

MAHADEV BENDRA TANK PROJECT

Tehsil: Bherunda

District: Belgaum

GENERAL REPORT

1- INTRODUCTION:

The Proposed tank site is situated on local nalla near village Mahadev Bendra, at longitude $77^{\circ}20'05''$ and latitudes $22^{\circ}04'22''$ and can be located on toposheet No. 55 F/5. The site is approachable from Bherunda by fair weather approach road. The distance from Belgaum is 80 kms. The scheme is under Vidhan Sabha Constituency 156 Budhni. It is proposed to construct earthen dam of maximum height as 23.00 mts. to irrigate a total area of Rabi as 685 Ha.

2- HYDROLOGY:

The total catchments area of nalla at tank site is 12.36 sq.kms. The independent catchment area of nalla at tank site is 12.36 sq.kms. The catchment area is semi hilly. The rainfall figure of Bherunda rain gauge station for 34 years has been considered, 75% dependable rainfall is estimated as 883 mm and correspondingly 75% dependable yield works out to be 4.35 Mcum. Where as the gross capacity at F.T.L. is kept 4.35 Mcum. & The average rainfall from the catchments works out to 1148.88 mm.

3- BASIN AND SUBMERGENCE :

The Basin is surrounded by semi hillocks. The total submergence area is 44.314 Ha. The percentage of submergence to cultivated area is 6.47%.

4- PRINCIPAL LEVELS AND CAPACITY :

Dead storage is fixed by taking silt load as 0.75 acre feet/sq miles of C.A. for 50 years. Flood lift is taken as 1.50 mts and free board as 2.00 mts. Accordingly the principal level are fixed as below:-

Nalla bed level	R.L.	=	373.66
L.S.L.	R.L.	=	380.00
F.T.L.	R.L.	=	393.16
M.W.L.	R.L.	=	394.66
T.B.L.	R.L.	=	396.66

CAPACITY:-

Dead Storage	=	0.50 Mcum
Live Storage	=	3.85 Mcum
Gross Storage	=	4.353 Mcum

5- CROPPING PATTERN :

The following cropping pattern is proposed to serve the 685 ha of Land :-

Crop	Area	Equivalent Area
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1 Kharif :

2	Rabi	Hy Wheat	415.00 Ha	830.00 Ha.
		Ordinary Wheat	220.00 Ha	220.00 Ha.
		Cotton	Ha	Ha.
		Gram	50.00 Ha.	25.00 Ha.
		Total	685.00 Ha.	1075.00 Ha.

6- WATER REQUIREMENT :

The water requirement for proposed crops is based on cropping pattern approved by D.D.A. Sehore.

7- TYPE OF DAM :

A section in accordance with T.C. has been adopted for the dam, keeping in view the soil available for construction within the economical lead. While extracting earth from the basin care will be taken to locate quarry at a sufficient distance from the dam.

8- SALIENT FEATURES OF THE DAM :

(a) Length of Main Dam	:	550.00 Mts.
(b) Maximum height of Dam	:	23.00 Mts.
(c) Top Width of bund	:	5.00 M
(d) Flood lift	:	1.50 M
(e) Free Board	:	2.00 M

SIDE SLOPES :

S. No.	Height of bund in meter	U/S Slopes	S. No.	Height of bund in meter	D/S Slopes
1	T.B.L. to 5.00	2 : 1	1	T.B.L. to 5.00mts	2 : 1
2	5.00 to 386.66	2.5 : 1	2	5.00 to 10.00 mts	2.50 : 1
3	386.66. to G.L.	3.5 : 1	3	10.00 to G.L.	3.5 : 1

LOCATION OF NALLA :

The main nalla is crossing the main dam axis at R.D. 60 Meter.

9- SHRINKAGE ALLOWANCE :

Shrinkage allowance will be considered as per T.C. No. 40 i.e. 2% height of dam.

10- SLOPE PROTECTION :

22 CM thick stone pitching over 15 cm. thick spalls has been provided up to T.B.L. to protect the U/S slope from erosion due to wave action etc. The pitching is provided in the who

- reach of dam and for retaining pitching is 1/3 slope = 60 cm x 60 cm. base toe of rock is also provided.

The D/S slope will be protected with turning.

11. AVAILABILITY OF CONSTRUCTION MATERIALS :

The dam section proposed is zoned type as good quality of soil is available for hearting and raising in sufficient quantity & sand. Pitching stone, Quarried Boulder and quarry spalls are available at an affordable distance from the site.

12. CANAL SYSTEM :

There is good command is available in d/s of dam, so gravity pipe line network has been proposed to irrigate 685 ha. of land.

13. ESTIMATE :

The estimate are prepared based on U.S.R. of M.P. Water Resources Department in force since 01.04.2016. Total cost works out to Rs. 2382.38 Lakhs 6% work charge contingencies T&E charges has been included in the estimates.

14. SPECIFICATION :

The current specification in force for water resources department shall be followed in construction of project.



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