		
U	200	12	2525	1	10	10	25.25	0.89	22.47	4	2125	300	100		
X	250	12	2000	1	6	6	12.00	0.89	10.68	1	2000				
Y	250	12	2000	1	3	3	6.00	0.89	5.34	2	1600	300	100		
E1	200	12	2580	1	17	17	43.86	0.89	39.03	49	1980	300	300		
S	200	16	4300	1	18	18	77.40	1.58	122.45	2	3800	300	200		
T1	200	16	5450	1	12	12	65.40	1.58	103.47	62	300	4350	800		
T1	200	16	5825	1	6	6	34.95	1.58	55.29	62	300	4725	800		
V	200	12	2525	1	10	10	25.25	0.89	22.47	4	2125	300	100		
								SUB TOTAL	768.74	kg					
								TOTAL=(S.T.X4)	**3074.95**	**kg**					
WING WALL RAILING															
P1		16	1850	4	4	16	29.60	1.58	46.83	4	1600	200	50		
P2	100	6	620	4	9	36	22.32	0.22	4.97	8	125	125	125	125	
R1		12	4725	1	12	12	56.70	0.89	50.46	1	4725				
R2	100	6	470	9	14	126	59.22	0.22	13.18	8	100	75	100	75	
								SUB TOTAL	115.43	kg					
								TOTAL=(S.T.X4)	**461.72**	**kg**					
								GRAND-TOTAL=	**7673.96**	**kg**					

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

PURAKAUSHAL PROJUKTI LIMITED

House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219
E-mail:pprojltd@yahoo.com

NAME OF PROJECT:

LOCATION:

UPAZILA:

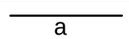
DISTRICT:

DRAWING TITLE

Bar Bending Schedule Abutment 4.0m

DRAWING NO.

PAGE NO. P-128

SHAPE CODE	BAR SHAPE
1	
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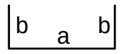
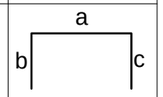
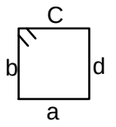
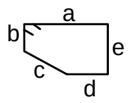
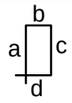
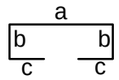
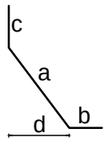
4	
5	
8	
10	
12	
13	
49	
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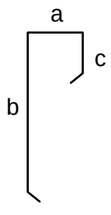
62	

ABUTMENT - 4.500m

BAR MARK	SPECING	BAR DIA (mm)	BAR LENGTH (mm)	NO MEMBER	NO OF BARS IN EACH MEMBER	TOTAL NO OF BARS	TOTAL LENGTH (m)	UNIT WEIGHT (kg)	TOTAL WEIGHT (kg)	SHAPE CODE	DIMENSIONS (mm) a	b	c	d	e
ABUTMENT PILE CAP															
A1	150	16	5950	1	40	40	238.00	1.58	376.54	4	5150	400	400		
B1	200	16	6700	1	27	27	180.90	1.58	286.20	4	5900	400	400		
C1	150	16	6700	1	35	35	234.50	1.58	371.00	5	5900	400	400		
C2	150	16	2400	1	11	11	26.40	1.58	41.77	52	2000	400			
D	200	16	5950	1	31	31	184.45	1.58	291.81	5	5150	400	400		
B1		12	5150	1	4	4	20.60	0.89	18.33	1	5150				
B2		12	5900	1	4	4	23.60	0.89	21.00	1	5900				
								SUB TOTAL	1406.65	kg					
								TOTAL=(S.T.X2)	**2813.29**	**kg**					
ABUTMENT WALL E.F															
G1	200	16	7550	1	9	9	67.95	1.58	107.50	13	5250	2x 350	2x 800		
H1	200	16	3310	1	23	23	76.13	1.58	120.44	2	2810	300	200		
E1	200	12	2580	1	23	23	59.34	0.89	52.81	49	1980	300	300		
E2	200	12	1500	1	20	20	30	0.89	26.70	49	900	300	300		
								SUB TOTAL	307.45	kg					
								TOTAL=(S.T.X2)	**614.90**	**kg**					
ABUTMENT WALL R.F															
G2	200	16	7550	1	9	9	67.95	1.58	107.50	13	5250	2x 350	2x 800		
H2	200	16	3310	1	27	27	89.37	1.58	141.39	2	2210	300	200		
								SUB TOTAL	248.89	kg					
								TOTAL=(S.T.X2)	**497.79**	**kg**					
ABUTMENT CAP& BACK WALL															
I	150	10	2440	1	31	31	75.64	0.62	46.75	10	575	800	325	250	250
J		16	5250	1	10	10	52.50	1.58	83.06	1	5250				
M	150	12	4200	1	31	31	130.20	0.89	115.87	12	1800	200	1700	500	
N	150	12	5250	2	11	22	115.50	0.89	102.79	1	5250				
								SUB TOTAL	348.46	kg					
								TOTAL=(S.T.X2)	**696.92**	**kg**					
WING WALL E.F &R.F															
Q1	150	16	4800	1	25	25	120.00	1.58	189.85	2	4300	300	200		
Q2	150	16	2000	1	11	11	22.00	1.58	34.81	2	1500	300	200		
R1	150	16	5950	1	18	18	107.10	1.58	169.44	62	300	4850	800		
	150	16	6325	1	8	8	50.60	1.58	80.05	62	300	5225	800		
U	200	12	2875	1	10	10	28.75	0.89	25.59	4	2475	300	100		
X	250	12	2000	1	6	6	12.00	0.89	10.68	1	2000				
Y	250	12	1900	1	3	3	5.70	0.89	5.07	2	1500	300	100		
E1	200	12	2580	1	19	19	49.02	0.89	43.62	49	1980	300	300		
S	200	16	4800	1	21	21	100.80	1.58	159.47	2	4300	300	200		
T1	200	16	5950	1	14	14	83.30	1.58	131.79	62	300	4850	800		
T1	200	16	6325	1	6	6	37.95	1.58	60.04	62	300	5225	800		
V	200	12	2875	1	9	9	25.88	0.89	23.03	4	2475	300	100		
								SUB TOTAL	933.44	kg					
								TOTAL=(S.T.X4)	**3733.75**	**kg**					
WING WALL RAILING															
P1		16	1850	4	4	16	29.60	1.58	46.83	4	1600	200	50		
P2	100	6	620	4	9	36	22.32	0.22	4.97	8	125	125	125	125	
R1		12	5225	1	12	12	62.70	0.89	55.80	1	5225				
R2	100	6	470	9	15	135	63.45	0.22	14.12	8	100	75	100	75	
								SUB TOTAL	121.71	kg					
								TOTAL=(S.T.X4)	**486.84**	**kg**					
								GRAND-TOTAL=	**8843.49**	**kg**					

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

PURAKAUSHAL PROJUKTI LIMITED

House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219
E-mail:pprojltd@yahoo.com

NAME OF PROJECT:

LOCATION:

UPAZILA:

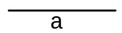
DISTRICT:

DRAWING TITLE

Bar Bending Schedule Abutment 4.5m

DRAWING NO.

PAGE NO. P-129

SHAPE CODE	BAR SHAPE
1	
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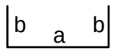
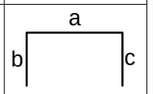
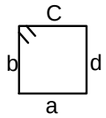
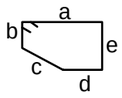
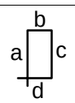
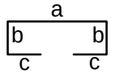
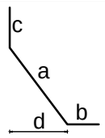
4	
5	
8	
10	
12	
13	
49	
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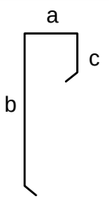
62	

ABUTMENT - 5.00m

BAR MARK	SPECING	BAR DIA (mm)	BAR LENGTH (mm)	NO MEMBER	NO OF BARS IN EACH MEMBER	TOTAL NO OF BARS	TOTAL LENGTH (m)	UNIT WEIGHT (kg)	TOTAL WEIGHT (kg)	SHAPE CODE	DIMENSIONS (mm) a	b	c	d	e
ABUTMENT PILE CAP															
A	100	20	6450	1	60	60	387.00	2.47	956.66	4	5650	400	400		
B	200	20	6700	1	29	29	194.30	2.47	480.31	4	5900	400	400		
C1	200	20	6700	1	29	29	194.30	2.47	480.31	5	5900	400	400		
C2	150	20	2400	1	14	14	33.60	2.47	83.06	52	2000	400			
D	200	20	6450	1	31	31	199.95	2.47	494.28	5	5650	400	400		
B1		12	5650	1	4	4	22.60	0.89	20.11	1	5650				
B2		12	5900	1	4	4	23.60	0.89	21.00	1	5900				
								SUB TOTAL	2535.73	kg					
								TOTAL=(S.T.X2)	**5071.47**	**kg**					
ABUTMENT WALL E.F															
G1	200	16	7950	1	11	11	87.45	1.58	138.35	13	5250	2x450	2x900		
H1	200	16	3710	1	23	23	85.33	1.58	135.00	2	3210	300	200		
E1	200	12	2580	1	23	23	59.34	0.89	52.81	49	1980	300	300		
E2	200	12	1500	1	22	22	33	0.89	29.37	49	900	300	300		
								SUB TOTAL	355.53	kg					
								TOTAL=(S.T.X2)	**711.05**	**kg**					
ABUTMENT WALL R.F															
G2	200	16	7950	1	11	11	87.45	1.58	138.35	13	5250	2x450	2x900		
H2	200	16	3710	1	27	27	100.17	1.58	158.48	2	2210	300	200		
								SUB TOTAL	296.83	kg					
								TOTAL=(S.T.X2)	**593.66**	**kg**					
ABUTMENT CAP& BACK WALL															
I	150	12	2540	1	30	30	76.20	0.89	67.81	10	575	850	325	250	300
J		16	5250	1	10	10	52.50	1.58	83.06	1	5250				
M	150	12	4650	1	27	27	125.55	0.89	111.73	12	2000	250	1900	500	
N	150	12	5250	1	12	12	63.00	0.89	56.06	1	5250				
P	200	12	5250	1	9	9	47.25	0.89	42.05	1	5250				
								SUB TOTAL	360.71	kg					
								TOTAL=(S.T.X2)	**721.43**	**kg**					
WING WALL E.F &R.F															
Q1	150	20	5300	1	28	28	148.40	2.47	366.84	2	4800	300	200		
Q2	150	20	2650	1	11	11	29.15	2.47	72.06	2	2150	300	200		
R1	200	20	6800	1	15	15	102.00	2.47	252.14	62	450	5450	900		
	200	20	7275	1	8	8	58.20	2.47	143.87	62	450	5925	900		
U	200	12	3250	1	11	11	35.75	0.89	31.81	4	2850	300	100		
X	200	12	2000	1	7	7	14.00	0.89	12.46	1	2000				
Y	200	12	2100	1	4	4	8.40	0.89	7.48	2	1700	300	100		
E1	200	12	2580	1	21	21	54.18	0.89	48.22	49	1980	300	300		
S	200	16	5300	1	23	23	121.90	1.58	192.86	2	4800	300	200		
T1	200	16	6800	1	15	15	102.00	1.58	161.37	62	450	5450	900		
T1	200	16	7275	1	8	8	58.20	1.58	92.08	62	450	5925	900		
V	200	12	3250	1	11	11	35.75	0.89	31.81	4	2850	300	100		
								SUB TOTAL	1413.00	kg					
								TOTAL=(S.T.X4)	**5652.01**	**kg**					
WING WALL RAILING															
P1		16	1850	5	4	20	37.00	1.58	58.54	4	1600	200	50		
P2	100	6	620	5	9	45	27.90	0.22	6.21	8	125	125	125	125	
R1		12	5925	1	12	12	71.10	0.89	63.27	1	5925				
R2	100	6	470	12	13	156	73.32	0.22	16.31	8	100	75	100	75	
								SUB TOTAL	144.33	kg					
								TOTAL=(S.T.X4)	**577.32**	**kg**					
								GRAND-TOTAL=	**13326.94**	**kg**					

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

PURAKAUSHAL PROJUKTI LIMITED

House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219
E-mail:pprojltd@yahoo.com

NAME OF PROJECT:

LOCATION:

UPAZILA:

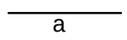
DISTRICT:

DRAWING TITLE

Bar Bending Schedule Abutment 5.0m

DRAWING NO.

PAGE NO. P-130

SHAPE CODE	BAR SHAPE
1	
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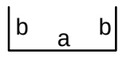
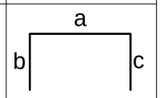
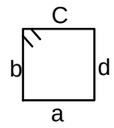
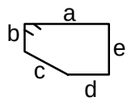
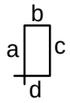
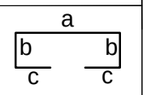
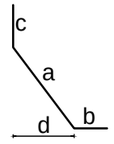
4	
5	
8	
10	
12	
13	
49	
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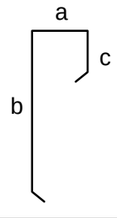
62	

ABUTMENT - 5.500m

BAR MARK	SPECING	BAR DIA (mm)	BAR LENGTH (mm)	NO MEMBER	NO OF BARS IN EACH MEMBER	TOTAL NO OF BARS	TOTAL LENGTH (m)	UNIT WEIGHT (kg)	TOTAL WEIGHT (kg)	SHAPE CODE	DIMENSIONS (mm) a	b	c	d	e
ABUTMENT PILE CAP															
A1	175	20	7850	1	36	36	282.60	2.47	698.59	4	6850	500	500		
B1	200	20	7200	1	35	35	252.00	2.47	622.94	4	6200	500	500		
C1	175	20	7200	1	40	40	288.00	2.47	711.94	5	6200	500	500		
C2	175	20	3000	1	15	15	45.00	2.47	111.24	52	2500	500			
D1	200	20	7850	1	32	32	251.20	2.47	620.97	5	6850	500	500		
B1		12	6850	1	4	4	27.40	0.89	24.38	1	6850				
B2		12	6200	1	4	4	24.80	0.89	22.07	1	6200				
								SUB TOTAL	2812.13	kg					
								TOTAL=(S.T.X2)	**5624.25**	**kg**					
ABUTMENT WALL E.F															
G1	200	16	8250	1	13	13	107.25	1.58	169.68	13	5250	2x500	2x1000		
H1	200	16	4210	1	22	22	92.62	1.58	146.53	2	3710	300	200		
E1	200	12	2580	1	22	22	56.76	0.89	50.51	49	1980	300	300		
E2	200	12	1500	1	24	24	36	0.89	32.04	49	900	300	300		
								SUB TOTAL	398.76	kg					
								TOTAL=(S.T.X2)	**797.52**	**kg**					
ABUTMENT WALL R.F															
G2	200	16	8250	1	13	13	107.25	1.58	169.68	13	5250	2x500	2x1000		
H2	200	16	4210	1	27	27	113.67	1.58	179.84	2	3710	300	200		
								SUB TOTAL	349.51	kg					
								TOTAL=(S.T.X2)	**699.03**	**kg**					
ABUTMENT CAP& BACK WALL															
I	150	12	2590	1	29	29	75.11	0.89	66.84	10	600	800	350	250	350
J		16	5250	1	10	10	52.50	1.58	83.06	1	5250				
M	200	16	4600	1	22	22	101.20	1.58	160.11	12	2000	200	1900	500	
N	150	12	5250	2	12	24	126.00	0.89	112.13	1	5250				
								SUB TOTAL	422.14	kg					
								TOTAL=(S.T.X2)	**844.28**	**kg**					
WING WALL E.F &R.F															
Q1	175	20	5800	1	31	31	179.80	2.47	444.47	2	5300	300	200		
Q2	175	20	3200	1	18	18	57.60	2.47	142.39	2	2700	300	200		
R1	200	20	8150	1	17	17	138.55	2.47	342.50	62	500	6650	1000		
	200	20	8650	1	8	8	69.20	2.47	171.06	62	500	7150	1000		
U	200	12	3675	1	11	11	40.43	0.89	35.98	4	3075	400	200		
X	250	12	1500	1	6	6	9.00	0.89	8.01	1	1500				
Y	250	12	2100	1	3	3	6.30	0.89	5.61	52	1800	300			
E1	200	12	2580	1	27	27	69.66	0.89	61.99	49	1980	300	300		
S	200	16	5800	1	29	29	168.20	1.58	266.11	2	5300	300	200		
T1	200	16	8150	1	17	17	138.55	1.58	219.20	62	500	6650	1000		
T1	200	16	8650	1	8	8	69.20	1.58	109.48	62	500	7150	1000		
V	200	12	3675	1	11	11	40.43	0.89	35.98	4	3075	400	200		
								SUB TOTAL	1398.29	kg					
								TOTAL=(S.T.X4)	**5593.14**	**kg**					
WING WALL RAILING															
P1		16	1850	6	4	24	44.40	1.58	70.24	4	1600	200	50		
P2	100	6	620	6	9	54	33.48	0.22	7.45	8	125	125	125	125	
R1		12	7150	1	12	12	85.80	0.89	76.36	1	7150				
R2	100	6	470	15	12	180	84.60	0.22	18.82	8	100	75	100	75	
								SUB TOTAL	172.87	kg					
								TOTAL=(S.T.X4)	**691.48**	**kg**					
								GRAND-TOTAL=	**14249.70**	**kg**					

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

PURAKAUSHAL PROJUKTI LIMITED

House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219
E-mail:pprojltd@yahoo.com

NAME OF PROJECT:

LOCATION:

UPAZILA:

DISTRICT:

DRAWING TITLE

Bar Bending Schedule Abutment 5.5m

DRAWING NO.

