BRIEF NOTE ON THE PROJECT.
MANTHANI - SEGMENT – 15/7 IN KARIMNAGAR DISTRICT.

Diversion of 7.762 Ha. in WLM Karimnagar EAST Division of Forest land for 'Laying of pipe lines and Construction of other structures for providing safe drinking water to Manthani and Bhupalpally Constituencies in Karimnagar District, Segment 15/7 – Manthani"

The Government of Telangana has decided to take up the Water Grid programme as a flag ship item to provide safe drinking water to all rural and urban people at 100 lpcd to rural households and 135 lpcd in municipalities and 150 lpcd in corporation areas.

The provision of safe drinking water deserves top priority to improve the health and economic development of the people in the project area. Majority of people in the Project area are tribal, illiterate and economically very poor. Scarcity of water is one of the major problems in this area.

. The people in district purely depend only on ground water for drinking, domestic and agriculture purposes. Karimnagar District comprises geographically the underlain granites with course to medium texture. Dolerite dykes varying from few meters to hundreds of meters traverse the area. These dykes are very hard and compact and stand out prominently in the granite rocks. The ground in the area is limited to secondary porosity developed through fracturing and subsequent weathering. The movement of ground water is controlled by the degree of inter connection of these secondary pores.

So, it is extremely difficult to obtain potable drinking water especially in the project area. The borewells fitted with hand pumps are yielding very little and proved failure in many places as the water table has depleted very fast due to frequent failures of monsoon in the District. Many of habitations which are covered partially earlier are again looking for relief as the source infrastructure provided is in need of either augmentation or replacement. Due to shallow basin of the area having very poor potential of ground water and over exploited by the farmers for Irrigation purposes by digging many of open wells in their fields, the individual sources of open wells for the PWS Schemes and MPWS Schemes have become seasonal and failed to supply sufficient drinking water to the people in project area, in summer months.

PROJECT DESIGN CRITERIA:

The design parameters adopted for this project component are detailed below:

i) Design Period:

The year 2018 is taken as the proposed year of commissioning and considered as the base year. The ultimate design period of the project is considered as 30 years over the base year.

ii) Design Population & Population Forecast

The base year population is worked out by adding the population increase @ 0.8% growth rate from 2011 to 2018 to the population of 2011. The ultimate design population is worked out by increasing @ 0.8% growth rate in Geometric Progression for 30 years over the base year population. And for urban population the growth rate is considered as 2% in Geometric Progression.

iii) Design Parameters:

Established parameters are followed in the system design. Sources and transmission main lines are designed for ultimate population. Sumps, Water Treatment Plants, balancing and service reservoirs, pumping machinery are designed for prospective population (i.e., 15 years period over base year).

iv) Service Level:

The service level of 100lpcd for rural area, 135lpcd for urban area and 150 lpcd for corporations is considered.

v) System Design Criteria:

1) Operation Period of Pumping Machinery	22 hours
2) Treatment	Rapid Sand Filters
b) Disinfecting by addition of	Chlorine in gas form
3) Clear Water Sump	4 hours capacity for
Intermediate sumps	
4) Service Storage of prospective	Capacity required for 50%
daily demand.	(i.e. Two fillings)
5) Balancing Reservoir	30-60minutes
6) Pumping Machinery	
Selection – preliminary Design	As per discharge and head

- **Source**: 1) Beemghanpur reservoir at Pambapur(V) of Bhupalpally
  2) HMWSSB intakewell at Murmur(V) of Ramagundam

Sl.No	Name of the Constituency	Name of the Mandal	Population covered(2011)	No of Habs
1	MANTHANI	Manthani	54525	59
		Kamanpur	90,750	61
		Mutharam(MNT)	31,567	33
		Malhar Rao	24,755	49
		Kataram	37,598	57
		Mahadevpur	38,489	41
		Mahamutharam	26,431	47
2	Bhupalpally	Bhupalpally (Rural)	13,716	13
		Bhupalpally (Urban)	42,156	1

Structures:

