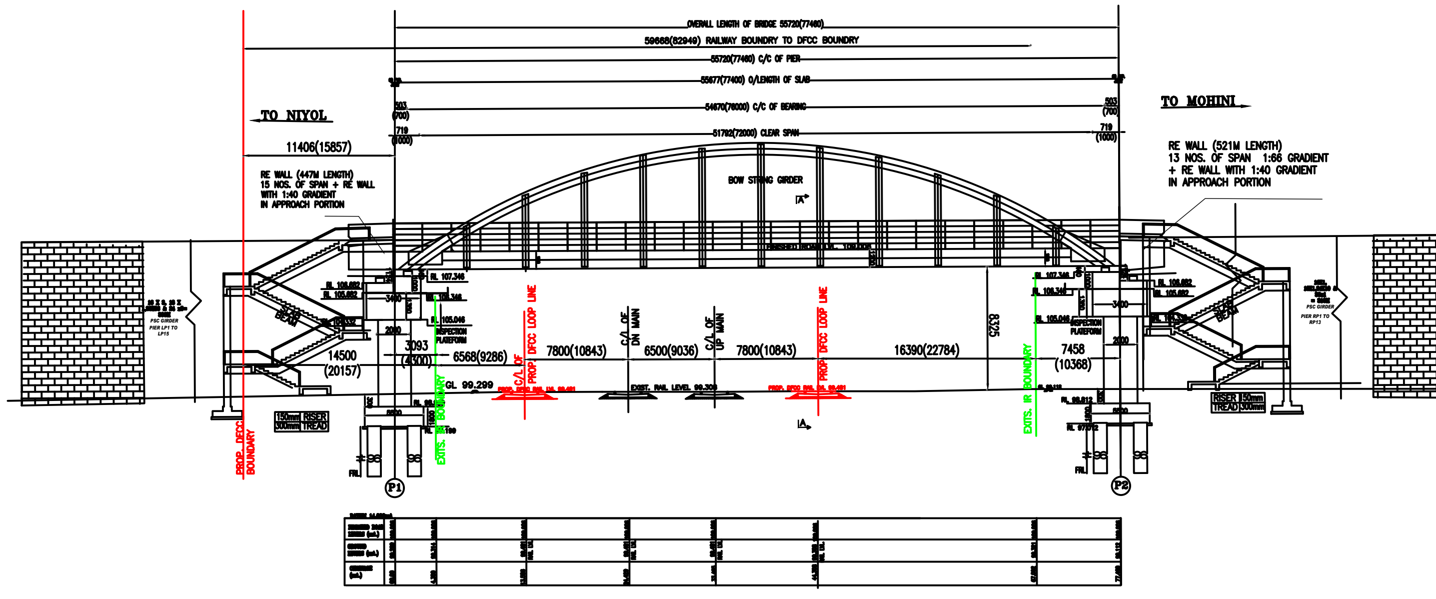
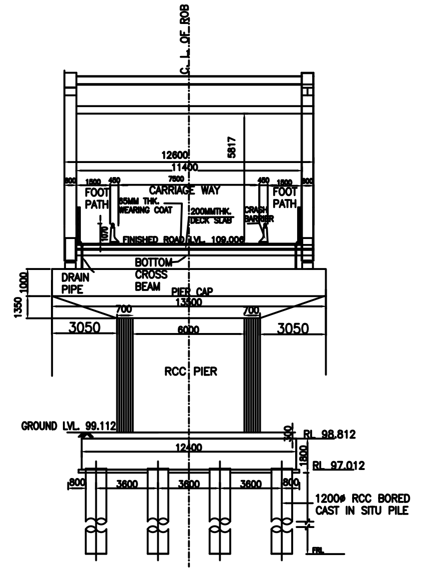


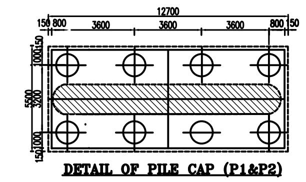
FRONT ELEVATION OF BRIDGE FOR RAILWAY PORTION



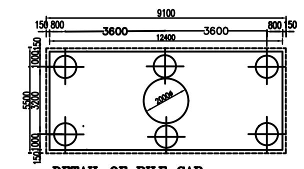
CROSS SECTION AT A–A
(BOW STRING GIRDER)

ITEM NO.: OF P.B.