PAGE NO. P-131

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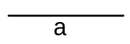
1	
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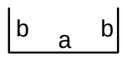
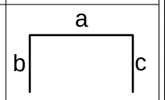
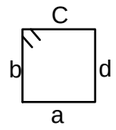
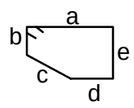
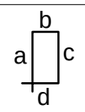
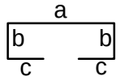
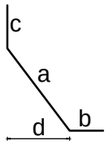
4	
5	
8	
10	
12	
13	
49	
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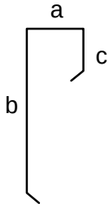
62	

ABUTMENT - 6.00m

BAR MARK	SPECING	BAR DIA (mm)	BAR LENGTH (mm)	NO MEMBER	NO OF BARS IN EACH MEMBER	TOTAL NO OF BARS	TOTAL LENGTH (m)	UNIT WEIGHT (kg)	TOTAL WEIGHT (kg)	SHAPE CODE	DIMENSIONS (mm) a	b	c	d	e
ABUTMENT PILE CAP															
A1	200	20	7850	1	32	32	251.20	2.47	620.97	4	7050	400	400		
B1	200	20	7000	1	36	36	252.00	2.47	622.94	4	6200	400	400		
C1	150	20	7000	1	48	48	336.00	2.47	830.59	5	6200	400	400		
C2	150	20	2900	1	18	18	52.20	2.47	129.04	52	2500	400			
D	200	20	7850	1	32	32	251.20	2.47	620.97	5	5150	400	400		
B1		12	7050	1	4	4	28.20	0.89	25.10	1	7050				
B2		12	6200	1	4	4	24.80	0.89	22.07	1	6200				
								SUB TOTAL	2871.67	kg					
								TOTAL=(S.T.X2)	**5743.35**	**kg**					
ABUTMENT WALL E.F															
G1	200	16	7750	1	15	15	116.25	1.58	183.92	13	5250	2x400	2x850		
H1	200	16	4710	1	22	22	103.62	1.58	163.94	2	4210	300	200		
E1	200	12	2580	1	22	22	56.76	0.89	50.51	49	1980	300	300		
E2	200	12	1500	1	27	27	40.5	0.89	36.04	49	900	300	300		
								SUB TOTAL	434.41	kg					
								TOTAL=(S.T.X2)	**868.81**	**kg**					
ABUTMENT WALL R.F															
G2	200	16	7750	1	15	15	116.25	1.58	183.92	13	5250	2x400	2x850		
H2	200	16	4710	1	27	27	127.17	1.58	201.19	2	4210	300	200		
								SUB TOTAL	385.11	kg					
								TOTAL=(S.T.X2)	**770.22**	**kg**					
ABUTMENT CAP& BACK WALL															
J	150	12	2990	1	29	29	86.71	0.89	77.16	10	700	950	400	300	400
R1		16	5250	1	10	10	52.50	1.58	83.06	1	5250				
M1	200	16	4600	1	22	22	101.20	1.58	160.11	12	2000	200	1900	500	
N1	150	16	5250	2	12	24	126.00	1.58	199.34	1	5250				
								SUB TOTAL	519.67	kg					
								TOTAL=(S.T.X2)	**1039.35**	**kg**					
WINGWALL E.F &R.F															
Q1	150	20	6300	1	37	37	233.10	2.47	576.22	2	5800	300	200		
Q2	150	20	3200	1	21	21	67.20	2.47	166.12	2	2700	300	200		
R1	200	20	8250	1	17	17	140.25	2.47	346.70	62	400	7000	850		
	200	20	8700	1	10	10	87.00	2.47	215.06	62	400	7450	850		
R3	200	20	2650	1	11	11	29.15	2.47	72.06	1	2650				
U	200	12	4200	1	12	12	50.40	0.89	44.85	4	3500	500	200		
X	250	12	2500	1	6	6	15.00	0.89	13.35	1	2500				
Y	250	12	2100	1	4	4	8.40	0.89	7.48	2	1700	300	100		
E1	200	12	2580	1	27	27	69.66	0.89	61.99	49	1980	300	300		
S	200	16	6300	1	30	30	189.00	1.58	299.01	2	5800	300	200		
T1	200	16	8250	1	17	17	140.25	1.58	221.89	62	400	7000	850		
T1	200	16	8700	1	10	10	87.00	1.58	137.64	62	400	7450	850		
V	200	12	4200	1	12	12	50.40	0.89	44.85	4	3500	500	200		
								SUB TOTAL	2207.22	kg					
								TOTAL=(S.T.X4)	**8828.89**	**kg**					
WING WALL RAILING															
P1		16	1850	6	4	24	44.40	1.58	70.24	4	1600	200	50		
P2	100	6	620	6	9	54	33.48	0.22	7.45	8	125	125	125	125	
R1		12	7450	1	12	12	89.40	0.89	79.56	1	7450				
R2	100	6	470	15	13	195	91.65	0.22	20.39	8	100	75	100	75	
								SUB TOTAL	177.64	kg					
								TOTAL=(S.T.X4)	**710.57**	**kg**					
								GRAND-TOTAL=	**17961.18**	**kg**					

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

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House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219
E-mail:pprojltd@yahoo.com

NAME OF PROJECT:

LOCATION:

UPAZILA:

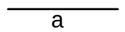
DISTRICT:

DRAWING TITLE

Bar Bending Schedule
Abutment 6.0m

DRAWING NO.

PAGE NO. P-132

SHAPE CODE	BAR SHAPE
1	
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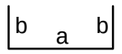
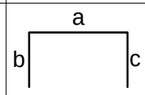
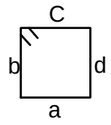
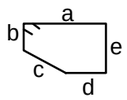
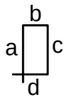
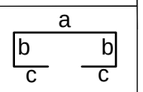
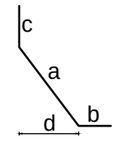
4	
5	
8	
10	
12	
13	
49	
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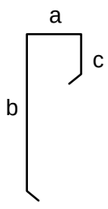
62	

BAR MARK	SPECING	BAR DIA (mm)	BAR LENGTH (mm)	NO MEMBER	NO OF BARS IN EACH MEMBER	TOTAL NO OF BARS	TOTAL LENGTH (m)	UNIT WEIGHT (kg)	TOTAL WEIGHT (kg)	SHAPE CODE	DIMENSIONS (mm)				
											a	b	c	d	e
ABUTMENT - 6.5m															
ABUTMENT PILE CAP															
A1	200	20	8650	1	32	32	276.80	2.47	684.25	4	7650	500	500		
B1	200	20	7200	1	39	39	280.80	2.47	694.14	4	6200	500	500		
C1	150	20	7200	1	52	52	374.40	2.47	925.52	5	6200	500	50		
C2	150	20	3000	1	22	22	66.00	2.47	163.15	52	2500	500			
D	200	20	8650	1	32	32	276.80	2.47	684.25	5	5150	400	400		
B1		12	7650	1	4	4	30.60	0.89	27.23	1	7650				
B2		12	6200	1	4	4	24.80	0.89	22.07	1	6200				
								SUB TOTAL	2516.36	kg					
								TOTAL=(S.T.X2)	**5032.72**	**kg**					
ABUTMENT WALL E.F															
G1	200	16	8250	1	17	17	140.25	1.58	221.89	13	5250	2x550	2x950		
H1	200	16	5210	1	22	22	114.62	1.58	181.34	2	4710	300	200		
E1	200	12	2580	1	22	22	56.76	0.89	50.51	49	1980	300	300		
E2	200	12	1500	1	29	29	43.5	0.89	38.71	49	900	300	300		
								SUB TOTAL	492.45	kg					
								TOTAL=(S.T.X2)	**984.90**	**kg**					
ABUTMENT WALL R.F															
G2	200	16	8250	1	17	17	140.25	1.58	221.89	13	5250	2x550	2x950		
H2	200	16	5210	1	27	27	140.67	1.58	222.55	2	4710	300	200		
								SUB TOTAL	444.44	kg					
								TOTAL=(S.T.X2)	**888.88**	**kg**					
ABUTMENT CAP& BACK WALL															
J	150	12	2990	1	29	29	86.71	0.89	77.16	10	700	950	400	300	400
R1		16	5250	1	10	10	52.50	1.58	83.06	1	5250				
M1	200	16	4600	1	22	22	101.20	1.58	160.11	12	2000	200	1900	500	
N1	150	16	5250	2	12	24	126.00	1.58	199.34	1	5250				
								SUB TOTAL	519.67	kg					
								TOTAL=(S.T.X2)	**1039.35**	**kg**					
WING WALL E.F &R.F															
Q1	150	20	6800	1	39	39	265.20	2.47	655.57	2	6300	300	200		
Q2	150	20	3250	1	21	21	68.25	2.47	168.71	2	2750	300	200		
R1	200	20	8950	1	19	19	170.05	2.47	420.36	62	550	7350	950		
	200	20	9450	1	10	10	94.50	2.47	233.60	62	550	7950	950		
R3	200	20	2650	1	11	11	29.15	2.47	72.06	1	2650				
U	200	12	4500	1	13	13	58.50	0.89	52.06	4	3800	500	200		
X	250	12	2500	1	6	6	15.00	0.89	13.35	1	2500				
Y	250	12	2100	1	4	4	8.40	0.89	7.48	2	1700	300	100		
E1	200	12	2580	1	29	29	74.82	0.89	66.58	49	1980	300	300		
S	200	16	6800	1	32	32	217.60	1.58	344.26	2	5800	300	200		
T1	200	16	8950	1	19	19	170.05	1.58	269.03	62	550	7350	950		
T1	200	16	9450	1	10	10	94.50	1.58	149.51	62	550	7950	950		
V	200	12	4500	1	13	13	58.50	0.89	52.06	4	3800	500	200		
								SUB TOTAL	2504.64	kg					
								TOTAL=(S.T.X4)	**10018.57**	**kg**					
WING WALL RAILING															
P1		16	1850	6	4	24	44.40	1.58	70.24	4	1600	200	50		
P2	100	6	620	6	9	54	33.48	0.22	7.45	8	125	125	125	125	
R1		12	7950	1	12	12	95.40	0.89	84.90	1	7950				
R2	100	6	470	15	14	210	98.70	0.22	21.96	8	100	75	100	75	
								SUB TOTAL	184.55	kg					
								TOTAL=(S.T.X4)	**738.20**	**kg**					
								GRAND-TOTAL=	**18702.61**	**kg**					

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

PURAKAUSHAL PROJUKTI LIMITED

House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219
E-mail:pprojltd@yahoo.com

NAME OF PROJECT:

LOCATION:

UPAZILA:

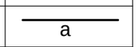
DISTRICT:

DRAWING TITLE

Bar Bending Schedule Abutment 6.5m

DRAWING NO.

PAGE NO. P-133

SHAPE CODE	BAR SHAPE
1	
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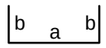
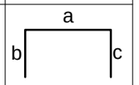
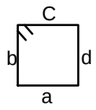
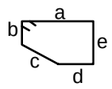
4	
5	
8	
10	
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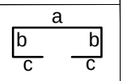
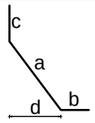
13	
49	
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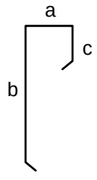
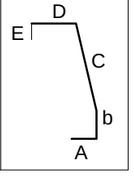
62	
76	

ABUTMENT - 7.00m

BAR MARK	SPECING	BAR DIA (mm)	BAR LENGTH (mm)	NO MEMBER	NO OF BARS IN EACH MEMBER	TOTAL NO OF BARS	TOTAL LENGTH (m)	UNIT WEIGHT (kg)	TOTAL WEIGHT (kg)	SHAPE CODE	DIMENSIONS (mm) a	b	c	d	e
ABUTMENT PILE CAP															
A	150	20	9450	1	42	42	396.90	2.47	981.14	4	8450	500	500		
B	200	20	7200	1	43	43	309.60	2.47	765.33	4	6200	500	500		
C	150	20	7200	1	57	57	410.40	2.47	1014.51	5	6200	500	500		
D	150	20	9450	1	42	42	396.90	2.47	981.14	5	8450	500	500		
B1		12	8450	1	4	4	33.80	0.89	30.08	1	8450				
B2		12	6200	1	4	4	24.80	0.89	22.07	1	6200				
								SUB TOTAL	3794.26	kg					
								TOTAL=(S.T.X2)	7588.53	kg					
ABUTMENT PILE CAP BEAM															
		25	7200	1	4	4	28.80	3.86	111.24	4	6200	500	500		
		25	7200	1	4	4	28.80	3.86	111.24	5	6200	500	500		
		25	2500	1	4	4	10.00	3.86	38.63	52	2000	500			
	200	12	2740	1	29	29	79.46	0.89	70.71	8	350	900	350	900	
								SUB TOTAL	331.82	kg					
								TOTAL=(S.T.X2)	663.64	kg					
ABUTMENT WALL E.F															
G1	200	16	7750	1	16	16	124	1.58	196.18	13	5250	2x400	2x850		
H1	200	16	5210	1	27	27	140.67	1.58	222.55	2	4710	300	200		
								SUB TOTAL	418.73	kg					
								TOTAL=(S.T.X2)	837.46	kg					
ABUTMENT WALL R.F															
G2	200	16	7750	1	16	16	124.00	1.58	196.18	13	5250	2x400	2x850		
H2	200	16	5210	1	27	27	140.67	1.58	222.55	2	4710	300	200		
								SUB TOTAL	418.73	kg					
								TOTAL=(S.T.X2)	837.46	kg					
ABUTMENT CAP& BACK WALL															
J	150	12	3190	1	31	31	98.89	0.89	88.00	10	750	950	450	300	500
R1		20	5250	1	10	10	52.50	2.47	129.78	1	5250				
M1	150	16	5650	1	31	31	175.15	1.58	277.10	12	2500	250	2400	500	
N1	150	16	5250	2	15	30	157.50	1.58	249.18	1	5250				
								SUB TOTAL	744.06	kg					
								TOTAL=(S.T.X2)	1488.13	kg					
WING WALL E.F &R.F															
Q	150	16	7300	1	42	42	306.60	1.58	485.07	2	6800	300	200		
R	150	16	9150	1	28	28	256.20	1.58	405.33	62	400	7900	850		
	150	16	10000	1	10	10	100.00	1.58	158.21	62	400	8750	850		
U	200	12	4700	1	13	13	61.10	0.89	54.37	4	4000	500	200		
X	200	12	2000	1	11	11	22.00	0.89	19.58	1	2000				
Y	200	12	2700	1	5	5	13.50	0.89	12.01	2	2300	300	100		
S	200	16	7300	1	35	35	255.50	1.58	404.22	2	5800	300	200		
T1	150	16	9150	1	28	28	256.20	1.58	405.33	62	400	7900	850		
T1	150	16	10000	1	10	10	100.00	1.58	158.21	62	400	8750	850		
V	200	12	4700	1	13	13	61.10	0.89	54.37	4	4000	500	200		
P		16	4600	1	2	2	9.20	1.58	14.56	1	4600				
								SUB TOTAL	2171.26	kg					
								TOTAL=(S.T.X4)	8685.03	kg					
WING WALL RAILING															
P1		16	1850	6	4	24	44.40	1.58	70.24	4	1600	200	50		
P2	100	6	620	6	9	54	33.48	0.22	7.45	8	125	125	125	125	
R1		12	8750	1	12	12	105.00	0.89	93.44	1	8750				
R2	100	6	470	15	15	225	105.75	0.22	23.53	8	100	75	100	75	
								SUB TOTAL	194.66	kg					
								TOTAL=(S.T.X4)	778.65	kg					
COUNTER FORT-WING WALL															
L3		25	5750	1	4	4	23.00	3.86	88.84	76	300	850	3600	700	300
L4		25	7750	1	4	4	31.00	3.86	119.74	76	300	850	5600	700	300
L5		16	4350	1	6	6	26.10	1.58	41.29	1	4350				
U1		20	6350	1	2	2	12.70	2.47	31.39	1	6350				
Y	100	12	2740	1	56	56	153.44	0.89	136.55	8	2500	AV			
								SUB TOTAL	417.81	kg					
								TOTAL=(S.T.X4)	1671.24	kg					
								GRAND-TOTAL=	22550.12	kg					