- b) Sumps— 7 Nos
- c) OHBRs— 4 Nos
- d) GLBRs - 1 No
- e) BPTs - 1 No

Sl.No	Name of the Structure	Location	Capacity in KL	Staging mtrs	Remarks
1	2	3	4	5	8
1	Sump	Konampet	3400		
2	Sump	Koyyur	400		
3	Sump	Machupet	250		
4	Sump	Borlagudem	200		
5	Sump	Sarvaipet	150		
6	Sump	Kistapur	150		
7	Sump	Polaram	60		
8	Sump	Kapuram	20		
9	OHBR	Konampet	400	30m	
10	OHBR	Tadicherla	60	30m	
11	OHBR	Borlagudem	40	30m	
12	OHBR	Sarvaipet	20	30m	
13	GLBR	Lambadithanda (Brahmanpalli)	600		
14	BPT	Eklaspur Hillock	20		

- Industrial Requirement: Considered 10% of Total Demand

Superintending Engineer
TDWSP Circle, Karimnagar

Counter signed

Chief Engineer,
TDWSP, Hyderabad.

MANTHANI SEGMENT - 15 /7- KARIMNAGAR							
Set	Structure type	Pipe Dia	width in m	Length in m	Area Ha	Total area in Ha	REMARKS
1	PIPELINE	250	0.900	5815.213	0.523	0.758	WLM
	PIPELINE	110	0.700	2905.327	0.203		
	PIPELINE	250	1.400	4.677	0.001		
	BPT	-	-	-	0.031		
2	PIPELINE	90	0.700	3536.886	0.248	0.477	ESZ
	PIPELINE	110	0.700	3268.723	0.229		
3	PIPELINE	250	2.000	3997.323	0.799	0.976	ESZ
	PIPELINE	90	0.700	1514.957	0.106		
	OHBR	-	-	-	0.071		
4	PIPELINE	200	0.900	1663.964	0.150	0.282	ESZ
	PIPELINE	110	0.700	1891.281	0.132		
5	PIPELINE	225	1.200	5145.473	0.617	0.617	ESZ
6	PIPELINE	200	1.200	4952.342	0.594	0.701	ESZ
	PIPELINE	200	1.200	893.194	0.107		
7	PIPELINE	180	0.900	6307.507	0.568	0.678	ESZ
	PIPELINE	180	0.900	1227.658	0.110		
8	PIPELINE	150	0.900	689.309	0.062	0.129	ESZ
	PIPELINE	63	0.700	963.501	0.067		
9	PIPELINE	110	0.700	4128.894	0.289	0.709	ESZ
	PIPELINE	63	0.700	3551.315	0.249		
	PIPELINE	63	0.700	2439.250	0.171		
10	PIPELINE	140	0.700	4564.279	0.319	0.629	ESZ
	PIPELINE	110	0.700	3972.164	0.278		
	PIPELINE	140	0.700	457.436	0.032		
11	PIPELINE	125	0.700	11445.407	0.801	1.218	ESZ
	PIPELINE	90	0.700	3749.964	0.262		
	PIPELINE	125	0.700	1010.955	0.071		
	PIPELINE	90	0.700	1199.794	0.084		
12	PIPELINE	110	0.700	4552.491	0.319	0.319	ESZ
13	PIPELINE	140	0.700	3839.980	0.269	0.269	
TOTAL				89689.264	7.762	7.762	

Superintending Engineer,
TDWSP., Circle Karimnagar.

DETAILS OF SURVEY INSTRUMENTS USED

S.No	Name of the Agency	Instruments used	Persons involved	Period of Survey
1	Pallavi Surveys	1.Spectra Prescesion	Praveen Surveyor Mr.A.Premkumar,AE,TDWSP, Manthani	Dec 2015-Jan 2016

Superintending Engineer
TDWSP Circle,Karimnagar

"Counter Signed"