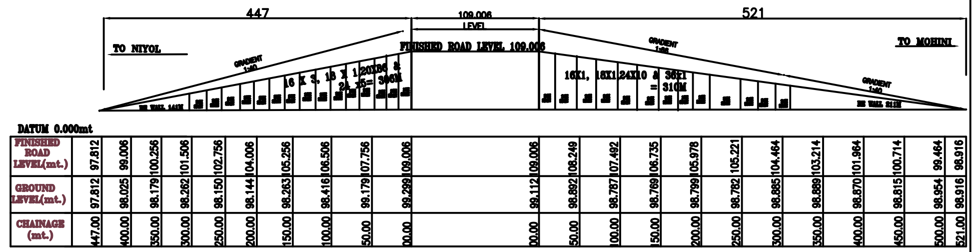
RECAPITULATION OF LENGTH FOR PROPOSED BRIDGE	SPAN–1	TOTAL LENGTH
SKEW ANGLE	44°	—
SQUARE LENGTH(mm)	55720	55720
SKEW LENGTH(mm)	77460	77460



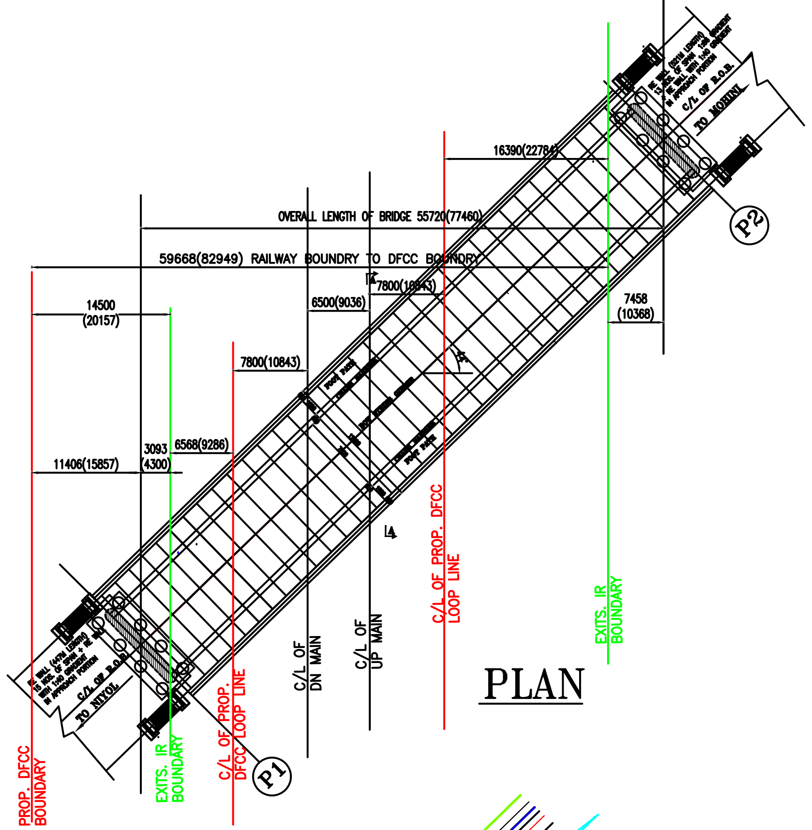
DETAIL OF PILE CAP (P1&P2)



