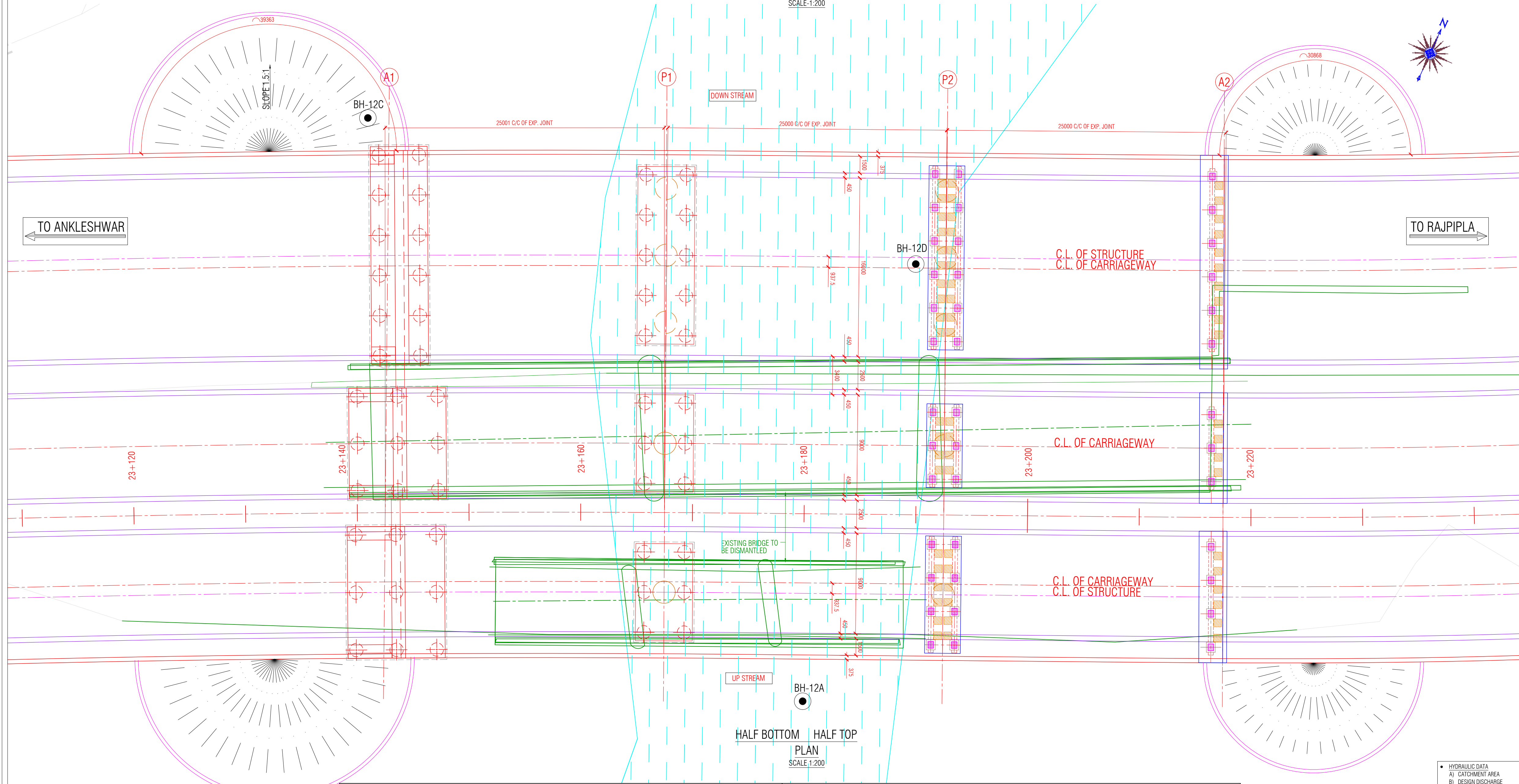


PROPOSED ROAD LEVEL AT CENTRELINE (m)	28.500	28.500	28.500	28.500	28.500
EXISTING GROUND LEVEL AT MEDIAN (m)	23.791	19.356	19.545	19.116	23.729
EXISTING GR LEVEL AT 8m FROM CL (LHS) (m)	22.550	18.793	18.316	18.245	23.382
EXISTING GR LEVEL AT 8m FROM CL (RHS) (m)	23.516	18.593	18.779	19.338	23.473
CHAINAGE	23+140	23+160	23+180	23+200	23+220

SECTIONAL ELEVATION  
SCALE:1:200



LEVEL TABLE (LHS)									LEVEL TABLE (RHS)						
LOCATION	F.R.L.	TOP OF PIER CAP / ABUTMENT CAP	BOTTOM OF PIER CAP / ABUTMENT CAP	HEIGHT OF PIER / ABUTMENT	BED LEVEL	TOP OF PILE CAP	BOTTOM OF PILE CAP	PILE TERMINATION	LOCATION	F.R.L.	TOP OF PIER CAP / ABUTMENT CAP	BOTTOM OF PIER CAP / ABUTMENT CAP	HEIGHT OF PIER / ABUTMENT	BED LEVEL	TOP OF PILE CAP
A1	28.500	25.900	24.700	5.691	19.509	19.009	17.209	-7.791	A1	28.500	26.000	24.800	5.791	19.509	19.009
P1	28.500	25.900	24.400	6.629	18.271	17.771	15.971	-9.029	P1	28.500	26.000	24.500	6.729	18.271	17.771
P2	28.500	25.900	24.400	6.543	18.357	17.857	16.057	-8.943	P2	28.500	26.000	24.500	6.643	18.357	17.857
A2	28.500	25.900	24.700	6.543	18.657	18.157	16.357	-8.643	A2	28.500	26.000	24.800	6.643	18.657	18.157

HYDRAULIC DATA	
A) CATCHMENT AREA	27.300 SQ.KM
B) DESIGN DISCHARGE	677.868 CU.M/SEC
C) HFL	23.750m
D) AFFLUX	0.02m
E) AHFL	23.770m
F) RUGOSITY CO-EFFICIENT	0.050
G) OBSTRUCTED VELOCITY	2.69m/s

ROAD AUTHORITY :

CONSULTANT	DY. EXECUTIVE ENGINEER, CITY (R&B) SUB DIVISION BHARUCH	EXECUTIVE ENGINEER BHARUCH (R&B) DIVISION BHARUCH
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- NOTES:-
- GENERAL:
    - ALL DIMENSIONS ARE IN MILLIMETER & LEVELS ARE IN METER UNLESS OTHERWISE SPECIFIED.
    - WRITTEN DIMENSIONS SHALL NOT BE SCALED FROM THE DRAWING.
  - DESIGN CRITERIA:

THE DESIGN IS ACCORDING TO THE FOLLOWING CODES.

