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कार्यालय प्रमुख अभियंता
लोक स्वास्थ्य यांत्रिकी विभाग
जल भवन, बाणगंगा, भोपाल–462 003
दूरभाष क्रमांक (0755) 2779411–12
(An ISO 9001:2015 Certified Office)

क्रमांक 4378 /मोनि./प्र.अ./लोस्वायॉवि/2020 भोपाल, दिनांक 03-7-2020

प्रति,

1. **मुख्य अभियंता,**
   लोक स्वास्थ्य यांत्रिकी विभाग
   भोपाल/इंदौर/ग्वालियर एवं जबलपुर

2. **अधीक्षण यंत्री,**
   लोक स्वास्थ्य यांत्रिकी विभाग
   समस्त मण्डल म.प्र.

3. **कार्यपालन यंत्री,**
   लोक स्वास्थ्य यांत्रिकी
   समस्त खण्ड म.प्र.

विषय– नलजल योजनाओं के रूपांकन हेतु रूपांकन के मापदण्ड निर्धारित करने के संबंध में।

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उपरोक्त विषयान्तर्गत लेख है कि जल जीवन मिशन सहित अन्य विभागीय एकल ग्राम नलजल योजनाओं के रूपांकन हेतु तकनीकी समिति की 24वीं बैठक दिनांक 17 जून 2020 में रूपांकन के मापदण्ड अनुमोदित किये गये हैं। उक्त मापदण्डों को संलग्न कर निर्देशित किया जाता है कि एकल नलजल योजनाओं का रूपांकन इन निर्धारित मापदण्डों के अनुरूप किया जाना सुनिश्चित करें।

संलग्न :– उपरोक्तानुसार।

3.7.2020

(के. के. सोनगरिया)
प्रमुख अभियंता

पृ.क्र. 4378 /मोनि./प्र.अ./लोस्वायॉवि/2020 भोपाल, दिनांक 03-7-2020

प्रतिलिपि :–

प्रमुख सचिव, मध्यप्रदेश शासन लो.स्वा.यॉ. विभाग, मंत्रालय, वल्लभ भवन भोपाल की ओर सूचनार्थ प्रेषित।

3.7.2020

प्रमुख अभियंता

Technical Circular No. **4373**/Moni/ENC/MPPHED/2020 Dated **03.07.2020**

Government of Madhya Pradesh

Public Health Engineering Department

Design Criterias for Single Village Schemes (SVS) Under Jal Jeevan Mission and Other Departmental SVSs

June - 2020

Issued By

Engineer-in-Cheif
Public Health Engineering Department
Madhya Pradesh

Technical Circular No. **4373**/Moni/ENC/MPPHED/2020 Dated **03.07.2020**

Design Criterias for Single Village Schemes (SVS) Under Jal Jeevan Mission and Other Departmental SVSs

A) Design Period

S.No.	Items	Design Period in Years	Reference
1	Ground Water Source	20	Manual for preparation of DPR for Rural PWSS issued vide F No. W-11011/01/ 2012-W-I dated 20-02-2013 by MoDWS GoI Para-03
2	Storage by Dams/Anicut/ Berrage	30	
3	Intake works	30	
4	Pumping		
	i) Pump House (Civil Works)	20	
	ii) Electric Motor Pumps	10	
5	Water Treatment Units	20	
6	Pipe connection to several treatment units and other small appurtenances	20	
7	Raw water and clear water conveying mains	20	
8	Clear water reservoirs at the head works, balancing tanks and service reservoirs (Overhead or ground level)	20	
9	Distribution System	20	

B) Population Projection

S.No.	Stage	Population Projection
1.	Intermediate Stage - 10 years from present date	District Rural population decadal growth rate as per latest census. Census 2011 data may be taken in present scenario.
.2.	Ultimate stage- - 20 years from present date	

C) Water Quantity Calculation for Design of Components of Scheme to supply 55 LPCD through Functional Household Tap Connection (FHTC) at household.