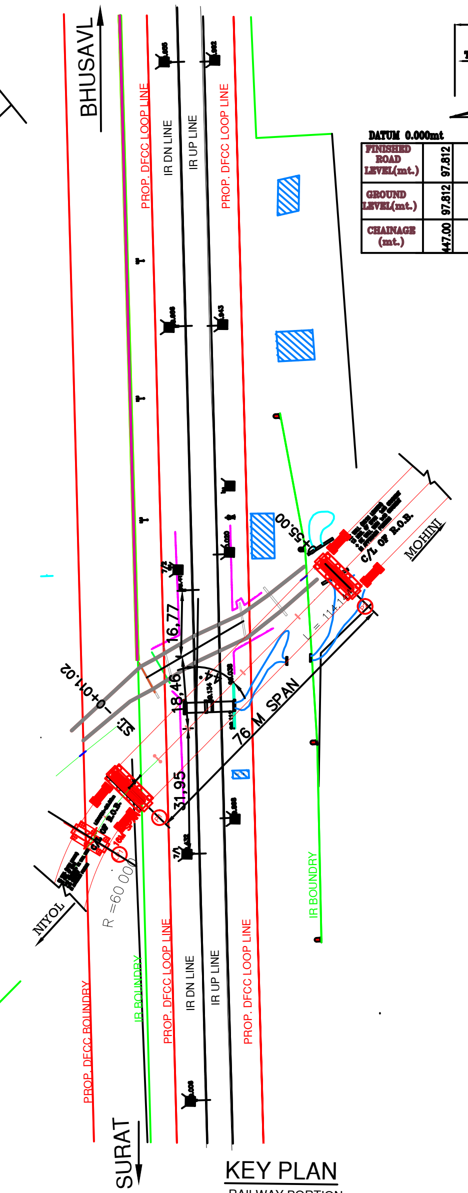
DETAIL OF PILE CAP
(LP1 TO LP15 & RP1 TO RP13)



