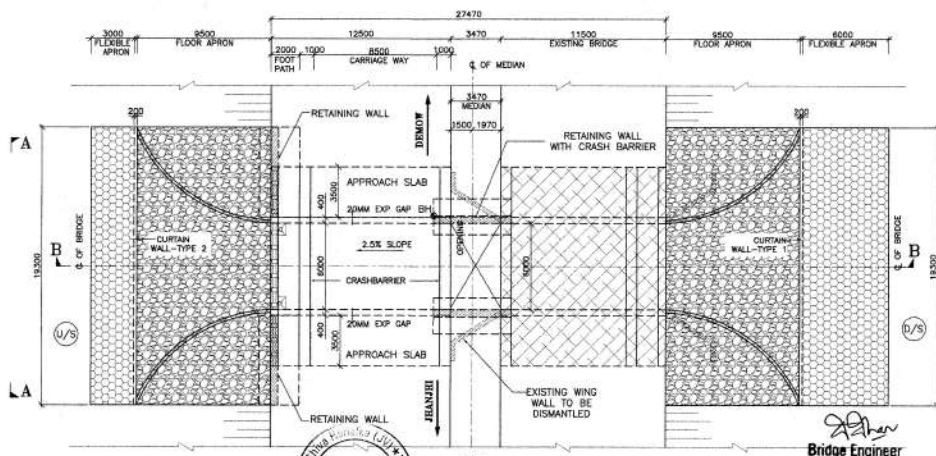


SECTIONAL ELEVATION AT B-B

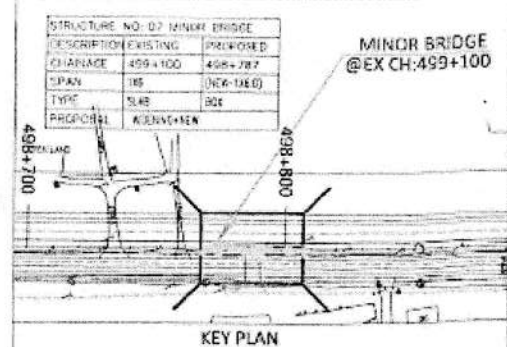
SCALE-1:150

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PLAN SCALE-1:150

GOOD FOR CONSTRUCTION



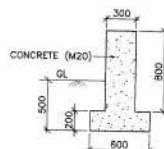
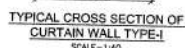
NOTES:

- ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METRES UNLESS OTHERWISE MENTIONED. ONLY WRITTEN DIMENSION SHALL BE FOLLOWED. DRAWING SHALL NOT BE SCALED.
- THE BRIDGE IS TO BE DESIGNED FOR ONE LANE OF IRC CLASS 70R + TWO LANE OF IRC CLASS A OR FOUR LANES OF IRC CLASS A & SV LOAD WHICHEVER GOVERNS.
- GRADE OF CONCRETE FOR VARIOUS STRUCTURES SHALL BE AS FOLLOWS :
WING WALL & FOUNDATION -----M35
BOX CELL STRUCTURES -----M35
APPROACH SLAB -----M30
CURTAIN WALL -----M25
POC LEAN CONCRETE BELOW FOUNDATION -----M15
- ALL REINFORCEMENTS SHALL BE OF THERMO MECHANICALLY TREATED (TMT) OR HIGH YIELD STRENGTH DEFORMED BARS (GRADE DESIGNATION Fe-5000), CONFORMING TO IS : 1786-1985.
- THE SELECTED EARTH FILLING SHALL HAVE FOLLOWING PROPERTIES : $\phi > 30^\circ$, $c = 0$, $\gamma_d = 20kN/m^3$
- BACKFILLING BEHIND BOTH END WALLS AND ON BOTH SIDES OF CURTAIN WALL SHALL BE DONE SIMULTANEOUSLY.
- THE SAFE BEARING CAPACITY CONSIDERED IN DESIGN IS 18T/sq.m. EARTH SHALL BE COMPACTED TO PROCTOR DENSITY 95% TO ENHANCE THE BEARING CAPACITY OF FOUNDATION STRATA. DESIGN PRESSURE IS COMING 13.5 T/m² 50mm THK WEARING COURSE SHALL BE PROVIDED AS PER WORTH SPECIFICATIONS.
- THE BRIDGE IS DESIGNED FOR SEISMIC ZONE-II
- SEVERE CONDITION OF EXPOSURE SHALL BE CONSIDERED IN DESIGN.
- LAPS OF REINFORCEMENT:
(i) MINIMUM ANCHORAGE LENGTH OF REINFORCEMENT SHALL BE 35d WHERE d IS THE DIAMETER OF THE BAR.
(ii) MINIMUM LAP LENGTH OF REINFORCEMENT SHALL BE 44d WHERE d IS THE DIAMETER OF THE BAR.
(iii) NOT MORE THAN 50% OF REINFORCEMENT SHALL BE LAPPED AT ANY LOCATION UNLESS OTHERWISE SHOWN.
- CLEAR COVER TO REINFORCEMENT SHALL BE AS FOLLOWS:-
FOUNDATION : 75MM
WALL EARTH FACE : 75MM
WALL OTHER FACE : 50MM

