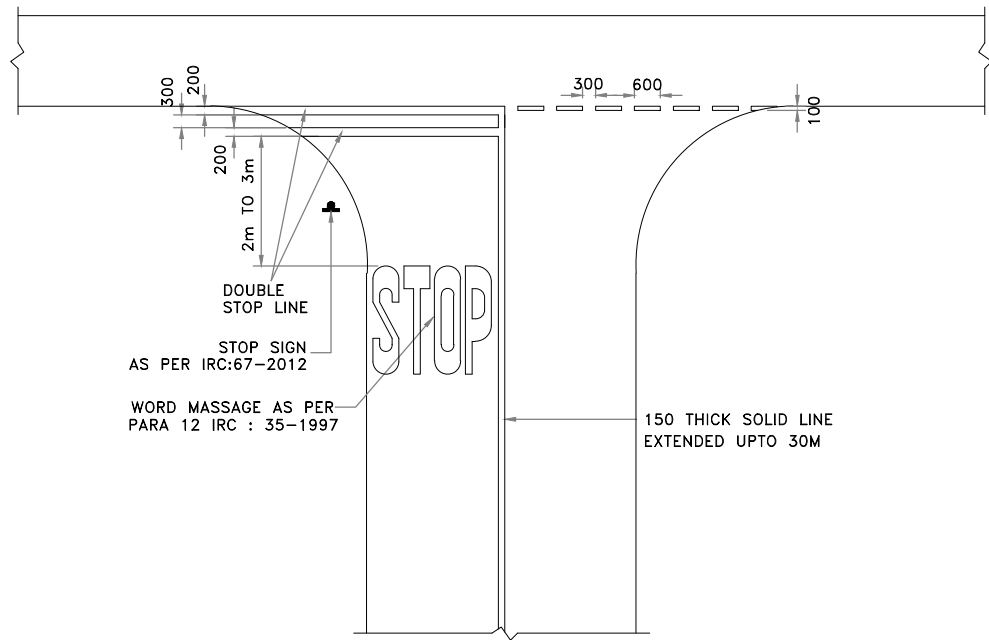
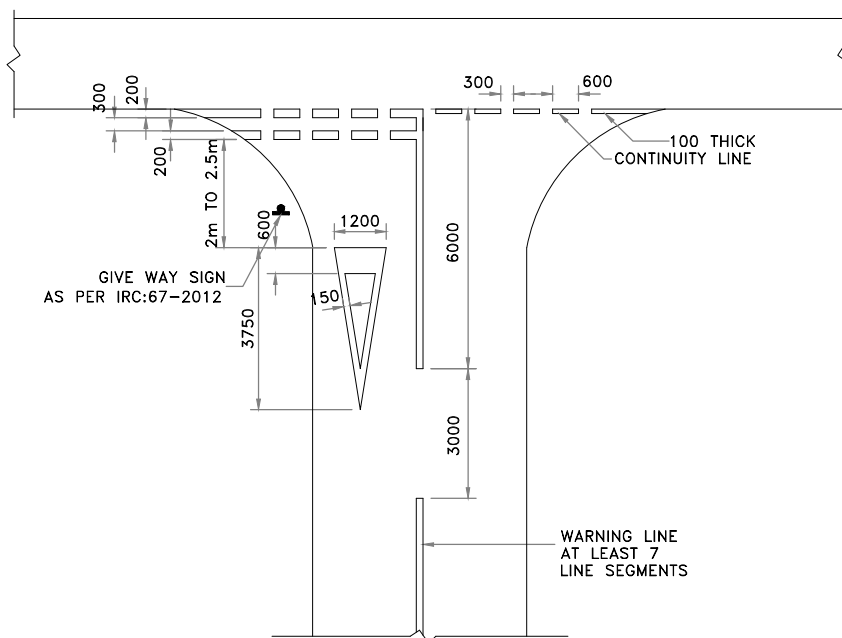
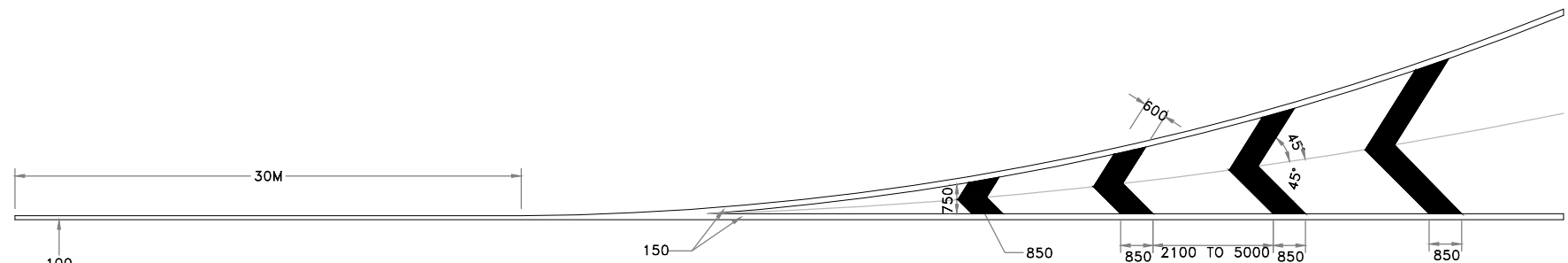
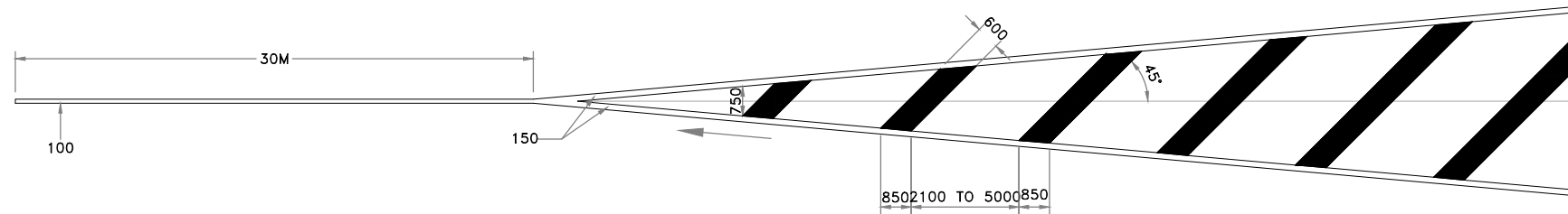
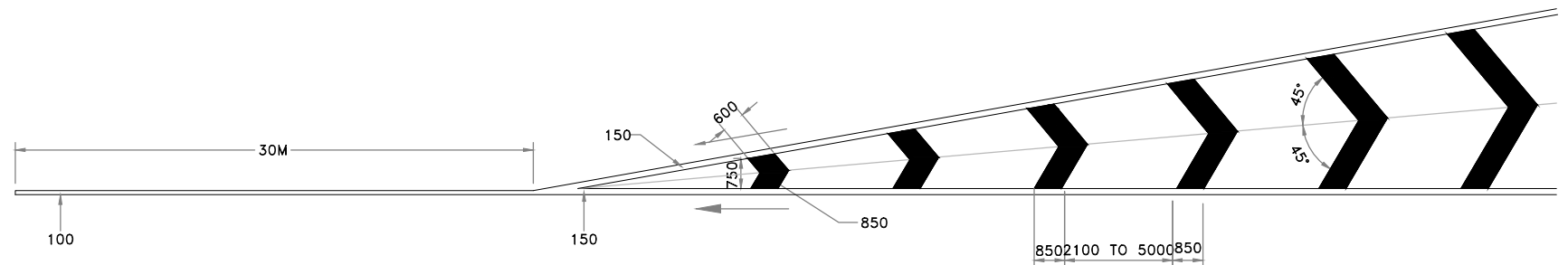




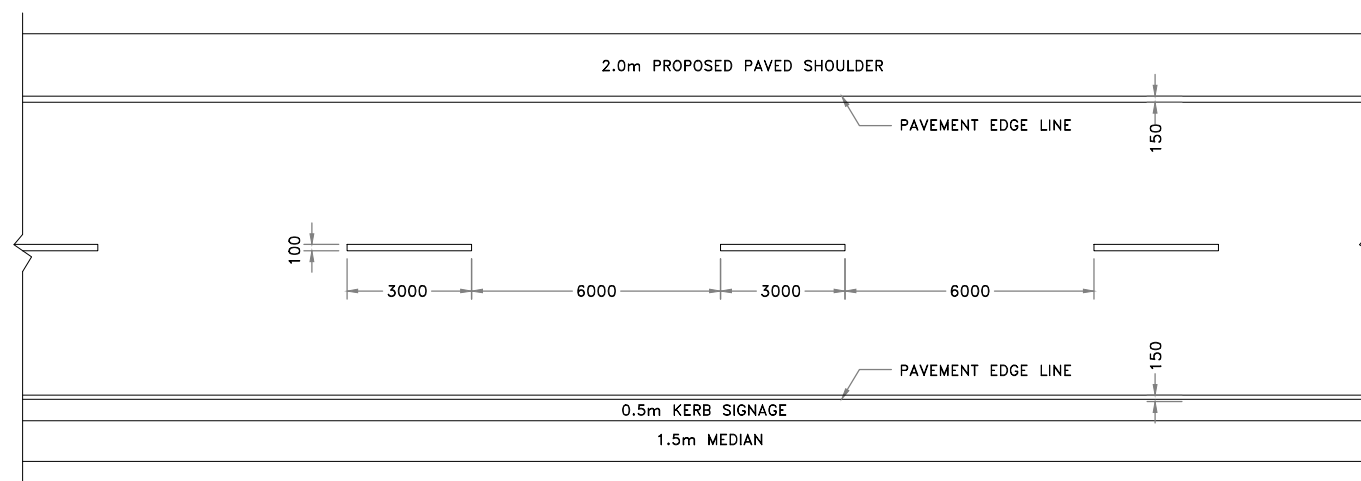
STOP LINES



GIVEWAY LINES



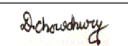
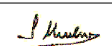
DETAILS OF DIAGONAL AND CHEVRON MARINGS

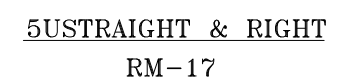
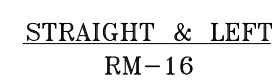
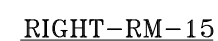
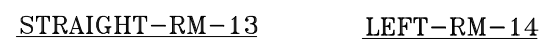
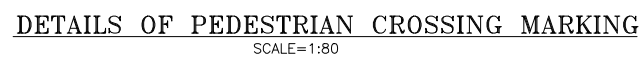


CENTERLINE MARKING

NOTE:

- 1: ALL DIMENSIONS ARE IN MM.
- 2: ALL DIMENSIONS SHOULD FOLLOW RELEVANT IRC CODE NO. IRC :35-1997

					SCALE: N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	TITLE : PAVEMENT MARKING	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. BOSE ROAD KOLKATA - 700092.	DWG. NO. CET/4146/NHIDCL/NH-17/B-G ROAD/FDPR/MISC-3			
					PROJECT:CONSULTANCY SERVICES FOR PREPARATION OF DPR FOR DEVELOPMENT OF ECONOMIC CORRIDORS,INTER CORRIDORS AND FEEDER ROUTES TO IMPROVE THE EFFICIENCY OF FREIGHT MOVEMENT IN INDIA UNDER BHARATMALA PARIYOJANA (LOT-1) PACKAGE 1A BILASIPURA-CHAPAR-TULUNGIA-JOGIGHOPA-GENDERA-PAIKAN-DUDHNOI-GUWAHATI ROAD (LENGTH 225.000 KM) IN THE STATE OF ASSAM.			SUBMISSION TYPE: FINAL DETAILED PROJECT REPORT		REVISION MKD. - R0	SHEET NO. - 01 OF 02		
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: JAN,2023	PACKAGE NO: (LOT-1) PACKAGE 1A		DRAWN BY.		DESIGN BY.		ISSUED BY.	
REVISIONS													
								D.CHOWDHURY		A. DEY		S.BHADRA	

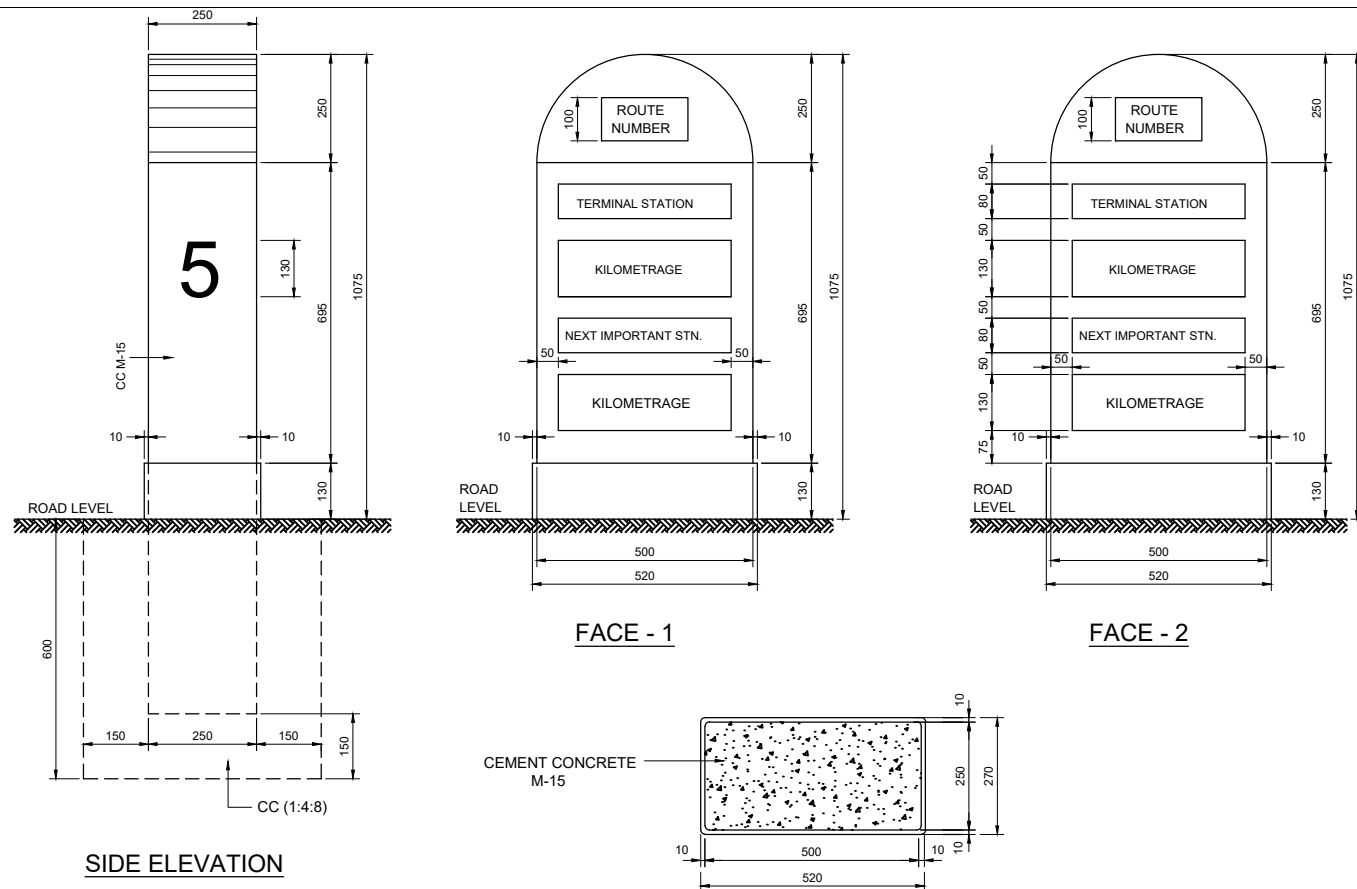


SCALE=1:60



1. ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE MENTIONED.
2. PAVEMENT MARKING SHOULD BE FOLLOWED AS PER IRC: 35-1997

					SCALE: N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	TITLE : PAVEMENT MARKING	CONSULTANT :  CE TESTING COMPANY PVT.LTD. 124-A, N.S.C. BOSE ROAD, KOLKATA - 700092.	DWG. NO. CET/4146/NHIDCL/NH-17/B-G ROAD/FDPR/MISC-3	
						PROJECT:CONSULTANCY SERVICES FOR PREPARATION OF DPR FOR DEVELOPMENT OF ECONOMIC CORRIDORS,INTER CORRIDORS AND FEEDER ROUTES TO IMPROVE THE EFFICIENCY OF FREIGHT MOVEMENT IN INDIA UNDER BHARATMALA PARIYOJANA (LOT-1) PACKAGE 1A BILASIPURA-CHAPAR-TULUNGIA-JOGIGHOPA-GENDERA-PAIKAN-DUDHNOI-GUWAHATI ROAD (LENGTH 225.00 KM) IN THE STATE OF ASSAM.	SUBMISSION TYPE:		REVISION MKD. - R0	SHEET NO. - 02 OF 02	
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: JAN,2023		FINAL DETAILED PROJECT REPORT		DRAWN BY: 	DESIGN BY: 	ISSUED BY: 
REVISIONS							PACKAGE NO: (LOT-1) PACKAGE 1A		D.CHOWDHURY	A.DEY	S.BHADRA



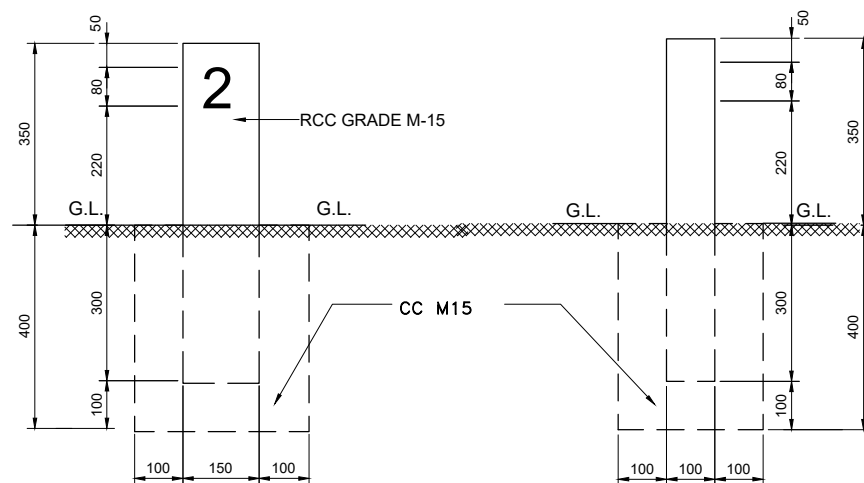
SIDE ELEVATION

FACE - 1

FACE - 2

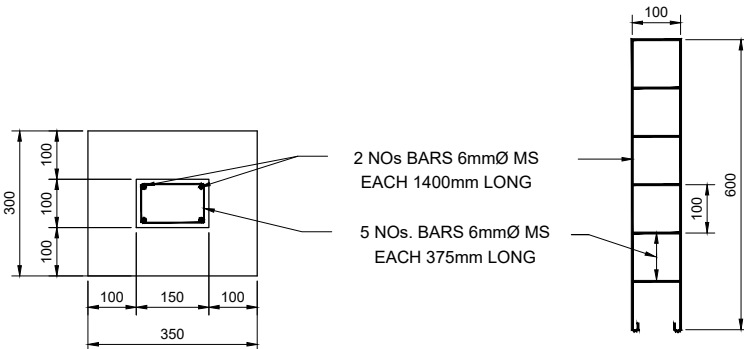
SECTIONAL PLAN

TYPE DESIGN FOR THE 5TH KILOMETRE STONE



FRONT ELEVATION

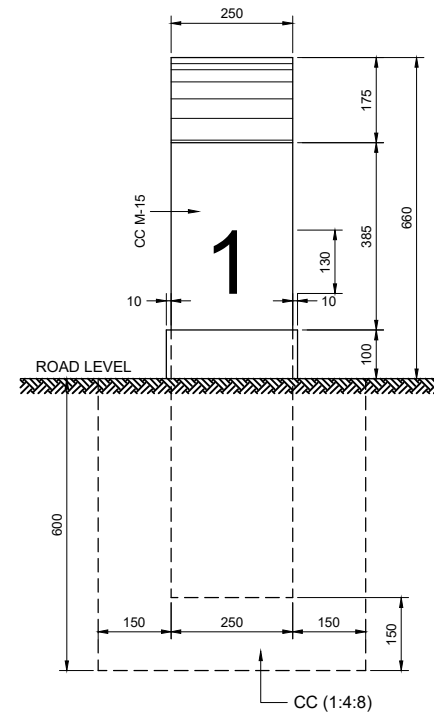
SIDE ELEVATION



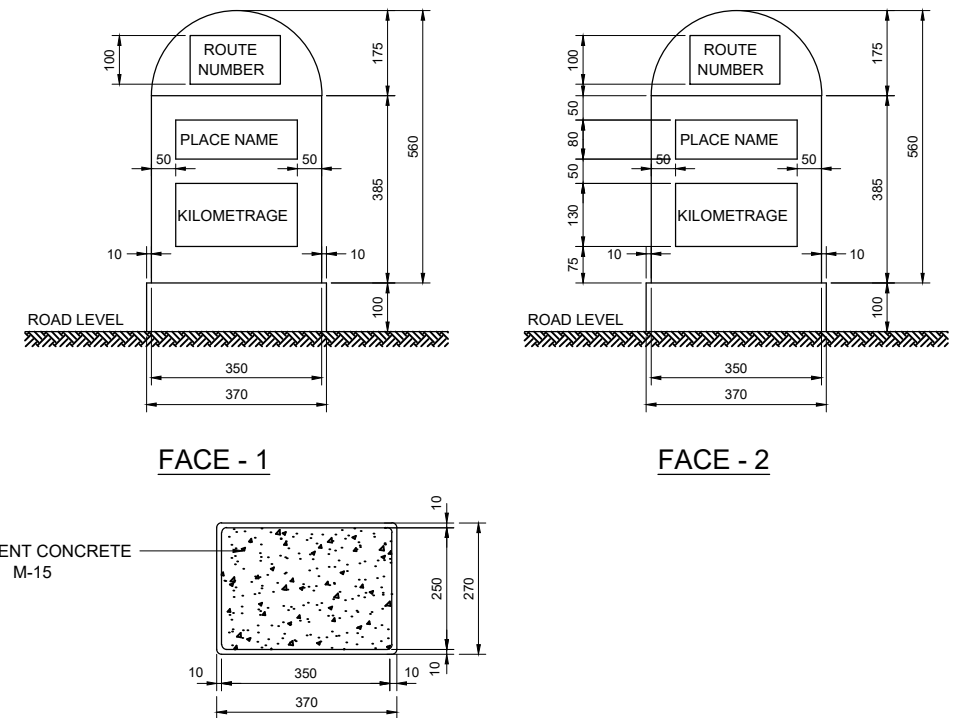
PLAN

SCHEDULE OF REINFORCEMENT

TYPE DESIGN FOR 200 - METRE STONES



SIDE ELEVATION

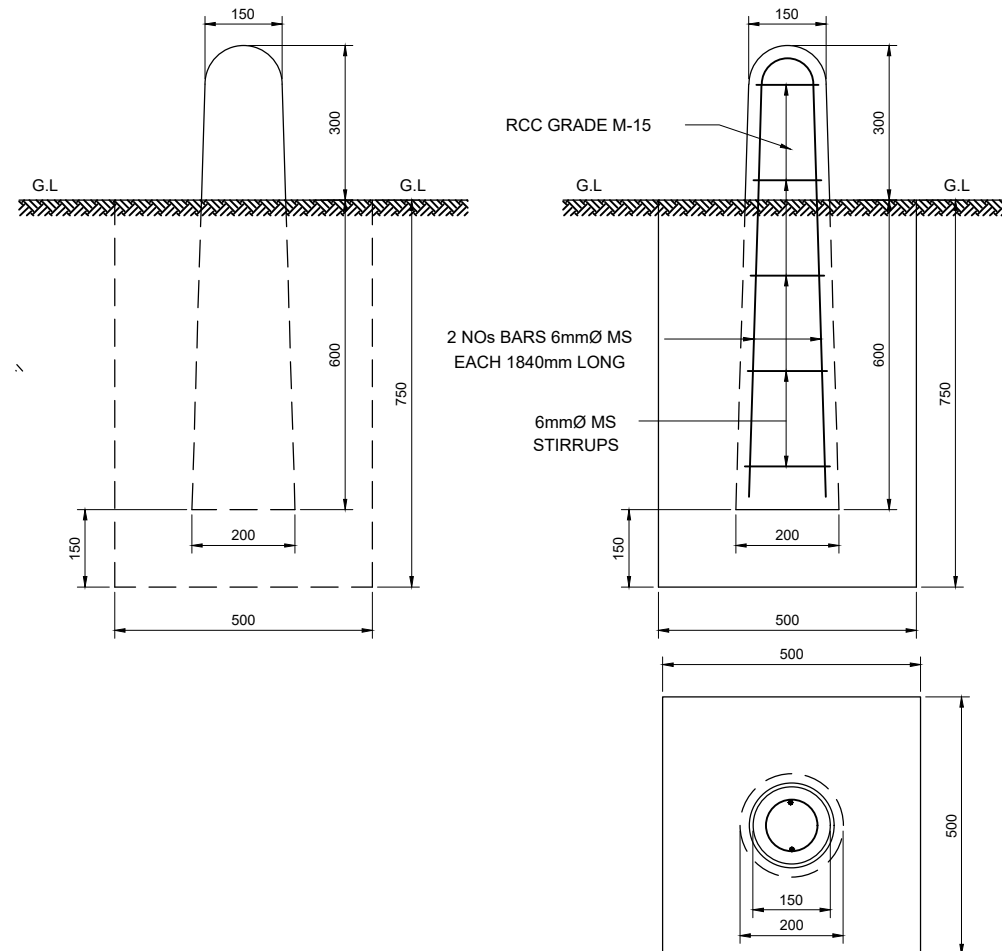


FACE - 1

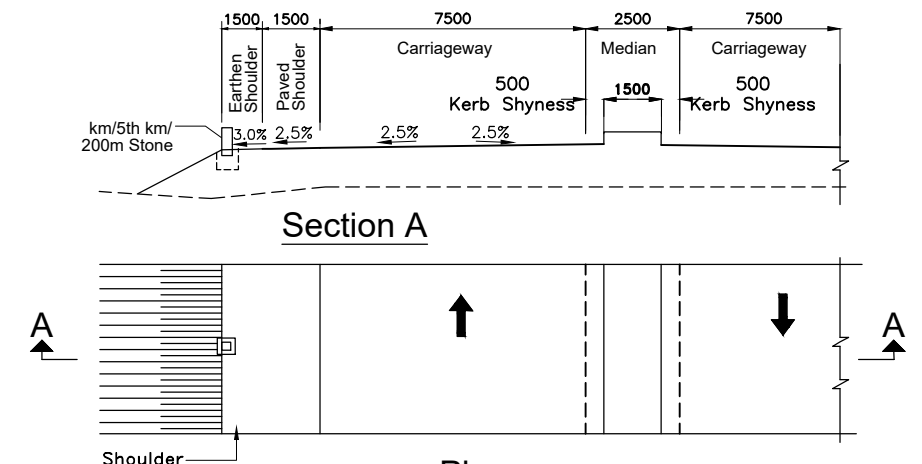
FACE - 2

SECTIONAL PLAN

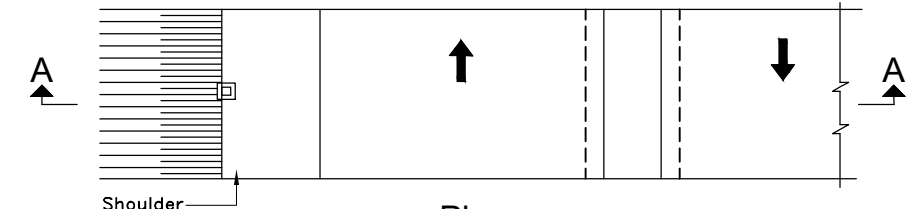
TYPE DESIGN FOR THE ORDINARY KILOMETRE STONE



TYPE DESIGN FOR BOUNDARY STONES



Section A

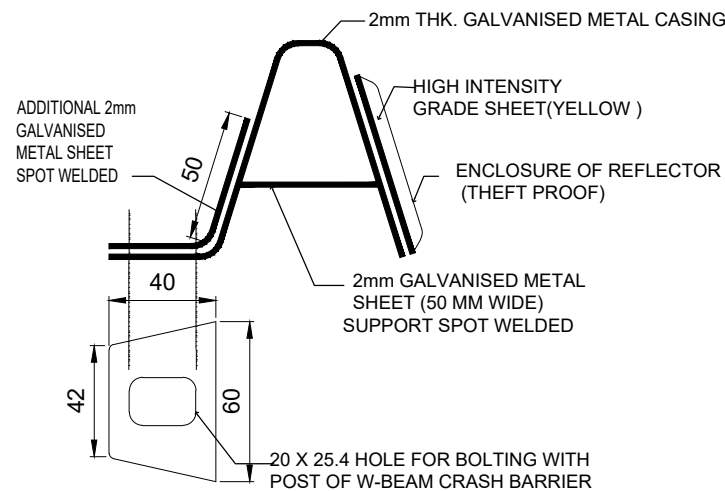


Plan
Location of Distance Stones

Notes:

- Details of kilometre stones and 5th kilometre stones are generally based on IRC:8-1980
- Details of 200m stones are generally based on IRC:26-1967.
- The distance stones shall be provided on left side of the road as shown independently for each direction of traffic flow.
- The letters and numerals on distance stones shall be as per IRC:8-1980.
- Details of boundary stones are generally based on IRC:25-1967.
- Reinforcement - Mild steel bars conforming to I.S.432/1966 Grade 1 tested steel
- CONCRETE MIX -
RCC : GRADE M-15
CC :- 1:4:8
- All dimensions are in millimetres unless otherwise mentioned.

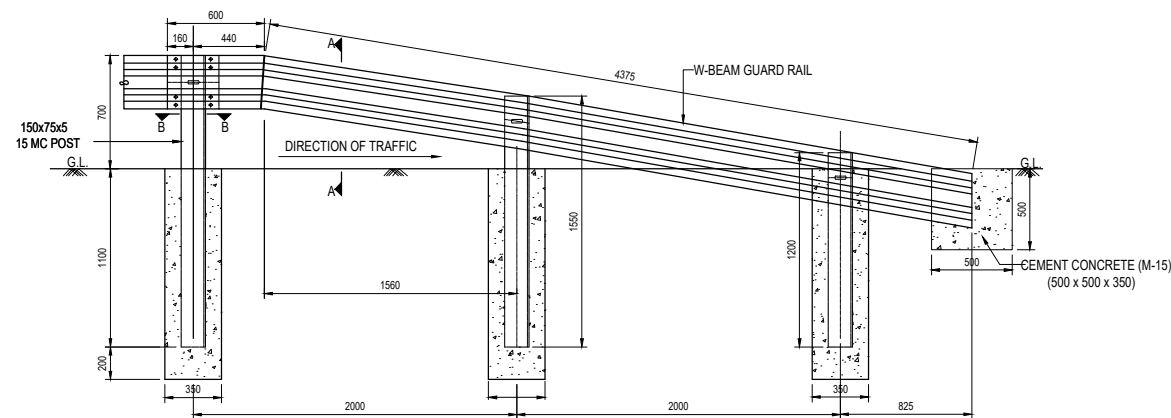
					SCALE: N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	TITLE : Details Of Km Stone, 5th Km Stone, 200 M Stone, Boundary Stone		CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. BOSE ROAD KOLKATA - 700092.	DWG. NO. CET/4146/NHIDCL/NH-17/B-G ROAD/FDPR/MISC-4											
					DATE: JAN,2023			SUBMISSION TYPE: FINAL DETAILED PROJECT REPORT														
					PROJECT:CONSULTANCY SERVICES FOR PREPARATION OF DPR FOR DEVELOPMENT OF ECONOMIC CORRIDORS,INTER CORRIDORS AND FEEDER ROUTES TO IMPROVE THE EFFICIENCY OF FREIGHT MOVEMENT IN INDIA UNDER BHARATMALA PARIYOJANA (LOT-1) PACKAGE 1A BILASIPURA-CHAPAR-TULUNGIA-JOGIGHOPA-GENDERA-PAIKAN-DUDHNOI-GUWAHATI ROAD (LENGTH 225.000 KM) IN THE STATE OF ASSAM.			PACKAGE NO: (LOT-1) PACKAGE 1A														
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.																		
REVISIONS																						
					REVISION MKD. - R0		SHEET NO. - 01 OF 01		ISSUED BY.													
					DRAWN BY.		DESIGN BY.															
																						