L-SECTION



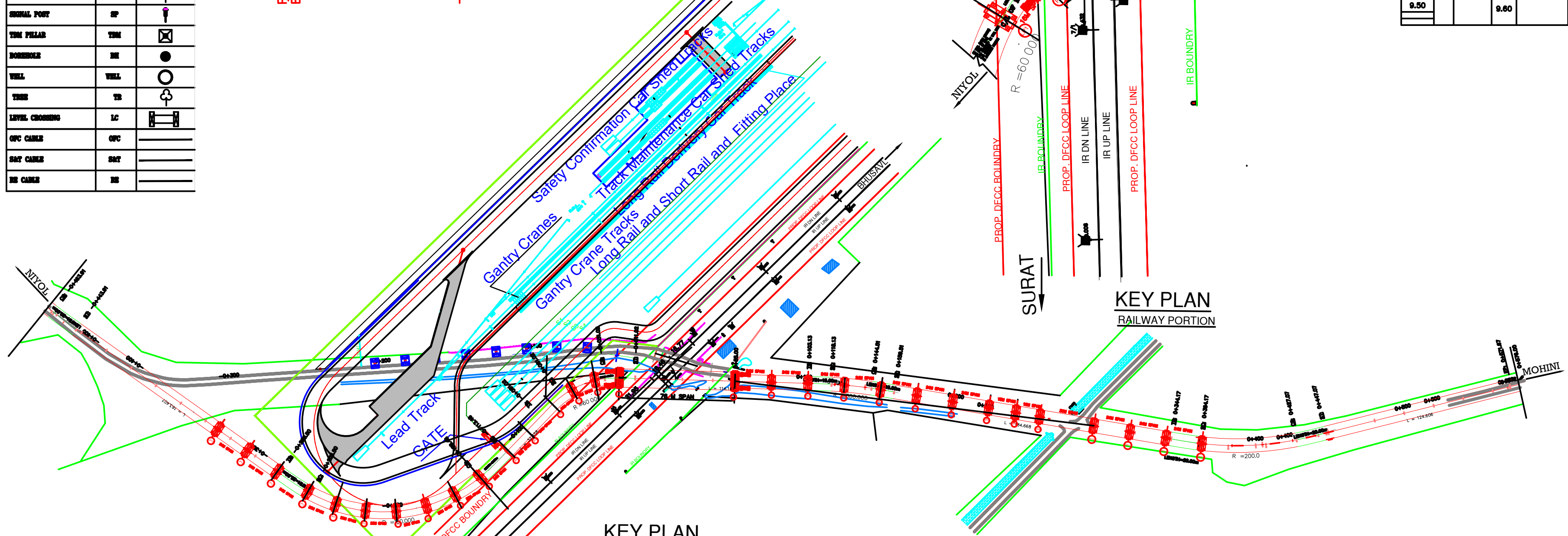
PLAN



KEY PLAN
RAILWAY PORTION

LEGEND FOR STRUCTURES

STRUCTURE TYPE	CODE FOR SURVEY	SYMBOL
ELECTRIC POLE	EP	
SIGNAL POST	SP	
TBM PILLAR	TBM	
BOREHOLE	BH	
WELL	WELL	
TREE	TR	
LEVEL CROSSING	LC	
OFC CABLE	OFC	
S&T CABLE	S&T	
RE CABLE	RE	



KEY PLAN

LOADING STANDARD:
- BRIDGE SHALL BE DESIGNED FOR ONE LANE OF CLASS 70(R)+1 LANE CLASS A OR THREE LANE OF CLASS 'A' ALONGWITH FOOTPATH LOADING,WITH WORST COMBINATION.
- FOOTPATH LOADING SHALL BE AS PER CLAUSE 209.1 OF IRC-6-2000

S&T CABLE DETAILS
RAIL TAIL – 18M
SIGNALING – 13M
6 QUAD – 10.5M
DISTANCES ARE MEASURED FROM C.L OF DN MAIN LINE OF IR.

*** NOTE FOR DIVERSION :**
FOR RAILWAY PORTION :
THE EXISTING LC NEEDS TO BE SHIFTED TEMPORARILY AS SHOWN IN KEY PLAN DURING THE EXECUTION OF THE BRIDGE.
FOR APPROACH PORTION :
3.75/(AS AVAILABLE ON SITE) WIDE SERVICE ROAD + 1.5(AS AVAILABLE ON SITE)M WIDE FOOTHPATH ON BOTH THE SIDE OF PROPOSED BRIDGE AS SHOWN IN KEY PLAN HAS BEEN PROVIDED AS DIVERSION DURING THE EXECUTION OF PROPOSED BRIDGE AND THE SAME WILL BE UTILISED AS PERMENENT SERVICE ROAD AFTER COMPLETION OF THE WORK.

BORE LOG DETAILS

GROUND W.T. : 8.00M — CASING : 150MMø — ø b. Hole : 150 m ø — STRATA DETAIL: SILTY CALY

DEPTH (m.)
0.50
1.00
1.50
2
2.50
3
3.50
4
4.50
5
5.50
6
6.50
7
7.50
8
8.50
9
9.50

SAMPLE DEPTH (m.)	TYPE	SPT (N)
0	DS – 1	--
0.50, 1.50	STP – 1	14
2.10, 3.00	STP – 2	17
3.60, 4.50	SPT – 3	18
5.10, 6.00	SPT – 4	17
6.60, 7.50	SPT – 5	25
8.10, 9.00	SPT – 6	30
9.60		

GROUND W.T. : 8.00M — CASING : 150MMø — ø b. Hole : 150 m ø — STRATA DETAIL: SILTY CALY

DEPTH (m.)
10.50
11
11.50
12
12.50
13
13.50
14
14.50
15
15.50
16
16.50
17
17.50
18
18.50
19
19.50
20

SAMPLE DEPTH (m.)	TYPE	SPT (N)
10.50	SPT – 7	33
11.10, 12.00	SPT – 8	46
12.60, 13.50	SPT – 9	50
14.10, 15.50	SPT – 10	51
16.10, 17.50	SPT – 11	50
18.1, 19	SPT – 12	44
20.10		

