

# **Interim Report**

**on**

**Compliance to Hon'ble National Green Tribunal (NGT) Order dated 07.08.2018 in the matter of Original Application No. 138 of 2016 (T<sub>NHRC</sub>) & OA No. 139 of 2016 (T<sub>NHRC</sub>) Stench Grips Mansa's Sacred Ghaggar River (Suo-Motu Case) and Yogender Kumar**

**Submitted by**

**Hon'ble National Green Tribunal  
Executing Committee**

**January 28, 2019**

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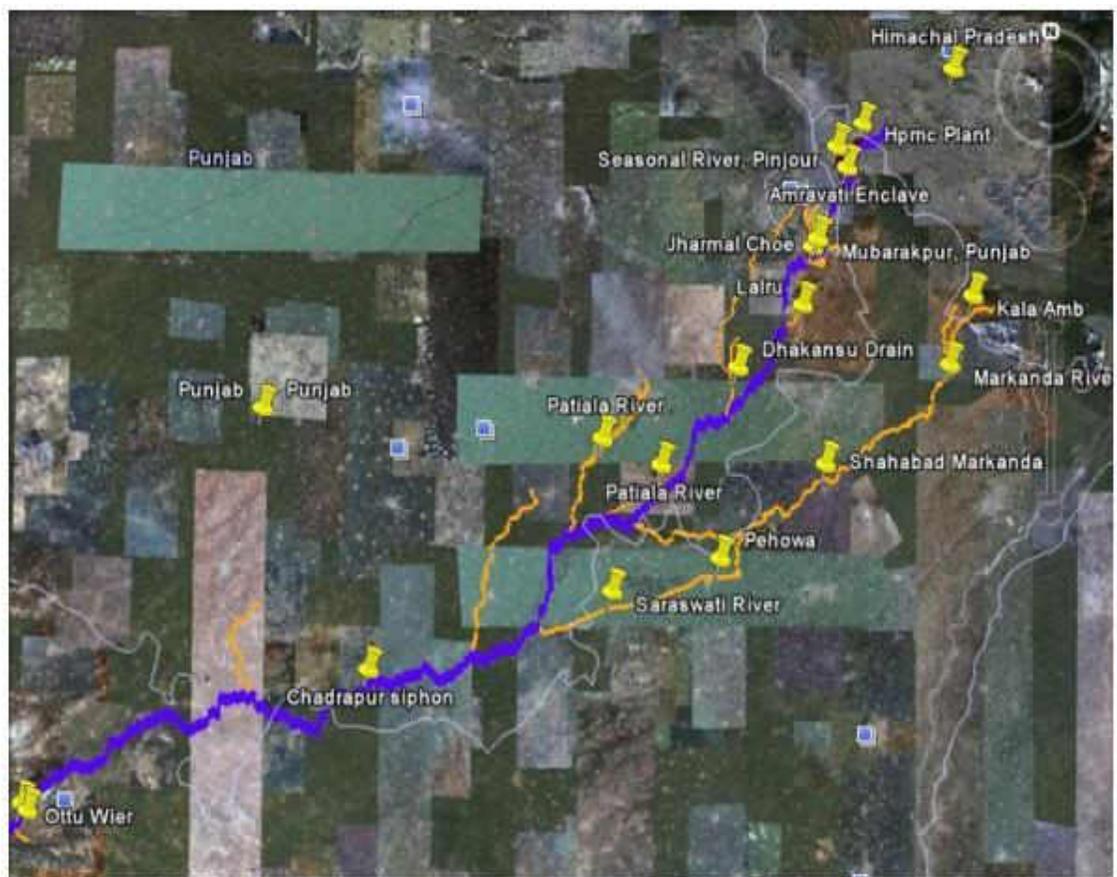
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**Interim Report of the Executing Committee  
Constituted by Hon'ble National Green Tribunal (NGT)  
vide Order dated 07.08.2018**

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**1. Introduction**

River Ghaggar is an intermittent river, originates near Parwanoo in Himachal Pradesh & flows through Punjab, Haryana and Rajasthan. Then it flows through Ambala, Patiala (Punjab) and Hissar (Haryana) districts. It enters Rajasthan at Talwara village of Tibbi Tehsil of Hanumangarh District. Normally, it gets lost near the Bhatner of Hanumangarh district. However, in the time of rainy season, it reaches Suratgarh & Anupgarh tehsils of Shri Ganganagar district. Ghaggar-River flows in monsoon season only. It is known as Ghaggar before the Ottu barrage and as the Hakra downstream of the barrage. The total length of this Ghaggar Hakra River is 465KM. Main tributaries of the Ghaggar Hakra River are the Kaushalyariver, Markanda, Sarsuti, Tangri and Chautang. The districts located in the Ghaggar basin are mainly; Kurukshetra, Karnal, Sirsa, Hissar, Jind in Haryana, Patiala, Ludhiana, Roper, Sangrur in Punjab, Ganganagar, Hanumangarh in Rajasthan and Union Territory of Chandigarh. Satellite map of River Ghaggar is given in **Figure 1**.



**Fig. 1: Satellite Map of River Ghaggar Basin**

## 2. Sources of Water Pollution

Mainly, major sources of pollution contributing to the pollution load in the river Ghaggar are

- (i) Domestic Sources i.e., sewage, solid waste management etc.,
- (ii) Industrial Sources i.e., industrial effluent, industrial hazardous waste, waste from hospitals etc.,

River Ghaggar receives municipal sewage and industrial effluents from Parwanoo (H.P) Pinjore and Panchkula in Haryana and Chandigarh in the upper stretch. In the lower stretch river Ghaggar receive waste water from Patiala, Sardulgarh and Dera Bassi in Punjab State, Ambala and Hanumangarh in Haryana before its entry in Rajasthan. Details of main sources of effluent and sewage discharging into river Ghaggar are given in the **Table 1** given below:-

**Table1: Sources of Effluent and Sewage discharging into River Ghaggar**

| Left side   | Right side  |
|---|---|
| Jharmal Choe a combined source of Sewage & industrial Effluent of Derabassi, Lalru and Zirakpur | Sukhna Nalla (Parwanoo)   |
| Markanda River a combined source of Sewage Industrial Effluent of Jatawala Nalla.               | Seasonal Rivulet in Pinjore Kalka   |
| Samsabad Drain a combined source of Domestic & Industrial Effluent of Sirsa                     | Baltana Drain a combine drain of Mohali Zirakpur, Chandigarh and Attawala Nala                    |
|   | Dhakansu Drain a combined drain of Mohali, Chandigarh and Rajpura Industrial waste.               |
|   | Patiala River carrying waste from Jacob Drain and a drain carrying sewage known as Patiala Ki Rao |

### 2.1 Drains discharging wastewater into River Ghaggar

Drains are the channels which are either man made or available in system naturally to carry storm water to its disposal point which can be either a river or a lake or sea. However, in the absence of sewerage systems or storm water drains, drains turn into open channels to carry storm water, sewage and untreated industrial effluent.

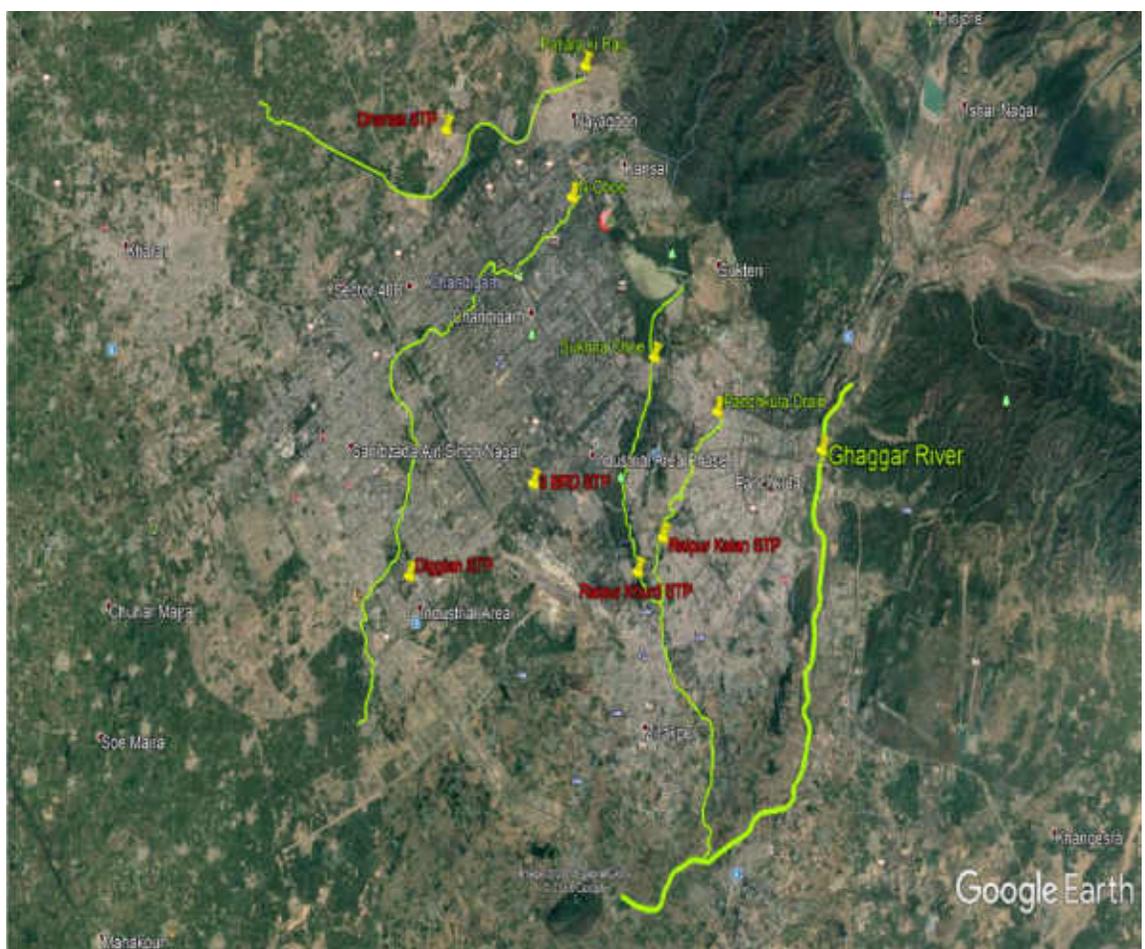
Details of main drains contributing to river Ghaggar pollution, state-wise are as follows:-

### Himachal Pradesh:-

The main source of pollution in River Markanda includes Municipal, Commercial and Industrial waste from various industries and Kala Amb area. The Jattan Wala Drain is the major contributor in degrading the water quality of River Markanda. Jattan Wala Drain receives municipal waste water from Kala Amb area as well as treated effluent from various industries.

### Chandigarh:-

River Ghaggar is passing at around 7 Kms. distance from Chandigarh and there are two main sources of discharge from Chandigarh which contribute to River Ghaggar. They are Sukhna Choe and N-Choe. Drains contributing to River Ghaggar pollution near Chandigarh are given in **Figure-2**.



Drains contributing to River Ghaggar pollution near Chandigarh

### Punjab:-

There are 13 major drains/ choes/ nallahs which are directly discharging into the river Ghaggar. There are 29 creeks which are discharging into 13 major drains. List of 13 major drains directly discharging into river Ghaggar in **Table 2**.

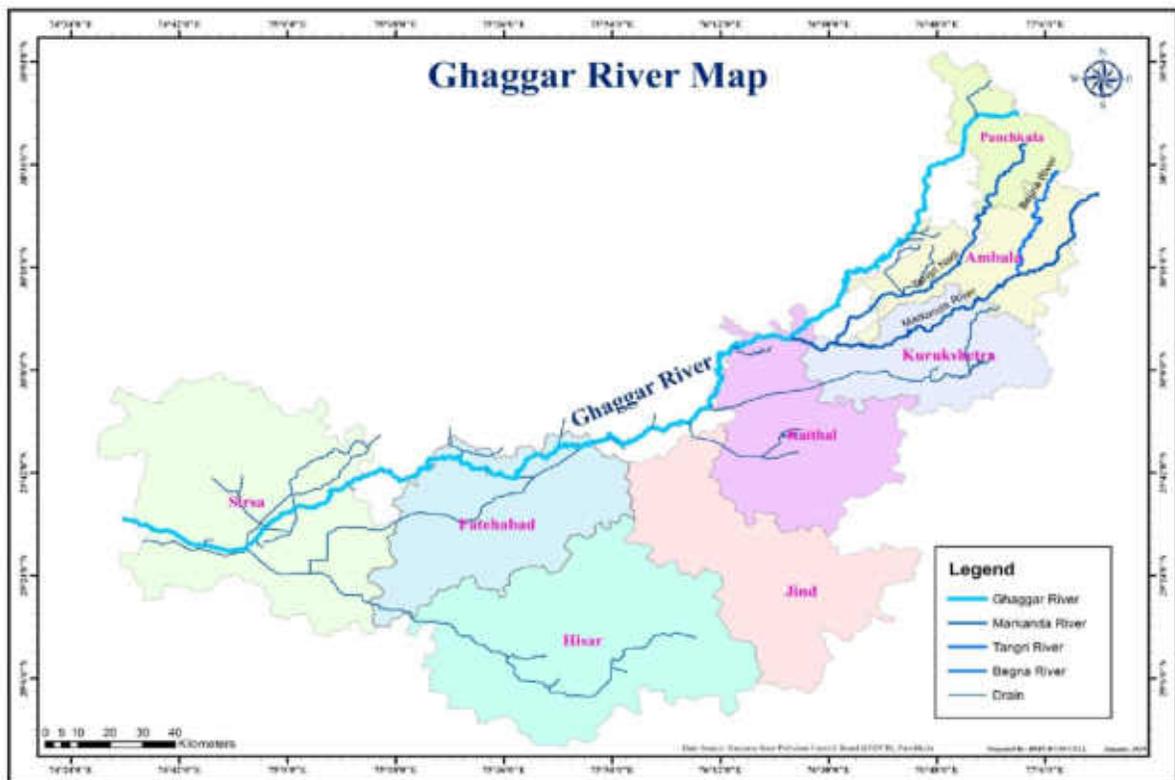
**Table 2. List of 13 major drains directly discharging into river Ghaggar**

| S.No. | Name of the drain               | Location at which it meets river Ghaggar | Approx. Discharge (MLD) |
|-------|---------------------------------|--|-------------------------|
| 1.    | Sukhna Choe                     | 450 m upstream of Bhankhapur Bridge      | 105                     |
| 2.    | Dera Bassi Choe                 | Near upstream of Village Satabgarh       | 17.5                    |
| 3.    | Jharmal Choe                    | Near Village Tiwana                      | 17.5                    |
| 4.    | Basauli Drain                   | Near Village Sadhanpur                   | 12.5                    |
| 5.    | Bagna Drain                     | Village Nanheri, Rajpura                 | -                       |
| 6.    | Pachisdara Drain (Dakansu Choe) | Near Village Sarala-Khurd                | 125                     |
| 7.    | Patiala Nadi                    | Village Ratanheri                        | 150                     |
| 8.    | Sagarpara Drain                 | Village Sagara                           | 180                     |
| 9.    | Kaithal Drain                   | Near Khanauri Bridge                     | 15                      |
| 10.   | Jhambowali choe                 | Village Chandu, Tehsil Moonak            | 32.5                    |
| 11.   | Lehragagga Main                 | Near Village Bakshiwala, Distt. Sangrur  | 82.5                    |
| 12.   | Sirhind Choe                    | Near Village Kheri, Haryana              | 245                     |
| 13.   | Miranpur Choe                   | Near Village Khambera, Haryana           | 125                     |

**Haryana:-**

In Haryana, there are 11 major drains, i.e., STP Panchkula, Drain of Panchkula, Sukhna Choe, Ambala Drain, Ghail drain, Markanda River, Sagarpara (Saraswati) Drain, Kaithal Drain, Ratia Drain and Sukhana Nallah falling out in River Ghaggar in the State of Haryana. Map of river Ghaggar showing towns contribution pollution to River Ghaggar are given in **Figure-3**.

Towns



contribution pollution to River Ghaggar

## 2.2 Sewage Management

Details with regard to the no. of towns/cities, sewage generation, No. of existing STPs and their existing capacities in the catchment of river Ghaggar is given in the **Table 3** as below.

**Table 3. No. of towns/cities, sewage generation, No. of existing STPs and their existing capacities in the catchment of river Ghaggar**

| S. No. | State            | No. of Cities or Towns | Sewage Generation in MLD | No. of STPs | Existing Capacity in MLD |
|--------|------------------|------------------------|--------------------------|-------------|--------------------------|
| (1)    | Himachal Pradesh | 02                     | 1.95                     | 06          | 0.100                    |
| (2)    | Chandigrh        | 01                     | 245.16                   | 05          | 221.78                   |
| (3)    | Punjab           | 30                     | 338                      | 30          | 238.76                   |
| (4)    | Haryana          | 34                     | 337                      | 57          | 459                      |

## 2.3 Sources of Industrial waste water generation in the Catchment of River Ghaggar:-

Following industrial sources were identified, which are located on the banks / catchment area of river Ghaggar, as detailed below:-

### 2.3.1 Industrial Effluent from H.P.

There are 137 water polluting industries located in Kala Amb and Parawanoo and generating industrial effluent about 6.02 MLD and majorly comprising pharmaceutical formulation, metal finishing, pulp & paper, electroplating. Most of the industries have reported to be installed captive ETPs and having capacity about 8.62 MLD

### 2.3.2 Industrial effluent from Chandigarh

Chandigarh is neither having 17 category of highly polluting industry nor there is any grossly polluting industry. There are total 3336 no. of industries operational in Chandigarh which comprise of 192 Red, 575 Orange, 577 Green and 1625 are White category industries. Red category industries includes 98 Nos. of very small scale electroplating unit, 5 nos. of sewage treatment plants, 48 nos. of pickling plants, 1 no. Slaughter house (abattoir) run by Municipal Corporation Chandigarh, 11 nos. of microbreweries and 4 nos. of zinc processing units. Orange category industries include majority of small scale Hotel and Restaurant which are 229 in nos. 10 nos. bottling plants, around 44 nos. of hospitals,

7 nos. of wire drawing unit without pickling, 91 nos. of service stations. **Table 4** gives the details of industries in Chandigarh:-

**Table 4. Details of water polluting industries in Chandigarh**

| Type of the Industry              | No. of industries | Water Consumption in MLD | Wastewater Generation in MLD |
|-----------------------------------|-------------------|--------------------------|------------------------------|
| Electroplating                    | 98                | 0.371                    | 0.161                        |
| Foundries                         | 33                | 0.053                    | 0.001                        |
| Hotel & Restaurants               | 229               | 5.498                    | 0.176                        |
| Sewage Treatment Plants           | 05                | 221.78                   | 221.78                       |
| Potable Alcohol's bottling plants | 10                | 0.352                    | 0.022                        |
| Automobile Service Stations       | 91                | 0.479                    | 0.127                        |
| Hospitals                         | 44                | 1.212                    | 0.387                        |
| Wire Drawing with Pickling        | 48                | -                        | -                            |
| Wire Drawing without Pickling     | 07                | -                        | -                            |
| Slaughter House (Abattoir)        | 01                | 0.048                    | 0.001                        |
| Zinc processing units             | 04                | -                        | -                            |
| Microbreweries                    | 11                | 0.3                      | 0.048                        |

### 2.3.3 Industrial Effluent-Punjab

There are 48 water polluting industries in the catchment area of river Ghaggar at Dera Bassi and Patiala Nadi and adjoining areas. Brief detail about the industries having ETPs and online continuous monitoring system installed is given in **Table 5** as under:

**Table 5. Industries having ETPs and installed online continuous monitoring system**

| Sr. No. | Type of industry                 | No. of units | No. of industries installed ETPs | No. of industries installed online continuous monitoring system |
|---------|----------------------------------|--------------|----------------------------------|---|
| 1)      | Pharmaceutical industries        | 11           | 11                               | 5   |
| 2)      | Pharmaceutical formulation units | 3            | 3                                | 0   |
| 3)      | Dyeing units                     | 8            | 8                                | 0   |
| 4)      | Pulp & Paper mills               | 2            | 2                                | 2   |
| 5)      | Electroplating industries        | 5            | CETP*                            | 0   |
| 6)      | Engineering goods units          | 3            | CETP                             |   |

|     |                                      |   |   |   |
|-----|--------------------------------------|---|---|---|
| 7)  | Pesticide manufacturing              | 1 | 1 | 1 |
| 8)  | Distillery unit                      | 1 | 1 | 1 |
| 9)  | Brewery unit                         | 1 | 1 | 0 |
| 10) | Meat Plant                           | 2 | 2 | 0 |
| 11) | Gelatine manufacturing unit          | 1 | 1 | 0 |
| 12) | Organic Chemical manufacturing units | 2 | 2 | 0 |
| 13) | Resin Manufacturing                  | 1 | 1 | 0 |
| 14) | Pulp & Paper mills                   | 4 | 4 | 3 |
| 15) | Distillery unit                      | 1 | 1 | 1 |
| 16) | Board mills                          | 2 | 2 | 0 |

### 2.3.4 Industrial Effluent from Haryana State

The industrial pollution is controlled by the HSPCB through consent Management system. The Industries apply for obtaining consent in prescribed form. They submit detail of effluent to be generated and the capacity of Effluent Treatment Plant (ETP). The industries are either installed in Industrial Area or outside the industrial area. Most of Industrial areas are having CETP for the treatment of effluent generated from the industries (Trade + Domestic). There are 193 water polluting industries located in three districts and generating industrial effluent at about 4.12 MLD. There are 06 no. of CETPs and total treatment capacity of 06 CETPs is about 3 KLD having a gap of about 1.12 KLD.

## 2.4 Solid Waste Management

### Himachal Pradesh:-

Total solid waste generation of Kala Amb area is approx. 3 to 4 Metric Tons per day. SADA, Trilokpur (Under District Administration) is the agency responsible for collection and disposal of solid waste. Dustbins have been provided by SADA, Trilokpur at various locations. Collected waste is then disposed of at Solid Waste Dumping Site of Municipal Council, Nahan. No details with regard to the solid waste generation in Parawanoo area provided by the HPPCB.

### Chandigarh:-

Municipal Corporation, Chandigarh is collecting daily around 450 Tonnes of municipal waste from all over Chandigarh and hand over the waste to the Processing Plant at Dadu Majra which has RDF plant of 500 Tonnes/day, Compost Plant of 300 Tonnes/day and Bio-Methanation Plant of 5 Tonnes/day.

Municipal solid waste is being collected from house to house through cycle carts and transferred to Sahaj Safai Kendra (SSK)/Municipal Bin and it is transported to Processing Plant. Waste from mandi and hotels goes directly to Dumping Ground. In the Processing Plant (which is operated by Jai Parkash Associates Ltd.) municipal waste is processed and converted into RDF (Refused Derived Fuel) which is further used in kilns and other furnaces as fuel additive. Old Dumping site has been capped and covered and sanitary landfill site has been developed under the CPCB project in which around 50 % funding was done by CPCB. Out of 45 Acres total area of Dumping Ground, 25 Acres has been reclaimed by capping of 16.72 Acres and 8.28 Acres sanitary land fill site has been developed in a scientific manner. Daily around 450 Tonnes municipal waste is generated in Chandigarh and transported to Processing Plant or Dumping Ground.

**Punjab:-**

Details with regard to the solid waste generation is not provided by the State.

**Haryana:-**

Total solid waste generation in the catchment of river Ghaggar in seven districts is about 2426 TPD.

## **2.5 Management of Bio-Medical Waste**

**Himachal Pradesh:-**

There are only three medical Health care facilities in Kala Amb. All the facilities have been covered under Bio Medical Waste Management Rules, 2016. The bio medical waste generated is disposed of through a Common Bio Medical Waste Disposal Facility located at Solan, H.P.

**Chandigarh:-**

Chandigarh is having total 788 Health Care Facilities (HCFs) which are generating biomedical waste. These 788 HCFs include 49 bedded hospitals, 583 small clinics/dispensaries, 13 veterinary institutions, 3 animals houses, 4 blood banks, 118 pathological laboratories, 4 research institutes and 14 ayush hospitals/dispensaries. Total bed strength in Chandigarh is 4413. On an average 2503 kgs of biomedical waste is being generated in Chandigarh on daily basis and the same is being treated daily. There is only one Bio-medical Waste Treatment Facility operational in Chandigarh which is collecting bio-medical waste from all Private health care facilities including Hospitals, Nursing Homes, Clinics etc. and disposing off the waste after proper treatment. Presently two incinerators are operational which are installed at PGIMER, Sector 12 and GMSH, Sector 16 with capacities of 200 kg/hr and 100 kg/hr respectively. These two Institutes treat their bio-medical waste in their own facility.

### **Punjab:-**

There are 1241 HCFs in the catchment of river Ghaggar. 1105 out of 1241 are disposing generated bio-medical waste through CBWTF whereas 136 HCFs have not taken neither membership of CBWTF nor disposing the generated bio-medical waste through CBWTF in accordance with the Bio-medical Waste Management Rules, 2016

### **Haryana: -**

Present scenario of Bio Medical Waste Management in Haryana

|                                    |   |               |
|------------------------------------|---|---------------|
| Total number of HCFs in the State  | : | 3412          |
| Total number of Bedded HCFs        | : | 2410          |
| Total number of Non Bedded HCFs    | : | 1039          |
| Total number of Beds in HCFs       | : | 48357         |
| Total BMW waste generated in State | : | 11732 Kg/ day |

For the treatment of this Bio medical Waste, **11** no. of Common Bio medical Waste Treatment Facilities (CBWTFs) has been authorized in the State. The total incineration capacity of these CBWTFs to treat Bio Medical Waste is **39600 Kg/day**. All the CBWTFs have upgraded their incinerator to meet revised emissions standards as per MOEF Notification 2016 and provided Online Continuous Monitoring System on their incinerator. The **3393** number of Health Care Facilities made agreement with these CBWTFs for collection & disposal of their Bio Medical Waste. The Govt. of Haryana, Environment & Climate Change Department has constituted State Level Advisory Committee (SLAC) and 1st meeting of SLAC has already been held under the Chairmanship of Additional Chief Secretary to Govt. of Haryana, Health Department-cum-Chairman of SLAC on 16.8.2018.

