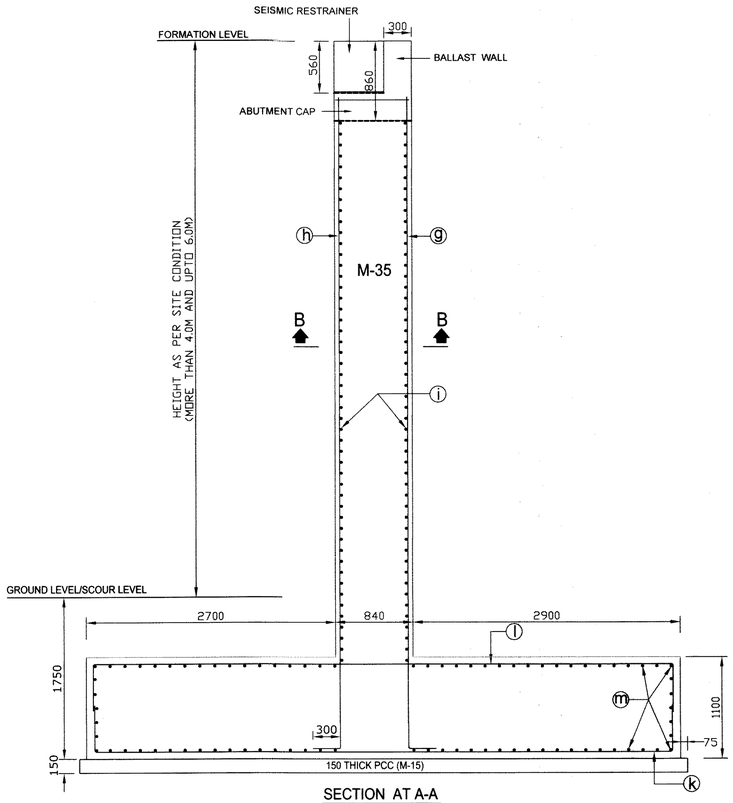
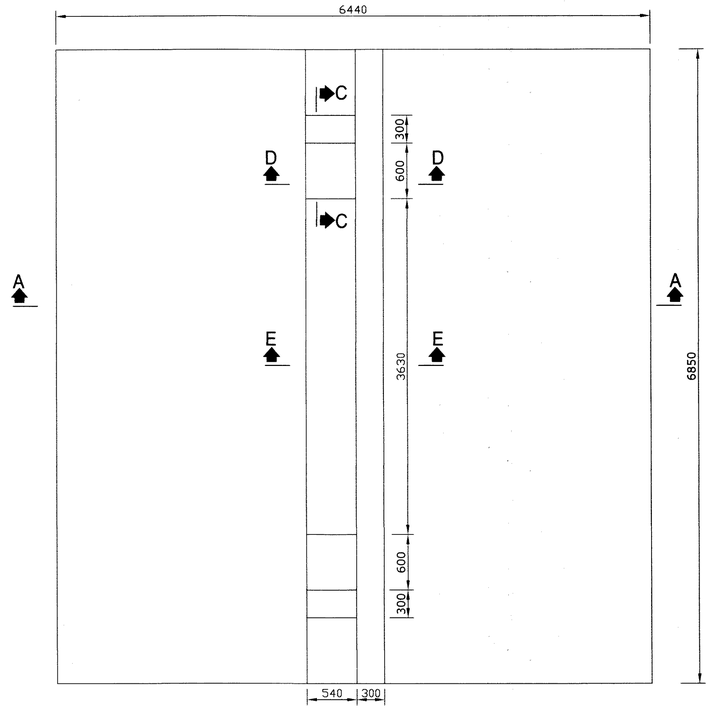
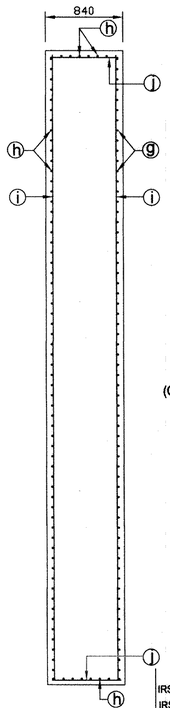