GROUND W.T. : 8.00M — CASING : 150MMø — ø b. Hole : 150 m ø — STRATA DETAIL: SILTY CALY

DEPTH (m.)
20.50
21
21.50
22
22.50
23
23.50
24
24.50
25
25.50
26
26.50
27
27.50
28
28.50
29
29.50
30

SAMPLE DEPTH (m.)	TYPE	SPT (N)
	SPT – 13	46
21.50, 22.10		
23.50	SPT – 14	48
24.10, 25.50	SPT – 15	R
25.60, 27.00	SPT – 16	R
27.50, 28.50	SPT – 16	R
28.80	SPT – 17	

BORE LOG DETAIL

NOTES :-

1. ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS IN METERS UNLESS WRITTEN OTHERWISE.
2. NO DIMENSIONS SHALL BE SCALED FROM THIS DRAWING ONLY WRITTEN DIMENSIONS SHALL BE FOLLOWED.
3. PROPOSED WORK SHOWN IN RED, ASSETS BEING DISMANTLED SHOWN IN GREEN AND FUTURE WORK/TRACKS SHOWN IN RED.
4. ACTUAL LOCATION OF ROB SHALL BE DECIDED BY RLY. ENGINEER IN CHARGE IN CONSULTATION WITH ROAD AUTHORITIES AT THE TIME OF ITS CONSTRUCTION.
5. ACTUAL DEPTH OF FOUNDATION SHALL BE DECIDED BY ENGINEER IN CHARGE TO SUIT THE SOIL STRATA MET WITH AT THE SITE.
6. VERTICAL CLEARANCE FROM THE HIGHEST RAIL LEVEL TO BOTTOM OF GIRDER SHALL NOT BE LESS THAN 6.525 METERS FOR AC TRACTION AREA AND 8.325 METERS IN CASE OF DFC/FEEDER/DOUBLE STACK CONTAINER ROUTE.
7. GUARD RAIL SHALL BE PROVIDED AS PER STANDARD DRAWING. (DELETED)
8. SHAPES AND SIZE OF GIRDERS, POT PTFE BEARING, BEARING PEDESTALS, SHOWN IN THE DRAWING ARE TENTATIVE AND ARE SUBJECT TO CHANGE IN FINAL DESIGN AND DRAWINGS.
9. SHAPES AND DIMENSIONS OF ABUTMENT, PIERS, PIER CAP, PIER SHAFT AND FOOTING ARE TENTATIVE AND ARE SUBJECT TO CHANGES IN FINAL DESIGN AND DRAWINGS.
10. WEEP HOLES SHALL BE PROVIDED IN ABUTMENTS AND RETURN WALLS.
11. ANTI CRASH BARRIER SHALL BE PROVIDED AS PER M.O.S.T STD.
12. ONLY CONTROLLED CEMENT CONCRETE MIX IS TO BE PROVIDED. GRADE OF CONCRETE FOR MASS CONCRETE AND FOR RCC WORK SHALL NOT BE LEANER THAN M–20 AND M–25 RESPECTIVELY.
13. WEARING COAT OF THICKNESS 200 MM PROVIDED . ROAD SURFACE TO BE MAINTAINED BY ROAD AUTHORITY.
14. A SEPARATE LAUNCHING SCHEME OF SUPERSTRUCTURE HAS TO BE SUBMITTED WHICH WILL BE APPROVED BY CBE BEFORE COMMENCEMENT OF LAUNCHING.
15. EXCAVATION OF ROB WORK SHALL BE DONE ONLY IN PRESENCE OF AUTHORIZED RAILWAY REPRESENTATIVE TO ENSURE THE SAFETY OF RUNNING TRAINS. PROPER PRECAUTIONS SHALL BE TAKEN DURING EXCAVATION OF OPEN/PILE FOUNDATION NEAR THE EXISTING RAILWAY TRACK. IN CASE THE EXCAVATION TO BE DONE NEAR THE TRACK, PROPER SHORING SHALL BE DONE TO PROTECT SLOPE FAILURE OF SOIL.
16. ADDITIONAL LOAD TRANSFERRED FROM FUTURE TRACKS SHALL BE CONSIDERED WHILE DESIGNING OPEN/PILE FOUNDATION ON EITHER SIDE
