

Status Report of Gandikota Lift Irrigation Scheme **(Stage - I & II)**

Name of Work:- Gandikota Lift Irrigation Scheme consisting of Phase-I & II"Investigation ,Design and construction of (a)Stage-I Lift component (from +204 to +281 from foreshore of Gandikota to Paidipalemwith 14.57 X 2 Cumecs capacity), (b)Formation of paidipalem reservoir with a capacity of 6 TMC &Himakuntla sump, (c)Stage-II lift to Himakuntla sump to Pulivendula Branch Canal(from +241.500 to +256.000) for supplementing an ayacut of 41000acres (d)Excavation of Feeder channel, Malyala supply canal and Distributory system for 47500 acres of direct ayacut.

Name of the Agency : M/S KBL-MCCL Jv., Pune

Agreement No : 5 SE/ 2004-05.Dated :31.03-2005.

Extension of Time : 31-07-2020 (EOT Proposals submitted to GoAP)

Agreement Amount : Rs.727.40 Crores

Work done Amount : Rs. 696.76 Crores(95.78%)

Balance : Rs. 30.64 Crores(4.22%)

- | | |
|----------------------------|---|
| 1. Reservoir | : 0.62 Crores (miscellaneous) |
| 2. Canals | : 3.80 Crores |
| 3. Defect liability Period | |
| & Mechanical Items | : 3.35 Crores |
| 4. Distributory System | : 22.87 Crores (Deletion Proposals in SLSC) |

The ayacut under GKLI scheme is planned to irrigate through Micro-Irrigation network. Due to this entire GKLI scheme was designed based on Micro-Irrigation and the total contemplated direct ayacut identified under GKLI Scheme is 47,500Acres.

GKLI Stage I: Main components:

- Pump house
- Pressure mains
- Reservoirs
- Canals and distributaries

Pump house: Construction of Pump house is completed in all aspects including erection of 10 No. V.T. Pumps and Motors. The capacity of each motor is 3.70 MW, Discharge of each pump is 3.237 Cumecs. Programming Logical Control room is completed with all cable connections and internal Connections of motors and pumps. The sill level of the gates is +199.50 Mts and pumping level is +204.00 Mts.

Pressure main: Lifting of 6 TMC of water from Gandikota Dam foreshore to Paidipalem Reservoir by the pressure main of **3 m dia x 2 rows** with Discharge **14.57 x 2 Cumecs**. Lifting from +204.00 mts to + 281.00 mts, (Head is 77 mts). Laying, Testing & Refilling trench of pressure main is completed for 20.00 Km against 20.20 Km (10.10 Km X 2 rows).

Reservoir: Salient features of Paidipalem balancing Reservoir:

TBL: +285.00 Mts MWL: +281.60 Mts FRL: +281.00 Mts

Capacity in TMC: 6.00 Length of the Bund: in Km. 3.668

- Sluices:**
1. Head Sluice @ Km.1.278, Sill level: +245.00 Mts
Ayacut – 39402 Ac.
 2. Malyala Supply Canal Sluice @ Km. - 0.092, Sill Level: +266.60 Mts
Ayacut – 7869 Ac.
 3. Lavanuru Sluice @ Km. 3.370, Sill Level: +243. 50 Mts
Ayacut – 2735 Ac.

For the above two sluices civil works and Mechanical Works are completed and for **Lavanur sluice canal** civil works are completed whereas Hoist mechanism is to be arranged.

Paidipalem Earth Bund:

- 1. Embankment:** Completed
- 2. Rip rap:** Completed
- 3. Surplus Weir:** Work Completed.
- 4. Delivery Cistern:** Work Completed.

Canals & Distributaries:

The ayacut under GKLI Scheme is 47,500 Acres.

- 1. Feeder Channel:-** Canal takes off @ Km1.278 of Paidipalem Reservoir
Length of the canal: 16.600 Kms.
Work completed including structures with Lining.
- The feeder channel is intended to feed Himakuntla Tank and from Stage-II Pump house - **Lifting of 2.86 TMC of water by 14.5M height through pressure mains for a length of 1.57 km x 3 rows** from Himakuntla Tank to stabilize 41000 acres under PBC. **Ayacut :** Direct ayacut of 39402 acres & 41000 acres stabilization ayacut under P.B.C

Total number of structures	Completed	Balance
32	32	0

- a. Santhakovu Branch Canal:** This canal takes off @ Km.3.250 of Feeder channel

Length of Canal: Total length of canal is 33.410 kms. Excavation completed for 28.50 Km. In the total 33.410 KMs, **0.00 Km to 25.365 Km** is taken as **Branch canal** and the remaining is considered as **distributary**.

