



SANCTION OF CR'S TO BE TAKEN PRIOR TO EXECUTION OF WORK

SPECIAL NOTES:

1. LAUNCHING SCHEME OF THE TRUSS WILL BE SUBMITTED SEPARATELY.
2. MAINTENANCE AGREEMENT TO BE EXECUTED BEFORE EXECUTION OF WORK.
3. NO WORK WITHIN RAILWAY BOUNDARY TO BE DONE WITHOUT PRESENCE OF RAILWAY REPRESENTATIVE.
4. GROUND OVER ROB PRIOR TO BE FABRICATED PREFERABLY BY RSOB APPROVED FIRMS.
5. BEFORE EXECUTION OF PILE FOUNDATION APPROVAL OF CADCON SHOULD BE TAKEN.

NOTES:

1. ALL DIMENSIONS ARE IN MM AND LEVELS ARE IN METERS UNLESS SPECIFIED OTHERWISE.
2. DIMENSIONS ARE NOT TO BE SCALED ONLY WRITTEN DIMENSIONS ARE TO BE FOLLOWED.
3. ALL THE DIMENSIONS SHOWN SHOULD BE VERIFIED AT SITE BEFORE TAKING UP WORK IN HAND. ANY DISCREPANCY NOTICED SHOULD BE FORWARDED THROUGH AUTHORIZED OFFICIALS TO THE RAILWAY REPRESENTATIVE.
4. MAINTAIN SAFE BEARING CAPACITY AT THE FOUNDATION LEVEL CONSIDERED AS PER GEOTECHNICAL REPORT IF IT IS LESS THAN THE BASE PRESSURE. THE FOUNDATION HAS TO BE REDESIGNED DRAINAGE SPOUT SHALL BE PROVIDED AS PER MONTH SPECIFICATION. DESIGN CONSULTANT SHOULD SUBMIT SEPARATE SHEET OF DRAINAGE SPOUTS AS PER LATEST MONTH STANDARD.
5. PRODUCE CONDITION OF THE BRIDGE AND ITS COMPONENTS SHOULD BE DECLARED AS PER IRC CONDITION STATEMENT SHALL BE FOLLOWED.
6. ALL THE SUBSTRUCTURE AND FOUNDATION DRAWINGS SHOULD BE APPROVED BY RAILWAY REPRESENTATIVE.
7. WORK SHOULD BE CARRIED OUT UNDER THE SUPERVISION OF RAILWAY ENGINEERS WITHIN RAILWAY LAND LIMIT.
8. SANCTION OF CR'S SHOULD BE OBTAINED PRIOR TO EXECUTION OF PROPOSED WORK.
9. TYPE OF BEARING - FOOT PILE.
10. SUSTAINABILITY FACTOR REQUIRED SHOULD BE PROVIDED BELOW FOOTPATH SLAB WITH THE APPROVAL OF ENGINEER IN CHARGE.
11. DESIGN SHALL BE AS PER LATEST RELEVANT CODE OF IRC INCLUDING SP-33 AND OTHER CODES AS APPROVED BY RAIL.
12. STATE GOVT. PRIVATE AUTHORITIES SHOULD BE NOTIFIED DURING EXECUTION OF WORKS SAFETY OF RUNNING RAIL TRAFFIC SHOULD NOT BE AFFECTED.
13. SUITABLE SIGNAGE SHALL BE IMPOSED BEFORE TAKING UP THE EXECUTION OF WORK WITH THE APPROVAL OF ENGINEER IN CHARGE.
14. TEMPORARY SIGNALING ARRANGEMENT SHALL BE DONE AS PER A 15.59 (D) & 15.59 (E) OR GLOSS BOOK AS PER RAILWAY PRACTICES & ACCEPTABLE IF REQUIRED.
15. LOADING STANDARD OF ROB AS PER IRC-2000.
16. PILE FOUNDATION TEST OF SUPER STRUCTURE SHOULD BE DONE AS PER IRC-SP-5 TO ENQUIRE QUALITY WORK.
17. CONCRETE DESIGN MIX: M40, M30, M20, M15, M10, M7.5, M5, M4, M3, M2, M1.5, M1, M0.75, M0.5, M0.25.
18. MANHOLE LEVEL CROSSING NO. 41C AT THIS LOCATION.
19. C. SHALL BE CONSIDERING OF ROW AND NOC IN THIS REGARD HAS BEEN ISSUED BY STATE GOVT. VOID LETTER NO. 117/08/248424 DATED 25.07.14.
20. T/O OF I.C.E. 1373 OF YEAR 2003.
21. TEMPORARY DIVERSION OF ROAD TRAFFIC DURING CONSTRUCTION OF ROBRUB WILL BE THROUGH OVERHEAD ROAD. AUTHORITY WILL ENSURE DIVERSION OF ROAD TRAFFIC THROUGH THE TEMPORARY DIVERSION BEFORE EXECUTION.
22. REINFORCEMENT SHALL BE AS PER DETERMINED BARS GRADE 4500 CONFORMING TO IS 1786.
23. PROVISION OF LAMPS IN THE SUPERSTRUCTURE FOR THE SUPPORTING THE AC Traction wire to be made available in consultation with concerned authorities based on typical dimension.
24. ALL I.C.E., J.C., C.C. WORK SHOULD CONFORM TO RELEVANT SPEC. CODES & NOTIFICATION.
25. FOR FABRICATION, WORKMANSHIP, ACCEPTANCE & TESTING, PROTECTION AGAINST CORROSION ETC. REFER PREVIOUS NOTIFICATION.
26. THE DEPTH OF FOUNDATION SHOWN IN THIS DRAWING IS TENTATIVE & SHOULD BE DECIDED BY STATE AUTHORITY AS ACTUAL SOIL PROPERTIES AND CALCULATION.
27. REPRESENTATIVE OF TELECOM & SIGNAL DEPARTMENTS SHOULD BE MADE AVAILABLE BEFORE COMMENCEMENT OF PROPOSED WORK AT THE VENTURE OF CONTRACTOR.