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

PURAKAUSHAL PROJUKTI LIMITED

House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219
E-mail:pprojltd@yahoo.com

NAME OF PROJECT:

LOCATION:

UPAZILA:

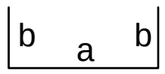
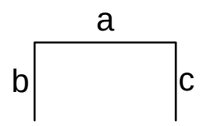
DISTRICT:

DRAWING TITLE

Bar Bending Schedule Abutment 7.0m

DRAWING NO.

PAGE NO. P-134

SHAPE CODE	BAR SHAPE
4	
5	

BEARING SEAT (320x400x48) or (300x350x45)

ABUTMENT	100	A	10	1800	1	6	6	10.80	0.62	6.67	5	800	500	500
	100	B	10	1500	1	9	9	13.50	0.62	8.34	5	500	500	500
									SUB TOTAL	15.02	kg			
									TOTAL=(S.T.X2)	**30.03**	**kg**			

BEARING SEAT (350x500x65)

ABUTMENT	100	A	10	1700	1	10	10	17.00	0.62	10.51	5	700	500	500
	100	B	10	1900	1	8	8	15.20	0.62	9.39	5	900	500	500
									SUB TOTAL	19.90	kg			
									TOTAL=(S.T.X2)	**39.80**	**kg**			

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH

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PURAKAUSHAL PROJUKTI LIMITED

House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219
E-mail:pprojltd@yahoo.com

NAME OF PROJECT:

LOCATION:

UPAZILA:

DISTRICT:

DRAWING TITLE

Bar Bending Schedule
Bearing Seat

DRAWING NO.

PAGE NO. P-135

SHAPE CODE	BAR SHAPE
1	a
27	c, b, b
52	b, a

PILE (Dia 500mm Length 18.00)

COMPONENT	SPECING	BAR MARK	BAR DIA (mm)	BAR LENGTH (mm)	NO MEMBER	NO OF BARS IN EACH MEMBER	TOTAL NO OF BARS	TOTAL LENGTH (m)	UNIT WEIGHT (kg)	TOTAL WEIGHT (kg)	SHAPE CODE	DIMENSIONS (mm)		
												a	b	c
PILE		P1	16	9450	1	10	10	94.50	1.58	149.51	1	9450		
		P2	20	9800	1	10	10	98.00	2.47	242.26	52	9600	200	
	150	S1	10	1218	1	58	58	70.64	0.62	43.66	27		150	1068
	100	S2	10	1168	1	90	90	105.12	0.62	64.96	27		100	1068
									SUB TOTAL	500.38	kg			
									TOTAL=(S.T.X1)	**500.38**	**kg**			

SHAPE CODE	BAR SHAPE
1	a
27	c, b, b
52	b, a

PILE (Dia 600mm Length 20.0m)

COMPONENT	SPECING	BAR MARK	BAR DIA (mm)	BAR LENGTH (mm)	NO MEMBER	NO OF BARS IN EACH MEMBER	TOTAL NO OF BARS	TOTAL LENGTH (m)	UNIT WEIGHT (kg)	TOTAL WEIGHT (kg)	SHAPE CODE	DIMENSIONS (mm)		
												a	b	c
PILE		P1	25	10950	1	12	12	131.40	3.86	507.53	52	10750	200	
		P2	16	10075	1	12	12	120.90	1.58	191.27	1	10075		
	150	S1	10	1532	1	62	62	94.98	0.62	58.70	27		150	1382
	100	S2	10	1482	1	100	100	148.20	0.62	91.59	27		100	1382
									SUB TOTAL	849.09	kg			
									TOTAL=(S.T.X1)	**849.09**	**kg**			

GOVERNMENT OF THE PEOPLE'S REPUBLIC OF BANGLADESH
LOCAL GOVERNMENT ENGINEERING DEPARTMENT

DESIGNED ,DRAWN & CHECKED BY

PURAKAUSHAL PROJUKTI LIMITED
House # 10 .Road # 4 .Banasree. Rampura.Dhaka-1219
E-mail:pprojltd@yahoo.com

NAME OF PROJECT:
LOCATION:
UPAZILA:
DISTRICT:

DRAWING TITLE
Ber Bending Schedule
500mm & 600mm Dia Pile
DRAWING NO.
PAGE NO. P-135 A

Bill of Quantities (BOQ)

Name of Project :

Name of Work : 12.0m Deck Slab

Package Number :

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
1.	(4.2.04.03.1) Reinforced Cement Concrete work in deck slab (including cantilever), side walk, curb, wheel guard, etc. in bridge with stone chips (Preferably stone chips from Madhyapara, Dinajpur), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 (suggested mix proportion 1:1.5:3) excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing and direction of the E-I-C. Up to height 5m	cum	13.680			
2.	(4.2.05.04) Reinforced Cement Concrete work in railing and rail post with stone chips (Preferably stone chips from Madhyapara, Dinajpur), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 (suggested mix proportion 1:1.5:3) excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing and direction of the E-I-C.	cum	2.898			
3.	(4.2.09) Providing 50mm average thick wearing course (1:1.5:3) on deck slab of bridge with cement, sand (minimum FM 1.80) and 6mm down graded boulder chips, mixing concrete, laying cost of all materials, labour and transportation to the site, etc. all complete as per direction of the E-I-C.	cum	2.220			
4.	(4.3.01.04) Providing rainwater down pipe including placing in position and cost of all materials as per drawing and direction of the E-I-C. 75mm PVC pipe	m	5.000			
5.	(4.3.04) Providing nosing with MS angles (75mmx75mmx6mm) etc. including cost of all materials, welding, carrying, etc. all complete as per design, drawing and direction of the E-I-C.	kg	101.600			
6.	(4.3.05) Providing expansion joints between the breast walls (abutment top wall) and girders or in between the girders with steel sheet and filling the gap with sand and bitumen (80/100) as per design, drawing and direction of the E-I-C.	kg	321.200			
7.	(4.2.06.03) Supplying and fabrication of M.S High strength deformed bar/ Twisted bar reinforcement of required size and length for all types of RCC work including straightening the rod, removing ruts, cleaning, cutting, hooking, bending, binding with supply of 22 B.W.G. GI wire, placing in position, including lapping, spacing and securing them in position by concrete blocks (1:1), metal chairs, etc. complete including cost of all materials, labour, local handling, laboratory test, incidentals necessary to complete the work as per specifications, drawings and direction of the Engineer. Laboratory test for physical property, strength, elongation% & bend to be performed as per ASTM. (Measurement will be based on standard weight of 490 lbs./ft3 Chairs, laps and separators will not be measures for payment. The cost of these will be included in the unit rate). High strength deformed bar (grade 60, billet)	kg	2,801.000			
Total Price of the Tender						

The total price of our Tender is: Tk: [Insert value in figures] [Insert value in Words]

Signature of the Tenderer

This Bill of Quantity contains _____ correction(s) duly initialed and signed by the authorized person of the Tenderer.

Bill of Quantities (BOQ)

Name of Project :

Name of Work : 14.0m Deck Slab

Package Number :

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
1.	(4.2.04.03.1) Reinforced Cement Concrete work in deck slab (including cantilever), side walk, curb, wheel guard, etc. in bridge with stone chips (Preferably stone chips from Madhyapara, Dinajpur), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 (suggested mix proportion 1:1.5:3) excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing and direction of the E-I-C. Up to height 5m	cum	15.960			
2.	(4.2.05.04) Reinforced Cement Concrete work in railing and rail post with stone chips (Preferably stone chips from Madhyapara, Dinajpur), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 (suggested mix proportion 1:1.5:3) excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing and direction of the E-I-C.	cum	3.380			
3.	(4.2.09) Providing 50mm average thick wearing course (1:1.5:3) on deck slab of bridge with cement, sand (minimum FM 1.80) and 6mm down graded boulder chips, mixing concrete, laying cost of all materials, labour and transportation to the site, etc. all complete as per direction of the E-I-C.	cum	2.590			
4.	(4.3.01.04) Providing rainwater down pipe including placing in position and cost of all materials as per drawing and direction of the E-I-C. 75mm PVC pipe	m	5.000			
5.	(4.3.04) Providing nosing with MS angles (75mmx75mmx6mm) etc. including cost of all materials, welding, carrying, etc. all complete as per design, drawing and direction of the E-I-C.	kg	101.600			
6.	(4.3.05) Providing expansion joints between the breast walls (abutment top wall) and girders or in between the girders with steel sheet and filling the gap with sand and bitumen (80/100) as per design, drawing and direction of the E-I-C.	kg	321.200			
7.	(4.2.06.03) Supplying and fabrication of M.S High strength deformed bar/ Twisted bar reinforcement of required size and length for all types of RCC work including straightening the rod, removing ruts, cleaning, cutting, hooking, bending, binding with supply of 22 B.W.G. GI wire, placing in position, including lapping, spacing and securing them in position by concrete blocks (1:1), metal chairs, etc. complete including cost of all materials, labour, local handling, laboratory test, incidentals necessary to complete the work as per specifications, drawings and direction of the Engineer. Laboratory test for physical property, strength, elongation% & bend to be performed as per ASTM. (Measurement will be based on standard weight of 490 lbs./ft3 Chairs, laps and separators will not be measures for payment. The cost of these will be included in the unit rate). High strength deformed bar (grade 60, billet)	kg	3,240.000			
Total Price of the Tender						

The total price of our Tender is: Tk: [Insert value in figures] [Insert value in Words]

Signature of the Tenderer

This Bill of Quantity contains _____ correction(s) duly initialed and signed by the authorized person of the Tenderer.

Bill of Quantities (BOQ)

Name of Project :

Name of Work : 16.0m Deck Slab

Package Number :

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
1.	(4.2.04.03.1) Reinforced Cement Concrete work in deck slab (including cantilever), side walk, curb, wheel guard, etc. in bridge with stone chips (Preferably stone chips from Madhyapara, Dinajpur), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 (suggested mix proportion 1:1.5:3) excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing and direction of the E-I-C. Up to height 5m	cum	18.240			
2.	(4.2.05.04) Reinforced Cement Concrete work in railing and rail post with stone chips (Preferably stone chips from Madhyapara, Dinajpur), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 (suggested mix proportion 1:1.5:3) excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing and direction of the E-I-C.	cum	3.824			
3.	(4.2.09) Providing 50mm average thick wearing course (1:1.5:3) on deck slab of bridge with cement, sand (minimum FM 1.80) and 6mm down graded boulder chips, mixing concrete, laying cost of all materials, labour and transportation to the site, etc. all complete as per direction of the E-I-C.	cum	2.960			
4.	(4.3.01.04) Providing rainwater down pipe including placing in position and cost of all materials as per drawing and direction of the E-I-C. 75mm PVC pipe	m	7.000			
5.	(4.3.04) Providing nosing with MS angles (75mmx75mmx6mm) etc. including cost of all materials, welding, carrying, etc. all complete as per design, drawing and direction of the E-I-C.	kg	101.600			
6.	(4.3.05) Providing expansion joints between the breast walls (abutment top wall) and girders or in between the girders with steel sheet and filling the gap with sand and bitumen (80/100) as per design, drawing and direction of the E-I-C.	kg	321.200			
7.	(4.2.06.03) Supplying and fabrication of M.S High strength deformed bar/ Twisted bar reinforcement of required size and length for all types of RCC work including straightening the rod, removing ruts, cleaning, cutting, hooking, bending, binding with supply of 22 B.W.G. GI wire, placing in position, including lapping, spacing and securing them in position by concrete blocks (1:1), metal chairs, etc. complete including cost of all materials, labour, local handling, laboratory test, incidentals necessary to complete the work as per specifications, drawings and direction of the Engineer. Laboratory test for physical property, strength, elongation% & bend to be performed as per ASTM. (Measurement will be based on standard weight of 490 lbs./ft3 Chairs, laps and separators will not be measures for payment. The cost of these will be included in the unit rate). High strength deformed bar (grade 60, billet)	kg	3,726.000			
Total Price of the Tender						

The total price of our Tender is: Tk: [Insert value in figures] [Insert value in Words]

Signature of the Tenderer

This Bill of Quantity contains _____ correction(s) duly initialed and signed by the authorized person of the Tenderer.