S.No.	Description	Litre Per Capita Per Day	Reference
1.	**Minimum quantity of water to be provided through the Tap to the household**	**55**	**JJM Guideline - Definitions - Functionality**
2.	Insititunal need - 5 % of S.No. 1	2.75	Manual for preparation or DPR for Rural PWSS issued vide F No. W-11011/01/2012-W-I dated 20-02-2013 by MoDWS GoI Para-5.B & C
3.	Fire Demand - 5% of S.No. 1+2	2.89	
4.	Unaccounted for Water (UFW) - 15% of S.No. 1 + 2 +3	9.10	As per CPHEEO Manual on Water supply and treatment clause 2.2.8.3, Note-(ii)
	Total-	**69.74**	
	Water quantity required at source Say	**70**	

Note :- Cattle demand shall preferably be meet out with the existing sources. However, provision for Tap Connection at cattle through shall invariably be made in the scheme.

Various components of single village piped water supply schemes shall be designed considering norm illustrated in the above table so that the target of Jal Jeevan Mission (JJM) for supplying minimum 55 LPCD quantity of water through the Tap at the household can be achieved.

D) Pumping Hours

Minimum 16 hours pumping shall be taken considering the availability of 3 phase electricity in the rural areas of the state.

E) Residual Head

Minimum 7 meter at Ferrule for all single village piped water supply schemes except solar/single phase motor pump based stand alone schemes of small hamlets/habitations where minimum 4 meter residual head at ferrule may be considered for designing the scheme.

F) Other points to be considered while designing the SVS scheme :-

i. All schemes must be designed considering that all households of the village shall be provided Functional Household Connections (FHTCs).

ii. To provide techno-economic option of the SVS to the Village Water & Sanitation Commitee (VWSC)/District Water & Sanitation Mission (DWSM) follwing points may be considered :-

   a. Preferably all habitations shall be covered with the main village scheme provided habitation is not located beyond 500 meters form the end of main village or habitation can not be covered due to any techno-economical reasons. For such distant small habitations, stand alone scheme may be designed and this scheme may be treated as sub-scheme of the main village scheme.

   b. In villages, having present population more than 300 and upto 1000 souls, and scheme has more than one source, then provision of ground level/under ground service/storage reservoir shall be made in place of Over Head Service Reservoirs/Over Head Tank (OHSR/OHT).

   c. In villages, having present population more than 1000 souls and scheme is to be designed with more than one source, provision of sumpwell and OHSR/OHT can be made.

   d. Option a,b & c are suggestive and the final decision on incorporation of OHSR/OHT in the scheme shall be taken by VWSC/DWSM as provision of OHSR/OHT in smaller villges schemes will increase capital cost of the schemes and the amount of the public contribution.

   e. If village Water Sanitation Committee want to reduce the capital cost of the schemes by avoiding the construction of OHSR/OHT and schemes has only single ground water source then direct pumping may also be considered, in such cases variable speed pumps preferbly be used to have maximum output according to the system need. Storage shall mandatorily be provided in solar pump based schemes means no direct pumping based solar schemes shall be implemented as the discharge from solar pump is not constant through out the day.

iii. Over head or Ground or Under Ground Service/Strorage Reservoir shall be designed for 50% quantity of water required for ultimate stage i.e. 20 years. Minimum Capacity (volume) of service/storage reservoir shall be considered as 50 KL in case of RCC structure. In villages where capacity of service reservoir is comming less than 50 KL, then only ground or under ground service reservoir with appropriate pumping system shall be considered.

iv. In schemes where numbers of sources are more than one and sumpwell is required in addition to over head service reservoir, the same shall be designed for 02 hours detention period of ultimate stage i.e. 20 years demand. However, minimum capacity of the sumpwell shall be taken as 20 KL.

v. In case scheme has more than one source but they are closely spaced (less than 300 meters), only one power conection may be sufficient and sumpwell may be avoided by making provision of direct pumping to storage reservior from the sources.

vi. Stand alone scheme :- This schemes is defined as the scheme based on ground water source having single phase/solar based pump installed on existing Handpump tubewell with dual system or on new Tubewell/Dugwell source with 5 meter MS/RCC staging, 5000-10000 liter HDPE/RCC water storage tank on staging, distribution network and functional household connection to all household of the habitation.

3.7.20

Engineer in Chief
PHED, MP