    - IRC 78-2024
    - IRC 6-2017
    - IRC 112-2020
    - IRC 83-2015 (PART-II)
    - IRC SP-114-2018
  - THE DESIGN ARE APPLICABLE FOR "SEVERE" EXPOSURE CONDITIONS & SEISMIC ZONE III.
  - THE STRUCTURE DESIGN FOR:
    - FOR TWO LANE CARRIAGEWAY
      - ONE LANE OF CLASS 70R
      - TWO LANE OF CLASS-A FOR EACH LANE.
    - FOR TWO LANE CARRIAGEWAY + FOOTPATH
      - ONE LANE OF CLASS 70R + FOOTPATH
      - TWO LANE OF CLASS-A + FOOTPATH
      - ONE LANE OF CLASS 70R + ONE LANE OF CLASS-A
      - THREE LANE OF CLASS-A FOR EACH LANE
    - FOR FOUR LANE CARRIAGEWAY + FOOTPATH
      - TWO LANE OF CLASS 70R + FOOTPATH
      - ONE LANE OF CLASS 70R + TWO LANE OF CLASS-A + FOOTPATH
      - FOUR LANE OF CLASS-A FOR EACH LANE + FOOTPATH
      - ONE LANE OF CLASS 70R + THREE LANE OF CLASS-A
      - FIVE LANE OF CLASS-A FOR EACH LANE
    - ONE LANE OF IRC SV LOADING
  - WIND LOAD DETAILS CONSIDERED IN DESIGN:
    - BASIC WIND SPEED - 39 m/sec
    - TYPE OF TERRAIN - PLAIN TERRAIN
  - CONCRETE:
    - TO IMPROVE WORKABILITY OF CONCRETE, ADMIXTURE CONCRETE FORMING TO IS-6925 AND IS-9103 MAY BE PERMITTED SUBJECTED TO SATISFACTORY PROVEN USE, ADMIXTURES GENERATING HYDROGEN, NITROGEN ETC. SHOULD NOT BE USED.
  - REINFORCEMENT:
    - Fe550D (FUSION BONDED EPOXY COATED STEEL SHALL BE USED) CONFORMING TO IS-1786:2008 SPECIFICATION.
  - WATER:
    - WATER TO BE USED IN CONCRETING AND CURING SHALL CONFORM TO CLAUSE 18.4.5 OF IRC 112-2020.
  - BEARING:
    - ELASTOMERIC BEARING SHALL BE PROVIDED.
    - STRIP SEAL TYPE EXPANSION JOINT SHALL BE USED. THE EXPANSION JOINTS MUST BE ROBUST, DURABLE, WATER TIGHT AND REPLACEABLE. IT MUST BE PROVIDED OVER THE FULL WIDTH OF SUPER STRUCTURE INCLUDING KERB AND FOOTPATH FOLLOWING THE PROFILE OF THE SAME. (WHERE RELEVANT) EXPANSION JOINTS SHALL BE OBTAINED ONLY FROM APPROVED MANUFACTURERS AND BE OF PROVEN TYPE. DETAILS OF EXPANSION JOINT MAY BE GOT APPROVED BEFORE COMMENCEMENT OF CONSTRUCTION. SITE FABRICATED EXPANSION JOINTS SHALL BE PROHIBITED.
  - WORKMANSHIP DETAILING:
    - FOR ENSURING PROPER COVER OF CONCRETE TO REINFORCEMENT SPECIALLY MADE POLYMER COVER BLOCKS SHALL ONLY BE USED.
  - CONCRETE GRADE:

NO	DESCRIPTION	GRADE OF CONCRETE	GRADE OF STEEL
01	PSC I-GIRDER	M45	Fe550D CONFORMING TO IS-1786-2008
02	DECK SLAB	M45	
03	ABUTMENT	M35	
04	ABUTMENT CAP	M35	
05	PILE	M35	
06	PILE CAP	M35	
07	PIER	M35	
08	PIER CAP	M35	
09	SEISMIC ARRESTER PEDESTAL	M40	
10	LEVELING COURSE	M15	
11	RCC CRASH BARRIER	M40	
12	APPROACH SLAB	M35	
13	WEARING COURSE	M40	
  - BENDING OF REINFORCEMENT BARS SHALL BE AS PER IS:2502.
  - PROPER COMPACTION OF CONCRETE SHALL BE ENSURED BY USE OF FORM AND/OR NEEDLE VIBRATORS. USE OF FULL WIDTH ACCEDED VIBRATORS FOR COMPACTION OF CONCRETE IN DECK SLAB SHALL BE ENSURED. SHUTTERING PLATES SHALL SUITABLY BE STIFFENED TO ENABLE THE COMPACTION BY FORM VIBRATORS.
  - SHARP EDGES OF CONCRETE SHALL BE CHAMFERED.
  - BACKFILL MATERIAL BEHIND END WALL SHALL BE SELECTED SOIL HAVING PROPERTIES AS C=0kg/Sq.cm, θ=30°, DENSITY OF EARTH FILL γ=18kN/M<sup>3</sup> TO 20kN/M<sup>3</sup>. IT SHALL BE CONFIRM WITH IRC-78-2024.
  - SPECIFICATIONS:
    - THE WORK SHALL BE EXECUTED IN ACCORDANCE WITH MORTH (5TH REV.) SPECIFICATION FOR ROAD & BRIDGE WORKS.
  - DRAINAGE SPOUT:
    - THE SPOUT SHALL OF 100mm DIA.@5.0m C/C AND MADE UP OF CORROSION RESISTANT MATERIAL.
    - DRAINAGE SPOUTS AS PER MORTH STANDARD DRG NO. SD/303.
  - IF ANY DISCREPANCY IS FOUND BETWEEN BORE HOLE DATA, OF SOIL INVESTIGATION REPORT AND SITE SAME SHALL BE IMMEDIATELY REPORTED TO ENGINEER-IN-CHARGE.
  - BED LEVEL SHOULD BE CHECKED WITH GAD BEFORE EXECUTION AT SITE. IF ANY DISCREPANCY FOUND, IMMEDIATELY BROUGHT IT TO THE NOTICE OF DESIGN ENGINEER FOR NECESSARY MODIFICATION IN THE DRAWING. FRL & CHAINAGES WILL BE SUBJECTED TO CORRESPONDING CHANGES IN APPROVED PLAN & PROFILE DRAWING.
  - IF ANY DISCREPANCY FOUND IN GAD & AT SITE CONDITION THE CONTRACTOR/CLIENT SHALL MUST INFORM TO DESIGN CONSULTANT BEFORE EXECUTION OF WORK.
  - SIZE OF PIER ABUTMENT PER CAP. BEARING SHOWN IN THIS DRG. ARE TENTATIVE, AND ARE SUBJECTED TO CHANGE IN FINAL DESIGN & DRAWING AS PER REQUIREMENT.
  - WEAP HOLES SHALL BE 100mm Ø PVC @100mm C/C IN STAGGERED FASHION.
  - SOIL ENGINEERING WAS CARRIED OUT AND SOIL INVESTIGATION REPORT WAS SUBMITTED TO EXECUTIVE ENGINEER, RAJPIPLA (R&B) DIVISION, RAJPIPLA. VIDEO REPORT NO. : 6924/120004.
  - LOAD BEARING CAPACITY OF PILE FOR DIA 1.2 m & FOR 30.0m DEPTH OF PILE IS 401.0 MT.
  - GEO GRID SHALL BE PROVIDED BEHIND APPROACH SLAB AS PER GR NO. PRCH/102020/1293/C DATED: 17/02/2021.
  - ADMINISTRATIVE APPROVAL FOR PROPOSED WORK WAS GIVEN BY GOG VIDE THEIR LETTER NO.:



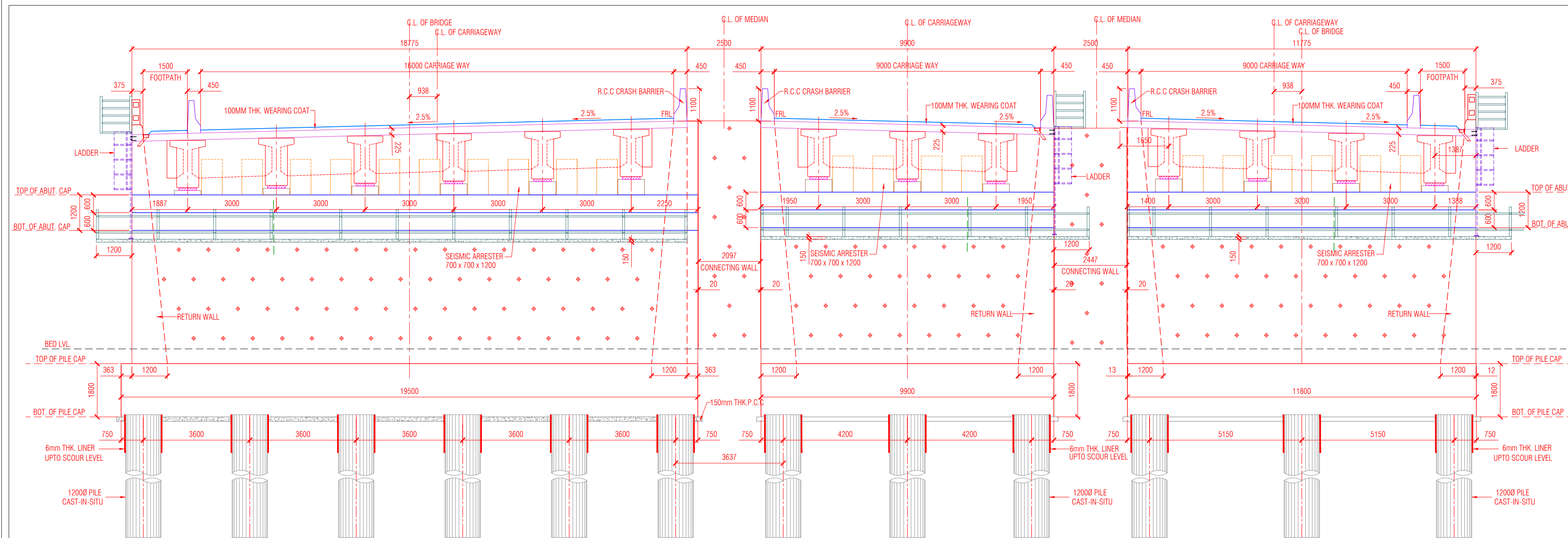
CLIENT:- EXECUTIVE ENGINEER, DISTRICT (R&B) DIVISION, BHARUCH  
NAME OF WORK:- RECONSTRUCTION OF MAJOR BRIDGE AT CH. 23+180 ON ANKLESHWAR-RAJPIPLA STATE HIGHWAY (SH-64) IN BHARUCH DISTRICT IN THE STATE OF GUJARAT

TITLE:- GENERAL ARRANGEMENT DRAWING OF MAJOR BRIDGE  
SPAN: 3 X 25.0m

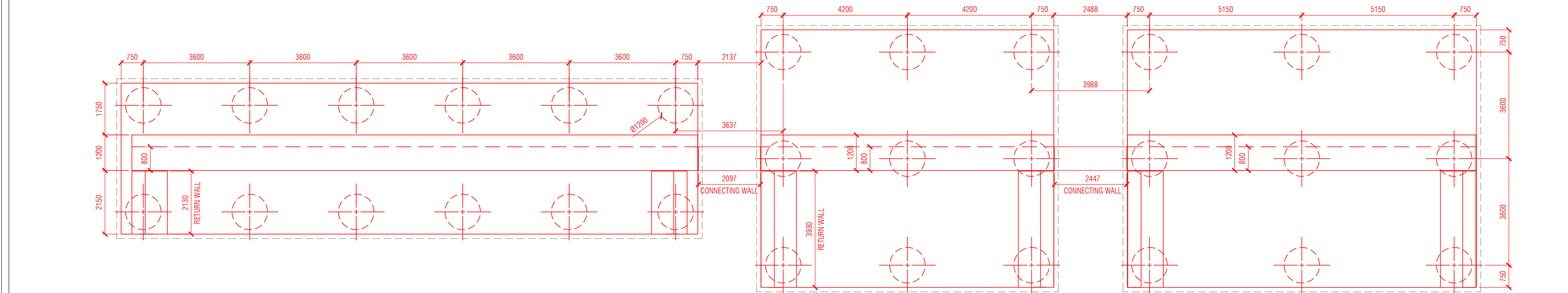
CONSULTANT :-  
GEO DESIGNS & RESEARCH (P) LTD.  
B/10, KRISHNA INDUSTRIAL ESTATE, OPP. B.I.D.C. GORWA ESTATE, VADODARA - 390 016  
TELEFAX : 91-265-2290222,2283081  
E-MAIL : designbridgeg@geogroup.in  
Web Site : www.geogroup.in