CM & CD works are in progress to feed an ayacut of 34088.

Total number of Structures	Completed	Balance
136	48	88

Distributory System:-

b. Kothapalli Major: This canal takes off @ km3.250 of Feeder channel .

Length of Canal: Total length of canal is 9.20 Kms. Excavation completed for 9 Kms and balance work is under progress.

Ayacut: 5314 Acres

Construction of CM and CD works are under progress.

Total number of Structures	Completed	Balance
50	28	22

2. Malyala Supply Channel: This Canal takes off @ Km. -0.092 of Paidipalem reservoir

Length of Canal: Total length of canal is 21.975 Kms out of which 19.00 Kms is completed.

Ayacut: 7869 Acres

Construction of CM and CD works are under progress.

Total number of Structures	Completed	Balance
86	50	36

3. Lavanur Sluice canal: This canal takes off @ km. 3.370 of Paidipalem reservoir

Length of Canal: Total length of canal is 6.00 Kms, out of which 3.60 Kms excavation is completed. Balance under progress.

Ayacut: Direct ayacut of 2731 acres.

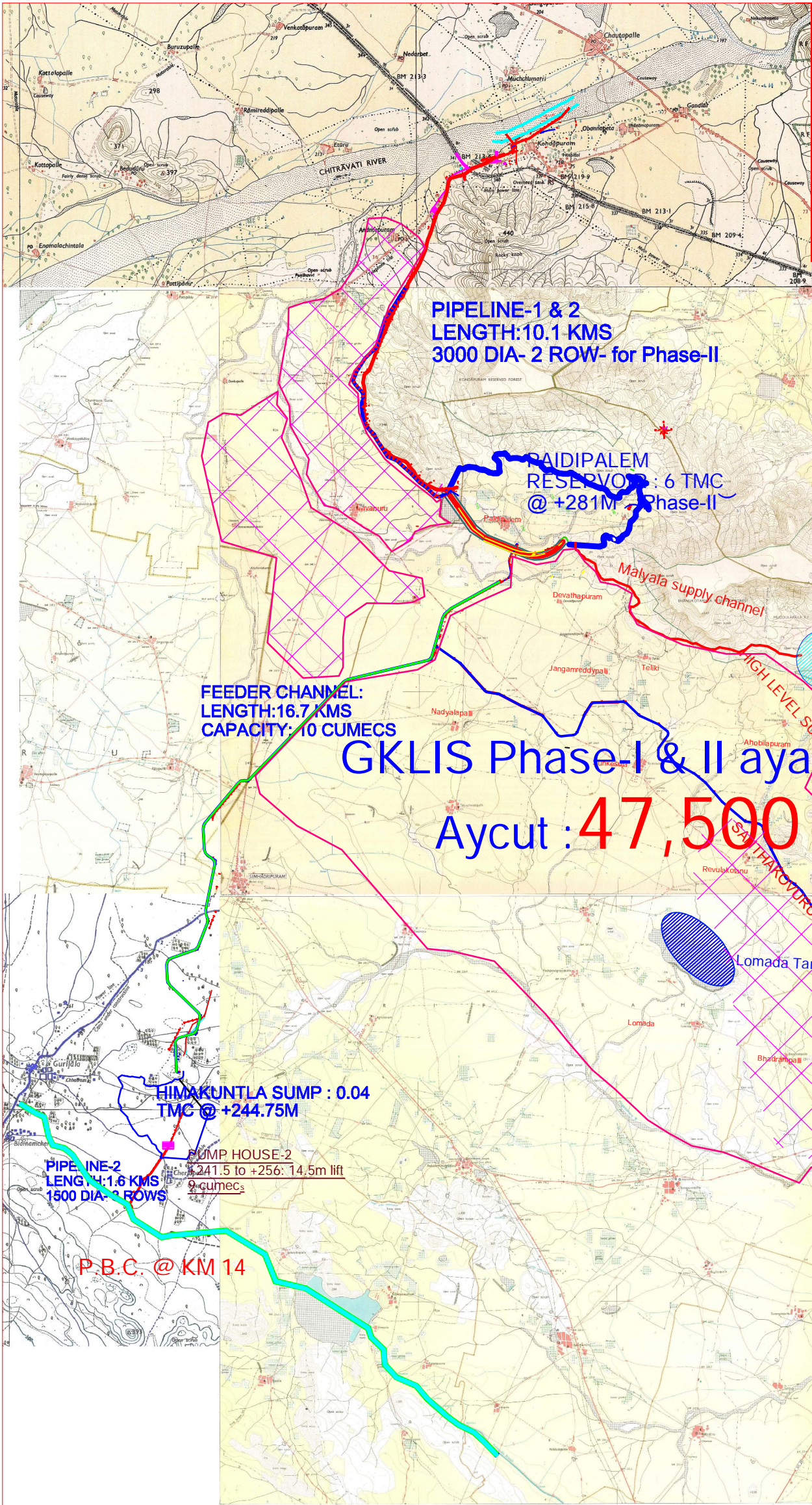
Total number of Structures	Completed	Balance
41	15	26

