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**INSPECTION OF BHANPURA CANAL, MANDSAUR
BY E-IN-C, WRD, ON 06.06.2016**

OFFICERS PRESENT

- | | | |
|----|-------------------------|-----------------|
| 1) | Superintending Engineer | Shri H.N. Gupta |
| 2) | Executive Engineer | Shri P.K. Gupta |

Bhanpura canal is a project for providing irrigation facility to Bhanpura and Garoth Tehsil of Mandsaur district. The project consists of construction of a control structure in the reservoir of Gandhisagar in village Kawla and then conveyance of water by cut and cover having RCC twin barrels of 2.25 m x 3.75 m size each. The length of cut and cover portion from control structure is 4390 m and then an open channel of 1235 m to join a small river known as Reva river having C.A. 62 sq.km. The water then runs for about 2.5 KM. in the river and stopped by a barrage on Reva River. The main canal of this work is Left Bank Main Canal of 28.84 KM. Previously the canal system was an open gravity canal system of LBC and RBC to irrigate 9490 hectares. Now the system is proposed having Main Canal as gravity canal. Then irrigation will be through wells by Micro-irrigation system. Pumps and Sprinklers will be of the cultivators. The designed discharge at control structure is 24 cumecs. Discharge of LBC at Head is 8.5 cumecs. Jackwell for Rupa canal and other systems having 24 cumecs designed discharge has been taken for future requirement.

The following parts of this system inspected (1) cut and cover problematic reach 1500 m to 2620 m; (2) Control Structure; (3) Confluence point of canal with Reva River (4) Reva Barrage; (5) Initial point of LBC.

The cut and cover part between 1500 to 2620 m is a problematic reach as the excavated portion is collapsing very fast. It is visible that the effect of sliding of sides is 50 to 80 m from centre of the trench. The material excavated is heterogeneous in nature and is cohesionless, but it is not sand. It seems to be weathered rock powder. Previously in a video conference, it was suggested to excavate this portion in small length of about 30 m. The agency has done likewise they have excavated the portion successfully but the nearby RCC barrel under construction again submerged in huge slipped earth. During inspection it was found that the adjacent completed box was not covered with soil by the contractor. It is suggested that before excavating the new segment, the already casted barrel be fully covered upto ground level with earth, so that earth pressure in this portion may not exert pressure on adjacent "to be excavated" portion. The contractor has also been suggested to grout the mass on 30 m away on either side upto 5 m below CBL to improve bondage of soil mass. It is reported that the diaphragm wall was also tried, but being very costly; about Rs. 20 cr. it was discarded.

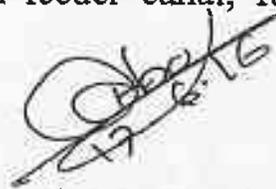
2. Control structure - Well upto designed top level casted. Shafts are under construction. Embedded parts are in the process of fixing.

3. Confluence point of Reva River with canal:- The Executive Engineer has informed that the confluence point of canal with Reva River is not flushing. To overcome this problem river training is to be done in about one kilometre length. It is hereby instructed to train the river for 8.5 cumecs of canal. Portion between the piers of on way bridge should be slightly excavated. Keeping in mind safety of structure, in all the spans, so that the waterway as per design bed level may be provided.

4. Reva Barrage - 12 openings of 6 m X 4 m vertical gates, for flood release and two outlets for canals having two openings of

3m X 3m in RBC, three openings of. 3m X 3m in LBC. Designed discharge of the LBC is 8 cumecs CBL 381.40. FSD 1.60 m.

5. The canal could not be inspected due to time constraint. However the portion in the initial reach as visible from Ch. 0 was seen. Slopes and bed profile seems to be in order. The EE has been asked to divert the water coming from the catchment area of Reva River. It should be diverted in the canal to make use of it during ensuing Kharif Crop. Ground water improvement will be an additional advantage. After completion feeder canal, full irrigation will be available to this area.


17/6/16

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Copy is forwarded to:

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2. Project Director, World Bank Projects, WRD, Bhopal
3. Chief Engineer, Narmada Tapti Basin, WRD, Indore
4. Superintending Engineer, Water Resources Circle, Ujjain
5. Superintending Engineer, Major / Admn., E-in-C office.
6. Executive Engineer, Gandhisagar Project Division, Gandhisagar Distt. Mandasaur
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