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Government of West Bengal  
Irrigation & Waterways Department  
Jalasangad Bhawan, 3<sup>rd</sup> Floor, Western Block  
Bidhannagar, Salt Lake City, Kolkata 700 091

Memo. No. 58 -IB  
IW-14011(34)/1/2021 [Comp.No.: E-405310]

Dated 06.02.2024

From : **Biplab Mukhopadhyay**  
Joint Secretary (Works) to the  
Govt. of West Bengal

- To :
1. **Chief Engineer (North),**  
Irrigation & Waterways Directorate,  
Green Park, Malda, P.O.- Mokdumpur, P.S. - English Bazar,  
Dist.-Malda, Pin - 732103.
  2. **Chief Engineer (West),**  
Irrigation & Waterways Directorate,  
Kanainatsal, Bardhaman, P.O.- Sreepally, P.S.- Bardhaman Sadar,  
Dist.- Purba Bardhaman, Pin - 713103.
  3. **Chief Engineer (South),**  
Irrigation & Waterways Directorate,  
1<sup>st</sup> floor, Jalsangad Bhawan,  
Salt Lake City, Kolkata - 700091.
  4. **Chief Engineer (Teesta Barrage Project),**  
Irrigation & Waterways Directorate,  
Teesta Sech Bhawan, 2<sup>nd</sup> Mile, Sevoke Road, Siliguri,  
Dist.-Darjeeling, Pin- 734001.
  5. **Chief Engineer (Design & Research),**  
Irrigation & Waterways Directorate,  
1<sup>st</sup> floor, Jalsangad Bhawan,  
Salt Lake City, Kolkata - 700091.
  6. **Chief Engineer (Mechanical & Electrical),**  
Irrigation & Waterways Directorate,  
2<sup>nd</sup> floor, Jalsangad Bhawan,  
Salt Lake City, Kolkata - 700091.
  7. **Chief Engineer (North-East),**  
Irrigation & Waterways Directorate,  
Jalapat Bhawan, Club Road, P.O.- Jalpaiguri,  
Dist.- Jalpaiguri, Pin - 735101.
  8. **Chief Engineer (South-West),**  
Irrigation & Waterways Directorate,  
Khusjungle, P.O.- Abas, P.S.- Midnapore, Kotwali,  
Dist.- Paschim Midnapore, Pin- 721102.

**Sub. : Model guidelines of preparation of detailed Project Report of Capital Schemes for obtaining administrative approval in the Irrigation & Waterways Department under Core State Plan and RKVY.**

Presently, the Detailed Project Report of Capital schemes under State Core Plan and RKVY, are being prepared following the guidelines, embodied in the Departmental Order No. - 12(8)-JS(W) dated 22.01.2014.

2. The need of modification of the aforesaid standardized guidelines for effective appraisal of the schemes from the point of view of according administrative approval under Core State Plan and RKVY was being felt for a long time.

3. Accordingly, after careful consideration of the matter, fresh model guidelines have been framed in consultation with the Financial Adviser, other officers of the Department and taking reference of the discussions of DSC.

4. The undersigned is directed to forward herewith a copy of the said model guidelines for his perusal and immediate transmission to the Superintending Engineer & Executive Engineers under his control. DPRs to be submitted to this Department for administrative approval under Core State Plan and RKVY, shall henceforth invariably comply with the provisions of these guidelines, failing which the respective cases may not be considered.


5. This order succeeds the Department, Order No. - 12(8) JS(W) dt. 22.01.2014.

6. These guidelines are not applicable for preparation of DPRs of Capital schemes under Central Assistance and NABARD loan Assistance or EAPs.

7. The present norms for preparation of DPRs for various other centrally assisted schemes and NABARD loan assistance may be followed as usual, until issue of any revision.

8. This order is applicable for all State Core Plan and RKVY schemes, which are to be submitted to DLTC/ Technical Committee of Chief Engineers on and from 07.02.2024.

**Enclo. :** Model Guidelines.

  
**(Biplab Mukhopadhyay)**  
Joint Secretary (Works)  
Irrigation & Waterways Department  
Govt. of West Bengal

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**Model Guidelines for preparation of Detailed Project Report (D.P.R.) of Capital Plan schemes proposed for implementation with the departmental budget under SDS Core Plan (Crore Plan Schemes) (February, 2024)**

(Enclosure to the Department's Order No-58-IB/IW-14011(34)/1/2021 [ com no-E-405310] dated 06.02.2024)

Any D.P.R. should comprise of the following parts.