5. R & R Status of Gandikota Lift Irrigation Scheme :

R & R colonies for the paidipalem village and kummarampalli are completed and handed over to villagers at a cost of 7.20 crores in the year 2009.

6.BOTTLENECKS:

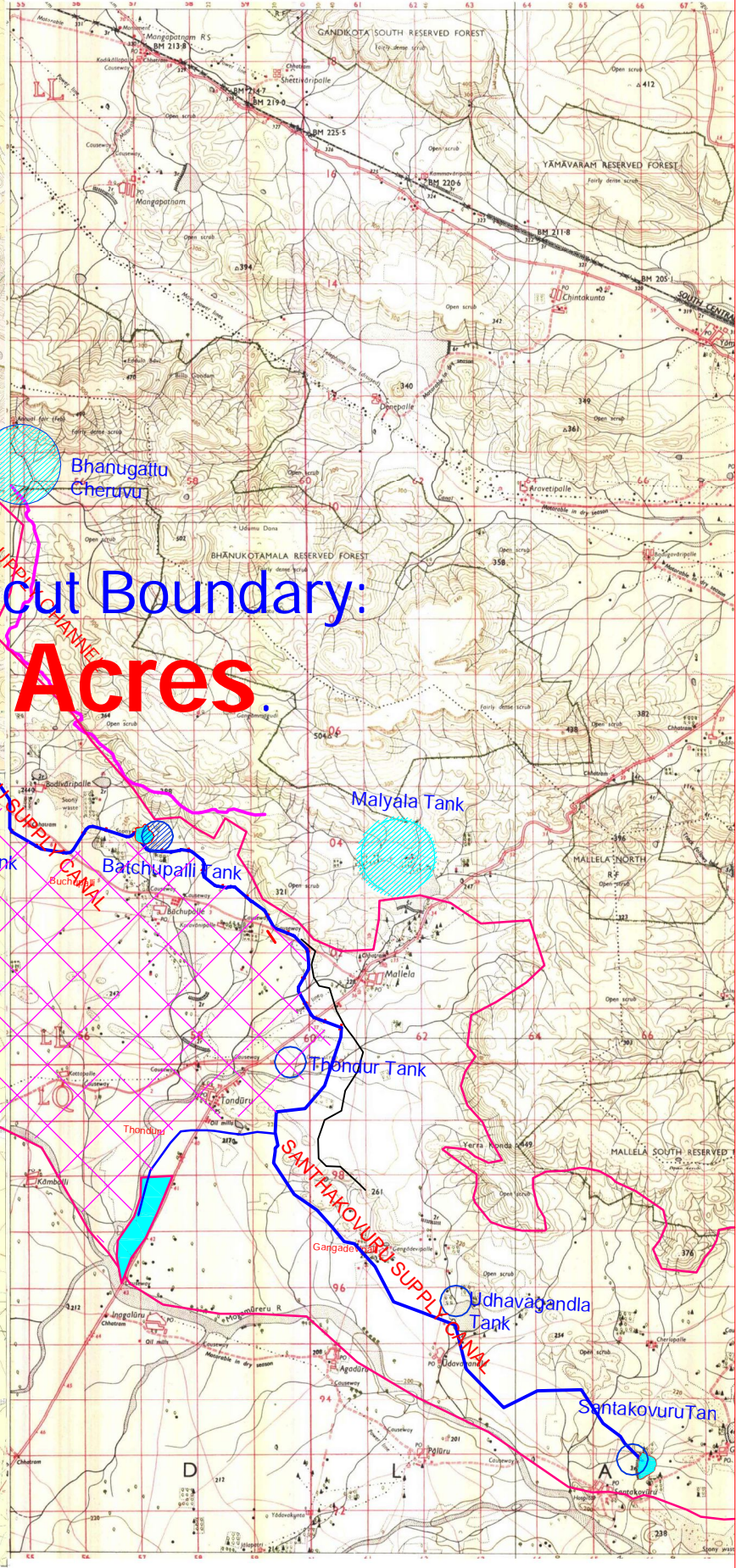
1. Land Acquisition : 61.98 Acres pending
2. Slow progress in work and the distributories are not executed by the agency as the agency proposed for deletion. The same proposals are at SLSC