Bill of Quantities (BOQ)

Name of Project :

Name of Work : 18.0m Deck Slab

Package Number :

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
1.	(4.2.04.03.1) Reinforced Cement Concrete work in deck slab (including cantilever), side walk, curb, wheel guard, etc. in bridge with stone chips (Preferably stone chips from Madhyapara, Dinajpur), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 (suggested mix proportion 1:1.5:3) excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing and direction of the E-I-C. Up to height 5m	cum	20.520			
2.	(4.2.05.04) Reinforced Cement Concrete work in railing and rail post with stone chips (Preferably stone chips from Madhyapara, Dinajpur), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 (suggested mix proportion 1:1.5:3) excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing and direction of the E-I-C.	cum	4.346			
3.	(4.2.09) Providing 50mm average thick wearing course (1:1.5:3) on deck slab of bridge with cement, sand (minimum FM 1.80) and 6mm down graded boulder chips, mixing concrete, laying cost of all materials, labour and transportation to the site, etc. all complete as per direction of the E-I-C.	cum	3.330			
4.	(4.3.01.04) Providing rainwater down pipe including placing in position and cost of all materials as per drawing and direction of the E-I-C. 75mm PVC pipe	m	7.000			
5.	(4.3.04) Providing nosing with MS angles (75mmx75mmx6mm) etc. including cost of all materials, welding, carrying, etc. all complete as per design, drawing and direction of the E-I-C.	kg	101.600			
6.	(4.3.05) Providing expansion joints between the breast walls (abutment top wall) and girders or in between the girders with steel sheet and filling the gap with sand and bitumen (80/100) as per design, drawing and direction of the E-I-C.	kg	321.200			
7.	(4.2.06.03) Supplying and fabrication of M.S High strength deformed bar/ Twisted bar reinforcement of required size and length for all types of RCC work including straightening the rod, removing ruts, cleaning, cutting, hooking, bending, binding with supply of 22 B.W.G. GI wire, placing in position, including lapping, spacing and securing them in position by concrete blocks (1:1), metal chairs, etc. complete including cost of all materials, labour, local handling, laboratory test, incidentals necessary to complete the work as per specifications, drawings and direction of the Engineer. Laboratory test for physical property, strength, elongation% & bend to be performed as per ASTM. (Measurement will be based on standard weight of 490 lbs./ft3 Chairs, laps and separators will not be measures for payment. The cost of these will be included in the unit rate). High strength deformed bar (grade 60, billet)	kg	4,184.000			
Total Price of the Tender						

The total price of our Tender is: Tk: [Insert value in figures] [Insert value in Words]

Signature of the Tenderer

This Bill of Quantity contains _____ correction(s) duly initialed and signed by the authorized person of the Tenderer.

Bill of Quantities (BOQ)

Name of Project :

Name of Work : 20.0m Deck Slab

Package Number :

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
1.	(4.2.04.03.1) Reinforced Cement Concrete work in deck slab (including cantilever), side walk, curb, wheel guard, etc. in bridge with stone chips (Preferably stone chips from Madhyapara, Dinajpur), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 (suggested mix proportion 1:1.5:3) excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing and direction of the E-I-C. Up to height 5m	cum	22.800			
2.	(4.2.05.04) Reinforced Cement Concrete work in railing and rail post with stone chips (Preferably stone chips from Madhyapara, Dinajpur), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 (suggested mix proportion 1:1.5:3) excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing and direction of the E-I-C.	cum	4.816			
3.	(4.2.09) Providing 50mm average thick wearing course (1:1.5:3) on deck slab of bridge with cement, sand (minimum FM 1.80) and 6mm down graded boulder chips, mixing concrete, laying cost of all materials, labour and transportation to the site, etc. all complete as per direction of the E-I-C.	cum	3.700			
4.	(4.3.01.04) Providing rainwater down pipe including placing in position and cost of all materials as per drawing and direction of the E-I-C. 75mm PVC pipe	m	7.000			
5.	(4.3.04) Providing nosing with MS angles (75mmx75mmx6mm) etc. including cost of all materials, welding, carrying, etc. all complete as per design, drawing and direction of the E-I-C.	kg	101.600			
6.	(4.3.05) Providing expansion joints between the breast walls (abutment top wall) and girders or in between the girders with steel sheet and filling the gap with sand and bitumen (80/100) as per design, drawing and direction of the E-I-C.	kg	321.200			
7.	(4.2.06.03) Supplying and fabrication of M.S High strength deformed bar/ Twisted bar reinforcement of required size and length for all types of RCC work including straightening the rod, removing ruts, cleaning, cutting, hooking, bending, binding with supply of 22 B.W.G. GI wire, placing in position, including lapping, spacing and securing them in position by concrete blocks (1:1), metal chairs, etc. complete including cost of all materials, labour, local handling, laboratory test, incidentals necessary to complete the work as per specifications, drawings and direction of the Engineer. Laboratory test for physical property, strength, elongation% & bend to be performed as per ASTM. (Measurement will be based on standard weight of 490 lbs./ft3 Chairs, laps and separators will not be measures for payment. The cost of these will be included in the unit rate). High strength deformed bar (grade 60, billet)	kg	4,583.000			
Total Price of the Tender						

The total price of our Tender is: Tk: [Insert value in figures] [Insert value in Words]

Signature of the Tenderer

This Bill of Quantity contains _____ correction(s) duly initialed and signed by the authorized person of the Tenderer.

Bill of Quantities (BOQ)

Name of Project :

Name of Work : 22.0m Deck Slab

Package Number :

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
1.	(4.2.04.03.1) Reinforced Cement Concrete work in deck slab (including cantilever), side walk, curb, wheel guard, etc. in bridge with stone chips (Preferably stone chips from Madhyapara, Dinajpur), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 (suggested mix proportion 1:1.5:3) excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing and direction of the E-I-C. Up to height 5m	cum	25.080			
2.	(4.2.05.04) Reinforced Cement Concrete work in railing and rail post with stone chips (Preferably stone chips from Madhyapara, Dinajpur), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 (suggested mix proportion 1:1.5:3) excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing and direction of the E-I-C.	cum	5.321			
3.	(4.2.09) Providing 50mm average thick wearing course (1:1.5:3) on deck slab of bridge with cement, sand (minimum FM 1.80) and 6mm down graded boulder chips, mixing concrete, laying cost of all materials, labour and transportation to the site, etc. all complete as per direction of the E-I-C.	cum	4.070			
4.	(4.3.01.04) Providing rainwater down pipe including placing in position and cost of all materials as per drawing and direction of the E-I-C. 75mm PVC pipe	m	8.000			
5.	(4.3.04) Providing nosing with MS angles (75mmx75mmx6mm) etc. including cost of all materials, welding, carrying, etc. all complete as per design, drawing and direction of the E-I-C.	kg	101.600			
6.	(4.3.05) Providing expansion joints between the breast walls (abutment top wall) and girders or in between the girders with steel sheet and filling the gap with sand and bitumen (80/100) as per design, drawing and direction of the E-I-C.	kg	321.200			
7.	(4.2.06.03) Supplying and fabrication of M.S High strength deformed bar/ Twisted bar reinforcement of required size and length for all types of RCC work including straightening the rod, removing ruts, cleaning, cutting, hooking, bending, binding with supply of 22 B.W.G. GI wire, placing in position, including lapping, spacing and securing them in position by concrete blocks (1:1), metal chairs, etc. complete including cost of all materials, labour, local handling, laboratory test, incidentals necessary to complete the work as per specifications, drawings and direction of the Engineer. Laboratory test for physical property, strength, elongation% & bend to be performed as per ASTM. (Measurement will be based on standard weight of 490 lbs./ft3 Chairs, laps and separators will not be measures for payment. The cost of these will be included in the unit rate). High strength deformed bar (grade 60, billet)	kg	4,978.000			
Total Price of the Tender						

The total price of our Tender is: Tk: [Insert value in figures] [Insert value in Words]

Signature of the Tenderer

This Bill of Quantity contains _____ correction(s) duly initialed and signed by the authorized person of the Tenderer.

Bill of Quantities (BOQ)

Name of Project :

Name of Work : 24.0m Deck Slab

Package Number :

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
1.	(4.2.04.03.1) Reinforced Cement Concrete work in deck slab (including cantilever), side walk, curb, wheel guard, etc. in bridge with stone chips (Preferably stone chips from Madhyapara, Dinajpur), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 (suggested mix proportion 1:1.5:3) excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing and direction of the E-I-C. Up to height 5m	cum	27.360			
2.	(4.2.05.04) Reinforced Cement Concrete work in railing and rail post with stone chips (Preferably stone chips from Madhyapara, Dinajpur), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 (suggested mix proportion 1:1.5:3) excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing and direction of the E-I-C.	cum	5.782			
3.	(4.2.09) Providing 50mm average thick wearing course (1:1.5:3) on deck slab of bridge with cement, sand (minimum FM 1.80) and 6mm down graded boulder chips, mixing concrete, laying cost of all materials, labour and transportation to the site, etc. all complete as per direction of the E-I-C.	cum	4.440			
4.	(4.3.01.04) Providing rainwater down pipe including placing in position and cost of all materials as per drawing and direction of the E-I-C. 75mm PVC pipe	m	10.000			
5.	(4.3.04) Providing nosing with MS angles (75mmx75mmx6mm) etc. including cost of all materials, welding, carrying, etc. all complete as per design, drawing and direction of the E-I-C.	kg	101.600			
6.	(4.3.05) Providing expansion joints between the breast walls (abutment top wall) and girders or in between the girders with steel sheet and filling the gap with sand and bitumen (80/100) as per design, drawing and direction of the E-I-C.	kg	321.200			
7.	(4.2.06.03) Supplying and fabrication of M.S High strength deformed bar/ Twisted bar reinforcement of required size and length for all types of RCC work including straightening the rod, removing ruts, cleaning, cutting, hooking, bending, binding with supply of 22 B.W.G. GI wire, placing in position, including lapping, spacing and securing them in position by concrete blocks (1:1), metal chairs, etc. complete including cost of all materials, labour, local handling, laboratory test, incidentals necessary to complete the work as per specifications, drawings and direction of the Engineer. Laboratory test for physical property, strength, elongation% & bend to be performed as per ASTM. (Measurement will be based on standard weight of 490 lbs./ft3 Chairs, laps and separators will not be measures for payment. The cost of these will be included in the unit rate). High strength deformed bar (grade 60, billet)	kg	5,570.000			
Total Price of the Tender						

The total price of our Tender is: Tk: [Insert value in figures] [Insert value in Words]

Signature of the Tenderer

This Bill of Quantity contains _____ correction(s) duly initialed and signed by the authorized person of the Tenderer.

Bill of Quantities (BOQ)

Name of Project :

Name of Work : 12.0m Girder

Package Number :

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
1.	(4.2.02.01.03) Reinforced Cement Concrete work (1:1.5:3) in girders, cross girders, beams, ribs, fillets, etc. in bridge with 20mm down well graded stone chips (Preferably stone chips from Madhyapara, Dinajpur), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, propping, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design requirement, drawing and direction of the E-I-C. (Height up to 5 m)	cum	10.986			
2.	(4.2.06.03) Supplying and fabrication of M.S High strength deformed bar/ Twisted bar reinforcement of required size and length for all types of RCC work including straightening the rod, removing ruts, cleaning, cutting, hooking, bending, binding with supply of 22 B.W.G. GI wire, placing in position, including lapping, spacing and securing them in position by concrete blocks (1:1), metal chairs, etc. complete including cost of all materials, labour, local handling, laboratory test, incidentals necessary to complete the work as per specifications, drawings and direction of the Engineer. Laboratory test for physical property, strength, elongation% & bend to be performed as per ASTM. (Measurement will be based on standard weight of 490 lbs./ft3 Chairs, laps and separators will not be measures for payment. The cost of these will be included in the unit rate) High strength deformed bar (grade 60, billet)	kg	2722.00			
Total Price of the Tender						

The total price of our Tender is:

Tk:

[Insert value in figures] [Insert value in Words]

_____

Signature of the Tenderer

This Bill of Quantity contains _____ correction(s) duly initialed and signed by the authorized person of the Tenderer.

Bill of Quantities (BOQ)

Name of Project :

Name of Work : 14.0m Girder

Package Number :

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
1.	(4.2.02.01.03) Reinforced Cement Concrete work (1:1.5:3) in girders, cross girders, beams, ribs, fillets, etc. in bridge with 20mm down well graded stone chips (Preferably stone chips from Madhyapara, Dinajpur), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, propping, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design requirement, drawing and direction of the E-I-C. (Height up to 5 m)	cum	16.616			
2.	(4.2.06.03) Supplying and fabrication of M.S High strength deformed bar/ Twisted bar reinforcement of required size and length for all types of RCC work including straightening the rod, removing ruts, cleaning, cutting, hooking, bending, binding with supply of 22 B.W.G. GI wire, placing in position, including lapping, spacing and securing them in position by concrete blocks (1:1), metal chairs, etc. complete including cost of all materials, labour, local handling, laboratory test, incidentals necessary to complete the work as per specifications, drawings and direction of the Engineer. Laboratory test for physical property, strength, elongation% & bend to be performed as per ASTM. (Measurement will be based on standard weight of 490 lbs./ft3 Chairs, laps and separators will not be measures for payment. The cost of these will be included in the unit rate) High strength deformed bar (grade 60, billet)	kg	3186.00			
Total Price of the Tender						

The total price of our Tender is:

Tk:

[Insert value in figures] [Insert value in Words]

_____

Signature of the Tenderer

This Bill of Quantity contains _____ correction(s) duly initialed and signed by the authorized person of the Tenderer.

Bill of Quantities (BOQ)

Name of Project :

Name of Work : 16.0m Girder

Package Number :

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
1.	(4.2.02.01.03) Reinforced Cement Concrete work (1:1.5:3) in girders, cross girders, beams, ribs, fillets, etc. in bridge with 20mm down well graded stone chips (Preferably stone chips from Madhyapara, Dinajpur), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, propping, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design requirement, drawing and direction of the E-I-C. (Height up to 5 m)	cum	19.708			
2.	(4.2.06.03) Supplying and fabrication of M.S High strength deformed bar/ Twisted bar reinforcement of required size and length for all types of RCC work including straightening the rod, removing ruts, cleaning, cutting, hooking, bending, binding with supply of 22 B.W.G. GI wire, placing in position, including lapping, spacing and securing them in position by concrete blocks (1:1), metal chairs, etc. complete including cost of all materials, labour, local handling, laboratory test, incidentals necessary to complete the work as per specifications, drawings and direction of the Engineer. Laboratory test for physical property, strength, elongation% & bend to be performed as per ASTM. (Measurement will be based on standard weight of 490 lbs./ft3 Chairs, laps and separators will not be measures for payment. The cost of these will be included in the unit rate) High strength deformed bar (grade 60, billet)	kg	3853.00			
Total Price of the Tender						

The total price of our Tender is:

Tk:

[Insert value in figures] [Insert value in Words]

_____

Signature of the Tenderer

This Bill of Quantity contains _____ correction(s) duly initialed and signed by the authorized person of the Tenderer.

Bill of Quantities (BOQ)

Name of Project :

Name of Work : 18.0m Girder

Package Number :

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
1.	(4.2.02.01.03) Reinforced Cement Concrete work (1:1.5:3) in girders, cross girders, beams, ribs, fillets, etc. in bridge with 20mm down well graded stone chips (Preferably stone chips from Madhyapara, Dinajpur), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, propping, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design requirement, drawing and direction of the E-I-C. (Height up to 5 m)	cum	23.776			
2.	(4.2.06.03) Supplying and fabrication of M.S High strength deformed bar/ Twisted bar reinforcement of required size and length for all types of RCC work including straightening the rod, removing ruts, cleaning, cutting, hooking, bending, binding with supply of 22 B.W.G. GI wire, placing in position, including lapping, spacing and securing them in position by concrete blocks (1:1), metal chairs, etc. complete including cost of all materials, labour, local handling, laboratory test, incidentals necessary to complete the work as per specifications, drawings and direction of the Engineer. Laboratory test for physical property, strength, elongation% & bend to be performed as per ASTM. (Measurement will be based on standard weight of 490 lbs./ft3 Chairs, laps and separators will not be measures for payment. The cost of these will be included in the unit rate) High strength deformed bar (grade 60, billet)	kg	5233.00			
Total Price of the Tender						

The total price of our Tender is:

Tk:

[Insert value in figures] [Insert value in Words]

_____

Signature of the Tenderer

This Bill of Quantity contains _____ correction(s) duly initialed and signed by the authorized person of the Tenderer.