28. TEMPORARY ARRANGEMENT DRAWING OR METHODOLOGY OF LAUNCHING OF GIRDERS OVER RAILWAY TRACK SHOULD BE GOT APPROVED FROM RAILWAY AUTHORITY BEFORE START OF WORK.
29. DIMENSION GIVEN IN THIS DRAWING MUST BE RECORDED AT SITE BEFORE START OF WORK FOR FABRICATION.
30. FABRICATION SHALL BE CARRIED OUT UNDER THE SUPERVISION OF RAILWAY ENGINEERS WITHIN RAILWAY LAND LIMIT. STATE GOVT. AND PRIVATE AGENCY ISSUED BY ADVISORY CIVIL ENGINEERING BOARD LETTER NO. 117/08/248424 DATED 25.07.14.
31. ALL I.C.E., J.C., C.C. WORK SHOULD CONFORM TO RELEVANT SPEC. CODES & NOTIFICATION.
32. REPRESENTATIVE OF TELECOM & SIGNAL DEPARTMENTS SHOULD BE MADE AVAILABLE BEFORE COMMENCEMENT OF PROPOSED WORK AT THE VENTURE OF CONTRACTOR.
33. GUARD RAIL SHOULD BE PROVIDED IN THE TRACK NEAR THE LOCATED PIER OF ROB. NO CONSTRUCTION SHALL BE ALLOWED BY THE ROB NEAR THE LOCATED PIER OF ROB.
34. CONTROLLED CONCRETE WITH REDUCED WATER CEMENT RATIO SHALL BE USED FOR ALL CONCRETE AND MASONRY WORKS FOR THE RELEVANT CODE OF PRACTICE SHALL BE ENFORCED BEFORE USE.
35. STRUCTURAL STEEL SHALL CONFORM TO IS 2002 GRADE - B5.
36. STRIP SIZES FOR EXPANSION JOINTS SHALL BE PROVIDED AS PER LATEST MOST REQUIREMENT.
37. CENTER FOR SHIFTS OF TRACK IN RLY. BOUNDARY SHOULD BE PROVIDED WITH THE APPROVAL OF CONCERNED AUTHORITY.
38. TO PROTECT THE CONCRETE FROM DAMAGE DUE TO SHADE OF LOCODOT, 4.00M WIDE STRIP WITH PROTECTIVE PAINT PREPARED IN BLACK COLOR SHALL BE PROVIDED IN THE CASE OF THE DECK OVER RUNNING TRACKS.
39. STANDING MAINTENANCE AGREEMENT SHOULD BE EXECUTED WITH RAILWAY AND STATE GOVT. AUTHORITIES FOR GRANT OF PERMISSION FOR CONSTRUCTION OF ROBRUB IN RAILWAY PORTION.
40. ROAD AUTHORITY SHOULD INSURE THAT BELOW LAYERS OF ANY NEW WEARING COURSE FUTURE EXTRA WEARING COURSE SHOULD BE COMPLETELY REMOVED.
41. NO WORK SHOULD BE TAKEN UP IN RAILWAY PORTION WITHOUT CHECK DESIGN AND DRAWING WITH RAILWAY AUTHORITY APPROVED BY RSOB.
42. ALL STEEL STRUCTURES SHOULD HAVE ANT - CORROSION PROTECTION OF LONG DURABILITY.
43. THE PROVISION OF UNDER PROTECTIVE COAT SHALL BE PROVIDED AS PER RSOB 2000.
44. CLEAR COVER TO OUTER MOST STEEL SHALL BE AS UNDER: A. FOR SUPER STRUCTURE - 75MM. B. FOR FOUNDATION - 75MM. C. FOR RETENTION WALL AND RETURN WALL - 50MM.
45. BACK FILLING BEHIND ABUTMENTS SHALL CONSIST OF SELECTED EARTH CONFORM TO SOIL PROPERTIES CO. IS 2720 - 42 - 50MM SAND.
46. FOR LACKING OF THE GROUND FOR ANY HANDLING REQUIREMENTS IN FUTURE SUCH AS FOR REPLACEMENT OF BEARING OR OTHER WORKS REQUIRED, SUITABLE FEATURES SHOULD BE PROVIDED TO ENABLE THE BRIDGE TO BE REDESIGNED FOR SEISMIC ZONE IV.
47. DIMENSIONS MAY BE CHANGED AFTER ITS DETAILED DESIGN.
48. AS PER DATA GIVEN BY DPC OFFICIAL, THE DISTANCE BETWEEN PROPOSED DPC TRACK FROM MAIN LINE AND ITS PROPOSED LEVEL HAS BEEN SHOWN IN THE DRAWING.
49. PROVISION OF EXPANSION JOINT SHOULD BE BEYOND THE GROUND.
50. GROUND SHALL BE MAINTAINED AS PER RSOB 2000.
51. BETTER CLIMATE SURVEILLANCE WILL BE TAKEN FROM ROBRUB WITHIN RAILWAY LAND LIMIT.
52. VERTICAL CURVE WILL BE PROVIDED WHEREVER THERE IS CHANGE IN GRADIENT IN APPROACHES TO ROB.
53. SAFE BEARING CAPACITY AT 2.0M DEPTH 13.0 T/M².
54. RETRAINER ON BOTH SIDE OF OUTER MOST GIRDERS ON PER CAP 4. A RETAINMENT CAP WILL BE PROVIDED.
55. DRAWING FOR SHIFTS OF LC WILL BE GOT APPROVED FROM COMPETENT AUTHORITY BEFORE START OF WORK.
56. AS PER THE INFORMATION AVAILABLE, SAT CLAY IS LAID SOUTH SIDE WITHIN AND IMM LAD THE UP TRACK SIGNALING CABLE ARE LAID PARALLEL TO THE DOWN TRACK AT A DISTANCE OF 4.00M FROM THE TRACK.
57. RETRAINER ON BOTH SIDE OF TRACK IN RLY. BOUNDARY SHOULD BE DONE IN GRADIENT IN APPROACHES TO ROB.