					D.CHOWDHURY		A. DEY				S.BHADRA											



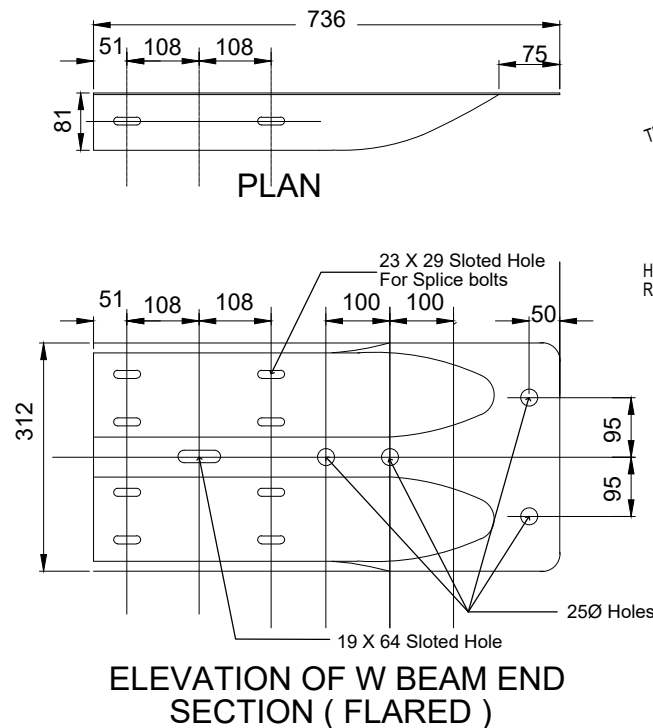
GUARD RAIL REFLECTOR

SHAPE : Equilateral Trapezium
DIMENSIONS :
FRONT CASING
Top: 95 mm
Bottom: 70 mm
Height: 80 mm
REFLECTIVE PORTION
Top: 70 mm
Bottom: 50 mm
Height: 50 mm

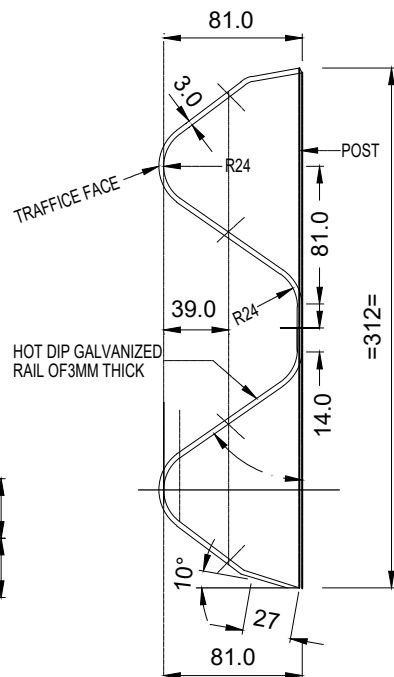
GUARD RAIL REFLECTOR WILL BE BOLTED REPLACING SPLICE WASHER EVERY 10 POSTS INTERVAL



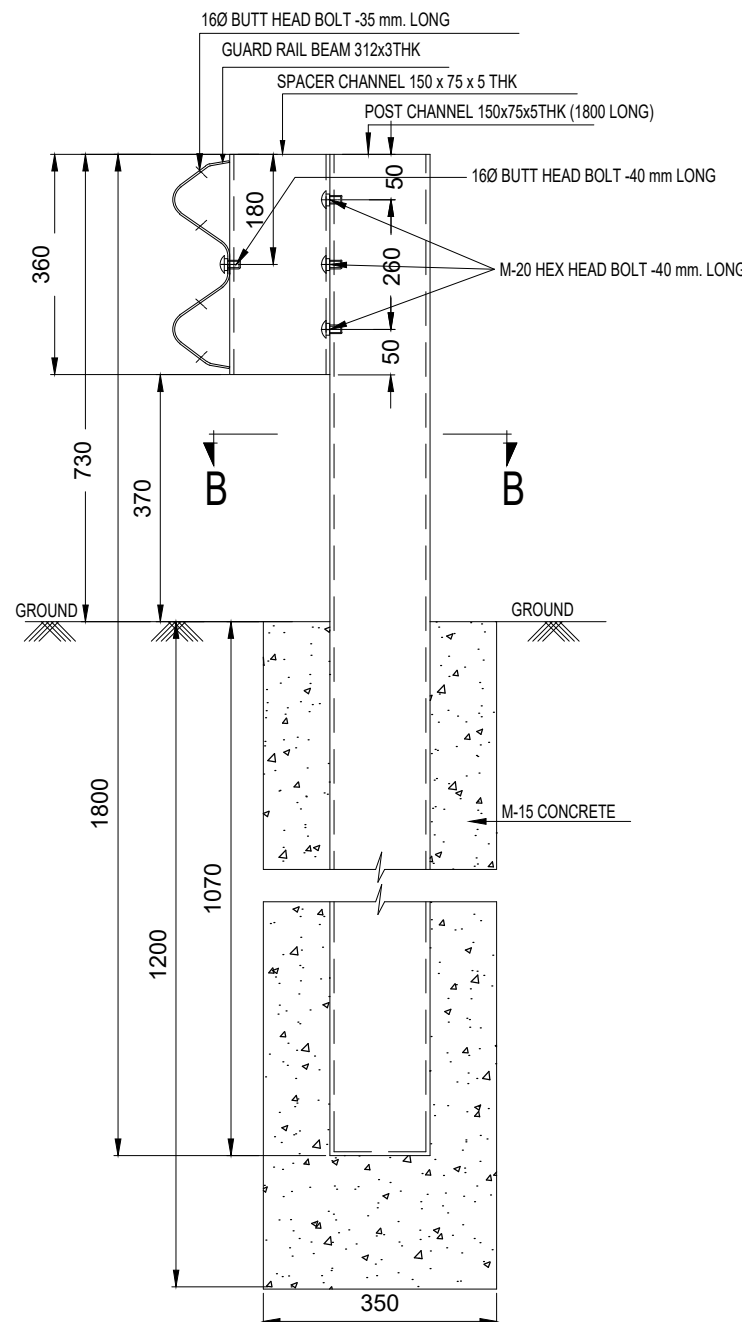
ELEVATION SHOWING SINGLE SIDED GAURD RAIL SYSTEM - END SIDE ARRANGEMENT



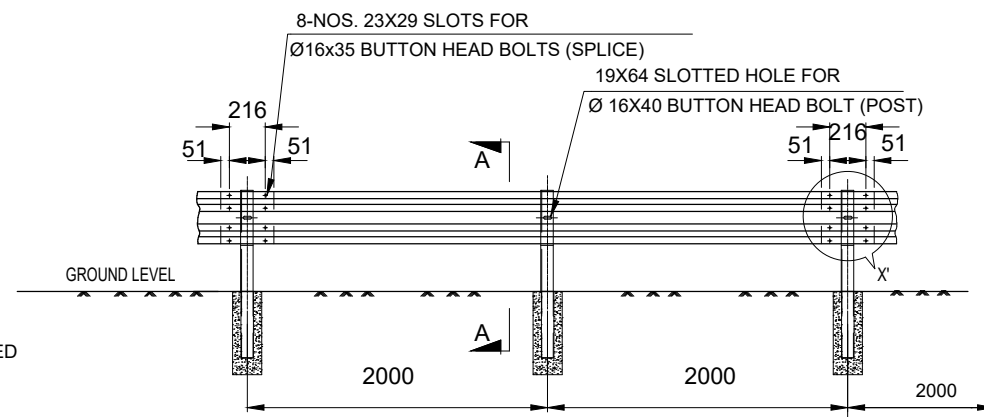
ELEVATION OF W BEAM END SECTION (FLARED)



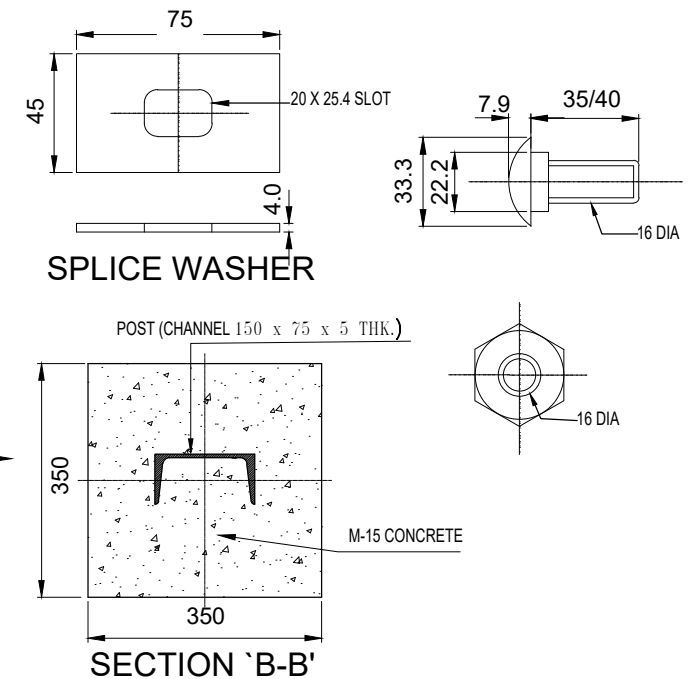
TYPICAL CROSS SECTION OF W-BEAM



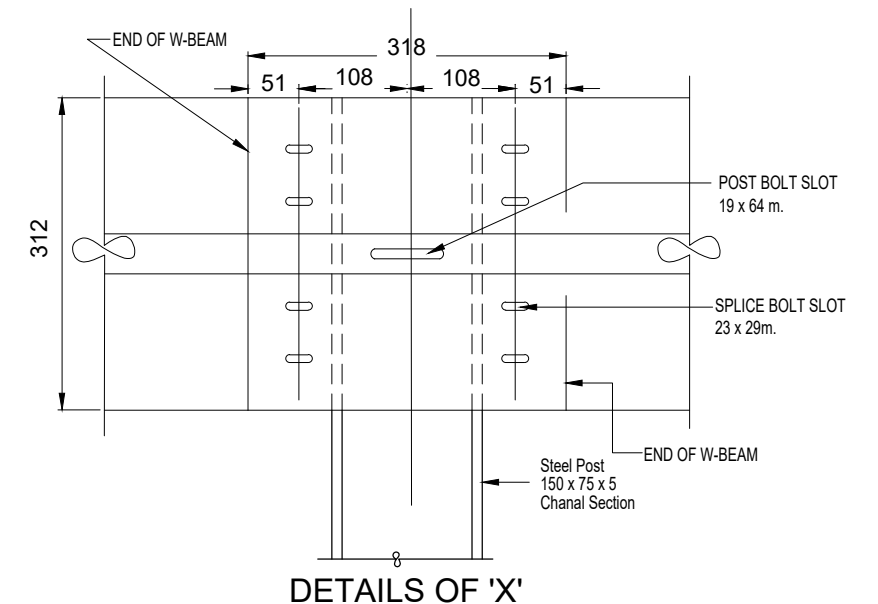
CROSS SECTION A-A



ELEVATION OF SINGLE SIDED GUARD RAIL



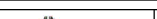
SECTION 'B-B'

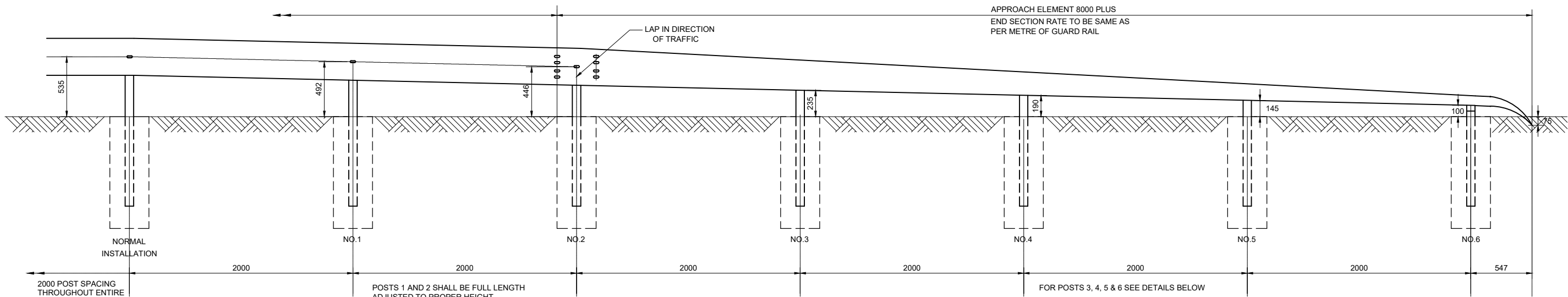


DETAILS OF 'X'

NOTES :

1. ALL DIMENSIONS ARE IN mm UNLESS NOTED OTHERWISE.
2. ALL PUNCHING DIMENSIONS UNLESS OTHERWISE STATED = ± 1 mm.
3. WELDING ELECTRODES SHALL CONFORM TO IS:314.
4. FOR GUARD RAIL BEAMS, POSTS & SPACER MATERIAL SHALL CONFORM TO IS:10748, GRADE-II. IS 808, IS 2062
5. BOLTS,NUTS & WASHERS SHALL BE ELECTRO GALVANISED.
6. GUARD RAIL, POSTS, SPACERS, FOUNDATION BOLTS SHALL BE HOT DIP GALVANISED.
7. THE OVER LAPPING OF THE GAURD RAIL BEAM SHALL BE ACHIEVED USING SUITABLE SIZE WASHERS.
8. GUARD RAILS ARE TO BE PROVIDED WHEREVER:-
a) HEIGHT OF THE EMBANKMENT IS MORE THAN 3M
b) OUTER SIDE OF SUPERELEVATED SECTION, UNDERPASS,PIER OBSTRUCTION AND BOTH SIDES OF BRIDGE APPROACHES.
9. ALL FITTINGS TO CONFORM TO IS : 1367 AND IS : 1364
10. W-BEAM GUARDRAIL ARE TO BE FABRICATED AND INSTALLED AS PER SECTION 810 OF MORT&H'S SPECIFICATION FOR METAL BEAM CRASH BARRIER.

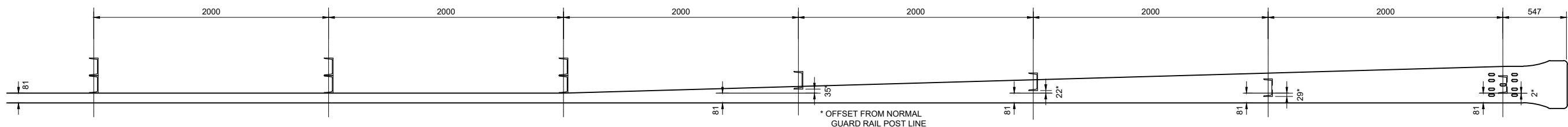
					SCALE: N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	TITLE : DETAILS OF W-BEAM METAL CRASH BARRIER	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. BOSE ROAD KOLKATA - 700092.	DWG. NO. CET/4146/NHIDCL/NH-17/B-G ROAD/FDPR/MISC-5				
					DATE: JAN,2023					PROJECT:CONSULTANCY SERVICES FOR PREPARATION OF DPR FOR DEVELOPMENT OF ECONOMIC CORRIDORS,INTER CORRIDORS AND FEEDER ROUTES TO IMPROVE THE EFFICIENCY OF FREIGHT MOVEMENT IN INDIA UNDER BHARATMALA PARIYOJANA (LOT-1) PACKAGE 1A BILASIPURA-CHAPAR-TULUNGIA-JOGIGHOPA-GENDERA-PAIKAN-DUDHNOI-GUWAHATI ROAD (LENGTH 225.000 KM) IN THE STATE OF ASSAM.	SUBMISSION TYPE: FINAL DETAILED PROJECT REPORT	DRAWN BY.  D.CHOWDHURY	DESIGN BY.  A. DEY	SHEET NO. - 01 OF 02
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.		REVISIONS								



GUARD RAIL APPROACH ELEMENT

ELEVATION

(SCALE 1:25)

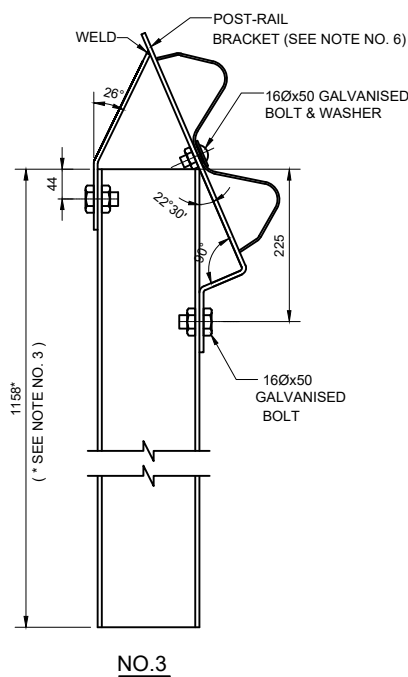


PLAN

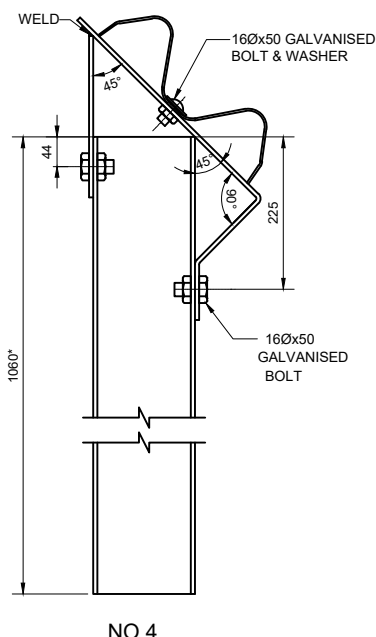
(SCALE 1:25)

NOTES :

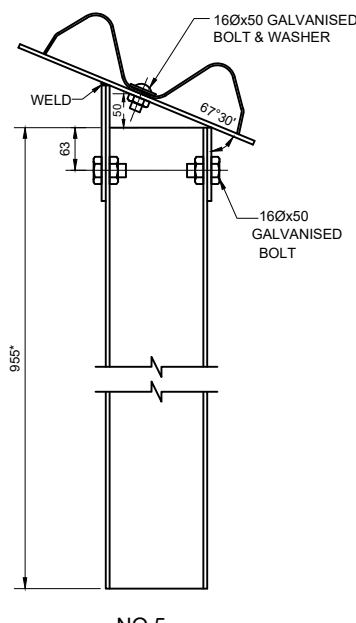
1. THE APPROACH ELEMENT SHALL BE TWISTED TO HORIZONTAL AND SECURED TO THE POSTS, AS SHOWN, WITH THE END SECTION TIP BURIED.
2. PLACE DELINEATOR POST ADJACENT TO THE BEGINNING OF THE APPROACH ELEMENT.
3. THE HEIGHT OF POST NOS. 3,4,5 & 6. IS INDICATIVE ONLY. THIS SHALL BE ADJUSTED TO PRODUCE A STRAIGHT LINE AT THE CENTRE OF RAIL.
4. THE APPROACH END ELEMENT SHALL BE TANGENT TO THE NORMAL GUARD RAIL LINE.
5. FOR POST, RAIL & TRAILING END ELEMENT DETAILS SEE SEPARATE DRAWING.
6. THE POST-RAIL BRACKET SHALL BE 178 MM WIDE AND HAVE A 25 MM OVERHANG ON EACH SIDE OF THE GUARD RAIL.
7. MANUFACTURERS ARE TO VERIFY DIMENSIONS BEFORE INSTALLATION AND MAKE ADJUSTMENTS, IF NECESSARY, WITH APPROVAL OF ENGINEERS.



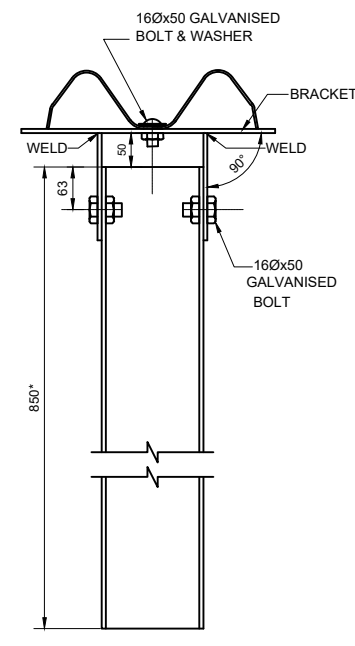
NO.3



NO.4

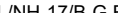


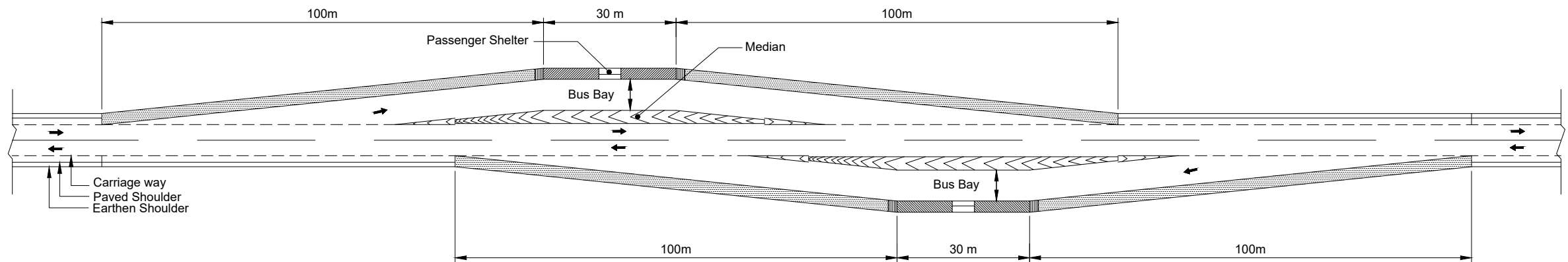
NO.5



NO.6

(SCALE 1:7.5)

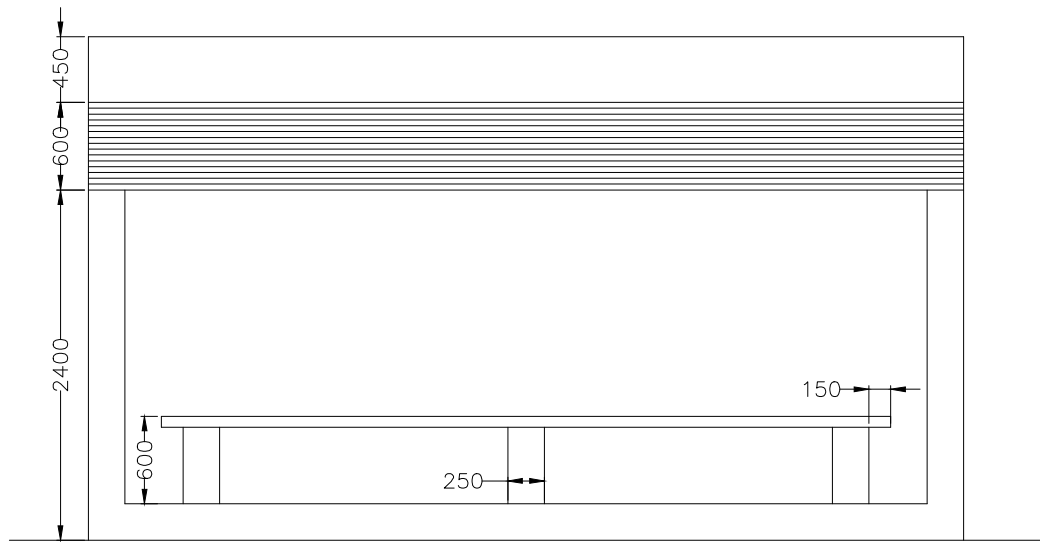
					SCALE: N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	TITLE : DETAILS OF W-BEAM METAL CRASH BARRIER		CONSULTANT :  CETEST Engineering Consultants A/1 ISO 9001, 14001 & OHSAS 18001 Certified Company		DWG. NO. CET/4146/NHIDCL/NH-17/B-G ROAD/FDPR/MISC-5			
									SUBMISSION TYPE: FINAL DETAILED PROJECT REPORT			REVISION MKD. - R0		SHEET NO. - 02 OF 02	
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: JAN,2023	PROJECT:CONSULTANCY SERVICES FOR PREPARATION OF DPR FOR DEVELOPMENT OF ECONOMIC CORRIDORS,INTER CORRIDORS AND FEEDER ROUTES TO IMPROVE THE EFFICIENCY OF FREIGHT MOVEMENT IN INDIA UNDER BHARATMALA PARIYOJANA (LOT-1) PACKAGE 1A BILASIPURA-CHAPAR-TULUNGIA-JOGIGHOPA-GENDERA-PAIKAN-DUDHNOI-GUWAHATI ROAD (LENGTH 225.000 KM) IN THE STATE OF ASSAM.		PACKAGE NO: (LOT-1) PACKAGE 1A				DRAWN BY. 		DESIGN BY. 	ISSUED BY. 
REVISIONS												D.CHOWDHURY		A.DEY	S.BHADRA



TYPICAL LAYOUT OF BUS BAY

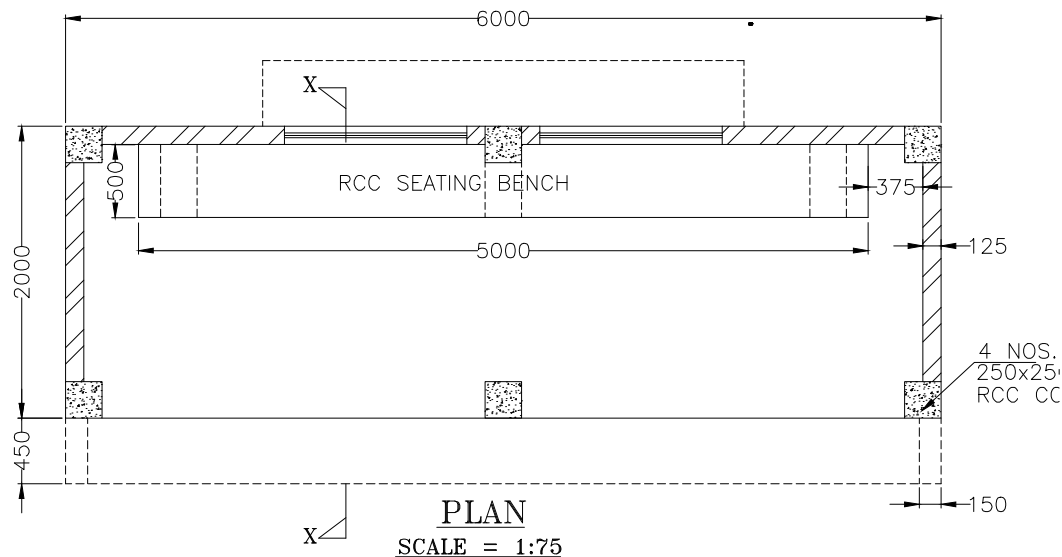
BUS BAY WITH PASSENGER SHELTER LOCATION

Sl no	Design Chainage (km)	Side	Location
PKG 10			
1	177.700	Both	Bathipara



FRONT ELEVATION

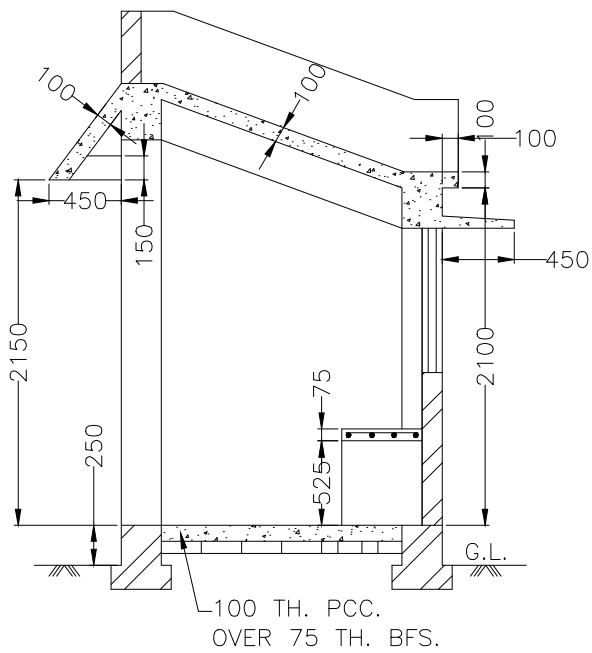
SCALE = 1:75



PLAN

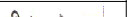
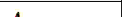
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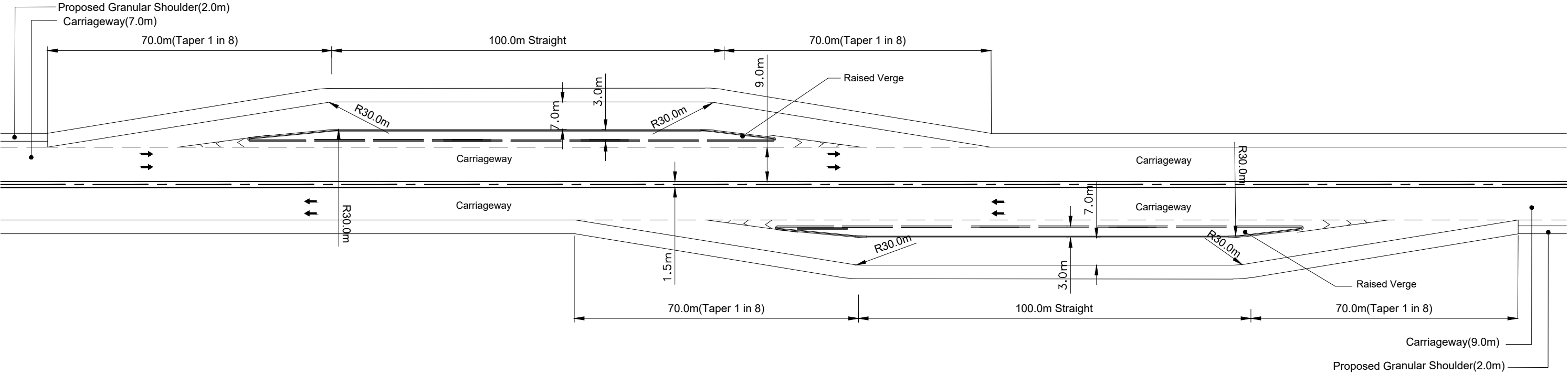
PASSENGER SHELTER



SECTION X-X

SCALE = 1:75

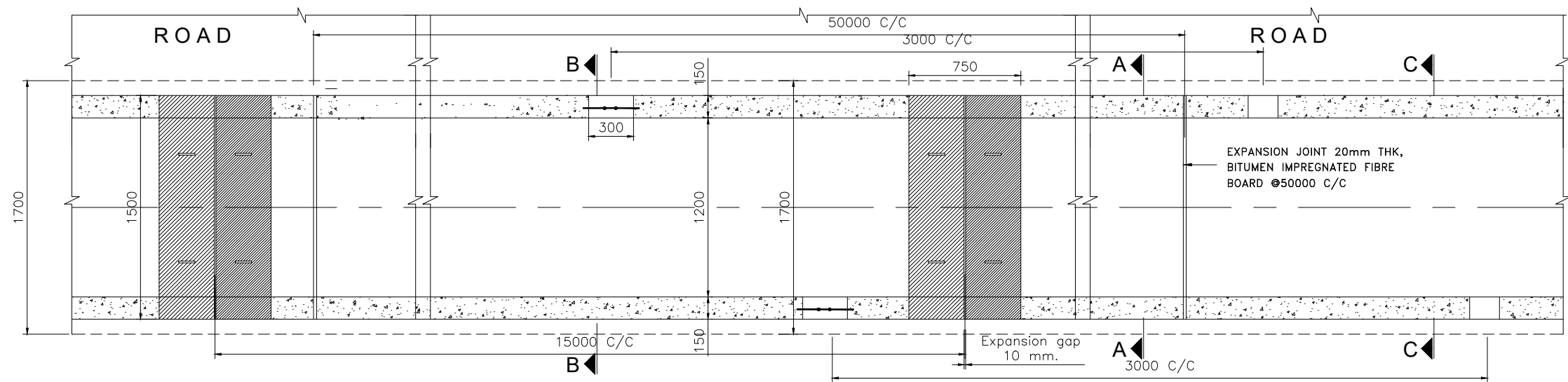
					SCALE: AS SHOWN		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	TITLE : TYPICAL LAYOUT OF BUS BAY WITH PASSENGER SHELTER	CONSULTANT :  CE TESTING COMPANY PVT.LTD. 124-A, N.S.C. BOSE ROAD KOLKATA - 700092.	DWG. NO. CET/4146/NHIDCL/NH-17/B-G ROAD/FDPR/MISC-7	
					DATE: JAN,2023		PROJECT:CONSULTANCY SERVICES FOR PREPARATION OF DPR FOR DEVELOPMENT OF ECONOMIC CORRIDORS,INTER CORRIDORS AND FEEDER ROUTES TO IMPROVE THE EFFICIENCY OF FREIGHT MOVEMENT IN INDIA UNDER BHARATMALA PARIYOJANA (LOT-1) PACKAGE 1A BILASIPURA-CHAPAR-TULUNGIA-JOGIGHOPA-GENDERA-PAIKAN-DUDHNOI-GUWAHATI ROAD (LENGTH 225.000 KM) IN THE STATE OF ASSAM.	SUBMISSION TYPE: FINAL DETAILED PROJECT REPORT		REVISION MKD. - R0	SHEET NO. - 01 OF 01
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	REVISIONS			PACKAGE NO: (LOT-1) PACKAGE 1A	 D.CHOWDHURY	 A. DEY	 S.BHADRA