17. IN ORDER TO OFFER ADEQUATE RESISTANCE AGAIN CORROSION, THE REINFORCEMENT BARS SHALL BE PROVIDED WITH SUITABLE PROTECTIVE COATING DEPENDING UPON THE ENVIRONMENTAL CONDITION AS PER PARA 7.15 OF CONCRETE BRIDGE CODE CORRECTION SL. NO. 2 DT. 26.04.2000.
18. OFFICE FOR THE RAILWAY ENGINEERS AT BRIDGE SIDE OR AT NEAR BY LOCATION DECIDED BY THE RAILWAY SHALL BE PROVIDED BY SPONSORING ROAD AUTHORITY AND MAINTAINED DURING THE PERIOD OF CONSTRUCTION OF THE PROJECT. PINK BOOK NO.
19. DRAWING AND DESIGN OF ROB SHALL BE PROOF CHECKED BY IIT/NIIT OR REPUTED CONSULTANT AS APPROVED BY NHAI/RAILWAY.
20. FOR FABRICATION, WORKMANSHIP, INSPECTION, TESTING & PROTECTION AGAINST CORROSION ETC. RELEVANT PROVISIONS OF IRC– 24– 2001 SHALL BE FOLLOWED.
21. INSPECTION LADDER AND PLATFORM FOR INSPECTION OF BEARING SHOULD BE PROVIDED AT EVERY PIER.
22. ALL TECHNICAL RECORD i.e. CUBE STRENGTH, PRE–STRESSING DETAILS ETC. SHALL BE HANDED OVER TO RAILWAY ENGINEER IN CHARGE.
23. BEFORE OPENING OF ROB COMPLETION DRAWING AND COMPLETE COST OF ROB IN HARD COPY AND SOFT COPY DULY APPROVED BY AUTHORITIES SHALL BE HANDED OVER TO RAILWAY ENGINEER IN CHARGE.
24. BEFORE OPENING OF ROB (WITHIN RAILWAY PORTION) FOR ROAD TRAFFIC, APPROVAL OF RAILWAY ENGINEER IN CHARGE IS TO BE OBTAINED BY ROAD AUTHORITY.
25. GRADE OF CONCRETE
    - PILES IN FOUNDATION M35
    - PILE CAP/ OPEN FDN M35
    - RCC ABUTMENT M35
    - RCC PIER M35
    - RCC ANTI–CRASH BARRIER M40
    - RCC DECK SLAB M35
    - BEARING PEDESTALS M40
26. STOPPER SHOULD BE PROVIDED AT END ON THE TOP OF PIER / ABUTMENT CAP TO REDUCE POSSIBILITIES OF TOPPING OF GIRDER DURING LAUNCHING OF GIRDER.
27. CRS SANCTION SHALL BE OBTAINED BEFORE COMMENCEMENT OF WORK.
28. AS PER RAILWAY BOARD LETTER NO. 2007/RE/161/5–FTS–774, DATED 12.10.2011. TRACK LEVEL SHOULD BE FROZEN.
29. THE COST OF MODIFICATION OF OHE TO BE CHARGEABLE TO ESTIMATE.
30. DIMENSIONS OF ALL STRUCTURAL MEMBERS I.E. PILE, PILE CAP , PIER, ABUTMENT, PIER CAP ETC. SHOWN ARE TENTATIVE AND SHALL BE AS PER STRUCTURAL DESIGN AND DRAWING SUBMITTED BY CONSULTANT/PARTY AND APPROVED BY RAILWAY.
31. STRUCTURAL STEEL OF COMPOSITE GIRDERS CONFIRM TO IS:2062–2006 OF GRADE E250 BO (Fe– 410 W) BR OR HIGHER i.e IS – 1363 & IS– 1367 OTHERWISE SPECIFIED IN DESIGN.
32. ROAD TRAFFIC SHALL BE DIVERTED AT SUITABLE LOCATION IN CONSULTATION WITH ROAD AUTHORITY.
33. EXISTING LC WILL BE CLOSED ON PERMANENT BASIS AFTER COMPLETION OF ROB WORK.
34. THE QAP BEARING AS PER RDSO FORMAT (CIRCULATED BY RDSO VIDE LETTER NO. CBE/PBEJ/REG, DATED 16.05.2014) SHALL BE ENSURED BY INSPECTING ENGINEER.
35. CONSENT LETTER FROM DISTRICT COLLECTOR WILL BE OPTAINED
36. DFCC BOUNDARY IS 90M FROM CENTER OF UP MAIN LINE.