GOVERNMENT OF ANDHRA PRADESH.
I & CAD DEPARTMENT

GANDIKOTA LIFT IRRIGATION SCHEME
(PHASE-I & II)

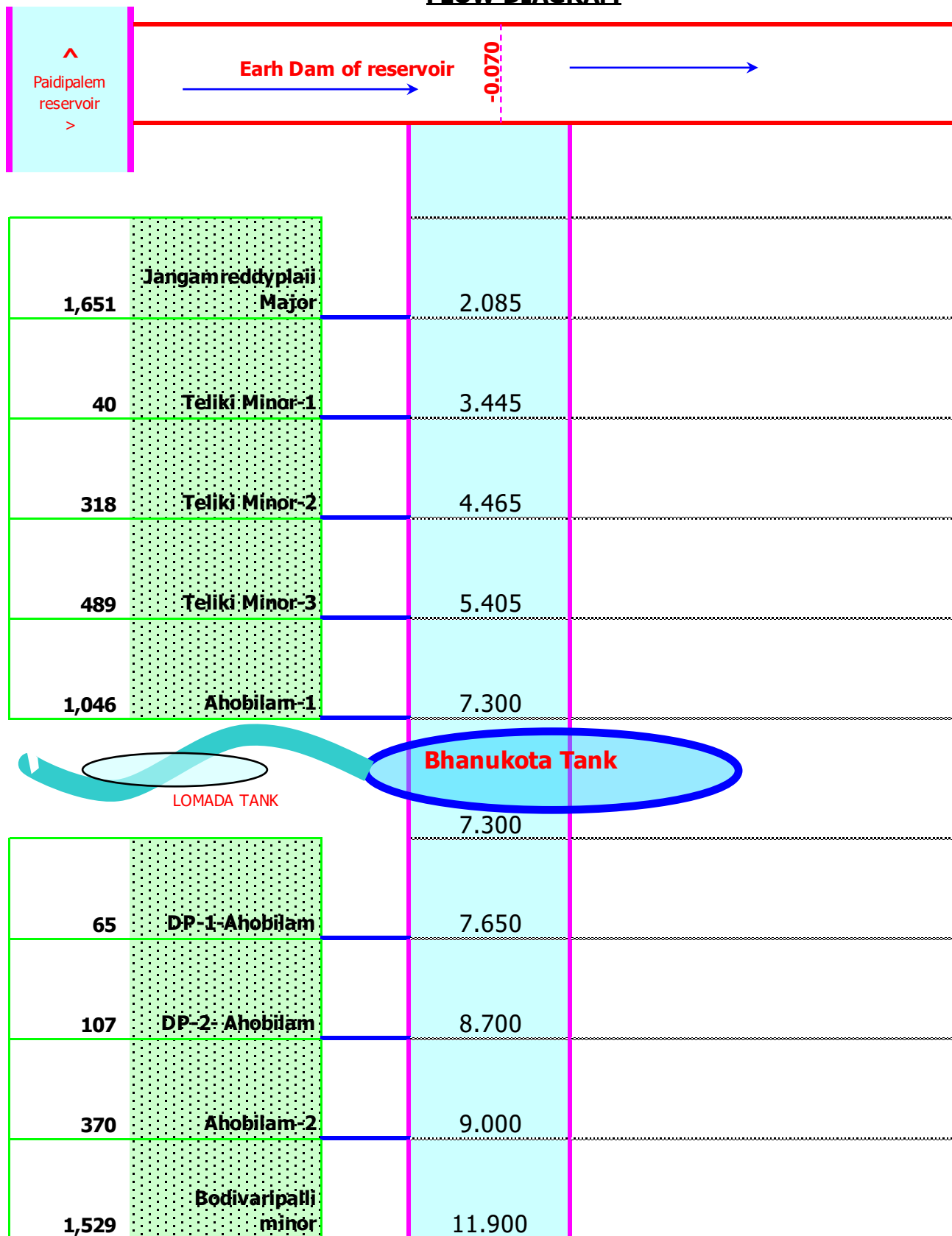
INDEX PLAN



Companants:		
<u>Lift-Stage-I:</u>		
Height of Lift	: 77 M. ~+204 to +281~	
Discharge	: 14.24 x 2 cumecs	
Volume to be pumped	: 4+2 : 6 TMC.	
Capacity of pumps	: 3700 KW-5000 HP x 9+1 Nos	
Pressure Mains	: 3.0M Dia x 2 Row-10.10 Km Length	
<u>Paidipalem Reservoir:</u>		
Capacity	: 6 TMC.	
F.R.L.	: +281.00 M.	
T.B.L.	: +285.00 M.	
M.D.D.L.	: +243.50 M.	
Length of Earth Dam	: 3650 M.	
Length of Surplu weir	: 15 M.	
Location of Sluice	: for feder Channel: @ 1286 M. for Lavanur distributary @ 3370M.	
<u>Feeder Channel & High Level supply Channel- Phase-II:</u>		
Discharge	: 10 Cumecs ~350 Cusecs~	
Length	: 16.6 Kms	
No. of structures	: 31	
Bed Width	: 6.50 M.	
F.S.D.	: 1.70 M.	
Bed Fall	: 1 in 10000	
Section	: LINED	
Ayacut	: 45,000 Ac. Direct ayacut & 41,000 Ac under PBC	