## **2.6 Management of Hazardous Waste**

### **Himachal Pradesh:-**

There are around 400 industrial units in Kala Amb. The industries generating hazardous waste have been covered under Hazardous & Other Waste (Management & Trans Boundary) Rules, 2016. The Hazardous Waste generated by various industries is disposed of to Common disposal facility at scientific landfill site at Dhabota, Nalagarh, District – Solan (H.P). No. of hazardous waste generating industries in Parwanoo district have not provided. However, HPPCB informed that all the industries are disposing of their waste through a Common TSDF.

### **Chandigarh:-**

As very less amount (2847 MT in F.Y. 2016-2017) of hazardous waste is generated in Chandigarh, therefore the waste is transported and disposed off in the facilities available

in the nearby states. For disposal of landfillable waste (70 MT), Chandigarh Pollution Control Committee has made formal agreement with Punjab Pollution Control Board for utilizing their TSDF facility namely M/s Ramky Enviro Engineers Ltd. (Unit: Punjab Waste Management Project). CPCC has authorised M/s Ramky Enviro Engineer Ltd. for collection and transportation of landfillable hazardous waste from various units located in Chandigarh to their TSDF located at Village Nimbua, Derabassi, Punjab. For disposal of incinerable waste (11.25 MT), CPCC has authorised M/s Bharat Oil and Waste Management Ltd. Sahibabad, Industrial Area, Ghaziabad, U.P. for collection and transportation of incinerable hazardous waste from various units located in Chandigarh. For disposal of recyclable waste i.e. used oil, spent acid, acid residue (2767 MT), CPCC has authorised the following units located in Punjab, Haryana and UP for collection and transportation of recyclable waste from various units located in Chandigarh to their facilities.

### **Punjab:-**

As per the interim order dt. 14-10-2003 of Hon'ble Supreme Court in Writ Petition (Civil) No. 657 of 1995, regarding handling of hazardous waste and development of common treatment, storage and disposal facility, a Common Treatment, Storage and Disposal Facility (CTSDF) at Village Nimbuan, Tehsil Dera Bassi, Distt. SAS Nagar was constructed by M/s Nimbuan Green Field Punjab Limited (NGPL) and commissioned in October, 2007. The facility has been designed for 15 years capacity considering the generation of storable quantity of hazardous waste as 36,000MTA based on the assessment study carried out by M/s Tetrattech India Limited. The total capacity of the facility is 5,40,000 MT. The capacity to store hazardous waste in the existing CTSDF is sufficient upto year 2030 at the present rate of generation. The vehicles used by the common facility operator for transportation of hazardous waste are equipped with GPS system.

At present no common incinerator has been installed at CTSDF and the same is under planning. All the major industries generating incinerable hazardous waste have installed captive incinerator in their premises for disposal of incinerable waste. Eighteen such captive incinerators are in operation for the disposal of incinerable waste.

In addition to the above, the incinerable waste from the remaining industries is received by the operator of CTSDF and is incinerated at the incinerator installed by the CTSDF at its another unit at Kanpur. Since, the Hazardous Waste generated by the industries in the catchment area of River Ghaggar is handled and managed in proper manner through the Common Treatment, Storage & Disposal Facility installed at Vill. Nimbuan, Tehsil Dera Bassi, Distt. SAS Nagar, as such, there is no impact of this waste on the water quality of River Ghaggar. Data of quantity of hazardous waste generated during the period January, 2018 to December, 2018 is given in **Table 6** as under :

**Table 6. District-wise hazardous waste generation quantities in the catchment of river Ghaggar**

| S.No | Name of District | Quantity of hazardous waste generated (in TPA) |            |                     |
|------|------------------|--|------------|---------------------|
|      |                  | Incinerable                                    | Disposable | Recyclable          |
| 1    | Sangrur          | 72.53  | 664.176    | 332.426             |
| 2.   | Mansa            | 92.08  | 2.2        | 170.33 & 8400 drums |
| 3.   | SAS Nagar        | 1453.148                                       | 7263.23    | 120                 |
| 4.   | Patiala          | 243.18   | 1053.39    | 5355.75             |

**Haryana:-**

The State is having 01 no. Common Treatment, Storage and Disposal Facility (CTSDF) for Hazardous Waste located at village Pali, District Faridabad, which is authorized for collection, transportation, treatment and disposal of various hazardous waste generated in the State. As per annual report 2016-17 state was having 3941 nos. of hazardous waste generating units, which have generated 58829.43 Tonnes of hazardous waste, and the disposal details are given in **Table 7** as under:

**Table 7.** Status of hazardous waste generation and disposal in Haryana State

|  | Qunaity in Tonnes |
|--|-------------------|
| Quantity disposed in captive sanitary landfill             | 687.7             |
| Quantity disposed through common sanitary landfill (CTSDF) | 8308.1            |
| Quantity disposed through captive incinerator              | 4135.4            |
| Quantity disposed through common incinerator (CTSDF)       | 20459.6           |
| Quantity disposed through co-processing in cement kilns    | 5089.1            |
| Quantity utilized (rule 9)                                 | 3566.2            |
| Quantity recycled (schedule 4)                             | 7458.8            |
| Quantity of hazardous waste stored with occupier           | 9124.1            |

The State was having 124 nos. of authorized private facilities for commonly recyclable hazardous wastes, as per annual report for the year 2016-17.

**3. Hon'ble National Green Tribunal (Ngt), Principal Bench, New Delhi Vide Its Order Dated 07.08.2018 In The Matter Of Oa No. 138 Of 2016 (T<sub>nhrc</sub>) & Oa No. 139 Of 2016 (T<sub>nhrc</sub>) Stench Grips Mansa's Sacred Ghaggar River (Suo-Motu Case) and Yogender Kumar.**

The National Human Rights Commission took suomotu on a news item published in 'The Tribune' on 12.5.2014 and sent the record to the Hon'ble NGT. Hon'ble NGT in its latest order dated 07/08/2018 had constituted an "Executing Committee" for executing the orders

of Hon'ble NGT on the said matter. The composition of the 'Executing Committee' Comprises as per the following details:-

|  |   |          |
|--|---|----------|
| Justice Pritam Pal, Former Judge, Punjab and Haryana High Court                  | : | Chairman |
| Senior Scientist of Ministry of Environment, Forest & Climate Change (MoEF & CC) | : | Member   |
| Senior Scientist of CPCB   | : | Member   |

Central Pollution Control Board (CPCB) is the Nodal Agency

### 3.1 Main directions of Hon'ble NGT Order dated 07.08.2018:-

Hon'ble NGT in its latest order dated 07/08/2018 directed as follows:-

- Chief Secretaries of the States of Himachal Pradesh, Haryana, Punjab and also the Administrator of UT Chandigarh, is required to constitute 'Special Task Force (STFs), within one month from the date of 07.08.2018, to identify persons responsible for violation of law so that action can be taken and the STF comprising of
  - District Magistrate, Superintendent of Police, Regional Officer of the State Pollution Control Boards in concerned District and one person to be nominated by the District Judge in every District in his capacity of Head of the District Legal Services Authority.
  - At State Level, Chief Secretary, Environment Secretary, Urban Development Secretary of Urban Development and Secretary of Local Bodies shall be the members of the STF.
  - The District Level STFs shall submit a monthly action taken report to the State STFs and the State STFs shall furnish a 3 monthly report or the action taken report to the Central Pollution Control Board
  - Reports of STFs be uploaded on the websites of State Pollution Control Boards as well as the Environment Department of the States.
- An action plan with firm timelines is required to be prepared for preventing discharge of untreated effluents in the river Ghaggar by setting up appropriate anti-pollution device such as STP/ETP/CETP or any other such instruments, for ensuring compliance to the laid down standards within the targeted time, by involving civil society.

- Wherever required polluting units have to be closed.
- Interim report in this regard will be submitted to NGT before 31/01/2019 by email at [filing.ngt@gmail.com](mailto:filing.ngt@gmail.com).
- The Committee may also consider need for getting organized health camps and need for providing clean drinking water for the affected inhabitants.
- The sampling of ground water may also be done apart from sampling of the river water periodically.

*A copy of the Hon'ble NGT Order dated 07.08.2018 is annexed (**Annexure-I**).*

#### **4. Initiatives taken by the Executing Committee for ensuring compliance to the Hon'ble NGT Order dated 24.07.2018**

##### **4.1 Organized nine Executing Committee meetings during August 07, 2018 to January 08, 2019**

Central Pollution Control Board (CPCB) being nodal agency in the matter coordinated with the concerned States and Chandigarh UT Administration in organizing nine meetings of the Executing Committee with the support of Punjab State Pollution Control Board. The Executing Committee has guided the authorities for preparation of the action plans by conducting the assessment w.r.to the existing scenario, gaps identification, to prepare action plans with time lines for ensuring proper management of industrial pollution control, sewage management in rural and urban areas, waste management in an environmentally sound manner which include hazardous waste, municipal solid waste, bio-medical waste, e-waste so that no waste will become a part of the river bodies. as Upon approval of Chairmann, Executing Committee, minutes of the meetings were also circulated to all the three States namely Himachal Pradesh, Haryana and Punjab and Chandigarh UT Administration for taking further necessary action at their end. Details of meetings held with the concerned authorities are given in **Table 8** below:-

**Table 8: Details of meetings held with the officials by the Executing Committee**

| <b>Sr.No.</b> | <b>Meeting</b> | <b>Date</b> | <b>Venue</b>                               |
|---------------|----------------|-------------|--|
| 1.            | First          | 31.8.2018   | Haryana Niwas, Sector 3, Chandigarh        |
| 2.            | Second         | 11.9.2018   | MGISPAP, Sec. 26, Chd.                     |
| 3.            | Third          | 21.9.2018   | Haryana Pollution Control Board, Panchkula |

|     |         |            |  |
|-----|---------|------------|--|
| 4.  | Fourth  | 9.10.2018  | Conference Hall, Hotel Peter Hof, Shimla (H.P.)                    |
| 5.  | Fifth   | 22.10.2018 | Conference Hall, U.T. Secretariat, Sector 9 Chandigarh             |
| 6.  | Sixth   | 15.11.2018 | MGISPAP, Sec. 26, Chd.   |
| 7.  | Seventh | 6.12.2018  | O/o Chairman, Executive Committee, Forest Complex, Sec. 68, Mohali |
| 8.  | Eighth  | 22.12.2018 | MGISPAP, Sec. 26, Chd.   |
| 9.  | Ninth   | 8.1.2019   | O/o Chairman, Executive Committee, Forest Complex, Sec. 68, Mohali |
| 10. | Tenth   | 22.1.2019  | O/o Chairman, Executive Committee, Forest Complex, Sec. 68, Mohali |

The minutes of nine meetings of the Executing Committee are annexed **(Annexure-II)**

#### **4.3 Organized Joint Monitoring and sampling of River Ghaggar and its tributaries, major Drains in the Catchment area of River Ghaggar during 22 to 30 October 2018**

The Executing Committee also carried out joint monitoring of River Ghaggar and its tributaries as well as major drains contributing to the pollution in River Ghaggar during 22-23.10.2018 and 29-30.10.2018 along with the representatives of H.P. State Pollution Control Board, Chandigarh Pollution Control Committee, Punjab Pollution Control Board, Haryana State Pollution Control Board. The Executing Committee Team members collected samples (Total about 103 samples) of river Ghaggar at 15 locations, 14 drain samples and one ground water sample.

The river water samples are analysed for the parameters such as pH, DO, Conductivity, TDS, COD, BOD, Total Alkalinity, Total Hardness as CaCO<sub>3</sub>, Calcium Magnesium, Chloride, Sulphate, NO<sub>2</sub>-N, PO<sub>4</sub> – P, NH<sub>3</sub>- N, Fecal Coliform, Total Coliform.

Drain samples were analysed for heavy metals such as Arsenic, Cadmium, Copper, Lead, Chromium (Total), Nickel, Zinc and Iron (Total) as well as general parameters such as pH, TSS, TDS, COD, BOD and NH<sub>3</sub>- N

Analysis results of the collected samples are given in **Annexure-III to V.**

#### **4.4. Uploading of information on compliance relating to the Hon'ble NGT directions dated 07.08.2018**

Information relating to the activities of the executing committee are regularly being uploaded in CPCB website (<http://cpcb.nic.in/ngt-committee/>)

**4.5 Organised health camps in association with the States:-**

**5 Status of follow-up actions taken by the States on Hon’ble NGT Directions dated 07.08.2018 in the matter of OA No. 138 OF 2016 (T<sub>NHRC</sub>) & OA NO. 139 Of 2016 (T<sub>nhrc</sub>) Stench Grips Mansa’s Sacred Ghaggar River (Suo-Motu Case) and Yogender Kumar**

Follow-up action taken by the states on the Hon’ble NGT orders dated 07.08.2018 are given in the **Table 9** as below:-

**Table 9: Status of follow-up actions taken by the States**

| Sr. No. | Hon’ble NGT Directions   | Status   |  |  |   |
|---------|--|--|--|--|---|
|         |  | H.P.   | Punjab   | Chandigarh   | Haryana   |
| I.      | Closure of Industries which are violating norms during 7.8.2018 to till date | 6 industries propose disconnection                   | 8 prosecuted   | 01 of 484  | 05 out of 250   |
| II.     | Constitution District Level Special Task Force (Nos.)                        | 02   | 04   | 01   | 08  |
| III.    | Constitution State Level Special Task Force (Nos.)                           | 01   | 01   | 01   | 01  |
| IV.     | <b>Number of onthly reports</b> submitted by STF                             |  |  |  |   |
|         | District Level STF   | -  | 08 meetings  | 03 meetings  | 12 meetings   |
|         | * Quarterly report State Level STF   | -  | -  | 01   | -   |
|         | * Action taken by State Pollution Control Board                              | -  | -  | -  | -   |
| V.      | Number of industries not having ETP  | Nil  | Nil  | Nil  | Nil   |
| VI.     | Number of industries inspected since 7.8.2018 and status of compliance       | Inspected 69 units<br>Non-complying :11 ( Parawanoo) | Inspected 48 Industries<br>Closed: 10 (as per NGT Order)<br>19 out of 38 complgng and 13 non-complying | 129 inspected . 124 complying and 05 are non-complying | Inspected 43 Industries.<br>Complying :17<br>Non-complying: 26<br>05 out of 26 have already been closed |
| VII.    | Uploading information of in websites   | Yes  | Yes  | Yes  | Yes   |

|       |   |                      |  |   |                                      |
|-------|---|----------------------|--|---|--------------------------------------|
| VIII. | Organized Health Camps                                |                      |  |   |                                      |
|       | Dates   | Dec 2018 to Jan 2019 | During 02.1.2019 to 18.01.2019                 | 11.11.2018                                    | -                                    |
|       | Nos.  | 04                   | 12   | 01  | -                                    |
| IX.   | Ground water samples collected since 7.8.2018         | 55 (Results awaited) | 79 (71 conforming to the Drinking water norms) | 07 Sample (Not allowed for drinking purposes) | 24 Samples (2 samples non-complying) |
| X.    | River water samples collection and analysis frequency | Monthly              | Monthly  | Monthly                                       | Monthly                              |
| XI.   | Amount to Learned Amicus paid or not (Rs. 2.00 lac.)  | -                    | Paid 2 Lakhs                                   | -   | -                                    |

## 6. Observations of the Executing Committee

After constantly assessing the work of the four States on the subject in issue, the Committee's observations are as under: -

In fact, the Committee held its first meeting on 31<sup>st</sup> August, 2018 with all the concerned officers of four States (Punjab, Haryana, Himachal Pradesh and Chandigarh). At the initial stage and as well as during the course of observation of the working on the directions of the Hon'ble National Green Tribunal, it was felt that there was total lack of sensitivity and lack of will on the part of concerned officers to do their job for restoration of quality of water of river Ghaggar to the prescribed norms/quality. During this period under observation from 31<sup>st</sup> of August till January, 2019, the members of the Executive Committee had visited 13 places.

Executive Committee also participated in the six Health Camps organised by the State of Himachal Pradesh and Punjab. In the camps, it was observed that there was lot of interest of the people living in the catchment area of Ghaggar River and as such members of the civil societies as well as elected members of the municipalities/Panchayats also actively played their respective role in the 'Cleanliness Drive of Tributaries and Drains'. On the query put to the medical officers by the Chairman of the Committee, after examination of the patients, it was found that there was no common water borne disease observed

amongst the patients in the camps organised at Kala Amb, Parwanoo (H.P.) and Derabassi (Punjab).

Many a times directions issued by the Committee for the compliance of orders of Hon'ble NGT were not acted upon in letter and spirit. However, when this fact was brought to the notice of the Chief Secretaries of the four States qua non-compliance of directions, thereupon concerned officers and members of STF at District level started taking the directions seriously and now reports regarding Action Taken at the spot are being received on the email [cecghaggar@gmail.com](mailto:cecghaggar@gmail.com) of the Executive Committee as well as websites of State Pollution Control Boards and Environment Department of the State.

Now, taking an overall view, we hope and trust from the actions being taken as well as constant monitoring of their work by the Committee, that there will be a big improvement/upgradation in the standard/quality of water flowing in the Ghaggar in the days to come. Main observations of the committee are detailed below:-

#### **6.1 On River Ghaggar/Kaushalya/Markhanda:-**

- During the sample collection by the committee, it was observed that large amount of untreated waste/industrial coloured water is being discharged in to drains. On the visual observations and on the basis of appearance of water in Ghaggar River Stretch, drains namely Jhermal Choe, Twenty Five Dhara, Shambhu Border, Patiala Drain have been identified as major hot spots.
- During the field sampling of river Ghaggar and the drains, it was observed that Dissolved Oxygen level is less than the aquatic life supporting requirement.
- Lot of stone/sand screening units are discharging coloured water into River Ghaggar.
- During the presentation by all four States Governments (Punjab, Haryana, Himachal Pradesh and Chandigarh), it was observed that more than 95% criminal cases related to environmental issues presented in the Courts to prosecute the violaters

ended in acquittal. Whereas only less than 5% such cases are convicted. This is all due to lack of evidence and awareness as well as non-adherence to the procedure laid down in the rules, at the time of collecting the legal samples.

- Process of installation of STPs in Ghaggar River Stretch is relatively slow.
- Most of time, the river Ghaggar is having highly coloured water due to discharge of industrial effluent likely from Paper & Pulp Industries, Sugar and Distilleries.
- River Ghaggar is having BOD value more than water quality criteria limit of 3 mg/l down the line of river Ghaggar from Mubarikpur, after confluence of Patiala Nadi and at Sirdulgarh.
- Faecal coliform in River Markhanda, River Kaushalya and River Ghaggar exceeding the limit of 500 MPN/100 ml except in River Markhanda before confluence of river Ghaggar, River Ghaggar at Village Chiali and River Ghaggar at Village Dhandota and River Ghaggar at Sirdulgarh and Ottu Weir.

## **6.2. Observations on Sewage Treatment Plants:-**

- Lack of sewerage systems for collection and conveyance of sewage (at present, open storm water drains carry city/town sewage in most of the cities/towns located in the catchment area of Rivers Ghaggar).
- Non-availability ofadequate capacity STPs and in-appropriate technology of STPs.
- Non-prioritization of wastewater treatment (focus has been on supply of drinking water rather than wastewater treatment).
- Limitation of skilled manpower, lack of knowledge on technical know-how w.r.to onoperation and maintenance of existing STPs.
- Water not considered as valuable resources and the concept of Reuse, Recycle & Recovery not implanted while designing the project.

**7.** In view of Hon'ble National Green Tribunal (NGT) orders dated 07.08.2018, the interim report of the Executing Committee alongwith **(Annexure-VI to IX)** submitted by four States (Punjab, Haryana, Himachal Pradesh and Chandigarh) is being sent through email for consideration. However, Executing Committee shall file the compiled action plans for restoration of river Ghaggar prior to next date of hearing scheduled on 05.03.2019.

**Sd/-**  
**(Justice Pritam Pal)**  
Chairman, Executing Committee

**Sd/-**  
**(J.Chandra Babu)**  
Sci 'D', CPCB & Member

**Sd/-**  
**(Dr.V.K.Hatwal)**  
JD, MoEF&CC &Member

# **ANNEXURE - I**

**BEFORE THE NATIONAL GREEN TRIBUNAL  
PRINCIPAL BENCH, NEW DELHI**

**Original Application No.138 of 2016 (T<sub>NHRC</sub>)  
(Case No. 559/19/11/14)**

**And**

**Original Application No. 139 of 2016 (T<sub>NHRC</sub>)  
(Case No. 600/19/11/14)**

**IN THE MATTER OF:**

**Stench Grips Mansa's Sacred Ghaggar River (Suo-Motu Case)  
And  
Yogender Kumar**

**CORAM : HON'BLE MR. JUSTICE ADARSH KUMAR GOEL, CHAIRPERSON  
HON'BLE DR. JUSTICE JAWAD RAHIM, JUDICIAL MEMBER  
HON'BLE MR. JUSTICE S.P. WANGDI, JUDICIAL MEMBER  
HON'BLE DR. NAGIN NANDA, EXPERT MEMBER**

**Present: Amicus Curiae**

**Ms. Katyayni, Adv. (Amicus Curae)**

**Respondents:**

**Mr. Anil Grover, AAG and Mr. Rahul Khurana  
Adv. for State of Haryana and HSPCB**

**Mr. Rajkumar, Adv.for  
Central Pollution Control Board**

**Mr. Shiv Mangal, Sharma, AAG alongwith**

**Mr. Saurabh Rajpal, Adv., Mr. Adhiraj Singh,  
Adv. for State of Rajasthan.**

**Mr. Gaurav M. Liberhan, AAG, Punjab**

**Mr. Ashish Negi and Ms. Richa Kapoor, Adv.  
for PPCB**

**Mr. Shubham Bhalla and Mr. Roopam Rai, Adv.**

**Mr. Manish Kumar, Adv. for State of HP**

| <b>Date and Remarks</b>   | <b>Orders of the Tribunal</b>   |
|---|---|
| <b>Item Nos.<br/>07&amp; 08<br/><br/>August 07,<br/>2018<br/><br/>R &amp; A</b> | <p>1. Proceedings in this matter were initiated before this Tribunal on a reference received from the National Human Rights Commission (NHRC). The NHRC took Suo-Motu action on the basis of a news item appearing in 'The Tribute' dated 12.05.2014 under the caption "Stench Grips Mansa's Sacred Ghaggar River" to the effect that the river Ghaggar had turned into a polluted water body on account of discharge of effluents - industrial as well as municipal.</p> <p>2. The NHRC considered the matter in the light of reports from the States of Punjab and Haryana as well as the State of Himachal Pradesh. Vide letter dated 17.03.2016, the NHRC sent the record of the matter to this Tribunal.</p> |

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2018**

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3. Pursuant to the order of this Tribunal dated 09.12.2016, a joint inspection has been carried out by the representatives of the Central Pollution Control Board, Punjab State Pollution Control Board, Haryana Pollution Control Board, Himachal Pradesh State Pollution Control Board. Officials of Union Territory, Chandigarh also joined the said inspection team. Ms. Katyani, Advocate was appointed as Amicus Curiae to assist the Tribunal. We record our appreciation for the assistance rendered by Ld. Amicus Curiae. Ld. Amicus has also undertaken personal visit to some of the affected areas and filed her report dated 08.05.2017.

4. We have perused the reports submitted by the concerned Pollution Control Boards to the NHRC as well as Minutes of the meetings on various dates in which the respective States participated. The joint analysis report of the joint monitoring of river Ghaggar samples has also been filed.

5. The Environment (Protection) Rules, 1986 provides for standards for the emission for the discharge of the pollutants. For different industries, the standards are laid down in Schedule I. The findings of the joint inspection report are that values of various parameters such as BOD, TSS, Faecal Coliform, Lead and Iron were beyond permissible limits at most of the locations in Himachal Pradesh, Haryana, Punjab and Chandigarh. It is, thus, fully established that there is failure on the part of the statutory authorities specially the Pollution Control Boards to perform their duties. Under the statutory scheme, the Pollution Control Boards are required to

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prosecute all those who may be responsible for discharging effluents beyond standards and also to close all commercial establishments which are discharging such effluents apart from other penal measures required to be taken. They have, failed to uphold the rule of law in spite of adequate powers given to them. It is high time that their composition and manning is considered by the higher Authorities and their accountability fixed by taking civil and criminal action against not only violations of law but all those responsible for failure of their duties in taking action or shielding the culprits and thereby adversely affecting the environment and health of the inhabitants.

6. In view of above disappointing scenario and utter failure of the Authorities in spite of pendency of these proceedings for the last 4 years and clean violation of law, there is no evidence of action taken against persons for responsible for the violation of law at large scale, we accordingly direct the Chief Secretaries of the States of Himachal Pradesh, Haryana, Punjab and also the Administrator of UT Chandigarh to constitute Special Task Force (STFs) comprising of District Magistrate, Superintendent of Police, Regional Officer of the State Pollution Control Boards in concerned District and one person to be nominated by the District Judge in every District in his capacity of Head of the District Legal Services Authority. Such STF may identify persons responsible for violation of law so that action can be taken. At the State level, the STF will comprise of the Chief Secretary, the Environment Secretary, the Secretary

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of Urban Development and Secretary of Local Bodies. The District level STFs will submit a monthly action taken report to the State STFs and the State STFs will furnish a 3 monthly report or the action taken to the Central Pollution Control Board. Such reports be uploaded on the websites of State Pollution Control Boards as well as the Environment Department of the States. Such STFs may be constituted within one month from today.

7. Having regard to the alarming situation depicted in the joint inspection report apart from perusal action as above, an action plan with firm timelines is required to be prepared for preventing discharge of untreated effluents in the river by setting up appropriate anti-pollution device such as STP/ETP/CETP or any other such instruments. Wherever required polluting units have to be closed. The action plan must be realistic and provide for speedy mechanism. The funds can be generated as per applicable schemes for STP/CETP. The objective of the action plan must be to ensure that the testing of the sample of the water is found to be consistent with the laid down standards within the targeted time. We are also of the view that it is necessary to involve civil society and not to leave the matter to be dealt with by the concerned officers alone.