1. A content mentioning the components (as stated below in seriatim) with corresponding page marking.
2. A report signed by the concerned Assistant Engineer(s), Executive Engineer(s), and Superintending Engineer and recommended by the Chief Engineer. For combined projects, involving both Civil and Electro/Mechanical components, the D.P.R. submitting Unit would be the wing (Civil/Mechanical & Electrical) whose stake in the project is more than 50%. The Report for such combined projects will be signed by the engineers of D.P.R. Submitting Unit only. However, inputs from other unit will be taken internally by the D.P.R. Submitting Unit to facilitate preparation of report part. The Report should contain (a) Name of the Project (b) Exact Location, i.e. Mouza / Village, Police Station, Block, District (c) Chainage for linear scheme, wherever available (d) nearby landmark for non linear schemes or for linear schemes where chainage is not available (e) Back ground of taking up the project (f) Estimated Cost (Rs. in Crore) (g) Benefit-Cost Ratio (h) Project implementation time (Year / Month).
3. A statement in the format enclosed as **Annexure-I**, which covers declaration on the required land, non overlap with other schemes, names of similar schemes executed in last 10 years, requirement of no additional post/additional manpower/additional vehicle other than those are existing, preparation of the schemes as per the final recommendation of appraised units like DLTC/Departmental Technical Committee of Chief Engineer, formulation of the specifications of different items of the scheme following the provisions of the departmental manual on Riverlink protections & Anti-Sea Erosion Work, departmental manual on Canal lining and relevant IS Codes.
4. A Technical note containing :-  
4A- For irrigation schemes :- Justification on adopting the specifications of proposed work with reference to the IS Code/Departmental lining Manual, is to



be provided. Surveyed cross sections, salient features of the canals are to be incorporated. If any drawing from CDO is issued then the same is to be added.

4B- For flood management & drainage scheme :-

Justification on adopting the design discharge, specifications of anti-erosion work, embankment section with reference to IS Code/Departmental Manual on anti-erosion work, are to be provided. Surveyed cross sections, salient features of the drainage channel, drawing from CDO if any, are to be added.

5. Colour Photographs showing the existing condition, which led to taking up the scheme, are to be added.

6. Abstract of Cost :-

6.A – For individual scheme :- The Abstract of Cost, having signatures of all concerned officers, starting from JE and onwards with Technical Sanction by the competent authority at the end of the abstract, is to be attached.

6.B – For Combined scheme :- The compiled abstract of Cost, having signature of all concerned officers, starting from JE and onwards with Technical sanction by the competent authority of D.P.R. Preparation Unit, is to be attached. The abstracts of cost of individual units, based on which the compiled abstract is finalized, are also to be attached. Such abstract of individual unit should contain “Technical Vetting” at the end by the officer of individual unit, competent to accord technical sanction on the respective cost.

7. Detail Estimate :-

7.A – For individual scheme :- Detail estimate of the quantities of each item of the Cost Abstract is to be provided, with signature of the concerned Junior Engineer (s), Assistant Engineer (s) and the Executive Engineer (s) at the end.

7.B – For combined scheme :- Separate detail estimate of civil and Mechanical/Electrical Wing, are to be prepared with signatures of the respective JE(s), AE(s) and the EE(s) at the end. The D.P.R. preparing Unit will incorporate the said detail estimates in the overall D.P.R.

8. Rate Analysis :- Analysis of rates of each item, which are not available in the USORs of the State Government, are to be provided, in the D.P.R. of both Individual or Combined Scheme, duly approved by the respective Superintending Engineer of Civil or Mechanical Wing.

9. Benefit-Cost Ratio :- Benefit-Cost Ratio analysis, is to be prepared by the D.P.R. preparing unit. The following methodology is to be adopted.



**9.A. For Irrigation Projects (New or Rehabilitation/ Special Repair to existing project).**

**9.A.I. Annual Benefits :-**

**9.A.I.1** Net value of agriculture Produce after project.

Net value of production after project = Total production after project in the command area/restored command area in Ton X Rate of crop per Ton.

**9.A.I.2** Net value of agricultural produce before project.

Net value of production before project = Total production before project in the command area/restored command area in Ton X Rate of crop per Ton.

\* For new irrigation project the envisaged command area is to be taken.

\*\* For rehabilitation of existing project the restored command area is to be taken.

\*\*\* Rates of crops per ton in the command area are to be taken from Agriculture Department (Publications or through communication at district level office of Agriculture department).

**9.A.I.3** Annual Benefit = 9.A.I.1 – 9.A.I.2.

**9.A.II. Annual Costs :-**

**9.A.II.1** Interest on project cost @ 10%.

**9.A.II.2** Depreciation cost @ 2% considering project life upto 50 years.

Total Annual Costs = 9.A.II.1 + 9.A.II.2

**9.A.III. Benefit Cost Ratio = 9.A.I / 9.A.II.** It should be more than 1.0.

**9.B. For Flood Management / Drainage Improvement Schemes . (New schemes or Rehabilitation / Special repair to existing scheme).**

**9.B.I. Annual Benefits :**



9.B.I.1 – Net average annual loss in pre project condition considering the loss in last 10 years.

9.B.I.2 – Net average annual loss in post project condition.

**Note :**

9.B.I.2 is an amount being a certain percentage of 9.B.I.1, corresponding to the area that remains still prone to flood damage even after completion of a project.

**9.B.II - Annual Cost.**

9.B.II.1 – For schemes having component of embankment and anti-erosion works – 17% of the of capital cost.