PREPARED BY	IKHLAK MAFAT (CAD ENGINEER)	DRG NO	GDR / ANK-RAJ / 23 + 180 / 01	Rev.	
DESIGNED BY	FAKHRUDDIN DHIJAWALA (Sr.ENGINEER)	DATE	14/10/2025		
CHECKED BY	MEHUL PATEL (DESIGN DIRECTOR)	JOB NO	2025_26_001		

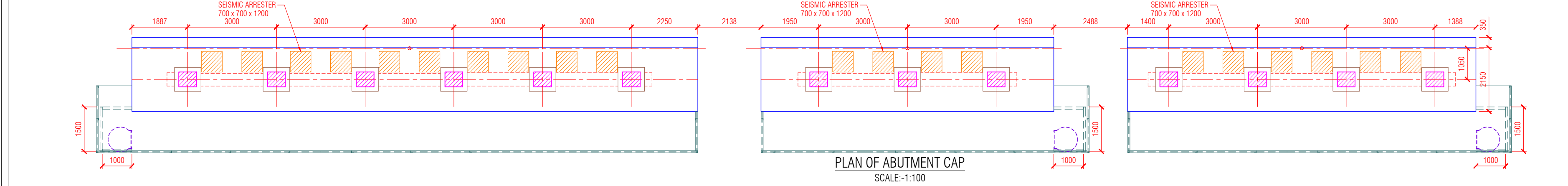




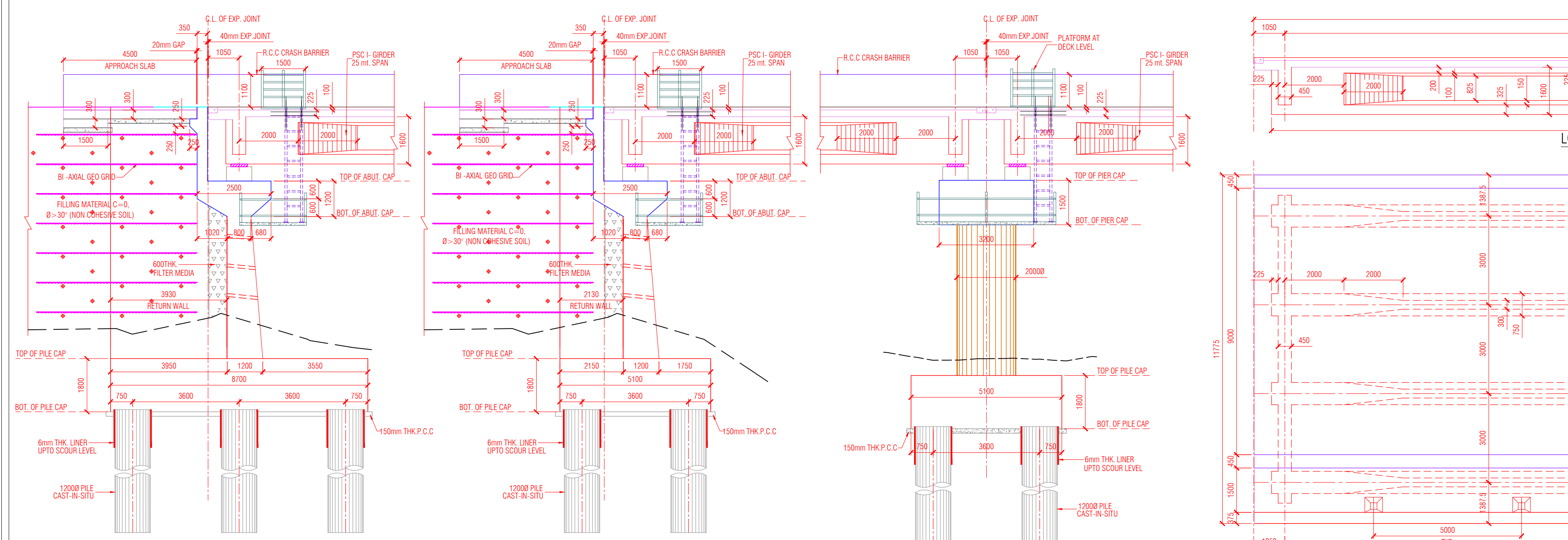
TYPICAL CROSS SECTION OF ABUTMENT  
SCALE: 1:100