8. With view to ensure execution of our order, we constitute following committee as “Executing Committee” for executing the orders of this Tribunal under Section 25 of the National Green Tribunal Act, 2010:

1) Justice Pritam Pal, Former Judge, Punjab and Haryana High Court. (Phone No. 09463122333) –

|  |   |   |
|--|---|---|
|  | <p><b>Item Nos.<br/>07 &amp; 08</b></p> <p><b>August 07,<br/>2018</b></p> <p><b>R &amp; A</b></p> | <p>Chairman.</p> <p>2) Senior Scientist from Ministry of Environment, Forest and Climate Change.</p> <p>3) Senior Engineer/Scientist from Central Pollution Control Board.</p> <p>9. The Committee will be entitled to issue appropriate directions to concerned authorities for ensuring compliance with the order of the Tribunal. The target of the Committee will be to restore the standard of water quality in the river to the prescribed level. The CPCB will be the Nodal agency for this project. The Committee may carry out personal visits, if necessary or call for information or reports. It may set up its website to furnish and receive information. All logistic support may be provided by the Chief Secretary, Punjab.</p> <p>10. The said oversight body to execute the order of this Tribunal constituted hereinabove will constantly monitor the progress in the matter at least on fortnightly basis and give an interim report to this Tribunal on or before 31.01.2019 by e-mail at <a href="mailto:filing.ngt@gmail.com">filing.ngt@gmail.com</a>. The said oversight body will be paid such remuneration as may be determined by the Chief Secretary, Punjab in consultation with the Chief Secretaries Haryana, Himachal Pradesh and also in consultation with the Chairman of the said oversight body constituted by the Tribunal. The said oversight body may start working within one month.</p> <p>11. The Committee may also consider need for getting organised health camps and need for providing clean drinking water for the affected inhabitants. The sampling of ground water may also be done apart from the sampling</p> |
|--|---|---|

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of the river water periodically. Copy of this order be sent to all concerned by E-mail.

12. We also direct that Learned Amicus may be paid Rs. 2 Lakhs as honorarium of the services rendered to this Tribunal to be shared equally by the Punjab State Pollution Control Board and Haryana Pollution Control Board. The payment will be made within one month from today.

13. All Authorities concerned with the matter in the States of Himachal Pradesh, Haryana, Punjab and UT Chandigarh will cooperate and co-ordinate with "Executing Committee". The "Executing Committee" can seek any scientific and technical assistance as may be required from any relevant authority.

14. The Registry is directed to send a copy of this order to the Chief Secretaries of Himachal Pradesh, Punjab, Haryana and Administrator UT Chandigarh and the Members of the "Executing Committee" by E-mail.

15. With the above directions, the application is disposed of.

List for consideration of the report of the Committee on 05<sup>th</sup> March, 2019.

....., CP  
(Adarsh Kumar Goel)

....., JM  
(Dr. Jawad Rahim)

....., JM  
(S.P. Wangdi)

|  |   |   |
|--|---|---|
|  | <p><b>Item Nos.<br/>07 &amp; 08</b></p> <p><b>August 07,<br/>2018</b></p> <p><b>R &amp; A</b></p> | <p>.....,EM<br/>(Dr. Nagin Nanda)</p> <p>07.08.2018</p> |
|--|---|---|



# **ANNEXURE - II**



**CENTRAL POLLUTION CONTROL BOARD**  
(Water Quality Management Division-I)  
"Parivesh Bhawan", East Arjun Nagar,  
**Delhi-110032**

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**Minutes of First meeting of the Executing Committee held on 31.08.2018 at 'Haryana Niwas, Sector-3, Chandigarh' under the Chairmanship of Justice Pritam Pal, Former Judge, Punjab & Haryana Court, in compliance to the Hon'ble NGT order dated 07.08.2018 in matter of OA No. 139 of 2016 titled Stench Grips Mansa's Sacred Ghaggar River (Suo-Motu Case) And Yogender Kumar**

First Meeting of the Executing Committee was held on 31.08.2018 at 11.30 AM at 'Haryana Niwas, Sector-3, Chandigarh' under the Chairmanship of *Justice Pritam Pal Former Judge, Punjab & Haryana Court*. Shri S. Narayanan, Member Secretary, Haryana State Pollution Control Board (HSPCB) welcomed the Chairman and Members of the Executing Committee as well as Officials of CPCB, State Governments and Pollution Control Boards of Punjab, Haryana, Himachal Pradesh and Chandigarh Union Territory Administration. The List of Officials attended the meeting is enclosed as **Annexure-I**.

After a brief introduction of the Officials of CPCB, Haryana, Punjab, Himachal Pradesh States and Chandigarh Union Territory Administration, the Chairman of the Executing Committee requested CPCB representative (s) to brief about main content of the Hon'ble NGT order dated 07.08,2018 and also the action to be taken by the Chief Secretaries of the above States/UT to ensure compliance to the Hon'ble NGT order dated 07.08.2018 .

Shri. A. Sudhakar, Additional Director, Water Quality Management Division in Central Pollution Control Board (CPCB) readout main content of the order and the actions to be taken by the State Governments of Punjab, Haryana, Himachal Pradesh and

Chandigarh UT for control of river Ghaggar pollution. Thereafter, he stated that the Punjab, Haryana, Himachal Pradesh States and Chandigarh UT are required to constitute Special Task Forces (STFs) at the State Level as well as District Level in the respective States and UT to identify the persons violating the norms. STFs at District Level are required to submit the monthly action taken reports to State Level STF and State Level in STF in turn have to submit quarterly reports to CPCB. He also emphasized that the action plans to be prepared with time targets for restoration of Ghaggar river water quality upto the level of Class B classification i.e., bathing criteria, by also involving the civil societies. He also informed that Executing Committee has been empowered by Hon'ble NGT to issue directions to any authority or local body, if required to ensure compliance to the Hon'ble NGT Order. CPCB will be the nodal agency. The Committee shall also make personal visits to sites related to river Ghaggar and polluting sources, if necessary or call for information or reports from the concerned departments. All logistics etc., are required to be provided by the Chief Secretary, Punjab State Government. Thereafter, he also stated that the executing committee will review the progress on fortnightly basis and shall file the interim report on or before 31.01.2019. The remuneration for the oversight body shall be determined by the Chief Secretary, Punjab in consultation with the Chief Secretaries of Haryana, H.P and Chandigarh Governments and in consultation with the Chairman of the Executing Committee. He also stated that organizations such as State Ground Water Board (s) may also be involved for assessment of ground water quality and State Health Departments for assessment of health of the public, for providing treatment services if required. If any ground water is found unfit for human consumption then such ground sources should be dismantled or capped or sealed to prevent consumption. He also informed that any industry found violating the prescribed norms should be closed down and prosecuted.

Thereafter, Chairman of the Executing Committee requested the representative of the State Governments to present actions taken by them subsequent to the Order of the Hon'ble NGT dated 07.08.2018.

Shri. S. Narayanan, Member Secretary, Haryana State Pollution Control Board (HSPCB) has apprised Executing Committee that HSPCB already constituted STFs at State Level as well as District Level and also informed that the proposals for development of adequate capacity of STPs and CETPs are under progress. Thereafter, he requested Shri. JP Singh, EE, HSPCB to make a brief Power Point Presentation on River Ghaggar and the actions being taken by the State of Haryana.

Shri J.P.Singh, in his presentation stated that State of Haryana has already constituted State Level and District Level Task Forces in compliance to the orders of Hon'ble NGT. STF at State Level and also constituted 08 DSTFs in Haryana State and STFs are expected to submit their first report by September 2018. The order regarding constitution of Task Forces at State and District Level has already been uploaded on website of HSPCB and Environment Department, Haryana. He also stated that there are 12 towns namely Kalka, Pinjore, Panchkula, Ambala, Kurukshetra, Shahbad, Pehowa, Kaithal, Cheeka, Ratia, Tohana and Sirsa located on the catchment of River Ghaggar and 06 out of 16 drains contributing to River Ghaggar Pollution from Haryana State and minimum BOD of 12 mg/l was observed in Kaithal drain at Vill. Khanauri whereas Sagar Para Drain at Vill. Sagra contribute BOD level of 90 mg/l. As regards Sewage Treatment Plants (STPs) and Common Effluent Treatment Plants (CETPs), he informed that 46 STPs of 400 MLD are operational at present and 8 STPs of 70.5 MLD are under construction and 19 STPs of 83 MLD are proposed and 3 CETPs of 6 MLD are operational and 1 CETP of 1.5 MLD has been proposed. Other measures or initiatives taken by Haryana as informed are (i) sewerage is being laid in towns in the catchment of river Ghaggar; (ii) Plan to recycle treated effluent of STPs so that no sewage is discharged in river Ghaggar; (iii) Installation of Real Time Online Monitoring Devices for all STPs and CETPs; (iv) Conducting surveys to identify remaining point sources of river Ghaggar pollution

Shri Krunesh Garg, Member Secretary, Punjab Pollution Control Board (PPCB) informed that the proposal regarding constitution of State Level and District Level Task Forces has already been under submission for approval of the Chief Secretary, Punjab State Government. He also stated that there are 22 towns in the catchment of river Ghaggar and generating about 273 MLD of sewage and 17 out of 31 STPs covering 15 towns have already been provided with 208 MLD sewage treatment capacity. In pursuance to the Hon'ble NGT order dated 07.08.2018, payment of Rs. 2 Lakhs to Ms. Katyayni, Amicus Curiae has already been sanctioned by Chairman, PPCB and same would be released by 06.09.2018

The representative of H.P. State Pollution Control Board (HSPCB) informed that STFs at District Level will be constituted and further actions would be initiated in compliance to the order of Hon'ble NGT dated 07.08.2018.

The Member Secretary, Chandigarh UT Administration informed that the STF at State Level and District Level in compliance to the Hon'ble NGT order dated 07.08.2018 will be constituted by 06.09.2018.

Thereafter, Chairman, Executing Committee enquired about the conviction rate of the prosecution cases being filed for Environmental violations in States. It was informed by all the State Pollution Control Boards that the conviction rate is less than 1%.

As regards to the logistics to be provided to the Executing Committee, Shri A Sudhakar, Addl. Director, CPCB made it clear that all logistics regarding office, staff etc. are to be provided by Chief Secretary, Punjab State Government as directed by Hon'ble NGT.

Shri J.Chandra Babu, Sc. D, CPCB and member of the Executing Committee requested all the State Government representatives and Chandigarh UT administration who are yet to constitute Special Task Forces in pursuance to the Hon'ble NGT order dated 07.08.2018 to take action for constitution of the special task forces before 06.09.2018 and also to forward a copy of the order to the executing committee as well as CPCB. He also requested to provide preliminary information as per the formats circulated during the meeting before the next meeting of the executing committee along with the draft action plans for ensuring compliance to the Hon'ble NGT Order dated 07.09.2018. He also requested the Punjab, Haryana and H.P. SPCBs and Chandigarh UT Administration to identify the industries indulged in discharge of industrial effluent into the river Ghaggar and to initiate action against such violators for closure in compliance to the Hon'ble NGT order dated 07.08.2018 part from providing preliminary information relating to area-wise sewage and industrial effluent management as per the formats circulated in the meeting.

Upon deliberations following decisions were taken as detailed below:-

- Punjab Govt. has to provide all the necessary logistics and an adequate office space in Chandigarh so that smooth functioning of the Executing Committee is started at the earliest.
- A dedicated web portal also be provided by the Punjab State Government for uploading information regarding action taken and also for receiving feedback from the public or stakeholders.

- All the concerned departments are required to identify the nodal officer to coordinate with the executing committee as and when required.
- Punjab, Haryana and H.P. SPCBs and Chandigarh PCC are required to identify all the industries indulged in direct/ indirect discharge of industrial effluent and other pollution into river Ghaggar, be identified and such information be provided to the Committee to verify further by it.
- Information relating to the area-wise quantum of sewage and industrial effluent generation, existing treatment capacities and the proposed treatment capacities to control pollution of River Ghaggar, as per the formats circulated during the first meeting (annexed as **Annexure-II**) also be provided to the Executing Committee and CPCB.
- The Chief Secretaries of the State Governments ( Punjab, Haryana, H.P and Chandigarh UT) have to review the proposed draft Action Plan with all the concerned departments and the Chief Secretary or his representative has to be present to apprise the Executing Committee in the next meeting about the draft proposed actions with time targets in compliance to the Hon'ble NGT order dated 07.08.2018.
- Meeting with District Attorney of the State Boards and also the presiding officers of the Environment Courts will be held at the earliest under the Chairmanship of the Chairman, Executing Committee so that lacunas if any in the prosecutions be removed.
- All the Chief Secretaries of State Governments (Punjab, Haryana and H.,P) and Chandigarh UT Administration are required to ensure submission of Action Taken Reports (ATRs) in compliance to the Hon'ble NGT order dated 07.08.2018 to the Executing Committee and CPCB, voluntarily on fortnightly basis.
- Next meeting of the Executing Committee will be held on 11.09.2018 at 11.30 AM at 'Chandigarh' and same will be organized by Punjab State Government.

The Chairman of the Executing Committee thanked 'Member Secretary, Haryana Pollution Control Board' for excellent arrangements and for organizing first meeting of the Executing Committee.

First meeting of the Executing Committee ended with vote of thanks to the Chair.

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**List of Participants of the First meeting of the Executing Committee held on 31.08.2018 at 'Haryana Niwas, Sector-3, Chandigarh' under the Chairmanship of Justice Pritam Pal Former Judge, Punjab & Haryana Court for ensuring compliance to Hon'ble NGT vide order Dated 07-08-2018 in the matte of OA No. 138/2016 (T<sub>NHRC</sub>) and OA No. 139 of 2016 (T<sub>NHRC</sub>) .**

| <b>S. No.</b> | <b>Name of the Official, Designation/Department</b>                                |
|---------------|--|
| 1.            | Justice Pritam Pal, Chairman, Executing Committee                                  |
| 2.            | Sh. J. Chandra Babu Sc. 'D' and Member, Executing Committee                        |
| 3.            | Sh. A. Sudhakar, AD & Divisional Head, WQM-I, CPCB                                 |
| 4.            | Sh. S. Narayanan, MS, HSPCB  |
| 5.            | Sh. Krunesh Garg, MS, PPCB   |
| 6.            | Sh. T.C. Nautiyal, MS, CPCC  |
| 7.            | Dr. Vimal K. Hatwal, Joint Director, Regional Office, MoEF&CC, Chandigarh          |
| 8.            | Sh. T. S. Dhaliwal, Spl Secretary, Dept. of Science & Technology, Govt. of Punjab. |
| 9.            | Sh. M. Mohit, Spl-Secretary, , Local Government                                    |
| 10.           | Dr. R. K. Chauhan JD (Envi.), Haryana  |
| 11.           | Sh. Parveen Kumar, Sc.'D', WQ  |
| 12.           | Sh. Sanjeer Kaul, S.E. HPIPH Deptt.  |
| 13.           | Sh.J.P.Singh, EE, HSPCB, Haryana   |
| 14.           | Sh. S. S. Rathi, Sr. EE, HSPCB   |
| 15.           | Sh. V.S. Kochhar , Water Supply and Sanitation, Punjab.                            |
| 16.           | Sh. Tejinder Kumar, SEE,PPCB   |
| 17.           | Sh. A.K. Sharda, EE, HPPCB   |
| 18.           | Dr. Radhe Shyam, Scientist, Gr-I, Environment Department, Haryana                  |
| 19.           | Sh. K.P. Goyel, CE(E), PTA   |
| 20.           | Sh. Shashi Bhushan Garg  |
| 21.           | Sh. Ramesh Kumar Gupta, SE, PTA Org.   |
| 22.           | Sh. Sushil Dugra, Scientist, CPCC  |
| 23.           | Sh. Nishant Garg, Drainage (PTA)   |
| 24.           | Sh. Gaurav Kakkar, A.E.E., HSPCB   |
| 25.           | Dr. Raj Kumar, Sc.'B', HSPCB, Haryana  |

**Annexure-II**

**Formats for providing preliminary information on sewage and industrial effluent management by the States of Punjab, Haryana, Himachal Pradesh and Chandigarh UT**

**A. Sewage contributing to River Ghaggar and its tributaries by all the Towns and Cities in the State of H.P/ Haryana/Punjab and Chandigarh UT**

| Name of the Town or City and District | Population in Lakhs |                    | Water Consumption in MLD |                    | Total Sewage Generation in MLD |                  | Total Sewage presently treated and disposed in MLD | No. of STPs |          |                     | STPs Capacity in MLD |          | Discharge Standards prescribed by PPCB to the STPs presently | Final mode of disposal of sewage in Drains/River nearby In MLD |           | Map indicating with all the details |                             |
|---------------------------------------|---------------------|--------------------|--------------------------|--------------------|--------------------------------|------------------|--|-------------|----------|---------------------|----------------------|----------|--|--|-----------|-------------------------------------|-----------------------------|
|                                       | Existing            | Expected (in 2040) | Existing                 | Expected (in 2040) | Existing                       | Expected in 2040 |  | Existing    | Proposed | Under Commissioning | In Operation         | Proposed |  | Treated  | Untreated |                                     |                             |
|                                       |                     |                    |                          |                    |                                |                  |  |             |          |                     |                      |          |  |  |           |                                     | Please attach as attachment |
|                                       |                     |                    |                          |                    |                                |                  |  |             |          |                     |                      |          |  |  |           |                                     |                             |
|                                       |                     |                    |                          |                    |                                |                  |  |             |          |                     |                      |          |  |  |           |                                     |                             |
|                                       |                     |                    |                          |                    |                                |                  |  |             |          |                     |                      |          |  |  |           |                                     |                             |
|                                       |                     |                    |                          |                    |                                |                  |  |             |          |                     |                      |          |  |  |           |                                     |                             |

**B. Industrial Effluent contributing to Pollution in River Ghaggar and its tributaries by all the Industrial Towns and Cities located in the State of H.P. /Haryana/Punjab and Chandigarh**

| Name of the Town or City and District | Industrial Sector         |                  | Industrial Effluent Generation in MLD |   | Total Industrial Effluent presently treated and disposed in MLD |              | No. of CETPs |          | CETPs Capacity in MLD |          |                     | Discharge Standards prescribed by PPCB to the CETPs presently | Final mode of disposal of Industrial Effluent in Drains/River nearby In MLD |           | Map indicating with all the details |                         |
|---------------------------------------|---------------------------|------------------|---------------------------------------|---|---|--------------|--------------|----------|-----------------------|----------|---------------------|---|---|-----------|-------------------------------------|-------------------------|
|                                       | Type of industrial sector | No of industries | Type of industrial sector             | Total industrial Waste water generation | Captive   | Through CETP | Existing     | Proposed | Existing              | Proposed | Under commissioning |   | Treated   | Untreated |                                     |                         |
|                                       |                           |                  |                                       |   |   |              |              |          |                       |          |                     |   |   |           |                                     | Pl. attach as enclosure |
|                                       |                           |                  |                                       |   |   |              |              |          |                       |          |                     |   |   |           |                                     |                         |
|                                       |                           |                  |                                       |   |   |              |              |          |                       |          |                     |   |   |           |                                     |                         |
|                                       |                           |                  |                                       |   |   |              |              |          |                       |          |                     |   |   |           |                                     |                         |
|                                       |                           |                  |                                       |   |   |              |              |          |                       |          |                     |   |   |           |                                     |                         |



**CENTRAL POLLUTION CONTROL BOARD**  
**(Water Quality Management Division-I)**  
"Parivesh Bhawan", East Arjun Nagar,  
**Delhi-110032**

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**Minutes of 2<sup>nd</sup> meeting of the Executing Committee held on 11/9/2018 at 'Conference Hall, Punjab State Council for Science and Technology, Mahatma Gandhi State Institute of Public Administration (MGSIPA) Complex, Sector-26, Chandigarh' under the Chairmanship of Justice Pritam Pal, Former Judge, Punjab & Haryana Court, for ensuring compliance to the Hon'ble NGT order dated 7/8/2018 in matter of OA No. 139 of 2016 titled Stench Grips Mansa's Sacred Ghaggar River (Suo-Motu Case) And Yogender Kumar**

2<sup>nd</sup> Meeting of the Executing Committee was held on 11/9/2018 at 'Conference Hall, Punjab State Council for Science and Technology, MGSIPA Complex, Sector-26, Chandigarh under the Chairmanship of Justice Pritam Pal, Former Judge, Punjab & Haryana Court. The List of Officials attended the meeting is enclosed as **Annexure-I**.

Shri Krunesh Garg, Member Secretary, Punjab Pollution Control Board (PPCB) welcomed the Chairman and Members of the Executing Committee as well as Officials of State Governments and Pollution Control Boards of Punjab, Haryana, Himachal Pradesh and Union Territory of Chandigarh Administration. Thereafter, agenda-wise issues discussed are given in the subsequent paras:-

**1) Presentation made by Punjab Pollution Control Board:-**

Shri K. Garg gave a detailed presentation on the course of River Ghaggar starting from Shivalik Hills in Himachal Pradesh to Otto Weir in Haryana and various sources of sewage and industrial effluent contributing to the pollution load in River Ghaggar in the jurisdiction of State of Himachal Pradesh, Chandigarh UT, Punjab and Haryana through 'Googlepro Images'. Further, he

also apprised the committee on the measures taken for restoration of River Ghaggar and its tributaries as detailed below:-

- (a) **Water quality of River Ghaggar :-** PPCB informed that the samples of River Ghaggar are collected from 12 locations (i.e., Mubarkpur, Ghaggar Near Bhankarpur, Dera Bassi, D/S Chattbir, U/S Jharmal Nadi, D/S Jharmal Nadi, U/S Dhakansu Nallah, D/S Dhakansu Nallah, Ghaggar at Rattanheri, D/S of Patiala Nadi after confluence, Ghaggar at 100 mtr. D/S confluence with River at Khanauri, Ghaggar at Moonak, U/S Sardulgarh and D/S Sardulgarh) of River Ghaggar within the jurisdiction of State of Punjab. Based on the analysis results of collected samples (with respect to DO, COD, BOD, T.Coliform) it was apprised to the executing committee that the quality of water in River Ghaggar is of category D as per 'designated best use criteria' prescribed by Central Pollution Control Board, when it enters the jurisdiction of Punjab i.e. at Mubarikpur. When the river Ghaggar leaves the State of Punjab after traversing Districts Mohali, Patiala, Sangrur and Mansa, the river water quality becomes category 'E' at Village Sandulgarh.
- (b) **Status of Control of Industrial Pollution in River Ghaggar:-** As regards to the measures taken for control of river pollution in river Ghaggar and its tributaries, MS, PPCB informed that (i) PPCB has not allowed any industry to discharge its wastewater directly/ indirectly into River Ghaggar and its tributaries; (ii) In Dera Bassi and adjoining areas, 10 pharmaceutical units and one distillery unit which are having 'zero liquid discharge based treatment systems'. (iii) In catchment area of Patiala Nadi, main water polluting industries are 04 paper mills which are having captive effluent treatment plants and discharging their effluent onto land for irrigation/plantation. One distillery is having captive effluent treatment plant and is presently discharging treated effluent onto land for irrigation/ plantation and the unit is in the process of installing ZLD based treatment system which is likely to be commissioned by 31/12/2018.
- (c) **Status of towns where STP have been installed:-** 22 towns are located in the catchment of River Ghaggar, which are impacting water quality of River Ghaggar. In these town, 32 STPs are required to be installed. Out of which, as of now 17 STPs

have already been commissioned in 12 towns under the Ghaggar Action Plan (with capacity 273 MLD) and presently 208 MLD of sewage is treated. In 3 towns namely Lalru, Rajpura and Mandi Govind Garh, 2 STPs at each town is required to be installed and presently 33.5 MLD capacity of STPs installed. However, 14.5 MLD of additional capacity of STPs is required to be installed in the afore-said three towns. In the remaining 7 towns i.e., Dera Bassi- 2 STPs of total capacity 6 MLD ( one STP of capacity 4 MLD construction work completed), Lalru- 1 STP of Capacity 1.5 MLD, Rajpura-1 STP of 10 MLD capacity ( civil work completed), Sirhind-3 STPs of 11 MLD Capacity, Mandi Govind Garh-1 STP of 3 MLD capacity, Bassi Pathana- 2 STPs of capacity 3,2 MLD, Longowol-1 STP of 3 MLD yet to be installed and proposals are under different stages. PPCB informed that at present, infrastructure for treatment of approx. 76% of total sewage generated from these towns located in the catchment of river Ghaggar is in place.

(d) **Action plan proposed:-** In order to improve the water quality of River Ghaggar, PPCB proposed that

- Punjab Water Supply and Sanitation Board (PWSSB) / Local Govt. of Punjab State are required to install the remaining STPs or upgrade the existing STPs, wherever required, in a time bound manner.
- Department of Rural Development and Panchayats are required to install suitable treatment technology to treat the wastewater of all the villages which are discharging their wastewater directly / indirectly into River Ghaggar.
- Department of Soil and Water Conservation is required to laid down distribution network of pipelines for utilization of treated wastewater for irrigation of agricultural land area instead of discharging the treated wastewater into drains which will also help to reduce the thrust on groundwater due to usage of fresh water for agricultural purposes.
- State of Haryana is required to restrain the discharge of wastewater into Sukhna Choe, natural drain passing near K-Area of Zirakpur, Singh Nallah, Ghail Drain through which the wastewater of Ambala city is discharged and Sagarpara Drain etc.

- State of Himachal Pradesh is required to restrain the discharge of various sources entering into river Ghaggar directly or indirectly.

## 2) **Presentation made by Himachal Pradesh State Pollution Control Board:-**

Dr. Sharawan Kumar, Sr. Environmental Engineer, HPSPCB, Paonta Sahib representing Himachal Pradesh State Pollution Control Board (H.P.SPCB) made a presentation covering status of water polluting Industries / civic bodies in the catchment of Sukhna Nallah and catchment of Markanda River. Main highlight of his presentation are detailed below :-

- (a) **Status of Water Polluting Industries / Civic Bodies in the Catchment of Sukhna Nallah:-** Parwanoo Town in Himachal Pradesh is having 9 Sq.KM, which is a residential, small industrial as well as commercial area. Main river/drain in Parwanoo area are River Kaushalya and Sukhana Nallah. In Parwanoo area, there are total 324 industries i.e., 14 Red, 27 Orange and 283 Green category. 41 out of 324 industries are water polluting in nature. The total effluent generation in Parwanoo area is 0.76 MLD and all the water polluting industries have installed captive ETPs for treatment of waste water.

