

PROJECT REPORT ON

PROPOSED DRINKING WATER GRID IN NIZAMABAD DISTRICT

1. INTRODUCTION

The Government of Telangana is desired to improve the drinking water supply level to all the habitations in the state in the context of newly formation of its statehood. Accordingly, Hon'ble Chief Minister of Telangana State has instructed to construct a Water Supply Grid in the State of Telangana to upgrade the present water supply level from the existing 40 LPCD to 100 LPCD in rural habitations and to 135 LPCD in urban habitations. And also the Honorable Chief Minister intended to make provisions in the proposed Water Grid for Industrial Water Requirement and Water requirement for Municipalities and Corporations in the entire state. So that the entire water grid will become economically viable and self sustainable to meet Operation and maintenance cost by getting water user tariff from the Industries, Municipalities and Corporations along with other users. In this context, a Detailed Preliminary Report is prepared after conducting reconnaissance survey in the district. The Nizamabad District Profile at a Glance.

i) Introduction

Nizamabad District is one of the fluoride affected districts in Telangana for drinking water. The Project envisages covering all the habitations with supply level of 100 LPCD in rural habitations and 135 LPCD in urban habitations with a Tap to every house hold along with a 5% additional provision to meet Industrial requirement.

ii) Hydrogeological Conditions:

The ground water in this area is limited to secondary porosity developed through fracturing and subsequent weathering. The granites in this area lack primary porosity. The movement of ground water is controlled by the degree of inter - connection of these secondary pores. The average depth of weathering varies from 8 to 130 m. The fissures and joints extend upto a depth of 20 - 45 m. The ground water occurs in unconfined conditions in shallow weathered zone and under semi-confined conditions in joints, fissures and fractures. The depth

of well ranges from 6 - 18 m and the yield varies from 20 to 60 cum/day and in some wells upto 200 cum/day.

2. NECESSITY

Nizamabad is one of the 9 Telangana districts in the State. The ground water in the project area of the district contains high concentration of fluorides and brackish in the ground water. Due to frequent failure of monsoons in the project area the ground water table is depleting and the Fluoride and brackish level in the ground water is increasing. As a result of this, a habitation that is provided with a bore well fitted with hand pump as source of drinking water in the past is yielding unacceptable quality of water. Many habitations that are partially covered earlier are again looking for relief as the source infrastructure provided is in need of either augmentation (or) replacement. The main problem is excess fluoride and brackish in drinking water due to which people are suffering with knee pains, joint pains, dental Fluorosis and skeletal Fluorosis.

The provision of safe drinking water deserves top priority to improve the health and economic development of the people in the Nizamabad District.

3. OBJECTIVE:

As part of the Mission on control of Fluorosis and Brackishness, the present project is prepared to provide safe drinking water to fluoride and Saline affected habitations and also for providing house hold tap to each and every house hold with assured supply at the rate of 100LPCD for Rural and 135 LPCD. And an additional 5% is provisioned for Industrial requirement.

4. METHODOLOGY:

The RWS & S Department has conducted a preliminary investigation for providing water grid. Various options are explored in which the ground water sources are not considered since they are not potable and can't dependable due to excess salts and rapid depletion of ground water. As an alternate, the provision of surface water is examined by duly reviewing the available 8 No's of Major and Minor irrigation Projects in the Nizamabad District along with Singoor Project from Nizamabad District. Out of all these Projects, Singoor Project is opted for taking up the source for Grid 12 after thorough examination of the various factors which effects

the Sustainability of the Source. The Singoor Project is having 30.00TMC of Water from which 1.843 (2048 Year) TMC Water can be allocated for Drinking Water Grid 13 to cover 16 Mandals out of 36 Mandals of Nizamabad District.

The Segment – 12 is designed for 4 Assembly Segments, the Four assembly Segments are 1.Jukkal (5 Mandals) 2. Banswada (4 Mandals) 3, Yellareddy (3 Mandals) and 4. Bodhan (4Mandals) of Nizamabad District. For this segment 13, the Raw Water will be pumped from Singoor Intake Well i.e., +513.00 FVL to Head Works at Peddareddypet, 145MLD Treatment Plant at GL +524.50, Pulkal Mandal of Medak District, the Treated Water will be Pumped to OHBR at +560.00M at Thadmanur village of Andhol Mandal, Medak District. From the OHBR at Thadmanur the Filtered Water Flows by Gravity to certain habitations and some habitations through pumping from sumps.