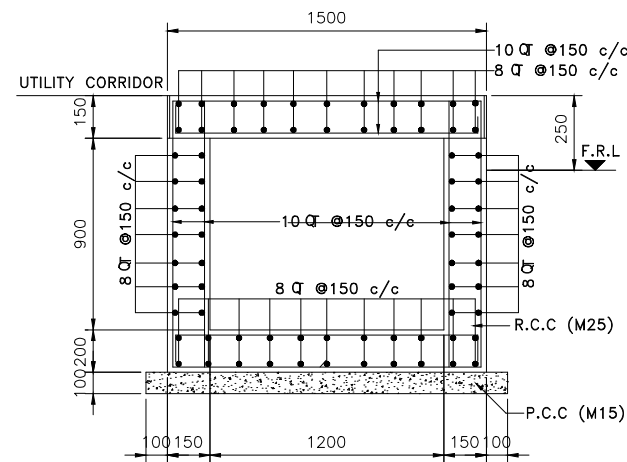
Typical Layout for Truck Lay bye (4 Lane C/W)

PROPOSED TRUCK LAYBYE

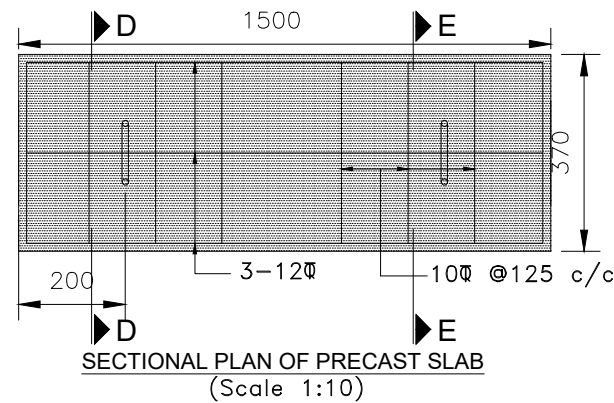
Sl no	Design Chainage (km)	Side	Location
PKG 10			
1	178.900	BOTH	BATHIPARA



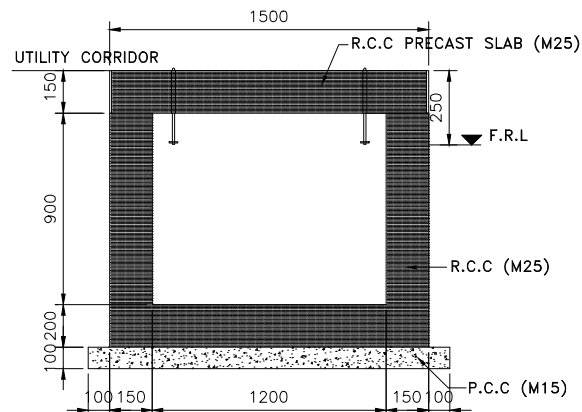
PLAN OF COVERED DRAIN
(Scale 1:25)



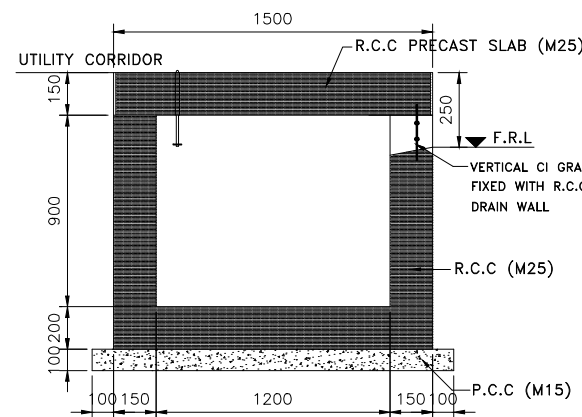
DETAILS REINFORCEMENT OF DRAIN
Scale 1:25



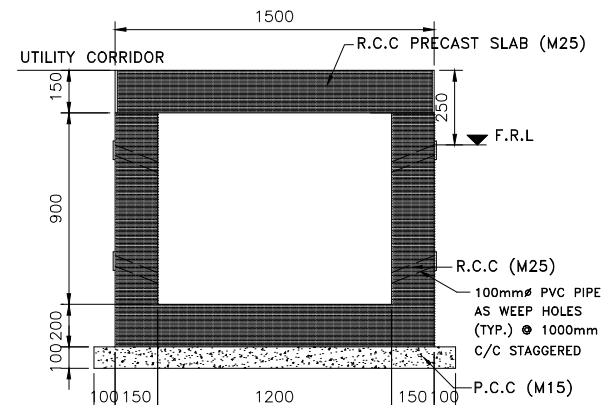
SECTIONAL PLAN OF PRECAST SLAB
(Scale 1:10)



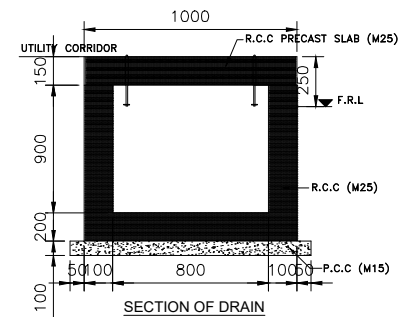
SECTION OF AA
Scale 1:25



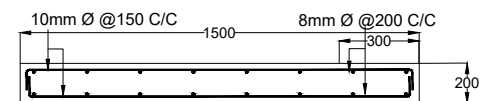
SECTION OF BB
Scale 1:25



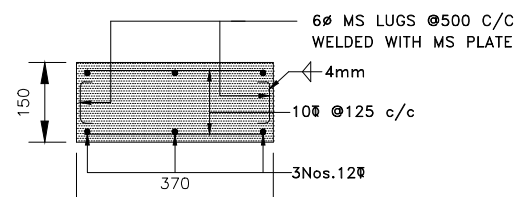
SECTION OF CC
Scale 1:25



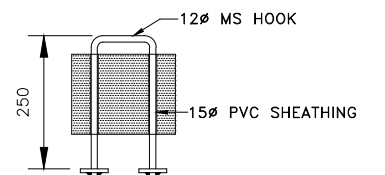
SECTION OF DRAIN
Scale 1:25



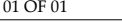
REINFORCEMENT DETAIL
OF COVERED DRAIN

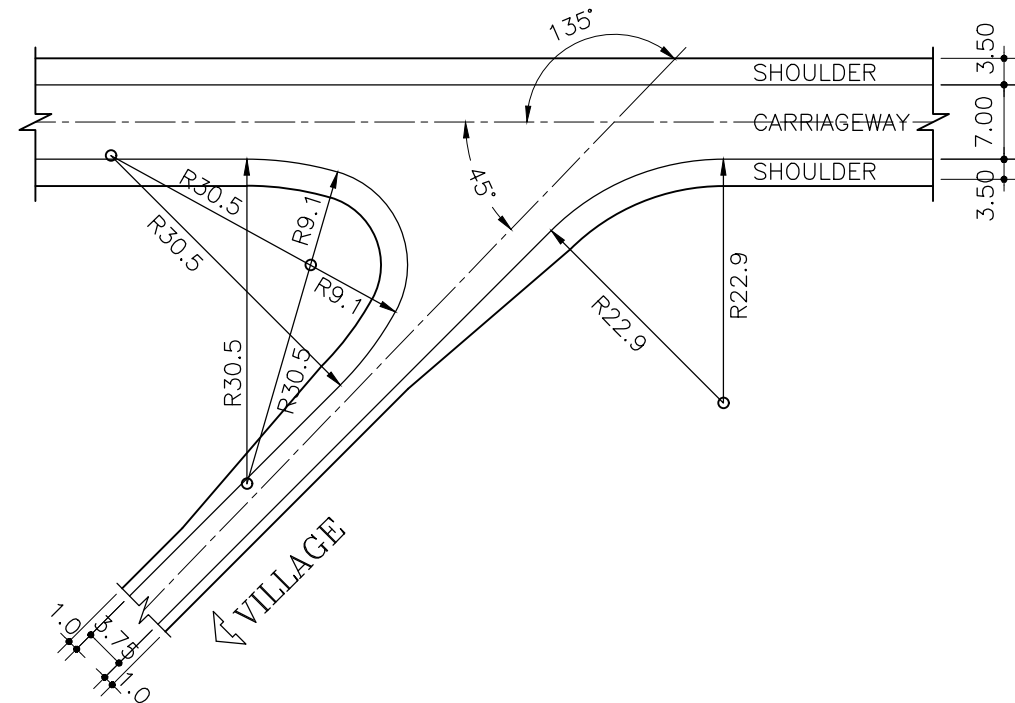
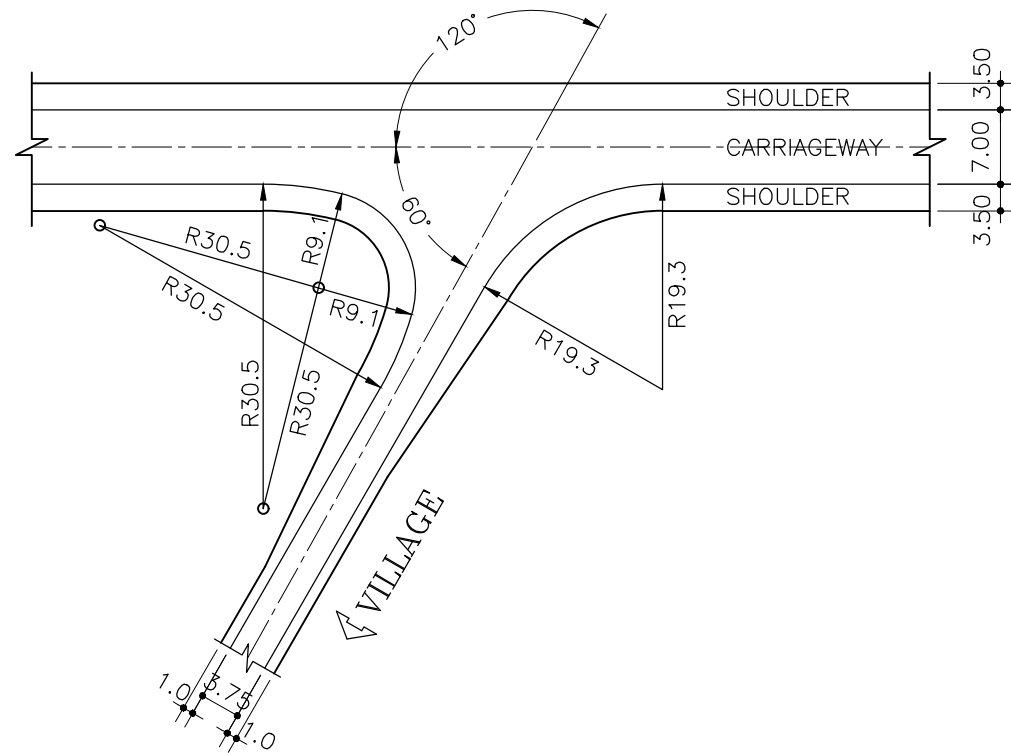
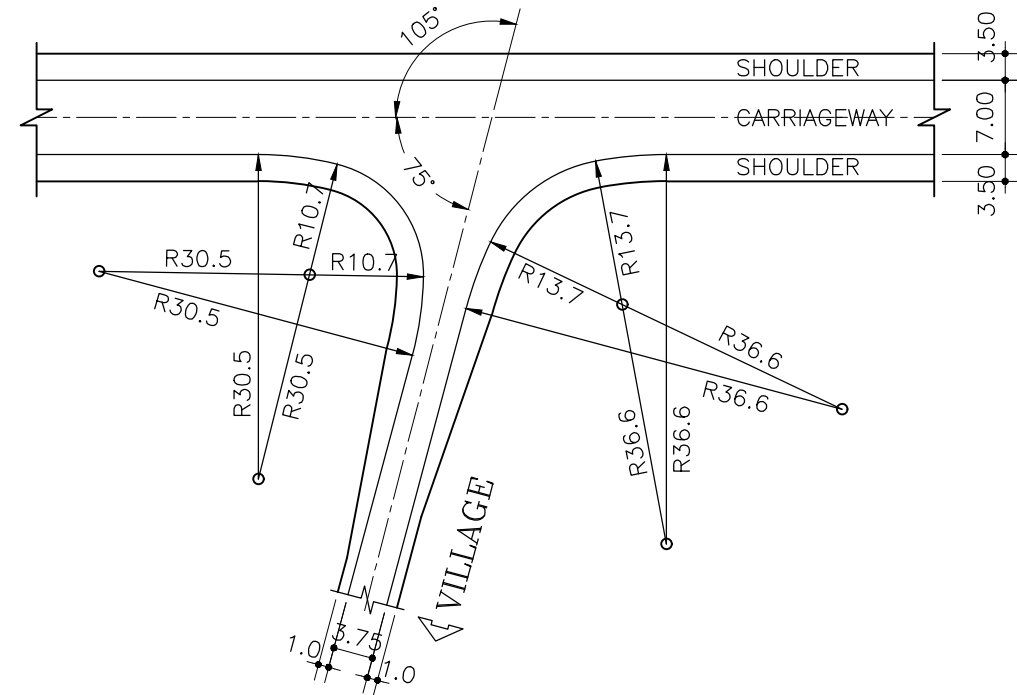
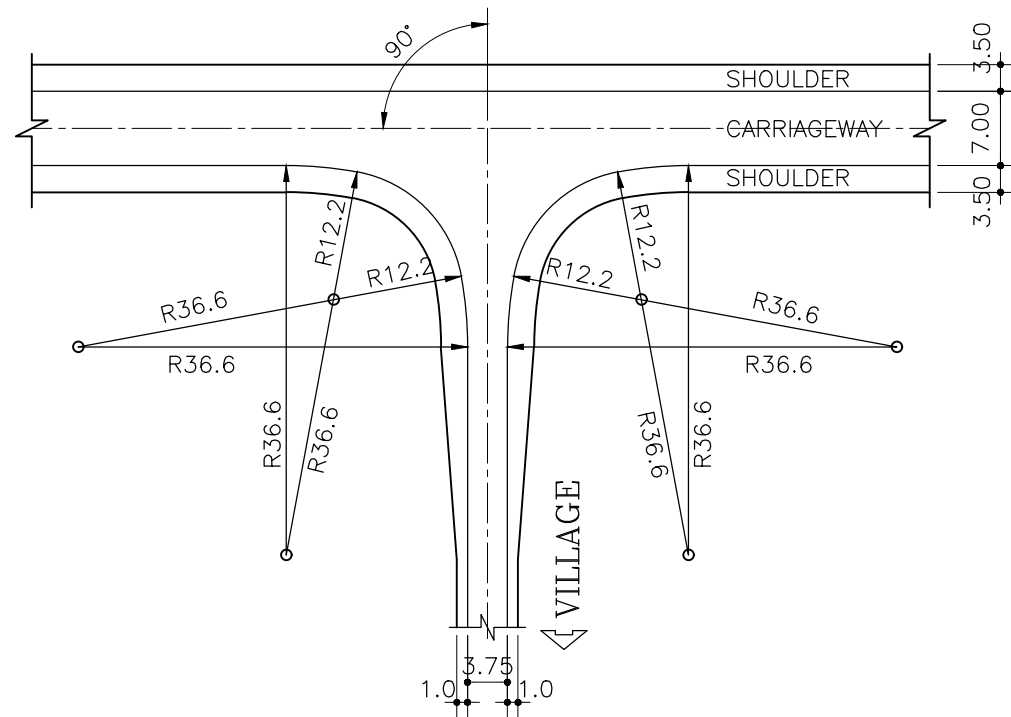


SECTION D-D
(Scale 1:10)

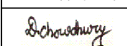
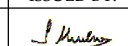


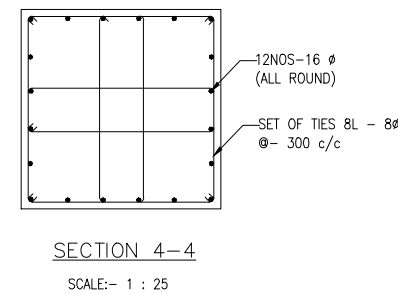
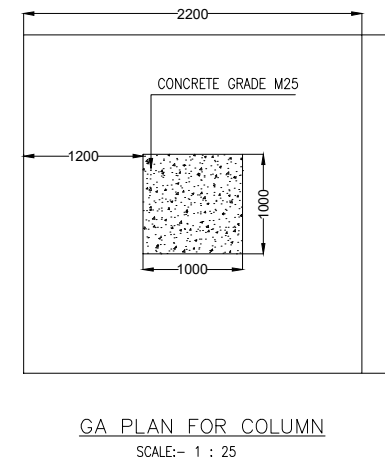
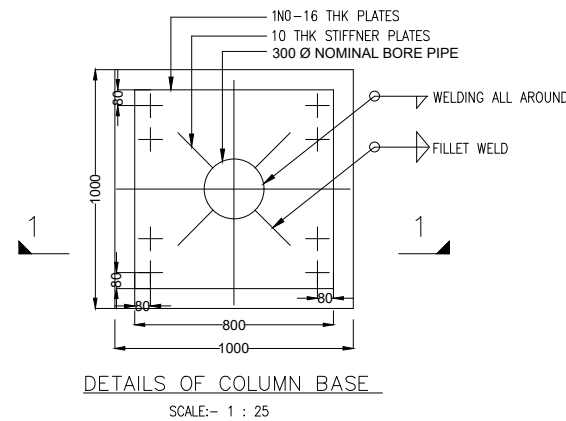
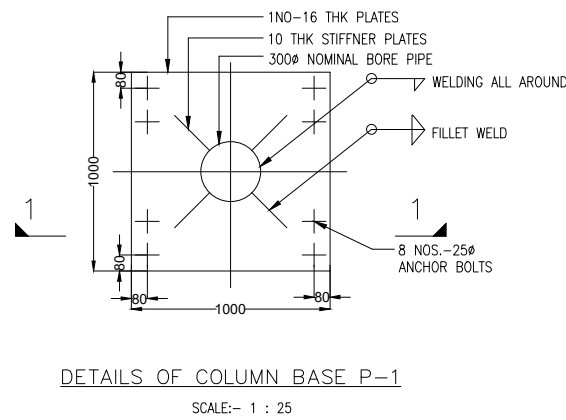
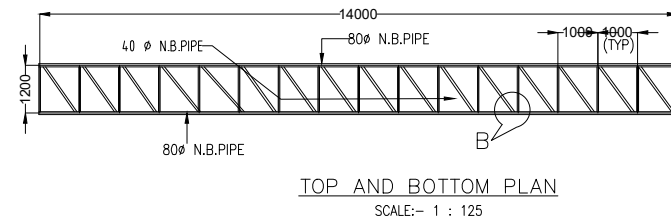
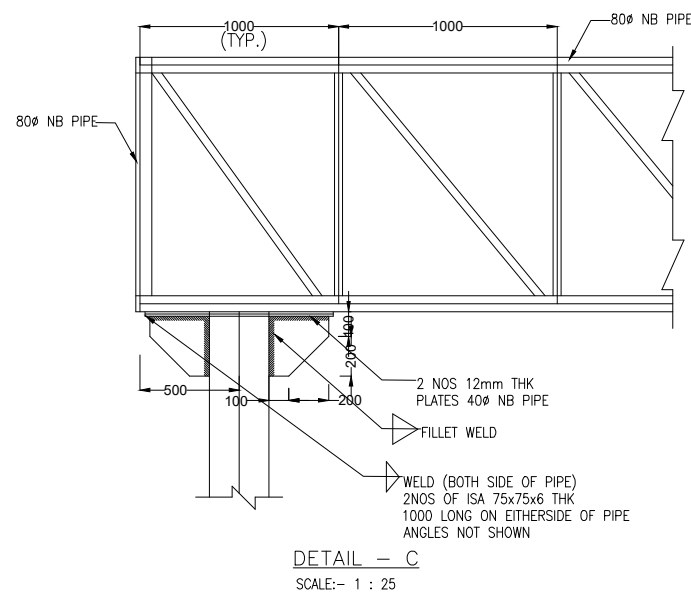
SECTION E-E
(Scale 1:10)

					SCALE: AS SHOWN		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	TITLE : TYPICAL DETAILS OF DRAIN	CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. BOSE ROAD KOLKATA - 700092.	DWG. NO. CET/4146/NHIDCL/NH-17/B-G ROAD/FDPR/MISC-9			
					DATE: JAN, 2023	PROJECT: CONSULTANCY SERVICES FOR PREPARATION OF DPR FOR DEVELOPMENT OF ECONOMIC CORRIDORS, INTER CORRIDORS AND FEEDER ROUTES TO IMPROVE THE EFFICIENCY OF FREIGHT MOVEMENT IN INDIA UNDER BHARATMALA PARIYOJANA (LOT-1) PACKAGE 1A BILASIPURA-CHAPAR-TULUNGIA-JOGIGHOPA-GENDERA-PAIKAN-DUDHNOI-GUWAHATI ROAD (LENGTH 225.000 KM) IN THE STATE OF ASSAM.		SUBMISSION TYPE: FINAL DETAILED PROJECT REPORT		REVISION MKD. - R0	SHEET NO. - 01 OF 01		
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.				DRAWN BY.			DESIGN BY.	ISSUED BY.	
REVISIONS													
								PACKAGE NO: (LOT-1) PACKAGE 1A		D. CHOWDHURY	A. DEY	S. BHADRA	

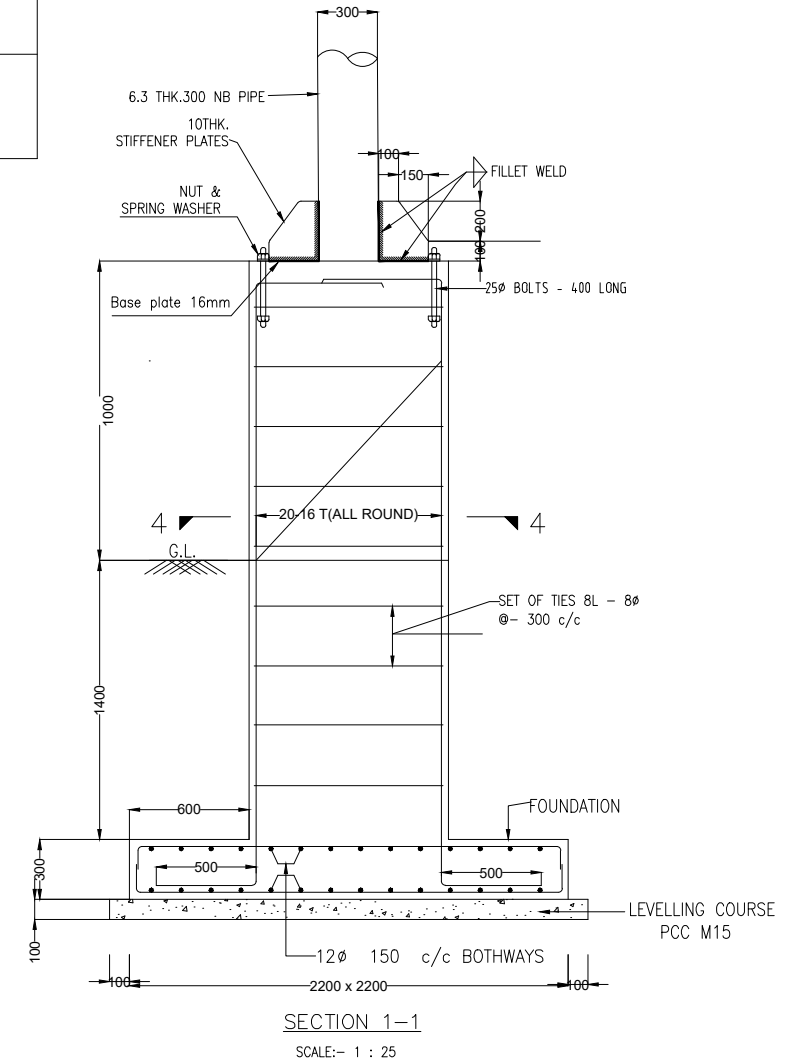


TYPICAL MINOR ROAD INTERSECTION

					SCALE: N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	TITLE : TYP. DETAILS OF MINOR JUNCTION CONNECTION WITH MAIN ROAD	CONSULTANT :  CETEST CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. BOSE ROAD KOLKATA - 700092	DWG. NO. CET/4146/NHIDCL/NH-17/B-G ROAD/FDPR/MISC-10			
					REVISION MKD. - R0					SHEET NO. - 01 OF 01			
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: JAN,2023					DRAWN BY.	DESIGN BY.	ISSUED BY.	
REVISIONS					PROJECT:CONSULTANCY SERVICES FOR PREPARATION OF DPR FOR DEVELOPMENT OF ECONOMIC CORRIDORS,INTER CORRIDORS AND FEEDER ROUTES TO IMPROVE THE EFFICIENCY OF FREIGHT MOVEMENT IN INDIA UNDER BHARATMALA PARIYOJANA (LOT-1) PACKAGE 1A BILASIPURA-CHAPAR-TULUNGIA-JOGIGHOPA-GENDERA-PAIKAN-DUDHNOI-GUWAHATI ROAD (LENGTH 225.000 KM) IN THE STATE OF ASSAM.								
										SUBMISSION TYPE: FINAL DETAILED PROJECT REPORT			
										PACKAGE NO: (LOT-1) PACKAGE 1A			

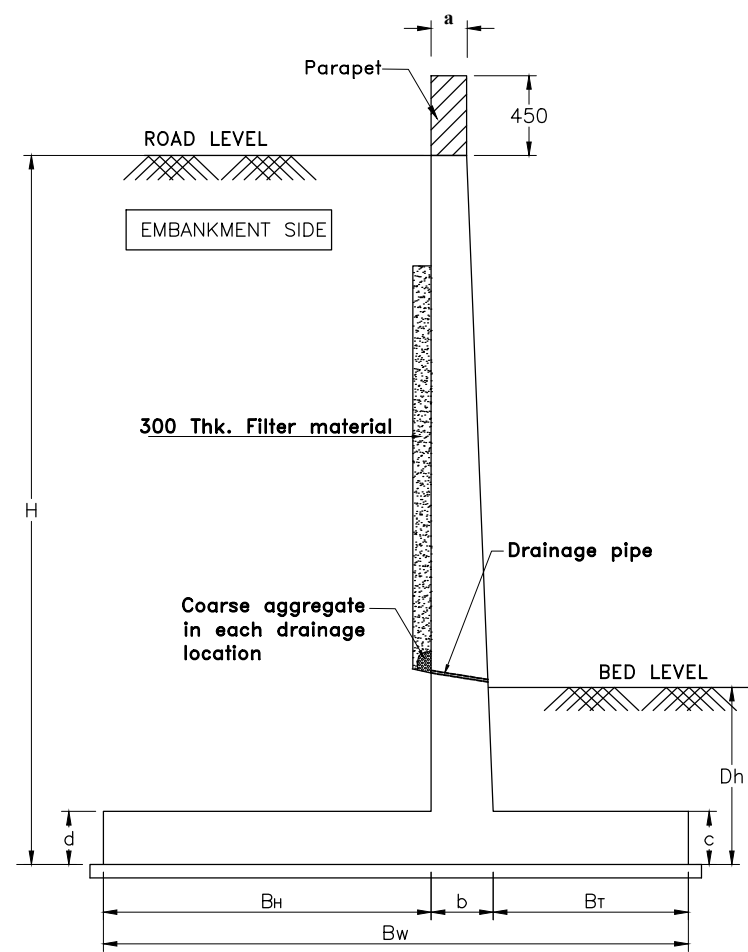


PACKAGE-10		
OVERHEAD GANTRY		
Location	Chainage(Km)	Nos
SATPAKHALI	183.050 km	1
BONGRA	199.150 km	1

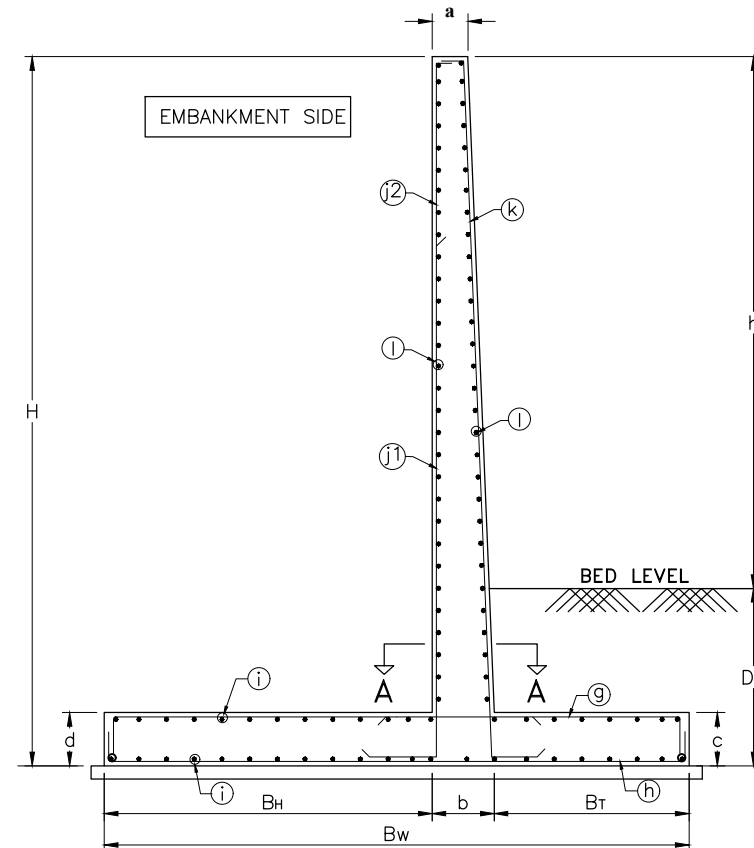


- NOTES:**
1. BESIDES THE ABOVE, STANDARDS AND SPECIFICATIONS MENTIONED IN IRC : SP : 84-2014 SHALL BE FOLLOWED STRICTLY WHENEVER APPLICABLE.
 2. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS OTHERWISE MENTIONED.
 3. GRADE OF CONCRETE IN LEVELLING COURSE PCC M15
 4. GRADE OF CONCRETE IN FOUNDATION RCC M25
 5. 80 ϕ AND 40 ϕ NB PIPES ARE HEAVY
 6. OVERHEAD CLEARANCE SHALL BE 5.5M

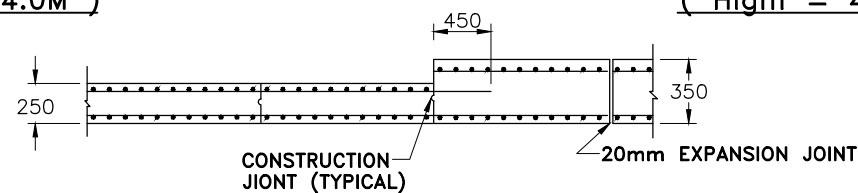
					SCALE: AS SHOWN		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	TITLE :TYPICAL DETAILS OF GANTRY GIRDER FOR OVERHEAD SIGNS	CONSULTANT :  CETEST Engineering Consultants AnISO 9001, 14001, & OHSAS 18001 Certified Company	 CETEST ENGINEERING CONSULTANTS 124-A, N.S.C. BOSE ROAD KOLKATA - 700092.	DWG. NO. CET/4146/NHIDCL/NH-17/B-G ROAD/FDPR/MISC-1		
					PROJECT:CONSULTANCY SERVICES FOR PREPARATION OF DPR FOR DEVELOPMENT OF ECONOMIC CORRIDORS,INTER CORRIDORS AND FEEDER ROUTES TO IMPROVE THE EFFICIENCY OF FREIGHT MOVEMENT IN INDIA UNDER BHARATMALA PARIYOJANA (LOT-1) PACKAGE 1A BILASIPURA-CHAPAR-TULUNGA-JOGIGHOPA-GENDERA-PAIKAN-DUDHNOI-GUWAHATI ROAD (LENGTH 225.000 KM) IN THE STATE OF ASSAM.		SUBMISSION TYPE: FINAL DETAILED PROJECT REPORT	REVISION MKD. - R0	SHEET NO. - 01 OF 01				
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: JAN,2023				DRAWN BY: 		DESIGN BY: 	ISSUED BY: 	
REVISIONS								PACKAGE NO: (LOT-1) PACKAGE 1A			D.CHOWDHURY	A. DEY	S.BHADRA



