

**PART-3**

**Technical specification and scope of work for the design & construction of effluent conveyance system and recycle water supply network to the Industries.**

## **1. BACKGROUND:**

BIADA has floated tender for the design, construction, supply, Operation & Maintenance of Common Effluent Treatment Plant (CETP). Currently, the industrial units are not well connected with the drain for the transport of industrial & domestic waste water from the industrial unit. Further, the CETP has planned to design based on the concept of Zero Liquid Discharge (ZLD). Hence, there is plan to recycle the treated water from the CETP to the Industries located in the Industrial area to reduce the overall demand of the fresh water consumption in the Industrial area and safe disposal of the treated water from the CETP.

Therefore, BIADA is inviting Tender for-

- i. Design, Construction, Laying of effluent collection system (Common Line for domestic and industrial effluent). The conveyance of effluent preferably through gravity / underground / in closed conduit/Pipe line. If required, an intermediate pumping can be given.
- ii. Design, construction, laying of recycle/ treated water (from CETP) supply network to supply the treated water at the door step of industries.

Note: The Operation & Maintenance for 10 years need to be done. The cost for O&M of conveyance system for effluent and treated water pipeline Need to be included with the cost of CETP O&M.

## **2. Scope of Work:**

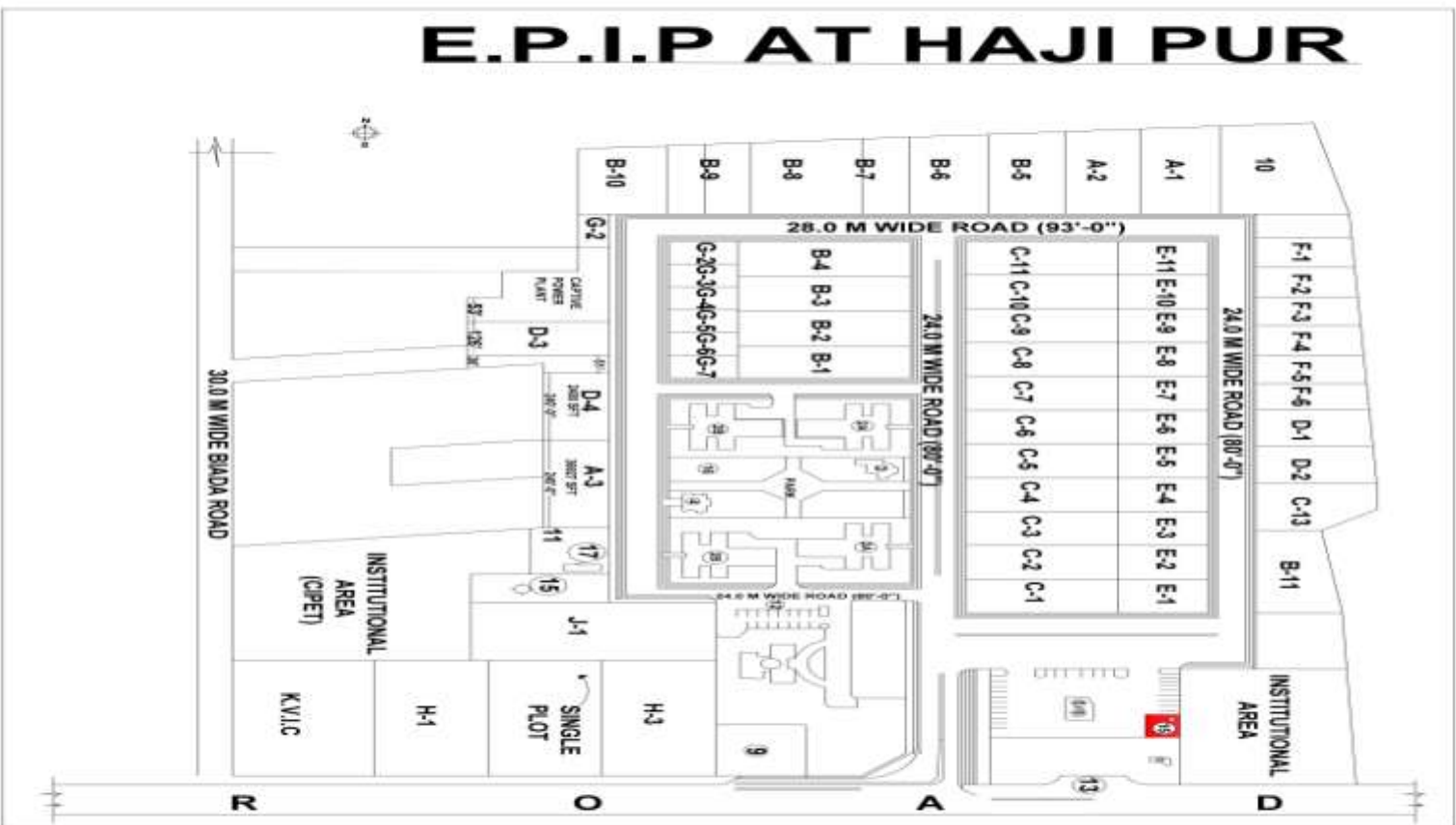
Following are the scope of work for the design, construction, laying of Effluent Conveyance System and recycle water supply network:

- i. Topographical survey of the Industrial area through total station survey instrument or equivalent. The bidder to submit soft and hard copy of survey report.
- ii. Preparation of contour line of the pipelines routes. The bidder to submit soft and hard copy of survey report.
- iii. Depiction of road, electrical pole, storm water line, industries, culvert, etc.
- iv. Based on the survey data design of effluent conveyance system. It will consist design of man-hole and complete work for laying, jointing of suitable size and type pipe – line. The bidder has to submit Detailed Project Report in soft and hard copy.
- v. Design of Pump- sump and intermediate pumping station.
- vi. The design should be such that the effluent convey through gravity to extent possible and less number of intermediate pumping stations.
- vii. Similarly, the design of recycle water supply network through pumping and up to the door step of industrial units. The bidder has to submit Detailed Project Report.

- viii. The design flow from each unit should be worked out to arrive economical size of the effluent conveyance pipe line.
- ix. The cost to be quoted based on the size of pipe, material of construction (MOC) of pipe; including pump-sump, intermediate pumping system, intermediate storage required etc.
- x. The effluent from individual industries group, group of industries would be collected in the man- hole of the effluent conveyance system.
- xi. The design should be such that there should not be any flooding, back pressure and mixing of storm water etc.
- xii. O&M for 10 Years.
- xiii. The DPR should be approved by IIT/NIT/Govt. Engineering College/Competent Authority.
- xiv. Minimum diameter of pipes, carrying Chemical Waste from different Plots has been considered as 150 mm.
- xv. For laying of underground Waste Pipes, proper supports has to be considered at regular interval to erect the pipe in suspension, where no soil is available.
- xvi. Effluent Collection Pits has to been considered at suitable locations, so that each plot owner can easily connect their waste water outlet line with proposed pits to discharge in trunk line.
- xvii. Maximum gap between centerline of 2 successive manholes has been considered as 100 m.
- xviii. For road crossing purpose, RCC Hume pipe has to been considered for waste water line.
- xix. Recycled water will be supplied to each plots at minimum pressure of 0.5 to 1.0kg/cm<sup>2</sup>.
- xx. For road crossing purpose, RCC Hume pipe has been considered for disposal water line
- xxi. Treated water from CETP to each Plot will be terminated with suitable valve and valve pit arrangement.
- xxii. The Effluent Collection line should be made on the both side of road of Industrial Area wherever applicable to connect the unit with the Effluent conveyance Line.

A map of Industrial Area is enclosed herewith

# E.P.I.P AT HAJI PUR



# INDUSTRIAL AREA HAJIPUR