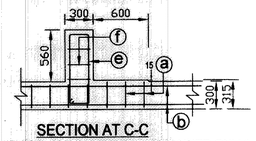
SECTION AT A-A



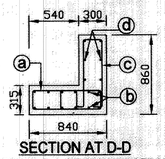
PLAN OF ABUTMENT



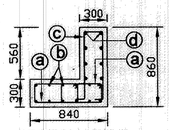
SECTION AT B-B



SECTION AT C-C
(ABUTMENT CAP & SEISMIC RESTRAINER ONLY)



SECTION AT D-D
(CAP, BALLAST WALL & SEISMIC RESTRAINER ONLY)



SECTION AT E-E
(ABUTMENT CAP & BALLAST WALL ONLY)

BAR BENDING SCHEDULE

DISCRIPTION	NAME OF BAR	DIA OF BAR (mm)	SPACING (mm)	BAR BENDING DIMENSIONS (mm)	LENGTH OF SINGLE BAR (mm)	TOTAL NOs. REQUIRED	WEIGHT PER METRE (kg/m)	TOTAL WEIGHT (kg)
ABUTMENT CAP	a	10	200	445, 200	1773	70	0.617	76.6
	b (BOTH FACES)	16	145	6750	6750	12	1.58	128.0
BALLAST WALL	c	12	200	200, 734	1968	35	0.888	61.2
	d	10	200	6750	6750	6	0.617	25.0
SEISMIC RESTRAINER	e	10	150	760, 200	2405	8	0.617	11.9
	f	10	200	440, 200	1765	6	0.617	6.5
ABUTMENT WALL	g	25	100	2019, 300	7464	69	3.85	1982.8
	h	12	100	300, 2019	7389	84	0.888	551.2
	i (BOTH FACES)	12	120	6750	6750	98	0.888	587.4
	j	12	120	740	1050	98	0.888	91.4
FOOTING	k	25	125	6390, 550	7690	55	3.85	1628.4
	l	20	125	6390, 550	7630	55	2.47	1036.5
	m	16	160	6700	6700	82	1.58	868.1

QUANTITY SCHEDULE

SL. NO.	DESCRIPTION	QUANTITY
1.	NET WEIGHT OF BAR # 10	0.120 t
2.	NET WEIGHT OF BAR # 12	1.291 t
3.	NET WEIGHT OF BAR # 16	0.996 t
4.	NET WEIGHT OF BAR # 20	1.037 t
5.	NET WEIGHT OF BAR # 25	3.611 t
6.	NET WEIGHT OF STEEL + 10% WASTAGE	7.760 t
7.	CONCRETE QUANTITY	84.73 m^3

NOTES:

1. ALL DIMENSIONS ARE IN MM EXCEPT OTHERWISE SHOWN.
2. THIS DESIGN OF ABUTMENT IS SUITABLE FOR SUPPORTING 6.1m PRE-TENSIONED PSC SLAB (2 UNIT) AND 6.1M POST-TENSIONED PSC SLAB (2 UNIT) ALONGWITH BALLAST RETAINERS FOR 25t LOADING-2008, CONFORMING TO RDSO'S DRAWING NO. BA-10257 AND RDSO/B-10274 RESPECTIVELY.
3. THIS DRAWING IS SUITABLE FOR STRAIGHT TRACK ALIGNMENT .
4. THE DESIGN IS SUITABLE FOR SEISMIC ZONES IV & V.
5. THE DESIGN IS SUITABLE FOR SEVERE ENVIRONMENT EXPOSURE CONDITION i.e. DESIGN VIDE CLAUSE 10.2 OF IRS CONCRETE BRIDGE CODE-2014.
6. WEIGHT OF MATERIALS HAS BEEN CONSIDERED AS GIVEN BELOW:-
   (a) EARTH / BACK FILL MATERIAL - 17.6 kN/m³
   (b) R.C.C - 25 kN/m³
7. DESIGN IS BASED ON FOLLOWING CODES :-
   (i) IRS BRIDGE SUB-STRUCTURE AND FOUNDATION CODE -2013
   (ii) IRS BRIDGE RULES -2014
   (iii) IRS CONCRETE BRIDGE CODE- 2014.
8. ALL REINFORCEMENT BARS SHALL BE OF HIGH STRENGTH DEFORMED BARS (HSD/TMT) (Fe 415 / Fe 500D) CONFORMING TO IS:1786.
9. CLEAR COVER FOR REINFORCING BARS OF FOOTING SHOULD BE 75mm AND FOR BALLAST WALL, CAP AND ABUTMENT WALL SHOULD BE 50mm.
10. THE SAFE BEARING CAPACITY OF SOIL HAS BEEN TAKEN AS 20 t/m². SUITABILITY OF FOUNDATION PRESSURE SHALL BE CHECKED AS PER SITE CONDITION.
11. STRESSES HAVE BEEN WORKED OUT FOR LOAD COMBINATION I & III AS PER CLAUSE 5.13 OF IRS BRIDGE SUB-STRUCTURE AND FOUNDATION CODE - 2013.
12. THE DESIGN IS SUITABLE FOR ABUTMENT MORE THAN 4.0M AND UPTO 6.0M HEIGHT ONLY. HEIGHT HAS BEEN CONSIDERED FROM GROUND LEVEL TO FORMATION LEVEL.
13. EFFECT OF OHE MAST HAS NOT BEEN CONSIDERED.
14. DISTRIBUTION OF LONGITUDINAL FORCE HAS BEEN CONSIDERED VIDE CLAUSE 2.8.2.4.1 OF IRS BRIDGE RULES .
15. DISPERSION OF LONGITUDINAL FORCE HAS BEEN CONSIDERED VIDE CLAUSE 2.8.5 OF IRS BRIDGE RULES .
16. ANGLE OF INTERNAL FRICTION OF BACK FILL MATERIAL HAS BEEN TAKEN AS 35° VIDE CLAUSE 5.7.1.8 OF IRS BRIDGE SUB-STURCTURE AND FOUNDATION CODE -2013.
17. WEEP HOLES SHOULD BE PROVIDED AT 1m C/C VIDE CLAUSE 7.6 AND FIG. 9 OF IRS BRIDGE SUB-STRUCTURE AND FOUNDATION CODE.
18. HEIGHT OF BALLAST WALL HAS BEEN CONSIDERED UPTO THE BOTTOM OF SLEEPER.
19. LENGTH OF ABUTMENT HAS BEEN TAKEN AS 6.85 m MINIMUM.
20. THE CONCRETE GRADE FOR ABUTMENT CAP, ABUTMENT WALL , ABUTMENT FOOTING, BALLAST WALL & SEISMIC RESTRAINER IS M-35.
21. WING WALL AND RETURN WALL SHOULD BE DESIGNED SUITABLY BY ZONAL RAILWAYS AS PER SITE CONDITIONS.
22. IN CASE OF ERODIBLE SOILS, FLOORING SHALL BE ENCLOSED BY SUITABLY DESIGNED CURTAIN WALL AND DROP WALL (TIED TO THE WING WALLS).
23. WEIGHT IN BAR BENDING SCHEDULE ARE TENTATIVE FOR GUIDANCE ONLY. PAYMENT MAY BE MADE AFTER DETAIL COMPUTATION AS PER CONTRACT/CODAL CONDITION.
24. ALL RCC SURFACES COMING IN CONTACT WITH SOIL SHOULD BE PAINTED WITH BITUMIN OR COALTAR OF APPROVED QUALITY @ 1.464 KG PER SQUARE METER.

R.D.S.O

R.C.C ABUTMENT MORE THAN 4.0m AND UPTO 6.0m HEIGHT FOR 6.1m SPAN PSC SLAB (2 UNIT) 25t LOADING-2008 (SEISMIC ZONES - IV&V)

PROVISIONAL DATE:27.7.2015

RDSO/B-10356

IRS BRIDGE SUBSTRUCTURE & FOUNDATION CODE
IRS BRIDGE RULES
IRS CONCRETE BRIDGE CODE

MILLIMETERS
300 150 0 300 600 900 1200 1:30

NOTE	SPECIFICATION	SCALE	ALT	DESCRIPTION	DATE

CAL. REGISTER NO.: CB-II/40	DONE BY-SHWETA SUMAN (SSE/D/CB-II) Shweta	DRAWN BY-ANJANA BHASIN(SSE/D/CB-II)	SCRUTINISED & CHECKED BY	SCRUTINISED & RECOMMENDED BY	APPROVED BY
NOTING PAGE NO.	CHECKED BY-BINAY KUMAR(SSE/D/CB-II)	CHECKED BY-SHWETA SUMAN (SSE/D/CB-II) Shweta	DY.CE/B&S/CB-II	DIRECTOR/B&S/CB-II	ED/STRUCTURES 27/7/2015
			B&S DIRECTORATE		
			FILE No. CBS/DPA		