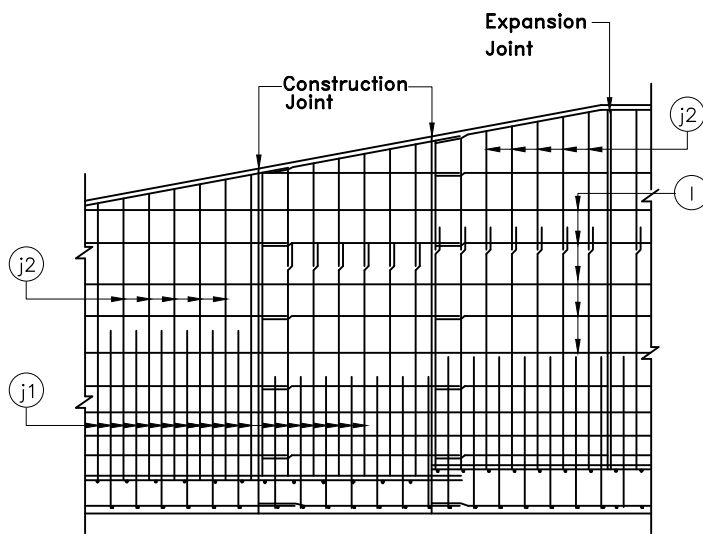
TYPICAL SECTION OF RETAINING WALL
(Height = 4.0M)



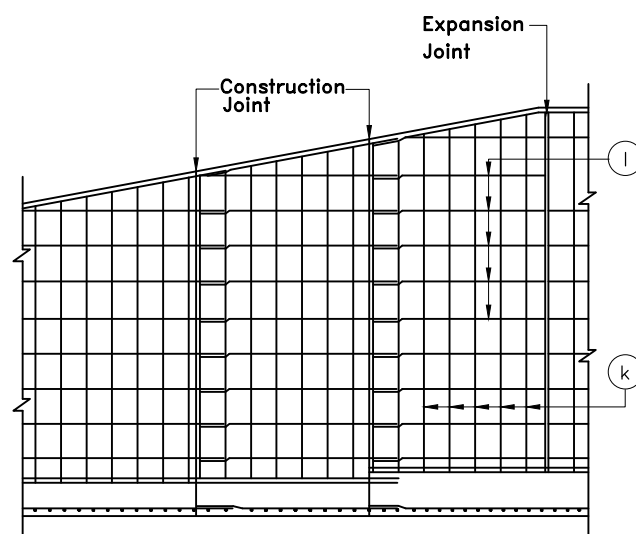
REINFORCEMENT DETAILS
(Height = 4.0M)



SECTION A-A

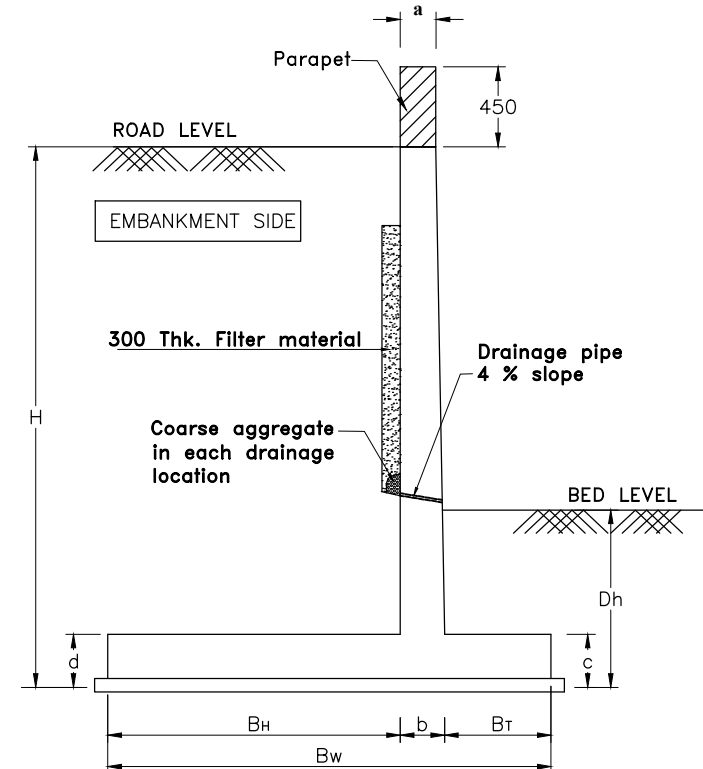


TYPICAL ELEVATION
Inside face reinforcement

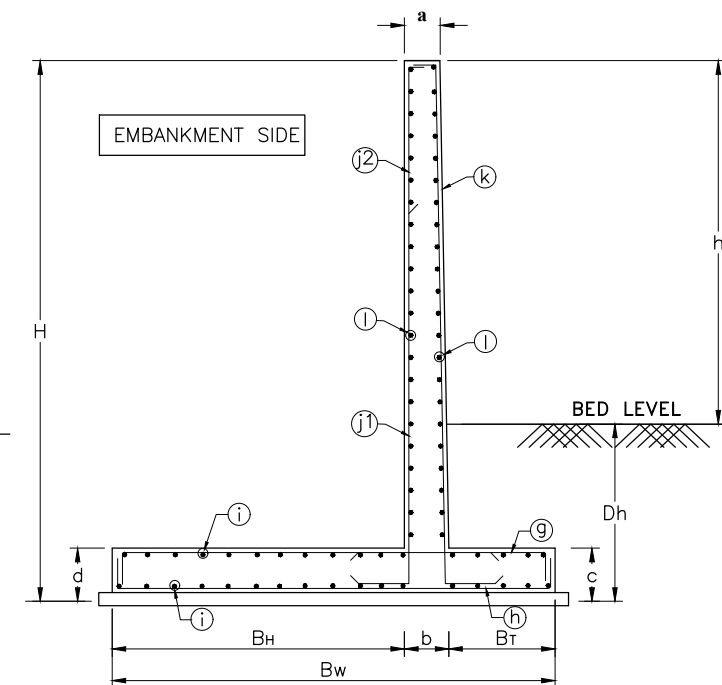


TYPICAL ELEVATION
Outside face reinforcement

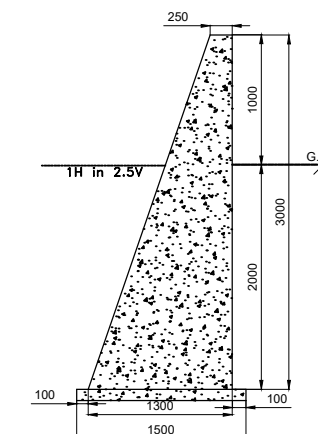
Geometric Detail										Reinforcement Detail												
Height of Retaining wall (m)	Total Height (m)	Depth of Embankment (m)	Base Width (m)	Toe Width (m)	Heel Width (m)	Toe Thickness (m)	Heel Thickness (m)	Stem Thickness (m)	Stem Thickness (m)	R/F - Toe and heel Slab						R/F - Stem						
										size dia ϕ (mm)	spacing c/c (mm)	size dia ϕ (mm)	spacing c/c (mm)	size dia ϕ (mm)	spacing c/c (mm)	size dia ϕ (mm)	spacing c/c (mm)	size dia ϕ (mm)	spacing c/c (mm)	size dia ϕ (mm)	spacing c/c (mm)	Curtailment Ht. from bottom of foundation
h	H	D _H	B _w	B _T	B _H	d	c	a	b	g	h	i	j1	j2	k	l						
1.2	2.0	0.8	1.95	0.3	1.4	0.25	0.25	0.2	0.25	16	200	12	200	10	300	16	150	16	150	10	200	-
2.0	3.0	1.0	2.5	0.6	1.65	0.25	0.25	0.2	0.25	16	200	12	200	10	300	16	150	16	150	10	200	-
3.0	4.0	1.0	3.3	1.1	1.85	0.30	0.30	0.2	0.35	16	150	16	200	10	300	16	100	16	200	12	200	2.3



TYPICAL SECTION OF RETAINING WALL
(Height = 3.0M & 2.0M)



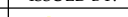
TYPICAL SECTION OF RETAINING WALL
(Height = 3.0M & 2.0M)



TYPICAL CROSS SECTION OF TOE WALL

NOTES:-

1. NORTH SPECIFICATIONS FOR ROAD AND BRIDGE WORKS TO BE FOLLOWED FOR CONSTRUCTION
2. ALL STRUCTURAL CONCRETE : M25
3. ALL MAT CONCRETE/LEVELLING COURSE : M15
4. REINFORCING STEEL : TMT BARS OF GRADE Fe-515
5. ALL REINFORCING STEEL SHALL HAVE 40 CLEAN COVER
6. UNLESS NOTED OTHERWISE CONFORMING TO IS:1786
7. JOINTS :
 - I) ALL RETAINING WALL SHALL HAVE CONSTRUCTION JOINTS SPACED AT NOT MORE THAN 10 M APART OR AS SHOWN. REINFORCING STEEL SHALL PROJECT THROUGH THE JOINT.
 - II) EXPANSION JOINTS SHALL BE PROVIDED AT INTERVALS NOT EXCEEDING 30 M
 - III) FOOTINGS MAY BE CONTINUOUS WITH NO JOINTS

					SCALE: N.T.S		CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LTD. PTI Building, 3rd Floor, 4, Parliament Street, New Delhi - 110001	TITLE: DETAILS OF RETAINING WALL & TOE WALL		CONSULTANT :  CE TESTING COMPANY PVT. LTD. 124-A, N.S.C. BOSE ROAD, KOLKATA - 700092. 		DWG. NO. CET/4146/NHIDCL/NH-17/B-G ROAD/FDPR/MISC-12			
									SUBMISSION TYPE: FINAL DETAILED PROJECT REPORT				REVISION MKD. - R0		SHEET NO. - 02
MKD.	DATE	DESCRIPTION		CHKD.	APPRD.	DATE: JAN,2023		PROJECT:CONSULTANCY SERVICES FOR PREPARATION OF DPR FOR DEVELOPMENT OF ECONOMIC CORRIDORS,INTER CORRIDORS AND FEEDER ROUTES TO IMPROVE THE EFFICIENCY OF FREIGHT MOVEMENT IN INDIA UNDER BHARATMALA PARIYOJANA (LOT-1) PACKAGE 1A BILASIPURA-CHAPAR-TULUNGIA-JOGIGHOPA-GENDERA-PAIKAN-DUDHNOI-GUWAHATI ROAD (LENGTH 225.000 KM) IN THE STATE OF ASSAM.		PACKAGE NO: (LOT-1) PACKAGE 1A		DRAWN BY: 		DESIGN BY: 	ISSUED BY: 
REVISIONS												D.CHOWDHURY		A. DEY	S.BHADRA

PACKAGE - 10
(173.434KM TO 200.750KM)

CONTENT

(PROPOSED STRUCTURES OF BILASIPURA-JALUKBARI)
PACKAGE-10

SUPERSTRUCTURE DETAILS

SL. NO.	DRAWING TITLE	DRAWING NO.	NO. OF SHEETS
01.	16.0M RCC T-GIRDER :-		
	GENERAL ARRANGEMENT	CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/SUP/RCC/16.0M/GA	01
02.	21.0M RCC T-GIRDER :-		
	GENERAL ARRANGEMENT	CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/SUP/RCC/21.0M/GA	01
03.	30.0M PSC GIRDER :-		
	GENERAL ARRANGEMENT	CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/SUP/PSC/30.0M/RE/GA	01
04.	40.0M PSC GIRDER :-		
	GENERAL ARRANGEMENT	CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/SUP/PSC/40.0M/GA	02
05.	42.0M PSC GIRDER :-		
	GENERAL ARRANGEMENT	CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/SUP/PSC/42.0M/GA	02

MISCELLANEOUS DETAILS

SL. NO.	DRAWING TITLE	DRAWING NO.	NO. OF SHEETS
01.	RCC BOX BRIDGE :-		
	GENERAL ARRANGEMENT	CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/MISC/BOX	01
02.	RCC INTEGRAL SLAB :-		
	GENERAL ARRANGEMENT	CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/MISC/INTEGRAL	01
03.	PSC T-GIRDER :-		
	GENERAL ARRANGEMENT	CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/MISC/PSC T GIRDER	01
04.	RCC T-BEAM :-		
	GENERAL ARRANGEMENT	CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/MISC/RCC T BEAM	01
05.	RCC INTEGRAL VOIDED SLAB :-		
	GENERAL ARRANGEMENT	CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/MISC/VOIDED	01

CONTENT

(PROPOSED STRUCTURES OF BILASIPURA-JALUKBARI)

PACKAGE-10

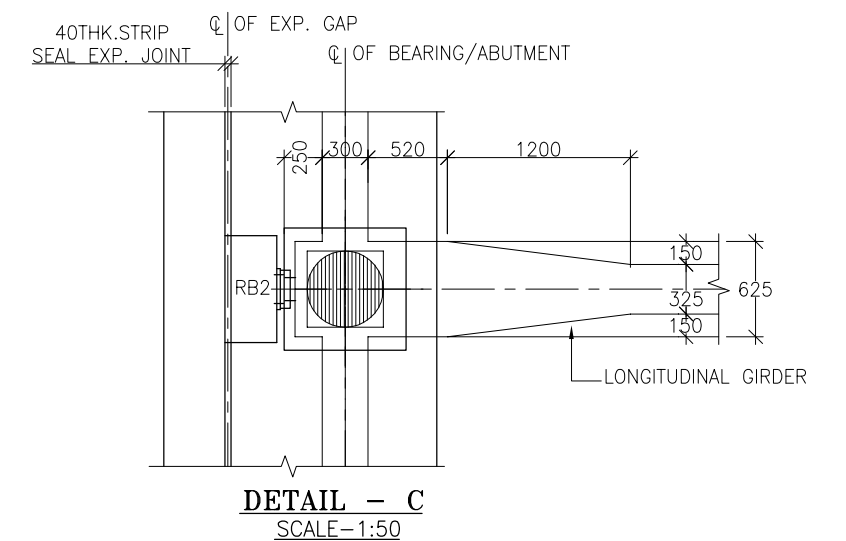
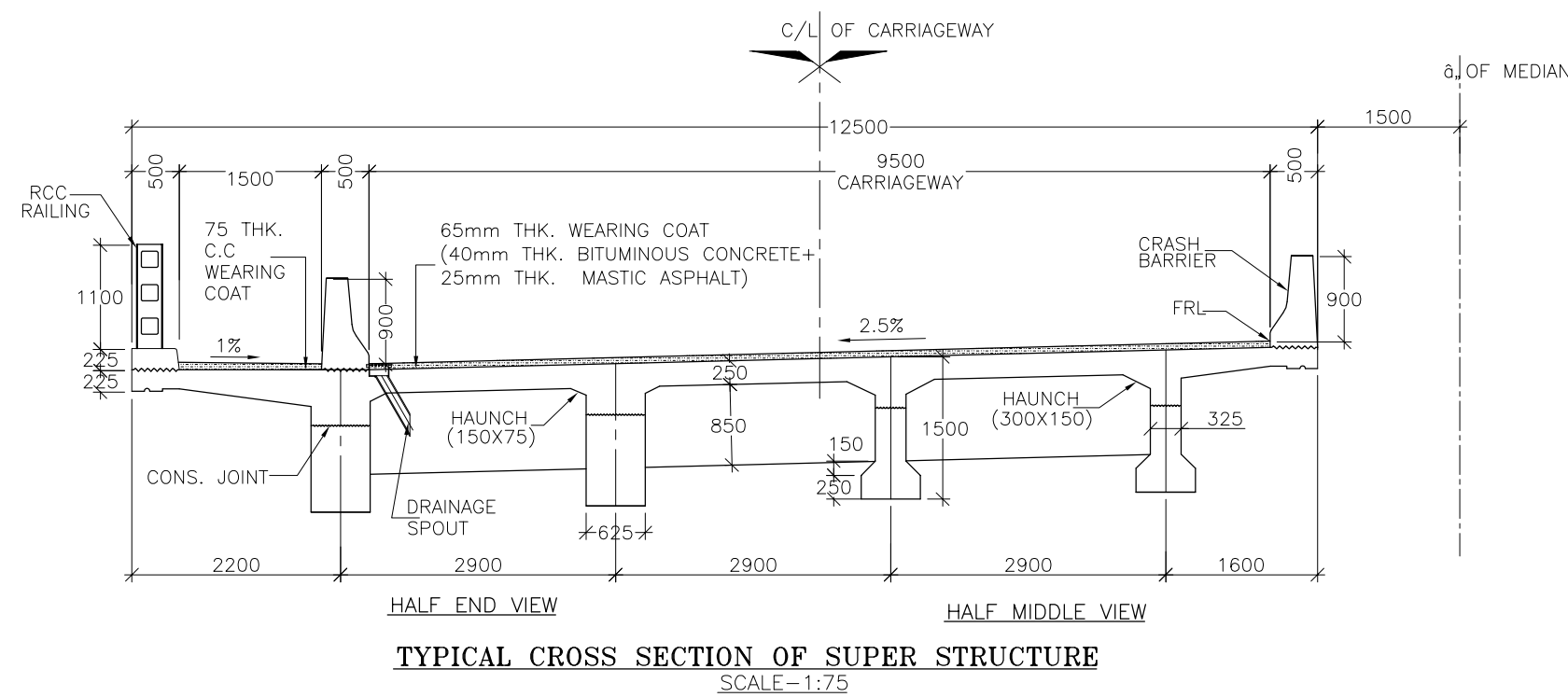
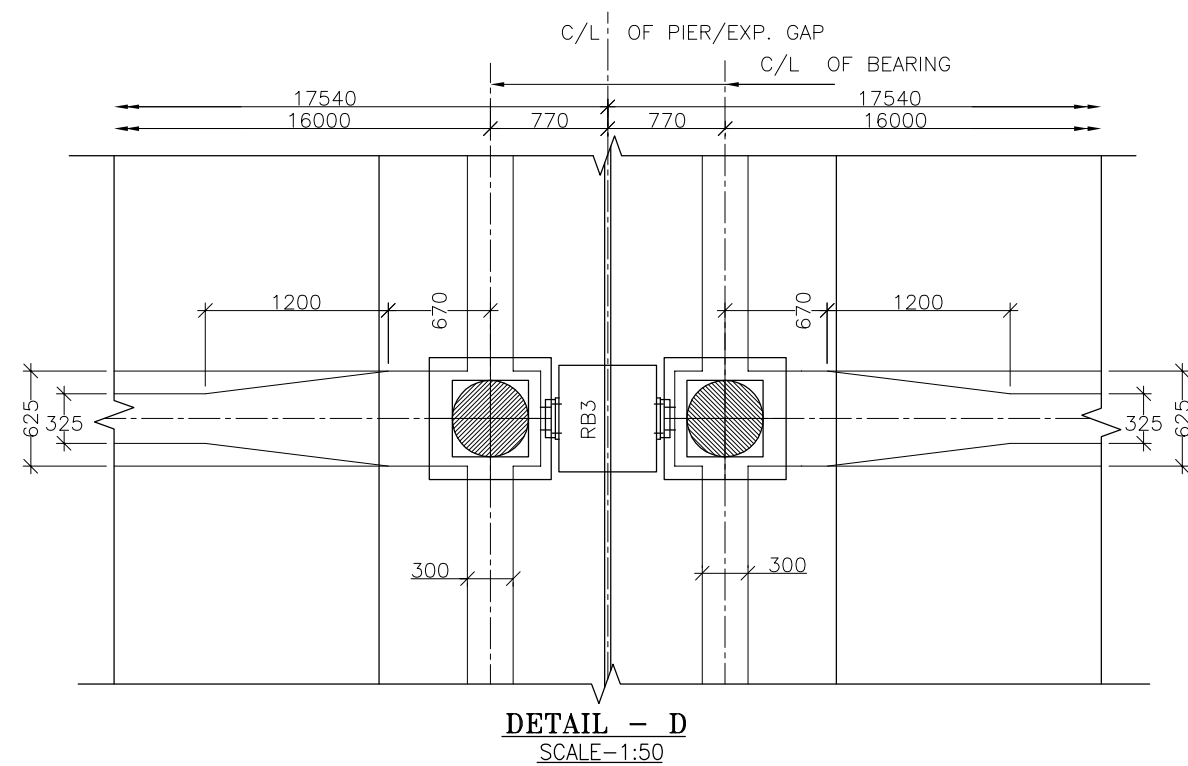
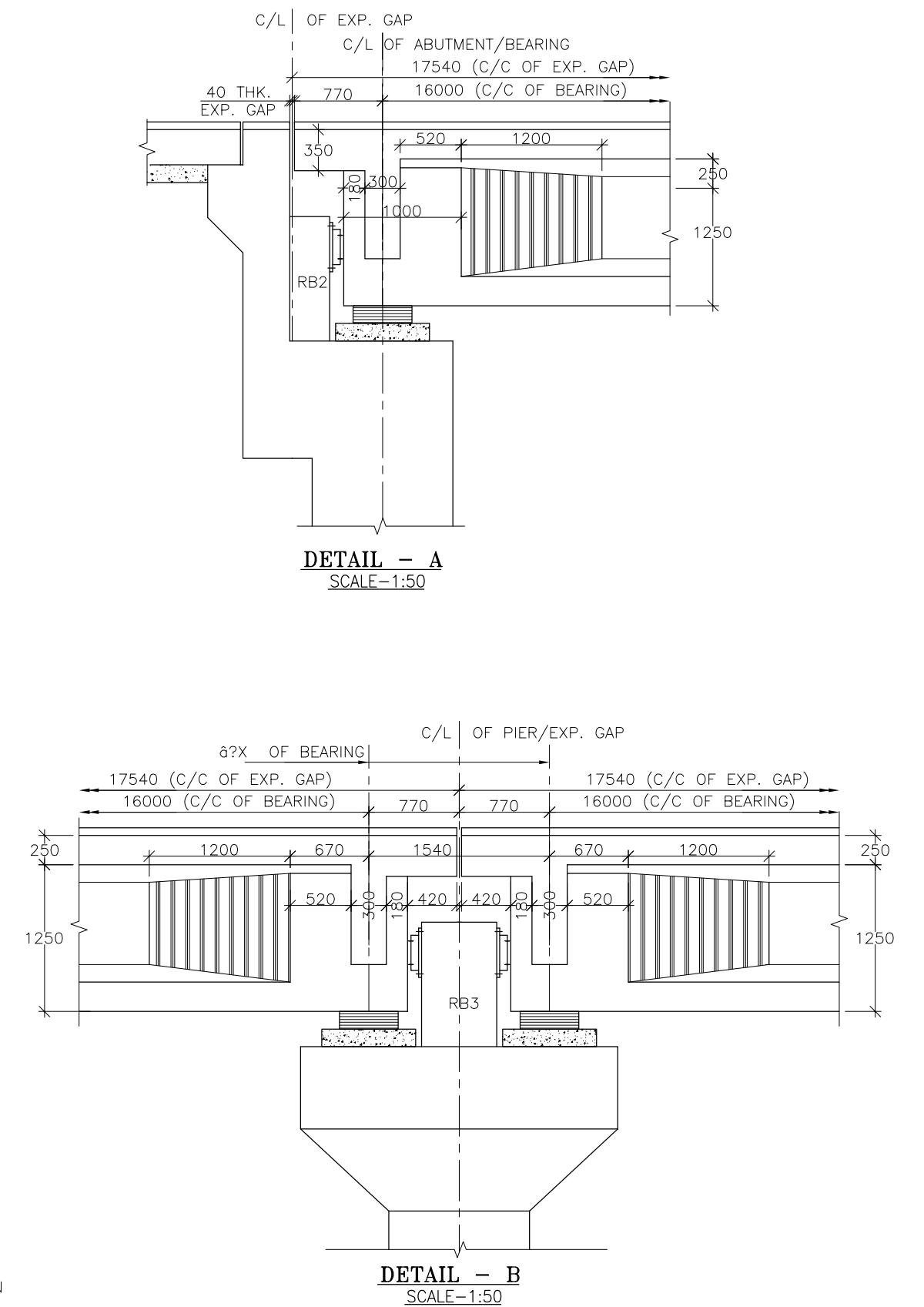
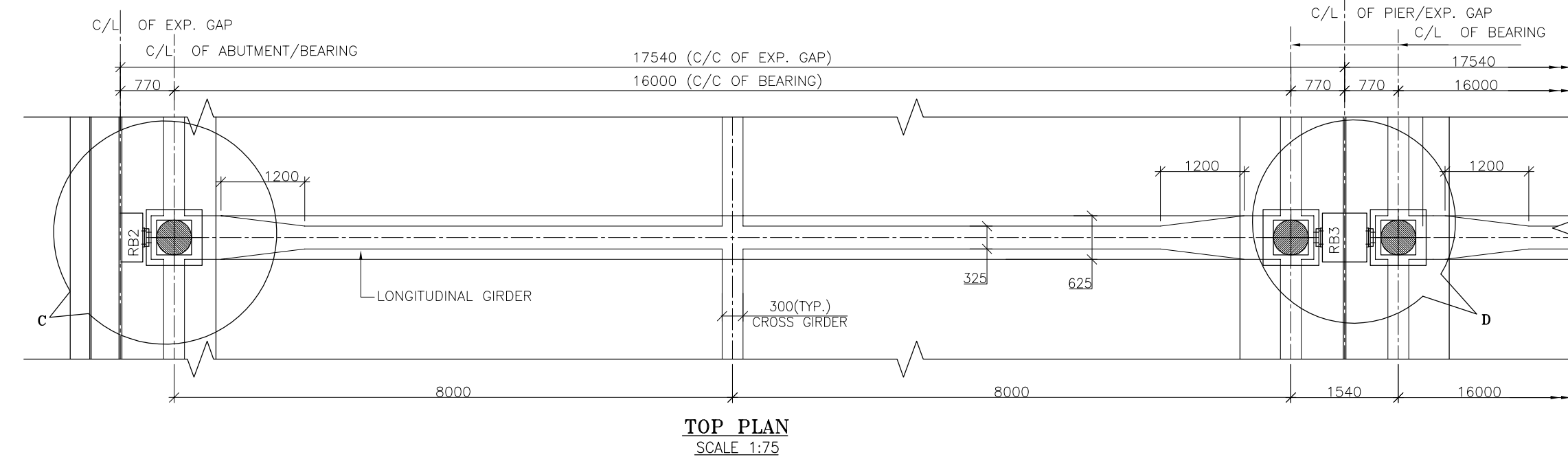
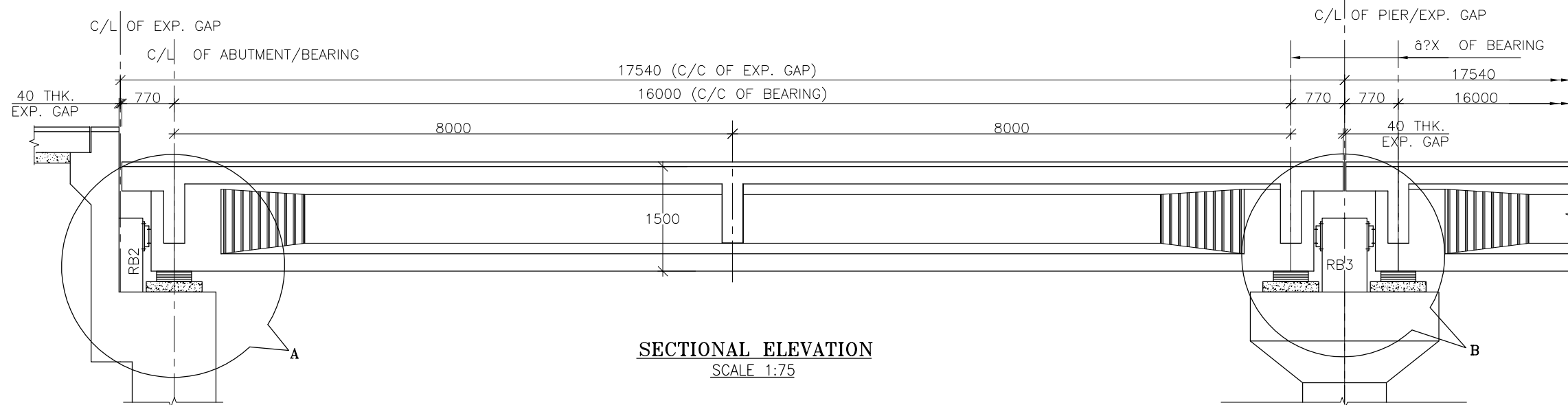
GENERAL ARRANGEMENT DRAWING

SL. NO.	DESIGN CHAINAGE	STR. NO.	IMPROVEMENT TYPE	DESCRIPTION	DRAWING NO.	NO. OF SHEETS
01.	173.820KM	.../.	ADDITIONAL 2-LANE	2 X 17.0M INTEGRAL SLAB :-	CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/MN/(STR-.../.)/GA	04
				GENERAL ARRANGEMENT		
		.../.	WIDENING	4 X 8.3M RCC SLAB BRIDGE :-		
				GENERAL ARRANGEMENT		
02.	174.716 KM	.../.	RECONSTRUCTION	3 X 8.0M X 5.0M RCC BOX BRIDGE :-	CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/MN/(STR-.../.)/GA	02
				GENERAL ARRANGEMENT		
03.	175.415 KM TO 176.645 KM	.../.	FLYOVER	34 X 35.0M + 1 X 40.0M PSC BOX GIRDER :-	CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/FO/(STR-.../.)/GA	01
				GENERAL ARRANGEMENT		
04.	175.750 KM	.../.	ADDITIONAL 2-LANE	2 X 21.0M RCC T-GIRDER AT SERVICE ROAD:-	CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/MN/(STR-.../.)/GA	03
				GENERAL ARRANGEMENT		
05.	179.725 KM	.../.	ADDITIONAL 2-LANE	3 X 16.0M RCC T-GIRDER :-	CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/MN/(STR-.../.)/GA	03
				GENERAL ARRANGEMENT		
06.	180.775 KM	.../.	ADDITIONAL 2-LANE	3 X 42.0M PSC T-GIRDER :-	CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/MJ/(STR-.../.)/GA	03
				GENERAL ARRANGEMENT		
07.	184.012 KM	.../.	NEW CONSTRUCTION	1 X 25.0M PSC T-GIRDER + 1 X 72.0M BOW STRING GIRDER + 1 X 25.0M PSC T-GIRDER :-	CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/MJ/(STR-.../.)/GA	01
				GENERAL ARRANGEMENT		
08.	185.385 KM	.../.	NEW CONSTRUCTION	1 X 40.0M PSC T-GIRDER_30° SKEW :-	CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/MN/(STR-.../.)/GA	01
				GENERAL ARRANGEMENT		
09.	187.443 KM	.../.	LVUP	1 X 15.0M RCC INTEGRAL SLAB BRIDGE (STAGGERED) :-	CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/LVUP/(STR-.../.)/GA	02
				GENERAL ARRANGEMENT		
10.	188.595 KM	.../.	VUP	1 X 24.0M INTEGRAL VOIDED SLAB :-	CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/VUP/(STR-.../.)/GA	02
				GENERAL ARRANGEMENT		
11.	189.795 KM	.../.	LVUP	1 X 15.0M RCC INTEGRAL SLAB BRIDGE (STAGGERED) :-	CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/LVUP/(STR-.../.)/GA	02
				GENERAL ARRANGEMENT		
12.	191.405 KM	.../.	VUP	1 X 30.0M PSC T-GIRDER (STAGGERED) :-	CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/VUP/(STR-.../.)/GA	02
				GENERAL ARRANGEMENT		
13.	193.094 KM	.../.	NEW CONSTRUCTION	2 X 6.0M X 5.0M RCC BOX BRIDGE :-	CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/MN/(STR-.../.)/GA	02
				GENERAL ARRANGEMENT		

SL. NO.	DESIGN CHAINAGE	STR. NO.	IMPROVEMENT TYPE	DESCRIPTION	DRAWING NO.	NO. OF SHEETS
14.	193.576 KM	.../.	LVUP	1 X 24.0M INTEGRAL VOIDED SLAB (STAGGERED) :-	CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/LVUP/(STR-.../.)/GA	02
				GENERAL ARRANGEMENT		
15.	196.257 KM	.../.	ROB	3X36.0M COMPOSITE T-GIRDER + 2 X 24.0M T-BEAM (VIADUCT)_20° SKEW :-	CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/ROB/(STR-.../.)/GA	01
				GENERAL ARRANGEMENT		
16.	197.115 KM	.../.	NEW CONSTRUCTION	2 X 6.0M X 4.0M RCC BOX BRIDGE_35° SKEW :-	CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/MN/(STR-.../.)/GA	02
				GENERAL ARRANGEMENT		
17.	197.792 KM	.../.	VUP	1 X 24.0M INTEGRAL VOIDED SLAB :-	CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/VUP/(STR-.../.)/GA	02
				GENERAL ARRANGEMENT		
18.	198.674 KM	.../.	LVUP	1 X 15.0M RCC INTEGRAL SLAB BRIDGE :-	CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/LVUP/(STR-.../.)/GA	02
				GENERAL ARRANGEMENT		
19.	199.759 KM	.../.	RECONSTRUCTION	1 X 8.0M X 3.0M RCC BOX BRIDGE :-	CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/MN/(STR-.../.)/GA	02
				GENERAL ARRANGEMENT		
20.	200.583 KM	.../.	RECONSTRUCTION	2 X 8.0M X 4.0M RCC BOX BRIDGE :-	CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/MN/(STR-.../.)/GA	02
				GENERAL ARRANGEMENT		
21.	-	-	PEDESTRIAN UNDERPASS	TYPICAL DRAWING OF PEDESTRIAN UNDERPASS :-	CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/PUP/(STR-.../.)/GA	02
				GENERAL ARRANGEMENT		
22.	-	-	FOOT OVERBRIDGE	TYPICAL DRAWING OF FOOT OVER BRIDGE :-	CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/FOB/(STR-.../.)/GA	01
				GENERAL ARRANGEMENT		