Chief Engineer
TDWSP,Hyderabad

FOREST AREA INVOLVED IN MANTHANI SEGMENT(WLM) 15/7

S.No	DIVISION	RANGE	SECTION	BEAT	BLOCK	COMP NO	SET	Length in mt	Width in Mt	Dia in MM	Area in Ha
1	KARIMNAGAR EAST	MANTHANI	BHATPALLY	KHANSABPET	MANTHANI	273	1	2905.327	0.700	110	0.203
2	KARIMNAGAR EAST	MANTHANI	BHATPALLY	KHANSABPET	MANTHANI	271	1	5815.213	0.900	250	0.523
3	KARIMNAGAR EAST	MANTHANI	BHATPALLY	KHANSABPET	MANTHANI	271	1	4.677	1.400	250	0.001
4	KARIMNAGAR EAST	MANTHANI	BHATPALLY	KHANSABPET	MANTHANI	271	1			BPT	0.031
5	KARIMNAGAR EAST	MANTHANI	MANTHANI	GOPALPUR	MANTHANI	282	2	3268.723	0.700	110	0.229
6	KARIMNAGAR EAST	MANTHANI	MANTHANI	GOPALPUR	MANTHANI	283	2	3536.886	0.700	90	0.248
7	KARIMNAGAR EAST	BHUPALPALLY	KOYYUR	VALLAMKUNTA	TADICHERLA	296	3	1514.957	0.700	90	0.106
8	KARIMNAGAR EAST	BHUPALPALLY	TADICHERLA	MALLARAM	TADICHERLA	299	3	3997.323	2.000	250	0.799
9	KARIMNAGAR EAST	BHUPALPALLY	TADICHERLA	MALLARAM	TADICHERLA	299	3			OHBR	0.071
10	KARIMNAGAR EAST	MANTHANI	BHATPALLY	ARINDA	MANTHANI	274	4	1663.964	0.900	200	0.150
11	KARIMNAGAR EAST	MANTHANI	BHATPALLY	ARINDA	MANTHANI	274	4	1891.281	0.700	110	0.132
12	KARIMNAGAR EAST	MAHADEVPUR	DAMARAKUNTA	ANNARAM	MAHADEVPUR	235	5	5145.473	1.200	225	0.617
13	KARIMNAGAR EAST	MAHADEVPUR	KALESHWAR	PALGUL	MAHADEVPUR	258	6	4952.342	1.200	200	0.594
14	KARIMNAGAR EAST	MAHADEVPUR	KALESHWAR	SANDRUPALLY	MAHADEVPUR	256	6	893.194	1.200	200	0.107
15	KARIMNAGAR EAST	MAHADEVPUR	KALESHWAR	PALGUL	MAHADEVPUR	260	7	6307.507	0.900	180	0.568
16	KARIMNAGAR EAST	MAHADEVPUR	KALESHWAR	PALGUL	MAHADEVPUR	260	7	1227.658	0.900	180	0.110
17	KARIMNAGAR EAST	MAHADEVPUR	KALESHWAR	KALESHWAR	MAHADEVPUR	253	8	689.309	0.900	150	0.062
18	KARIMNAGAR EAST	MAHADEVPUR	KALESHWAR	BEERASAGAR	MAHADEVPUR	242	8	963.501	0.700	63	0.067
19	KARIMNAGAR EAST	CHINTAKANI	PANMELLA	PANMELLA	SINGARAM	15	9	4128.894	0.700	110	0.289
20	KARIMNAGAR EAST	CHINTAKANI	PANMELLA	PANKENA	SINGARAM	9	9	2439.250	0.700	63	0.171
21	KARIMNAGAR EAST	CHINTAKANI	PANMELLA	PANKENA	SINGARAM	54	9	3551.315	0.700	63	0.249
22	KARIMNAGAR EAST	CHINTAKANI	MUKNOOR	SARVAIPET	SINGARAM	26	10	457.436	0.700	140	0.032
23	KARIMNAGAR EAST	CHINTAKANI	MUKNOOR	NEELAMPALLY	SINGARAM	26	10	4564.279	0.700	140	0.319
24	KARIMNAGAR EAST	CHINTAKANI	MUKNOOR	NEELAMPALLY	SINGARAM	27	10	3972.164	0.700	110	0.278
25	KARIMNAGAR EAST	CHINTAKANI	NIMMAGUDA	ETHNARAM	SINGARAM	96	11	1199.794	0.700	90	0.084
26	KARIMNAGAR EAST	CHINTAKANI	NIMMAGUDA	SINGAMPALLY	SINGARAM	120	11	11445.407	0.700	125	0.801
27	KARIMNAGAR EAST	CHINTAKANI	NIMMAGUDA	ETHNARAM	SINGARAM	98	11	3749.964	0.700	90	0.262
28	KARIMNAGAR EAST	AZAMNAGAR	BORLAGUDA	PEGADAPALLY	SINGARAM	112	11	1010.955	0.700	125	0.071
29	KARIMNAGAR EAST	AZAMNAGAR	KANAKANOOR	KANAKANOOR	SINGARAM	128	12	4552.491	0.700	110	0.319
30	KARIMNAGAR EAST	AZAMNAGAR	SINGARAM	KHAMMAMPALLY	SINGARAM	1501	13	3839.980	0.700	140	0.269
						TOTAL		89689.264			7.762