In the River Kaushalya catchment area, total industrial effluent treatment capacity is about 52.5 KLD and STP capacity is about 15 KLD whereas total effluent generation in Sukhana Nallah catchment is about 693.3 KLD. There are 32 water polluting industries in Sukhana Nallah catchment. As per analysis results of the samples collected from Sukhana Nallah during the years 2015 to 2018 w.r.to pH, DO, BOD and Total Coliform reveals that the Water Quality of Sukhana Nallah is bad primarily due to Sewage Load. Water Quality of Kaushalya River is meeting the Class A of CPCB "Best Designated Use".

As regards to the sewage generation and treatment of sewage in Parwanoo, he stated that Parwanoo town has 2286 households and the town is divided into 9 wards and as per the Census India 2011, the population of Parwanoo city is about 8,758. At present, there is no CETP or STP is available in Parwanoo area and sewage generated from Parwanoo city is treated in individual septic tanks

and trade effluent generated is treated in captive ETPs. *Proposed action plan by H.P. SPCB for Parwanoo area are as follows:-*

- HP Govt. has already taken initiative for the installation of CETP and Common STP for Parwanoo Area.
- Common STP of 1 MLD proposed.
- CETP of 1 MLD Proposed.
- Land identification work is under process.

(b) **Status of Water Polluting Industries / Civic Bodies in the Catchment of Markanda River:-** Dr. Sharawan Kumar, Sr. Environmental Engineer, HPSPCB representative of H.P. SPCB informed that Kala Amb is a small industrial cluster falling under the catchment of River Markanda. There are total 419 industries i.e., 54 Red, 215 Orange and 133 Green and 17 industries are White category. He also informed that 93 Out of 419 industries are water polluting and total flow of Kala Amb industrial cluster is approx. 5.975 MLD and existing treatment capacity of ETPs is 7.28 MLD. All the water polluting industries have installed their respective ETP's/STP's for treatment of waste water. He also stated that River Markanda enters Kala Amb at Bikram Bag and leaves at Sadhora Bridge. It covers a distance of almost 130 km in Haryana before mixing with River Ghaggar in rainy season. Main drains at Kala Amb are (i) Jattan Wala Nallah; (ii) Roon Nallah; (iii) Sukdo Nallah and (iv) Salani Nallah which ultimately mixing in the River Markanda at Kala Amb. As per joint sampling of CPCB and HPSPCB, 14 km downstream Kala Amb, River Markanda has been found dry most of the times.

In the catchment of River Markanda, sub-catchment of Jattan Wala Nallah is the area of concern whose water quality has been found most of the times below the standard due to the discharge of un-treated sewage from various drains into it and Coliform is found more than 1600 MPN/100 ml. 03 sub streams i.e. (1) Near M/s Ruchira Paper Mill, where total 4 no. of industries i.e., 2 Paper Mills, Katha Unit and 2 Metal Finishing Units) (2) Near M/s Saboo Tor, where total 13 no. of industries i.e., Pharma-4, Glass toughening-3, manufacturing-3, metal finishing-3 and Cosmetic-1) and (3) Near M/s Jay Aay Alloys, where total 12 no. of units (Pharma-6, scrap melting-3, Food processing-1, AC Assembly-1 and

manufacturing-1) are contributing industrial effluent. He also stated that in addition to above, the sewage / sullage of Kala Amb which is partially in Himachal and partially in Haryana discharged into Jattan Wala Nallah.

In Jattan Wala Sub-Catchment, there are total 60 industries. 29 Out of 60 industries are water polluting and having total maximum pollution load of 6473.5 KLD. All the 29 industries have provided ETPs for treatment of industrial effluent generated from the respective unit. As per the estimation, the population of Jattan wala sub catchment is around 1000 and floating population is approx. 5000 and total sewage generation is about 236 KLD. Apart from this residential and industrial units situated in Himachal and Haryana are also contributing BOD load in Jattan Wala Nallah. He also stated that at present, there is no Common STP in Kala Amb Area. Untreated domestic sewage and sullage of civic population of Himachal and Haryana is carried by Jattan Wala Nallah which in turn is degrading the water quality of River Markanda.

Proposed action plan of H.P. State Government for Kala Amb area are as follows:-

- HP Govt. has already taken initiative for installation of CETP-cum-STP of appx.10 MLD capacity at Kala Amb for ensuring treatment of waste water generated from industries and domestic sewage.
- M/s Kala Amb Infrastructure Company has already been registered under Company Act as SPV for setting up CETP in Kala Amb.
- M/s Kala Amb Infrastructure Company has undertaken the work of preparing DPR through M/s Shivalik Solid Waste Management Ltd. The land for the project has been identified by the committee comprising 'DC, Sirmaur; EE, HPSPCB, Paonta Sahib and GM, DIC Nahan'. The proposal has been sent to the H.P. State Govt. for final approval.
- The survey of the area will be conducted to identify the remaining point sources.

**3) Presentation made by Chandigarh Pollution Control Committee:-**

Shri T.C. Nautiyal, MS, Chandigarh Pollution Control Committee (CPCC) made a presentation on the initiatives taken by CPCC for ensuring compliance to the Hon'ble NGT Order dated 07.08.2018 as detailed below:-

Shri Nautiyal in his presentation informed that as per the census 2011, total population of Chandigarh is 10.54 Lacs and 67 MGD of water is supplied from surface water ( Bhakhra Main Line) and 20 MGD of ground water and total domestic and industrial effluent generated from Chandigarh UT is about 57 MGD. At present 06 STPs of each capacity 5 MGD at 3 BRD, 11 MGD at 3 BRD, 5 MGD at Raipur Kalan, 30 MGD at Diggian, 1.25 MGD at Raipur Khurd and 1.6 MGD at Dhanas have already been installed, which are treating total quantity of sewage about 53.85 MGD. He also informed that final mode of treated sewage is disposed in Natural Choe except Diggian. Diggian STP treated effluent only goes to Irrigation Channel for irrigation purposes. STPs of capacity 0.4 MGD to be installed at Village Kishangarh, 5 MGD at Maloya and 1.25 MGD at Raipur Kalan have already been proposed which shall treat 6.65 MGD of domestic wastewater. The upgradation of existing STPs by Municipal Corporation, Chandigarh shall accomplish by 31/3/2020. He further informed that untreated effluent of 03 MLD from Hallomajra is discharged into Sukhna Choe which is yet to be tapped and Municipal Corporation and Engineering Department, Chandigarh Administration has been asked to prepare action plans with time lines for upgradation of existing Sewage Treatment Plants and for stopping of discharge of untreated waste water into drains.

Thereafter, the main points of the Hon'ble NGT dated 7/8/2018 of Hon'ble NGT were discussed as under:

- 4) Constitution of Special Task Forces (STFs) at State and District Level in each State**
- (a) Principal Secretary to Govt. of Punjab, Deptt. of Science, Technology and Environment informed that action regarding constitution of STFs at State Level as well as at District Levels are under process and the same will be constituted shortly.
- (b) MS, HSPCB informed that the STFs at State Level as well as at District Levels has already been constituted.

(c) SEE, HPSPCB informed that STFs at State Level as well as at District Levels has already been constituted.

(d) MS, CPCC informed that STFs at State Level as well as at District Levels has been constituted.

**5) Actions taken by the Punjab, Haryana and Himachal Pradesh States and Chandigarh UT on the decisions taken in the first meeting of the Executing Committee held on 31.08.2018:-**

Thereafter, executing committee requested all the states to apprise about the status of actions taken on the decisions taken in first meeting of the executing committee held on 31.08.2018 at Chandigarh. The Status actions taken as informed by the States of Punjab, Haryana, Himachal Pradesh and Chandigarh UT are tabulated as detailed below:-

| <b>Sr. No.</b> | <b>Decisions of the First Executing Committee held on 31/8/2018</b>  | <b>Compliance status as informed by the Officials of Punjab, Haryana, Himachal Pradesh and Chandigarh UT.</b>  |
|----------------|--|--|
| 1)             | Punjab Govt. has to provide all the necessary logistics and an adequate office space in Chandigarh so that smooth functioning of the Executing Committee is started at the earliest.     | PSSTE, Government of Punjab informed that the action is under process at Govt. level and the same has already been informed vide memo no. 10/375/2018-STE(5)/94 dated 4/9/2018 to the Hon'ble Chairman of the Executing Committee. |
| 2)             | A dedicated web portal also be provided by the Punjab State Government for uploading information regarding action taken and also for receiving feedback from the public or stakeholders. | MS, PPCB informed that temporarily a link has been provided on Board's website i.e. <a href="http://www.ppcb.gov.in">www.ppcb.gov.in</a> at home page under the sub-head 'Executing Committee for River Ghaggar' of                |

|    |   |  |
|----|---|--|
|    |   | <p>the head 'Focus Area' for uploading the details/ data of the Executing Committee. (OR) <a href="http://www.ppcb.gov.in/ExeCommitteeGhaggar">www.ppcb.gov.in/ExeCommitteeGhaggar</a>. The Member Secretaries of HPSPCB, HSPCB and CPCC informed that they will create the web portal shortly.</p>  |
| 3) | <p>All the concerned departments are required to identify the nodal officer to co-ordinate with the executing committee as and when required.</p>   | <p>MS, PPCB informed that SEE (HQ-1), Punjab PPCB, Patiala has been appointed as Nodal Officer to coordinate with Executing Committee on behalf of the Board. An information in this regard has been given to the OSD (Litigation), O/o Chief Secretary to Govt. of Punjab and Principal Secretary, Deptt. of Science, Technology and Environment vide no. 26032-33 dated 31/8/2018. The Member Secretaries of HPSPCB, HSPCB and CPCC informed that they will identify the Nodal Officer to coordinate with the Executing Committee and will intimate his name shortly to the Committee.</p> |
| 4) | <p>Punjab, Haryana and H.P. SPCBs and Chandigarh PCC are required to identify all the industries indulged in direct/ indirect discharge of industrial effluent and other pollution into river Ghaggar, be identified and such information be provided to the Committee to</p> | <p>The Member Secretaries of PPCB, HPSPCB, HSPCB and CPCC informed that the details of industries located in the catchment area of River Ghaggar as well as the drains leading to River Ghaggar and its tributaries has already been identified The detail of the same will</p>  |

|    |   |  |
|----|---|--|
|    | verify further by it.   | also be incorporated in the Action Plan to be prepared and submitted to the executing committee.   |
| 5) | Information relating to the area-wise quantum of sewage and industrial effluent generation, existing treatment capacities and the proposed treatment capacities to control pollution of River Ghaggar, as per the formats circulated during the first meeting (annexed as <b>Annexure-II</b> ) also be provided to the Executing Committee and CPCB.  | MS, PPCB provided information relating to quantum of sewage as received from Punjab Water Supply and Sewerage Board (PWSSB) as per the prescribed format, to the Hon'ble Members of the Committee. Also, the Member Secretaries of HPSPCB, HSPCB and CPCC gave an assurance to submit the required information shortly.  |
| 6) | The Chief Secretaries of the State Governments (Punjab, Haryana, H.P and Chandigarh UT) have to review the proposed draft Action Plan with all the concerned departments and the Chief Secretary or his representative has to be present to apprise the Executing Committee in the next meeting about the draft proposed actions with time targets in compliance to the Hon'ble NGT order dated 07.08.2018. | <p><b>MS, PPCB</b> informed that the draft Action Plan has been prepared and will be circulated to the concerned department for their input. After receiving their comments/ input, the same will be submitted to the Committee upon approval of Chief Secretary, Government of Punjab State.</p> <p><b>MS, HSPCB</b> informed that the draft Action Plan has already been prepared and same has been circulated to all the concerned departments for comments and inputs. After receipt of inputs from the concerned departments, same will be submitted to the Committee.</p> <p>The Representative of HPPCB and</p> |

|    |  |   |
|----|--|---|
|    |  | MS, CPCC informed that the draft action plan is under preparation and will be sent to the Govt. for its approval shortly.   |
| 7) | Meeting with District Attorney of the State Boards and also the presiding officers of the Environment Courts will be held at the earliest under the Chairmanship of the Chairman, Executing Committee so that lacunas if any in the prosecutions be removed. | <p><b>MS, HSPCB</b> informed that there are 02 Environment Courts in the Haryana State. <b>Member Secretary, PPCB and CPCC</b> as well as representative of HPSPCB informed that there is no Environment Court in the State of Punjab, Himachal Pradesh and UT, Chandigarh.</p> <p>It was informed that the complaints under the Pollution Control Acts are filed in the Courts after getting vetted from the Legal Cell in the department. It was also informed that the detail of cases pending in various courts will be prepared shortly and will be submitted to the Executing Committee for discussion during interaction with the Law Officers of SPCBs by the Chairperson of Executing Committee.</p> |
| 8) | All the Chief Secretaries of State Governments (Punjab, Haryana and H.,P) and Chandigarh UT Administration are required to ensure submission of Action Taken Reports (ATRs) in compliance to the Hon'ble NGT order dated                                     | The Officers from SPCBs and State Govts. Ensured to submit fortnightly action taken reports to the Executing Committee and CPCB.  |

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|  | 07.08.2018 to the Executing Committee and CPCB, voluntarily on fortnightly basis. |  |
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Justice Pritam Pal, Chairman, Executing Committee requested all the officials to take necessary action for preparation and submission of the action plans with time lines keeping in view the restoration of polluted river Ghaggar and its tributaries, within the jurisdiction of the respective State/UT, before next date of executing committee meeting to the Executing Committee as well as CPCB. Shri J.Chandra Babu, Sc'D', CPCB and Member of Executing Committee also informed that to have uniformity in preparation and submission of the action plans by all the 3 States and 01 UT concerned, a 'structure or content' of the action plan to be submitted will be prepared and circulated to all the concerned as a part of the minutes of this executing committee (**As Annexure-II**) for taking further action accordingly. Upon deliberations with the officials of 3 States and Chandigarh UT, following decisions were taken:-

- The Govts. of Punjab shall constitute the Special Task Forces (STFs) at State Level as well as District Level immediately and shall submit the information to the Executing Committee.
- A dedicated web portal must be installed by all the SPCBs wherein, the details of action taken to curb the menace of the pollution in River Ghaggar and its tributaries by the concerned SPCBs/PCC also be uploaded. A separate link provision should also be provided in the web portal for receiving feedback/ complaints from the public or stakeholders.
- All the concerned departments in the 03 States (i.e., Punjab, Haryana and H.P) and 01 UT (Chandigarh) will identify the Nodal Officer to co-ordinate with the Executing Committee immediately and shall send the information to the Executing Committee and CPCB.
- All the 03 SPCBs and 01 UT shall submit the information regarding area-wise quantum of sewage and industrial effluent generation, existing and proposed treatment capacity etc., as per formats circulated by the Executing Committee, within a week, to the Executing Committee and CPCB.

- The Chief Secretaries of the State Governments (Punjab, Haryana, H.P and Chandigarh UT) will expedite the process to review the proposed draft Action Plan with all the concerned departments and to submit the same after its final approval to the Executing Committee before the next meeting.
- The activities regarding organizing of awareness / health camps by the 3 SPCBs and Chandigarh PCC also must be incorporated in the final Action Plan.
- The copy of all the information sent to the Executing Committee by the concerned departments, also be endorsed to CPCB.
- An interaction meet with the officers of Legal Cell of SPCBs will be taken by the Hon'ble Chairperson of Executing Committee in which the officers should bring the details of all the court cases pending in various Courts alongwith the date of filing of case, Environmental Acts under which the case filed, present status of the case, difficulties being faced by Law Officers.

The Chairman of the Executing Committee thanked 'Member Secretary, Punjab Pollution Control Board' for excellent arrangements and for organizing 2<sup>nd</sup> meeting of the Executing Committee.

2<sup>nd</sup> meeting of the Executing Committee ended with vote of thanks to the Chair.

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**Annexure-I**

**List of Participants of the 2<sup>nd</sup> meeting of the Executing Committee held on 11/8/2018 at 'Conference Hall, Punjab State Council for Science and Technology, MGSIPA Complex, Sector-26, Chandigarh' under the Chairmanship of Justice Pritam Pal, Former Judge, Punjab & Haryana Court for ensuring compliance to Hon'ble NGT Order dated 07.08.2018 in the matte of OA No. 138/2016 (T<sub>NHRC</sub>) and OA No. 139 of 2016 (T<sub>NHRC</sub>).**

| <b>S. No.</b> | <b>Name of the Official, Designation and Organization/Department</b>   |
|---------------|--|
| 1.            | Justice Pritam Pal, Chairman, Executing Committee  |
| 2.            | Sh. J. Chandra Babu, Sc. 'D', CPCB and Member, Executing Committee   |
| 3.            | Dr. Vimal K. Hatwal, Joint Director, Regional Office, MoEF&CC, Chandigarh-<br>Representing Member of MoEF & CC |
| 4.            | Sh. R.K. Verma, Principal Secretary to Govt. of Punjab, Deptt. of Science & Technology, Chandigarh             |
| 5.            | Sh. Krunesh Garg, MS, PPCB   |
| 6.            | Sh. S. Narayanan, MS, HSPCB  |
| 7.            | Sh. T.C. Nautiyal, MS, CPCC  |
| 8.            | Sh. Anil Garg, Additional Commissioner, MC, Chandigarh   |
| 9.            | Sh. K.P. Goyal, CE, PWSSB, Patiala   |
| 10.           | Sh. D.S. Bajwa, CE, PHED, Haryana  |
| 11.           | Sh. Manoj Bansal, CE, MC, Chandigarh   |
| 12.           | Sh. O.P. Goyal, CE, ULB, Haryana   |
| 13.           | Sh. Phool Singh Nain, CE, Haryana Irrigation Department  |
| 14.           | Dr. Vandana Gupta, Director Health, Chandigarh UT Administration, Sirmor                                       |
| 15.           | Sh. Tejinder Kumar, SEE, PPCB  |
| 16.           | Sh. Sanjeev Kaul, S.E. HP, Irrigation of Public Health Deptt. Circle, Solan                                    |
| 17.           | Sh. Sanjiv Gupta, SEE, HSVP, Panchkula   |
| 18.           | Sh. Rajinder Singh, SEE (PH), UT, Engg, Deptt. UT Sectt. Chandigarh  |
| 19.           | Dr. Sharewah Kumar, SEE, HPSPCB, Paonta Sahib  |
| 20.           | Sh. Shailender Singh, EE, PHED, Haryana  |
| 21.           | Kuldeep Singh, EE, PPCB, R.O, Mohali   |
| 22.           | Sh.J.P. Singh, EE, HSPCB, Haryana  |
| 23.           | Sh. V.S. Kochhar, AE Water Supply and Sanitation, Punjab.  |
| 24.           | Sh. Nishant Garg, AE, Drainage, Patiala  |

|     |   |
|-----|---|
| 25. | Sh. Parveen Kumar, SDE, Water Supply and Sanitation, Punjab       |
| 26. | Sh. Atul Parmar, AEE, HPSPCB, RO, Parwanoo                        |
| 27. | Sh. Amit Sharma, SDE, MC, Chandigarh                              |
| 28. | Sh. Lalit Thakur, AEE, HPSPCB, Kala Amb                           |
| 29. | Sh. Ranbir Singh, SDE, Urban Local Bodies, Haryana                |
| 30. | Dr. Radhe Shyam, Scientist, Gr-I, Environment Department, Haryana |
| 31. | Sh. Vivek Pandey, Scientist B, CPCC, Chandigarh                   |
| 32. | Sh. Tarun Mishra, Scientist-B, CGWA, Chandigarh                   |
| 33. | Sh. K.S. Rawat, Scientist-B, CRWM, Chandigarh                     |
| 34. | Dr. Raj Kumar, Sc.'B', HSPCB, Panchkula, Haryana                  |

## CONTENT

### **(For Preparation and Submission of the Proposed Action Plan (Short, Medium and Long Term Plans) for Restoration of River Ghaggar and Its Tributaries - By the States of Punjab, Haryana & Himachal Pradesh and Chandigarh UT)**

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- 1) Back Ground
- 2) About River Ghaggar and Its Tributaries, activity in the catchment area of river Ghaggar and its tributaries.
- 3) Water quality goals as per the existing provisions or guidelines/specifications of CPCB.
- 4) Sources of Pollution of River Ghaggar and Its tributaries within the jurisdiction of the respective State/UT.
- 5) Actions initiated for ensuring compliance to the Hon'ble National Green Tribunal (NGT), Principal Bench, Delhi Order dated 07.08.2018 in the matter of OA No. 138/2016 (T<sub>NHRC</sub>) and OA No. 139 of 2016 (T<sub>NHRC</sub>)
- 6) Existing Status in the catchment of river Ghaggar and Its Tributaries: - Sewage & Industrial effluent management in rural and urban areas, ground water quality, health status of the Public, water quality of River Ghaggar and Its Tributaries as well as drains contributing to the pollution load in River Ghaggar and Its Tributaries.
- 7) A map (preferably digital map) showing the sources of pollution ( area-wise information relating to– population, water consumption in MLD, sewage generation in MLD, existing STPs with numbers and exiting sewage treatment capacity in MLD, proposed STPs- Nos with treatment capacity in MLD, drains contributing to pollution load in river Ghaggar and Its tributaries within the jurisdiction of the State/UT)
- 8) A map (preferably Digital map) showing the sources of industrial pollution ( area-wise information relating to– sector-wise no. of industries, sector-wise total water consumption in MLD, sector-wise industrial effluent generation in MLD, existing capacity of captive ETPs and CETPs in MLD, proposed no. of captive ETPs/CETPs in MLD), sludge generated from STPs as well as municipal solid waste management.

- 9) Observations on Gap Analysis w.r.to (i) Sewage management; (ii) industrial effluent management; (iii) operation and maintenance of existing STPs; (iv) operation and maintenance of existing captive ETPs; (v) operation and maintenance of existing CETPs; (vi) Compliance status w.r.to the industries located in the catchment area of river Ghaggar and its tributaries within the jurisdiction of the respective SPCB/PCC) – (a) List of industries not having valid consents under Water (Prevention and Control of Pollution) Act, 1974 and authorisation under the HW & OW ( M & TM) Rules, 2016 as amended; (b) List of Industries complying and non-complying to the effluent discharge norms prescribed by the respective SPCB/PCC; (c) List of industries indulged in illegal disposal of industrial effluent; (d) industrial hazardous waste (generated from industries, captive ETPs and CETPs) management, requirement of restoration of river Ghaggar and its tributaries.
- 10) Proposed action plans (short term, medium and long term plans) with time lines including the organisation/agency responsible for its implementation- action plan should cover aspects as detailed below:-
- (i) Domestic sewage management (including source reduction and control measures by bulk sewage generators, measures for conveyance of sewage through dedicated sewer lines connectivity to STPs, measurement of flows of drains connected to the river/tributaries under reference, on-site or in-situ treatment measures, end use of treated sewage for beneficial use complying to the prescribed standards, preparation and execution of the project proposals for sewage management through state-of-the-art STP, strict vigilance, effective enforcement of standards prescribed under the Environment (Protection) Act, 1986, actions initiated against violators, sewage management in rural areas with low cost treatment technologies like constructed wet lands),
- (ii) Industrial effluent management (measures which include source control like adoption of state-of-the-art technologies, reuse of treated industrial effluent to reduce fresh water consumption, adoption of zero liquid discharge, sludge management, recovery and reuse of recovered chemicals in the process, measures for conveyance of industrial effluent through dedicated lines and its connectivity to ETPs/CETPs, preparation and execution of the project proposals for industrial effluent management (ETPs/CETPs), strict vigilance, effective enforcement of standards prescribed under the Environment (Protection) Act, 1986, action against violators)
- (iii) Ground water management (obtaining of NOC from CGWB for use of ground water resources, ground water survey for quality assessment, identification of problem

sources, sealing of contaminated hand pumps/tube wells used by the general public for drinking water purposes, supply of ground water to the public living in areas where ground water is contaminated, measures to control depletion of groundwater table as well as for increasing ground water levels ( ground water recharge measures), remedial measures for decontamination of highly polluted groundwater resources within the jurisdiction of the respective State/UT)

- (iv) Restoration of river Ghaggar and Its tributaries water quality
- (v) Maintaining of E= Flows for having ecological balance in the river system
- (vi) Awareness on
  - Effective use of groundwater resources for agriculture purpose; and
  - Health status and organising health camps
- (vii) Monitoring of executing the actions plans
- (viii) Any other issues relevant to the subject.

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**Minutes of 3<sup>rd</sup> meeting of the Executing Committee held on 21.09.2018 at 'Conference Room of HSPCB, C-11, Sector-6, Panchkula' under the Chairmanship of Hon'ble Justice Pritam Pal, Chairman of Executing Committee regarding Action Plan for River Ghaggar**

A meeting was held on 21.09.2018 under the Chairmanship of Hon'ble Justice Pritam Pal, Chairman, Executing Committee regarding Action Plan for River Ghaggar at 'Conference Room of HSPCB, C-11, Sector-6, Panchkula'. The list of officials attended the meeting is enclosed as **Annexure -I**.

Right at the outset, Chairman welcomed all the participants and MS, HSPCB briefed about the decisions taken in the First and 2<sup>nd</sup> meeting of the Executing Committee. It was also discussed that the Hon'ble NGT has directed the State Government of Punjab, Haryana, Himachal Pradesh and Chandigarh UT Administration to constitute Special Task Forces at District and State level apart from preparation of action plans to make river Ghaggar pollution free and punish the violators.

After brief discussions, the Chairman enquired about the number of convictions in the cases filed for Environment violations. The Legal Officers of the State Boards informed that it is less than 3%. Then Chairman desired to know about the reasons of such low rate of convictions in Environment Courts from the Legal Officers of Haryana, UT, Punjab and Himachal.

The District Attorney HSPCB informed that in many cases the procedure for collection of samples as mentioned in the Water/ Air Act is not complied by the officers of HSPCB. Similarly, the ownership of the industries/ units is not established in the prosecutions. The Legal Officer of UT Chandigarh Pollution Control Committee informed that many times the summons could not be effected by the process servers of the courts. There is lack of awareness among the officers of the State Board regarding the evidence/ documents to be collected for filing prosecutions.

The Chairman desired that as far as Ghaggar matter is concerned, all State Board should work collectively and the officers who file prosecution cases should be trained on filing of prosecutions for environmental violations. He directed that 'Legal Cell of HSPCB should make guidelines/ proforma regarding the requirements of the case before filing of prosecutions and a seminar should also be organized for field level officers of CPCC, HPSPCB, HPPCB and PPCB to make them aware about the Legal process in the coming week.