PLAN FOR PILE FOUNDATION  
SCALE: 1:100



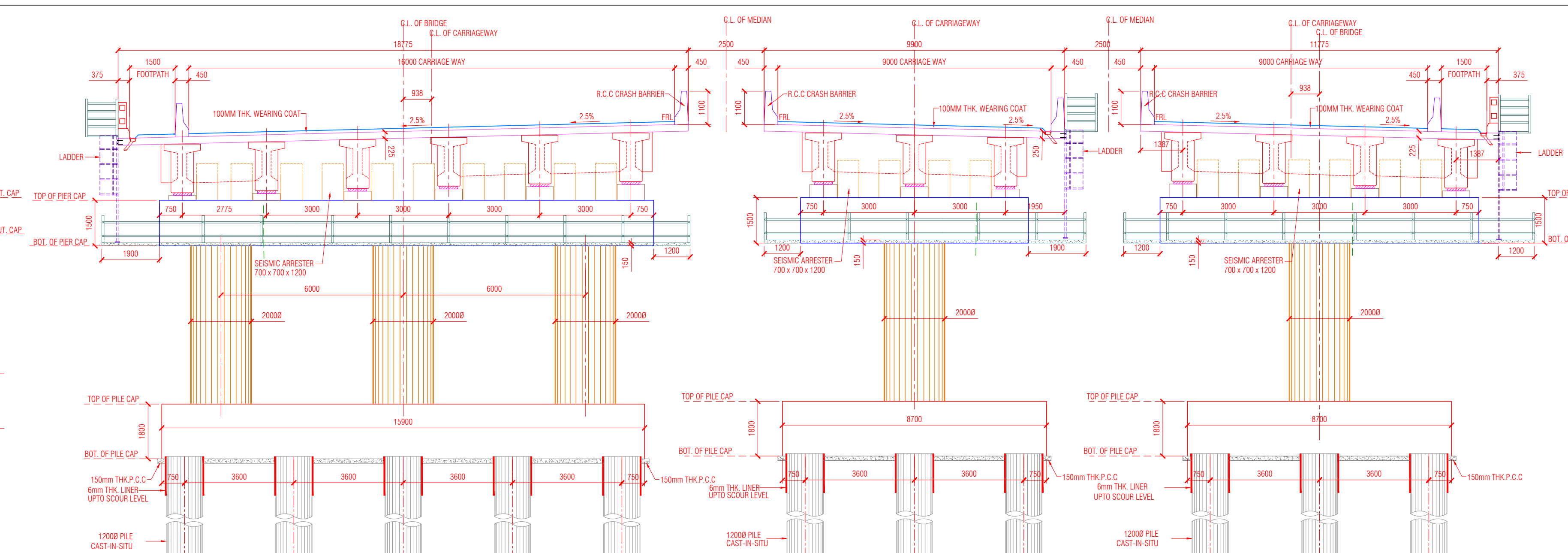
PLAN OF ABUTMENT CAP  
SCALE: 1:100



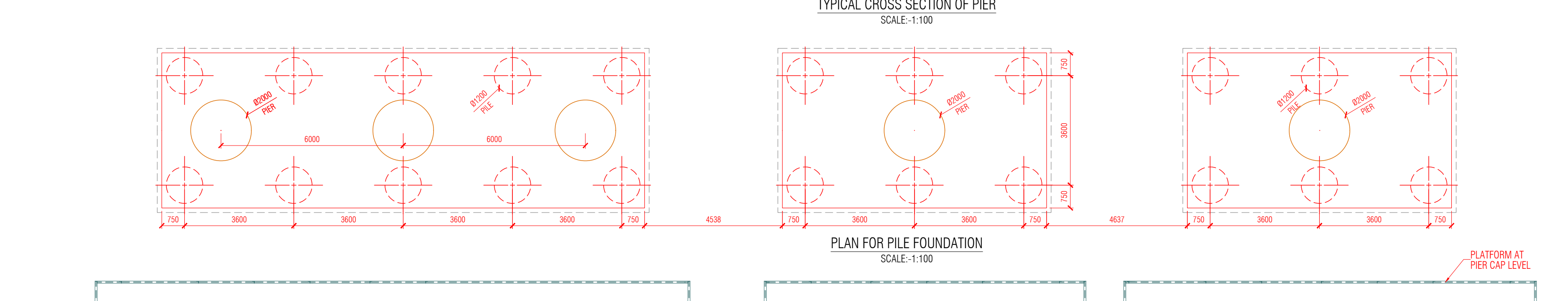
ELEVATION OF ABUTMENT (RHS)  
SCALE: 1:100

ELEVATION OF ABUTMENT (LHS)  
SCALE: 1:100

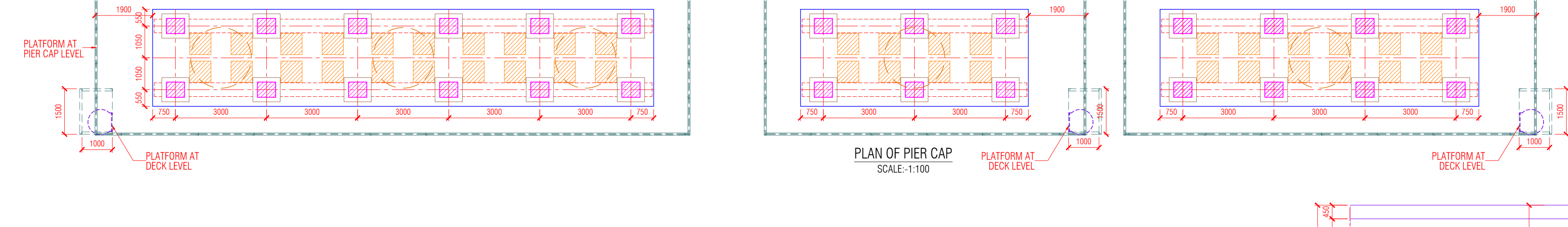
ELEVATION OF PIER  
SCALE: 1:100



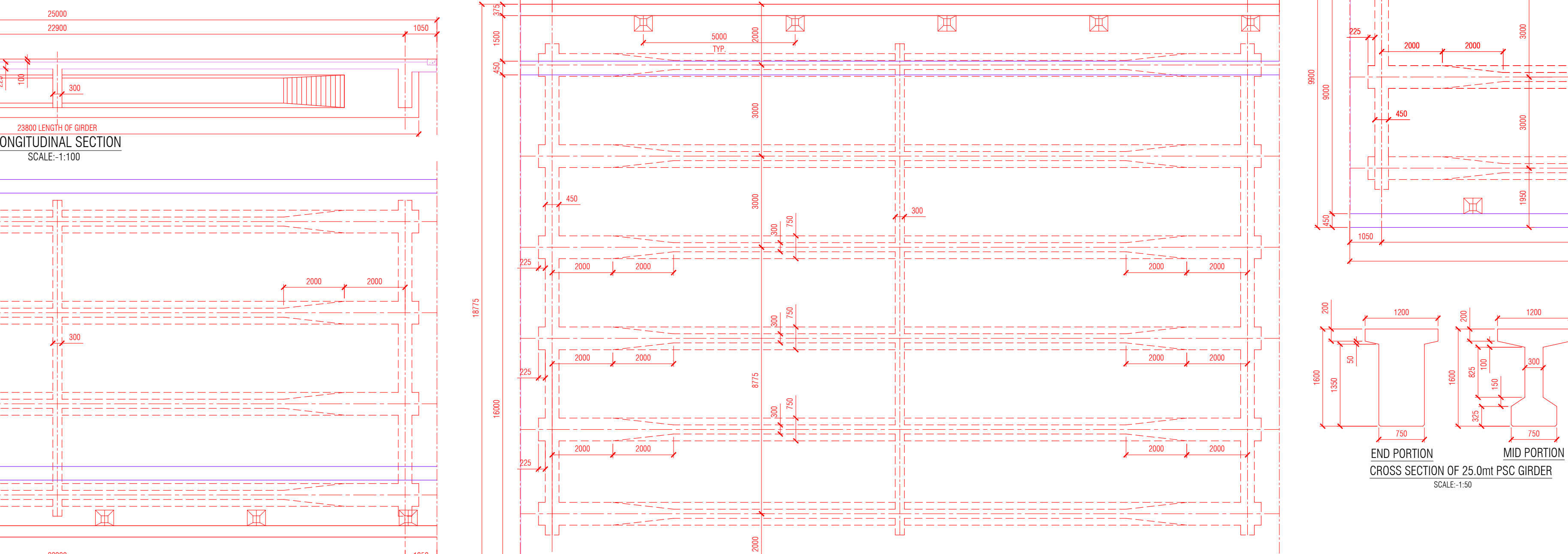
TYPICAL CROSS SECTION OF PIER  
SCALE: 1:100