OPERATION SCHEDULE FOR RAILWAY SPAN:

1. TRACK SHALL BE PROTECTED SUITABLY DURING THE CONSTRUCTION OF BRIDGE FOR SAFETY OF RUNNING TRAIN.
2. ADEQUATE MEASURES SHALL BE TAKEN AT SITE TO ENSURE SAFETY FOR WORKING MEMBERS, MATERIALS, EQUIPMENTS, TRAFFIC ETC.
3. FOR SHIFTS OF THE MASTS AND SIGNALING EQUIPMENTS, DIVISION MAY BE CONSULTED FOR EXTANT RULES.
4. FOR LAUNCHING OF GIRDERS OVER RAILWAY TRACK, SUITABLE BLOCK WILL BE TAKEN WITH ADVANCE INTIMATION.
5. DETAILED STRUCTURAL DRAWINGS OF THE ROB SHALL BE APPROVED BY COMPETENT AUTHORITY.
6. LAUNCHING SCHEME SHALL BE APPROVED BY CBE/C.94/M/P BEFORE EXECUTION OF WORK.
7. DRAWING APPROVAL SHALL BE SUBMITTED TO APPROVAL OF ALIGNMENT AND LEVELS BY STATE GOVT.
8. CONSTRUCTION BEGINS:
9. PREPARATION OF DESIGN AND DRAWINGS OF STAGING FOR RAILWAY'S APPROVAL.
10. CONSTRUCTION OF STABLE FOUNDATION FOR BRIDGE.
11. CONSTRUCTION OF PIERS, ABUTMENT, PER CAP AND ABUTMENT CAP.
12. CONSTRUCTION OF BRIDGE FOR LIFTING.
13. FABRICATION OF STEEL GIRDERS, CROSS GIRDERS AND DIAPHRAGMS ETC.
14. POSITIONING OF GIRDERS FOR LIFTING AND PLACEMENT OF GIRDERS WITH RAILWAY TRAFFIC BLOCK APPROVED AND LAUNCHING OF GIRDERS.
15. CASTING OF ROB DECK SLAB WITH SHUTTERING SUPPORTED ON GIRDERS.
16. REMOVAL OF STAGING AND SHUTTERING OF DECK SLAB.
17. COMPLETION OF ANCHORAGE, WINDING LINE, CRASH BARRIER, RAILING, WEARING COURSE, EXPANSION JOINT ETC.
18. ALL SAFETY RULES SHALL BE FOLLOWED DURING EXECUTION OF WORK.
19. RAILWAY AUTHORITIES SHALL BE INFORMED BEFORE STARTING ANY WORK. INSTRUCTIONS GIVEN BY RAILWAY AUTHORITIES IN THIS TO BE DURING EXECUTION SHALL BE FOLLOWED.