MS, HSPCB welcomed the decision and requested other states that such a seminar can be fixed soon after receiving inputs from other two SPCBs and CPCC. MS, HSPCB also informed that there are two Special Environment Courts in Haryana and all the prosecutions regarding environmental violations are filed by the HSPCB and Forest Department in the Environment Courts at Kurukshetra and Faridabad. District Attorney, HSPCB informed that there are approximately 500 cases pending at Kurukshetra and approximately 700 cases pending at Faridabad Court. The legal Officers of HPPCB, PSPCB and CPCC informed that there are no such Environment Courts in their States and the cases are filed in lower courts of the respective districts. The Chairman desired that the respective State Boards/ Environment Departments should write a letter to the respective High Courts through the State Govt. for establishment of Environments Courts similar to that of Haryana.

The meeting ended with vote of thanks to the Chair.

3<sup>rd</sup> meeting of the Executing Committee held on 21.09.2018 at 'Conference Room of HSPCB, C-11, Sector-6, Panchkula' under the Chairmanship of Hon'ble Justice Pritam Pal, Chairman, Executing Committee regarding Action Plan for River Ghaggar.

**List of Participants**

| <b>Sr. No.</b> | <b>Name/Designation/Department</b>   |
|----------------|--|
| 1.             | Sh. S. Narayanan, IFS, Member Secretary, HSPCB, Panchkula.                   |
| 2.             | Dr. Vimal Halwal, JD, MOEFCC, RO, Chandigarh and Member Executing Committee, |
| 3.             | Sh. Parveen Gupta, SEE, HPPCB, Shimla  |
| 4.             | Dr. Sharawan Thakur SEE, HPPCB, Shimla                                       |
| 5.             | Sh. Satbir Singh, DA, HSPCB, Panchkula                                       |
| 6.             | Sh. JP Singh, EE, HSPCB, Panchkula   |
| 7.             | Sh. Amrik singh, Senior Law Officer, PPCB, Punjab.                           |
| 8.             | Sh. Ricky Jain, Law Officer, CPCC, Chandigarh                                |
| 9.             | Sh. Paramjeet Singh, ADA, HSPCB, Panchkula                                   |
| 10.            | Sh. Atul Parmar, AEE, HPPCB, RO, Parwanoo.                                   |
| 11.            | Sh. Bhupender Kumar, ADA, Environment Department,                            |
| 12.            | Sh. Sandeep Kumar, Astt. Law Officer, HPPCB, Shimla.                         |



**CENTRAL POLLUTION CONTROL BOARD**

(Water Quality Management Division-I)

“Parivesh Bhawan”, East Arjun Nagar,

**Delhi-110032**

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**Minutes of Fourth meeting of the Executing Committee held on 09.10.2018 at ‘Conference Hall, Hotel Peterhof, Shimla (H.P.) – 171004’ under the Chairmanship of Hon’ble Justice Pritam Pal, Former Judge, Punjab & Haryana Court, in compliance to the Hon’ble NGT order dated 07.08.2018 in matter of OA No. 139 of 2016 titled Stench Grips Mansa’s Sacred Ghaggar River (Suo-Motu Case) And Yogender Kumar**

Fourth Meeting of the Executing Committee was held on 09.10.2018 at ‘Conference Hall, Hotel Peterhof, Shimla (H.P.) – 171004’ under the Chairmanship of Hon’ble Justice Pritam Pal, Former Judge, Punjab & Haryana Court, in compliance to the Hon’ble NGT order dated 07.08.2018 in matter of OA No. 139 of 2016 titled Stench Grips Mansa’s Sacred Ghaggar River (Suo-Motu Case). The List of Officials attended the meeting is enclosed as **Annexure-I.**

Dr. R.K Pruthi, Member Secretary, Himachal Pradesh State Pollution Control Board (HPSPCB) welcomed the Chairman and Members of the Executing Committee as well as Officials of State Governments and Himachal Pradesh Pollution Control Board.

After a brief introduction of the Officials of different departments of Himachal Pradesh State, the Chairman of the Executing Committee has highlighted the seriousness of the issue and also urged officials to perform the duties seriously as there is no concrete action plans seen on ground till date. He also stated that preservation of River Ghaggar is an auspicious work, and it is the joint responsibility of all the three States ( i.e., Himachal Pradesh, Haryana and Punjab) as well as Chandigarh Union Territory and to look into the effective enforcement of provisions on aspects related to industrial effluent, sewage and solid waste management and action should be taken against the violators. He urged all the Himachal Pradesh State officials to comply with the orders of Hon’ble National Green Tribunal in letter and spirit. Thereafter, The Hon’ble Chairman stressed that actions taken along with progress report shall be submitted to CPCB and also to the Executing Committee to apprise the Hon’ble NGT periodically in compliance to the Hon’ble NGT order dated 07.08.2018. The Chairman also informed that law violators should be prosecuted.

Thereafter, Member Secretary, HPSPCB informed that the State Level Task Force has been notified by Government of HP, comprising of Chief Secretary to The Government of Himachal Pradesh, Additional Chief Secretary (Environment Science and Technology), Additional Chief Secretary (Urban Development) Government of HP, Member Secretary, HP State Pollution Control Board and District Level Task Force comprising of the Concerned Deputy Commissioner, Nominee of the Concerned District and Session Judge, The Concerned Superintendent of Police, The Executive Officer of the Local Body of the Concerned District, The Regional Officer, HP State Pollution Control Board of the Concerned District. Thereafter, he requested Dr. Sharwan Kumar to make a presentation on the Status of Action Taken in compliance to the Hon'ble NGT order dated 07.08.2018.

### **Status of Water Polluting Industries / Civic Bodies in the Catchment of Markanda River : Kala Amb Region**

Dr. Sharwan Kumar in his presentation informed the Executing Committee that Kala Amb is a small industrial cluster falling under the catchment of River Markanda. There are total 419 industries i.e., 54 Red, 215 Orange and 133 Green and 17 industries are White category. He also informed that 93 out of 419 industries are water polluting and total flow of Kala Amb industrial cluster is approx. 5.975 MLD and existing treatment capacity of ETPs is 7.28 MLD. All the water polluting industries have installed their respective ETP's/STP's for treatment of waste water. He also stated that River Markanda enters Kala Amb at Bikram Bag and leaves at Sadhora Bridge. It covers a distance of almost 130 km in Haryana before mixing with River Ghaggar in rainy season. Main drains at Kala Amb are (i) Jattan Wala Nallah; (ii) Roon Nallah; (iii) Sukdo Nallah and (iv) Salani Nallah which ultimately mixing in the River Markanda at Kala Amb. As per joint sampling of CPCB and HPSPCB, 14 km downstream Kala Amb, River Markanda has been found dry most of the times.

In the catchment of River Markanda, sub-catchment of Jattan Wala Nallah is the area of concern whose water quality has been found most of the times below the standard due to the discharge of un-treated sewage from various drains into it and Coliform is found more than 1600 MPN/100 ml. The Industries situated Near M/s Ruchira Paper Mill, where total 4 no. of industries i.e., 2 Paper Mills, Katha Unit and 2 Metal Finishing Units); (2) Near M/s Saboo Tor, where total 13 no. of industries i.e., Pharma-4, Glass toughening-3, manufacturing-3, metal finishing-3 and Cosmetic-1) and (3) Near M/s Jay Ajay Alloys, where total 12 no. of units (Pharma-6, scrap melting-3, Food processing-1, AC Assembly-1 and manufacturing-1) are contributing industrial effluent. He also stated that in addition to above, the sewage / sullage of Kala Amb which is partially in Himachal and partially in Haryana is also discharged into Jattan Wala Nallah.

In Jattan Wala Sub-Catchment, there are total 60 industries. 29 Out of 60 industries are water polluting and having total maximum pollution load of 6473.5 KLD. All the 29 industries have provided ETPs for treatment of industrial effluent generated from the respective unit. As per the estimation, the population of Jattan Wala sub catchment is around 1000 and floating population is approx. 5000 and total sewage generation is about 236 KLD. Apart from this, residential and industrial units situated in Himachal and Haryana are also contributing BOD load in Jattan Wala Nallah. He also stated that at present, there is no Common STP in Kala Amb Area. Untreated domestic sewage and sullage of civic population of Himachal and Haryana is carried by Jattan Wala Nallah which in turn is degrading the water quality of River Markanda. **Proposed action plan of H.P. State Government for Kala Amb area are as follows:-**

- HP Govt. has already taken initiative for installation of CETP-cum-STP of appx.10 MLD capacity at Kala Amb for ensuring treatment of waste water generated from industries and domestic sewage.
- M/s Kala Amb Infrastructure Company has already been registered under Company Act as SPV for setting up CETP in Kala Amb.
- M/s Kala Amb Infrastructure Company has undertaken the work of preparing DPR through M/s Shivalik Solid Waste Management Ltd. The land for the project has been identified by the committee comprising 'DC, Sirmaur; EE, HPSPCB, Paonta Sahib and GM, DIC Nahan'. The proposal has been sent to the H.P. State Govt. for final approval.
- The survey of the area will be conducted to identify the remaining point sources.
- HP Govt. has already constituted Special Task Forces at State Level and District Level for the purpose of identifying the persons responsible for discharging effluents beyond standards into tributaries of river Ghaggar.
- HPSPCB Paonta Sahib organized a meeting on 05.10.2018 under the chairmanship of Deputy Commissioner, Sirmaur to evaluate and expedite the process of installation of CETP at Kala Amb.
- Further, a District Level Task Force meeting has also been scheduled on 12.10.2018 to formulate the action plan for improving the water quality of the tributaries of river Ghaggar.

### **Status of Water Polluting Industries/Civic Bodies in the Catchment of Kaushalaya River, Parwanoo Region**

Dr.Sharwan Kumar continued his presentation and also apprised the committee that Parwanoo Town in Himachal Pradesh is having 9 Sq.KM, which is a residential, small industrial as well as commercial area. Main river/drain in Parwanoo area are River

Kaushalya and Sukhana Nallah. In Parwanoo area, there are total 324 industries i.e., 14 Red, 27 Orange and 283 Green category. 41 out of 324 industries are water polluting in nature. The total effluent generation in Parwanoo area is 0.76 MLD and all the water polluting industries have installed captive ETPs for treatment of waste water.

In the River Kaushalya catchment area, total industrial effluent treatment capacity is about 52.5 KLD and STP capacity is about 15 KLD whereas total effluent generation in Sukhana Nallah catchment is about 693.3 KLD. There are 32 water polluting industries in Sukhana Nallah catchment. As per analysis results of the samples collected from Sukhana Nallah during the years 2015 to 2018 w.r.to pH, DO, BOD and Total Coliform reveals that the Water Quality of Sukhana Nallah is bad primarily due to Sewage Load. Water Quality of Kaushalya River is meeting the Class A of CPCB "Best Designated Use".

As regards to the sewage generation and treatment of sewage in Parwanoo, he informed that Parwanoo town has 2286 households and the town is divided into 9 wards and as per the Census India 2011, the population of Parwanoo city is about 8,758. At present, there is no CETP or STP is available in Parwanoo area and sewage generated from Parwanoo city is treated in individual septic tanks and trade effluent generated is treated in captive ETPs. **Areas of Concern :-**

- No Common STP in Parwanoo Area
- No CETP in Parwanoo.
- Area of Jurisdiction – Municipal Council Parwanoo.
- Sewage of Parwanoo Town is being treated in septic tanks provided by Municipal Committee, Parwanoo – Inadequate.
- Industrial Effluent is being treated in respective ETPs of industrial units.
- No hazardous constituents in water of Sukhna Nallah – River Monitoring Results.

**Action taken report by H.P. SPCB for Parwanoo area are as follows:-**

- FOCUS AREA - SEWAGE TREATMENT (as pollution load comprises primarily high BOD & High TC)
- Additional Chief Secretary (EST) cum Chairman HPPCB convened interdepartmental stakeholder meeting on 15.09.2018 in this matter.
- Directions issued to I&PH Division Solan to submit proposal of common STPs in Parwanoo Area.
- 3 to 4 common STPs are proposed considering topography of the area (0.2 – 0.4 MLD each).

- Action against defaulters / Directions issued – 05 units to install new STPs within 45 days.
- Action to be taken by: District Administration, Industries Department, HIMUDA & I&PH, H.P. State Pollution Control Board.

**Observation and Directions Issued by the Executing Committee:-**

Upon detailed deliberations following overall directions were issued by Executing Committee:-

1. **Flow Measurement :-** Irrigation and Public Health Department directed to explore possibility of channelization and also setting up of flow measurement systems at all the salient points such as before confluence of all drains and on River Markanda and River Kaushalaya and also at the exit point of State of HP –**Action by Irrigation and Public Health Department.**
2. **Installation of Real Time Water Quality Monitoring Station:-** Action should be taken by **Irrigation and Public Health Department** for installation of continuous Real Time Water Quality Monitoring Station in compliance with the Directions issued by CPCB under Section 18 (1) (b) of the Water (Prevention and Control of Pollution) 1974- **Action By Irrigation and Public Health Department and District Level task force, HPSPCB**
3. **Identification of the Problems in the Catchment area of River Ghaggar and its tributaries and preparation of action plans:-** As Kala Amb and Parwanoo has already been classified as severely polluted area by the Central Pollution Control Board, the concerned state agencies to expedite the process of setting up of Common Effluent Treatment Plant, Sewage Treatment Plant and Solid waste Management Facility in the Catchment area of River Ghaggar and its tributaries after thorough gap analysis- **Action by Industry Department, HPSIDC, HIMUDA, IPH and concerned Local Body, HP SPCB**
4. **Ground Water Sampling:- All the** Tube Wells /Hand Pumps need to be checked for the water quality compliances w.r.to the BIS Drinking Water Standards for all the relevant parameters i.e. pH, Fluoride, Sulphate, Mercury and other heavy metals. Also, the data of analysis report from Central Ground Water Board may also be collected and reported. Sampling should be done within one month by HPSPCB in association with Officials of Irrigation and Public Health Department (IPH)- **Action**

***By Irrigation and Public Health Department, Regional officer, HPSPCB, Paonta and Parwanoo.***

5. **Quality of Drinking Water Supply:** - The Drinking Water Quality at Kala Amb Parwanoo Region also need to be checked and samples of drinking water shall also get be tested through NABL accredited laboratory or a Laboratory approved under E (P) Act, 1986. The drinking water quality assessment should also be included for the Monsoon Period along with Details of Treatment system followed before supply of Drinking Water. The Concerned Department shall prepare a brief note on “Drinking Water Quality” supplied to the Regions of Parwanoo and Kala Amb within 15 Days- **Action by Himachal Pradesh Housing and Urban Development Authority (HIMUDA) and Irrigation and Public Health Department (IPH).**
  
6. **Digital Map of River Ghaggar and its tributaries :-** A Digital map of River Ghaggar and Its tributaries should be prepared showing main towns/city-wise population, no. of industries (sector-wise no. of industries), water consumption by the towns/cities as well as by industries, sewage generation and industrial waste water effluent being generated, no. of captive wastewater treatment facilities by the industries and the total treatment capacity, no. of existing STPs and their capacities, no. of existing CETPs and their capacities, municipal solid waste generation, hazardous waste generation, existing solid and industrial waste management facilities including drainage map to be incorporated as a part of report-**Action by HPSPCB through AGISAC.**
  
7. **Water quality of River Ghaggar and its tributaries as well as drains:-** To have the trend in river water quality, drains characteristics, monitoring of river Kaushalaya or Ghaggar and its tributaries as well as the drains contributing pollution load shall be carried out once in a month henceforth by H.P.SPCB at all the salient points (i.e., upstream, downstream of confluence point of tributary or drain with the River Ghaggar in Himachal Pradesh, river or drain sample before confluence with the river Ghaggar or River Kaushalaya). Collected samples shall be get analysed for relevant parameters and results should be submitted to Executing Committee and CPCB.
  
8. **Compliance verification of Environmental Discharge Norms by the Industries prescribed under Water (Prevention and Control of Pollution) Act, 1974 and E (P) Act, 1986:-**

Routine and Surprise inspections of all the industries located in the catchment area of river Ghaggar and its tributaries shall be conducted immediately and list of industries which are complying and not complying to the environmental laws shall be

submitted to the Committee within one Month. The reports should be prepared and submitted as per the format to be circulated to HPSPCB by Shri J.C.Babu, Member of the Executing Committee. The Team leader of the inspecting officials should be either Scientist 'B' /Asst. Environmental Engineer or Scientist 'C'/Envi.Engineer, along with sampling team not below the rank of SSO. The inspecting officials also should collect ETP outlet sample as well as ground water sample located within the industry premises or in the vicinity or nearby village or town or city. ETP outlet samples should be collected and get analysed for the parameters as per the Consent issued under Water Act, 1974 whereas the ground water samples should be analysed for pH, Sulphate, Fluoride, TDS and the heavy metals such as As, Cr<sup>3+</sup>, Cr<sup>6+</sup>, Hg, Zn, Cd, Pd, Ni, Mn, Fe etc., following the standard protocol. The report should clearly indicate name of the officials inspected with details such as designation, address, contact mobile number and also e.mail **-Action by RO, HPSPCB, Paonta and RO, HPSPCB, Parwanoo.**

9. **Nomination of Officer's for Interstate Inspections:** - As desired by the Committee, HP State Pollution Control Board has to nominate four Officers for Interstate Industry inspections as well as sampling of river Ghaggar and its tributaries, as detailed below:-
- 1) Er. Avinash Kumar Sharda, Environmental Engineer, HPSPCB Baddi.
  - 2) Er. Lalit Kumar, Assistant Environmental Engineer, HPSPCB Kala Amb.
  - 3) Er. Pradeep Modgil, Assistant Environmental Engineer, HPSPCB Kullu.
  - 4) Er. Varun Gupta, Assistant Environmental Engineer, HPSPCB, Dharamshala.
10. **Sewage and Solid Waste Management:** - **Area-wise** estimation of Population, water consumption pattern, expected sewage generation over the next 15 to 20 years, solid waste generation. Proposal to be made regarding required STPs with State-of-the-Art Technology for sewage management and also for development of integrated solid waste management facilities in the catchment area of River Ghaggar and Its tributaries. The Concerned State agency to ensure appropriate technology for Management of Sewage and Solid Waste. **Action by MC, Parwanoo, Irrigation and Public Health Department (IPH), Urban Development and Himachal Pradesh Housing and Urban Development Authority (HIMUDA).**
11. **Hazardous and Biomedical Waste Management:** - The Committee was apprised that the state has one TSDF facility located at Dhabota, Nalgarh with Total landfill capacity of 10 Lacs MT which is catering to the requirement of entire State. In addition to this, HP SPCB also authorized 34 facility for recycling/utilization of Hazardous Waste under Hazardous and Other waste (Management & Transboundary Movement) Rules, 2016 as amended. Further, it was also informed

to the Committee that there are 3 Common Bio-medical Waste Treatment and Disposal facility situated at different locations. The Bio-Medical Waste generated by the Healthcare institution are treated and disposed properly in these facilities. With regard to Parwanoo and Kala Amb there are 08 Healthcare facilities and Bio-medical Waste generated is disposed of through authorized through Common Bio-medical Waste treatment Facility situated at Sandli, District-Solan. The Committee desired that the HP SPCB is required to do the gap analysis w.r.to such waste generation and the waste received, treated and disposed off by the such treatment and disposal facilities and also to ensure implementation of the Bar Code system to check the pilferage of bio-medical waste. - **Action by HPSPCB.**

- 12. Health Impacts in Parwanoo and Kala Amb** :- in order to assess the impact of water pollution and its impact on health of the public if any, the Committee desired that the State Department of Health, Govt. of Himachal Pradesh to compile the data of medical history of past 3 years in the Ghaggar and its catchment area. Also, State Department of Health, Govt. of Himachal Pradesh should organize health camps by involving both private and government hospitals on voluntary basis in the catchment area of River Ghaggar and its tributaries. Report on this account to be submitted within a month. **Action by Health Department, Govt. of Himachal Pradesh.**

**In addition to the above the Hon'ble Chairman, Executing Committee has directed to comply on following points :-**

1. The District Level Task Force (DLTF) comprising Deputy Commissioner, Superintendent Police, Regional Officer, a representative of District Session Judge shall conduct the inspections in the catchment of river Ghaggar and its tributaries at least once a month and submit the reports to SLTF on monthly basis . **Action by District Level Task Force.**
2. State Level Task Force need to take assessment of the report submitted by District Level Task Force and action be initiated and also to submit the report to Executing Committee and CPCB once in Quarter. **Action by State Level Task Force.**
3. Each Department shall identify a nodal officer and the contact details of the nodal officer as well as the Head of Department to be provided to the Executing Committee and CPCB within two weeks- **Action by All the concerned Departments.**
4. The Hon'ble Chairman is of the opinion that for speedy disposal of the court cases, High Court to be requested to make a designated court for the cases related to Environment 'or' Chief Judicial Magistrate may be designated as a special court for

cases under Environment Protection Act. Initially District-wise data regarding number of cases filed, pending cases, decided cases, period – for how long the cases have remained pending in the court, next date of hearing and such details be sent to the Secretary (Env.) Govt. of HP- **Action by HPSPCB, Office of Secretary, Environment.**

5. Drainage map to be clearly delineated and to be made part of the report.
6. Environmental surveillance squads comprising officials from different organisation be constituted and surprise inspections to be carried out by the Department concerned.

The Chairman of the Executing Committee thanked 'Member Secretary, Himachal Pradesh State Pollution Control Board' for excellent arrangements and for organizing fourth meeting of the Executing Committee.

Fourth meeting of the Executing Committee ended with vote of thanks to the Chair.

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**List of Participants of the First meeting of the Executing Committee held on 09.10.2018 at 'Conference Hall, Hotel Peterhof, Shimla (H.P.) – 171004' under the Chairmanship of Hon'ble Justice Pritam Pal, Former Judge, Punjab & Haryana Court, in compliance to the Hon'ble NGT order dated 07.08.2018 in matter of OA No. 139 of 2016**

| <b>S. No.</b> | <b>Name of the Official, Designation/Department</b>                         |
|---------------|---|
| 1.            | Hon'ble Justice Pritam Pal (Retd.), Chairman, Executive Committee.          |
| 2.            | Sh. J.Chandra Babu, Scientist, CPCB and Member, Executive Committee         |
| 3.            | Dr. Vimal K. Hatwal, Jt. Director, MoEF&CC, and Member, Executive Committee |
| 4.            | Sh. Rakesh Kanwar, Director, Rural Development, H.P.                        |
| 5.            | Dr. R. K. Pruthi, Member Secretary, HPSPCB.                                 |
| 6.            | Sh. Lalit Jain, Deputy Commissioner, Sirmour, H.P..                         |
| 7.            | Er. Suman Vikrant, EnC I&PH, H.P.   |
| 8.            | Sh. Satpal Dhiman, Joint Secretary (ES&T), Govt. of HP.                     |
| 9.            | Sh. Jitender Sanjta, Additional Director, Industries Department, HP         |
| 10.           | Dr. Bhanu Neopaney, PSO, Departemnt of E&ST.                                |
| 11.           | Sh. Vivek Chandel, ADM Solan, HP  |
| 12.           | Dr. Pratibha Chauhan, DY. SP, Sirmour.                                      |
| 13.           | Sh. Chaman Lal, Dy. SP, Solan.  |
| 14.           | Sh. Basant Verma, Secretary, DLSA, Nahan                                    |
| 15.           | Er. Sanjeev Kaul, SE, IPH, Nahan, HP  |
| 16.           | Er. Mandeep Gupta, EE, IPH Nahan, HP  |
| 17.           | Er. Sumit Sood, EE, IPH Solan, HP   |
| 18.           | Dr. N.K. Mehta, Dy DHS, Directorate of Health Services, HP                  |
| 19.           | Sh. Sudhir Sharma, EO, MC Parwanoo, H.P.                                    |
| 20.           | Er. Rajesh Thakur, AE, HIMUDA Parwanoo, HP                                  |
| 21.           | Er. B.R. Raghuwanshi, AE HIMUDA, Nahan, HP                                  |
| 22.           | Dr. Manoj Chauhan, PSO, HPSPCB, Shimla.                                     |
| 23.           | Dr. Sharwan Kumar, SEE, HPSPCB, Poanta, HP.                                 |
| 24.           | Er. Parveen Gupta, SEE, HPSPCB, Shimla                                      |
| 25.           | Sh. Jitender Gupta, Sr. Law Officer, HPSPCB, Shimla.                        |
| 26.           | Er. Atul Parmar, AEE, HPSPCB, Parwanoo                                      |
| 27.           | Er. Chandan Kumar Singh, AEE, HPSPCB, Shimla                                |
| 28.           | Sh. Baldev Bharti, Sanitation expert, UD Department, Shimla                 |
| 29.           | Sh. Praveen Sharma, Scientific Officer, HPSPCB, Shimla                      |
| 30.           | Sh. Sandeep Kumar, Asstt. Law Officer, HPSPCB, Shimla                       |

**Minutes of Fifth Meeting of the Executing Committee held on 22.10.2018 at 'Conference Hall, Ground Floor, U.T. Secretariat, Sector 9, Chandigarh under the Chairmanship of Hon'ble Justice Pritam Pal, Former Judge, Punjab & Haryana High Court for ensuring compliance to the Hon'ble NGT order dated 07.08.2018 in the matter of OA No. 139 of 2016 titled Strench Grips Mansa's Sacred Ghaggar River (Suo-Motu Case) and Yogender Kumar.**

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Fifth meeting of the Executing committee was held on 22.10.2018 at 'Conference Hall, Ground Floor, U.T. Secretariat, Sector 9, Chandigarh' under the chairmanship of Hon'ble Justice Pritam Pal, Former Judge, Punjab & Haryana High Court for ensuring compliance to the Hon'ble NGT Order dated 07.08.2018 in matter of OA No. 139 of 2016 titled Strench Grips Mansa's Sacred Ghaggar River (Suo-Motu Case). The list of officials attended the meeting is enclosed as Annexure-I.

Sh. Debendra Dalai, IFS, Director Environment and Vice-Chairman, Chandigarh Pollution Control Committee welcomed the Chairman and Members of Executing Committee as well as officials of Chandigarh Administration.