9.B.II.2 – For schemes having component of dam / barrage + embankment/anti erosion works = 12% of Capital Cost of dam / barrage + 17% Capital Cost of embankment / anti erosion, as considered in the overall project cost.

**B.C.I - Benefit Cost Ratio** =  $\frac{9.B.I.}{9.B.II}$  it should be more than 1.

10. **Drawings** :- Drawings prepared by the working units (Civil / Mechanical & Electrical) or by the Central Design Office, are to be incorporated in the D.P.R. by the D.P.R. Preparing Unit. The drawings should be signed and legible.
11. **Index Map** :- An index map, preferably in Google platform, showing the zone of work, the canal/river system on which the work is proposed, is to be attached with the D.P.R. duly signed by the Executive Engineer of the D.P.R. Preparing Unit.
12. **Approval / Recommendation of DLTC / Technical Committee of Chief Engineers** :-

The latest copy of the minutes of the appropriate directorate level appraisal committee, recommending the D.P.R., is to be enclosed only. The copies of earlier meeting (s) of the appraisal committee need not be attached.



**Annexure-I to Model Guidelines for preparation of D.P.R. of Capital Plan Schemes proposed for implementation with the departmental budget under SDS Core Plan and RKVY Head of Account.**

SI. No.	Item for declaration	Declaration / Statement / Information
1.	Name of the work	
2.	Technically sanctioned Cost (Rs. in Crore)	
3.	Latitude and Longitude of the work zone	For linear project lat long for two extreme ends and for non linear project that of four corners
4.	Brief mention about the nature of the proposed work and its various components	Like but not limited to:-1. Renovation of irrigation canals with lining- KM 2. New canal construction- KM 3. Raising & strengthening of embankments- KM 4. Excavation of drainage channel- KM etc
5.	GST rate considered for the estimate	The rate(s) of GST considered along with the justification for choosing the rate(s). While selecting any rate of GST, the order of the Department vide No. – 16 (107)-IB dated 25.04.2023 is to be followed till the time such GST rates are amended by the Central and State Government.
6.	S.O.Rs followed in the estimate	The S.O.Rs of the State Government, followed in preparing the estimate, with latest amendments, are to be mentioned.
7.	If any separate rate analysis was carried out.	Mentioned Yes/No. If Yes then the name(s) of the Superintending Engineer (s), who



		have accepted the rate, are to be stated clearly. Here, the name is the post of SE.
8.	If any land acquisition/ purchase is required.	If No, then the line "No land acquisition / purchase is required" is to be stated. If Yes, please mention the amount of land needs to be acquired / purchased in the concerned plot, mouza, block and district. It is also to be stated if the cost of the land has been included in the estimate.
9.	If there is any encroachment on the zone of work	If Yes, then mention the plan adopted for removal of encroachment and the time by which such encroachment is expected to be removed.
10.	If any additional post creation is involved	State Yes or No. If Yes then the action taken for such post creation.
11.	If purchase of any additional vehicle is involved.	State Yes or No.
12.	If engagement of additional manpower is involved.	State Yes or No.
13.	If any similar nature of plan work was executed in the zone of proposed work during :- a) Last 5 years for dredging works.  b) Last 10 years for other capital works.	a) If Yes, then mention the year of completion of earlier dredging work, amount of siltation (depth in m) occurred thereafter. b) If Yes, then mention the year of completion of earlier work and the reason for taking up similar plan work within a span of 10 years.





14.	Benefitted Area (Sq KM), Population and B.C. ratio.	
15.	Does this scheme overlap with any ongoing plan scheme?	State Yes or No. If Yes, state the zone of overlap and the justification to allow such overlap.
16.	If the specifications of the proposed works have been finalized as per the final recommendation of the appraisal units like DLTC and Technical Committee of Chief Engineers.	If Yes, then mention the date of final recommendations.
17.	If the Departmental Manual on Bank Protection Works and Canal Lining, have been followed as per applications.	State Yes or No.

Signed :-

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*(Sub-Divisional Officer)*

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*(Executive Engineer)*

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*(Superintending Engineer)*

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*(Chief Engineer)*



### **General Guidelines of D.P.R. preparation**

1. Clear, coloured (applicable for photographs, index map) and legible copies of surveyed cross-sections, drawings, index map are to be provided in the D.P.R.
2. The levels in the surveyed cross sections, drawings, index map, should be in G.T.S. (M) only. At least one typical cross section showing pre-work profile, post-work profile at a location of work zone along with levels, distance, is to be attached.
3. The D.P.R. should be clearly page marked, starting content as page-1 to the last page of Annexure-I. The cross section pages, index map, drawing etc. will be within the continuity of page marking.
4. The chronology of the items of the D.P.R. as stated in the guidelines is to be strictly adhered to.
5. The chainage of the zero of linear projects like construction, rehabilitation, special repair of canals, embankments, river banks, etc. if available should be clearly mentioned in the name of the work. If such chainage is not available then land marks of the starting and ending points of the scheme may be stated in the name of work.