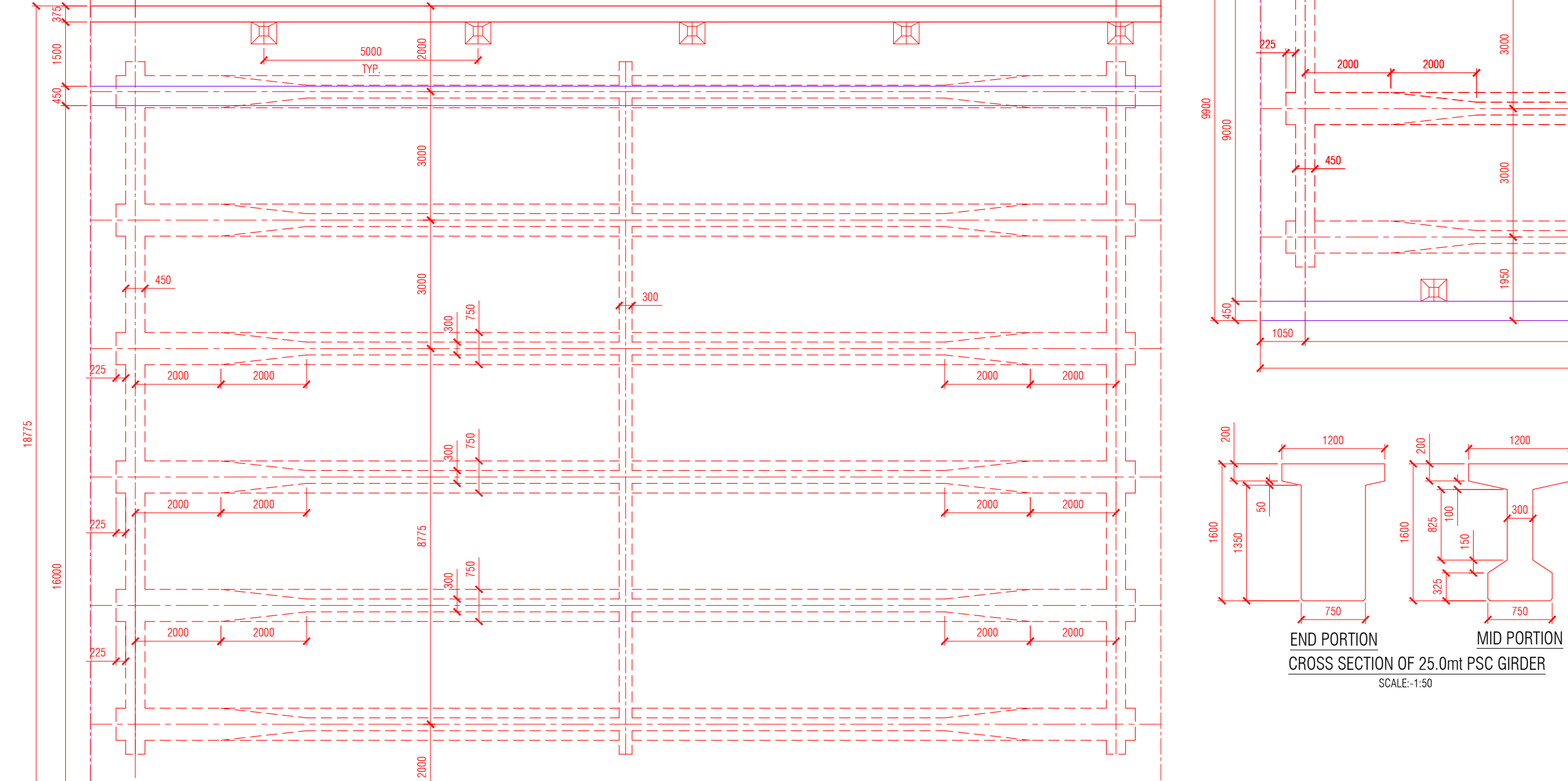
PLAN FOR PILE FOUNDATION  
SCALE: 1:100



PLAN OF PIER CAP  
SCALE: 1:100

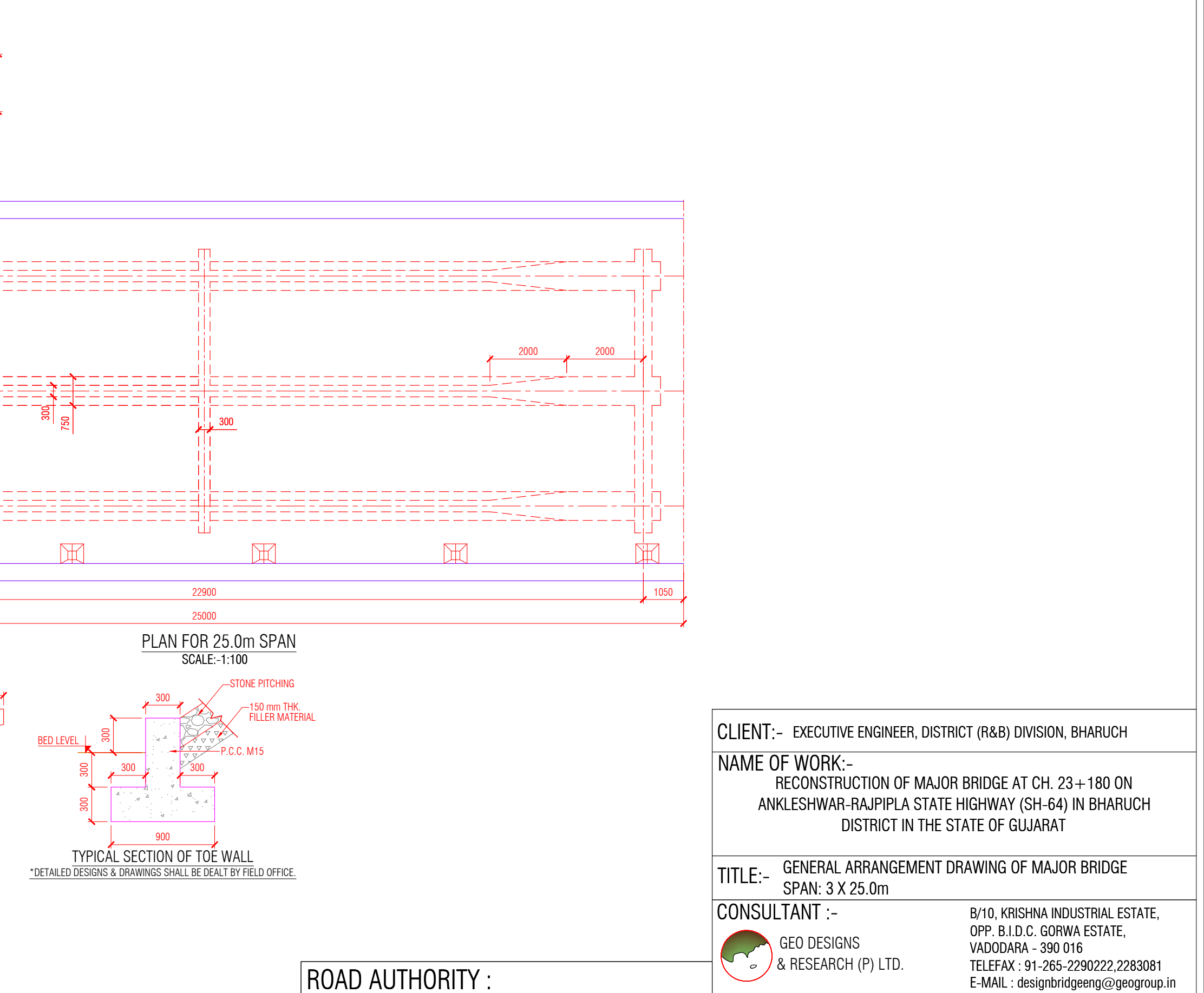


PLAN FOR 25.0m SPAN  
SCALE: 1:100

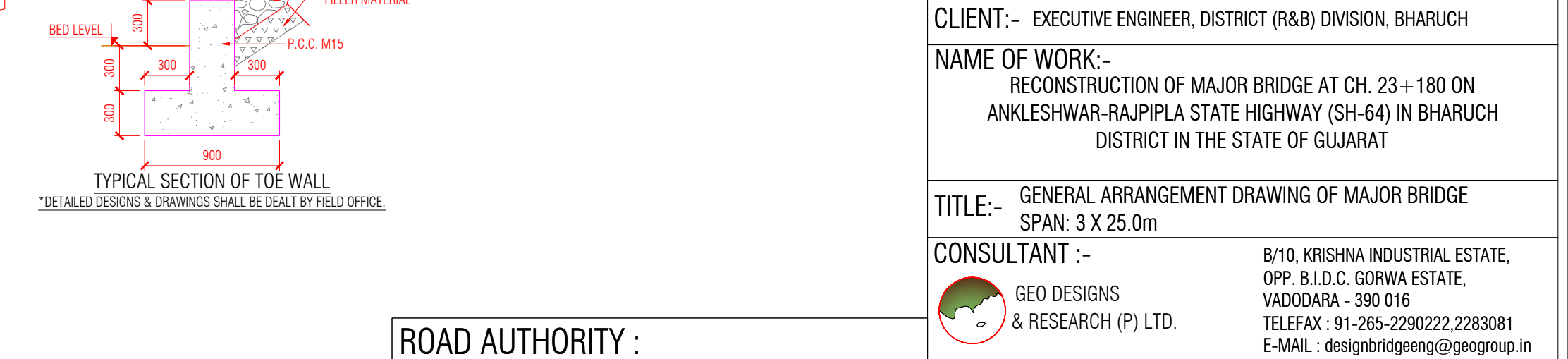


PLAN FOR 25.0m SPAN  
SCALE: 1:100

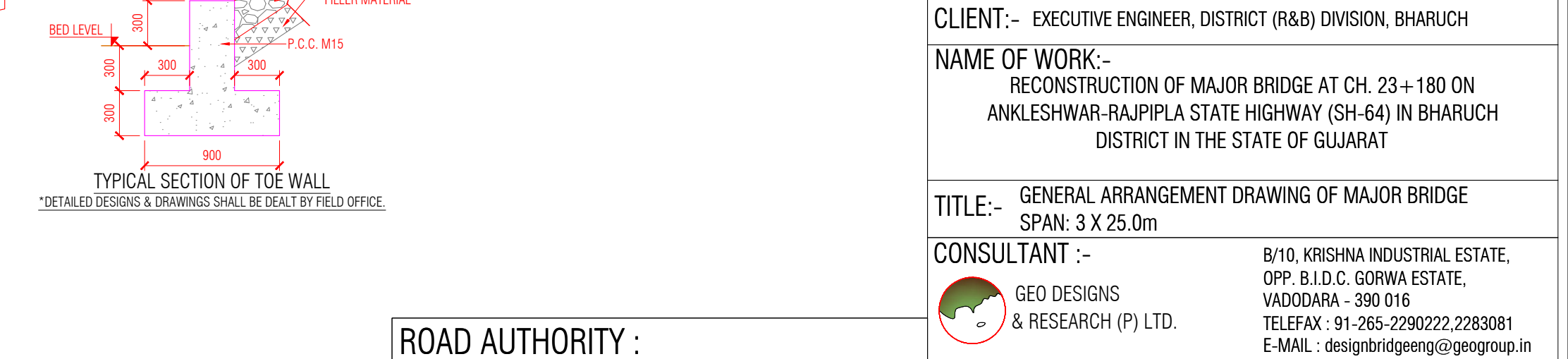
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DEPTH	NOTATION	SOIL DESCRIPTION	"N" VALUE	DEPTH	NOTATION	SOIL DESCRIPTION	"N" VALUE	DEPTH	NOTATION	SOIL DESCRIPTION	"N" VALUE	DEPTH	NOTATION	SOIL DESCRIPTION	"N" VALUE
0.00		FILLED UP SOIL (0.0 TO 2.5m)	7	0.00		FILLED UP SOIL (0.0 TO 2.5m)	9	0.00		BROWNISH SILTY SAND TO FINELY GRAINED SAND OF NON PLASTICITY (0.0 TO 2.5m)	16	0.00		BROWNISH SILTY SAND TO FINELY GRAINED SAND OF NON PLASTICITY (0.0 TO 2.5m)	14
1.00			9	1.00		BROWNISH SILTY CLAY OF HIGH PLASTICITY (2.5 TO 5.0m)	12	1.00			22	1.00			18
2.00		BROWNISH SILTY CLAY TO CLAYEY SAND OF LOW PLASTICITY (5.0 TO 6.5m)	12	2.00		BROWNISH SANDY SILT OF NON PLASTICITY (5.0 TO 6.5m)	17	2.00			44	2.00			29
3.00			23	3.00		BROWNISH SANDY SILT OF NON PLASTICITY WITH GRAVELS (6.5 TO 9.0m)	31	3.00			67	3.00			38