5. SALIENT FEATURES OF SEGMENT - 12

The Segment 13 covers 4 Assembly Segments, 785 habitations spread over 16 Mandals and One (1) Bodhan Municipality. The 4 assembly segments are 1. Banswada 2. Jukkal 3. Bodhan and 4. Yellareddy Assembly Segment (only 3 Mandal's). The Raw Water will be Pumped from the common Intake Well (Medak Segment has been proposed in the same Intake Well) at Singoor Reservoir.

Head Works are proposed at Peddareddypet, Pulkal Mandal, Medak District with 145MLD Treatment Plant at GL+524.50M , the Treated Water will be Pumped again to 2 No.s of 1350 KL OHBR at +560.00M. The Clear Water flows by Gravity to all the designed 785 Habitations in the Four assembly Segments i.e., 1.Jukkal (5 Mandals) 2. Banswada (4 Mandals) 3, Yellareddy (3 Mandals) and 4. Bodhan (4Mandals) of Nizamabad District

i) Source:

It is proposed to cover 785 habitations through this segment 12, Source at Singoor, Peddareddypet, Pulkal Mandal, Medak District. The raw water will be pumped from Intake Well to Peddareddypet 145 MLD Treatment Plant, Head Works. The Treated water will be Pumped again from Head Works to OHBR at Raipahad +560.00. From OHBR the water flows by gravity to all the proposed 785 habitations except 24 habitations which are situated over +540.00M and those habitations will be covered by Pumping.

- 1) Intake well at Singur Reservoir, Near Peddareddypet, Pulkal Mandal, Medak Dist.
- 2) Rapid Sand Filters of capacity of 145 MLD near Peddareddypet village.
- 3) Clear Water Sump 13300 KI Capacity at Peddareddypet.
- 4) OHBR of Capacity 2 x 1350 KL Capacity with 30.00M Staing at Thadmanur of Andhol (M).

Name of the Scheme	No of Assembly Segments	No of Habitations	Population as per 2011 Census
Water Grid - 12	4	785	8,68,988

.11. PROJECT PERIOD

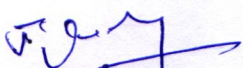
The completion period is tentatively proposed as two years after obtaining administrative clearance from the Government.

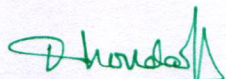
13. CONCLUSION:


By implementing this project it can be ensured the availability of adequate quantity of drinking water of acceptable quality on long-term basis. The long-term objective of improvement of health of the people in the project area results in the overall development.

The project deserves to be considered on priority to save the people from Fluorosis that is crippling the abilities of the people in the project area. This project would especially cater to the health needs of the women and children who are the most essential target groups for any development to be meaningful and permanent and as well as the socio economic growth of the district.

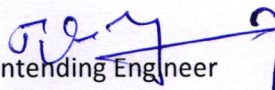
"Counter Signed"


Superintending Engineer
TDWSP Circle
Nirmal

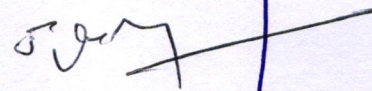

EE (TDWSP)
Hyderabad.

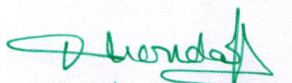

Chief Engineer
RWS&S TDWSP, Hyderabad

AREA STATEMENT - BANSWADA SEGMENT - 12/3 NIZAMABAD DIST						
SET	STRUCTURE TYPE	PIPE DIA IN MM	WIDTH IN M	LENGTH IN M	AREA in Ha	TOTAL AREA in Ha
1	PIPELINE	300	1.00	4628.171	0.463	1.564
	PIPELINE	600	5.00	1712.876	0.856	
	PIPELINE	300	1.00	696.928	0.070	
	PIPELINE	300	1.00	1109.696	0.111	
	OHBR	-	-	-	0.064	
2	PIPELINE	75	0.80	697.295	0.056	0.115
	PIPELINE	75	0.80	254.440	0.020	
	PIPELINE	90	0.80	490.703	0.039	
3	PIPELINE	110	0.90	1731.503	0.156	0.334
	PIPELINE	225	1.00	1238.333	0.124	
	PIPELINE	75	0.80	672.953	0.054	
4	PIPELINE	280	1.00	1734.857	0.173	0.365
	PIPELINE	225	1.00	441.244	0.044	
	PIPELINE	315	1.00	1477.611	0.148	
5	PIPELINE	1000	1.60	5454.531	0.873	1.277
	PIPELINE	600	6.00	347.658	0.209	
	BPT	-	-	-	0.125	
	BPT	-	-	-	0.070	
6	PIPELINE	500	5.00	200.448	0.100	0.460
	PIPELINE	160	1.00	500.546	0.050	
	PIPELINE	160	1.00	422.434	0.042	
	PIPELINE	500	5.00	137.521	0.069	
	PIPELINE	75	0.80	207.904	0.017	
	SUMP	-	-	-	0.057	
	OHBR	-	-	-	0.125	
TOTAL				24157.652	4.115	4.115