Bill of Quantities (BOQ)

Name of Project :

Name of Work : 20.0m Girder

Package Number :

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
1.	(4.2.02.01.03) Reinforced Cement Concrete work (1:1.5:3) in girders, cross girders, beams, ribs, fillets, etc. in bridge with 20mm down well graded stone chips (Preferably stone chips from Madhyapara, Dinajpur), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, propping, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design requirement, drawing and direction of the E-I-C. (Height up to 5 m)	cum	28.204			
2.	(4.2.06.03) Supplying and fabrication of M.S High strength deformed bar/ Twisted bar reinforcement of required size and length for all types of RCC work including straightening the rod, removing ruts, cleaning, cutting, hooking, bending, binding with supply of 22 B.W.G. GI wire, placing in position, including lapping, spacing and securing them in position by concrete blocks (1:1), metal chairs, etc. complete including cost of all materials, labour, local handling, laboratory test, incidentals necessary to complete the work as per specifications, drawings and direction of the Engineer. Laboratory test for physical property, strength, elongation% & bend to be performed as per ASTM. (Measurement will be based on standard weight of 490 lbs./ft3 Chairs, laps and separators will not be measures for payment. The cost of these will be included in the unit rate) High strength deformed bar (grade 60, billet)	kg	5480.00			
Total Price of the Tender						

The total price of our Tender is:

Tk:

[Insert value in figures] [Insert value in Words]

_____

Signature of the Tenderer

This Bill of Quantity contains _____ correction(s) duly initialed and signed by the authorized person of the Tenderer.

Bill of Quantities (BOQ)

Name of Project :

Name of Work : 22.0m Girder

Package Number :

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
1.	(4.2.02.01.03) Reinforced Cement Concrete work (1:1.5:3) in girders, cross girders, beams, ribs, fillets, etc. in bridge with 20mm down well graded stone chips (Preferably stone chips from Madhyapara, Dinajpur), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, propping, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design requirement, drawing and direction of the E-I-C. (Height up to 5 m)	cum	37.444			
2.	(4.2.06.03) Supplying and fabrication of M.S High strength deformed bar/ Twisted bar reinforcement of required size and length for all types of RCC work including straightening the rod, removing ruts, cleaning, cutting, hooking, bending, binding with supply of 22 B.W.G. GI wire, placing in position, including lapping, spacing and securing them in position by concrete blocks (1:1), metal chairs, etc. complete including cost of all materials, labour, local handling, laboratory test, incidentals necessary to complete the work as per specifications, drawings and direction of the Engineer. Laboratory test for physical property, strength, elongation% & bend to be performed as per ASTM. (Measurement will be based on standard weight of 490 lbs./ft3 Chairs, laps and separators will not be measures for payment. The cost of these will be included in the unit rate) High strength deformed bar (grade 60, billet)	kg	6319.00			
Total Price of the Tender						

The total price of our Tender is:

Tk:

[Insert value in figures] [Insert value in Words]

_____

Signature of the Tenderer

This Bill of Quantity contains _____ correction(s) duly initialed and signed by the authorized person of the Tenderer.

Bill of Quantities (BOQ)

Name of Project :

Name of Work : 24.0m Girder

Package Number :

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
1.	(4.2.02.01.03) Reinforced Cement Concrete work (1:1.5:3) in girders, cross girders, beams, ribs, fillets, etc. in bridge with 20mm down well graded stone chips (Preferably stone chips from Madhyapara, Dinajpur), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, propping, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design requirement, drawing and direction of the E-I-C. (Height up to 5 m)	cum	46.159			
2.	(4.2.06.03) Supplying and fabrication of M.S High strength deformed bar/ Twisted bar reinforcement of required size and length for all types of RCC work including straightening the rod, removing ruts, cleaning, cutting, hooking, bending, binding with supply of 22 B.W.G. GI wire, placing in position, including lapping, spacing and securing them in position by concrete blocks (1:1), metal chairs, etc. complete including cost of all materials, labour, local handling, laboratory test, incidentals necessary to complete the work as per specifications, drawings and direction of the Engineer. Laboratory test for physical property, strength, elongation% & bend to be performed as per ASTM. (Measurement will be based on standard weight of 490 lbs./ft3 Chairs, laps and separators will not be measures for payment. The cost of these will be included in the unit rate) High strength deformed bar (grade 60, billet)	kg	7801.00			
Total Price of the Tender						

The total price of our Tender is:

Tk:

[Insert value in figures] [Insert value in Words]

_____

Signature of the Tenderer

This Bill of Quantity contains _____ correction(s) duly initialed and signed by the authorized person of the Tenderer.

Bill of Quantities (BOQ)

Name of Project :

Name of Work : Detail estimate of 3.0m Abutment

Package Number :

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
1.	(4.1.04) Earth work in excavation in foundation trenches in all sorts of rocky, gravelly, slushy or organic type, up to a depth of 2m to the lines, grades and elevation as shown on the drawing, removing boulders, logs and other objectionable materials, clearing all loose materials, disposing of all excavated materials to a safe distance designated by the E-I-C for an initial lead of 20m, and cut to a firm surface including bailing out water, removal of spoils to a safe distance, back filling of sites of trenches up to original level, shoring if necessary etc. all complete as per requirement and instruction of the E-I-C. Back-filled materials shall be compacted to a density comparable with the adjacent undisturbed material.	cum	210.000			
2.	(4.1.09) Single layer brick flat soling with 1st class or picked jhama kiln burnt bricks in foundation, filling the interstices tightly with sand of minimum FM 0.50, watering, leveling, dressing, etc. all complete as per instruction of the E-I-C.	sqm	51.672			
3.	(4.1.10.01.1) Cement concrete work in foundation with Portland cement, sand (minimum FM 1.80) and 1st class/picked jhama brick chips 20mm down graded (LAA value not exceeding 40), including shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period breaking bricks into chips etc. all complete as per direction of the E-I-C. Cylinder crushing strength of concrete should not be less than 105kg/cm2 at 28 days of curing (Suggested Mix Proportion 1:3:6). Additional quantity of cement to be added if required to attain the strength at the contractors own cost.	cum	3.870			
4.	(4.1.10.02.3Cement concrete work in foundation with Portland cement, sand (minimum FM 1.80) and 1st class/picked jhama brick chips 20mm down graded (LAA value not exceeding 40), including shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period breaking bricks into chips etc. all complete as per direction of the E-I-C. Cylinder crushing strength of concrete should not be less than 170kg/cm2 at 28 days of curing (Suggested Mix Proportion 1:2:4). Additional quantity of cement to be added if required to attain the strength at the contractors own cost.	cum	33.120			
5.	(4.2.01.03.1) Reinforced Cement Concrete work in diaphragm walls, wing walls, piers, columns, abutments of bridges and vertical members of box culverts with 20mm down graded stone chips (Preferably stone chips from Madhyapara, Dinajpur), (LAA value not exceeding 30), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 (suggested mix proportion 1:1.5:3). excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing and direction of the E-I-C. Upto 5m	cum	25.960			
6.	(4.2.05.04) Reinforced Cement Concrete work in railing and rail post with stone chips (Preferably stone chips from Madhyapara, Dinajpur), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 (suggested mix proportion 1:1.5:3) excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing and direction of the E-I-C.	cum	1.384			

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
7.	(4.3.06.02) Supplying, fitting and fixing steel laminated Electrometric/Neoprene bearings in exact positions as per drawing, specifications conforming to ASTM D4014 and direction of the E-I-C including cost of all materials, labour, carrying etc. complete (The set shall mean all 100% virgin chloroprene Neoprene rubber bearing consisting of one or more vulcanized electrometric material pads bonded to rolled mild steel metal plates to form a sandwich arrangement etc. to complete the support of a girder at each end). Laboratory test to be performed from BUET, Dhaka for compression set value maximum 35% after 22 hr. at 100°C conforming to ASTM D-395 method B and Elastomer hardness limits=60±5 duro conforming to ASTM D2240. This type of bearings will be used for bridge beyond 12.0m span. Bearing sizes are as follows (one set extra for laboratory test). Size = lengthxbreadth Size : 320mmx400mmX48mm	set	5.000			
8.	(4.3.01.04a) Providing rainwater down pipe including placing in position and cost of all materials as per drawing and direction of the E-I-C. 75mm PVC pipe (For weep hole)	m	5.000			
9.	(4.3.14) Back filling of abutment with 50:50 best quality picked jhama brick khoa & sand of min. FM 1.00 of 450mm width, in layers of 150mm thickness free from dust impurities etc. including compacting using steel or concrete drop hammer (durmus), watering & dressing and including supply & cost of all materials, carrying and labour, arranging and supplying of steel/concrete hammer and other tools required to work site etc. al complete as per direction of the E-I-C. Payment to be made for the compacted volume only for a compaction of 90% of the maximum dry density.	cum	21.060			
10.	(4.2.06.03) Supplying and fabrication of M.S High strength deformed bar/ Twisted bar reinforcement of required size and length for all types of RCC work including straightening the rod, removing ruts, cleaning, cutting, hooking, bending, binding with supply of 22 B.W.G. GI wire, placing in position, including lapping, spacing and securing them in position by concrete blocks (1:1), metal chairs, etc. complete including cost of all materials, labour, local handling, laboratory test, incidentals necessary to complete the work as per specifications, drawings and direction of the Engineer. Laboratory test for physical property, strength, elongation% & bend to be performed as per ASTM. (Measurement will be based on standard weight of 490 lbs./ft3 Chairs, laps and separators will not be measures for payment. The cost of these will be included in the unit rate). High strength deformed bar (grade 60, billet)	kg	6,384.470			
Total Price of the Tender						

The total price of our Tender is:

Tk:

[Insert value in figures] [Insert value in Words]

_____

Signature of the Tenderer

This Bill of Quantity contains _____ correction(s) duly initialed and signed by the authorized person of the Tenderer.

Bill of Quantities (BOQ)

Name of Project :

Name of Work : Detail estimate of 3.5m Abutment

Package Number :

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
1.	(4.1.04) Earth work in excavation in foundation trenches in all sorts of rocky, gravelly, slushy or organic type, up to a depth of 2m to the lines, grades and elevation as shown on the drawing, removing boulders, logs and other objectionable materials, clearing all loose materials, disposing of all excavated materials to a safe distance designated by the E-I-C for an initial lead of 20m, and cut to a firm surface including bailing out water, removal of spoils to a safe distance, back filling of sites of trenches up to original level, shoring if necessary etc. all complete as per requirement and instruction of the E-I-C. Back-filled materials shall be compacted to a density comparable with the adjacent undisturbed material.	cum	210.000			
2.	(4.1.09) Single layer brick flat soling with 1st class or picked jhama kiln burnt bricks in foundation, filling the interstices tightly with sand of minimum FM 0.50, watering, leveling, dressing, etc. all complete as per instruction of the E-I-C.	sqm	51.672			
3.	(4.1.10.01.1) Cement concrete work in foundation with Portland cement, sand (minimum FM 1.80) and 1st class/picked jhama brick chips 20mm down graded (LAA value not exceeding 40), including shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period breaking bricks into chips etc. all complete as per direction of the E-I-C. Cylinder crushing strength of concrete should not be less than 105kg/cm2 at 28 days of curing (Suggested Mix Proportion 1:3:6). Additional quantity of cement to be added if required to attain the strength at the contractors own cost.	cum	3.870			
4.	(4.1.10.02.3Cement concrete work in foundation with Portland cement, sand (minimum FM 1.80) and 1st class/picked jhama brick chips 20mm down graded (LAA value not exceeding 40), including shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period breaking bricks into chips etc. all complete as per direction of the E-I-C. Cylinder crushing strength of concrete should not be less than 170kg/cm2 at 28 days of curing (Suggested Mix Proportion 1:2:4). Additional quantity of cement to be added if required to attain the strength at the contractors own cost.	cum	41.400			
5.	(4.2.01.03.1) Reinforced Cement Concrete work in diaphragm walls, wing walls, piers, columns, abutments of bridges and vertical members of box culverts with 20mm down graded stone chips (Preferably stone chips from Madhyapara, Dinajpur), (LAA value not exceeding 30), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 (suggested mix proportion 1:1.5:3). excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing and direction of the E-I-C. Upto 5m	cum	29.622			
6.	(4.2.05.04) Reinforced Cement Concrete work in railing and rail post with stone chips (Preferably stone chips from Madhyapara, Dinajpur), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 (suggested mix proportion 1:1.5:3) excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing and direction of the E-I-C.	cum	1.384			

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
7.	(4.3.06.02) Supplying, fitting and fixing steel laminated Electrometric/Neoprene bearings in exact positions as per drawing, specifications conforming to ASTM D4014 and direction of the E-I-C including cost of all materials, labour, carrying etc. complete (The set shall mean all 100% virgin chloroprene Neoprene rubber bearing consisting of one or more vulcanized electrometric material pads bonded to rolled mild steel metal plates to form a sandwich arrangement etc. to complete the support of a girder at each end). Laboratory test to be performed from BUET, Dhaka for compression set value maximum 35% after 22 hr. at 100°C conforming to ASTM D-395 method B and Elastomer hardness limits=60±5 duro conforming to ASTM D2240. This type of bearings will be used for bridge beyond 12.0m span. Bearing sizes are as follows (one set extra for laboratory test). Size = lengthxbreadth Size : 320mmx400mmX48mm	set	5.000			
8.	(4.3.01.04a) Providing rainwater down pipe including placing in position and cost of all materials as per drawing and direction of the E-I-C. 75mm PVC pipe (For weep hole)	m	5.000			
9.	(4.3.14) Back filling of abutment with 50:50 best quality picked jhama brick khoa & sand of min. FM 1.00 of 450mm width, in layers of 150mm thickness free from dust impurities etc. including compacting using steel or concrete drop hammer (durmus), watering & dressing and including supply & cost of all materials, carrying and labour, arranging and supplying of steel/concrete hammer and other tools required to work site etc. al complete as per direction of the E-I-C. Payment to be made for the compacted volume only for a compaction of 90% of the maximum dry density.	cum	21.060			
10.	(4.2.06.03) Supplying and fabrication of M.S High strength deformed bar/ Twisted bar reinforcement of required size and length for all types of RCC work including straightening the rod, removing ruts, cleaning, cutting, hooking, bending, binding with supply of 22 B.W.G. GI wire, placing in position, including lapping, spacing and securing them in position by concrete blocks (1:1), metal chairs, etc. complete including cost of all materials, labour, local handling, laboratory test, incidentals necessary to complete the work as per specifications, drawings and direction of the Engineer. Laboratory test for physical property, strength, elongation% & bend to be performed as per ASTM. (Measurement will be based on standard weight of 490 lbs./ft3 Chairs, laps and separators will not be measures for payment. The cost of these will be included in the unit rate). High strength deformed bar (grade 60, billet)	kg	6,814.060			
Total Price of the Tender						

The total price of our Tender is:

Tk:

[Insert value in figures] [Insert value in Words]

_____

Signature of the Tenderer

This Bill of Quantity contains _____ correction(s) duly initialed and signed by the authorized person of the Tenderer.