Bridge Engineer
VSP, Sivagangai



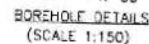
DESIGNER	PROJECT	CONTRACT	DESCRIPTION	PROJ. ORIGINATOR	SAFETY COORDINATOR	AUTHOR/ENGINEER	SCALE	AS SHOWN	DRG. NO. NMDCLSKANMB04 (SFT. 1 of 2)
DESIGNED	FOR	BY	FOR	FOR	FOR	FOR	FOR	FOR	DATE: MAR. 2023
CHECKED	BY	BY	BY	BY	BY	BY	BY	BY	REVISION: 06
APPROVED	BY	BY	BY	BY	BY	BY	BY	BY	TITLE: GENERAL ARRANGEMENT DRAWING FOR MINOR BRIDGE AT REVISOR DESIGN



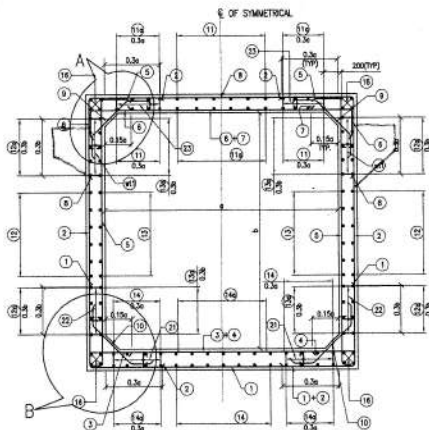
DETAIL OF TOE WALL



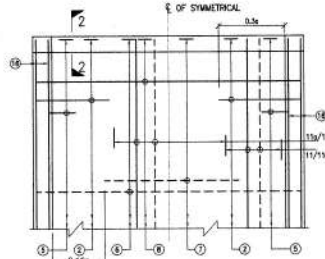
- ALL DIMENSIONS ARE IN MILLIMETERS AND LEVELS ARE IN METRES UNLESS OTHERWISE MENTIONED. ONLY WRITTEN DIMENSION SHALL BE FOLLOWED.
- DRAWING SHALL NOT BE SCALED.
2. TO BE PROVIDED FOR EACH OF ONE LAINE OF IRC CLASS IV & CLASS 7A AND TWO LAINE OF IRC CLASS A OR FOUR LAINE OF IRC CLASS A & SS 70# LOAD WHICHEVER GOVERNS.
3. GRADE OF CONCRETE FOR VARIOUS STRUCTURES
4. WALL SHALL BE AS FOLLOWS :
- WIND WALL FOUNDATION ----- M30
 APPROACH SLAB ----- M30
 CURTAIN WALL ----- M25
 RCC LANE CONCRETE BELOW FOUNDATION ----- M25
4. ALL REINFORCEMENTS SHALL BE OF THERMO MECHANICALLY TREATED (TMT) GR 60 HIGH YIELD STRENGTH DEFORMED BARS (GRADE DESIGNATION Fe-500).
5. THE SELECTED EARTH FILLING SHALL BE FOLLOWING PROPERTIES : $\phi = 37^\circ$, $c = 0$, $\mu = 20\text{mm/m}^2$
6. BACKFILLING TO BE DONE BOTH END WALLS AND ON BOTH SIDES OF CURTAIN WALL SHALL BE DONE SIMULTANEOUSLY.
7. THE SAFE BEARING CAPACITY CONSIDERED IN DESIGN IS 187t/m^2 EARTH. EARTH SHALL BE COMPACTED TO 95% PROSSOR TO ENHANCE THE BEARING CAPACITY OF FOUNDATION STRATA. DESIGN PRESSURE OF 2cm IS 1.7kg/cm^2
8. 50mm THK WEARING COURSE SHALL BE PROVIDED AS PER MORTH SPECIFICATION.
9. THE BRIDGE IS DESIGNED FOR SEISMIC ZONE-I.
10. SEVERE CONDITION OF EXPOSURE SHALL BE CONSIDERED IN DESIGN.
11. SPIS OF REINFORCEMENT SHALL BE AS FOLLOWS :
- MINIMUM ANCHORAGE LENGTH OF REINFORCEMENT SHALL BE 36ϕ WHERE ϕ IS THE DIAMETER OF THE BAR.