| N' VALUE | |
|----------|---|
| DEPTH | FOR BH-P1 FOR BH-P2 FOR BH-P3 FOR BH-P4 |
| 1.50 | 5 6 10 |
| 3.00 | 9 6 11 |
| 4.50 | 23 24 16 |
| 6.00 | 32 25 22 |
| 7.50 | 33 28 20 |
| 9.00 | 33 27 24 |
| 10.50 | 34 30 27 |
| 12.00 | 38 35 34 |
| 13.50 | 42 40 40 |
| 15.00 | 49 64 50 |
| 16.50 | 100 100 77 |
| 18.00 | 100 100 100 |
| 19.50 | 100 100 100 |
| 21.00 | 100 100 100 |
| 22.50 | 100 100 100 |
| 24.00 | 100 100 100 |
| 25.50 | 100 100 100 |
| 27.00 | 100 100 100 |
| 28.50 | 100 100 100 |
| 30.00 | 100 100 100 |
| 31.50 | 100 100 100 |
| 33.00 | 100 100 100 |
| 34.50 | 100 100 100 |
| 36.00 | 100 100 100 |
| 37.50 | 100 100 100 |
| 40.00 | 100 100 100 |

| COHESION 'C' & FRICTION ANGLE 'φ' | |
|-----------------------------------|---|
| DEPTH | FOR BH-P1 FOR BH-P2 FOR BH-P3 FOR BH-P4 |
| 1.50 | 4.00 3.43 3 0.50 3 0.50 3 |
| 3.00 | 7.50 0.38 4 0.50 7 0.50 3 |
| 4.50 | 10.00 0.50 5 0.50 10 0.50 3 |
| 6.00 | 13.00 0.78 5 0.50 8 0.50 3 |
| 7.50 | 16.00 0.85 6 1.25 5 0.50 3 |
| 9.00 | 19.00 0.91 6 1.38 2 1.03 4 |
| 10.50 | 22.00 0.95 6 1.58 3 1.14 4 |
| 12.00 | 25.00 1.02 6 1.58 2 1.28 2 |
| 13.50 | 28.00 0.96 6 1.58 3 1.14 4 |
| 15.00 | 31.00 0.98 7 1.37 3 1.25 2 |
| 16.50 | 34.00 1.00 100 100 100 |
| 18.00 | 37.00 1.03 6 1.17 6 1.28 2 |
| 20.00 | 40.00 |

EAST CENTRAL RAILWAY, MGS DIVISION

TITLE: PROPOSED ROB IN LIEU OF LC NO. 41/C AT KM 569/17-19 BETWEEN KWD - SSM STATION IN MUGHALSARAI - GAYA SECTION (TWO 12764 OF OCT 2015)

Scale - 1 : 1000

GENERAL ARRANGEMENT DRAWING

CE'S DRG. NO.

| | |
|-------------|--|
| CBE | |
| DY CEBR/HJP | |
| XEN/BR/HJP | |
| HQ ECR/HJP | |

DESIGNATION SIGNATURE DESIGNATION SIGNATURE Sr. DEN-I/MGS Sr. DEN/Co-ORD/MGS Sr. DSTE/MGS Sr. DEE/TRD/MGS Sr. DEE/G/MGS

(A. K. MISHRA) CE RWD PATNA Sr. DEN-I/MGS Sr. DSTE/MGS Sr. DEE/TRD/MGS Sr. DEE/G/MGS

DFCCIL/MGS EXECUTIVE ENGINEER STATE GOVT. BIHAR MGS DIVISION

DEDICATED FREIGHT CORRIDOR CORPORATION OF INDIA LTD.
A Govt. of India (Ministry of Railways) Enterprise
SWARNA COMPLEX, 2nd FLOOR, SUSUWAHI VARANASI - 220111