Bill of Quantities (BOQ)

Name of Project :

Name of Work : Detail estimate of 4.0m Abutment

Package Number :

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
1.	(4.1.04) Earth work in excavation in foundation trenches in all sorts of rocky, gravelly, slushy or organic type, up to a depth of 2m to the lines, grades and elevation as shown on the drawing, removing boulders, logs and other objectionable materials, clearing all loose materials, disposing of all excavated materials to a safe distance designated by the E-I-C for an initial lead of 20m, and cut to a firm surface including bailing out water, removal of spoils to a safe distance, back filling of sites of trenches up to original level, shoring if necessary etc. all complete as per requirement and instruction of the E-I-C. Back-filled materials shall be compacted to a density comparable with the adjacent undisturbed material.	cum	210.000			
2.	(4.1.09) Single layer brick flat soling with 1st class or picked jhama kiln burnt bricks in foundation, filling the interstices tightly with sand of minimum FM 0.50, watering, leveling, dressing, etc. all complete as per instruction of the E-I-C.	sqm	52.296			
3.	(4.1.10.01.1) Cement concrete work in foundation with Portland cement, sand (minimum FM 1.80) and 1st class/picked jhama brick chips 20mm down graded (LAA value not exceeding 40), including shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period breaking bricks into chips etc. all complete as per direction of the E-I-C. Cylinder crushing strength of concrete should not be less than 105kg/cm2 at 28 days of curing (Suggested Mix Proportion 1:3:6). Additional quantity of cement to be added if required to attain the strength at the contractors own cost.	cum	3.916			
4.	(4.1.10.02.3Cement concrete work in foundation with Portland cement, sand (minimum FM 1.80) and 1st class/picked jhama brick chips 20mm down graded (LAA value not exceeding 40), including shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period breaking bricks into chips etc. all complete as per direction of the E-I-C. Cylinder crushing strength of concrete should not be less than 170kg/cm2 at 28 days of curing (Suggested Mix Proportion 1:2:4). Additional quantity of cement to be added if required to attain the strength at the contractors own cost.	cum	42.750			
5.	(4.2.01.03.1) Reinforced Cement Concrete work in diaphragm walls, wing walls, piers, columns, abutments of bridges and vertical members of box culverts with 20mm down graded stone chips (Preferably stone chips from Madhyapara, Dinajpur), (LAA value not exceeding 30), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 (suggested mix proportion 1:1.5:3). excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing and direction of the E-I-C. Upto 5m	cum	38.490			
6.	(4.2.05.04) Reinforced Cement Concrete work in railing and rail post with stone chips (Preferably stone chips from Madhyapara, Dinajpur), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 (suggested mix proportion 1:1.5:3) excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing and direction of the E-I-C.	cum	1.408			

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
7.	(4.3.06.02) Supplying, fitting and fixing steel laminated Electrometric/Neoprene bearings in exact positions as per drawing, specifications conforming to ASTM D4014 and direction of the E-I-C including cost of all materials, labour, carrying etc. complete (The set shall mean all 100% virgin chloroprene Neoprene rubber bearing consisting of one or more vulcanized electrometric material pads bonded to rolled mild steel metal plates to form a sandwich arrangement etc. to complete the support of a girder at each end). Laboratory test to be performed from BUET, Dhaka for compression set value maximum 35% after 22 hr. at 100°C conforming to ASTM D-395 method B and Elastomer hardness limits=60±5 duro conforming to ASTM D2240. This type of bearings will be used for bridge beyond 12.0m span. Bearing sizes are as follows (one set extra for laboratory test). Size = lengthxbreadth Size : 320mmx400mmX48mm	set	5.000			
8.	(4.3.01.04a) Providing rainwater down pipe including placing in position and cost of all materials as per drawing and direction of the E-I-C. 75mm PVC pipe (For weep hole)	m	15.000			
9.	(4.3.14) Back filling of abutment with 50:50 best quality picked jhama brick khoa & sand of min. FM 1.00 of 450mm width, in layers of 150mm thickness free from dust impurities etc. including compacting using steel or concrete drop hammer (durmus), watering & dressing and including supply & cost of all materials, carrying and labour, arranging and supplying of steel/concrete hammer and other tools required to work site etc. al complete as per direction of the E-I-C. Payment to be made for the compacted volume only for a compaction of 90% of the maximum dry density.	cum	26.326			
10.	(4.2.06.03) Supplying and fabrication of M.S High strength deformed bar/ Twisted bar reinforcement of required size and length for all types of RCC work including straightening the rod, removing ruts, cleaning, cutting, hooking, bending, binding with supply of 22 B.W.G. GI wire, placing in position, including lapping, spacing and securing them in position by concrete blocks (1:1), metal chairs, etc. complete including cost of all materials, labour, local handling, laboratory test, incidentals necessary to complete the work as per specifications, drawings and direction of the Engineer. Laboratory test for physical property, strength, elongation% & bend to be performed as per ASTM. (Measurement will be based on standard weight of 490 lbs./ft3 Chairs, laps and separators will not be measures for payment. The cost of these will be included in the unit rate). High strength deformed bar (grade 60, billet)	kg	7,734.060			
Total Price of the Tender						

The total price of our Tender is:

Tk:

[Insert value in figures] [Insert value in Words]

_____

Signature of the Tenderer

This Bill of Quantity contains _____ correction(s) duly initialed and signed by the authorized person of the Tenderer.

Bill of Quantities (BOQ)

Name of Project :

Name of Work : Detail estimate of 4.5m Abutment

Package Number :

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
1.	(4.1.04) Earth work in excavation in foundation trenches in all sorts of rocky, gravelly, slushy or organic type, up to a depth of 2m to the lines, grades and elevation as shown on the drawing, removing boulders, logs and other objectionable materials, clearing all loose materials, disposing of all excavated materials to a safe distance designated by the E-I-C for an initial lead of 20m, and cut to a firm surface including bailing out water, removal of spoils to a safe distance, back filling of sites of trenches up to original level, shoring if necessary etc. all complete as per requirement and instruction of the E-I-C. Back-filled materials shall be compacted to a density comparable with the adjacent undisturbed material.	cum	240.000			
2.	(4.1.09) Single layer brick flat soling with 1st class or picked jhama kiln burnt bricks in foundation, filling the interstices tightly with sand of minimum FM 0.50, watering, leveling, dressing, etc. all complete as per instruction of the E-I-C.	sqm	58.296			
3.	(4.1.10.01.1) Cement concrete work in foundation with Portland cement, sand (minimum FM 1.80) and 1st class/picked jhama brick chips 20mm down graded (LAA value not exceeding 40), including shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period breaking bricks into chips etc. all complete as per direction of the E-I-C. Cylinder crushing strength of concrete should not be less than 105kg/cm2 at 28 days of curing (Suggested Mix Proportion 1:3:6). Additional quantity of cement to be added if required to attain the strength at the contractors own cost.	cum	4.366			
4.	(4.1.10.02.3Cement concrete work in foundation with Portland cement, sand (minimum FM 1.80) and 1st class/picked jhama brick chips 20mm down graded (LAA value not exceeding 40), including shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period breaking bricks into chips etc. all complete as per direction of the E-I-C. Cylinder crushing strength of concrete should not be less than 170kg/cm2 at 28 days of curing (Suggested Mix Proportion 1:2:4). Additional quantity of cement to be added if required to attain the strength at the contractors own cost.	cum	47.250			
5.	(4.2.01.03.1) Reinforced Cement Concrete work in diaphragm walls, wing walls, piers, columns, abutments of bridges and vertical members of box culverts with 20mm down graded stone chips (Preferably stone chips from Madhyapara, Dinajpur), (LAA value not exceeding 30), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 (suggested mix proportion 1:1.5:3). excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing and direction of the E-I-C. Upto 5m	cum	46.500			
6.	(4.2.05.04) Reinforced Cement Concrete work in railing and rail post with stone chips (Preferably stone chips from Madhyapara, Dinajpur), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 (suggested mix proportion 1:1.5:3) excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing and direction of the E-I-C.	cum	1.528			

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
7.	(4.3.06.02) Supplying, fitting and fixing steel laminated Electrometric/Neoprene bearings in exact positions as per drawing, specifications conforming to ASTM D4014 and direction of the E-I-C including cost of all materials, labour, carrying etc. complete (The set shall mean all 100% virgin chloroprene Neoprene rubber bearing consisting of one or more vulcanized electrometric material pads bonded to rolled mild steel metal plates to form a sandwich arrangement etc. to complete the support of a girder at each end). Laboratory test to be performed from BUET, Dhaka for compression set value maximum 35% after 22 hr. at 100°C conforming to ASTM D-395 method B and Elastomer hardness limits=60±5 duro conforming to ASTM D2240. This type of bearings will be used for bridge beyond 12.0m span. Bearing sizes are as follows (one set extra for laboratory test). Size = lengthxbreadth Size : 320mmx400mmX48mm	set	5.000			
8.	(4.3.01.04a) Providing rainwater down pipe including placing in position and cost of all materials as per drawing and direction of the E-I-C. 75mm PVC pipe (For weep hole)	m	35.000			
9.	(4.3.14) Back filling of abutment with 50:50 best quality picked jhama brick khoa & sand of min. FM 1.00 of 450mm width, in layers of 150mm thickness free from dust impurities etc. including compacting using steel or concrete drop hammer (durmus), watering & dressing and including supply & cost of all materials, carrying and labour, arranging and supplying of steel/concrete hammer and other tools required to work site etc. al complete as per direction of the E-I-C. Payment to be made for the compacted volume only for a compaction of 90% of the maximum dry density.	cum	35.798			
10.	(4.2.06.03) Supplying and fabrication of M.S High strength deformed bar/ Twisted bar reinforcement of required size and length for all types of RCC work including straightening the rod, removing ruts, cleaning, cutting, hooking, bending, binding with supply of 22 B.W.G. GI wire, placing in position, including lapping, spacing and securing them in position by concrete blocks (1:1), metal chairs, etc. complete including cost of all materials, labour, local handling, laboratory test, incidentals necessary to complete the work as per specifications, drawings and direction of the Engineer. Laboratory test for physical property, strength, elongation% & bend to be performed as per ASTM. (Measurement will be based on standard weight of 490 lbs./ft3 Chairs, laps and separators will not be measures for payment. The cost of these will be included in the unit rate). High strength deformed bar (grade 60, billet)	kg	8,903.060			
Total Price of the Tender						

The total price of our Tender is:

Tk:

[Insert value in figures] [Insert value in Words]

_____

Signature of the Tenderer

This Bill of Quantity contains _____ correction(s) duly initialed and signed by the authorized person of the Tenderer.

Bill of Quantities (BOQ)

Name of Project :

Name of Work : Detail estimate of 5.0m Abutment

Package Number :

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
1.	(4.1.04) Earth work in excavation in foundation trenches in all sorts of rocky, gravelly, slushy or organic type, up to a depth of 2m to the lines, grades and elevation as shown on the drawing, removing boulders, logs and other objectionable materials, clearing all loose materials, disposing of all excavated materials to a safe distance designated by the E-I-C for an initial lead of 20m, and cut to a firm surface including bailing out water, removal of spoils to a safe distance, back filling of sites of trenches up to original level, shoring if necessary etc. all complete as per requirement and instruction of the E-I-C. Back-filled materials shall be compacted to a density comparable with the adjacent undisturbed material.	cum	270.000			
2.	(4.1.09) Single layer brick flat soling with 1st class or picked jhama kiln burnt bricks in foundation, filling the interstices tightly with sand of minimum FM 0.50, watering, leveling, dressing, etc. all complete as per instruction of the E-I-C.	sqm	64.296			
3.	(4.1.10.01.1) Cement concrete work in foundation with Portland cement, sand (minimum FM 1.80) and 1st class/picked jhama brick chips 20mm down graded (LAA value not exceeding 40), including shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period breaking bricks into chips etc. all complete as per direction of the E-I-C. Cylinder crushing strength of concrete should not be less than 105kg/cm2 at 28 days of curing (Suggested Mix Proportion 1:3:6). Additional quantity of cement to be added if required to attain the strength at the contractors own cost.	cum	4.816			
4.	(4.1.10.02.3Cement concrete work in foundation with Portland cement, sand (minimum FM 1.80) and 1st class/picked jhama brick chips 20mm down graded (LAA value not exceeding 40), including shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period breaking bricks into chips etc. all complete as per direction of the E-I-C. Cylinder crushing strength of concrete should not be less than 170kg/cm2 at 28 days of curing (Suggested Mix Proportion 1:2:4). Additional quantity of cement to be added if required to attain the strength at the contractors own cost.	cum	55.200			
5.	(4.2.01.03.1) Reinforced Cement Concrete work in diaphragm walls, wing walls, piers, columns, abutments of bridges and vertical members of box culverts with 20mm down graded stone chips (Preferably stone chips from Madhyapara, Dinajpur), (LAA value not exceeding 30), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 (suggested mix proportion 1:1.5:3). excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing and direction of the E-I-C. Upto 5m	cum	62.260			
6.	(4.2.05.04) Reinforced Cement Concrete work in railing and rail post with stone chips (Preferably stone chips from Madhyapara, Dinajpur), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 (suggested mix proportion 1:1.5:3) excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing and direction of the E-I-C.	cum	1.772			

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
7.	(4.3.06.02) Supplying, fitting and fixing steel laminated Electrometric/Neoprene bearings in exact positions as per drawing, specifications conforming to ASTM D4014 and direction of the E-I-C including cost of all materials, labour, carrying etc. complete (The set shall mean all 100% virgin chloroprene Neoprene rubber bearing consisting of one or more vulcanized electrometric material pads bonded to rolled mild steel metal plates to form a sandwich arrangement etc. to complete the support of a girder at each end). Laboratory test to be performed from BUET, Dhaka for compression set value maximum 35% after 22 hr. at 100°C conforming to ASTM D-395 method B and Elastomer hardness limits=60±5 duro conforming to ASTM D2240. This type of bearings will be used for bridge beyond 12.0m span. Bearing sizes are as follows (one set extra for laboratory test). Size = lengthxbreadth Size : 320mmx400mmX48mm	set	5.000			
8.	(4.3.01.04a) Providing rainwater down pipe including placing in position and cost of all materials as per drawing and direction of the E-I-C. 75mm PVC pipe (For weep hole)	m	40.000			
9.	(4.3.14) Back filling of abutment with 50:50 best quality picked jhama brick khoa & sand of min. FM 1.00 of 450mm width, in layers of 150mm thickness free from dust impurities etc. including compacting using steel or concrete drop hammer (durmus), watering & dressing and including supply & cost of all materials, carrying and labour, arranging and supplying of steel/concrete hammer and other tools required to work site etc. al complete as per direction of the E-I-C. Payment to be made for the compacted volume only for a compaction of 90% of the maximum dry density.	cum	41.580			
10.	(4.2.06.03) Supplying and fabrication of M.S High strength deformed bar/ Twisted bar reinforcement of required size and length for all types of RCC work including straightening the rod, removing ruts, cleaning, cutting, hooking, bending, binding with supply of 22 B.W.G. GI wire, placing in position, including lapping, spacing and securing them in position by concrete blocks (1:1), metal chairs, etc. complete including cost of all materials, labour, local handling, laboratory test, incidentals necessary to complete the work as per specifications, drawings and direction of the Engineer. Laboratory test for physical property, strength, elongation% & bend to be performed as per ASTM. (Measurement will be based on standard weight of 490 lbs./ft3 Chairs, laps and separators will not be measures for payment. The cost of these will be included in the unit rate). High strength deformed bar (grade 60, billet)	kg	13,387.060			
Total Price of the Tender						

The total price of our Tender is:

Tk:

[Insert value in figures] [Insert value in Words]

_____

Signature of the Tenderer

This Bill of Quantity contains _____ correction(s) duly initialed and signed by the authorized person of the Tenderer.