 Superintending Engineer
 RWS&S, TDWSP
 Nirmal

"Counter signed"

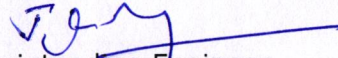

 Chief Engineer
 RWS&S, TDWSP Hyderabad

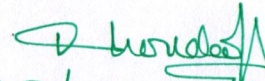

 EE/TDWSP/
 Banswada


Details Of Area Involved in the Banswada Segment 12/3, Nizamabad District

S.No	DIVISION	RANGE	SECTION	BEAT	BLOCK	COMP_N O	SET	Dia	Length_mt	Width	Area_Ha
1	2	3	4	5	6	7	8	9	10	11	12
1	NIZAMABAD	NIZAMABAD	MALLARAM	MOSRA	NO-DATA	214	4	280	1734.857	1.0	0.173
2	NIZAMABAD	NIZAMABAD	MALLARAM	MOSRA	NO-DATA	214	4	225	441.244	1.0	0.044
3	NIZAMABAD	NIZAMABAD	MALLARAM	MOSRA	NO-DATA	214	4	315	1477.611	1.0	0.148
4	NIZAMABAD	BANSWADA	JALALPUR	CHANDUR	SADASHIVNAGAR	219	3	225	1238.333	1.0	0.124
5	NIZAMABAD	BANSWADA	NASRULLABAD	TAGLEPALLY	WADIARAM	221	6	500	200.448	5.0	0.100
6	NIZAMABAD	BANSWADA	NASRULLABAD	TAGLEPALLY	WADIARAM	221	6	500	137.521	5.0	0.069
7	NIZAMABAD	BANSWADA	NASRULLABAD	TAGLEPALLY	DATAROALLI	222	6	160	500.546	1.0	0.050
8	NIZAMABAD	BANSWADA	NASRULLABAD	TAGLEPALLY	DATAROALLI	222	6	160	422.434	1.0	0.042
9	NIZAMABAD	BANSWADA	NASRULLABAD	TAGLEPALLY	DATAROALLI	222	6	75	207.904	0.8	0.017
10	NIZAMABAD	BANSWADA	NASRULLABAD	TAGLEPALLY	DATAROALLI	221	6				0.057
11	NIZAMABAD	BANSWADA	NASRULLABAD	TAGLEPALLY	DATAROALLI	221	6				0.125
12	NIZAMABAD	BANSWADA	NASRULLABAD	NASRULLABAD	NO-DATA	275	5	1000	5454.531	1.6	0.873
13	NIZAMABAD	BANSWADA	NASRULLABAD	NASRULLABAD	NO-DATA	275	5	600	347.658	6.0	0.209
14	NIZAMABAD	BANSWADA	NASRULLABAD	NASRULLABAD	NO-DATA	275	5				0.125
15	NIZAMABAD	BANSWADA	NASRULLABAD	NASRULLABAD	NO-DATA	271	5				0.070
16	NIZAMABAD	BANSWADA	JALALPUR	MEDPALLY(N)	PASHAPUR	229	3	75	672.953	0.8	0.054
17	NIZAMABAD	BANSWADA	JALALPUR	JALALPUR(W)	PASHAPUR	239	3	110	1731.503	0.9	0.156

18	NIZAMABAD	BANSWADA	JALALPUR	JALLAPUR(S)	BIGILPUR	249	2	75	697.295	0.8	0.056
19	NIZAMABAD	BANSWADA	JALALPUR	JALLAPUR(S)	BIGILPUR	249	2	75	254.440	0.8	0.020
20	NIZAMABAD	BANSWADA	JALALPUR	JALLAPUR(S)	PASHAPUR	237	2	90	490.703	0.8	0.039
21	NIZAMABAD	BANSWADA	RAMPUR	IBRAHIMPET	ENCLOSURE	253	1	300	4628.171	1.0	0.463
22	NIZAMABAD	BANSWADA	RAMPUR	IBRAHIMPET	NO-DATA	252	1	300	696.928	1.0	0.070
23	NIZAMABAD	BANSWADA	RAMPUR	IBRAHIMPET	NO-DATA	251	1	300	1109.696	1.0	0.111
24	NIZAMABAD	BANSWADA	RAMPUR	IBRAHIMPET	NO-DATA	252	1	600	1712.876	5.0	0.856
25	NIZAMABAD	BANSWADA	RAMPUR	IBRAHIMPET	NO-DATA	252	1				0.064
	TOTAL								24157.652		4.115


 Superintending Engineer
 RWS&S TDWSP,
 Nirmal Circle.