- MINIMUM LAP LENGTH OF REINFORCEMENT SHALL BE 48ϕ WHERE ϕ IS THE DIAMETER OF THE BAR.
- NOT MORE THAN 50% OF REINFORCEMENT SHALL BE PLACED AT ANY LOCATION, UNLESS OTHERWISE SHOWN.
12. CLEAR COVER TO REINFORCEMENT SHALL BE AS FOLLOWS :
- FOUNDATION : 75MM
 WALL : 50MM
 WALL OTHER FACE : 40MM
- Bridge Engineer
 At any location, unless otherwise shown, the reinforcement shall be as follows.

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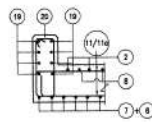
READY FOR CONSTRUCTION



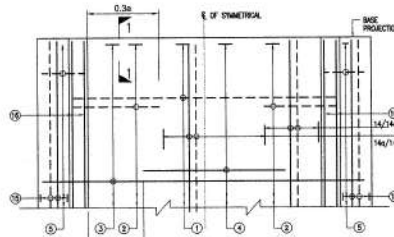
REINFORCEMENT DETAILS OF SINGLE CELL BOX CULVERT (SCALE 1:40)



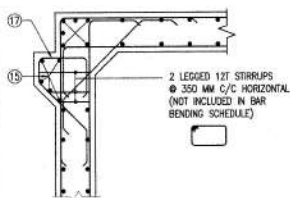
TOP SLAB REINF. PLAN (SCALE 1:40)



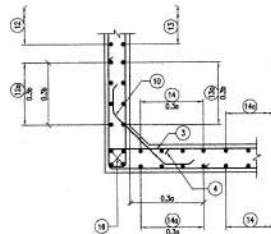
SECTION 2-2 (SCALE 1:20)



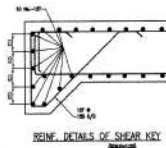
BOTTOM SLAB REINF. PLAN (SCALE 1:40)



DETAIL A (SCALE 1:40)



DETAIL 'B' (SCALE 1:30)



REIN. DETAILS OF SHEAR KEY

NOTES

1. ALL DIMENSIONS ARE IN METERS. LEVELS ARE IN METRE AND CHANGES ARE IN MM UNLESS OTHERWISE NOTED. ONLY.
2. THE DRAWING SHALL BE USED IN CONJUNCTION WITH ALL OTHER RELEVANT DRAWINGS.
3. GRADE OF CONCRETE FOR VARIOUS STRUCTURES SHALL BE AS FOLLOWS:
 - U-TROUGH & ITS FOUNDATION: M30
 - BOX CELL STRUCTURES: M30
 - APPROACH SLAB: M30
 - CURB WALL: M30
 - POC LEAN CONCRETE BELOW FOUNDATION: M15
4. ALL REINFORCEMENTS SHALL BE OF TENSILE MECHANICALLY TREATED (TMT) OR HIGH YIELD STRENGTH DEFORMED BARS (GRADE DESIGNATION F4-S300) CONFORMING TO IS-1786-1985.
5. THE SELECTED EARTH FILLING SHALL HAVE FOLLOWING PROPERTIES: $\gamma = 18 \text{ kN/m}^3$, $c = 0.4 \text{ m}^2/\text{min}^2$.
6. BACKFILLING BEHIND BOTH END WALLS AND ON BOTH SIDES OF CURB WALL SHALL BE DONE SIMULTANEOUSLY.
7. THE SAME BACKFILL CAPACITY SHOWN IN TABLE. EARTH SHALL BE COMPACTED TO PROCEED DENSITY 90% TO ENHANCE THE BEARING CAPACITY OF FOUNDATION. SHOULD IT NEED TO BE COMPACTED AT SITE BEFORE COMMENCEMENT.