STRUCTURAL DRAWING

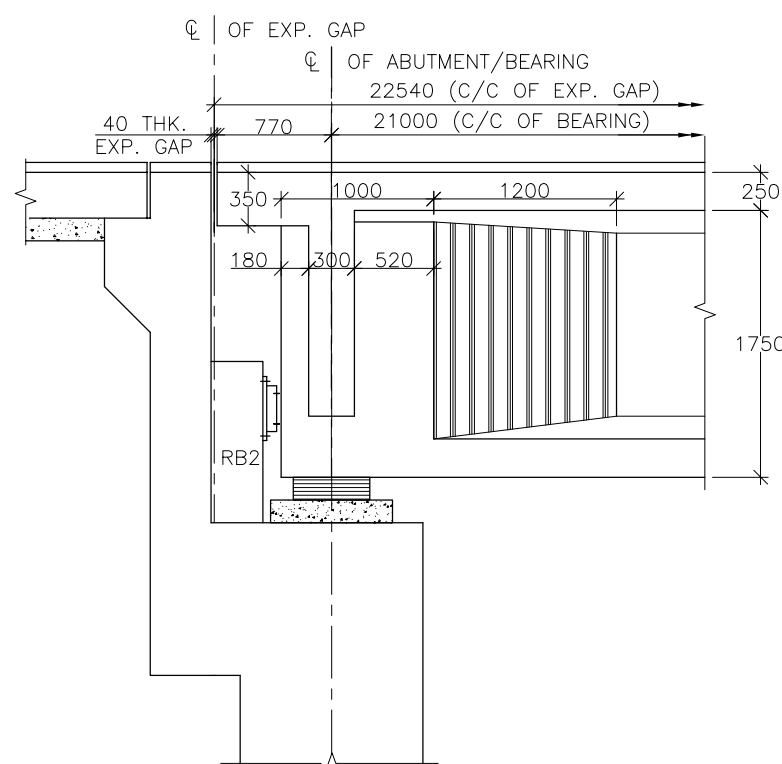
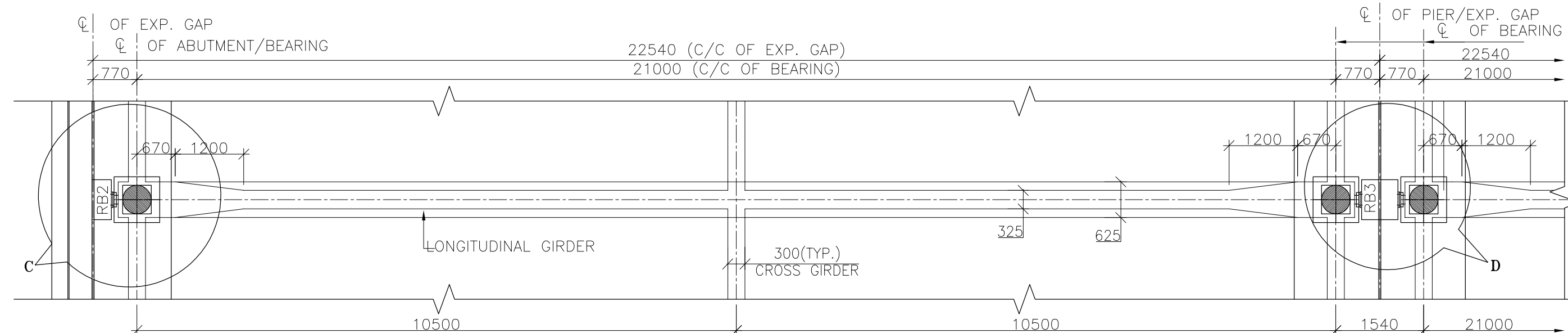
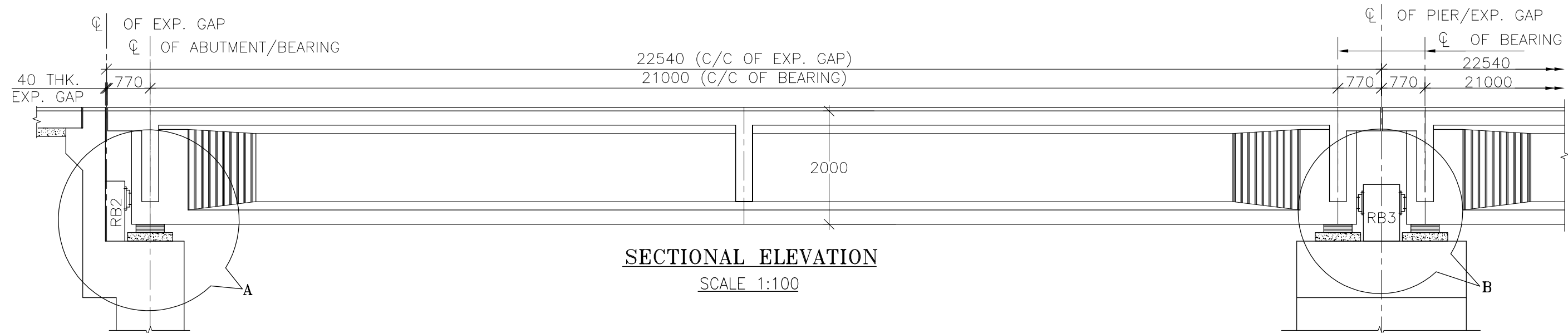
SUPERSTRUCTURE DRAWING



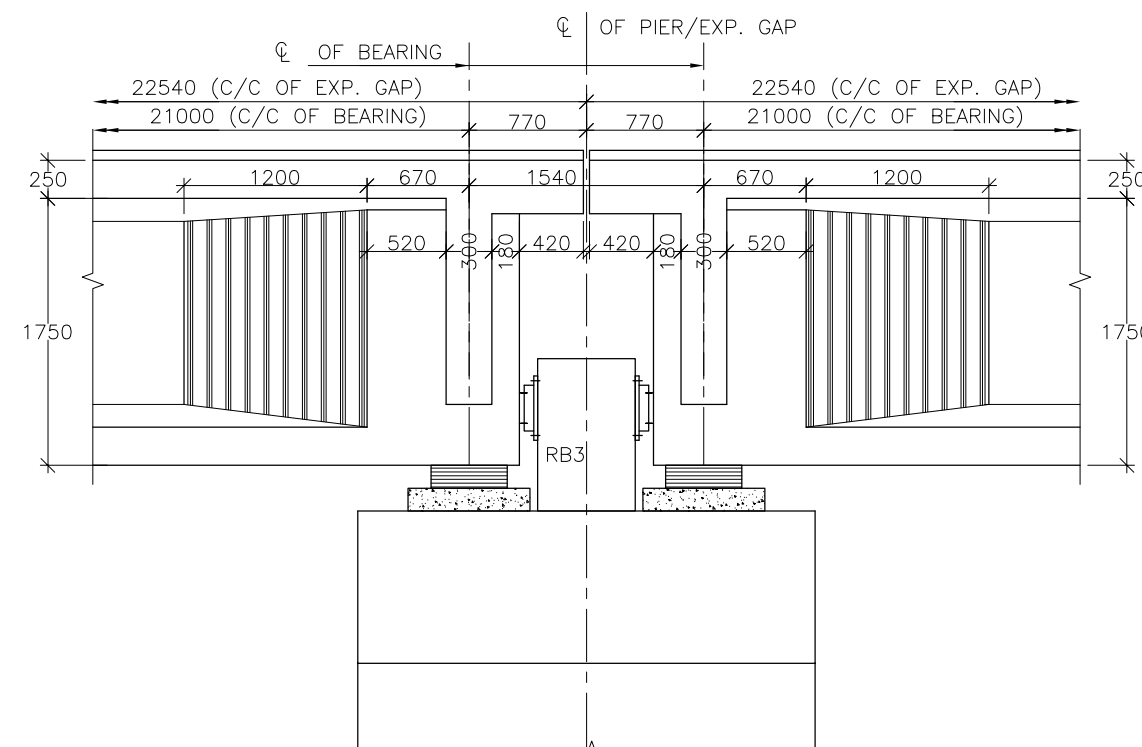
NOTES:-

- ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN M .
UNLESS OTHERWISE MENTIONED, ONLY WRITTEN DIMENSIONS
SHALL BE FOLLOWED.

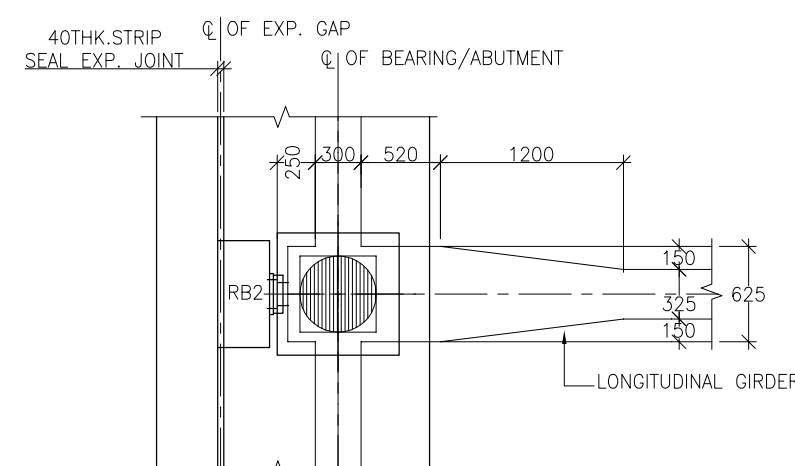
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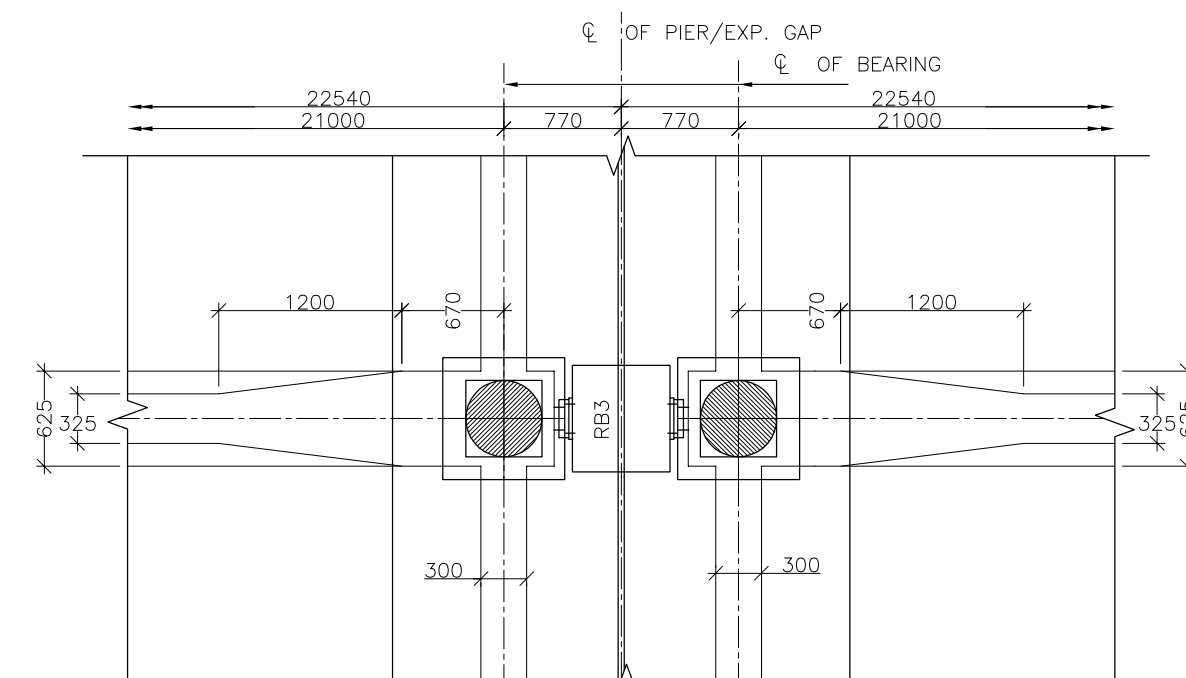
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SCALE-1:50



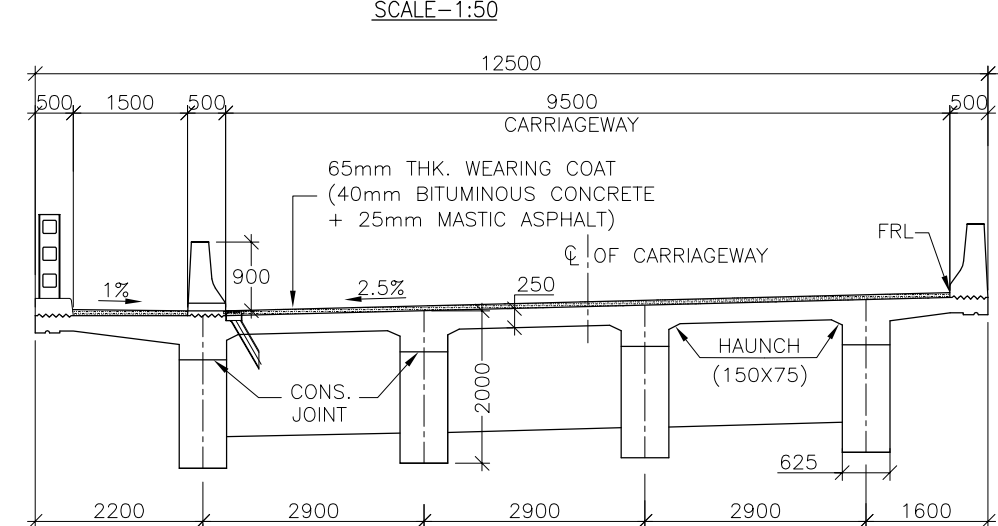
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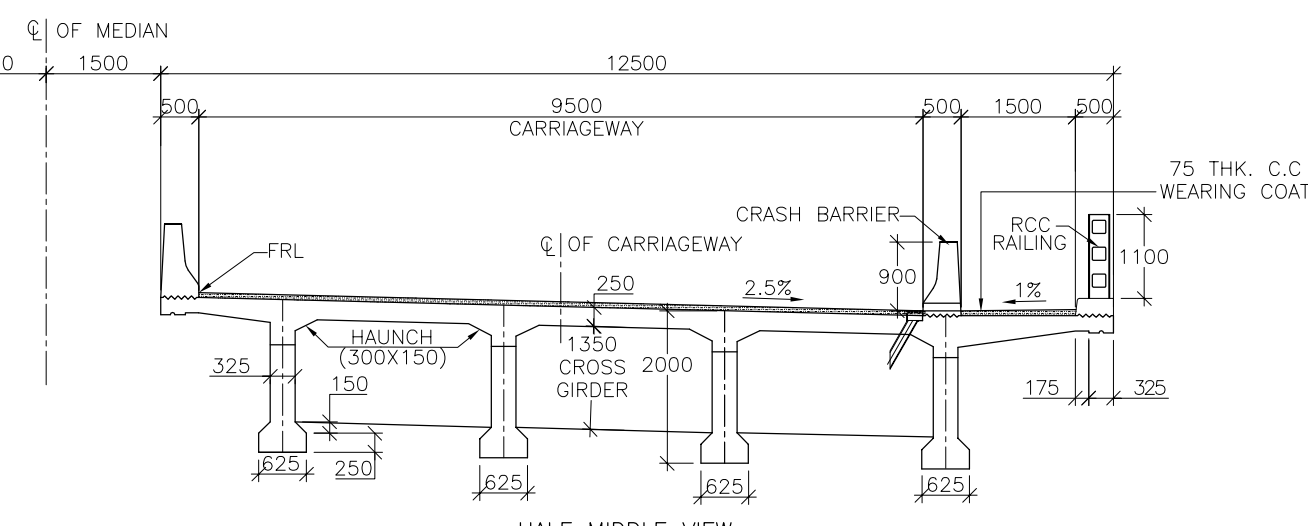
DETAIL - C
SCALE-1:50



DETAIL - D
SCALE-1:50



HALF END VIEW



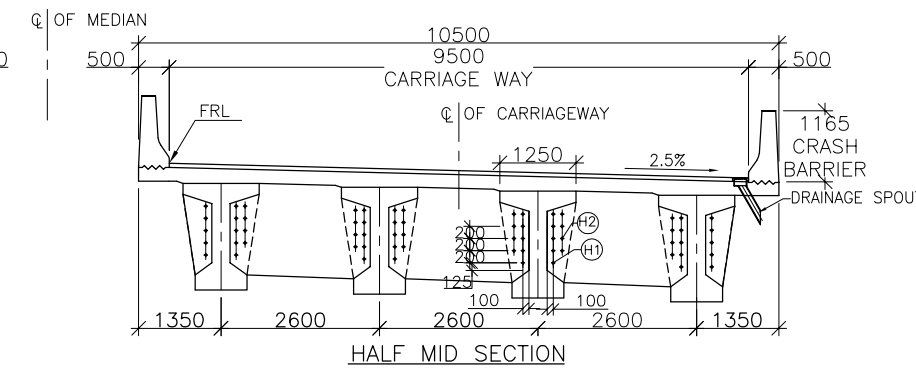
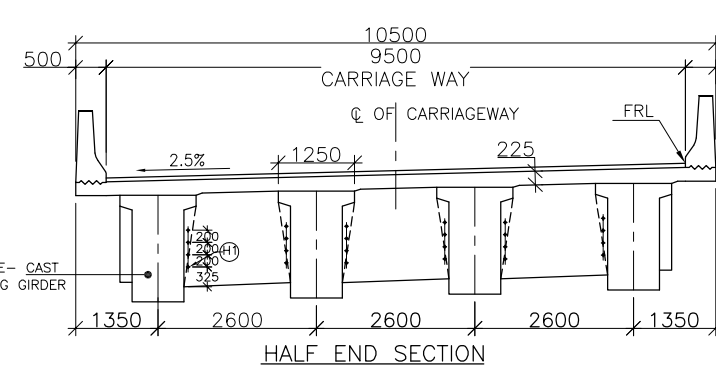
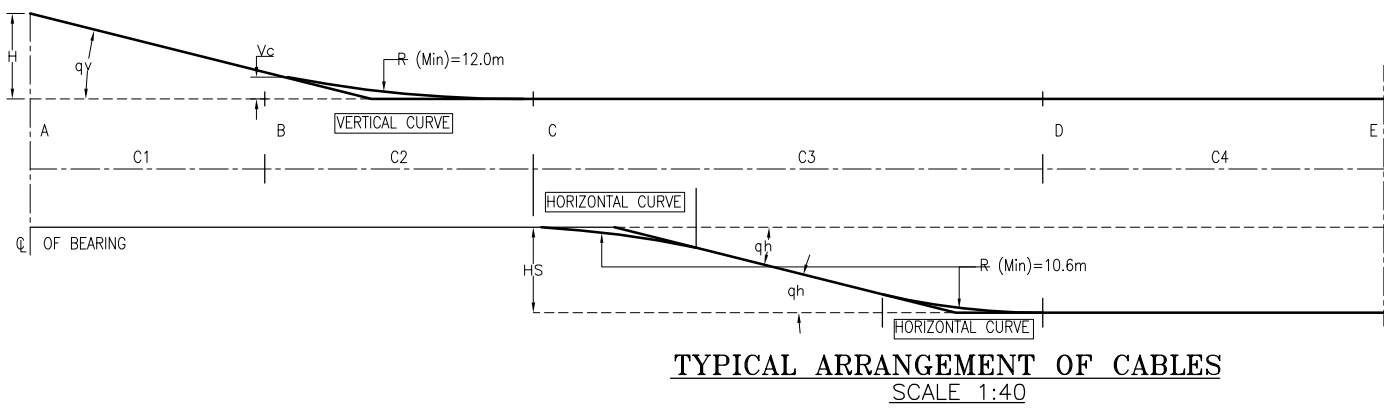
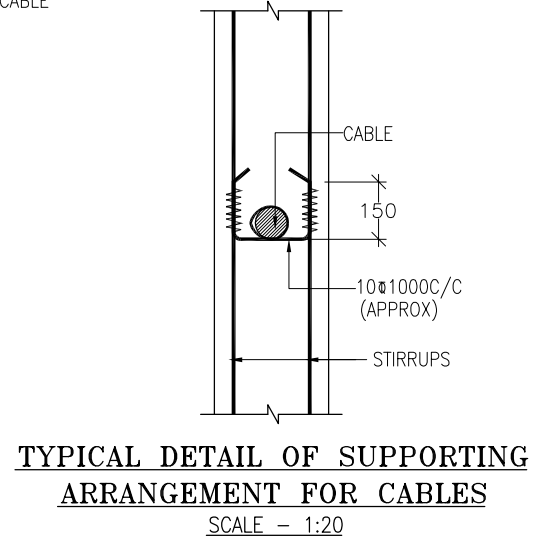
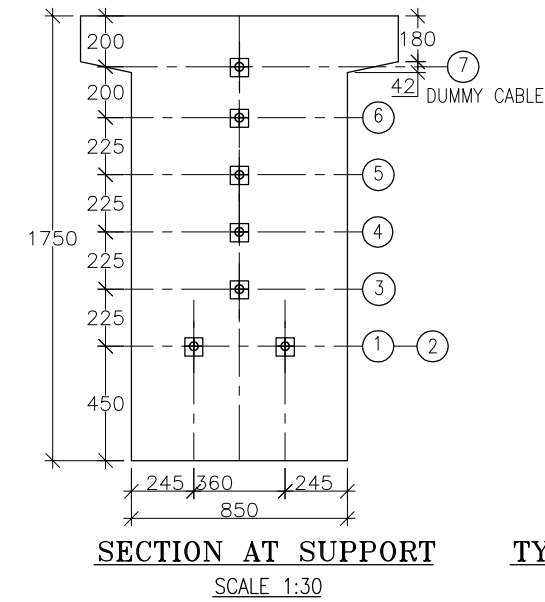
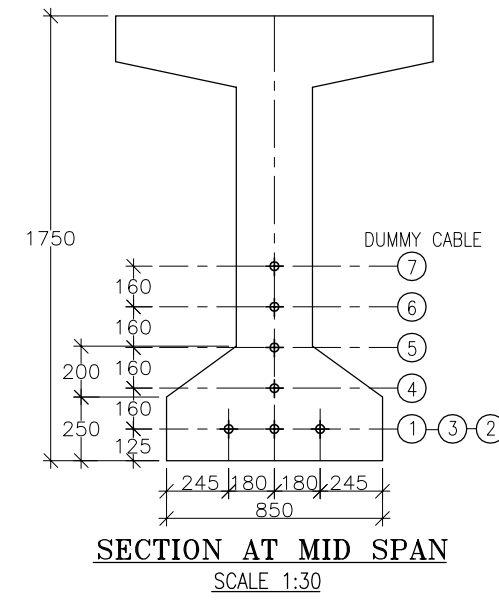
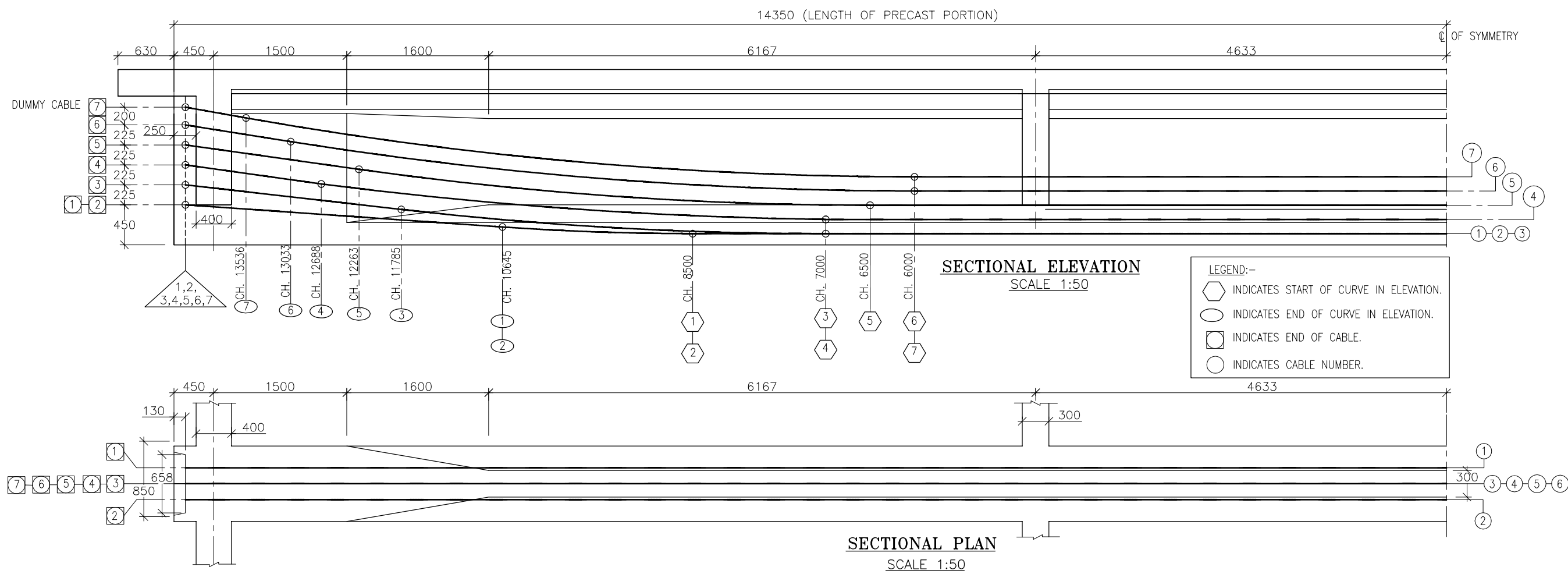
HALF MIDDLE VIEW

TYPICAL CROSS SECTION OF SUPER STRUCTURE
SCALE 1:100

NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN M .
UNLESS OTHERWISE MENTIONED. ONLY WRITTEN DIMENSIONS
SHALL BE FOLLOWED.

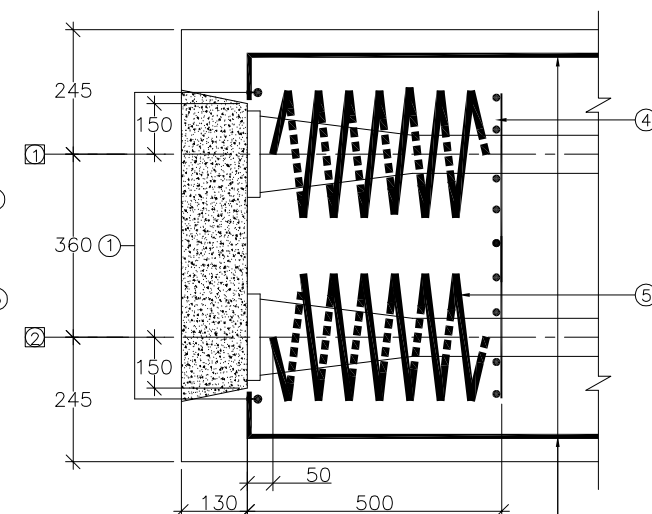
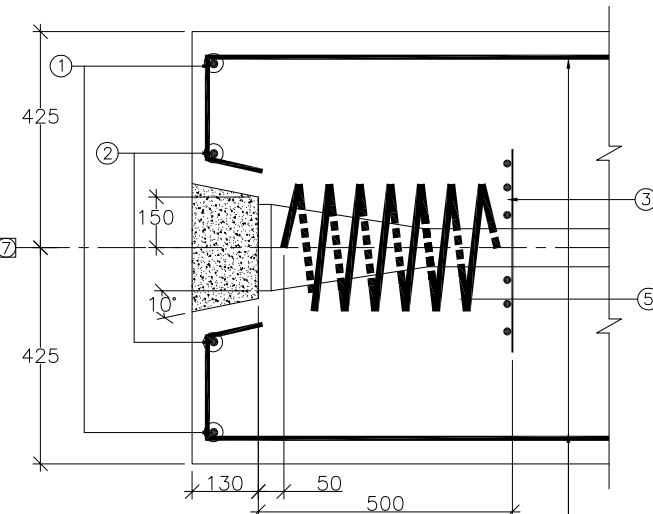
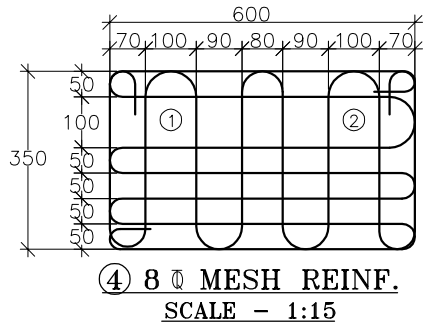
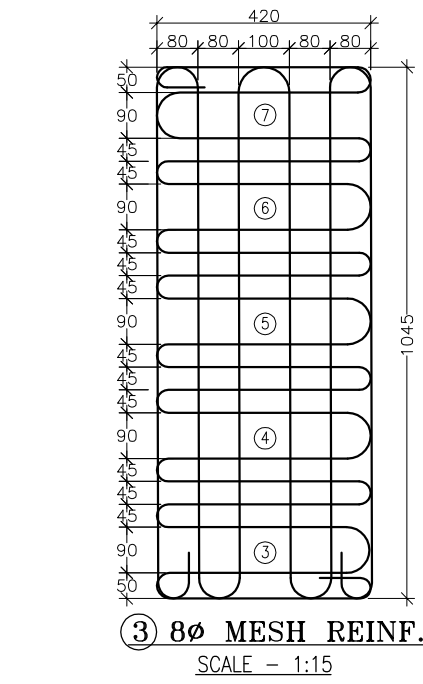
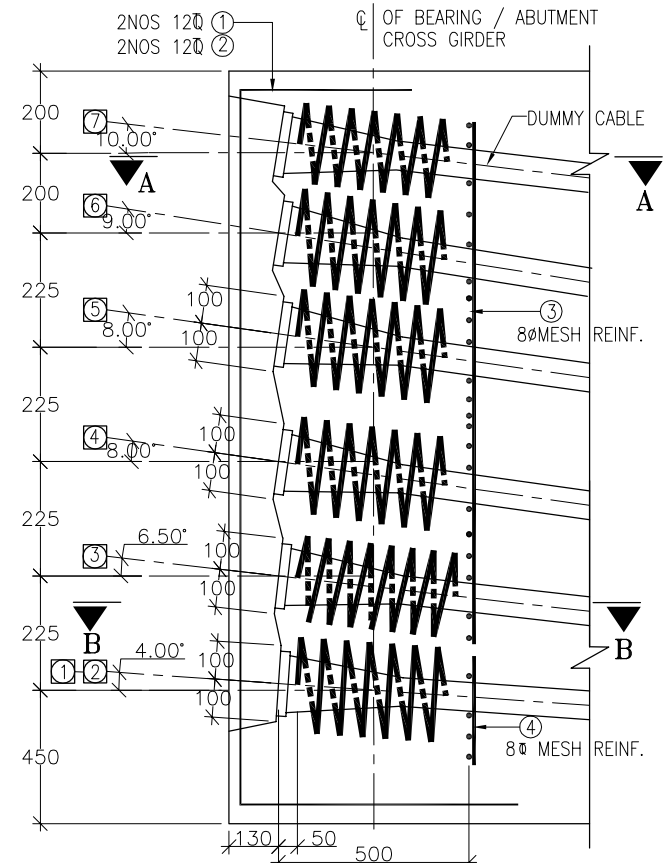
SCALE: AS SHOWN					CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED. 3RD FLOOR, PTI BUILDING, 4-PARLIAMENT STREET, NEW DELHI - 110001					TITLE: DETAILS OF RCC T BEAM SUPER STRUCTURE FOR 21.0M SPAN (PACKAGE-10)					CONSULTANT: CETEST Engineering Consultants An ISO 9001, 14001 & OHSAS 18001 Certified Company					DRG. NO.: CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/DPFR/SUP/RCC/21.0M/GA				
R0					PROJECT: CONSULTANCY SERVICES FOR PREPARATION OF DPR FOR DEVELOPMENT OF ECONOMIC CORRIDORS, INTER CORRIDORS AND FEEDER ROUTES TO IMPROVE THE EFFICIENCY OF FREIGHT MOVEMENT IN INDIA UNDER BHARATMALA PARIYOJANA (LOT-1) - PACKAGE 1A BILASIPURA-CHAPAR-TULUNGIA-JOGIGHOPA-GENDERA-PAIKAN-DUDHNOI-GUWAHATI ROAD (LENGTH 225.000 KM) IN THE STATE OF ASSAM.					SUBMISSION TYPE: FINAL DETAILED PROJECT REPORT					C.E. TESTING COMPANY PV 124-A, N.S.C. BOSE ROAD KOLKATA - 700092.					REVISION MKD. - R0 SHEET NO. - 01 OF 01				
DATE: JANUARY, 2023					PACKAGE NO: (LOT-1) PACKAGE 1A															DRAWN BY: A.M. DESIGN BY: T.T.A. CHECKED BY: S.D. ISSUED BY: S.BHADRA				
REVISIONS																								