Bill of Quantities (BOQ)

Name of Project :

Name of Work : Detail estimate of 5.5m Abutment

Package Number :

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
1.	(4.1.04) Earth work in excavation in foundation trenches in all sorts of rocky, gravelly, slushy or organic type, up to a depth of 2m to the lines, grades and elevation as shown on the drawing, removing boulders, logs and other objectionable materials, clearing all loose materials, disposing of all excavated materials to a safe distance designated by the E-I-C for an initial lead of 20m, and cut to a firm surface including bailing out water, removal of spoils to a safe distance, back filling of sites of trenches up to original level, shoring if necessary etc. all complete as per requirement and instruction of the E-I-C. Back-filled materials shall be compacted to a density comparable with the adjacent undisturbed material.	cum	330.000			
2.	(4.1.09) Single layer brick flat soling with 1st class or picked jhama kiln burnt bricks in foundation, filling the interstices tightly with sand of minimum FM 0.50, watering, leveling, dressing, etc. all complete as per instruction of the E-I-C.	sqm	78.514			
3.	(4.1.10.01.1) Cement concrete work in foundation with Portland cement, sand (minimum FM 1.80) and 1st class/picked jhama brick chips 20mm down graded (LAA value not exceeding 40), including shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period breaking bricks into chips etc. all complete as per direction of the E-I-C. Cylinder crushing strength of concrete should not be less than 105kg/cm2 at 28 days of curing (Suggested Mix Proportion 1:3:6). Additional quantity of cement to be added if required to attain the strength at the contractors own cost.	cum	5.896			
4.	(4.1.10.02.3Cement concrete work in foundation with Portland cement, sand (minimum FM 1.80) and 1st class/picked jhama brick chips 20mm down graded (LAA value not exceeding 40), including shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period breaking bricks into chips etc. all complete as per direction of the E-I-C. Cylinder crushing strength of concrete should not be less than 170kg/cm2 at 28 days of curing (Suggested Mix Proportion 1:2:4). Additional quantity of cement to be added if required to attain the strength at the contractors own cost.	cum	74.434			
5.	(4.2.01.03.1) Reinforced Cement Concrete work in diaphragm walls, wing walls, piers, columns, abutments of bridges and vertical members of box culverts with 20mm down graded stone chips (Preferably stone chips from Madhyapara, Dinajpur), (LAA value not exceeding 30), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 (suggested mix proportion 1:1.5:3). excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing and direction of the E-I-C. Upto 5m	cum	81.936			
6.	(4.2.05.04) Reinforced Cement Concrete work in railing and rail post with stone chips (Preferably stone chips from Madhyapara, Dinajpur), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 (suggested mix proportion 1:1.5:3) excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing and direction of the E-I-C.	cum	2.112			

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
7.	(4.3.06.02) Supplying, fitting and fixing steel laminated Electrometric/Neoprene bearings in exact positions as per drawing, specifications conforming to ASTM D4014 and direction of the E-I-C including cost of all materials, labour, carrying etc. complete (The set shall mean all 100% virgin chloroprene Neoprene rubber bearing consisting of one or more vulcanized electrometric material pads bonded to rolled mild steel metal plates to form a sandwich arrangement etc. to complete the support of a girder at each end). Laboratory test to be performed from BUET, Dhaka for compression set value maximum 35% after 22 hr. at 100°C conforming to ASTM D-395 method B and Elastomer hardness limits=60±5 duro conforming to ASTM D2240. This type of bearings will be used for bridge beyond 12.0m span. Bearing sizes are as follows (one set extra for laboratory test). Size = lengthxbreadth Size : 320mmx400mmX48mm	set	5.000			
8.	(4.3.01.04a) Providing rainwater down pipe including placing in position and cost of all materials as per drawing and direction of the E-I-C. 75mm PVC pipe (For weep hole)	m	55.000			
9.	(4.3.14) Back filling of abutment with 50:50 best quality picked jhama brick khoa & sand of min. FM 1.00 of 450mm width, in layers of 150mm thickness free from dust impurities etc. including compacting using steel or concrete drop hammer (durmus), watering & dressing and including supply & cost of all materials, carrying and labour, arranging and supplying of steel/concrete hammer and other tools required to work site etc. al complete as per direction of the E-I-C. Payment to be made for the compacted volume only for a compaction of 90% of the maximum dry density.	cum	53.258			
10.	(4.2.06.03) Supplying and fabrication of M.S High strength deformed bar/ Twisted bar reinforcement of required size and length for all types of RCC work including straightening the rod, removing ruts, cleaning, cutting, hooking, bending, binding with supply of 22 B.W.G. GI wire, placing in position, including lapping, spacing and securing them in position by concrete blocks (1:1), metal chairs, etc. complete including cost of all materials, labour, local handling, laboratory test, incidentals necessary to complete the work as per specifications, drawings and direction of the Engineer. Laboratory test for physical property, strength, elongation% & bend to be performed as per ASTM. (Measurement will be based on standard weight of 490 lbs./ft3 Chairs, laps and separators will not be measures for payment. The cost of these will be included in the unit rate). High strength deformed bar (grade 60, billet)	kg	14,329.600			
Total Price of the Tender						

The total price of our Tender is:

Tk:

[Insert value in figures] [Insert value in Words]

_____

Signature of the Tenderer

This Bill of Quantity contains _____ correction(s) duly initialed and signed by the authorized person of the Tenderer.

Bill of Quantities (BOQ)

Name of Project :

Name of Work : Detail estimate of 6.0m Abutment

Package Number :

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
1.	(4.1.04) Earth work in excavation in foundation trenches in all sorts of rocky, gravelly, slushy or organic type, up to a depth of 2m to the lines, grades and elevation as shown on the drawing, removing boulders, logs and other objectionable materials, clearing all loose materials, disposing of all excavated materials to a safe distance designated by the E-I-C for an initial lead of 20m, and cut to a firm surface including bailing out water, removal of spoils to a safe distance, back filling of sites of trenches up to original level, shoring if necessary etc. all complete as per requirement and instruction of the E-I-C. Back-filled materials shall be compacted to a density comparable with the adjacent undisturbed material.	cum	330.000			
2.	(4.1.09) Single layer brick flat soling with 1st class or picked jhama kiln burnt bricks in foundation, filling the interstices tightly with sand of minimum FM 0.50, watering, leveling, dressing, etc. all complete as per instruction of the E-I-C.	sqm	81.034			
3.	(4.1.10.01.1) Cement concrete work in foundation with Portland cement, sand (minimum FM 1.80) and 1st class/picked jhama brick chips 20mm down graded (LAA value not exceeding 40), including shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period breaking bricks into chips etc. all complete as per direction of the E-I-C. Cylinder crushing strength of concrete should not be less than 105kg/cm2 at 28 days of curing (Suggested Mix Proportion 1:3:6). Additional quantity of cement to be added if required to attain the strength at the contractors own cost.	cum	6.084			
4.	(4.1.10.02.3Cement concrete work in foundation with Portland cement, sand (minimum FM 1.80) and 1st class/picked jhama brick chips 20mm down graded (LAA value not exceeding 40), including shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period breaking bricks into chips etc. all complete as per direction of the E-I-C. Cylinder crushing strength of concrete should not be less than 170kg/cm2 at 28 days of curing (Suggested Mix Proportion 1:2:4). Additional quantity of cement to be added if required to attain the strength at the contractors own cost.	cum	76.576			
5.	(4.2.01.03.1) Reinforced Cement Concrete work in diaphragm walls, wing walls, piers, columns, abutments of bridges and vertical members of box culverts with 20mm down graded stone chips (Preferably stone chips from Madhyapara, Dinajpur), (LAA value not exceeding 30), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 (suggested mix proportion 1:1.5:3). excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing and direction of the E-I-C. Upto 5m	cum	98.666			
6.	(4.2.05.04) Reinforced Cement Concrete work in railing and rail post with stone chips (Preferably stone chips from Madhyapara, Dinajpur), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 (suggested mix proportion 1:1.5:3) excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing and direction of the E-I-C.	cum	2.208			

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
7.	(4.3.06.02) Supplying, fitting and fixing steel laminated Electrometric/Neoprene bearings in exact positions as per drawing, specifications conforming to ASTM D4014 and direction of the E-I-C including cost of all materials, labour, carrying etc. complete (The set shall mean all 100% virgin chloroprene Neoprene rubber bearing consisting of one or more vulcanized electrometric material pads bonded to rolled mild steel metal plates to form a sandwich arrangement etc. to complete the support of a girder at each end). Laboratory test to be performed from BUET, Dhaka for compression set value maximum 35% after 22 hr. at 100°C conforming to ASTM D-395 method B and Elastomer hardness limits=60±5 duro conforming to ASTM D2240. This type of bearings will be used for bridge beyond 12.0m span. Bearing sizes are as follows (one set extra for laboratory test). Size = lengthxbreadth Size : 320mmx400mmX48mm	set	5.000			
8.	(4.3.01.04a) Providing rainwater down pipe including placing in position and cost of all materials as per drawing and direction of the E-I-C. 75mm PVC pipe (For weep hole)	m	60.000			
9.	(4.3.14) Back filling of abutment with 50:50 best quality picked jhama brick khoa & sand of min. FM 1.00 of 450mm width, in layers of 150mm thickness free from dust impurities etc. including compacting using steel or concrete drop hammer (durmus), watering & dressing and including supply & cost of all materials, carrying and labour, arranging and supplying of steel/concrete hammer and other tools required to work site etc. al complete as per direction of the E-I-C. Payment to be made for the compacted volume only for a compaction of 90% of the maximum dry density.	cum	62.776			
10.	(4.2.06.03) Supplying and fabrication of M.S High strength deformed bar/ Twisted bar reinforcement of required size and length for all types of RCC work including straightening the rod, removing ruts, cleaning, cutting, hooking, bending, binding with supply of 22 B.W.G. GI wire, placing in position, including lapping, spacing and securing them in position by concrete blocks (1:1), metal chairs, etc. complete including cost of all materials, labour, local handling, laboratory test, incidentals necessary to complete the work as per specifications, drawings and direction of the Engineer. Laboratory test for physical property, strength, elongation% & bend to be performed as per ASTM. (Measurement will be based on standard weight of 490 lbs./ft3 Chairs, laps and separators will not be measures for payment. The cost of these will be included in the unit rate). High strength deformed bar (grade 60, billet)	kg	18,040.600			
Total Price of the Tender						

The total price of our Tender is:

Tk:

[Insert value in figures] [Insert value in Words]

_____

Signature of the Tenderer

This Bill of Quantity contains _____ correction(s) duly initialed and signed by the authorized person of the Tenderer.

Bill of Quantities (BOQ)

Name of Project :

Name of Work : Detail estimate of 6.5m Abutment

Package Number :

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
1.	(4.1.04) Earth work in excavation in foundation trenches in all sorts of rocky, gravelly, slushy or organic type, up to a depth of 2m to the lines, grades and elevation as shown on the drawing, removing boulders, logs and other objectionable materials, clearing all loose materials, disposing of all excavated materials to a safe distance designated by the E-I-C for an initial lead of 20m, and cut to a firm surface including bailing out water, removal of spoils to a safe distance, back filling of sites of trenches up to original level, shoring if necessary etc. all complete as per requirement and instruction of the E-I-C. Back-filled materials shall be compacted to a density comparable with the adjacent undisturbed material.	cum	330.000			
2.	(4.1.09) Single layer brick flat soling with 1st class or picked jhama kiln burnt bricks in foundation, filling the interstices tightly with sand of minimum FM 0.50, watering, leveling, dressing, etc. all complete as per instruction of the E-I-C.	sqm	88.594			
3.	(4.1.10.01.1) Cement concrete work in foundation with Portland cement, sand (minimum FM 1.80) and 1st class/picked jhama brick chips 20mm down graded (LAA value not exceeding 40), including shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period breaking bricks into chips etc. all complete as per direction of the E-I-C. Cylinder crushing strength of concrete should not be less than 105kg/cm2 at 28 days of curing (Suggested Mix Proportion 1:3:6). Additional quantity of cement to be added if required to attain the strength at the contractors own cost.	cum	6.652			
4.	(4.1.10.02.3Cement concrete work in foundation with Portland cement, sand (minimum FM 1.80) and 1st class/picked jhama brick chips 20mm down graded (LAA value not exceeding 40), including shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period breaking bricks into chips etc. all complete as per direction of the E-I-C. Cylinder crushing strength of concrete should not be less than 170kg/cm2 at 28 days of curing (Suggested Mix Proportion 1:2:4). Additional quantity of cement to be added if required to attain the strength at the contractors own cost.	cum	87.886			
5.	(4.2.01.03.1) Reinforced Cement Concrete work in diaphragm walls, wing walls, piers, columns, abutments of bridges and vertical members of box culverts with 20mm down graded stone chips (Preferably stone chips from Madhyapara, Dinajpur), (LAA value not exceeding 30), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 (suggested mix proportion 1:1.5:3). excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing and direction of the E-I-C. Upto 5m	cum	111.736			
6.	(4.2.05.04) Reinforced Cement Concrete work in railing and rail post with stone chips (Preferably stone chips from Madhyapara, Dinajpur), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 (suggested mix proportion 1:1.5:3) excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing and direction of the E-I-C.	cum	2.316			

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
7.	(4.3.06.02) Supplying, fitting and fixing steel laminated Electrometric/Neoprene bearings in exact positions as per drawing, specifications conforming to ASTM D4014 and direction of the E-I-C including cost of all materials, labour, carrying etc. complete (The set shall mean all 100% virgin chloroprene Neoprene rubber bearing consisting of one or more vulcanized electrometric material pads bonded to rolled mild steel metal plates to form a sandwich arrangement etc. to complete the support of a girder at each end). Laboratory test to be performed from BUET, Dhaka for compression set value maximum 35% after 22 hr. at 100°C conforming to ASTM D-395 method B and Elastomer hardness limits=60±5 duro conforming to ASTM D2240. This type of bearings will be used for bridge beyond 12.0m span. Bearing sizes are as follows (one set extra for laboratory test). Size = lengthxbreadth Size : 320mmx400mmX48mm	set	5.000			
8.	(4.3.01.04a) Providing rainwater down pipe including placing in position and cost of all materials as per drawing and direction of the E-I-C. 75mm PVC pipe (For weep hole)	m	60.000			
9.	(4.3.14) Back filling of abutment with 50:50 best quality picked jhama brick khoa & sand of min. FM 1.00 of 450mm width, in layers of 150mm thickness free from dust impurities etc. including compacting using steel or concrete drop hammer (durmus), watering & dressing and including supply & cost of all materials, carrying and labour, arranging and supplying of steel/concrete hammer and other tools required to work site etc. al complete as per direction of the E-I-C. Payment to be made for the compacted volume only for a compaction of 90% of the maximum dry density.	cum	72.022			
10.	(4.2.06.03) Supplying and fabrication of M.S High strength deformed bar/ Twisted bar reinforcement of required size and length for all types of RCC work including straightening the rod, removing ruts, cleaning, cutting, hooking, bending, binding with supply of 22 B.W.G. GI wire, placing in position, including lapping, spacing and securing them in position by concrete blocks (1:1), metal chairs, etc. complete including cost of all materials, labour, local handling, laboratory test, incidentals necessary to complete the work as per specifications, drawings and direction of the Engineer. Laboratory test for physical property, strength, elongation% & bend to be performed as per ASTM. (Measurement will be based on standard weight of 490 lbs./ft3 Chairs, laps and separators will not be measures for payment. The cost of these will be included in the unit rate). High strength deformed bar (grade 60, billet)	kg	18,040.600			
Total Price of the Tender						

The total price of our Tender is:

Tk:

[Insert value in figures] [Insert value in Words]

_____

Signature of the Tenderer

This Bill of Quantity contains _____ correction(s) duly initialed and signed by the authorized person of the Tenderer.