After brief introduction of the officials of different departments of U.T. Chandigarh, The Chairman, Executing Committee has noticed it very seriously that no person from Municipal Corporation, dealing with Municipal Solid Waste was available in the meeting despite of prior information.

Thereafter, Sh. Vivek Pandey, Scientist 'B' has made a presentation, in his presentation informed that about 87 MGD of water is daily supplied to Chandigarh. Around 67 MGD (Million Gallons per Day) water is being supplied mainly from Bhakra main line through Kajouli Water Works and Sector 39 Water Works and 20 MGD water is being supplied through tube wells. As per the available information, total population is about 10.5 Lacs, total waste water (both domestic and industrial effluent) generation is around 57 MGD and the existing total waste water treatment capacity is about 48.85 MGD ( i.e., 5 STPs which are located at 3 BRD (11 MGD), Raipur Kalan ( 5 MGD), Diggian (30 MGD), Raipur Khurd (1.25 MGD) and Dhanas (1.6 MGD). Also, 3 no. of STPs ( of total capacity 6.65 MGD) are under construction i.e., STP at Village Kishangarh (04. MGD), STP ayt Maloya (5 MGD) and STP at Raipur Kalan (1.25 MGD). Presently, treated waste water is discharged into Choes/Drains except Diggian sewage Treatment Plant. The treated waste water from this STP is used for irrigation purpose.

Shri V.Pandey also apprised the Committee that Chandigarh Administration, Chandigarh has already constituted State level Task Force (comprising Advisor to the Administrator, U.T., Chandigarh, Secretary Environment, Chandigarh Administration, Secretary, Urban Planning, U.T.,

Chandigarh, Secretary, Local Body, U.T., Chandigarh, Commissioner, Municipal Corporation, Chandigarh, Chief Engineer, Engineering Department, Chandigarh Administration) as well as District Level Special Task Force (comprising of District Magistrate, U.T., Chandigarh, Sh. Ravi Kumar, IPS, Superintendent of Police, Crime, U.T. Chandigarh, Sh. Amarinder Sharma, Secretary, District Legal Services Authority, Superintending Engineer, Public Health Division, Engineering Department, Chandigarh Administration, Superintending Engineer, Public Health Division, Municipal Corporation, Chandigarh, Scientist 'B', Chandigarh Pollution Control Committee). Two meetings of District Level Task Force have already been conducted and Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration were asked to take immediate action for stoppage of discharge of untreated waste water into Sukhna Choe/N. Choe. As per directions, Public Notice was also published in the leading newspapers.

To the query of members of the executing committee with regard to the industrial hazardous waste management, bio-medical waste management and E-waste management, Shri.V.Pandey apprised the committee that there are 430 industries in Chandigarh generating Hazardous Waste about 2847 MT (F.Y. 2016-2017) out of which 2767 MT is recyclable/reprocessed, 67 MT is land fillable and 11.25 MT is incinerable waste. There is no TSDF Facility in Chandigarh and hazardous waste of Chandigarh is disposed of through TSDF at Nimbua, Derabassi (Punjab). Recyclable & incinerable waste is also being disposed through authorized recyclers or service providers of Punjab, Haryana & Uttar Pradesh etc.

As regards bio-medical waste is concerned, there are around 788 Health Care Facilities, which are generating bio medical waste at about 2503 Kg/day and 02 Nos. of Hospital having their own treatment facility. There is a one Bio-medical waste treatment & disposal facility which collects & dispose off the bio-medical waste of Private & Government health care facilities of Chandigarh, which is collected and disposed off on daily basis.

As far as E-waste is concerned, he informed that around 45 MT (2016-2017) of E-waste is generated in Chandigarh which is being disposed off through facility situated in other States. M/s Ramky Enviro Engineers Limited is the nearest dismantling facility which is collecting E-waste from Chandigarh UT.

As regards to the industrial effluent is concerned, Shri Pandey informed the committee that in Chandigarh no industry (if any industry is generating waste water) is allowed to operate without Effluent Treatment Plant. Even industries are not allowed to discharge treated waste water into drains and the treated waste water is allowed to be released into sewer line which further goes to terminal sewage treatment plants (STPs) for further treatment and disposal.

Thereafter, representative of Engineering Department, Chandigarh Administration and Municipal Corporation, Chandigarh have apprised the committee about the proposed action plans which is annexed (**Annexure-II**)

Chairman of the Executing Committee has highlighted the seriousness of the issue and also urged officials to perform the duties seriously as there is no concrete action plans submitted by any Department. He also stated that preservation of River Ghaggar is an auspicious work. Effective enforcement of provisions on aspects related to industrial effluent, sewage and solid waste management and action should be taken against the violators. He urged all the Chandigarh U.T. officials to comply with the orders of Hon'ble National Green Tribunals in letter and spirit. The Chairman also informed that law violators should be prosecuted.

As regards to conducting health camps in Chandigarh UT, Director, Health Department of Chandigarh UT Administration informed the committee that the action is being taken for organizing such health camps and same will be intimated to the committee within a week upon approval of the competent authority.

District level task force and State Level Task Forces have assured that action will be initiated. DLTF will submit the ATR once in a month to SLTF and thereafter, SLTF will submit the report once in a quarter to CPCB and the Executing Committee.

**Upon deliberations with the concerned department, Observations and Directions issued by Executing Committee:-**

Upon details deliberations following overall directions were issued by Executing Committee, for ensuring compliance by all the concerned:-

**1. Submission of action taken report as per the decisions taken in minutes of earlier meetings of the Executing Committee:-**

All the departments are required to submit the action taken report on the decisions taken in the earlier meetings once in every fifteen days, primarily first ATR by 31.10.2018- **Action to be taken by all the concerned departments**

**2. Flow Measurement:**

Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration were directed to set up flow measuring devices at all the exit points of the drains into the river Ghaggar so as to measure the quantum of waste water releasing from the drains - **Action to be taken by Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration.**

**3. Installation of Real Time Water Quality Monitoring Stations at the outlets of all STPs:**

Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration shall install continuous Real Time Water Quality Monitoring Station at the outlets of all the existing STPs in compliance with the directions issued by CPCB under section 18(1)(b) of the Water (Prevention & Control of Pollution) Act, 1974 and real time data also be transferred to the servers of CPCB and CPCC- **Action to be taken by Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration.**

**4. Installation of Electro Magnetic Flow Measuring Devices:**

Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration are directed to install flow meters at inlet, inflow of STP, outlet and bypass channel and records maintained to maintain water balance of STP- **Action to be taken by Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration.**

**5. Action Plan for Up gradation of Existing Sewage Treatment Plants and Setting up of new Sewage Treatment Plants:**

Chandigarh Smart City Limited is directed to submit action plans regarding upgradation of Existing Sewage Treatment Plants and setting up of new sewage treatment plants by 31<sup>st</sup> October 2018- **Action By Chandigarh Smart City Limited**

**6. STP Sludge management:-**

Details with regard to the sludge generation from STPs and its management should be provided by Executing Committee. Municipal Corporation, Chandigarh and Engineering Department by 31<sup>st</sup> October, 2018- **Action to be taken by Municipal Corporation, Chandigarh, Engineering Department, Chandigarh Administration and Chandigarh Smart City Limited.**

**7. Stoppage of discharged waste water into Drains:-**

Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration are directed to submit action plan by 31<sup>st</sup> October, 2018 regarding stoppage of all the points/non-point sources in the drains - **Action to be taken by Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration.**

**6. Water Quality of River Ghaggar and all Drains:**

Chandigarh Pollution Control Committee has been directed to monitor the water quality of river Ghaggar as well as all the drains on monthly basis and to submit the status report of water quality of River Ghaggar and exit points of Choes/Drains within Chandigarh region - ***Action to be taken by Chandigarh Pollution Control Committee.***

**7. Compliance verification of Environmental Discharge Norms by the Industries prescribed under Water (Prevention & Control of Pollution), Act, 1974 and E(P) Act, 1986:-**

Routine and Surprise inspections of all the industries located in U.T., Chandigarh shall be conducted immediately and list of industries which are complying and non-complying to the Environmental laws shall be submitted to the Committee within one Month. The reports should be prepared and submitted as per the format to be provided by Executing Committee member Sh. J. Chandra Babu - ***Action to be taken by Chandigarh Pollution Control Committee.***

**8. Nomination of Officer's for Inspection of Executing Committee:-**

As desired by the Committee, Chandigarh Pollution Control Committee will nominate one Officer for inspections of industries by Executing Committee- ***Action to be taken by Chandigarh Pollution Control Committee.***

**9. Solid Waste Management:-**

Municipal Corporation, Chandigarh will submit Action Taken Report and Action Plan w.r.t. Solid Waste Management and Plastic Waste by 31st October, 2018 to the Executing Committee and Municipal Corporation, Chandigarh should nominate Nodal Officer for Solid Waste Management - ***Action to be taken by Municipal Corporation, Chandigarh.***

**10 Hazardous Waste Management:-**

Chandigarh Pollution Control Committee has been directed to provide the Nos. of hazardous waste generating units and their method of disposal - ***Action to be taken by Chandigarh Pollution Control Committee.***

**11 Bio-Medical Waste Management:-**

Chandigarh Pollution Control Committee has been directed to ensure issuance of authorization to all the HCFs irrespective of quantum of bio-medical waste generation and also ensure closure of all the HCFs which have not obtained authorization from CPCC within a month. CPCC also been directed to ensure implementation of the Bar Code

System as per guidelines of CPCB to check the pilferage of Bio-Medical Waste at early date.

As regards to the commissioning of new Common Bio-Medical Waste Treatment Facility (CBWTF) in industrial area in Chandigarh, the proponent is required to submit time bound action plan within a week to the executing committee for commissioning of the new CBWTF in Chandigarh by 31.03.2018, failing which consent to establishment should be withdrawn by the CPCC - **Action to be taken by Chandigarh Pollution Control Committee.**

**12 Organization of Health Camps:-**

Health Department, U.T., Chandigarh is directed to organize Health Camps in the areas surrounding the drains and will inform the dates of camps to Justice Pritam Pal, Chairman, Executing Committee, so that he can also join the same - **Action to be taken by Health Department.**

Shri J.Chandra Babu, Member, Executing Committee requested all the concerned to prepare action plans keeping in view that no drain carries and discharges untreated wastewater into River Ghaggar. He also requested all the concerned authorities for inclusion of action plans for utilization of treated sewage for construction activities, gardening and washing purposes whichever is feasible. Further, action plans also should include trainings and awareness on operation and maintenance of STPs to the STP operators as well as all the supervisors of STPs. While preparing the action plans 'content' suggested in II Meeting of the Executing Committee be followed by all the concerned departments.

In addition to the above, the Hon'ble Chairman, Executing Committee has directed that each Department shall identify a Nodal Officer and the contact details of the Nodal Officer as well as the Head of Department to be provided to the Executing Committee and Central Pollution Control Board by 31st October, 2018. Each Nodal Officer will submit the progress report fortnightly. He also urged that actions taken along with progress report shall be submitted to CPCB and also to the Executing Committee to apprise the Hon'ble NGT periodically in compliance to the Hon'ble NGT order dated 07.08.2018.

The meeting ended with vote of thanks to the Chair.

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**ANNEXURE – I****List of Participants**

| <b>Sr. No.</b> | <b>Name, Designation &amp; Department</b>   |
|----------------|---|
| 1.             | Hon'ble Justice Pritam Pal (Retd.), Chairman, Executive Committee.                |
| 2.             | Sh. J.Chandra Babu, Scientist, CPCB and Member, Executive Committee               |
| 3.             | Dr. Vimal K. Hatwal, Jt. Director, MoEF&CC, and Member, Executive Committee       |
| 4.             | Sh. Amarinder Sharma, Chief Judicial Magistrate, Secretary, DLSA, UT, Chandigarh. |
| 5.             | Sh. Ajit Balaji Joshi, DC, Chandigarh.  |
| 6.             | Sh. Debendra Dalai, IFS, Director Environment, Chandigarh.                        |
| 7.             | Sh. Pawan Kumar, DSP, Crime Branch, Chandigarh.                                   |
| 8.             | Dr. G. Dewan, Director Health Services, Chandigarh.                               |
| 9.             | Dr. Parmjit Singh, DMS, GMSH-16, Chandigarh.                                      |
| 10.            | Sh. Suresh Kumar Gill, Ex. Engg., Municipal Corporation, Chandigarh.              |
| 11.            | Sh. Rajinder Singh Ahluwalia, SE (PH) U.T., Chandigarh.                           |
| 12.            | Sh. Kamal Kishore, EE (PH). Divn. No. 3, U.T., Chd.                               |
| 13.            | Sh. Sandeep Himalayan, Project Manager, TSDF, Nimbuan                             |
| 14.            | Sh. S.S. Malhotra, Alliance Envirocare Pvt. Ltd.                                  |
| 15.            | Sh. Harish Saini, EE, (PH), MC, Chandigarh.                                       |
| 16.            | Sh. Rajbir Singh, SDE (PH), MC, Chandigarh.                                       |
| 17.            | Sh. Vivek Pandey, Scientist ` B' , CPCC, Chandigarh.                              |
| 18.            | Sh. Sushil Dogra, Scientist ` B' , CPCC, Chandigarh.                              |
| 19.            | Ms. Rhythm Aggawal, AEE, CPCC, Chandigarh.  |

**Annexure-II**

**Proposed Action Plans Submitted by Engineering Department,  
Chandigarh Administration and Municipal Corporation, Chandigarh**

| <b>Sr. No.</b> | <b>Point</b>  | <b>Status</b>   | <b>Action taken by MC/Chd. Admn.</b>  | <b>Proposed Action Plan</b>  |
|----------------|---|---|---|--|
| 1              | Kishangarh Outlet   | There is sewage water discharge from the outlet.  | As a short term measure proposal has been submitted to lift the waste water and connect it with sewerage line | STP has been proposed to treat the waste water   |
| 2              | Outlet of Village Kishangarh inside Forest Nursery  | There is sewage water discharge from the outlet.  |   |  |
| 3              | Outlet of Shastri Nagar   | There is sewage water discharge.  | Sump has already been created   | Sewage water will be pumped to the sewer line.   |
| 4              | First outlet of Bapu Dham near bridge on the road connecting IT park with Sector 26, Chandigarh | There is sewage water discharge at first outlet of Bapu Dham near bridge on the road connecting IT Park | -   | The leakage of T.T. Water flowing in the Sukhna Choe which will be tapped after detecting the leakage points by 15.11.2018.  |
| 5              | Second outlet of Bapu Dham Colony (Known as Madrasi Colony)                                     | There is sewage water discharge at second outlet of Bapu Dham colony                                    | -   | The slum developers have constructed their toilets on the existing CBD. Matter has now been taken up with Estate Office, U.T. Chandigarh for removal of encroachment on the CBD at Bapu Dham Colony, so that flow coming into Choe may be plugged. |
| 6              | Outlet from back of Gaushala, Industrial Area, Phase-I, Chd.                                    | There is substantial sewage discharge from back of Gaushala, Industrial Area, Phase-I, Chd.             | No reply received.  | -  |

|    |  |  |  |   |
|----|--|--|--|---|
| 7  | Outlet near CTU workshop Industrial Area, Phase-I, Chd. (Inside Forest Area)   | There is sewage discharge at the outlet near CTU workshop.                                   | The notice has been served to the General Manager, CTU Workshop for plugging & diverting the waste water.                                    | The waste water is coming in the Sukhna Choe from the CTU workshop after washing of vehicles.   |
| 8  | Indl. Area, Phase - I, Colony No. 4.   | There is discharge from many outlets from Indl. Area, Phase - I, Colony No. 4.               | The sump has already been constructed at site and also been connected to the main sewer line.  | The remaining work for connecting waste water to sump will be done by 30.11.2018.   |
| 9  | Pump House operated by Municipal Corporation behind Central Poultry Development Organization, Indl. Area, Phase - I, Chandigarh. | In case of Non-operation of pump, waste water directly goes to Sukhna Choe on regular basis. | The needful has been done regarding deploying of one more operators for running the sump and the log book at site is maintained regularly.   |   |
| 10 | Outlet of Village Hallomajra   | There is substantial sewage discharge from the outlet of Village Hallomajra.                 | -  | The sewerage connections are being given to the residents of Deep Complex with the newly laid sewer lines are in progress and after completion of each household's connections the discharge will be stopped. |
| 11 | Village Daria  | There is discharge of sewage water from Village Daria  | Excess sewage of unauthorised colony in village Daria has been trapped and put in the sump and the same is being pumped into the sewer line. |   |

**Minutes of 6<sup>th</sup> meeting of the Executing Committee held with the concerned Departments of Punjab State Government at 11 AM on 15/11/2018 at 'Conference Hall, Punjab State Council for Science and Technology, Mahatma Gandhi State Institute of Public Administration (MGSIPA) Complex, Sector-26, Chandigarh' under the Chairmanship of Hon'ble Justice Pritam Pal, Former Judge, Punjab & Haryana Court, for ensuring compliance to the Hon'ble NGT order dated 7/8/2018 in matter of OA No. 139 of 2016 titled Stench Grips Mansa's Sacred Ghaggar River (Suo Motu Case) And Yogender Kumar.**

6<sup>th</sup> meeting of Executing Committee was held with the officials of Punjab State Government at 11 AM on 15.11.2018 under the Chairmanship of Hon'ble Justice Pritam Pal, Former Judge, Punjab & Haryana Court for ensuring compliance to the Hon'ble NGT order dated 7/8/2018 in matter of OA No. 139 of 2016 titled Stench Grips Mansa's Sacred Ghaggar River (Suo Motu Case) And Yogender Kumar. The list of Officials, who attended the meeting is enclosed as **Annexure-I**.

At the outset, Sh. Krunesh Garg, Member Secretary, Punjab Pollution Control Board (PPCB) welcomed the Chairman and Members of the Executing Committee as well as Officials of other Departments of Punjab Government. After a brief introduction of the officials present in the meeting, the Hon'ble Chairman of the Executing Committee informed that the Executing Committee has visited the whole stretch of River Ghaggar recently and observed that the quality of water flowing in River Ghaggar is not of good quality and hence, all the stakeholder departments are required to take immediate necessary action to improve upon the quality of River Ghaggar. He also highlighted the seriousness of the issue and urged officials to perform the duties seriously. He also stated that maintaining wholesomeness of the water of River Ghaggar is an auspicious work. effective enforcement of provisions of the Water (Prevention & Control of Pollution) Act, 1974 on the aspects related to industrial effluent and sewage as well as solid waste management. Action must be taken against the violators. He urged all the officials of Punjab State Government departments to comply with the orders of Hon'ble National Green Tribunal (NGT), Principal Bench, New Delhi in letter and spirit, so that there should be visible improvement in the quality of River Ghaggar. The Chairman also informed that the law violators should be punished as per the provisions of the Water (Prevention & Control of Pollution) Act, 1974. Thereafter, the agenda were discussed and the details in this regard are given in the subsequent paras:

1. Additional Secretary, Department of Science, Technology and Environment informed that the State Level Task Force and District Level Special Task Forces have been constituted by the Govt. on 14/11/2018 and a copy of the same was handed over to the Chairman and Members of the Hon'ble the Committee.

2. Er. S. S. Matharu, Environmental Engineer, PPCB gave a detailed power point presentation on the action taken w.r.to the compliance of decisions of earlier meetings of the Executing Committee. The point-wise compliance was presented as under:
- A link has been provided on Board's website i.e. [www.ppcb.gov.in](http://www.ppcb.gov.in) at home page under the sub head 'Executing Committee for River Ghaggar' of the head 'Focus Area' for uploading the details/ data of the Executing Committee. Proceedings of all the five meetings of the Executing Committee have been uploaded on the website including the orders dated 7/8/2018 passed by the Hon'ble NGT, draft Action Plan, proceedings of the meeting taken by MS, PPCB with various stakeholder departments. Also, other activities related to the project are being uploaded on the website from time to time.
  - PPCB has already identified all the water polluting industries located in the catchment area of River Ghaggar. The Board has not allowed any industry to discharge its treated/ untreated wastewater into River Ghaggar directly/ indirectly. The Board has also identified all the industries located in the catchment area of River Ghaggar and a list of the same will shortly be provided to the Executing Committee for carrying out random inspections.
  - All the industries located in the catchment of river Ghaggar have installed captive effluent treatment plants as under:
    - Pharmaceutical units have adopted ZLD based treatment systems.
    - One no. distillery have adopted ZLD based treatment system and the second distillery (Patiala Distillers & Manufacturers Ltd.) has although installed effluent treatment and is presently utilizing treated wastewater onto land for plantation. However, the same is in the process of installing ZLD based treatment system which is likely to be commissioned by 31/12/2018.
    - Both the Paper Board Mills have installed necessary treatment systems to re-circulate the entire process.
    - All the electroplating units are getting their effluent lifted to CETP at Ludhiana.
    - All the remaining water polluting industries are having their own treatment plants and are discharging their treated effluent onto land for irrigation.
  - Regarding preparation of Action Plan to Control Pollution in River Ghaggar, a meeting was taken by MS, PPCB with all the concerned departments on

3/10/2018. Thereafter, the concerned departments have sent their inputs/ information. Now, the Board has prepared the draft Action Plan after incorporating the inputs/ information of the concerned departments and the same has been sent to the Punjab Govt. for its approval.

- The Board has written a letter to the Department of Science, Technology and Environment, Chandigarh on 31/10/2018 to take up matter with the Director, Health and Family Welfare, Punjab to organize health camps in the habitation areas located along the stretch of River Ghaggar.
- The main activities related to Punjab Pollution Control Board as per draft Action Plan were explained as under:

| <b>Activity</b>  | <b>Target Date</b>  |
|--|---------------------|
| Closely monitoring of the industries located in the catchment area of River Ghaggar during odd hours.  | Continuous activity |
| Pursuing of screening plants located at Mubarikpur to devise a mechanism for 100% recirculation of the wastewater generated from the washing of river bed material.  | 31/3/2019           |
| To ensure installation of ZLD treatment system by M/s Patiala Distillers and Manufactures, Vill. Main, Distt. Patiala  | 31/12/2018          |
| Identification of the new industries discharging their wastewater into River Ghaggar.  | Continuous activity |
| To ensure installation of treatment system in the paper mills as per protocol of CPCB for the industries located in Ganga Basin so as to achieve fresh water consumption and wastewater discharge to the tune of 15 KL/ Tonne of paper production and 10 KL/ Tonne of paper production respectively. | 31/3/2019           |
| Regular monitoring of ETPs installed by the industries falling in the catchment area of River Ghaggar.   | Continuous activity |
| Monitoring of quality of water of River Ghaggar and the drains contributing to the river Ghaggar pollution   | Monthly basis       |

3. Er. V.K Garg, Chief Engineer, Punjab Water Supply and Sewerage Board submitted the details pertaining to the number of towns falling in the catchment area of River Ghaggar, total water consumption, total wastewater generation and total no. of STP's installed in the Towns/ Cities located in the catchment area of River Ghaggar. He also informed that at present total 19 STP's are in operation, out of which 15 is being looked after by the Punjab Water Supply & Sewerage Board (PWSSB). 9 STPs are under construction and 5 are under planning stage with the department. To the query of Shri J.Chandra Babu, Member of Executing Committee with regard to installation of Electromagnetic Flow Meters with all the tube wells, the Chief Engineer informed that Electromagnetic Flow Meter has not been provided on tube wells. He further informed that the quantity of waster drawn from tube wells is calculated on the basis of running hours of tube wells/ no. of hours pumping of water and the capacity of overhead tanks and also the department is not having sufficient funds at present for providing the Electromagnetic Flow Meters. The Hon'ble Members of the Committee desired

that the department should prepare Action Plans which should also include the following as given in subsequent paras:-

- a) *Installation of Electromagnetic Flow Meters to all the tube wells which are used as water supply sources.*
  - b) *Installation of CCTV cameras at the bye-pass system provided at all the STPs, which are in operation.*
  - c) *Making provisions for providing holding tank of adequate capacity or standby arrangement in the design of STPs, for holding the untreated wastewater for at least two days in the event of maintenance of the STP.*
  - d) *For upgradation in the technology of the existing STPs, which are based on old technology, if required.*
  - e) *Water quality of all the tube wells presently supplying water by the Punjab Water Supply and Sewerage Board be provided to the Committee.*
4. Er. Mandeep Singh, Executive Engineer, Horticulture, GMADA informed that two STPs have been installed by GMADA i.e. one at Lalru which is in operation and the other is at Dera Bassi, which is ready for commissioning. He assured to send data/ information pertaining to the other actions, which are required to be taken by the department to control pollution in River Ghaggar, within a week time.
5. Sh. Jaskiran Singh, Director, Department of Rural Development and Panchayats informed that there are total 75 villages in District Patiala, 61 villages in District Sangrur and 07 in District SAS Nagar, which are discharging their sullage/ wastewater in the River Ghaggar. The Gram Panchayats have been dissolved in July, 2018 after completion of their 5-years terms. The elections of the Gram Panchayat are expected in the month of December, 2018. The project regarding finalization of technology for treatment of wastewater of the villages, which are discharging their wastewater into River Ghaggar either directly or indirectly is being undertaken by Thapar Institute of Engineering and Technology, Patiala and once the report is received, the necessary steps will be taken. *The members of the Committee desired that while deciding the technology to treat the wastewater, the advice of Punjab Pollution Control Board may also be taken.*
6. Sh. R.P Gupta, Superintending Engineer, Department of Water Supply and Sanitation informed that the Department is supplying the drinking water in rural areas and there are total 200 tube wells installed by the department in catchment areas of River Ghaggar. The analysis of samples of drinking water is carried out by them and has found the concentration of Fluoride in the range of 0.1 to 9 mg/l which is beyond the permissible limits of 1.5 mg/l. *The Hon'ble Committee members requested to submit the action plan with regard to the*

*measures which must be adopted for providing potable water supply to the public residing in the rural areas.*

7. Sh. Dharminder Sharma, Chief Conservator of Soil informed that the Department is executing the projects for utilization of the treated wastewater from the STPs of the various towns and cities across the State. He further informed that there are 29 projects have been commissioned, 12 are under progress, 25 projects are proposed under the NABARD-RIDF-24, 18 projects are under consideration of PWSSB and 31 projects are proposed under PMKSY. He also submitted the details in writing during the meeting.
8. Sh. Devinder Singh, Superintending Engineer, Department of Drainage informed that the department is maintaining the drains of the State. To the query of Shri J.Chandra Babu, Member Executing Committee, he further informed that they donot measure the flow in the river/drain in routine, but the flow measurement of the water of River Ghaggar is carried out during rainy season. He also informed that the stationary gauges have been installed in the drains for this purpose. *Hon'ble Members of the Committee, suggested the representative of the Department of Drainage for installation of stationary gauge at all the major drain outfalls into River Ghaggar and to share the flow details (once in fifteen days) with all the concerned departments as well as the Committee. The Committee also suggested the Drainage Department for installation of stationary gauge in all the drains contributing pollution of river Ghaggar within 3-months and also to include in the action plan to be submitted by the department.*
9. Sh. Anoop Naggar, Regional Director, CGWA informed that they also monitor the water quality of underground water. As per the monitoring carried out by them, they have found 'arsenic and fluoride' in the groundwater in excess at some places. He further informed that they have categorized the whole area under four zones i.e. safe zone; semi critical; critical and over exploited as per the water extraction activities. *Committee suggested CGWA representatives to monitor ground water quality of tube wells or hand pumps in the vicinity of the habitation areas located along the stretch of River Ghaggar and to submit the analysis results to the monitoring committee, within a month.*
10. Superintendent of Health and Family Welfare Department could not bring the relevant data. *Members of the Committee suggested that Department of Health & Family Welfare shall prepare health status of public (epidemiological survey) along the stretch of River Ghaggar and also to arrange health camps in the catchment area of River Ghaggar and submit a detailed report in this regard to the Committee.*

Shri J. Chandra Babu, Member, Executing Committee requested all the concerned to prepare action plans keeping in view that no drain should carry and discharge untreated sewage/ sullage/ wastewater into River Ghaggar. Action Plan should also include trainings especially on operation and maintenance ( O & M) of STPs to all the concerned officials (STP operators as well as all the supervisors of STPs). Upon deliberations with the officials of all the stakeholder departments, following decisions were taken, as detailed below:-

- Each department shall nominate the Nodal Officer of their department and send the contact details of the Nodal Officer as well as the Head of Departments to the PPCB. PPCB shall collect the information and submit the same to the Executing Committee within a week.
- All the concerned departments shall prepare detailed action plans with time lines as well as financial estimates pertaining to the activities to be performed by them for control of pollution in River Ghaggar and submit the same by 15/12/2018.
- All the department shall submit the Action Taken Report in compliance to the order dated 7/8/2018 of Hon'ble NGT by 15/12/2018.
- Er. S.S. Matharu, EE, Nodal Officer of PPCB shall visit all the STPs, which are in operation, in the presence of concerned officer of PWSSB/ GMADA within four weeks and shall submit the report to the Executing Committee. The proforma for performance assessment of STPs and submission of the report should be as per CPCB format.
- PPCB will carry out inspections of all the industries falling in the catchment area of River Ghaggar. While inspecting the industries, the visiting teams also shall collect the ETP outlet as well as ground water samples within the industry or in the vicinity of the industry and the reports along with the analysis results should be submitted by 15/12/2018. The prescribed format of the inspections ( to be provided by Shri J.C.Babu, Member of Executing Committee) must be filled at site and sampling protocol be strictly followed for carrying out sampling, by the inspecting team.
- Punjab Water Supply and Sewerage Board shall prepare the detailed action plan pertaining to the activities to be performed by the department for control of pollution in River Ghaggar and submit the same by 15/12/2018 and shall apply for obtaining consent to operate of the PPCB as required under the Water (Prevention & Control of Pollution) Act, 1974 for all the STPs.
- The State Level Special Task Force as well as the District Level Special Task Forces to carryout the responsibilities assigned by the Hon'ble NGT and to submit the reports periodically to the Executing Committee.