TYPICAL CROSS SECTION OF SUPER STRUCTURE
SCALE-1:125

TABLE NO A

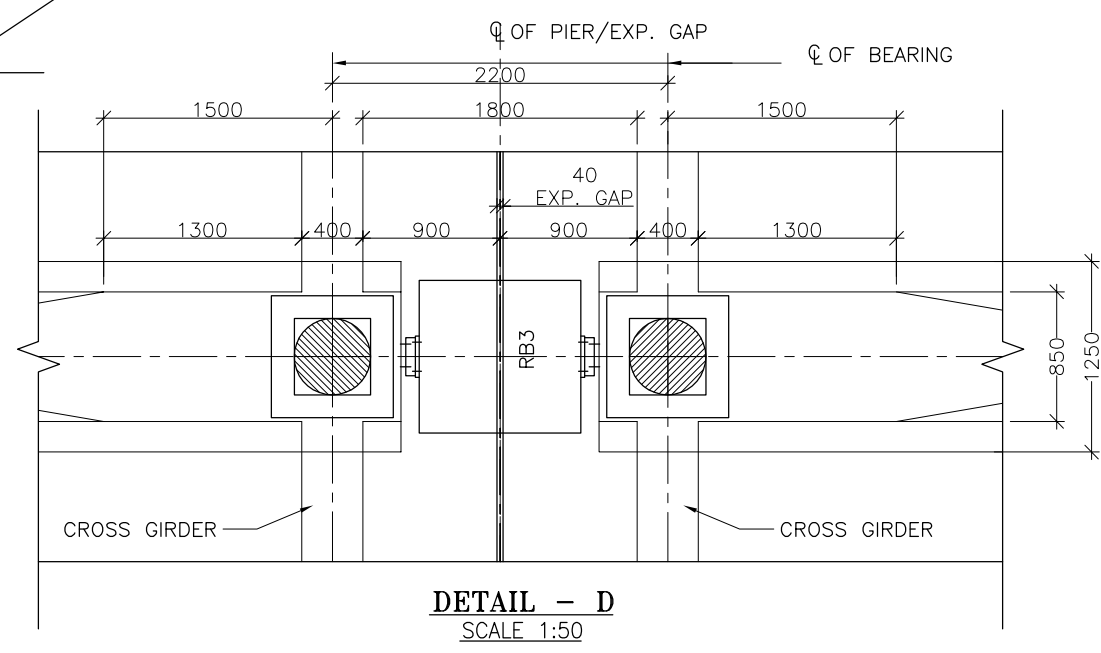
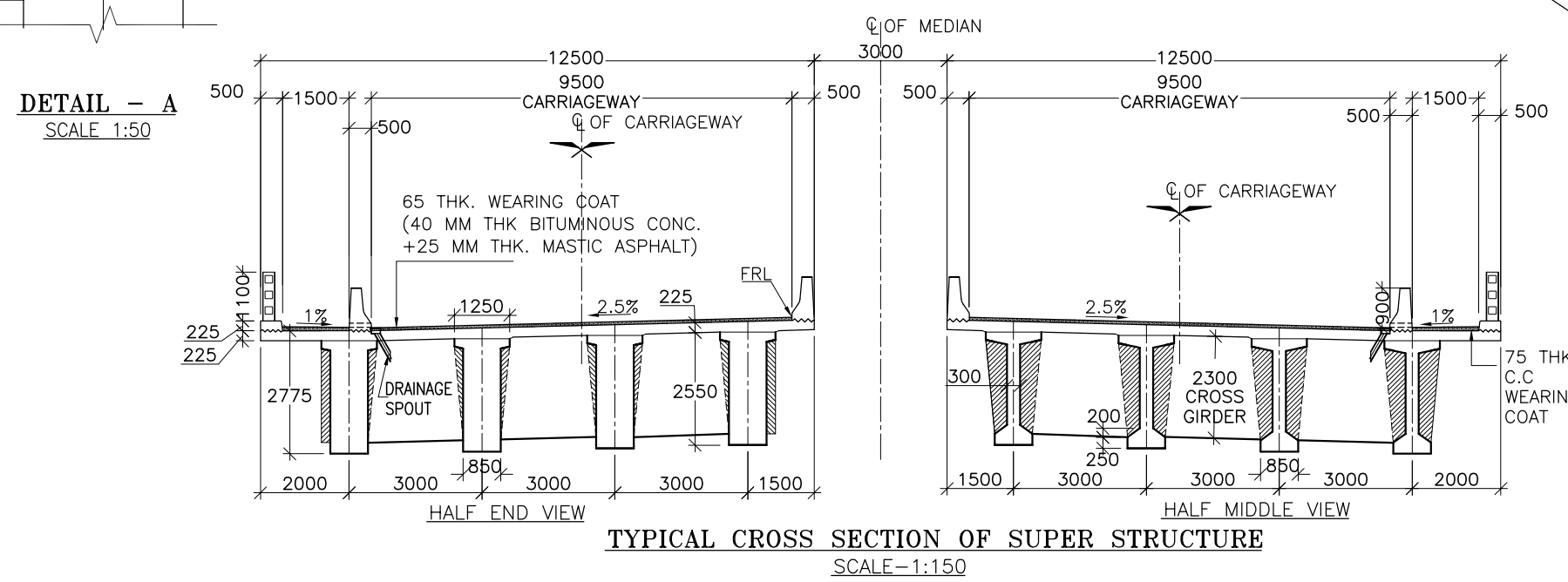
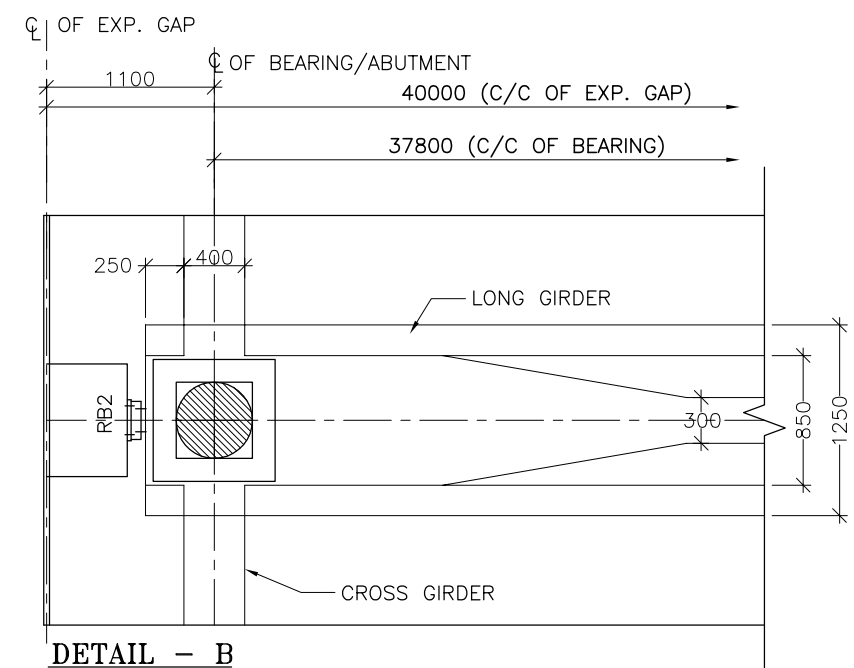
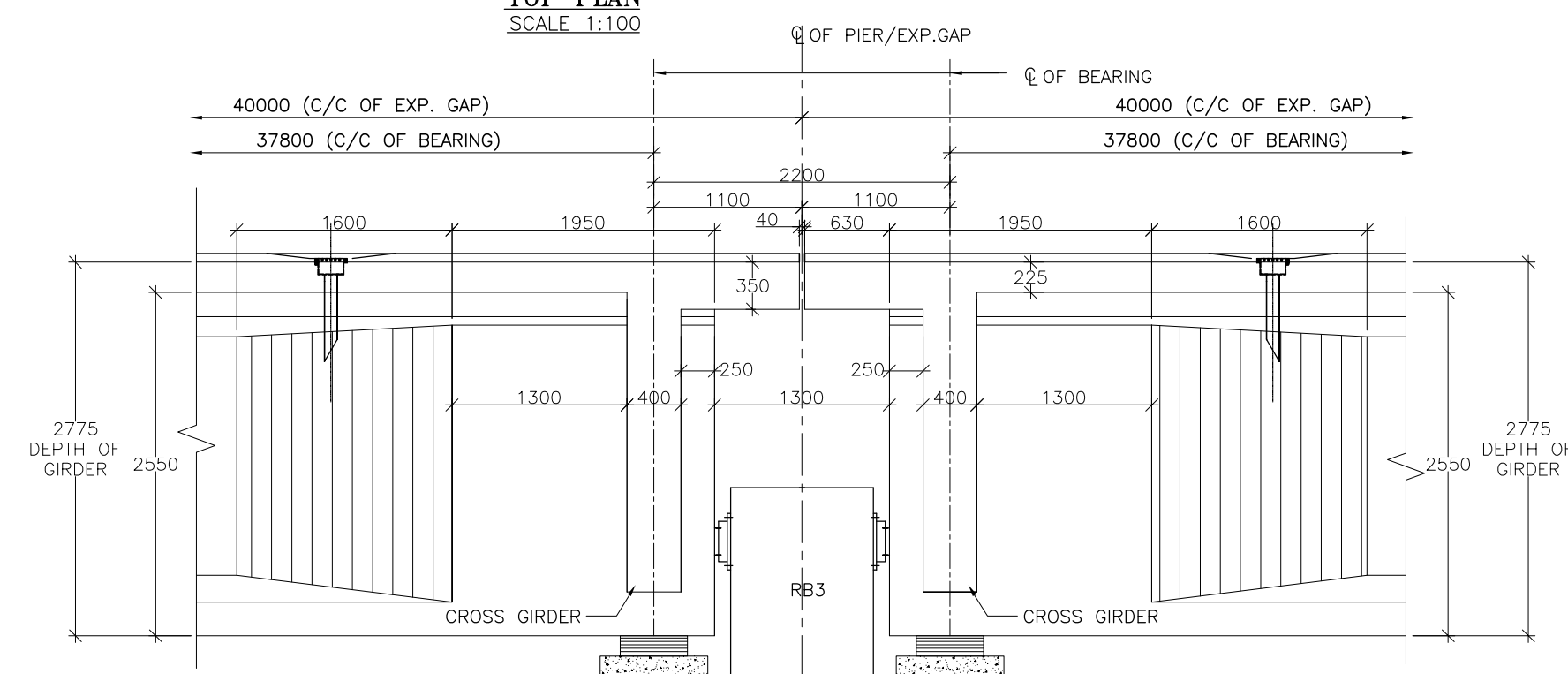
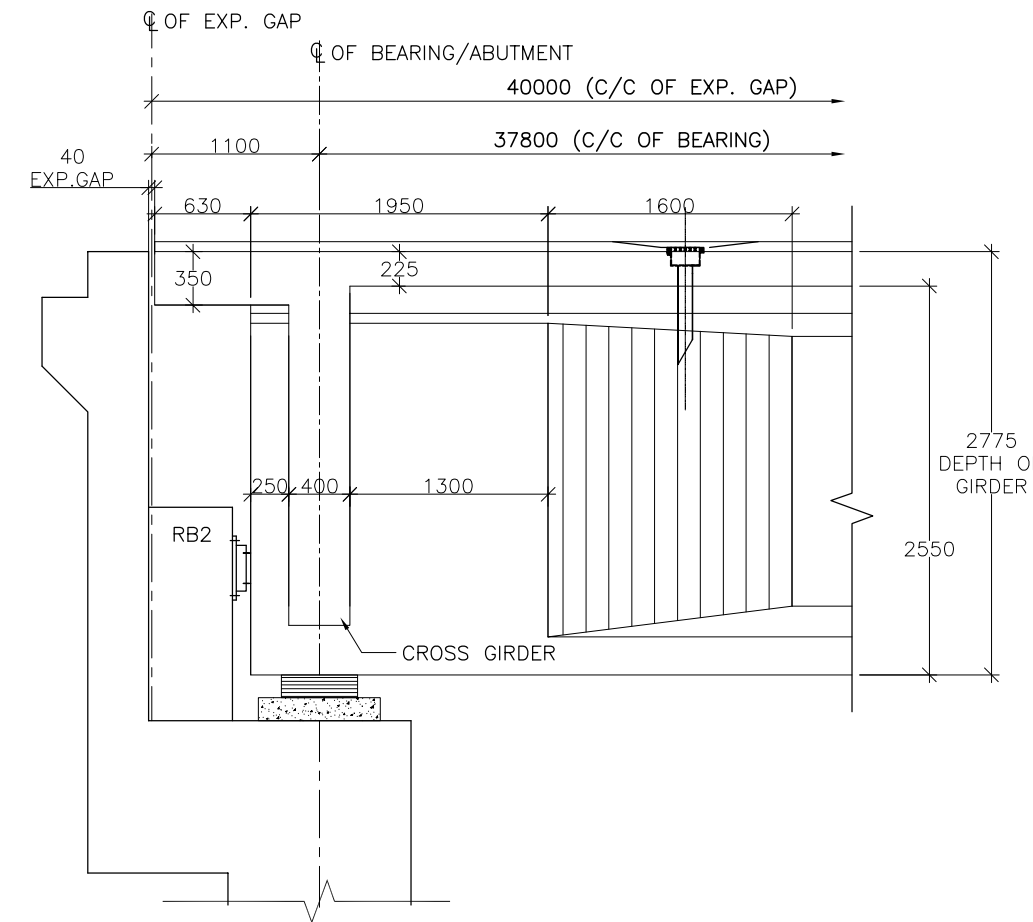
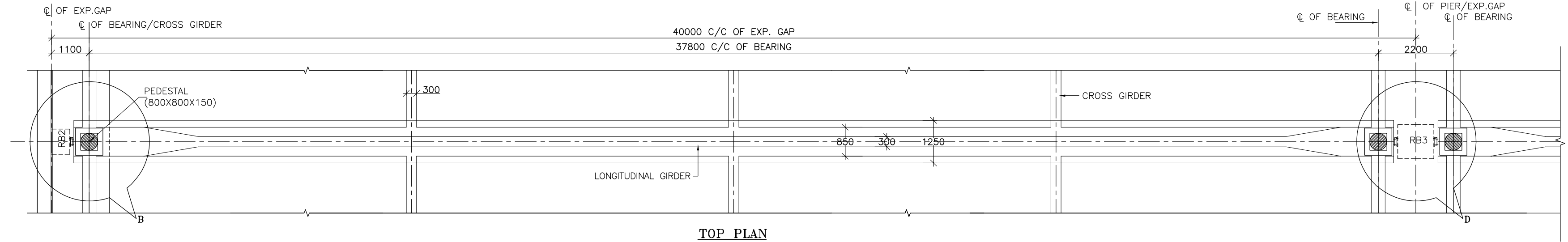
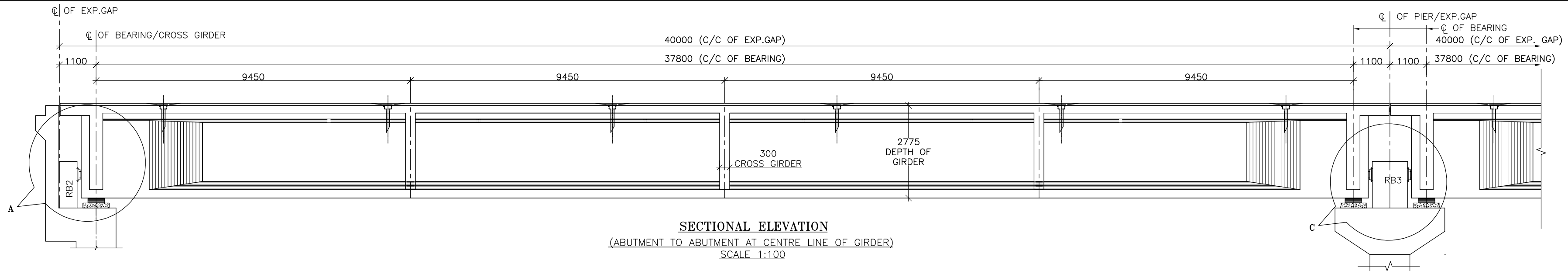
CABLE NO.	LENGTH (C1) IN (M)	LENGTH (C2) IN (M)	LENGTH (C3) IN (M)	LENGTH (C4) IN (M)	LIFT HEIGHT (H) IN (M)	HEIGHT OF VERTICAL CURVE (Vc) IN (M)	VERTICAL ANGLE (θv) IN (DEG.)	LENGTH OF VERTICAL CURVE (Lvc) IN (M)	HORIZONTAL SWAY (Hs) IN (M)	HORIZONTAL ANGLE (θh) IN (DEG.)	LENGTH OF HORIZONTAL CURVE (Lhc) IN (M)	LENGTH 'AB' IN (M)	EXTENSION AT EACH END (MM)	LENGTH OF CABLE INCLUDING 1.0 M AT EACH SIDE (M)
1	3.575	2.145	0.000	8.500	0.325	0.075	4.00	2.149	0.000	0.000	0.000	3.584	94	30.466
2	3.575	2.145	0.000	8.500	0.325	0.075	4.00	2.149	0.000	0.000	0.000	3.584	94	30.466
3	2.435	4.785	0.000	7.000	0.550	0.273	6.50	4.811	0.000	0.000	0.000	2.451	93	30.524
4	1.532	5.688	0.000	7.000	0.615	0.400	8.00	5.735	0.000	0.000	0.000	1.547	93	30.564
5	1.957	5.763	0.000	6.500	0.680	0.405	8.00	5.810	0.000	0.000	0.000	1.976	93	30.572
6	1.187	7.033	0.000	6.000	0.745	0.557	9.00	7.106	0.000	0.000	0.000	1.202	93	30.616
7	0.684	7.536	0.000	6.000	0.785	0.664	10.00	7.633	0.000	0.000	0.000	0.695	-	30.656



NOTES :

- ALL DIMENSIONS ARE IN MM & LVLLES ARE IN METER UNLESS OTHERWISE SPECIFIED.
- CONC. GRADE SHALL BE M40 FOR DECK SLAB & M45 FOR GIRDER.
- ALL REINFORCING STEEL SHALL BE OF HYSD BARS (GRADE DESIGNATION Fe-500) CONFORMING TO IS: 1786.
- CLEAR COVER = 40 MM.
- PRESTRESSING SYSTEM
 - ALL PRESTRESSING CABLES SHALL HAVE 12 NOS. 7 PLY UNCOATED STRESS RELIVED LOW RELAXATION STRANDS OF 12.7 mm DIA. CONFORMING TO CLASS II OF IS 14268-1995.
 - JACKS USED FOR TENSIONING SHALL BE FREYSSINET TYPE OR EQUIVALENT & JACK LOAD = 159.828 TON.
 - BRIGHT METAL SHALL BE USED FOR CABLE SHEATHING.
 - THE PARAMETRES ADOPTED FOR DESIGN ARE AS FOLLOWS:-
 - ANCHORAGE TYPE ---- 12T13 (DYNAMIC OR EQUIVALENT).
 - SLIP AT EACH END ---- 6 mm.
 - MINIMUM SHEATHING DIAMETER ---- 75 mm FOR 12T13.
 - SHEATHING THICKNESS ---- AS PER IRC:112-2011
 - CO-EFFICIENT OF FRICTION ---- $\mu = 0.25/\text{Radian}$.
 - WOBBLE CO-EFFICIENT ---- $k = 0.0046/\text{Metre}$.
 - NOMINAL AREA OF EACH STRAND ---- 98.7 sq. mm.
 - ULTIMATE BREAKING LOAD OF EACH STRAND ---- 183.71 K N.
 - MODULUS OF ELASTICITY OF HIGH TENSILE STEEL ---- $1.95 \times 10^5 \text{ Mpa}$.
 - THOUSAND HOURS RELAXATION LOSS AS PER TABLE 6.2 IRC-112, 2011.
 - ALL THE DESIGN PARAMETERS ADOPTED SHALL BE VERIFIED AT SITE BEFORE USE.
- PRESTRESSING OPERATION :-
 - ALL CABLES SHALL BE PASSING THROUGH THE GIVEN ORDINATES AND SHALL BE SUPPORTED AT A SPACING NOT EXCEEDING 1000 mm BY A 16 mm DIA. CROSS BARS TACK WELDED/ SECURELY HELD IN POSITION WITH VERTICAL WEB REINFORCEMENT.
 - CABLE LENGTH MENTIONED IN THE DRAWING IS EXCLUSIVE OF 1000 mm EXTRA LENGTH AT EACH END. THE TOTAL LENGTH OF CABLE SHALL BE VERIFIED AT SITE.
 - SEQUENCE OF CONSTRUCTION AND PRESTRESSING SHALL BE AS FOLLOWS:
 - GIRDERS ARE CASTED AT CASTING YARD.
 - 1st. STAGE OF PRESTRESSING IS DONE AFTER CONCRETE ATTAINS A STRENGTH OF 40 MPa.(14 DAYS). AFTER 1st. STAGE PRESTRESSING PRECAST GIRDERS MAY BE LAUNCHED OVER PIER TOP.
 - SHUTTERING FOR DECK SLAB AND CROSS GIRDERS ARE ERECTED FROM I-GIRDERS AND CASTING IS DONE AFTER CONCRETE ATTAINS 38 MPa.(21 DAYS)
 - 2nd. STAGE OF PRESTRESSING IS DONE AFTER ATTAINING OF FULL STRENGTH OF DECK CONCRETE i.e 40 MPa. (28 DAYS AFTER CASTING OF DECK SLAB i.e 49 DAYS).
 - CRASH BARRIER IS TO BE CASTED & WEARING COARSE TO BE LAID AFTER REMOVAL OF SHUTTERING OF DECK SLAB.
 - STRESSING OF CABLES SHALL BE CARRIED OUT SIMULTANEOUSLY FROM BOTH ENDS, JACKING FORCES, SHALL BE INCREASED BY APPROPRIATE PERCENTAGE TO ACCOUNT FOR ANCHORAGE AND JACK FRICTION AND EFFICIENCY AS PER THE MANUFACTURER'S INSTRUCTIONS.
 - EXTENSION ARE GIVEN FOR CABLE LENGTHS (EXCLUDING 1.0M GRIP LENGTH) INCLUSIVE OF 6MM GRIP LENGTH AT EACH END. LOSS UPTO 6 MM DUE TO SLIP OF ANCHORAGES ARE NOT TO BE COMPENSATED DURING SITE OPERATION. JACK PRESSURE AND EXTENSION OF CABLES AT EACH END GIVEN IN THE DRAWING SHALL BE VERIFIED AT SITE.
 - INITIAL SLACKNESS IN PRESTRESSING TENDONS SHALL BE REMOVED BY APPLYING SMALL INITIAL TENSION. THE INITIAL TENSION REQUIRED TO REMOVE SLACKNESS SHALL BE TAKEN AS THE STARTING POINT FOR MEASURING ELONGATION AND CORRECTION SHALL BE APPLIED AS PER CLAUSE 12.2.1.3 OF IS : 1343-1980.
 - THE EXTENSION GIVEN IN TABLE NO. A SHALL BE MODIFIED AT SITE IN CASE ACTUAL VALUE OF AREA OF STRAND 'A' AND MODULES OF ELASTICITY 'E' VARIES FROM THE VALUES CONSIDERED IN DESIGN. REVISED EXTENSION = EXTENSION AS PER DESIGN $(98.7 \text{ MM} \times 195 \times 10^3 \text{ M PA}) / (\text{NEW AREA} \times \text{NEW MODULES})$.
 - EXTENSION OF CABLE SHALL BE VERIFIED FOR A FEW CABLES AT SITE. INCASE THE VALUE OF μ AND k ARE FOUND TO BE MORE THAN HAVE BEEN CONSIDERED, EXTENSION SHALL BE SUITABLY MODIFIED AFTER APPROVAL OF THE ENGINEER.
 - THE GRIP LENGTH FROM ANCHORAGE FACE UP TO GRIPPING POINT IN JACK ASSUMED IN EXTENSION CALCULATION IS 600 MM AND THE ADDITIONAL LENGTH TAKEN FOR CUTTING IS 400 MM IF GRIP LENGTH VARIES FROM THE ABOVE VALUES THAN THE CORRESPONDING NEW EXTENSION = $EX + EX (\text{GRIP}-600)/(\text{LENGTH OF CABLE}-800)$ WHERE 'EX' IS EXTENSION SHOWN IN THIS DRAWING.
 - SEQUENCE OF STRESSING :-
 - 1st. STAGE: 1 → 2 → 3 → 6
 - 2nd. STAGE: 4 → 5