37. THE GAD IS FOR RAILWAY PORTION ONLY, THE CONCERN STATE GOVT. HAS BEEN ALREADY APPROVED & SIGNED IN GAD OF APPROACH PORTION, DWG. NO. :–LC.NO.08–APPR/1, R1, DTD. 18.06.2011. THE ROAD ALIGNMENT AND LEVELS OF THIS GAD HAS BEEN MAINTAINED AS PER THE APPROVED GAD OF APPROACH PORTION BY CONCERN ROAD AUTHORITY. IN VIEW OF CHANGES DONE THIS DRAWING SHOULD ALSO BE GOT SIGNED FROM ROAD AUTHORITY BY DFCCIL BEFORE STARTING THE WORK AND THE COPY OF PLAN DULY SIGNED BY THE ROAD AUTHORITY SHOULD BE SEND TO CBE OFFICE FOR RECORD.
38. STORM DRAIN TO BE PROVIDED UP TO GROUND LEVEL
39. EPOXY PAINT ON PIERS & ABUTMENT (AS PER M.O.S.T)
41. THE DRAWING IS BASED ON ORIGINAL TRACING GAD PLAN SIGNED BY CONCERNED DIVISIONAL OFFICIALS & DRM AND IS AVAILABLE IN CBE OFFICE FILE NO.THIS FINAL CORRECTED TRACING GAD PLAN HAS BEEN PREPARED TO INCORPORATING THE RDSO STANDARD COMPOSITE GIRDER & REDUCE SKEW ANGLE IS 20° AND DUE TO SPACE CONSTRAINT STEEL THROUGH GIRDER OF 71M & 60M ARE INCORPORATED IN REVISED GAD.
42. GAD FOR APPROACH PORTION IS AS PER APPROVED BY CONCERN STATE GOVT. THE APPROACH GAD IS BASED ON GUIDE LINES ISSUED VIDE SE/DESIGN (R&B) CIRCLE, GANDHINAGAR LETTER NO SEDC/ PB/ 47/ 3174 DT 08.09.2016.
43. THE STEEL THROUGH GIRDER OF 71M SPAN PROPOSED IN THIS GAD IS BASED ON THE APPROVED GAD NO 22635–DRM/4–D. THE APPROVED GAD SHOWS EACH THROUGH GIRDER FOR 3 – LANE CARRIAGE WAY WHERE AS IN THIS GAD EACH THROUGH GIRDER IS PROPOSED FOR 2– LANE CARRIAGE WIDTH. HENCE BEFORE COMMENCING THE WORK DEIGNING OF GIRDER AND ITS APPROVAL FROM RAILWAY MUST BE ENSURED BY EXECUTING ENTITY.
44. FOR FABRICATION, WORKMANSHIP, INSPECTION TESTING & PROTECTION AGAINST CORROSION ETC RELEVANT PROVISIONS OF IRC–24–2001 SHALL BE FOLLOWED.
45. PRIOR COMMENCING THE WORK CPM/DFCC TO ENSURE THAT SIGNATURE OF ROAD AUTHORITY SHALL BE OBTAINED.
46. ALL REINFORCEMENT BARS SHALL BE HYSD / TMT BARS – FE–500, CONFORMING TO IS 1786/2008.
47. BEING A ROAD JUNCTION ON L.H APPROACH, THE APPROACHES HAS BEEN PROPOSED ON 1 IN 40 GRADE & RE WALL HAS BEEN PROPOSED AS PER GUIDELINE ISSUED BY SE DESIGN (R&B) CIRCLE VIDE LETTER SEDC/PB/47/3174 DATED 08–09–2016.
48. VIDE MINUTES OF MEETING BETWEEN PCE & MD–DFCCIL ON DATE 20/03/2015 ONE LHS SHALL BE PROVIDED BY THE SIDE OF ROB GAD OF THE SAME WILL FOLLOW SEPARATELY.
49. RAILWAY WILL SHARE THE COST OF 2–LANE ROB i.e. FOR 2 X 11.80 M WIDTH OF ROB WITH APPROACHES (AS PER APPROACH GAD) COST OF EXTRA WIDTH WILL BE TOTALLY BORNE BY ROAD AUTHORITY.
50. THIS DRG. SUPERSEDES PREVIOUS DRG. DUE TO ELIMINATION OF CURVE OVER RLY. TRACK CHANGE OF SPAN ARRANGEMENTS, CHANGE IN STANDARD NOTES.
51. BOW STRING GIRDER 72M REFER RDSO DRG NO. RDSO/B–10421.