The meeting ended with a vote of thanks to the Chair.

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## Annexure-I

### List of Participants

- 1) Justice Pritam Pal, Chairman, Executing Committee
- 2) Sh. J. Chandra Babu, Scientist 'D', CPCB and Member, Executive Committee
- 3) Dr. Vimal K. Hatwal, Jt. Director, MoEF&CC, and Member, Executive Committee
- 4) Capt. Karnail Singh, Additional Secretary, Deptt. of Science, Technology and Environment, Chandigarh
- 5) Sh. Jaskiran Singh, Director, Deptt. of Rural Development Panchayat
- 6) Sh. Krunesh Garg, Member Secretary, Punjab Pollution Control Board, Patiala
- 7) Sh. V.K. Garg, Chief Engineer, Punjab Water Supply and Sewerage Board
- 8) Sh. Tejinder Kumar, Sr. Envi.Engineer, PPCB, Patiala
- 9) Sh. R.P. Gupta, SE, Deptt of Water Supply and Sanitation
- 10) Sh. Davinder Singh, SE, Patiala Drainage Circle, Water Resources
- 11) Sh. Anoop Nagar, Regional Director, CGWA, Chandigarh
- 12) Sh. Dharminder Singh, CCE, Deptt. of Soil and Water Conservation
- 13) Sh. S.S. Matharu, Envi. Engineer, PPCB, RO, Patiala
- 14) Sh. Harjit Singh, Envi. Engineer, PPCB, RO, Sangrur
- 15) Sh. Vijay Kumar, Envi. Engineer, PPCB, Fatehgarh Sahib
- 16) Sh. Mandeep Singh, Xen Horticulture, Greater Mohali Area Development Authority (GMADA)
- 17) Sh. Mahesh Bansal, Estate Officer, GMADA
- 18) Sh. J.S. Dhani, Xen, Deptt of Water Supply and Sanitation
- 19) Sh. Ravi Pal, Asstt. Envi.Engineer, Punjab Pollution Control Board, Bathinda
- 20) Sh. Nishant Garg, AE, Water Resources Department, Patiala Drainage
- 21) Sh. M.L. Angurala, Central Ground Water Authority (CGWA), Chandigarh.

**Minutes of 6<sup>th</sup> meeting of the Executing Committee held with the concerned Departments of Haryana State Government at 3 PM on 15/11/2018 at 'Conference Hall, Punjab State Council for Science and Technology (PSCST), Sector 26, Chandigarh' for ensuring compliance to the Hon'ble NGT Order dated 07.08.2018 in the matter of OA No. 138 of 2016-Stench Grips the Mansa's Sacred Ghaggar River.**

List of officials attended the meeting is enclosed as **annexure 1**.

At the outset, Shri. S Narayanan, Member Secretary, Haryana State Pollution Control Board (HSPCB) welcomed the Hon'ble Justice Pritam Pal, Chairman of the Executive Committee, Shri J.Chandra Babu and Dr.V.K.Hatwal, members of the Executing Committee and other officials from Haryana State Government participated in the meeting. Thereafter he requested Justice Pritam Pal to address the participants.

Hon'ble Justice Pritam Pal, Chairman while addressing to the participants made a reference of the order of Hon'ble NGT passed on 14/11/2018 in the matter of river Sutlej and informed that the Hon'ble NGT has imposed a penalty of ₹ 50 Crore on the Punjab State Government. He further exhorted that the departments should take concrete steps pro-actively in implementing the orders of the Hon'ble NGT in true letter and spirit. Thereafter, he requested all the departments to submit the information along with the action plan of their departments expeditiously so that the report may be submitted to the Hon'ble NGT within the due date.

After brief introduction by the participated officials, the Hon'ble Chairman desired that all the Nodal Officers of the concerned departments of Haryana State Government should attend the meetings and apprise the committee on the proposed action plan for control of pollution in river Ghaggar and laxity will be viewed seriously. Thereafter, he requested the individual departments to present their action taken report.

The presentation on behalf of HSPCB was given by Sh. Vinay Gautam, Regional Officer, Jind Region. Other departments such as Public Health Engineering Department, HSIIDC, Irrigation Department as well as Health Department have also presented their status report before the executing committee.

After due deliberations, following decisions were taken in the afore-said meeting as detailed below:-

1. HSPCB shall carry out 30% Sector -wise inspection of all the industries located in the catchment of river Ghaggar. The inspection reports along with the analysis results of the samples collected during the inspections should be prepared duly signed and submitted as per the format to be circulated by Shri J Chandra Babu, Member of the Executive Committee. The inspection teams shall also do videography and shall collect the samples from outlet of ETP as well as ground water samples within or in the vicinity of the industry and shall submit the factual report to the Executing Committee before 15.12.2018. Thereafter, the Executing Committee will also make surprise inspections of 10 % of the industries inspected by the HSPCB teams and if there is any variation found then concerned officers will face serious actions.
2. HSPCB shall also collect the ground water samples from 5 locations (Panchkula) from the municipal solid waste dumping site of municipal corporation and shall get analyse the samples in HSPCB Laboratory for relevant parameters and submit the analysis report to the Executing Committee.
3. The Regional Officers Panchkula/Jind/Hisar of HSPCB shall collect the fresh ground water samples in the catchment of River Ghaggar following the standard protocol and analysis results (for parameters such as sulphates, fluoride, TSS,

heavy metals such as Chromium, Cadmium, Copper, Lead, Nickel, Zinc, Arsenic, Mercury, Iron ) be submitted to Executing Committee.

4. The Regional Officers Panchkula/Jind/Hisar of HSPCB shall collect the samples of all the drains contributing to pollution of river Ghaggar as well as river Ghaggar samples, on monthly basis and shall submit the analysis results to the Executing Committee.
5. HSPCB shall also submit the details of each industry located in the catchment of River Ghaggar alongwith the details such as water consumption, wastewater generation, captive ETP, compliance status of ETP, quality of waste water before its discharge into drain/STP/CETP, final mode of discharge, consent/authorization status and other relevant details by the concerned departments as per the format already suggested by Executing Committee and shall submit the same to the Executing Committee by December 15, 2018.
6. HPPCB also shall carryout performance evaluation of all the STPs/CETPs located in the state of Haryana and reports of all the STPs/CETPs as per the format of CPCB by December 15, 2018.
7. HPPCB shall submit the information as per the letter of Executing Committee i.e., status of compliance by the industry, water quality of river Ghaggar, characteristics of all the drains contributing to river Ghaggar pollution, any difference observed when compared to the last year, action taken against the violating industries, on or before 21.11.2018 to the Executing Committee.
8. All the State Departments of Haryana State including Haryana State Pollution Control Board shall submit their action plans keeping in view the control of Ghaggar river pollution in light of the content already provided by the executing committee, by 15.12.2018 to the Executing Committee.
9. HPPCB shall ensure all the concerned departments of Haryana State ( i.e. Head of the respective Department and the Nodal Officer) will attend the meetings and apprise the committee about their action plans within the due date failing which the department heads will be made responsible for violation of Hon'ble NGT orders dated 07.08.2018.
10. The Executing Committee observed that the screening units located in the Chandimandir area or in the jurisdiction of the Haryana State in the catchment area of River Ghaggar are causing turbidity and colour in the river Ghaggar and such units be assessed w.r.to the existing waste water treatment system, within ten days and apprise the executing Committee. Also, HPPCB shall take action against the screening plants, if required.
11. HPPCB also shall take action against the industries located in catchment of River Ghaggar which have neither installed captive Effluent Treatment Plant (ETP) nor a member of Common Effluent Treatment Plant (CETP) or in operation without obtaining requisite consents or authorization.
12. HPPCB shall request the District Level Special Task Forces (DLSTF) for carrying out the tasks as assigned by the Hon'ble NGT and for submission of the monthly reports to State Level Special Task Force (SLSTF) and also a copy to the Executing Committee.

13. The Regional Officer, HSPCB Hisar will pursue the matter personally with the Ld. District Judge, Sirsa for nominating person in the District level Special Task Force and will submit the report to the Committee within 02 days.
14. The Irrigation Department shall provide gauges in all the major drain outfalls leading to River Ghaggar within a month to measure the flow and shall submit flow measurement reports to the HSPCB and PHED, other concerned departments as well as apprise the Executing Committee in the next meeting.
15. STPs operated by the different department should ensure OCEMS at the out let of STPs, flow measuring devices provision at the bye-pass arrangements as well as adequate holding tank provision for storage of untreated sewage in the event of maintenance of the STPs. If such provision is not available, all the concerned departments shall include such provision in the proposed action plan.
16. The Urban Local Bodies department will submit the status of municipal solid waste in the catchment of River Ghaggar by 21.11.2018 to the HSPCB.
17. The Urban Local Bodies department shall submit the status of STPs installed under 'Amrut Scheme' in the catchment of River Ghaggar by 21.11.2018 to the HSPCB.
18. Also, the PHED will ensure that their web cameras are operational at all the STPs.
19. The Health department shall submit the report of health camps in the villages located in catchment of River Ghaggar organized by NHRM/Health Department from 07.08.2018 to till date to HSPCB by 21.11.2018. Also, the Health department shall carry out the epidemiology profile of public living in villages/towns/cities in the catchment of river Ghaggar and shall submit the report at the earliest possible along with proposed action plan for remedial actions. If funds are required for such purpose, Health Department may submit the proposal to HSPCB for providing financial support if required.
20. The Health department shall submit the action plan with time lines as per directions of Hon'ble NGT to the executing committee by 15.12.2018. HSPCB was suggested by the executing committee to co-ordinate with all the concerned departments for collection of the action plans and the compiled action plan as per the content suggested by executing committee be submitted by December 15, 2018.

It was exhorted by the Hon'ble Chairman of the Executing Committee and the members of the committee that all the concerned Haryana State departments to analyse the scenario, identify the problems or gaps, prepare and submit their action plans in compliance to the Hon'ble NGT Order mentioning concrete steps with time lines to HSPCB and thereafter HSPCB shall compile and submit the action plans with time lines to the Executing Committee by December 15, 2018.

The meeting ended with a vote of thanks to the Chair.

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## List of Participants

| S.No. | Name and Designation, Department          | Mobile No.  | E-mail   |
|-------|---|-------------|--|
| 1     | Justice Pritampal Chairman                |             | cecghaggar@gmail.com   |
| 2     | Shri J.Chandra Babu, Sc 'D', and Member   | 9868278903  | <a href="mailto:jcb.cpcb@nic.in">jcb.cpcb@nic.in</a>                   |
| 3     | Dr.VK Hatwal, JD, MoEF & CC and Member    | 9464122468  | <a href="mailto:vk.hatwal@govt.in">vk.hatwal@govt.in</a>               |
| 4     | Shri S.Narayanan MS,HSPCB                 | 9418455298  | hspcbms@gmail.com  |
| 5     | Shri T.P.Singh, SE, PHED                  | 9914390730  | ccurban@phed haryana.govt.in   |
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| 14    | Shri Kamaljit Singh, AEE, HSPCB           | 9467626808  | hspcbropkl@gmail.com   |
| 15    | Dr. Vandna Gupta, DHS                     | 9814405232  | <a href="mailto:vandna gupta42@gmail.com">vandna gupta42@gmail.com</a> |
| 16    | Shri Raj Kumar                            | 9416114061  | hspcbwatercell@gmail.com   |

**Minutes of 7<sup>th</sup> meeting of the Executing Committee held with the Nodal Officers of Pollution Control Boards of Punjab, Haryana, Himachal Pradesh and Chandigarh to discuss over the progress reports and result of water samples analysed during the period from 1<sup>st</sup> September, 2018 to till 30<sup>th</sup> November, 2018 in respect of Ghaggar River and its tributaries over drains at 4<sup>th</sup> Floor, Tower No.5, Forest Complex, Sector 68, Mohali under the Chairmanship of Hon'ble Justice Pritam Pal, Former Judge, Punjab & Haryana Court, for ensuring compliance to the Hon'ble NGT order dated 7/8/2018 in matter of OA No. 139 of 2016 titled Stench Grips Mansa's Sacred Ghaggar River (Suo Motu Case) And Yogender Kumar.**

7<sup>th</sup> meeting of Executing Committee was held with the Nodal officers of Pollution Control Boards of Punjab, Haryana, Himachal Pradesh and Chandigarh at 11 AM on 6.12.2018 under the Chairmanship of Hon'ble Justice Pritam Pal, Former Judge, Punjab & Haryana Court for ensuring compliance to the Hon'ble NGT order dated 7/8/2018 in matter of OA No. 139 of 2016 titled Stench Grips Mansa's Sacred Ghaggar River (Suo Motu Case) And Yogender Kumar. The list of Officials, who attended the meeting is enclosed as **Annexure-I.**

1. HIMACHAL PRADESH

- a. Nodal Officer, Himachal Pradesh informed that there are following two water polluted nalas which ultimately merged in Ghaggar River:
  - (i) Sukhna Nallah
  - (ii) Jattan Wala Nala (Kala Amb)
- b. Reports are not being submitted by the District level task forces, as per NGT orders 7/8/2018.
- c. Hon'ble Chairman and other members of the Executing Committee observed discharge of untreated wastewater from an apple factory into the Sukhna Nala during their recent visit to Parwanoo Industrial area. Assistant Environmental Engineer (AEE), HP-PCB, Regional Office Parwanoo, who was accompanying with Hon'ble Chairman, assured during the visit that action will be taken against this industry. AEE further informed that the Closer was given to the unit; however, no action was initiated by the Head Office so far. AEE further added that verbal assurance has been given by the industry to improve the ETP and that they will not discharge any polluted water in Sukhna Nala, in future.
- d. Further Nodal Officer apprised the committee by following information on source of Ghaggar River pollution in Himachal Pradesh.

| <u>Source of Pollution</u>   |   |
|--|---|
| <b>Sukhana Nallah, Parwanoo, District Solan</b>  | <b>Jattan Wala Nala, Kala Amb, Disstt. Sirmour at Nahan</b>   |
| <u>Action Taken (August to Nov)</u>  | <u>Action Taken (August to Nov)</u>   |
| <p>1. During this period, notices (directions) to 8 industrial units were issued. None of the industrial unit was prosecuted.</p> <p>2. Seven electroplating units were inspected, 3 were complying with ZLD and remaining will comply ZLD by 31.12.2018.</p> <p>3. Sixteen Septic Tanks managed by the Himachal Pradesh Housing and Urban Development Authority were inspected and 6 were found non-functional.</p> <p>4. Fine of Rs.5000/- was imposed upon five industrial units for improper solid waste management.</p> | <p>1. Two meetings of District Level Task Force were held.</p> <p>2. There are total 90 water polluted Units in this area.</p> <p>3. Inspection of 54 industrial units was done. Out of which 50 samples were taken and result of 15 units are out.</p> <p>4. Result of 2 industrial units was found beyond the permissible limits.</p> <p>5. Health Camps at Kala Amb</p> <p>6. No Prosecution so far.</p> <p>7. Twenty two drinking water samples of catchment area were taken and all parameters were found the within the permissible limits.</p> |

## 2. HARYANA

[a] Nodal Officer, Haryana informed the Committee that total 63 water polluting industries were inspected from August to November.

[b] Nodal Officer further apprised the committee that the closer notices has been issued to 16 industries; however no prosecution has been initiated so far.

[c] Further, Nodal Officer shared following status of water quality at eight points fall under the jurisdiction of HSPCB:

|    |                              |   |
|----|------------------------------|---|
| 1. | Sector 28 Panchkula          | STP Panchkula Area discharge – Quality degraded |
| 2. | ShukhnaChoe                  | Quality degraded                                |
| 3. | Ghail Drain, Ambala          | Minor improvement                               |
| 4. | Markanda, Ambala Distt.      | Discharge of Ambala city only                   |
| 5. | Sagar Para Drain (Saraswati) | Discharge of Kurukshetra, Shahbad and Pehva.    |
| 6. | Kaithal Drain                | Khinouri (Punjab) merged with Ghaggar           |
| 7. | Ratia (Fatehabad)            | Discharge of Ratia                              |
| 8. | Sirsa                        | Not Given                                       |

[d] Further, Nodal Officer assured that all STPs, CTPs will have online checkup monitoring system in near future.

3. PUNJAB

[a] Nodal Officer, Punjab informed the Committee that neither any closure was issued nor any prosecution was initiated by the PPCB from August to November.

[b] Further, it was informed that no health campus has been organized in the Catchment area of the Ghaggar so far.

[c] Nodal Officer shared following information on source of pollution in Ghaggar River from the Punjab State.

|    |           |  |
|----|-----------|--|
| 1. | Mohali    | 1.Dhabi Nalah<br>2. Derabassi<br>3. JharmalChoe                        |
| 2. | Derabassi | At some points, polluted water directly discharged in Ghaggar River.   |
| 3. | Patiala   | 1. Basoli (25 dhara)<br>2. Dhakansu<br>3. Patiala Nadi                 |
| 4. | Sangrur   | 1. Jambuwalachoe (Sangrur Distt.)<br>2. Khnouri town<br>3. Moonak town |
| 5. | Mansa     | 1. Lehraagaga<br>2. Sardoolgarh  |

4. CHANDIGARH

[a] Nodal Officer, Chandigarh informed the Committee that there were two main sources of pollution from Chandigarh Side:

- i. Sukhna Choe
- ii. N Choe (Attawachoe)

[b] One industrial unit was closed due to without ETP discharge.

5. Representative of all the states raised their concern for the functioning of the district level task forces. However, Hon'ble Chairman assured that the matter will be taken up with the concerned department in near future.

6. Committee desired to submit a detailed report of the work, time bond action taken report with the water quality results showing before and after execution of the Hon'ble NGT orders.

The meeting ended with a vote of thanks to the Chair.

**List of persons who attended meeting on 6.12.2018**

1. Justice Pritam Pal, Chairman, Executive Committee (Ghaggar River)
2. Dr. V.K. Hatwal, Member, Executive Committee (Ghaggar River)
3. Sh. Tejinder Singh, Nodal Officer, Punjab Pollution Control Board
4. Sh. S.K. Shandil, Nodal Officer, Himachal Pradesh Pollution Control Board
5. Sh. Shharawan Kumar, Sr. Environmental Engg. Paonta Sahib, Distt. Sirmour
6. Sh. Lalit Kumar, Himachal Pradesh Pollution Control Board.
7. Sh. J.P. Singh, Nodal Officer, Haryana Pollution Control Board, Panckula
8. Sh. Vivek Pandey, Nodal Officer, Chandigarh Pollution Control Committee

**Minutes of 8<sup>th</sup> meeting of the Executing Committee held at 11 AM on 22/12/2018 at 'Conference Hall, Punjab State Council for Science and Technology, Mahatma Gandhi State Institute of Public Administration (MGSIPA) Complex, Sector-26, Chandigarh' under the Chairmanship of Hon'ble Justice Pritam Pal, Former Judge, Punjab & Haryana Court, for ensuring compliance to the Hon'ble NGT order dated 7/8/2018 in the matter of OA No. 139 of 2016 titled as Stench Grips Mansa's Sacred Ghaggar River (Suo Motu Case) And Yogender Kumar.**

8<sup>th</sup> meeting of Executing Committee was held with the Departments of Punjab State Government, Haryana State Government, Chandigarh UT Administration and Himachal Pradesh State Government on 22.12.2018 under the Chairmanship of Hon'ble Justice Pritam Pal, Former Judge, Punjab & Haryana Court for ensuring compliance of the Hon'ble NGT order dated 7/8/2018 in the matter of OA No. 139 of 2016 titled Stench Grips Mansa's Sacred Ghaggar River (Suo Motu Case) And Yogender Kumar. The list of Officials, who attended the meeting is enclosed as **Annexure-I**.

At the outset, Sh. Pawan Garg, Member Secretary, Punjab Pollution Control Board (PPCB) welcomed the Chairman and Members of the Executing Committee as well as Officials. After a brief introduction of the officials, Hon'ble Chairman of the Executing Committee has apprised the officers regarding the discussions took place in the meeting held with the Chairperson of the Hon'ble NGT at Delhi on 12<sup>th</sup> December, 2018. He also highlighted the seriousness of the issue and urged all the officials to comply with the orders of Hon'ble National Green Tribunal (NGT), Principal Bench, New Delhi in letter and spirit, so that there should be visible improvement in the quality of River Ghaggar. The Chairman also informed that the law violators should be punished as per the provisions of the Water (Prevention & Control of Pollution) Act, 1974 and also requested all the State departments for uploading of information regarding monthly action taken reports on the website of the concerned Departments of Environment and State Pollution Control Boards. Thereafter, he requested the officials to make power point presentations on the actions taken as detailed in the subsequent paras: -

**A. Presentations by Departments of Punjab State Government: -**

**1) Punjab Pollution Control Board: -**

Er. S. S. Matharu, Environmental Engineer and Nodal Officer, PPCB gave a power point presentation on the action taken w.r.to the compliance of decisions of earlier meetings of the Executing Committee and actions taken in compliance to the directions passed by the Hon'ble NGT on 7.8.2018, as detailed below:-

- (i) **Website:-** A link has been provided on Board's website i.e. [www.ppcb.gov.in](http://www.ppcb.gov.in) at home page under the sub head 'Executing Committee for River Ghaggar' of the head 'Focus Area' for uploading the activities relating to the actions taken by PPCB as well as Executing Committee.
- (ii) **Inspection of industries for verification of compliance to the discharge norms:-**PPCB has already identified 48 major water polluting industries (Dera Bassi 41 and Patiala 07), located in the catchment area of river Ghaggar. 28

Out of 48 industries located in the catchment area of River Ghaggar have been visited. 10 Units are lying closed either on their own or by the order passed by Hon'ble NGT. 02 units are being visited fortnightly as per the orders of Hon'ble NGT and remaining 8 units are being visited by PPCB officials.

