ELEVATION

PLAN

D/S

U/S
FLOW

SECTION ON AA

NOTES

1. All dimensions are in millimetres and levels are in metres.
2. No dimension shall be scaled off, only written dimensions to be followed.
3. All specifications shall be strictly in accordance with latest editions of relevant IS codes & I.R.C Sections I,II,III &VII.
4. The design is based on the proposal , received vide Letter No: Pt. 5 - 17422 /2015 dtd 19.10.2015 from the Chief Engineer, I &A and hydraulic details & soil investigation report received vide Letter No:D1-1101/2013 dated 03,12,13 & 17.07.2015 from the Executive Engineer, MI Division, Malappuram.
5. Hydraulic Particulars:
   - Maximum Flood Level = +18.00
   - Maximum Flood Discharge = 2952 m3/sec
   - Width of river = 156.00 m
   - Bed Level (proposed from site) = +12.00
   - Shutter Top Level = +16.00
   - Crest Level = +12.50
6. Mix adopted
   1. Trestle Pier , pile cap - R C C M 25
   2. Pile - R.C.C M 35 with minimum cement content of 400 kg/m³
   3. Counterfort abutment, Deck slab - R C C M 25
   Maximum size of aggregate - 20 mm
7. The chainages and levels shown are based on the cross section drawings furnished in the investigation report. Any variation in levels may be reported to this office and revised design shall be obtained.
8. Cover for all reinforcement shall be as per standards. High yield strength deformed bars confirming to IS 1786-1985/TMT bars of grade 415 should be used. The cement used shall confirm to relevant IS standards.
9. The pile foundation is proposed with bored cast in situ pile embedding 300 mm into hard rock .Blasting is not allowed at site.
10. Gabion blocks shall be provided for a length of 6 m in the U/S and 12 m in the D/S.
11. The Gabion boxes of size 1m x 1m x 1m / 1m x 1m x 0.5 m shall be made of mechanically woven double twisted wire mesh of PVC coated galvanized steel of diameter 2.7mm / 3.7 mm (ID /OD) as per IS 16014-2012. Each box shall be tied up to the adjacent boxes to form a mat.
12. The gabion boxes shall be filled before placing in the required location and the stones shall be larger than the mesh openings and of more or less uniform size. The basket shall be full and not bulging.
13. Bank connection and side protection shall be provided as per site conditions.
14. Proper drainage arrangements(Weep holes along with filter materials) shall be provided to the down stream side of the abutments. Filling material behind abutments should be as per appendix -VI of IRC section 78-1983.
15. Suitable bed protection shall be done during execution to prevent excessive erosion of bed materials.
16. Operating platform , hoisting arrangements of shutter shall be provided suitably in consultation with the Mechanical wing of Irrigation Dept.
17. Groove size provided for pier and abutment (500 x 500) is tentative . The actual size shall be fixed in consultation with the Mechanical wing.
18. All embedded parts required for fixing the gate should be fixed simultaneously with concreting of pier and abutments.
19. Expansion joints and construction joints shall be provided at suitable intervals and shall be in accordance with standard ,
20. Abutments and wing walls shall be constructed monolithically.
21. During execution, after casting piles, pile integrity test may be conducted by engaging KERI , Peechi inorder to assess pile length and quality.
22. A minimum bearing capacity of 1 54 t/m shall be ensured for hard rock at the site. The reported SBC of hard rock seems to be very low and hence correct SBC of hard rock should be ensured before execution so that the provision of pile foundation could be reviewed .
23. The cut off wall should suitably be extended into the banks on both sides (clause 17.1 of IS 6966-1988).
24. 10 shutters of 12 m x 3.5 m and 2 shutters of 7 m x 3.5m are provided. The total length between face of abutments is 156 m.
25. Cut off using hot rolled 2 sheet pile conforming to IS 2314-1986 having a minimum thickness of 8.50mm and specifications as per circular No.15/92/IDRB/CS(vol 9) dated 6.3.15 shall be used. Instruction for driving of sheet piles given in circular No. 15/92/IDRB/CS(vol 9) dated 25.3.15 shall be strictly followed. Circulars are published in the web site of Irrigation department.
26. Surface reinforcement of 10 mm dia @ 200 mm c/c shall be provided for apron.
27. For Deck slab, T-Beam two lane bridge with footpath and carriage way of 7.5 m for effective span 14.5 m is adopted from standard plans for High way bridge (MOST) (Drawing No. BD/12-7f).Wearing coat of 10 cm thickness shall be provided over the deck slab.
28. Fusion bonded Epoxy coated reinforcement conforming to IS13620-1993 shall only be used for all reinforced concrete components, if the regulator site is within 15 km from the sea.
29. The load bearing capacity of piles should be ensured before execution by conducting initial pile load test as per IS 2911 -1979 (Part IV).
30. The bed level at the time of construction should be verified and if there is any difference it may be reported.
31. The design is done considering that the proposed structure is located in the straight reach of the river. The structure should not be constructed in the curved portion of the river.
32. Before taking up the project, the adequacy of various provisions in the drawing and feasibility of the proposal as a whole shall be examined at site by the Chief Engineer ,Irrigation & Administration and fully satisfied by himself to ensure the overall and long term safety of the structure.

SPECIAL NOTE
The shutter of regulator shall be fully opened before the commencement of rainy season.

GOOD FOR CONSTRUCTION

Chief Engineer

True Copy

Joint Director, Dams

NABARD RIDF XXI - CONSTRUCTION OF REGULATOR CUM BRIDGE ACROSS THOOTHAPUZHA AT KEEZHMURIKADAVU IN MOORKANAD PANCHAYATH IN MALAPPURAM DISTRICT
GENERAL DRAWING

DSGN	Sd/- ASSISTANT DIRECTOR	CHD	Sd/- DEPUTY DIRECTOR	RECM	Sd/- DIRECTOR
DRN	MinLK D/MAN	REWD	Sd/- JOINT DIRECTOR	APPD	Sd/- CHIEF ENGINEER

FILE NO: 5023 A/2013/IDRB/D&B/AD3
THIRUVANANTHAPURAM
DATE : 22.11.2016
DRG. NO. 21/2016
SHEET NO. 1/3