 EE/TDWSP
 Banswada

"Counter Signed"

 Chief Engineer
 RWS&S TDWSP, Hyderabad

DETAILS OF SURVEY INSTRUMENTS USED

Sl. No	Name of the Agency	Instrument Used	Persons Involved	Period of Survey
1	Vardhaman Engineers and Consultants	Trimble and Leica DGPS	Praveen, Badri and Madhu	December- 2015 and January-2016 (Total 2 Months)

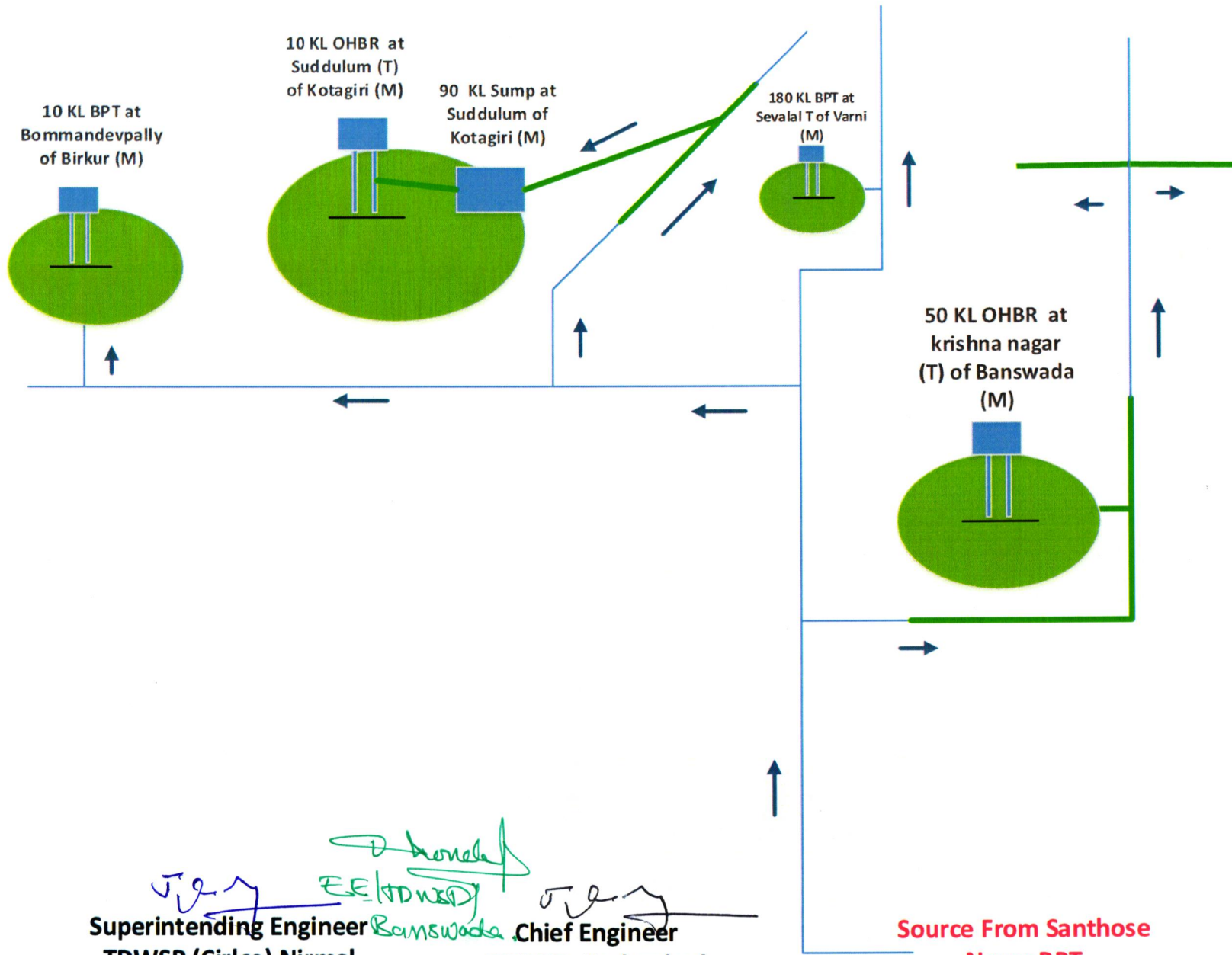
Dhondy
EE/TDWSP
Banswada.