<u>Himakuntla Sump:</u>		
Capacity	: 0.04 TMC. ~1.13 M.Cum.~	
F.R.L.	: +244.75 M.	
T.B.L.	: +247.75 M.	
M.D.D.L.	: +241.50 M.	
Length of Earth Dam	: 650 M.	
Length of Surplu weir	: 55 M.	
<u>Lift-Stage-II:</u>		
Height of Lift	: 14.5 M. ~+241.5 to +256.0~	
Discharge	: 9.0 cumecs	
Volume to be pumped	: 2.84 TMC.	
Capacity of pumps	: 750 KW ~1019 Hp~ x 4 Nos	
Pressure Mains	: 1.5M Dia x 3 Row-1.6 Km Length	
<u>Power Consupction :</u>		
Power in MW	Stage-I 33.3	Stage-II 2.25
in HPs	44,638	3,057
Daily power requirement	7,99,200	54,000 KWH
Annual power req. Million KWHs	52.51	5.69

Design statement / Hydraulic Particulars (Revised) of Branch canal: Malyala Supply Canal (GKLI Scheme)

FLOW DIAGRAM



90	DP-1-Buchupalli	14.775		
105	DP-2-Buchupalli	15.250		
283	BUCHUPALLI MINOR2	16.050		
		17.075		
243	DP	17.400		
124	DP	19.625		
		20.800	DP	116
		21.400	DP	58
		22.000		
			MSC-Tail end	1,235
6,460	Ayacut Block areas total:			1,409