4.00			36	4.00		REDDISH BROWNISH SILTY CLAY OF HIGH PLASTICITY (9.0 TO 12.5m)	37	4.00			57	4.00			39
5.00			40	5.00			42	5.00		WHITISH BROWNISH ROCK (9.0 TO 15.0m)	68	5.00			26
6.00			38	6.00		BROWNISH ROCK (13.0 TO 19.0m)	48	6.00			56	6.00			46
7.00			42	7.00			51	7.00			59	7.00			50
8.00			48	8.00			52	8.00			70	8.00			58
9.00			52	9.00			66	9.00			89	9.00			77
10.00			66	10.00			68	10.00			89	10.00			83
11.00			42	11.00			43	11.00			56	11.00			42
12.00			48	12.00			51	12.00			56	12.00			46
13.00			41	13.00			58	13.00			59	13.00			50
14.00			52	14.00			62	14.00			70	14.00			58
15.00			66	15.00			68	15.00			89	15.00			77
16.00			42	16.00			43	16.00			56	16.00			42
17.00			48	17.00			51	17.00			56	17.00			46
18.00			41	18.00			58	18.00			59	18.00			50
19.00			52	19.00			62	19.00			70	19.00			58
20.00			66	20.00			68	20.00			89	20.00			77
21.00			42	21.00			43	21.00			56	21.00			42
22.00			48	22.00			51	22.00			56	22.00			46
23.00			41	23.00			58	23.00			59	23.00			50
24.00			52	24.00			62	24.00			70	24.00			58
25.00			66	25.00			68	25.00			89	25.00			77
26.00			42	26.00			43	26.00			56	26.00			42
27.00			48	27.00			51	27.00			56	27.00			46