WESTERN RAILWAY
SECTION: BRC–ST

DIVISION: BRC	HEAD QUARTER
DRM–BRC (AMITKUMAR SINGH)	CBE–CCG (MANJUL MATHUR)
ADRM–BRC (S.K.VERMA)	DY. CE(D)CCG (B.K. KUSHWAHA)
Sr. DEE(P)– BRC (L.M.PAPNOI)	AXEN(BR.)CCG (M.D. DIXIT)
Sr.DSTE–BRC (A.K.PINGLE)	
Sr.DOM–BRC (DEEPAK MULCHANDANI)	
Sr.DEE (TRD) (SUNILKUMAR GUPTA)	
Sr.DEN(CO)BRC (PRADEEP AHIRKAR)	
DEN(S)BRC (ANKITKUMAR)	

(GHANSHYAMDAS BHAGWANI) CHIEF GENERAL MANAGER DFCCIL LTD., VADODARA	(R.V. MISHRA) PM/ENGG/BRC DFCCIL LTD.,VADODARA

PROJECT :
PROPOSED ROB IN LIEU OF LC NO. 08 AT KM 7/1–2 BET. UDHANA CABIN & CHALTHAN STATION OF UDHANA–JALGAON SECTION IN CONNECTION WITH MUMBAI–DELHI WESTERN DFC.

WESTERN RAILWAY.
OFFICE OF CHIEF BRIDGE ENGINEER
2ND FLOOR, GLO BUILDING, CHURCH GATE, MUMBAI

CONSIGNEES :
THE CHIEF PROJECT MANAGER
DEDICATED FRIEGHT CORRIDOR CORPORATION OF INDIA LTD.
(A GOVERNMENT OF INDIA UNDERTAKING)
ARUN'S–1, 4TH FLOOR, PIPLOD, DUMAS ROAD, NR. ISCON MALL, SURAT–395007 PH : 0261–2633150, FAX : 0261–2633250

TITLE :
GENERAL ARRANGEMENT DRAWING (RAILWAY PORTION)

DRG. NO.	REV.	DATE
WDFC/CPM/ST/LC_NO_08	R2	06.07.2019