[Signature]
Superintending Engineer
RWS&S TDWSP,
Nirmal Circle.

"Counter Signed"

[Signature]
Chief Engineer
RWS&S TDWSP, Hyderabad

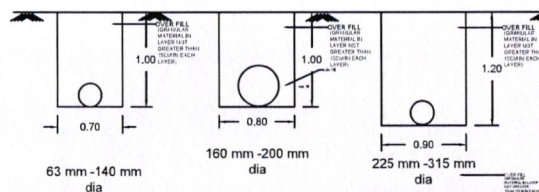
Telangana Drinking Water Supply Project- Segment 12 of Sub Segment a Banswada-12/3



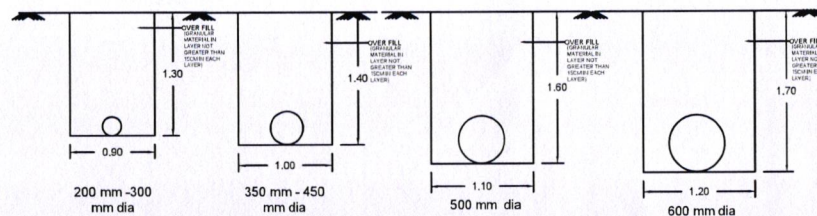
 
 Superintending Engineer *Banswada* Chief Engineer
 TDWSP (Cirle) Nirmal TDWSP, Hyderabad

TELANGANA DRINKING WATER SUPPLY PROJECT SEGMENT-12 NIZAMABAD DIST. SECTION SHOWING THE PIPELINE CROSS SECTIONS

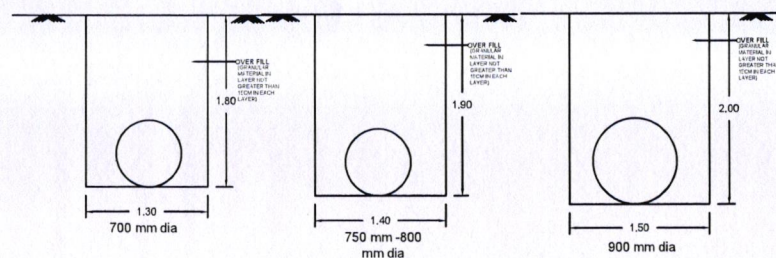
HDPE PIPES:



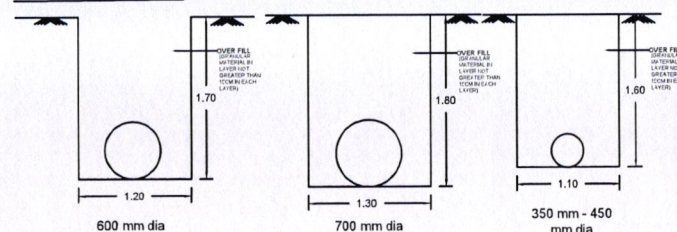
DI PIPES:



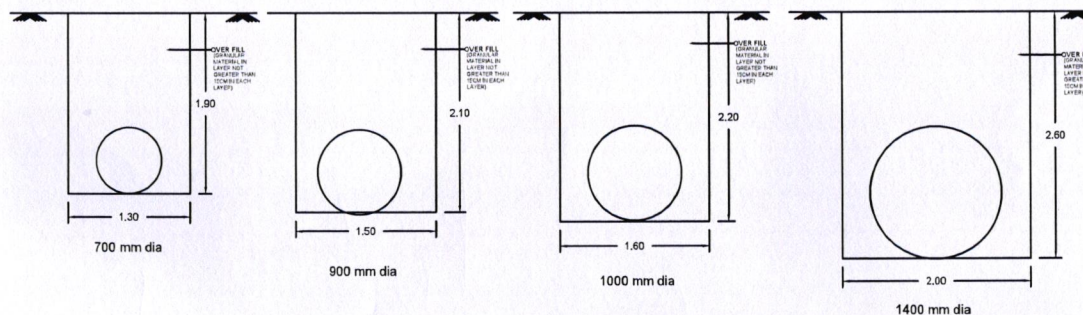
DI PIPES:



BWSC PIPES:



MS PIPES:



ALL DIMENSIONS ARE IN METRES

"counter sign"

SUPERINTENDING ENGINEER
TDWSP, NIRMAL CIRCLE

CHIEF ENGINEER
RWS&S, TDWSP
HYDERABAD