28.00			41	28.00			58	28.00			59	28.00			50
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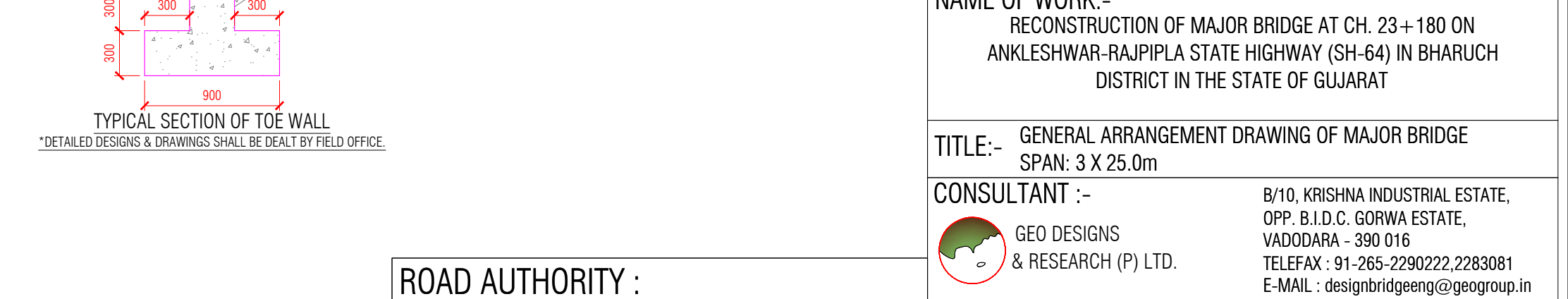
TYPICAL SECTION OF TOE WALL  
SCALE: 1:100



PLAN FOR 25.0m SPAN  
SCALE: 1:100



END PORTION CROSS SECTION OF 25.0m PSC GIRDER  
SCALE: 1:50



MID PORTION CROSS SECTION OF 25.0m PSC GIRDER  
SCALE: 1:50



TYPICAL SECTION OF TOE WALL  
SCALE: 1:100



PLAN FOR 25.0m SPAN  
SCALE: 1:100



END PORTION CROSS SECTION OF 25.0m PSC GIRDER  
SCALE: 1:50



MID PORTION CROSS SECTION OF 25.0m PSC GIRDER  
SCALE: 1:50

CLIENT:- EXECUTIVE ENGINEER, DISTRICT (R&B) DIVISION, BHARUCH			
NAME OF WORK:- RECONSTRUCTION OF MAJOR BRIDGE AT CH. 23+180 ON ANKLESHWAR-RAUPIA STATE HIGHWAY (SH-64) IN BHARUCH DISTRICT IN THE STATE OF GUJARAT			
TITLE:- GENERAL ARRANGEMENT DRAWING OF MAJOR BRIDGE SPAN: 3 X 25.0m			
CONSULTANT:- GEO DESIGNS & RESEARCH (P) LTD.			
ROAD AUTHORITY:- DY. EXECUTIVE ENGINEER, BHARUCH (R&B) SUB DIVISION, BHARUCH			
PREPARED BY: BHILAK MAFAT (CAD ENGINEER)			
DESIGNED BY: FAKHRUDDIN OHLAWALA (Sr. ENGINEER)			
CHECKED BY: MEHUL PATEL (DESIGN DIRECTOR)			
DATE: 14/10/2025			
JOB NO: 2025_26_001			
Rev. 01			