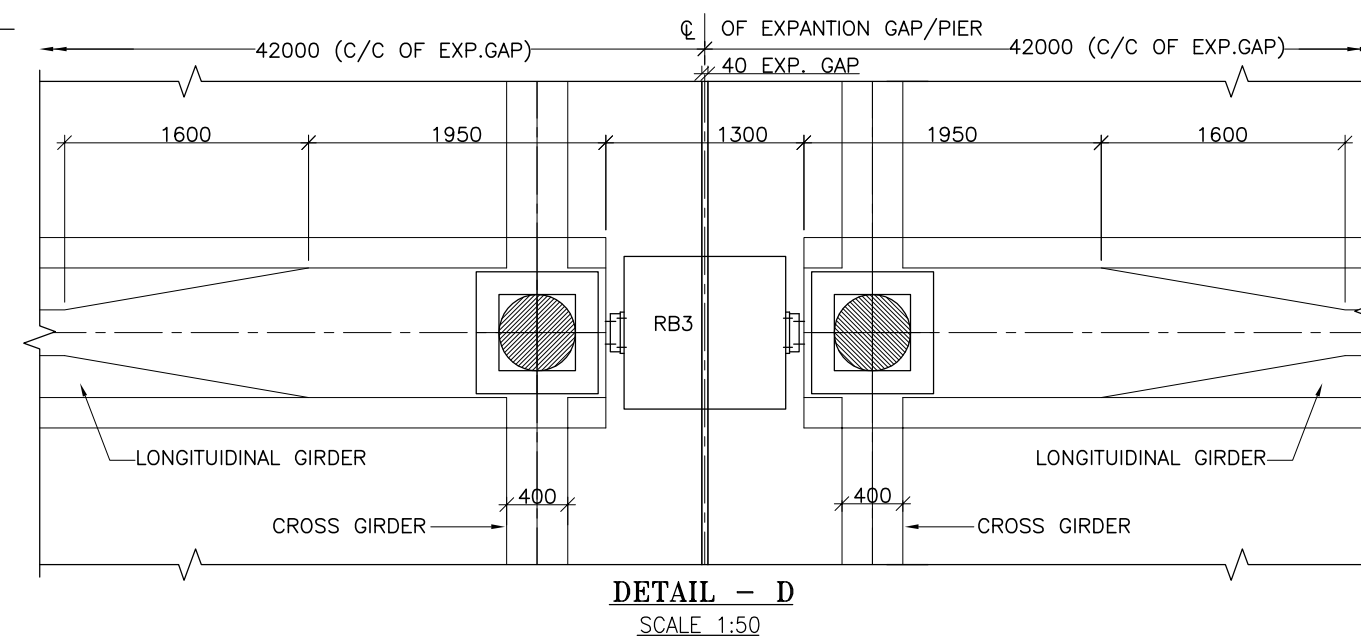
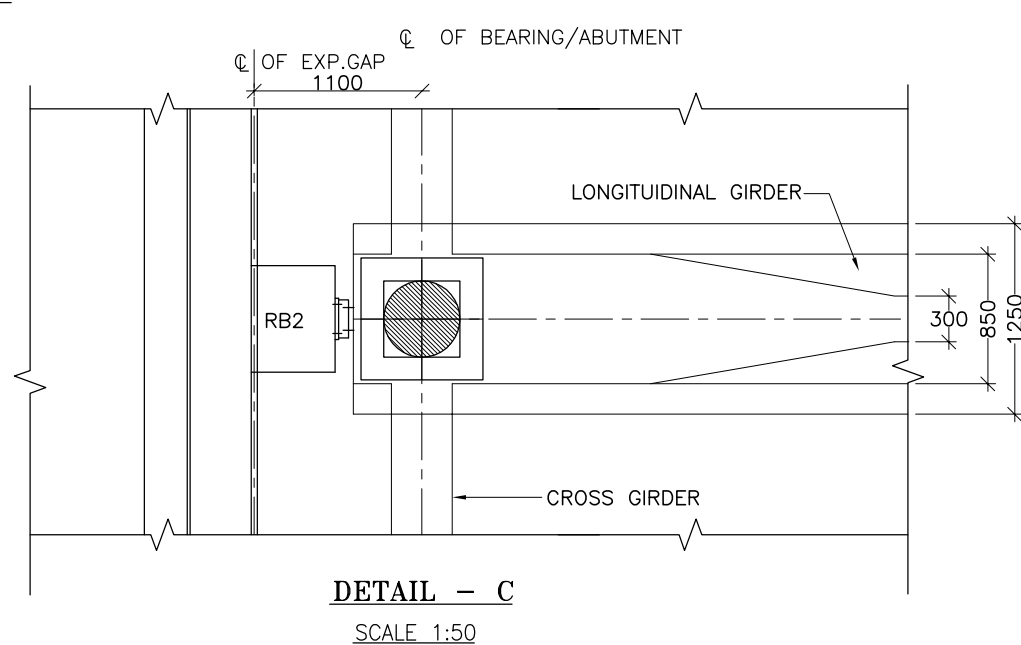
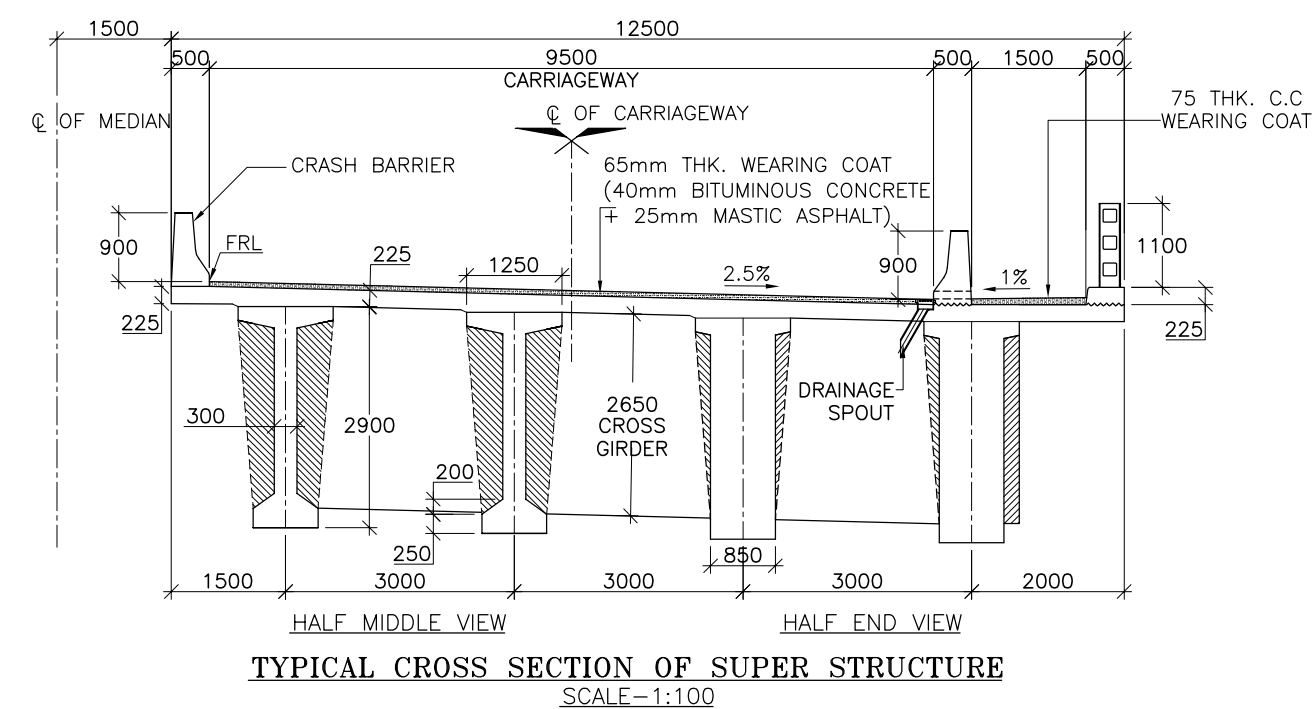
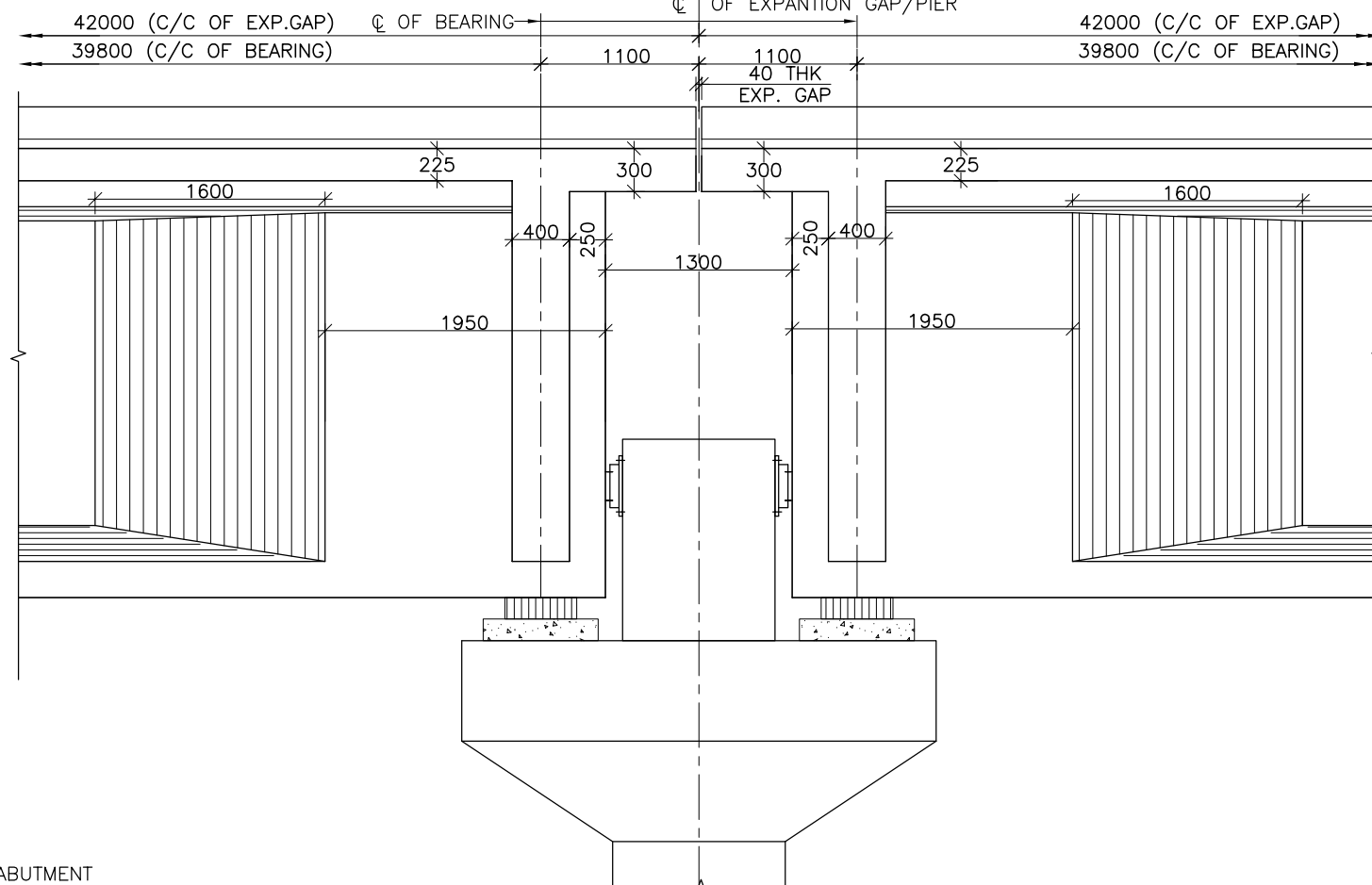
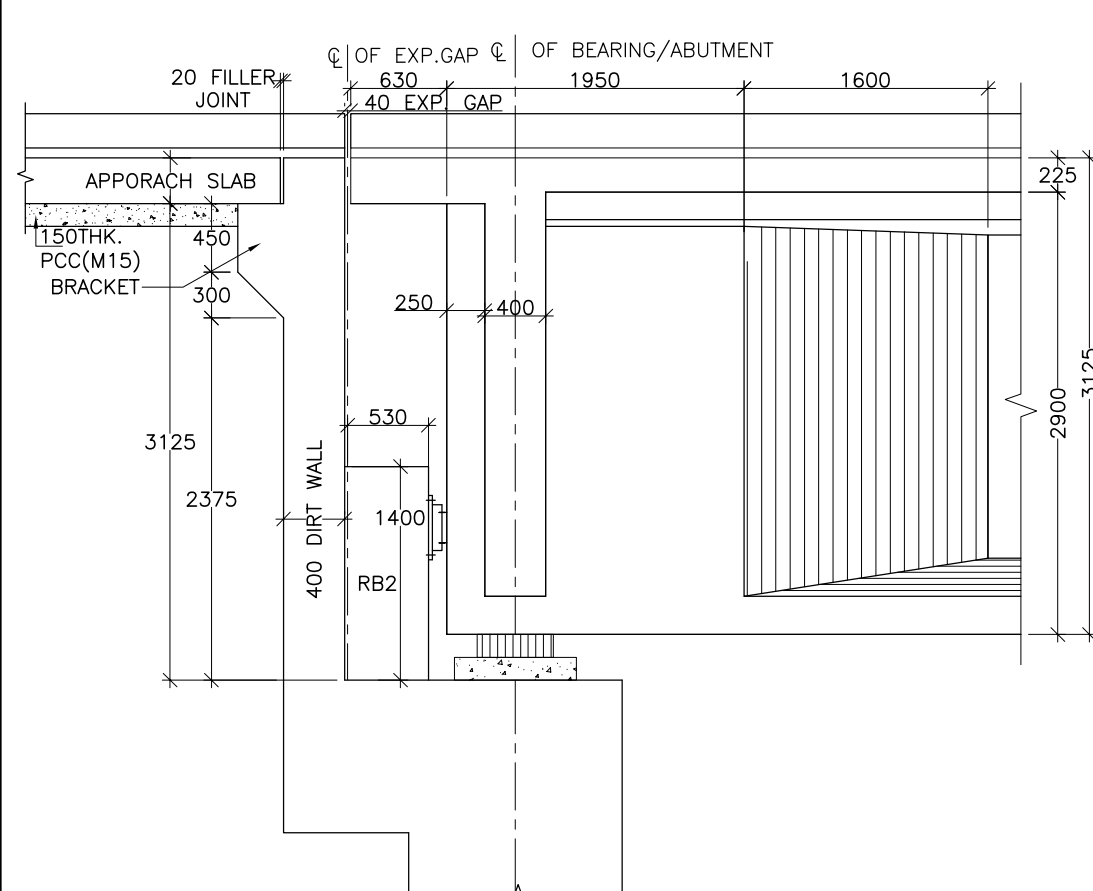
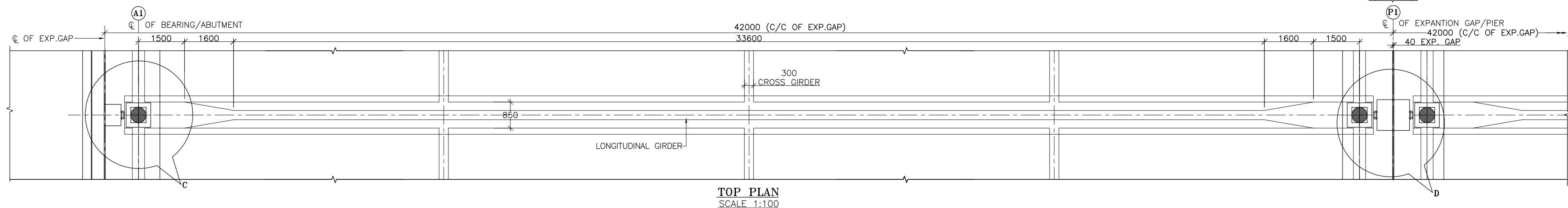
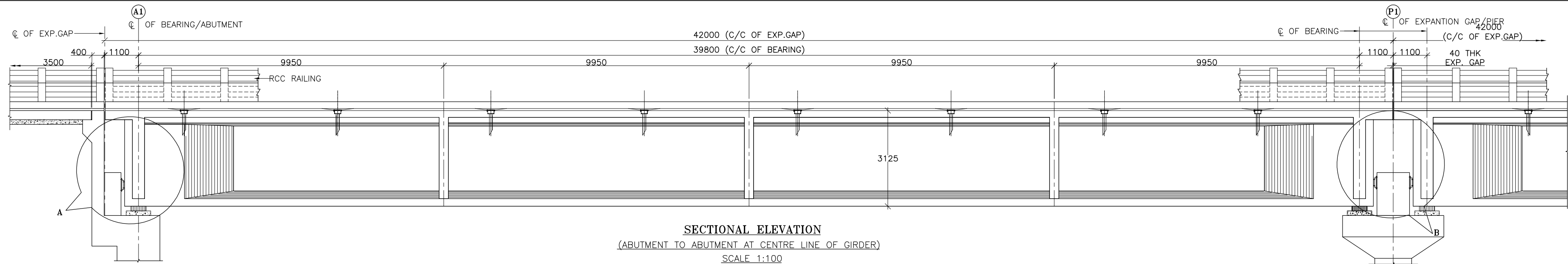
SCALE: AS SHOWN					CLIENT: NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED. 3RD FLOOR, PTI BUILDING, 4-PARLIAMENT STREET, NEW DELHI - 110001					TITLE: DETAILS OF PRESTRESSING CABLES ARRANGEMENT AND ANCHORAGE DETAILS OF LONGITUDINAL GIRDER (PACKAGE-10)					CONSULTANT: CETEST Engineering Consultants An ISO 9001, 14001 & OHSAS 18001 Certified Company					DRG. NO.: CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/SUP/PSC/30M/RE/GA				
R0					PROJECT: CONSULTANCY SERVICES FOR PREPARATION OF DPR FOR DEVELOPMENT OF ECONOMIC CORRIDORS, INTER CORRIDORS AND FEEDER ROUTES TO IMPROVE THE EFFICIENCY OF FREIGHT MOVEMENT IN INDIA UNDER BHARATMALA PARIYOJANA (LOT-1) - PACKAGE 1A BILASIPURA-CHAPAR-TULUNGIA-JOGIGHOPA-GENDERA-PAIKAN-DUDHNOI-GUWAHATI ROAD (LENGTH 225.000 KM) IN THE STATE OF ASSAM.					SUBMISSION TYPE: FINAL DETAILED PROJECT REPORT					C.E. TESTING COMPANY PVT. LTD. 124-A, N.S.C. BOSE ROAD KOLKATA - 700092.					REVISION MKD. - R0				
DATE: JANUARY, 2023					PACKAGE NO: (LOT-1) PACKAGE 1A					DRAWN BY: N.B.					DESIGN BY: T.T.A.					CHECKED BY: S.D.				
REVISIONS					ISSUED BY: S.BHADRA																			



NOTES:-

1. ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN M .
UNLESS OTHERWISE MENTIONED. ONLY WRITTEN DIMENSIONS
SHALL BE FOLLOWED.
2. THIS DRAWING IS PREPARED IN CONNECTION WITH :
CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/SUP/PSC/40.0M/GA
(SHEET NO. 02)

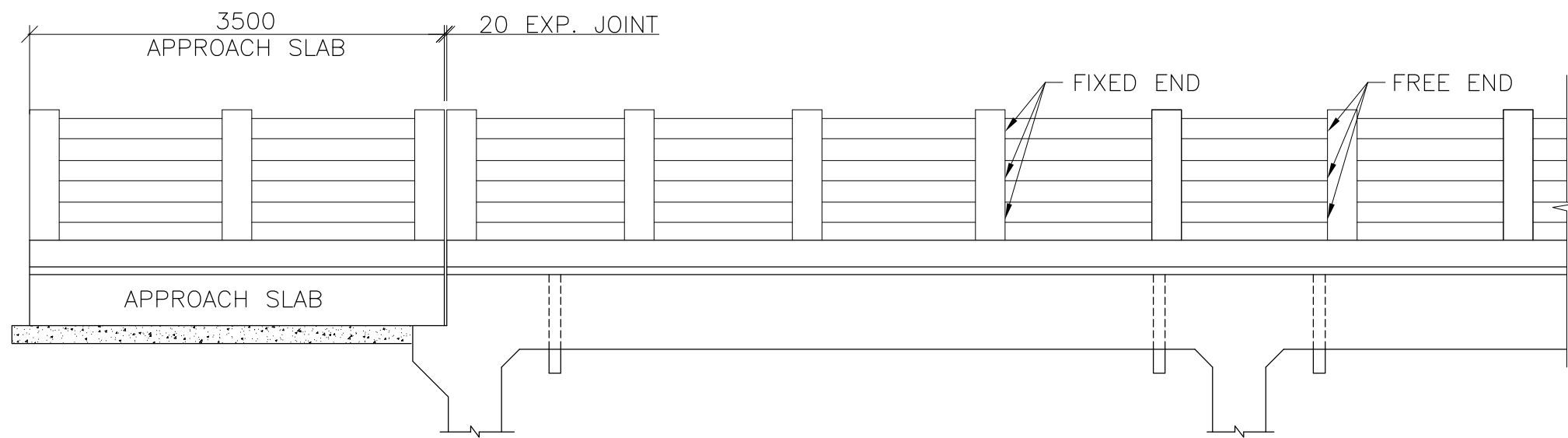
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R0					PROJECT: CONSULTANCY SERVICES FOR PREPARATION OF DPR FOR DEVELOPMENT OF ECONOMIC CORRIDORS, INTER CORRIDORS AND FEEDER ROUTES TO IMPROVE THE EFFICIENCY OF FREIGHT MOVEMENT IN INDIA UNDER BHARATMALA PARIYOJANA (LOT-1) - PACKAGE 1A BILASIPURA-CHAPAR-TULUNGIA-JOGIGHOPA-GENDERA-PAIKAN-DUDHNOI-GUWAHATI ROAD (LENGTH 225.000 KM) IN THE STATE OF ASSAM.					SUBMISSION TYPE: FINAL DETAILED PROJECT REPORT					C.E. TESTING COMPANY PVT. LTD. 124-A, N.S.C. BOSE ROAD KOLKATA - 700092.					REVISION MKD. - R0				
DATE: JANUARY, 2023					PACKAGE NO: (LOT-1) PACKAGE 1A					DRAWN BY: S.W.M					DESIGN BY: T.T.A					CHECKED BY: S.D				
REVISIONS					ISSUED BY: S.BHADRA																			



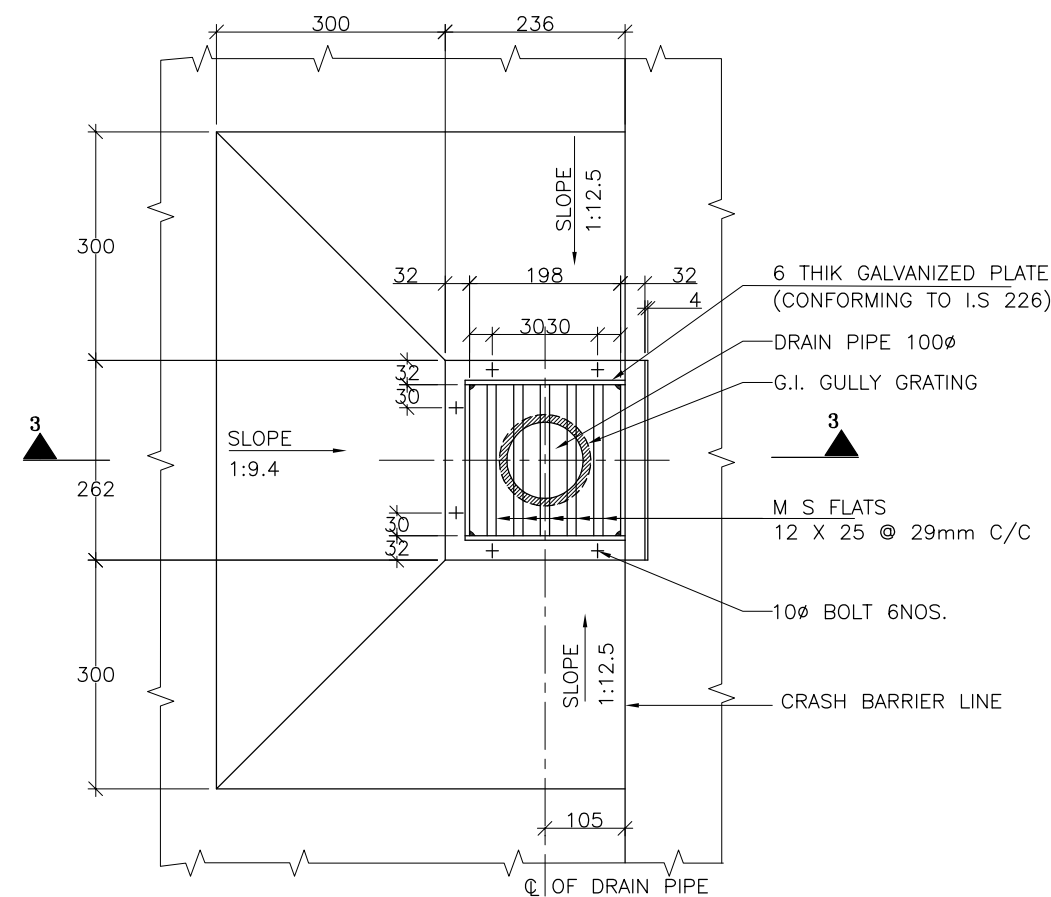
- NOTES:-**
- ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN M .
UNLESS OTHERWISE MENTIONED. ONLY WRITTEN DIMENSIONS
SHALL BE FOLLOWED.
 - THIS DRAWING IS PREPARED IN CONNECTION WITH :
CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/SUP/PSC/42.0M/GA
(SHEET NO. 02)

						SCALE: AS SHOWN	CLIENT:  NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED. 3RD FLOOR, PTI BUILDING, 4-PARLIAMENT STREET, NEW DELHI - 110001	TITLE: DETAIL OF SUPER-STRUCTURE FOR 42.0M SPAN (PACKAGE-10)	CONSULTANT :  Engineering Consultants An ISO 9001, 14001 & OHSAS 18001 Certified Company	DRG. NO. : CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/SUP/PSC/42.0M/GA
R0						DATE: JANUARY, 2023	PROJECT: CONSULTANCY SERVICES FOR PREPARATION OF DPR FOR DEVELOPMENT OF ECONOMIC CORRIDORS, INTER CORRIDORS AND FEEDER ROUTES TO IMPROVE THE EFFICIENCY OF FREIGHT MOVEMENT IN INDIA UNDER BHARATMALA PARIYOJANA (LOT-1) - PACKAGE 1A BILASIPURA-CHAPAR-TULUNGIA-JOGIGHOPA-GENDERA-PAIKAN-DUDHNOI-GUWAHATI ROAD (LENGTH 225.000 KM) IN THE STATE OF ASSAM.	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT	C.E. TESTING COMPANY PV 124-A, N.S.C. BOSE ROAD KOLKATA - 700092.	REVISION MKD. - R0
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.				PACKAGE NO: (LOT-1) PACKAGE 1A		SHEET NO.- 01 OF 02
		REVISIONS								DRAWN BY  S.W.M
										DESIGN BY  T.T.A
										CHECKED BY  K.D
										ISSUED BY  S.BHADRA

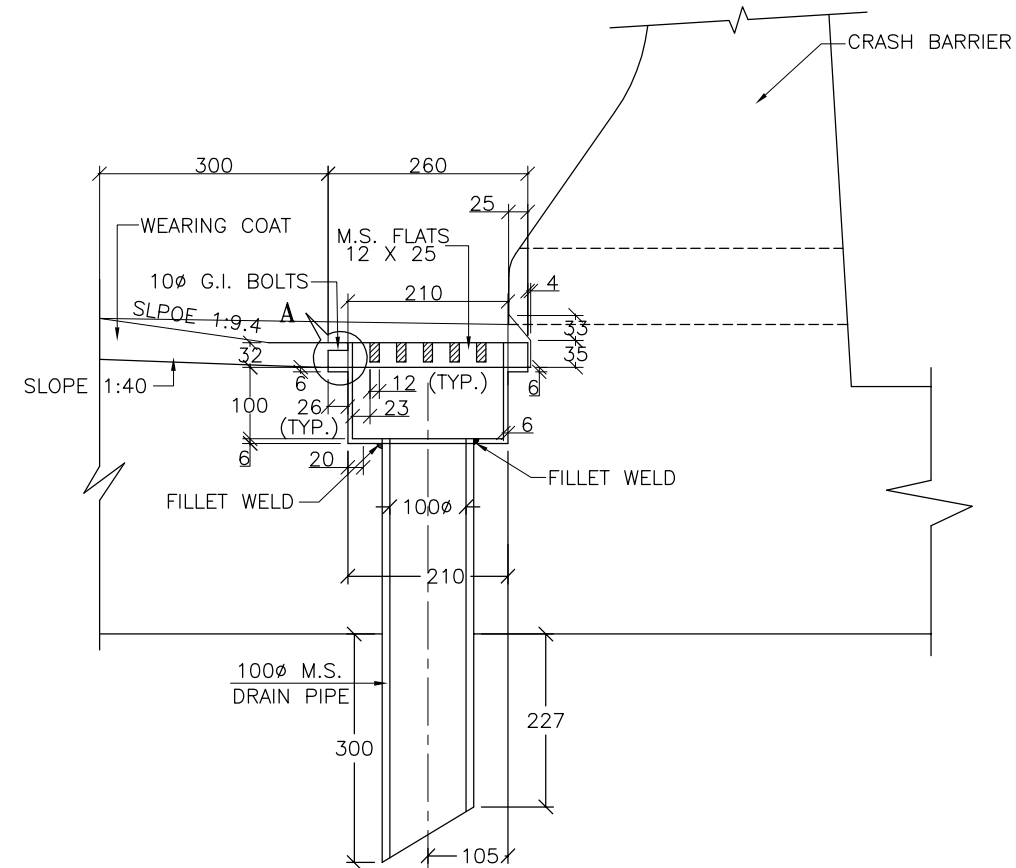
MISCELLANEOUS DRAWING



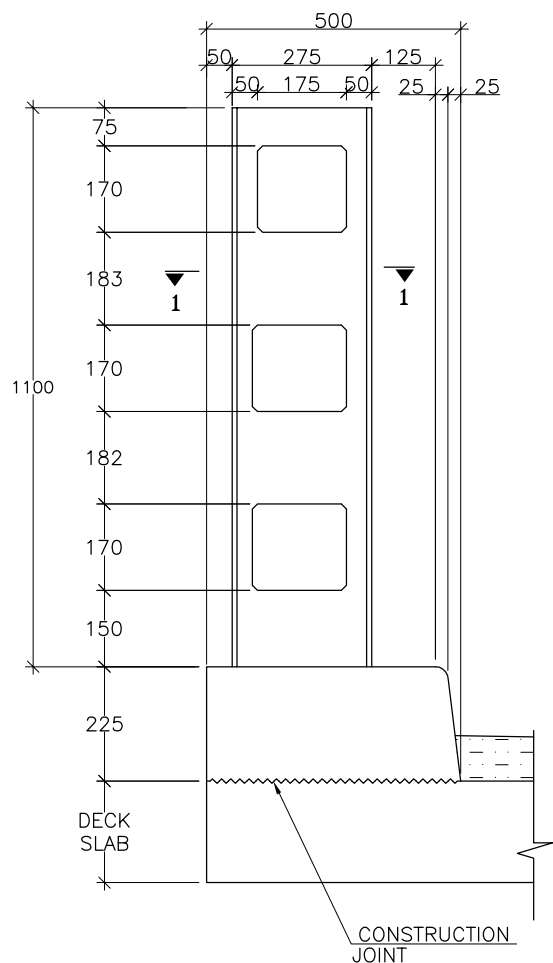
GENERAL ARRANGEMENT OF R.C.C. RAILING
SCALE - 1:75



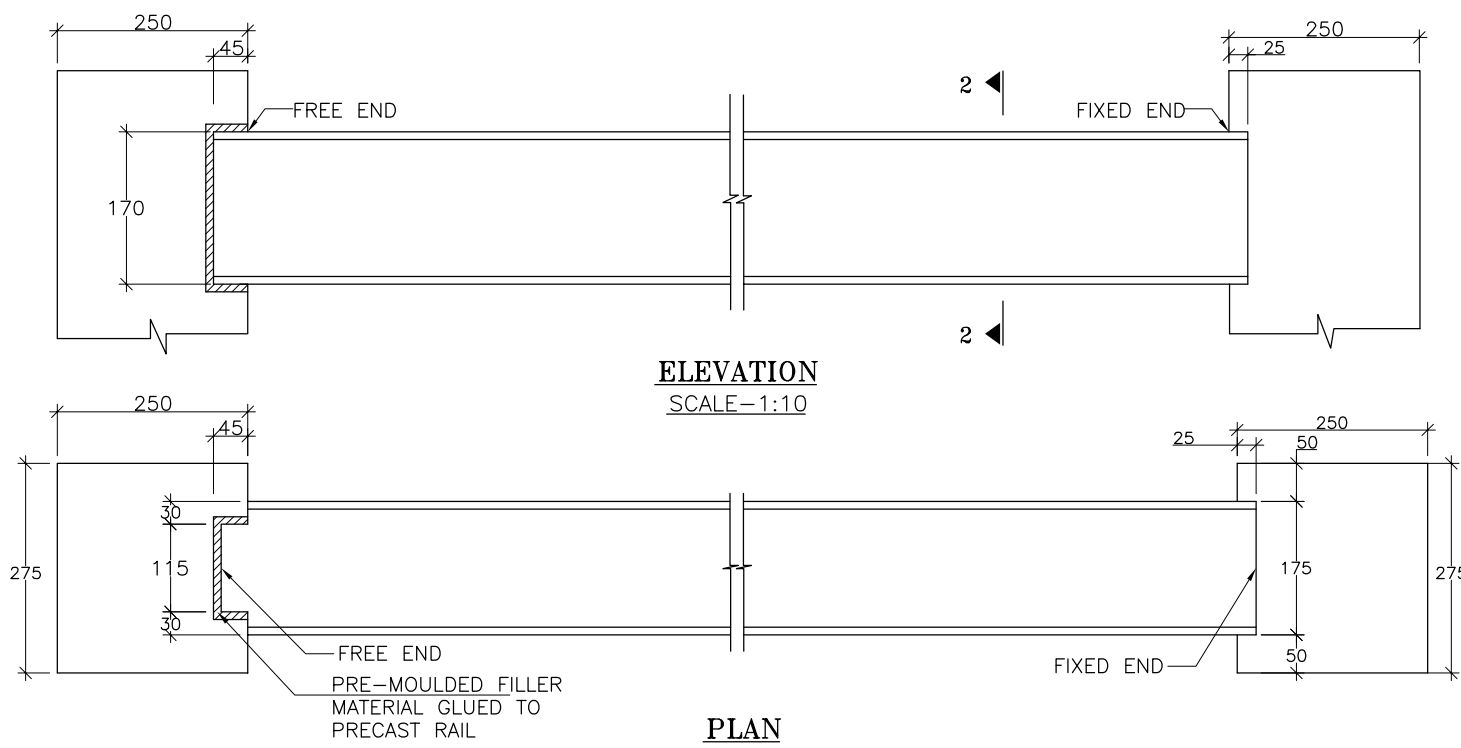
PLAN
(DETAIL OF DRAINAGE SPOUT AND COLLECTION PIT)
SCALE- 1:10



SECTION 3-3
SCALE- 1:10

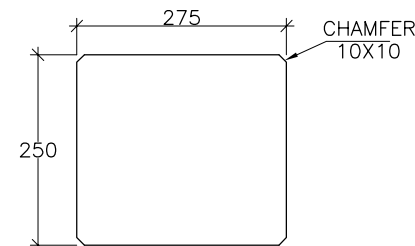


SECTION THROUGH POST
(FOR GENERAL ARRANGEMENT)
SCALE-1:15

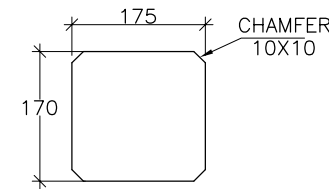


ELEVATION
SCALE-1:10

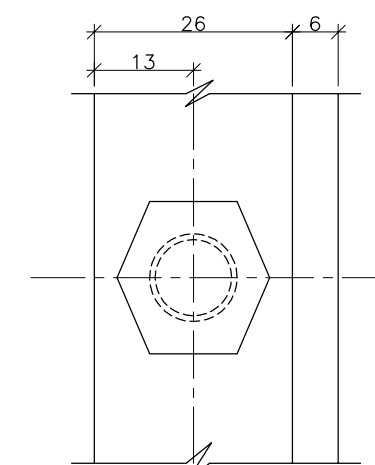
PLAN
DETAIL OF PRECAST HANDRAIL
SCALE- 1:10



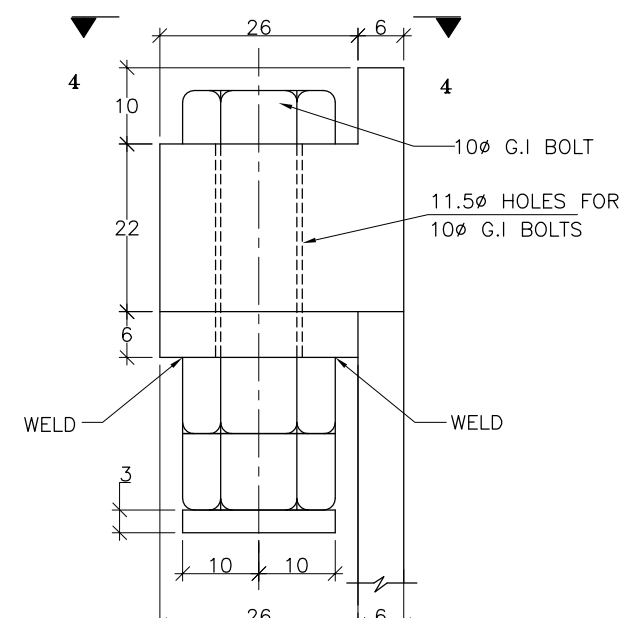
SECTION 1-1
SCALE- 1:10



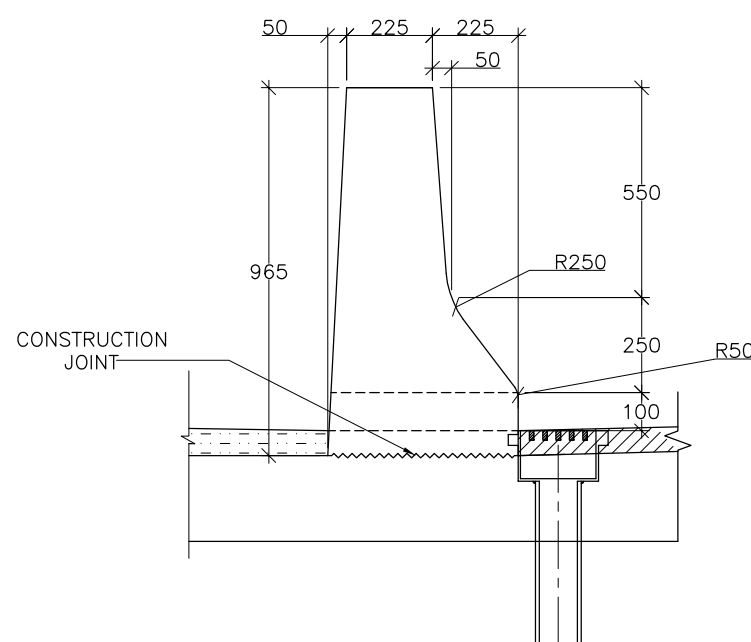
SECTION 2-2
SCALE- 1:10



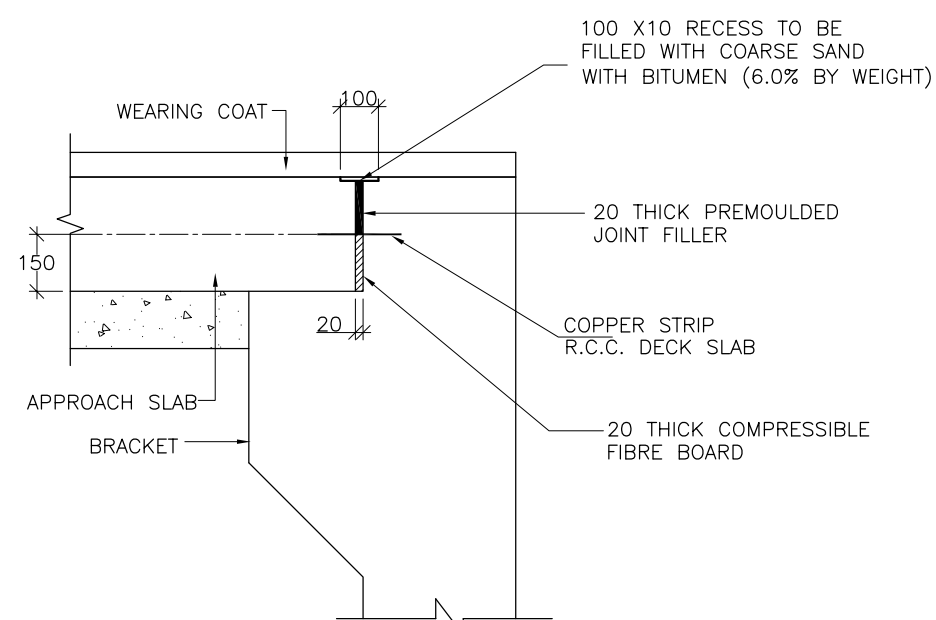
PLAN AT 4-4
SCALE- 1:1



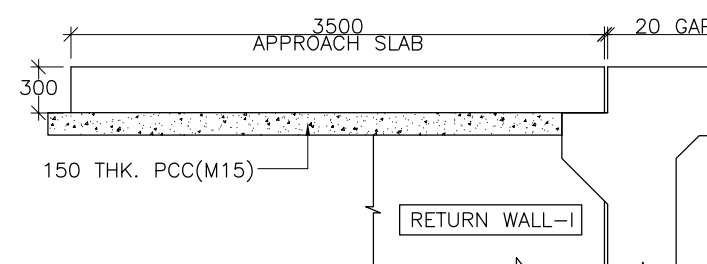
DETAIL - A
SCALE- 1:1



DETAILS OF CRASH BARRIER
SCALE-1:30



DETAILS OF FILLER JOINT
(FOR 20MM GAP.)
SCALE- 1:30



DETAILS OF APPROACH SLAB
SCALE 1:50

NOTES :

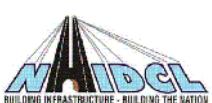
1. ALL DIMENSIONS ARE IN mm. UNLESS OTHERWISE NOTED.