Ayacut**7,869** Acres**Discharge required :**

Ayacut

1.89 Cumecs

67 Cusecs

Tank feeding

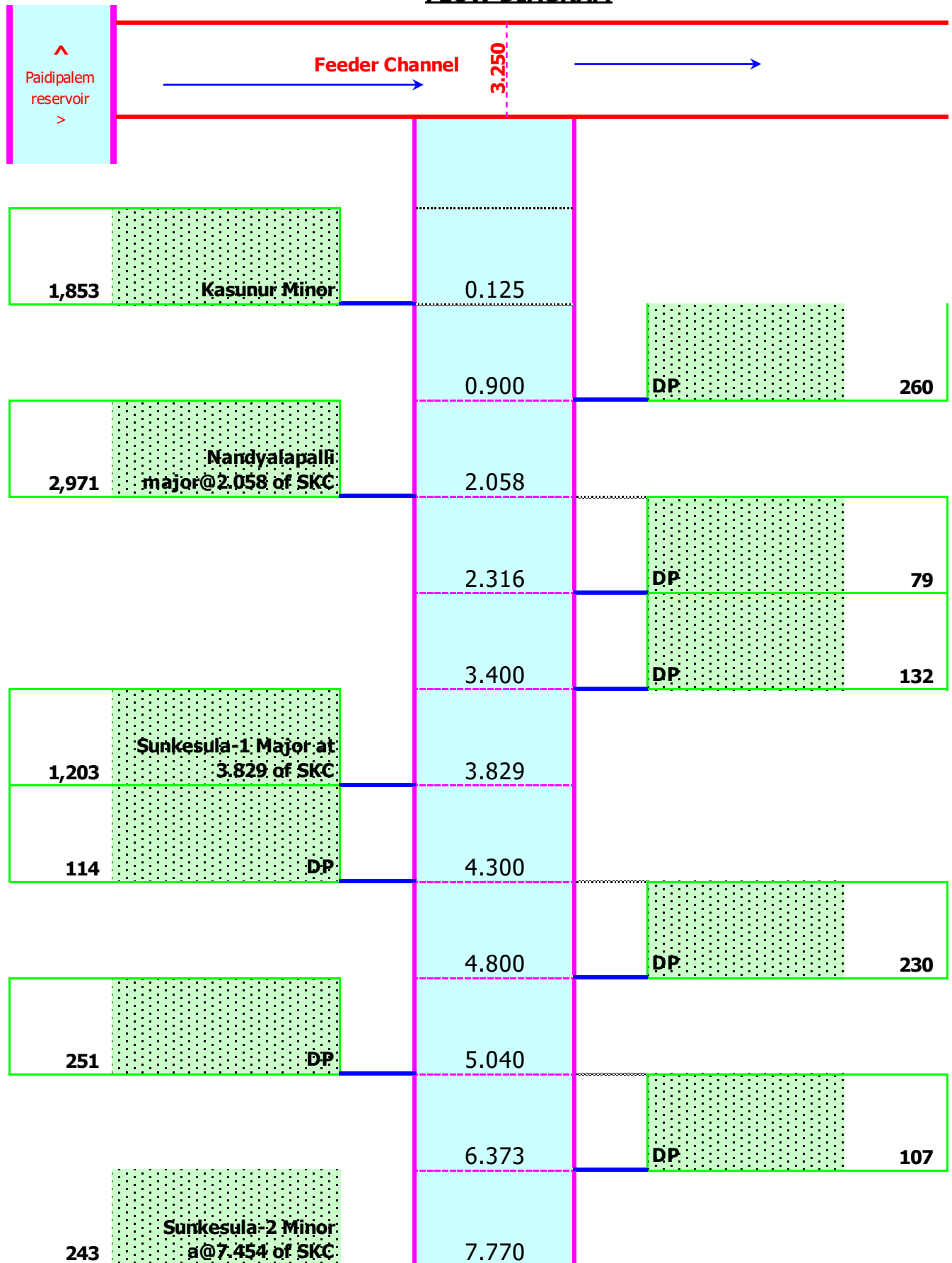
1.49 Cumecs

53 Cusecs

Total:**3.38 Cumecs****119 Cusecs**

Design statement / Hydraulic Particulars (Re-revised) of Branch canal: Santhakovuru Canal (GKLI Scheme)

FLOW DIAGRAM



		8.125	DP	109
2,580	Duddekunta Major @ 8.100 of SKC	8.550		
		8.942	DP	100
		10.000	DP	74
1,264	Block: Revulakolanu-1	10.110		
		10.550	DP	71
7,153	Bhadrampalli	14.200		
141	Buchupalli-1 DP on SKC	16.990		
453	Tonduru-1	18.025		
620	Mallela-1	19.725		
842	Mallela-2	22.575		
4,068	Thonduru-2	25.365		
1,184	Gangadevipalli Minor @ 25.300-SKC	25.975		
342	Udavagandla-1minor at Km 27.308-SKC	27.925		

1,532	Udavagandla - 2Minor@29.563-SKC	30.225	
477	Santhakovuru sub- block-@30.436-SKC	31.110	
		31.650	SKC-31Km I/S branching 1,200
1,303	Santhakovuru Minor @ Km 32.952-SKC	33.145	
		33.575	
			SKC-Tail end 3,143
28,594	Ayacut Block areas total:		5,504

Ayacut

34,097 Acres

34,088

Discharge required :

8.18 Cumecs

289 Cusecs