Bill of Quantities (BOQ)

Name of Project :

Name of Work : Detail estimate of 7.0m Abutment

Package Number :

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
1.	(4.1.04) Earth work in excavation in foundation trenches in all sorts of rocky, gravelly, slushy or organic type, up to a depth of 2m to the lines, grades and elevation as shown on the drawing, removing boulders, logs and other objectionable materials, clearing all loose materials, disposing of all excavated materials to a safe distance designated by the E-I-C for an initial lead of 20m, and cut to a firm surface including bailing out water, removal of spoils to a safe distance, back filling of sites of trenches up to original level, shoring if necessary etc. all complete as per requirement and instruction of the E-I-C. Back-filled materials shall be compacted to a density comparable with the adjacent undisturbed material.	cum	346.500			
2.	(4.1.09) Single layer brick flat soling with 1st class or picked jhama kiln burnt bricks in foundation, filling the interstices tightly with sand of minimum FM 0.50, watering, leveling, dressing, etc. all complete as per instruction of the E-I-C.	sqm	97.542			
3.	(4.1.10.01.1) Cement concrete work in foundation with Portland cement, sand (minimum FM 1.80) and 1st class/picked jhama brick chips 20mm down graded (LAA value not exceeding 40), including shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period breaking bricks into chips etc. all complete as per direction of the E-I-C. Cylinder crushing strength of concrete should not be less than 105kg/cm2 at 28 days of curing (Suggested Mix Proportion 1:3:6). Additional quantity of cement to be added if required to attain the strength at the contractors own cost.	cum	7.324			
4.	(4.1.10.02.3Cement concrete work in foundation with Portland cement, sand (minimum FM 1.80) and 1st class/picked jhama brick chips 20mm down graded (LAA value not exceeding 40), including shuttering, mixing by concrete mixer machine, casting, laying compacting and curing for the requisite period breaking bricks into chips etc. all complete as per direction of the E-I-C. Cylinder crushing strength of concrete should not be less than 170kg/cm2 at 28 days of curing (Suggested Mix Proportion 1:2:4). Additional quantity of cement to be added if required to attain the strength at the contractors own cost.	cum	107.730			
5.	(4.2.01.03.1) Reinforced Cement Concrete work in diaphragm walls, wing walls, piers, columns, abutments of bridges and vertical members of box culverts with 20mm down graded stone chips (Preferably stone chips from Madhyapara, Dinajpur), (LAA value not exceeding 30), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 (suggested mix proportion 1:1.5:3). excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing and direction of the E-I-C. Upto 5m	cum	126.082			
6.	(4.2.05.04) Reinforced Cement Concrete work in railing and rail post with stone chips (Preferably stone chips from Madhyapara, Dinajpur), sand (minimum FM 1.80) and cement having minimum 28 days ultimate cylinder crushing strength of 250kg/cm2 (suggested mix proportion 1:1.5:3) excluding cost of reinforcement and its fabrication but including cost of all other materials, shuttering, casting, curing for 28 days and all incidental charges, etc. complete in all respect as per design, drawing and direction of the E-I-C.	cum	2.424			

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
7.	(4.3.06.02) Supplying, fitting and fixing steel laminated Electrometric/Neoprene bearings in exact positions as per drawing, specifications conforming to ASTM D4014 and direction of the E-I-C including cost of all materials, labour, carrying etc. complete (The set shall mean all 100% virgin chloroprene Neoprene rubber bearing consisting of one or more vulcanized electrometric material pads bonded to rolled mild steel metal plates to form a sandwich arrangement etc. to complete the support of a girder at each end). Laboratory test to be performed from BUET, Dhaka for compression set value maximum 35% after 22 hr. at 100°C conforming to ASTM D-395 method B and Elastomer hardness limits=60±5 duro conforming to ASTM D2240. This type of bearings will be used for bridge beyond 12.0m span. Bearing sizes are as follows (one set extra for laboratory test). Size = lengthxbreadth Size : 320mmx400mmX48mm	set	5.000			
8.	(4.3.01.04a) Providing rainwater down pipe including placing in position and cost of all materials as per drawing and direction of the E-I-C. 75mm PVC pipe (For weep hole)	m	60.000			
9.	(4.3.14) Back filling of abutment with 50:50 best quality picked jhama brick khoa & sand of min. FM 1.00 of 450mm width, in layers of 150mm thickness free from dust impurities etc. including compacting using steel or concrete drop hammer (durmus), watering & dressing and including supply & cost of all materials, carrying and labour, arranging and supplying of steel/concrete hammer and other tools required to work site etc. al complete as per direction of the E-I-C. Payment to be made for the compacted volume only for a compaction of 90% of the maximum dry density.	cum	89.370			
10.	(4.2.06.03) Supplying and fabrication of M.S High strength deformed bar/ Twisted bar reinforcement of required size and length for all types of RCC work including straightening the rod, removing ruts, cleaning, cutting, hooking, bending, binding with supply of 22 B.W.G. GI wire, placing in position, including lapping, spacing and securing them in position by concrete blocks (1:1), metal chairs, etc. complete including cost of all materials, labour, local handling, laboratory test, incidentals necessary to complete the work as per specifications, drawings and direction of the Engineer. Laboratory test for physical property, strength, elongation% & bend to be performed as per ASTM. (Measurement will be based on standard weight of 490 lbs./ft3 Chairs, laps and separators will not be measures for payment. The cost of these will be included in the unit rate). High strength deformed bar (grade 60, billet)	kg	22,629.600			
Total Price of the Tender						

The total price of our Tender is:

Tk:

[Insert value in figures] [Insert value in Words]

_____

Signature of the Tenderer

This Bill of Quantity contains _____ correction(s) duly initialed and signed by the authorized person of the Tenderer.

Bill of Quantities (BOQ)

Name of Project :

Name of Work : Detail Estimate of 18.00m Long, 500 mm Dia Pile (Typical)

Package Number :

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
1.	(4.1.20.01.2) Boring and casting of RCC cast-in-situ piles up to the required depth and dia with temporary steel casing in all types of soils including staging, drilling, driving, bentonite circulation, placing of reinforcement and placing concrete by tremie casting method with concrete with Portland cement, sand (minimum FM 2.50) and 19mm down graded crushed stone chips (Preferably stone chips from Madhyapara, Dinajpur), (LAA value not exceeding 30) to result minimum ultimate cylinder crushing strength of 210kg/cm2 at 28 days (suggested mix proportion 1:1.5:3) with allowable slump of 100mm to 150mm including cost of all materials, labour, equipment and all incidental charges but excluding the cost of reinforcement and its fabrication, etc. all complete as per design, drawing, specifications and of the E-I-C. Additional quantity of cement be added, if required to attain the afore-mentioned concrete strength, by the contractor at his own costs. Boring 500mm dia	m	18.00			
2.	(4.1.20.02.2) Boring and casting of RCC cast-in-situ piles up to the required depth and dia with temporary steel casing in all types of soils including staging, drilling, driving, bentonite circulation, placing of reinforcement and placing concrete by tremie casting method with concrete with Portland cement, sand (minimum FM 2.50) and 19mm down graded crushed stone chips (Preferably stone chips from Madhyapara, Dinajpur), (LAA value not exceeding 30) to result minimum ultimate cylinder crushing strength of 210kg/cm2 at 28 days (suggested mix proportion 1:1.5:3) with allowable slump of 100mm to 150mm including cost of all materials, labour, equipment and all incidental charges but excluding the cost of reinforcement and its fabrication, etc. all complete as per design, drawing, specifications and of the E-I-C. Additional quantity of cement be added, if required to attain the afore-mentioned concrete strength, by the contractor at his own costs. Concreting 500mm dia	cum	3.645			
3.	(4.1.24) Labour for breaking head of cast-in-situ bored pile/pre-cast pile up to required length by any means and removing the dismantled materials, such as, concrete to a safe distance including scrapping and removing concrete from steel/MS rods, preparation and making of platform where necessary, carrying, all sorts of handling, stacking the same properly after clearing, leveling and dressing the site and clearing the river bed, etc. all complete as per direction of the E-I-C. (Measurement will be given for the actual pile head volume to be broken).	cum	0.118			
4.	(4.1.27.02) Static load test of cast-in-situ/pre-cast concrete piles by the application of super imposed loads/Surcharge Method on the pile head, preparation of all arrangements including staging, supplying loads with approved means and keeping the full load in place for 24 hours minimum, measuring of settlements by calibrated gauges and subsequent removal of loads, staging and other temporary works, etc. complete. The test load shall not be less than double the design load of the pile and the applied load shall not be removed before 24 hours or until the rate of settlement is less than 0.01 inch (0.25mm) per half an hour, or as decided by the Engineer as per approved method. (In case of precast piles this item will be provisional. Payment & execution will be made only as per direction of the engineer.) Applied Load : Above 60 Ton	each	1.000			

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
5.	(4.1.27.03) Integrity test of cast-in-situ/pre-cast pile by placing a small accelerometer on the top of a pile while hitting the pile head with a small hammer. The shock wave traveling through the pile propagate with the velocity of sound in concrete which is 3000-3500 m/s approximately or as decided by the Engineer, as per approved method. (For upto 10 nos. pile of a single bridge)	set	1.000			
6.	(4.3.21.01) Welding at the splicing point of main reinforcement at 3 points (each point being 25mm in length) and each alternate contact point of spiral binder tie rod with the main vertical reinforcement of the bored piles using electrodes including the cost of all materials, labours, tools and equipment, the cost of power, etc. all complete as per drawings, specifications and directions of the Engineer. For spiral spot welding	each	740.000			
7.	(4.3.21.02) Welding at the splicing point of main reinforcement at 3 points (each point being 25mm in length) and each alternate contact point of spiral binder tie rod with the main vertical reinforcement of the bored piles using electrodes including the cost of all materials, labours, tools and equipment, the cost of power, etc. all complete as per drawings, specifications and directions of the Engineer. Lapping welding of main reinforcement	each	10.000			
8.	(4.2.06.03) Supplying and fabrication of M.S High strength deformed bar/ Twisted bar reinforcement of required size and length for all types of RCC work including straightening the rod, removing ruts, cleaning, cutting, hooking, bending, binding with supply of 22 B.W.G. GI wire, placing in position, including lapping, spacing and securing them in position by concrete blocks (1:1), metal chairs, etc. complete including cost of all materials, labour, local handling, laboratory test, incidentals necessary to complete the work as per specifications, drawings and direction of the Engineer. Laboratory test for physical property, strength, elongation% & bend to be performed as per ASTM. (Measurement will be based on standard weight of 490 lbs./ft3 Chairs, laps and separators will not be measures for payment. The cost of these will be included in the unit rate) High strength deformed bar (grade 60, billet)	kg	500.000			
Total Price of the Tender						

The total price of our Tender is:

Tk:

[Insert value in figures] [Insert value in Words]

Signature of the Tenderer

This Bill of Quantity contains _____ correction(s) duly initialed and signed by the authorized person of the Tenderer.

Bill of Quantities (BOQ)

Name of Project :

Name of Work : Detail Estimate of 20.00m Long, 600 mm Dia Pile (Typical)

Package Number :

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
1.	(4.1.20.01.3) Boring and casting of RCC cast-in-situ piles up to the required depth and dia with temporary steel casing in all types of soils including staging, drilling, driving, bentonite circulation, placing of reinforcement and placing concrete by tremie casting method with concrete with Portland cement, sand (minimum FM 2.50) and 19mm down graded crushed stone chips (Preferably stone chips from Madhyapara, Dinajpur), (LAA value not exceeding 30) to result minimum ultimate cylinder crushing strength of 210kg/cm2 at 28 days (suggested mix proportion 1:1.5:3) with allowable slump of 100mm to 150mm including cost of all materials, labour, equipment and all incidental charges but excluding the cost of reinforcement and its fabrication, etc. all complete as per design, drawing, specifications and of the E-I-C. Additional quantity of cement be added, if required to attain the afore-mentioned concrete strength, by the contractor at his own costs. Boring 600mm dia	m	20.000			
2.	(4.1.20.02.3) Boring and casting of RCC cast-in-situ piles up to the required depth and dia with temporary steel casing in all types of soils including staging, drilling, driving, bentonite circulation, placing of reinforcement and placing concrete by tremie casting method with concrete with Portland cement, sand (minimum FM 2.50) and 19mm down graded crushed stone chips (Preferably stone chips from Madhyapara, Dinajpur), (LAA value not exceeding 30) to result minimum ultimate cylinder crushing strength of 210kg/cm2 at 28 days (suggested mix proportion 1:1.5:3) with allowable slump of 100mm to 150mm including cost of all materials, labour, equipment and all incidental charges but excluding the cost of reinforcement and its fabrication, etc. all complete as per design, drawing, specifications and of the E-I-C. Additional quantity of cement be added, if required to attain the afore-mentioned concrete strength, by the contractor at his own costs. Concreting 600mm dia	cum	5.872			
3.	(4.1.24) Labour for breaking head of cast-in-situ bored pile/pre-cast pile up to required length by any means and removing the dismantled materials, such as, concrete to a safe distance including scrapping and removing concrete from steel/MS rods, preparation and making of platform where necessary, carrying, all sorts of handling, stacking the same properly after clearing, leveling and dressing the site and clearing the river bed, etc. all complete as per direction of the E-I-C. (Measurement will be given for the actual pile head volume to be broken).	cum	0.212			
4.	(4.1.27.02) Static load test of cast-in-situ/pre-cast concrete piles by the application of super imposed loads/Surcharge Method on the pile head, preparation of all arrangements including staging, supplying loads with approved means and keeping the full load in place for 24 hours minimum, measuring of settlements by calibrated gauges and subsequent removal of loads, staging and other temporary works, etc. complete. The test load shall not be less than double the design load of the pile and the applied load shall not be removed before 24 hours or until the rate of settlement is less than 0.01 inch (0.25mm) per half an hour, or as decided by the Engineer as per approved method. (In case of precast piles this item will be provisional. Payment & execution will be made only as per direction of the engineer.) Applied Load : Above 60 Ton	each	1.000			

SL. No.	(Item Code) Description of Item of Works	Unit	Quantity	Quoted Unit Rates (Tk)		Total Amount In Figure (in Tk)
				In Figure	In Words	
1	2	3	4	5	6	7
5.	(4.1.27.03) Integrity test of cast-in-situ/pre-cast pile by placing a small accelerometer on the top of a pile while hitting the pile head with a small hammer. The shock wave traveling through the pile propagate with the velocity of sound in concrete which is 3000-3500 m/s approximately or as decided by the Engineer, as per approved method. (For upto 10 nos. pile of a single bridge)	set	1.000			
6.	(4.3.21.01) Welding at the splicing point of main reinforcement at 3 points (each point being 25mm in length) and each alternate contact point of spiral binder tie rod with the main vertical reinforcement of the bored piles using electrodes including the cost of all materials, labours, tools and equipment, the cost of power, etc. all complete as per drawings, specifications and directions of the Engineer. For spiral spot welding	each	972.000			
7.	(4.3.21.02) Welding at the splicing point of main reinforcement at 3 points (each point being 25mm in length) and each alternate contact point of spiral binder tie rod with the main vertical reinforcement of the bored piles using electrodes including the cost of all materials, labours, tools and equipment, the cost of power, etc. all complete as per drawings, specifications and directions of the Engineer. Lapping welding of main reinforcement	each	12.000			
8.	(4.2.06.03) Supplying and fabrication of M.S High strength deformed bar/ Twisted bar reinforcement of required size and length for all types of RCC work including straightening the rod, removing ruts, cleaning, cutting, hooking, bending, binding with supply of 22 B.W.G. GI wire, placing in position, including lapping, spacing and securing them in position by concrete blocks (1:1), metal chairs, etc. complete including cost of all materials, labour, local handling, laboratory test, incidentals necessary to complete the work as per specifications, drawings and direction of the Engineer. Laboratory test for physical property, strength, elongation% & bend to be performed as per ASTM. (Measurement will be based on standard weight of 490 lbs./ft3 Chairs, laps and separators will not be measures for payment. The cost of these will be included in the unit rate) High strength deformed bar (grade 60, billet)	kg	849.000			
Total Price of the Tender						

The total price of our Tender is:

Tk:

[Insert value in figures] [Insert value in Words]

Signature of the Tenderer

This Bill of Quantity contains _____ correction(s) duly initialed and signed by the authorized person of the Tenderer.