Superintending Engineer,
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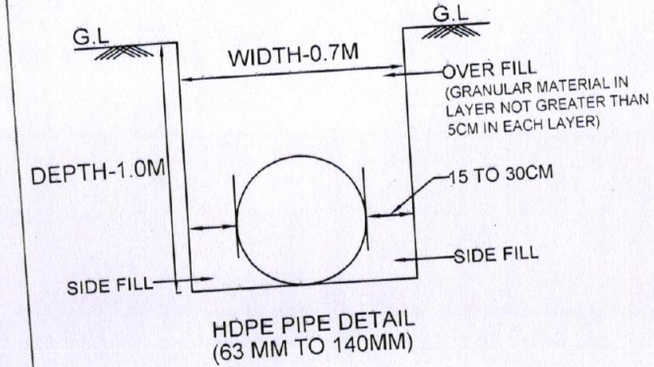
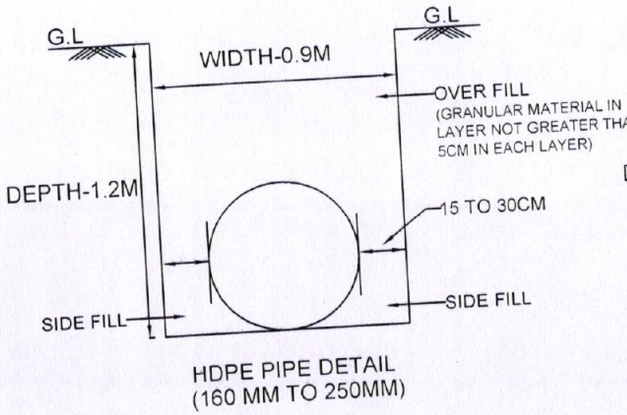
TELANGANA DRINKING WATER SUPPLY PROJECT SEGMENT-15/7,MANTHANI & BHUPALPALLY

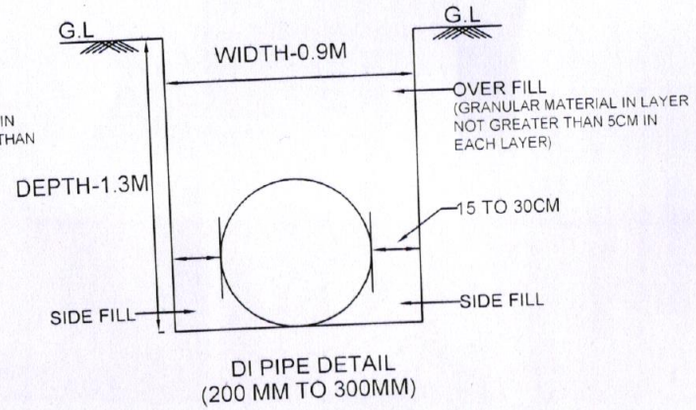
MAP SHOWING PIPELINE CROSS-SECTION IN FOREST AREA OF MANTHANI RANGE.



HDPE PIPE DETAIL
(63 MM TO 140MM)



HDPE PIPE DETAIL
(160 MM TO 250MM)



DI PIPE DETAIL
(200 MM TO 300MM)