SCHEDULE OF REINFORCEMENT		
RCC BOX CULVERT		
BAR MARK	SHAPE OF BARS (NOT TO SCALE)	REINFORCEMENT DETAILS
1		12 # 125 C/C
2		16 # 125 C/C
3		12 # 100 C/C
4		12 # 100 C/C
5		16 # 175 C/C
6		16 # 175 C/C
7		12 # 175 C/C
8		12 # 125 C/C
9		12 # 200 C/C
10		12 # 200 C/C
11		12 # 200 C/C
12		12 # 200 C/C
13		12 # 200 C/C
14		12 # 200 C/C
15		12 # 200 C/C
16		12 # 200 C/C
17		12 # 250 C/C
18		NOT USED
19		NOT USED
20		10 # 200 C/C
21		8 # 200 C/C
22		NOT USED
23		8 # 200 C/C

8. LAPS OF REINFORCEMENT:
 - 1. MINIMUM LAP LENGTH OF REINFORCEMENT SHALL BE 36d, WHERE d IS THE DIAMETER OF THE BAR.
 - 2. MINIMUM LAP LENGTH OF REINFORCEMENT SHALL BE 36d, WHERE d IS THE DIAMETER OF THE BAR.
 - 3. NOT MORE THAN ONE LAP OF REINFORCEMENT SHALL BE LAPPED AT ANY LOCATION UNLESS OTHERWISE SHOWN.
9. CLEAR COVER TO REINFORCEMENT SHALL BE AS FOLLOWS:
 - FOUNDATION: 75mm
 - WALL: 40mm
 - WALL: 40mm
 - WALL: 40mm
10. LOWEST REIN. LEVEL SHALL BE VERIFIED PRIOR TO COMMENCEMENT OF CONSTRUCTION. VARIATION (IF ANY) SHALL BE REPORTED TO THE ENGINEER FOR MODIFICATION OF STRUCTURE.
11. PROVIDE GEOTEXTILE DOWN & 100mm DEEP HOLES @ 1 HOLE PER 50m AREA IN EXISTING MANNER IN RCC SOLE FOUNDATION. RETURN WALLS IN ONE OR TWO LAYERS ABOVE L.L.
12. LAYING OF GEOTEXTILE DOWN FOR DRAINAGE AND BACK FILLING BEHIND RETAINMENT/RETAINMENT WALLS SHALL BE DONE.
13. EXPOSURE CORROSION-SEVERE.

DATE: 04/04/2023	PROJECT: FOR LAYING OF JOINTS TO DESIGN SECTION FROM 14+700 TO 15+000 ON SECTION 14+700 TO 15+000 OF ROAD WITHIN STATE OF ASSAM UNDER SHIP ON ENGINEERING PROJECTS & CONSTRUCTION (EPC) MODE.	CONTRACTOR: M/S KANAK ENGINEERS PVT. LTD. (M/S KANAK ENGINEERS PVT. LTD.)	DESIGN INCHARGE: P. K. SINGH	PROOF CHECKER: P. K. SINGH	SAFETY CONSULTANT: P. K. SINGH	AUTHORITY ENGINEER: P. K. SINGH	SCALE: AS SHOWN	DATE: 04/04/2023	REVISION: 00
PREPARED: K.R.	DESIGNED: G.R.	CHECKED: P.S.	APPROVED: P.S.	REINFORCEMENT DETAILS DRAWING FOR MINOR BRIDGE AT REVISED DESIGN CH. 498+797					