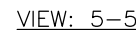
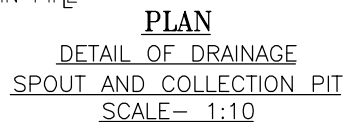
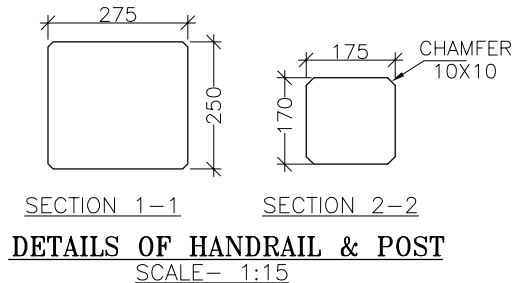
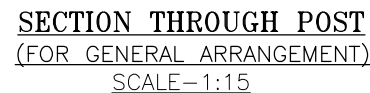
RAILING :

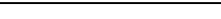
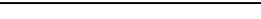
1. REINFORCEMENT OF RAILING POST SHOULD BE SUITABLY ANCHORED IN DECK SLAB.
2. CASTING OF POST SHALL BE DONE IN SINGLE POUR AFTER ACCURATELY POSITIONING THE PRECAST HANDRAIL.
3. RAILING SHALL BE CONSTRUCTED ONLY AFTER THE STRUCTURAL CONCRETE OF SUPERSTRUCTURE HAS HARDENED AND SHUTTERING IS RELEASED.
4. EXPANSION GAPS IN RAILING SHALL BE PROVIDED AT THE SAME LOCATIONS AS IN THE DECK SLAB.

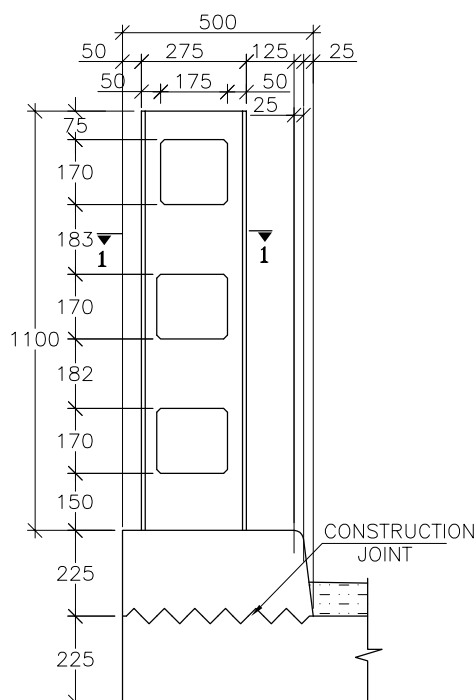
NOTES OF DRAINAGE SPOUT

1. ONLY FIGURED DIMENSIONS ARE TO BE FOLLOWED.
2. ALL STEEL WORK SHALL BE AS PER IS - 2062.
3. DRAINAGE SPOUT & COLLECTION PIT ASSEMBLY SHALL BE FABRICATED FROM MILD STEEL & AFTER FABRICATION, THE COMPLETE ASSEMBLY EXCEPT GRATING SHALL BE GIVEN A HOT DIPPED GALVANISED COATING.
4. THE REINFORCEMENT OF TOP SLAB OF SHALL BE SUITABLY MODIFIED TO ACCOMMODATE THE DRAINAGE SPOUT.
5. THE DRAINAGE SPOUT SHALL BE GALVANIZED AFTER WELDING THE PLATES & FLATS.

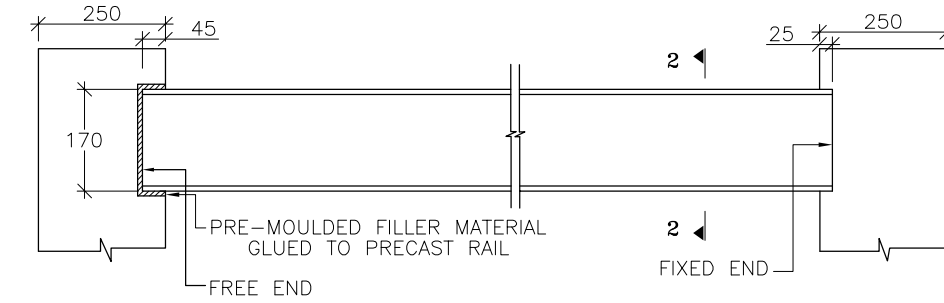
					SCALE: AS SHOWN	CLIENT:  NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED. 3RD FLOOR, PTI BUILDING, 4-PARLIAMENT STREET, NEW DELHI - 110001	TITLE: DETAILS OF R.C.C RAILING, CRASH BARRIER FILLER JOINT,DRAINAGE SPOUT (PACKAGE-10)	CONSULTANT:  An ISO 9001, 14001 & OHSAS 18001 Certified Company C.E. TESTING COMPANY PV 124-A, N.S.C. BOSE ROA KOLKATA - 700092. 	DRG. NO. : CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/MISC/BOX
									REVISION MKD. - R0 SHEET NO. - 01 OF 01
R0									DRAWN BY DESIGN BY CHECKED BY ISSUED BY
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.	DATE: JANUARY, 2023	PROJECT: CONSULTANCY SERVICES FOR PREPARATION OF DPR FOR DEVELOPMENT OF ECONOMIC CORRIDORS, INTER CORRIDORS AND FEEDER ROUTES TO IMPROVE THE EFFICIENCY OF FREIGHT MOVEMENT IN INDIA UNDER BHARATMALA PARIYOJANA (LOT-1) - PACKAGE 1A BILASIPURA-CHAPAR-TULUNGIA-JOGIGHOPA-GENDERA-PAIKAN-DUDHNOI-GUWAHATI ROAD (LENGTH 225.00 KM) IN THE STATE OF ASSAM.	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT		A.Manna A.M - S.D S.BHADRA
REVISIONS							PACKAGE NO: (LOT-1) PACKAGE 1A		



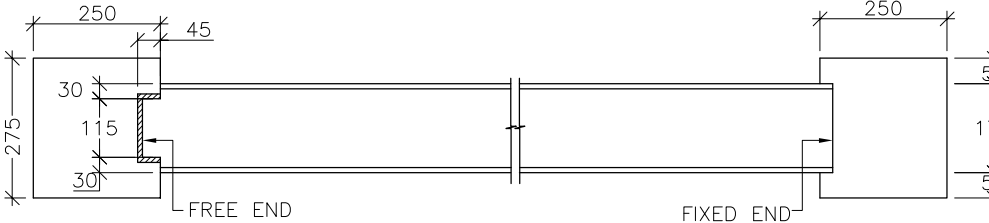
					SCALE: AS SHOWN	CLIENT:  NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED. 3RD FLOOR, PTI BUILDING, 4-PARLIAMENT STREET, NEW DELHI - 110001	TITLE: DETAILS OF DRAINAGE SPOUT, FILLER JOINT, EXP. GAP, RCC RAILING & CRASH BARRIER (PACKAGE-10)	CONSULTANT :  An ISO 9001, 14001 & OHSAS 18001 Certified Company  C.E. TESTING COMPANY PV 124-A, N.S.C. BOSE ROAD KOLKATA - 700092.	DRG. NO. : CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/MISC/INTEGRAL
R0					DATE: JANUARY, 2023	PROJECT: CONSULTANCY SERVICES FOR PREPARATION OF DPR FOR DEVELOPMENT OF ECONOMIC CORRIDORS, INTER CORRIDORS AND FEEDER ROUTES TO IMPROVE THE EFFICIENCY OF FREIGHT MOVEMENT IN INDIA UNDER BHARATMALA PARIYOJANA (LOT-1) - PACKAGE 1A BILASIPURA-CHAPAR-TULUNGIA-JOGIGHOPA-GENDERA-PAIKAN-DUDHNOI-GUWAHATI ROAD (LENGTH 225.000 KM) IN THE STATE OF ASSAM.	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT		REVISION MKD. - R0 SHEET NO. - 01 OF 01
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.					DRAWN BY A. Mauna A.M
REVISIONS									



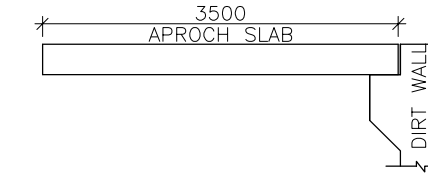
SECTION THROUGH POST
(FOR GENERAL ARRANGEMENT)
SCALE-1:20



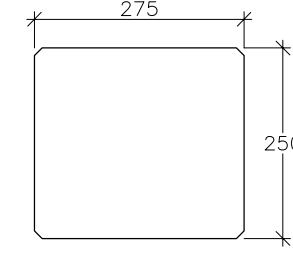
SECTIONAL ELEVATION
SCALE-1:15



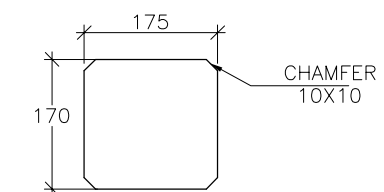
PLAN
(DETAIL OF PRECAST HANDRAIL)
SCALE-1:15



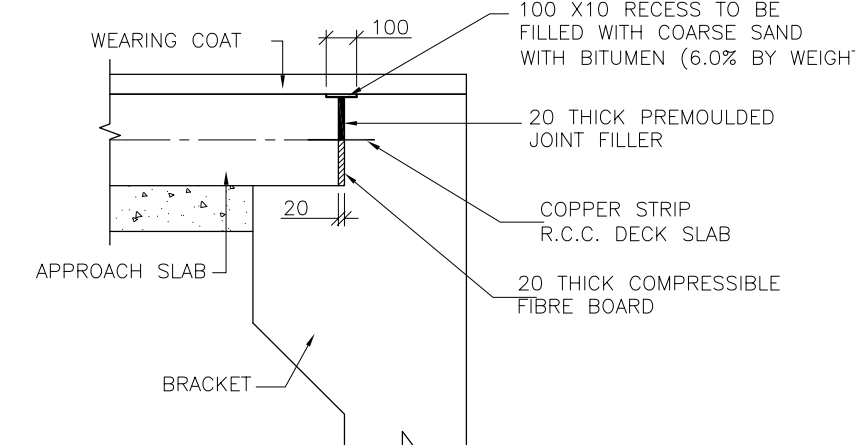
DETAILS OF APPROACH SLAB
SCALE 1:75



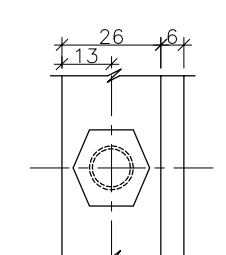
SECTION 1-1
SCALE-1:10



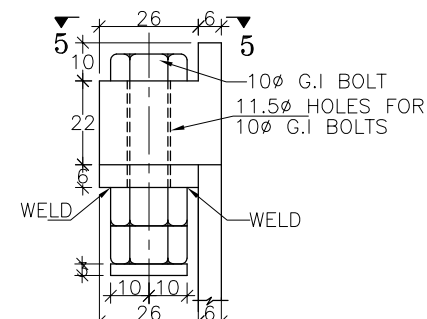
SECTION 2-2
SCALE-1:15



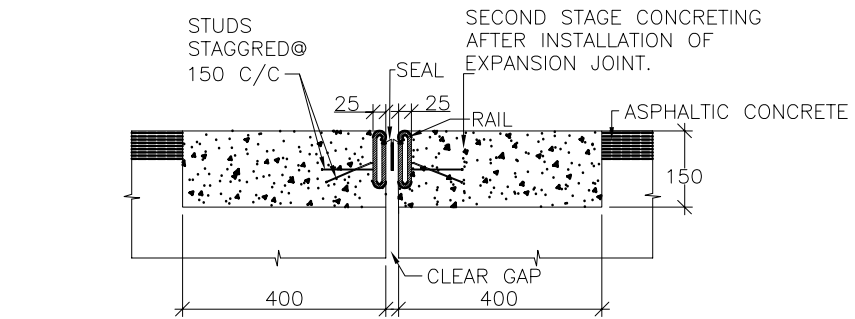
DETAILS OF FILLER JOINT
SCALE-1:30



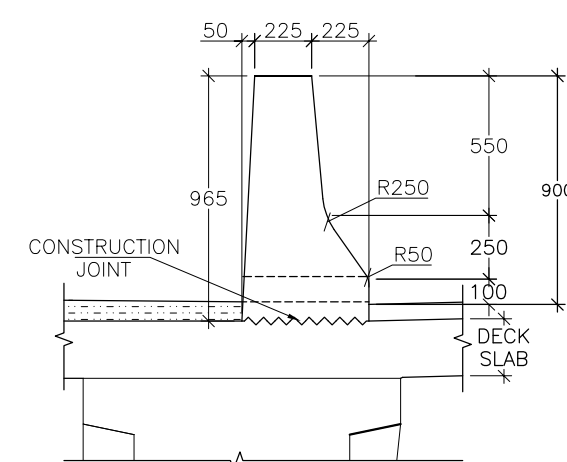
PLAN AT 5-5
SCALE-1:2



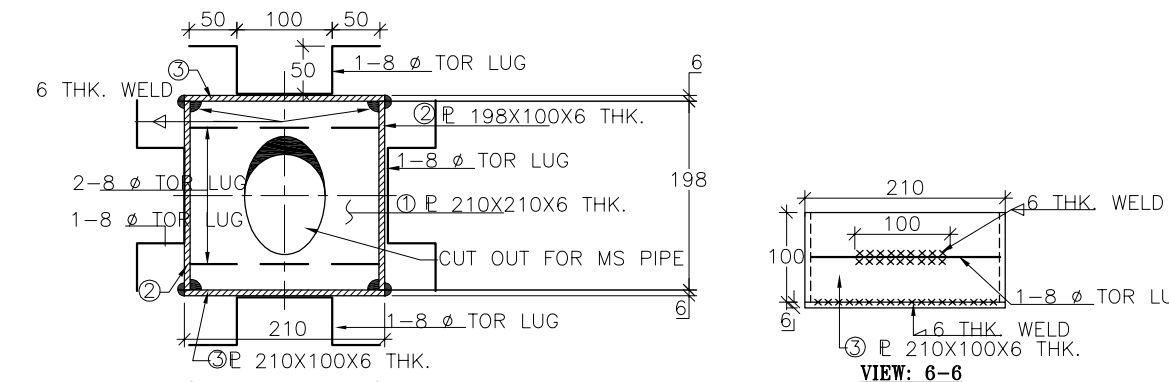
DETAIL - A
SCALE-1:2



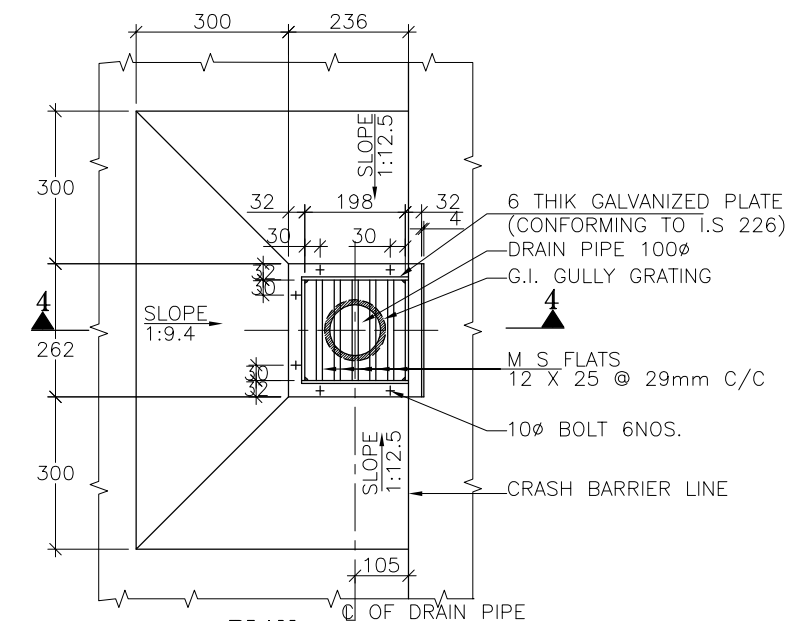
DETAIL OF STRIP TYPE EXPANSION JOINT(40mm GAP)
SCALE 1:15



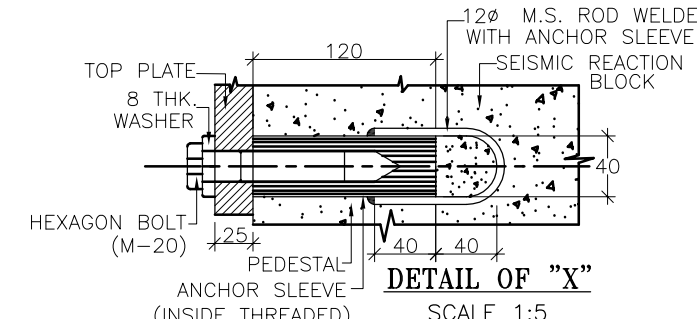
DETAILS OF CRASH BARRIER
(FOR GENERAL ARRANGEMENT)
SCALE-1:30



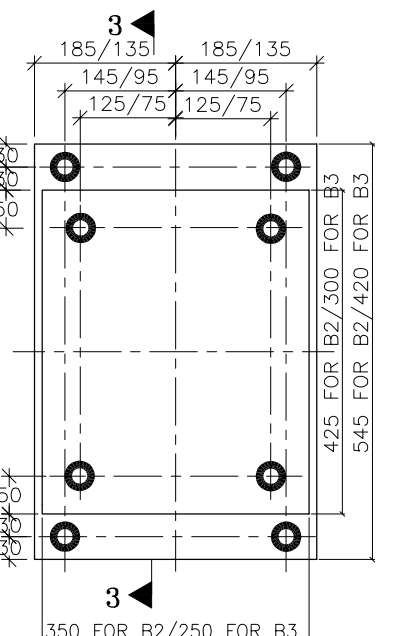
DETAIL OF DRAINAGE BOX
SCALE 1:10



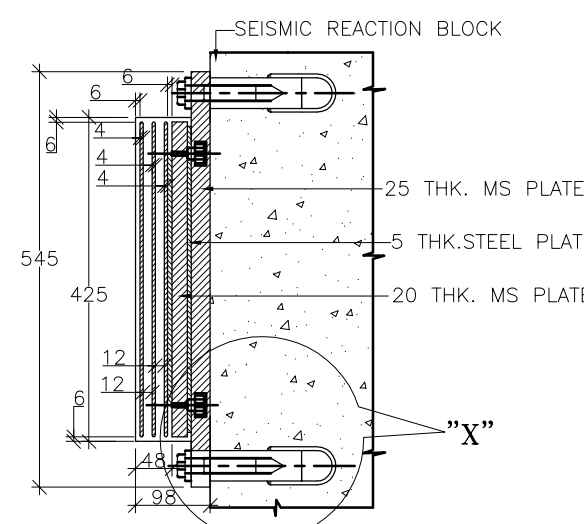
PLAN
DETAIL OF DRAINAGE
SPOUT AND COLLECTION PIT
SCALE-1:15



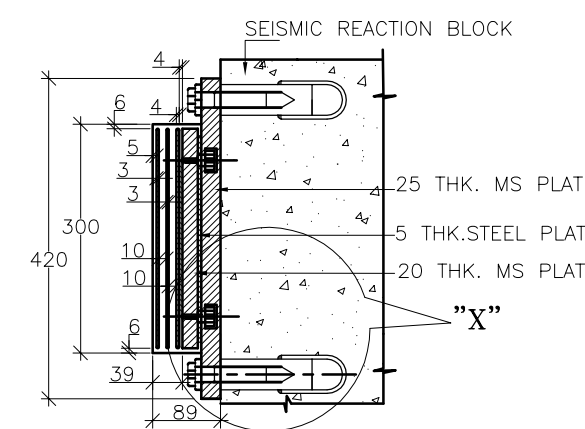
DETAIL OF "X"
SCALE 1:5



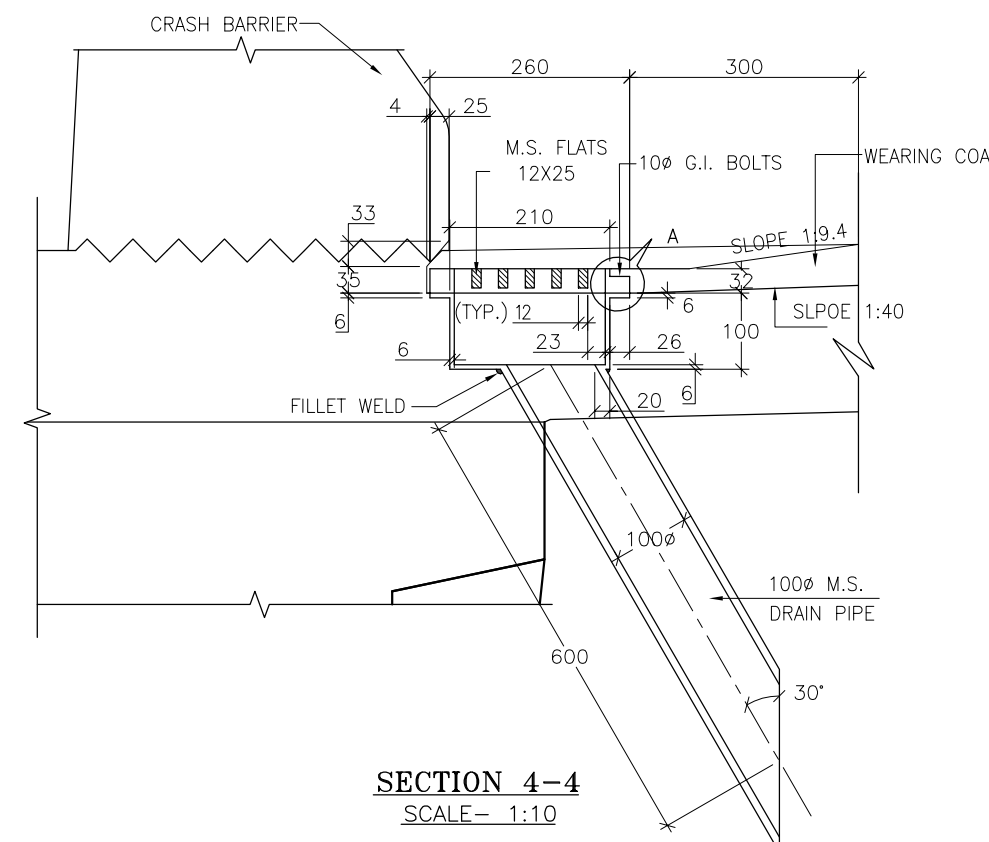
DETAIL OF SEISMIC ARRESTOR
WITH FIXTURES
(TYPE B2 & TYPE B3)
SCALE 1:10



SECTION 3-3
(FOR B2)
SCALE 1:10



SECTION 3-3
(FOR B3)
SCALE 1:10



SECTION 4-4
SCALE-1:10

SPECIAL NOTES FOR VERTICAL ELASTOMERIC BEARINGS INSTALLATION INSTRUCTIONS :

- CARE SHALL BE TAKEN IN PACKING ,TRANSPOTATION,STORAGE AND HANDLING TO AVOID ANY MECHANICAL DAMAGE, CONTAMINATION WITH OIL,GREASE AND DIRT,UNDUE EXPOSURE TO SUNLIGHT AND WEATHER.
- THE BEARINGS SHALL BE PLACED IN A RECESS
- THE POSITION OF THE BEARINGS SHALL BE ACCURATELY MARKED ON THE AREA WHERE THE BEARINGS SHALL BE SEATED ACCURATELY LEVELED.
- THE CONCRETE SURFACE SHALL BE FREE FROM ANY LOOSE MATERIAL AND CLEANED OF ANY GREASE,OIL PAINT ETC.THE SURFACE SHALL BE SAND BLASTED,CLEAN OF ALL LAITANCE AND LEVELED TRUE.
- BEARINGS MUST BE PLACED BETWEEN TRUE HORIZONTAL SURFACES (MAXIMUM TOLERANCE 0.2 PER CENT PERPENDICULAR TO LOAD) AND AT TRUE PLAN POSITION OF THEIR CONTROL LINES MARKED ON RECEIVING SURFACES(MAXIMUM TOLERANCE + 3mm).CONCRETE SURFACES SHALL BE FREE LOCAL IRREGULARITIES(MAXIMUM TOLERANCE+ 1mm IN HEIGHT).
- THE FROMS AROUND THE BEARINGS SHALL BE SOFT ENOUGH FOR EASY REMOVAL . FROMS SHALL ALSO FIT THE BEARINGS SNUGLY AND PREVENT ANY LEAKAGE OF MORTAR GROUT . ANY MORTAR CONTAMINATING THE BEARING DURING CONCRETING SHALL BE COMPLETELY REMOVED BEFORE SETTING.
- THE TEMPORARY FORMS SHALL BE REMOVED AFTER THE SUPERSTRUCTURE CONCRETE HAS SET. THE SIDES OF THE BEARINGS SHALL BE CLEANED OF ANY DEPOSIT OF CEMENT SLURRY/CONCRETE.
- SURFACE OF REACTION BLOCK, USED FOR BEARING INSTALLATION SHOULD BE FAIR FACED.

MAINTENANCE :

- THE BEARINGS SHALL BE SUBJECTED TO PLANNED MAINTENANCE CARE.
- THE EXPOSED BEARING SURFACE SHALL BE MAINTAINED CLEAN AND FREE FROM CONTAMINATION WITH GREASE OR OIL,ETC.
- ANNUAL ROUTINE MAINTENANCE INSPECTION OR SPECIAL MAINTENANCE INSPECTION OF ALL BEARINGS SHALL BE MADE TO CHECK FOR ANY SURFACE CRACKING OR SIGNS OF DAMAGE, DETERIORATION OR DISTRESS.
- DAMAGED BEARINGS SHALL BE REPLACED IMMEDIATELY. TO AVOID DIFFERENCES IN STIFFNESS, ALL ADJACENT BEARINGS ON THE SAME LINE OF SUPPORT SHALL ALSO BE REPLACED AND UNIFORM SEATING OF THE MAIN GIRDERS OVER ALL THE NEW BEARINGS SHALL BE ENSURED.

RAILING :

- REINFORCEMENT OF RAILING POST SHOULD BE SUITABLY ANCHORED IN DECK SLAB.
- CASTING OF POST SHALL BE DONE IN SINGLE POUR AFTER ACCURATELY POSITIONING THE PRECAST HANDRAIL.
- RAILING SHALL BE CONSTRUCTED ONLY AFTER THE STRUCTURAL CONCRETE OF SUPERSTRUCTURE HAS HARDENED AND SHUTTERING IS RELEASED.
- EXPANSION GAPS IN RAILING SHALL BE PROVIDED AT THE SAME LOCATIONS AS IN THE DECK SLAB.

NOTES :

- ALL DIMENSIONS ARE IN mm. UNLESS OTHERWISE NOTED.
- BEARING TYPE B1,B2 & B3 SHOULD BE PLACED ON ABUTMENT AS PER THEIR POSITIONS MARKED IN GENERAL ARRANGEMENT DRAWINGS.
- SPECIFICATIONS INCLUDING PERMISSIBLE TOLERANCES FOR THE ELASTOMERIC BEARINGS SHALL BE IN ACCORDANCE WITH IRC:83(PART II)2015 STANDARD SPECIFICATIONS AND CODE OF PRACTICE FOR ROAD BRIDGES SECTION IX PART II-ELASTOMERIC BEARINGS.
- RAW MATERIAL CHLOROPRENE (CR) SHALL ONLY BE USED IN MANUFACTURE OF BEARINGS.
- GRADES OF RAW ELASTOMER OF PROVEN USE IN ELASTOMERIC BEARINGS, WITH LOW CRYSTALLISATION RATES AND ADEQUATE SHELF LIFE (E.G.NEOPRENE WRT. BAYPRENE 110 OR EQUIVALENT) SHALL BE USED. NO UNCLAIMED RUBBER OR VULCANISED WASTES SHALL BE USED. THE RAW ELASTOMER CONTENT OF THE COMPOUND SHALL NOT BE LOWER THAN 60 PER CENT. THE ASH CONTENT SHALL NOT EXCEED 5 PER CENT.(AS PER TESTS CONDUCTED IN ACCORDANCE WITH ASTM D-297).EPDM AND OTHER SIMILAR CANDIDATE ELASTOMERS FOR BRIDGS BEARING USE SHALL NOT BE PERMITTED.
- FABRICATION, TESTING AND ACCEPTANCE OF BEARINGS SHALL BE IN ACCORDANCE WITH IRC:83(PART II) 1987.
- BEARINGS SHALL BE HANDLED CAREFULLY. THESE SHALL BE PROCTED FROM BRIGHT SUN LIGHT AND EXTREME COLD. THESE SHALL BE STORED NEATLY UNDER COVER TILL INSTALLATION.
- BEARINGS & EXPANSION JOINTS SHALL BE PROCURED ONLY FROM PREQUALIFIED MANUFACTURERS.

NOTES OF DRAINAGE SPOUT

- ONLY FIGURED DIMENSIONS ARE TO BE FOLLOWED.
- ALL STEEL WORK SHALL BE AS PER IS - 2062.
- DRAINAGE SPOUT & COLLECTION PIT ASSEMBLY SHALL BE FABRICATED FROM MILD STEEL & AFTER FABRICATION, THE COMPLETE ASSEMBLY EXCEPT GRATING SHALL BE GIVEN A HOT DIPPED GALVANISED COATING.
- THE REINFORCEMENT OF TOP SLAB OF DECK SHALL BE SUITABLY MODIFIED TO ACCOMMODATE THE DRAINAGE SPOUT.
- THE DRAINAGE SPOUT SHALL BE GALVANIZED AFTER WELDING THE PLATES & FLATS.

						SCALE: AS SHOWN	CLIENT:  NATIONAL HIGHWAYS AND INFRASTRUCTURE DEVELOPMENT CORPORATION LIMITED. 3RD FLOOR, PTI BUILDING, 4-PARLIAMENT STREET, NEW DELHI - 110001	TITLE: DETAILS OF DRAINAGE SPOUT, EXP. GAP RCC RAILING & CRASH BARRIER,APPROACH SLAB,SEISMIC ARRESTER BLOCK (PACKAGE-10)	CONSULTANT :  C.E. TESTING COMPANY PV 124-A, N.S.C. BOSE ROAL KOLKATA - 700092.	DRG. NO. : CET/BDG/2018/4146/NHIDCL/NH-17/B-G ROAD/FDPR/MISC/PSC T GIRDER			
										REVISION MKD. - R0	SHEET NO.- 01 OF 01		
R0										DRAWN BY	DESIGN BY	CHECKED BY	ISSUED BY
MKD.	DATE	DESCRIPTION	CHKD.	APPRD.		DATE: JANUARY, 2023	PROJECT: CONSULTANCY SERVICES FOR PREPARATION OF DPR FOR DEVELOPMENT OF ECONOMIC CORRIDORS, INTER CORRIDORS AND FEEDER ROUTES TO IMPROVE THE EFFICIENCY OF FREIGHT MOVEMENT IN INDIA UNDER BHARATMALA PARIYOJANA (LOT-1) - PACKAGE 1A BILASIPURA-CHAPAR-TULUNGIA-JOGIGHOPA-GENDERA-PAIKAN-DUDHNOI-GUWAHATI ROAD (LENGTH 225.000 KM) IN THE STATE OF ASSAM.	SUBMISSION TYPE : FINAL DETAILED PROJECT REPORT			A. Manna	Kousik Datta	S.BHADRA
REVISIONS								PACKAGE NO: (LOT-1) PACKAGE 1A					