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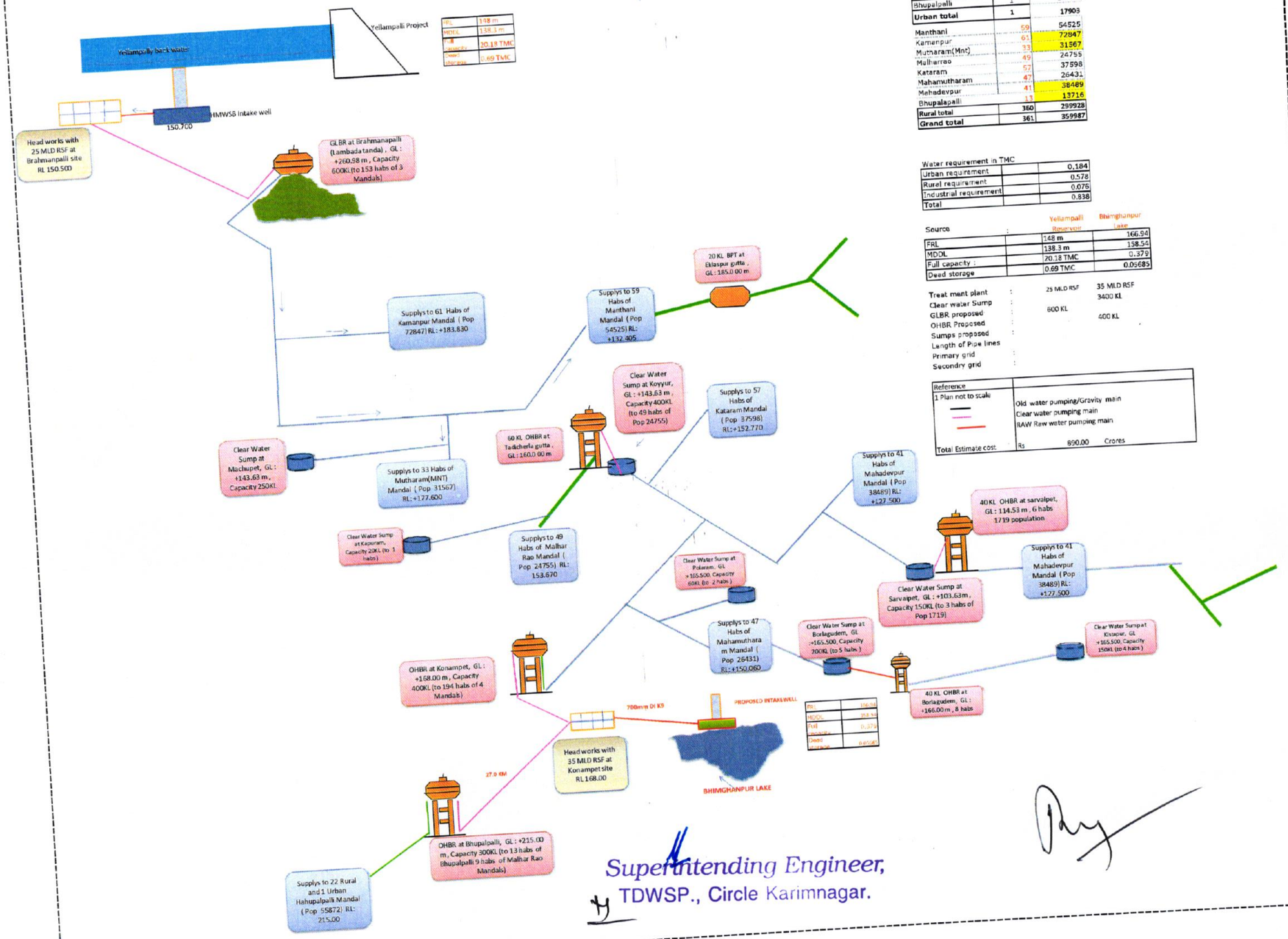
ELAMPALLI KARIMNAGAR DRINKING WATER SUPPLY PROJECT MANAKONDUR BHUPALPALLY SEGMENT OF KARIMNAGAR DIST



Salient features

Muncipality/Mandals		
Kamanpur	0	
Bhupalpalli	1	17903
Urban total	1	17903
Manthani	59	54525
Kamenpur	61	72847
Mutharam(Mnt)	33	31567
Malharrao	49	24755
Kataram	57	37598
Mahamutharam	47	26431
Mehadevpur	41	38489
Bhupalapalli	13	13716
Rural total	360	299928
Grand total	361	359987

Water requirement in TMC

Urban requirement	0.184
Rural requirement	0.578
Industrial requirement	0.076
Total	0.838

Source :	Yellampalli Reservoir	Bhimghanpur Lake
FRL	148 m	166.94
MDDL	138.3 m	158.54
Full capacity :	20.18 TMC	0.379
Dead storage	0.69 TMC	0.05685

Treat ment plant	:	25 MLD RSF	35 MLD RSF
Clear water Sump	:		3400 KL
GLBR proposed	:	600 KL	
OHBR Proposed	:		400 KL
Sumps proposed	:		
Length of Pipe lines	:		
Primary grid	:		
Secondry grid	:		

Reference		
1 Plan not to scale		
	Old water pumping/Gravity main	
	Clear water pumping main	
	RAW Raw water pumping main	
Total Estimate cost	Rs	890.00 Crores

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TDWSP., Circle Karimnagar.