Water Supply Management

1. Introduction

1.1. Origin – the need of water supply

Electronics city is the brainchild of Rama Krishna Baliga (1929-1988), who was the first Chairman of KEONICS (Karnataka State Electronics Development Corporation)

In 1978 KEONICS established Electronics City on 332 acres of land from Konappana agrahara and Doddathogur Villages.

1.2. Water Supply Scenario prior to ELCITA formation in Electronics city

A well designed water supply system was started in Electronics city by KEONICS in the year 1986**.** The main source of water supply was – **Bore well.** KEONICS were sanctioned around 4 number of bore-well during first allotment. This first 4 bore-wells where installed near the ITI Properties (Present pump-house location). All these 4 bore wells connected to an independent pump house and have 5 HP Pump.

Second part of installation of 8 bore wells was carried out in the year 1998. Then in 1992, KEONICS sanctioned 4 more bore-wells installation. Hence, total 12 Numbers of bore-wells were successfully installed and commissioned. Year 1992 KEONICS were self-sufficient with water supply. Across electronics city 2inch GI Pipe line were laid with 5 HP Pump used for water supply through pipeline.

1.3 ELCIA WATER SUPPLY – Milestones

- ELCIA was established in the year 1994 by Riyas Tarrin, from Bifora watches, the first President
- In 1997 KEONICS handed over the WATER SPPLY MANAGEMENT FACILITIES to ELCIA
- In 2002, ELCIA submitted Drinking water request to BWSSB by First President Mr. Prakash Rao, ELCIA
- Feb 2002, ELCIA started underground sump construction and completed in Nov 2003
- In 2003, ELCIA got the BWSSB Water connection

2. ELCITA –WATER MANAGEMENT SYSTEM

In the year of 2013, ELCIA handed over the water supply/management facility to ELCITA. ELCITA water management deals with water collection, storage and distribution to the industries. ELCITA is responsible for supply of water to the Industries on demand. ELCITA obtains requirement of water from companies, demands the same from BWSSB and supplies the said quantity to the industries / establishments. ELCITA owns two bore-wells to meet the demand in case of crisis.

2.1 CURRENT SCENARIO

In Electronics city, ELCITA successfully runs the water management since 2013 and closely working on water distribution process to the various small and large scale companies to meet their daily consumption demand.

ELCITA's Water Management			
Sl. No.	**Water source**	**BWSSB**	**BOREWELL**
01	Total quantity of water collection from source	1000-1200 KLD	300-400KLD
02	Total quantity of water distribution to the companies	1000KLD	300 KLD
03	Type of operation	Intermediate	Intermediate
04	Capacity of storage Tank	1020 KLD	450KLD
05	Mode of distribution	Pumping and Tanker system	Tanker system
06	Total No. of companies taking water service in EC	131	106

Water distribution Management			
Sl. No.	**Description**	**Distribution Capacity**	**Operation schedule**
01	Water distribution through Pumping system	3 Pumps (Total 45 HP capacity 15HP each pump capacity)	4-6Hours (requirement base)
02	Water distribution through Tankers	3-Tankers (5KL ,7KL, 10.5 KL)	16 HOURS (3 Shifts each trip 8 loads)

Water Supply Management - Infrastructure				
Details of ELCITA Ground Level Sump				
Sl. No.	**Details of Water Sumps**	**Dimensions (Ft)**	**Volume (Cum)**	**Total Volume (cum)**
01	Cauvery water Sump -1	64" X 24.50" X 10"	444 cum	**1041 cum**
02	Cauvery water Sump -2	86" X 24.50" X 10"	597 cum	
03	Bore-well -1	60" X 20" X 9.5"	325 cum	**325 cum**

2.2 OASIS – WATER BILLING SOFTWARE

ELCITA introduced "OASIS" water billing software on October 2014 developed by M/s. Seminal Technologies to accomplish the below points;

(1) To reduce printing & circulating bill work
(2) To meet high accuracy data management

This software is an offline database management system. The feeding of data can be once in a month. There are 3 modules for data entry; and they are;

1. Meter Reading Entry
2. Trip sheet Entry
3. Generation of demand note/ Invoice
4. Submission of invoices through Mail or SMS

2.3 SMART WATER METER

ELCITA introduced "Smart water meters on May 2016". ELCITA adopted AMR (Automatic meter reading) is the technology of automatic data collection of consumption, diagnostic and status data from water meter or energy meter device.

ELCITA has carried out initial test-bed project with 25 smart meters and this pilot project is running effectively since 22 months from 2018.

First Phase, Smart water Meter Installation = 25 Nos.
Gate way installation = 1 Nos.

PROJECTS ON WATER MANAGEMNETS 2020-2021 ARE;

Sl. No.	Description of Proposed Project	Scope of the Project
01	Installation, commissioning of Smart water meters with IOT Gateways within Electronics city (57 Nos. smart water meter with 4 Gateways	(a) To achieve smart and flexible water distribution
02	Software Development for water management system (a) Smart billing system and (b) Vehicle management	(b) To meet Smooth billing system (c) To hold track over the system (d) Real time data – collection, storage & analysis

Prepared by,
Pallavi U.P
Environmental Engineer