- (iii) **Monitoring of water quality of River Ghaggar:-** PPCB officials have informed that monthly monitoring of water of river Ghaggar is being carried out at 14 no. of locations namely Mubarikpur, Bhankarpur, Chhatbir, U/s Jharmal, D/s Charmal, U/s Dhakanshu , D/s Dhakanshu, Rattanheri, U/s Sagar Para Drain, D/s Sagar Para Drain, Khanauri, Moonak, U/s Sardulgarh, D/s Sardulgarh. The analysis results of water quality of river Ghaggar for the months of October, 2017 and August to November 2018 reveals that the Ghggar river water quality w.r.to the BOD and DO is not complying with the water :quality criteria at all the monitoring points except at one location.
- (iv) **Ground water samples analysis results:-** The Board carries out ground water sampling only at four locations i.e., (i) piezometer installed near Ash Dyke of M/s Nabha Power Limited, Village Nelas, Rajpura; (ii) submersible pump installed in the premises of the temple at Village Rasauli, District Patiala; (iii) hand pump (80' deep) installed at the vacant plot of Shri Prem Singh, near Dashmesh Dental Clinic, Village Bhankarpur, Tehsil Dera Bassi, Distt. SAS Nagar; (iv) hand pump installed near Lala Wala Peer, Lalru, Tehsil Dera Bassi, Distt. SAS Nagar. Apart from the four samples, in compliance to the recommendations of the executing committee, PPCB also collected ground water samples from tubewell installed in the premises of Govt. School along Mansa- Sirsa Road, Sardulgarh and near the RO Plant installed along Mansa-Sirsa Road, Sardulgarh. Besides above, the ground water sampling has also been carried out inside/ outside the industrial premises of the industries, which are located in the catchment area of river Ghaggar, by the officers of the Board during the month of November and December, 2018. The analysis results are still awaited and same will be incorporated in the action plan.
- (v) **Installation of OCEMS by the industries:-** All the paper mills have been asked to follow the protocol framed by CPCB for installation of treatment system in the paper mills as per protocol of CPCB for the industries located in Ganga Basin so as to achieve fresh water consumption and wastewater discharge to the tune of 15 KL/ Tonne of paper produced and 10 KL/ Tonne of paper produced respectively.
- (vi) **District Level Special Task Forces:-** Meetings of District SAS Nagar, Patiala, Sangrur and Mansa have already been held and the Deptt. of Health and Family Welfare has been asked to organize health check up camps of the inhabitants in the catchment area of river Ghaggar. The activities carried out by the Department of Health and Family Welfare will be incorporated in the Action Plan.
- (vii) **Monitoring of STPs:** PPCB has carried out monitoring of STPs i.e., (i) STP of 17.3 MLD capacity at Zirakpur, Distt. SAS Nagar; (ii) STP of 45 MLD capacity

at Mohali; (iii) STP of 4 MLD capacity at Banur; (iv) STP of 46 MLD capacity at village Shermajra, Patiala ; (v) STP of 13 MLD capacity at PUDA, Patiala; (vi) STP of 4 MLD capacity at Patran; (vii) STP of 10 MLD capacity at Samana on 8.12.2018 – STP was not in operation; (viii) STP of 3 MLD capacity at Khanauri; (ix) STP of 3 MLD capacity at Moonak on 9.12.2018 – STP was not in operation; (x) STP of 4 MLD capacity at Lehragagga; (xi) STP of 8 MLD capacity at Sunam; (xii) STP of 1.5 MLD capacity at Lalru; (xiii) STP of 7 MLD capacity at Rajpura; (xiv) STP of 3 MLD capacity for Bhikhi town; (xv) STP of 4 MLD capacity for Sardulgarh; (xvi) STP of 25 MLD capacity for Mandi Gobindgarh. Shri Matharu also apprised the committee that the sludge samples were collected from 7 no. of STPs, which were sent to PBTI for analysis. The said analysis results are awaited. He further informed that as soon as the results are received, the same will be compared with the specifications for compost quality as given in the Schedule II of the Solid Waste Management Rules, 2016 and to check whether it is fit for use of manure or not.

### **Presentation by Punjab Water Supply and Sewerage Board:-**

Er. Lata Chauhan, Executive Engineer, Punjab Water Supply and Sewerage Board presented the power point presentation on the proposed actions related to their department. She informed to the committee members that present tentative population of 39 towns which fall on the catchment area of river Ghaggar is 2364799 (Year 2018) & sewage generation is 283 MLD. In 39 towns, there are 19 STPs with capacity 228 MLD commissioned and in operation, 9 STPs (capacity 37 MLD) are under construction and 20 new STPs (with capacity 62 MLD) are proposed, 1 STP (3 MLD) is not tied up from any sources and 5 towns (18 MLD sewage generation) there is no sewerage system. Presently, 2 STPs (of capacity 56 MLD) are under the control of MC, Patiala, 1 STP (45.4 MLD capacity) is under the control of GMADA and 16 STPs (of capacity 21 MLD) are under the control of PWS & SB. Out of 16, STPs at Khanauri (3 MLD), Lehragagga (4 MLD), Moonak (3 MLD), Patran (4 MLD) & Rajpura (7 MLD) are under stabilization. The proposed time frame for STPs under progress is in the order of 6 months to one year. She also informed that out of 16 STPs under PWSSB, treated water will be used for irrigation purpose by Department of Water & Soil Conservation. As regards to the installation of Electromagnetic, Flow Meters to all the tube wells which are used as water supply source, there are 39 towns in the catchment area of Ghaggar River, out of which 19 towns which are having approximately 99 installations where O&M of water supply is with PWSSB and cost of each electronic flow meter is approximately Rs. 55,000/-. Therefore approximate expenditure shall be Rs 54.45 Lacs. With regard to the provisions for providing holding tank of adequate capacity or standby arrangement in the design of STPs, for holding the untreated wastewater for at least two days in the event of maintenance of the STP, she informed that the CPHEEO Manual does not have provision for this purpose. As regards to the upgradation of the technology in the existing STPs, all the existing STPs which came to operation prior to 16.08.2016 yet to be upgraded to achieve newly notified standards requires funds amounting to Rs. 53.45 Crore.

After deliberations and discussions with Shri R.K.Verma, Principal Secretary, Deptt of Science Technology & Environment, Punjab State Government, following decisions were taken by the Monitoring Committee, as follows:-

- (i) Punjab State Government to take action to smoothen the flow of the funds so that the operation of the STP should not be hampered by way of adopting suitable mechanism.
- (ii) District Level Special Task Forces are required to perform the tasks (conduct inspection of the industries on fortnightly basis and submit its report as per the proforma of PPCB to the State Level Special Task Force-SLSTF) in compliance to the Hon'ble NGT order dated 07.08.2018. SLSTF shall submit first quarter report to CPCB within a week.
- (iii) Department of Health & Family Welfare, Department of Local Govt., PSIEC, GMADA, Department of Rural Development & Panchayat and Deptt. of Irrigation (Drainage) have not yet nominated their Nodal Officer so far and the head of their department shall ensure that the nodal officer shall be nominated, immediately and intimation in this regard shall be given in writing to the PPCB through email id eenodal@yahoo.in, as well as Shri J.C.Babu, Member, Executing Committee i.e., jcb.cpcb@nic.in.
- (iv) PPCB will carry out inspections of all the remaining 8 industries falling in the catchment area of River Ghaggar, within next two days.
- (v) PWSSB / GMADA shall provide Online Continuous Monitoring System (OCMS) at the final outlet of all the STPs for getting real time data of treated wastewater and necessary measures be taken to ensure that no untreated wastewater is being discharged/ bye passed.
- (vi) PPCB shall collect the ground water sample of Sardulgarh area on monthly basis and shall compare the results with the previous analysis results to ascertain the effect on the ground water quality of the area due to pollution in River Ghaggar.
- (vii) PPCB shall initiate action under the provisions of the Water Act, 1974 against all the defaulting STPs, which were not in operation.
- (viii) PWSSB shall ensure that the contract of the operator of the STP must be extended before the expiry of the previous contract and in case the contract is not executed with the existing Operator, the PWSSB will be responsible to operate the STP properly and effectively so as to ensure compliance of environmental standards. However, at any time and for any reason, operation of STPs should not be stopped.
- (ix) PPCB shall conduct meeting with all the operators of the STPs installed in the towns falling in the catchment area of river Ghaggar to sensitize the issue pertaining to the bye-passing of the untreated effluent from the STPs.

- (x) CGWA shall furnish the data regarding ground water quality in the catchment area of Rive Ghaggar, within 7 days to the nodal officer of CPCB.
- (xi) The Nodal officer of all the stakeholder departments shall submit the reply to the questionnaire supplied by the Hon'ble Chairman of the Committee in the meeting on monthly basis through email.

**B. Presentations by Departments of Haryana State Government: -**

The Chairman, Executing Committee enquired about the monthly ATR submitted by the District Level Special Task Forces (DLSTFs). Shri. JP Singh, EE, HSPCB informed the committee that the DLSTFs of Ambala, Panchkula, Kurukshetra and Fatehabad have sent their report in the month of November, 2018 only. The DLSTFs of Hisar, Sirsa and Jind have not sent any report so far. Chairman Executing Committee stated that some of the Govt. Departments have not designated Nodal Officers viz., HSIIDC, Forest, Health, Irrigation, Agriculture and Panchayats. Sh. J P Singh, EE, HSPCB also submitted that all the STPs/CETPs will provide online effluent Monitoring Devices by 31.3.2018 in Haryana. However, Nodal Officer, Haryana SPCB has not apprised about the aspects especially relating to the industrial inspections conducted so far as per recommendations of the Executing Committee, status of industrial effluent characteristics, observations made during the inspections of industries and the STPs in the catchment of river Ghaggar by the Haryana inspection teams, no. of industries complying and non-complying with the discharge norms, sludge characteristics and the existing disposal practices by the STPs as well as other waste management practices.

Member Secretary, Haryana State Pollution Control Board informed the Committee that the Haryana State has prepared action plans in consultation with all the departments which include to lay the sewerage network in all the towns of Haryana as well as diversion of sewage from unauthorized colonies of towns into existing sewers so that it could be treated in STPs. He also informed that the Irrigation department has done extensive survey in the month of November 2018 and all the discharge points have been identified where the sewage is released into drains joining river Ghaggar and the flow measurements were taken into account the capacity of STPs were fixed.

The Executing Committee reiterated that STFs and the officials of HSPCB have been mandated to make inspections and identify violators and required to be punished under the environmental provisions. None of the STFs in the Haryana state has done this task so far. The Chairman, EC has made it clear that Hon'ble NGT will make the Chief Secretary of the State responsible for failure to implement the Hon'ble directions. The Departments should also have requested to submit monthly action taken report in compliance to the Hon'ble NGT orders so as to apprise the Hon'ble NGT periodically by the executing committee. Member Secretary, HSPCB informed that views of all the concerned departments have already been taken and the action plans prepared accordingly and same will be submitted within a week after taking approval from the Haryana State Government.

## **C) Presentation by the Departments of Chandigarh UT Administration**

### **Presentation by Special Secretary Engineering, Chandigarh Administration:**

The Special Secretary Engineering, Chandigarh Administration and Commissioner, Municipal Corporation, Chandigarh gave the presentation about the steps taken by the Chandigarh Administration to stop the discharge of sewage water into various Choes.

Special Secretary Engineering, in his presentation informed that due to increase in the population and unauthorized construction, the excess sewage overflows during peak hours. Chandigarh Smart City Limited has planned to install 2.0 MLD STP at the Kishangarh Outlet. The target date for completion is March 2022. However, as short term measure, Engineering Department has planned to install sewage pump and sump with the cost of Rs.19.94 lacs for lifting the excess sewage and disposing of the same in existing sewer line near Golf Club to stop the flow of raw sewage in the choe. The target date for completion is 31.03.2019. He also informed that the unauthorized colony viz., Shastri nagar is located near the Sukhna Choe i.e. termed as extended abadi of village kishangarh. The sewage of colony has been harvested and put in the sump for further pumping to the sewer line to avoid flow of sewage in the Sukhna choe. Similarly, the unauthorized colonies adjacent to village Daria are located near Sukhna Choe. The sewage of the colonies near Daria has been harvested and sump has been created and machinery has been installed to lift the sewage and put in the sewer line of the village. He also stated that under the jurisdiction of Engg Department, there are two STPs i.e., 7.5 MLD Sewage Treatment Plant, Dhanas and 5.67 MLD Sewage Treatment Plant, Raipur Khurd 7.5 MLD Sewage Treatment Plant, Dhanas was installed in 2013 on SBR technology having designed for the parameters of treating sewage for BOD level 10 mg/l. whereas 5.67 MLD S.T.Plant Raipur Khurd was installed about 13 years back with designated parameters of BOD level 30 mg/l. This S.T.P is old and treating the sewage within (+/-) 20% variation in parameters of designated capacity. However, the new S.T. Plant of 12 MLD capacity is to be installed by the Chandigarh Smart City Ltd. The DPR of the same has been prepared and is under process of approval of the competent authority. The Chandigarh Smart City Ltd. has fixed target for construction of new S.T.P by March 2022.

**Presentation by Municipal Commissioner, Chandigarh:-**Municipal Commissioner, Chandigarh in his presentation informed that water supply in Chandigarh was coming from Bhakra main line through Kajouli and Sector 39 Water Works. Around 67 MGD water is being supplied from this and 22 MGD water is being supplied through tube wells. Total around 89 MGD is being supplied daily to Chandigarh and as per the information provided by Municipal Corporation, Chandigarh total waste water generation is around 54 MGD and treatment capacity is 48 MGD. At present 05 Nos. of Sewage Treatment Plants are operational in Chandigarh. Gap in treatment capacity is 6.0 MGD. Three STPs of 0.4 MGD capacity at Village Kishan Garh; 5 MGD at Maloya and 1.25 MGD at Raipur Kallan. Thereafter, members were also apprised of status of waste water discharge points at Sukhna Choe and N-Choe and action taken along with Action plan to stop the same. He also assured the members that after the commissioning of the new STPs and upgradation of existing STPs by Chandigarh SMART City Pvt. Ltd., there will be no shortfall In the treatment capacity available at

the STPs and all the sewer generated will be treated with effluent BOD level of less than 5 mg/ltr. He also informed the committee that the MC, Chandigarh recover 30 % funds from the public in the form of the tax based on the water consumption which is assessed as per the water meter system already implemented in Chandigarh. He also informed that the financial recovery details will be shared to the committee by the Municipal Commissioner, within a week by email at [jcb.cpcb@nic.in](mailto:jcb.cpcb@nic.in).

#### **Presentation by Member Secretary, Chandigarh PCC:-**

Member Secretary, Chandigarh Pollution Control Committee (CPCC) informed that the District Level Special Task Forces has already conducted three meetings and submitted the report to State Level Special Task Force. He also presented on the Bio-Medical Waste Management, Municipal Solid Waste Management, Hazardous Waste Management, Plastic Waste Management and E-Waste Management is being carried out as per the prescribed rules. As regards to the industrial discharge, MS, CPCC informed that CPCC does not permit any industry to run without Effluent Treatment Plant (ETP). During inspection it was found that one service station situated in Industrial Area was found bypassing the waste water discharge directly into the sewer line without imparting any treatment. After which unit was sealed and now CPCC is going to prosecute the unit. MS, CPCC also informed the committee that the action plans covering all aspects has already been finalized and same will be submitted within this week after taking approval from the Principal Secretary, Chandigarh UT Administration.

#### **D) Presentation by the Departments of Himachal Pradesh State**

At the outset, the Chairman of the Committee welcomed all the officials present in the meeting and congratulated the officials of Himachal Pradesh for successfully organizing the Clean Sukhna campaign on 19.12.2018 and prompted other States to organize such cleanliness drives in their respective States. This was followed by detailed presentations by the Nodal Officer of the HPPCB, Er. SK Shandil, Environmental Engineer on the status of progress made in Kala Amb and Parwanoo areas. Detailed presentations were also given by the Superintending Engineer, Irrigation & Public Health Department Solan and Superintending Engineer, HIMUDA. Director, Rural Development, GoHP gave a detailed status of the works in progress and the works proposed for the control of water pollution from panchayat areas especially in the Parwanoo and Kala Amb. Presentation on health statistics was followed by the CMO Solan. After detailed deliberations and discussions during the meeting the following decisions were taken –

- (i) It was specifically directed that water flow measurement and water quality monitoring shall be carried out by the Irrigation & Public Health Department in Himachal Pradesh at the exit points of Himachal Pradesh as well as all the drains contributing to the river Ghaggar pollution.
- (ii) The HIMUDA shall include in action plan for waste water management from septic tanks by adopting constructed wetland system before discharge of such wastewater effluent from septic tanks and for completion of the afore-said task time line suggested is within three months.

- (iii) Health Camp shall be organized by the respective CMOs of Solan & Sirmour Districts in Kala Amb & Parwanoo areas periodically.
- (iv) The Rural Development Department, GoHP will work in coordination with the HPSPSB to control & check water pollution from adjoining panchayat areas in Kala Amb & Parwanoo.

After deliberations with the State Departments, the Executing Committee made it clear to all the concerned departments of the States namely Punjab, Haryana, Himachal Pradesh States and Chandigarh UT Administration that the action taken report on the recommendations of the Executing Committee meetings and the Action Plans with time lines and financial estimates for each action plan keeping in view of control of River Ghaggar pollution be submitted latest by 31.12.2018 to the Executing Committee and beyond that the action plans will not be accepted. The Executing Committee also suggested that the Environment Department and respective State Pollution Control Boards shall co-ordinate with the all the concerned departments and ensured that the action plans are submitted by 31.12.2018 after taking approvals from the Principal Secretary of the respective State/UT in compliance to the Hon'ble NGT order dated 20.09.2018 in the matter of OA No. 673/2018.

The Meeting ended with vote of thanks to the Chair.

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**LIST OF PARTICIPANTS**

- 1) Justice Pritam Pal, Chairman, Executing Committee
- 2) Sh. J. Chandra Babu, Scientist 'D', CPCB and Member, Executive Committee
- 3) Dr. Vimal K. Hatwal, Jt. Director, MoEF&CC, and Member, Executive Committee
- 4) Sh. R.K. Verma, IAS, Principal Secretary, Deptt. of Science, Technology & Environment.
- 5) Prof. S.S. Marwaha, Chairman, Punjab Pollution Control Board, Patiala.
- 6) Sh. Shaukat Ahmad, Additional Deputy Commissioner (G), Patiala.
- 7) Dr. Poonam Saigal, Deputy Director, Deptt. of Health & Family Welfare, Punjab.
- 8) Sh. Davinder Kumar, SE, Panchayati Raj, Deptt. of Rural Development & Panchayat, Chandigarh.
- 9) Sh. Sukminer Singh, SE, Deptt. of Water Supply & Sanitation, Patiala.
- 10) Sh. T.L. Sharma, SE, MC, Panchkula.
- 11) Sh. R.S. Bains, CE, PSIEC, Chandigarh
- 12) Sh. Vinit Kumar, AMD, PSIEC, Chandigarh.
- 13) Sh. S. Narayanan, IFS, Member Secretary, Haryana State Pollution Control Board, Panchkula.
- 14) Sh. Bhagwan Dass, Divisional Engineer, GMADA, Mohali.
- 15) Sh. Pawan Garg, Member Secretary, Punjab Pollution Control Board, Patiala
- 16) Sh. V.K. Garg, Chief Engineer, Punjab Water Supply and Sewerage Board
- 17) Sh. Tejinder Kumar, Sr. Envi.Engineer, PPCB, Patiala
- 18) Dr. Asruddin, Director, Health Services.
- 19) Sh. Raman Sandhu, Director, Deptt. of Rural Development & Panchayat, Haryana.
- 20) Sh. Anoop Nagar, Regional Director, Central Ground Water Board, Chandigarh.
- 21) Sh. Davinder Singh, SE, Patiala Drainage Circle, Water Resources
- 22) Sh. S.S. Matharu, Envi. Engineer, PPCB, RO, Patiala
- 23) Sh. M.L. Angurala, Central Ground Water
- 24) Sh. Rajdeep Singh Brar, Additional Deputy Commissioner (G), Sangrur.
- 25) Sh. Satish Rathi, Executive Engineer, Deptt. of Public Health, Haryana.
- 26) Sh. T.P. Singh, SE, PHED, Haryana.
- 27) Sh. N.K. Payal, XEN, HSVP, Haryana
- 28) Sh. P.K. Garg, Additional GM, HSIDC, Haryana
- 29) Smt. Lata Chauhan, XEN, PWSSB.
- 30) Sh. R.S. Mittal, SE, Kaithal.
- 31) Sh. S.K. Sharma, XEN, PSIEC, Kaithal.
- 32) Sh. Tejinder Kumar, SEE, PPCB.
- 33) Sh. J.P. Singh, EE, HSPCB, Haryana.
- 34) Sh. G.S. Dhillon, Map Officer, Deptt. of Soil & Water Conservation, Chandigarh.
- 35) Sh. Sidharth Bhargav, SDO, HSPCB, Haryana
  
- 37) R. S. Mittal S.E. Irrigation & Water resources Department,  
Kaithal Haryana
- 38) S. K. Sharma, Xen, PSIRC----- PSIRC

|     |   |   |
|-----|---|---|
| 39  | Tejinder Kumar SEE                            | PPCB, HO, PTA                                       |
| 40  | J. P. Singh, SEE                              | HSPCB HQ  |
| 41  | G. S. Dhillon Mep Officer                     | Deptt. of soil of water conservation Punjab         |
| 42  | Sidharth Bhargava, AEE                        | HSPCB   |
| 43  | R. O. Panchkula Region                        | HSPCB   |
| 44  | R. O. Jind Region at Bhiwani                  | HSPCB   |
| 45  | Atul Parmar, R. O. Parwanoo                   | HPPCB   |
| 46  | Lalit Thakur, AEE, Kala Amb-----              | HPPCB   |
| 467 | R. V. Singh, Consultant                       | Consultant PVT----                                  |
| 48  | Sh. Sudhir Sharma, Executive Officer          | Municipal Council, Parwanoo (H.P.)                  |
| 49  | Sh. Ramesh Bhel ---- EE ,<br>Parwanoo         | HIMUDA  |
| 50  | Sh. Rajesh Thakur, AE                         | HIMUDA  |
| 51  | Dr. Sharawam Kumar, SEE                       | HPSPCB Paonta Sahib                                 |
| 52  | Sanjeev Kaul, SE                              | HP, Irrigation & PH Department                      |
| 53  | Er. Anjoni Kapoor, SE ---                     | HIMUDA, HP  |
| 54  | Sh. M.L. Anguvala, Scientist 'D'              | Central Ground Water Board, NWR<br>Chandigarh.      |
| 55  | Sh. Anoop Nagar, Regional<br>Director         | Central Ground Water Board, NWR<br>Chandigarh.      |
| 56  | Sh. Rajinder Singh, , SE (PH)                 | Engineer Deptt. (U.T.) Chandigarh                   |
| 57  | Sh. Mahesh, CE -----                          | Engineer Deptt. (U.T.) Chandigarh                   |
| 58  | DSP Harjit Kaur                               | Chandigarh Police                                   |
| 59  | Sh. S. K. Shandil, EE                         | HP State Pollution Contral Board                    |
| 60  | Sh. Rakesh Kanwar, Director                   | Rural Development Himachal Pradesh                  |
| 61  | Dr. Vinod Kumar Sangal, DPO---                | Himachal Pradesh                                    |
| 62  | Dr. R. K. Daroch, C.M.D.                      | Health & Family Welfare Department (HP)             |
| 63  | Sh. Sachin Rana, Addl. Deputy<br>Commissioner | UT Chandigarh, Office-----                          |
| 64  | Sh. Manoj Bansal                              | Chief Engineer, Municipal Corporation<br>Chandigarh |
| 65  | Sh. T. C. Nautiyal                            | MS CPCC Chandigarh                                  |
| 66  | Sh. K.K. Yadav, IAS                           | Commissioner MC, Chandigarh                         |

**Minutes of 9<sup>th</sup> meeting of the Executing Committee held on 8/1/2019 at '4<sup>th</sup> Floor, Tower No.5, Forest Complex, Sector 68, Mohali' under the Chairmanship of Hon'ble Justice Pritam Pal, Former Judge, Punjab & Haryana High Court, for ensuring compliance to the Hon'ble NGT Order dated 7/8/2018 in the matter of OA No. 139 of 2016 titled Stench Grips Mansa's Sacred Ghaggar River (Suo Motu Case) And Yogender Kumar.**

9<sup>th</sup> meeting of Executing Committee was held with the Chairman and Member Secretaries of State Pollution Control Boards of Punjab, Haryana, Himachal Pradesh and Chandigarh Pollution Control Committee (CPCC) on 8.1.2019 under the Chairmanship of Hon'ble Justice Pritam Pal, Former Judge, Punjab & Haryana High Court for ensuring compliance of the Hon'ble NGT order dated 7/8/2018 in the matter of OA No. 139 of 2016 titled Stench Grips Mansa's Sacred Ghaggar River (Suo Motu Case) And Yogender Kumar. The list of Officials, who attended the meeting is enclosed as **Annexure-I**

Chairman and the Members of the Committee has reviewed the draft action plans prepared by the State of Punjab, Haryana, Himachal Pradesh and Chandigarh UT for restoration of polluted river Ghaggar. The State-wise recommendations made by the committee for carrying out necessary improvements are detailed as below:-

### **Punjab**

- Action taken for Closure of industrial units for violation of the provisions based on the recent inspections made by the teams of Punjab Pollution Control Board.
- Actions taken by the State Level Task Force constituted by the State Government for ensuring compliance to the Hon'ble NGT order dated 07.08.2018;
- Industry-wise water consumption, waste water generation, mode of treatment and final treated effluent characteristics of all the 48 industries as well as final mode of disposal of treated or untreated effluent
- Observations made by the inspected teams on 48 industries;
- List of industries complying and non-complying with the effluent discharge norms
- Status of health of the public and the Health Camps organized by the State Health Department;
- Map showing all Drains which are contributing to the river Ghaggar pollution;
- Map showing all major towns, population, industrial complexes/estates located on the banks of river Ghaggar, STP location and their capacity
- Town-wise water consumption, sewage generation, no. of STPs, existing treatment capacity of STPs and the gaps observed and sites identified for construction of new STPs in the form of a table as decided in the first meeting of Executive Committee

- Total estimated flow from all the drains into river Ghaggar to be identified both at Urban and Rural level.
- Aspects relating to Industrial Pollution to be included
- District Level Task Force, State Level Task Force actions also be included
- Nodal Officers HODs of all the departments to be included in the report
- Copy of orders of constitution of the DLSTF and SLSTF as well as Nodal Officers to be annexed.
- Visit reports along with analysis results of the effluent to be provided
- Ground water quality should be added in Action Plan – as per GGWA
- Waste Management (Total waste). Pl. provide breakup, recyclable storage and waste
- Aspects relating to STP Sludge Management based on the characteristics, STP compliance statement with observations to be added in Action Plan.
- Ground water recharge Management should be included in Action Plan
- Greenery development should be added on the Banks of River Ghaggar (Forest Department should be asked to do so)
- Installation of RTWQM Stations - time lines (Irrigation Department). Minimum 3 months
- Any other aspects related to compliance to the Hon'ble NGT Order

### **Himachal Pradesh**

- Action plans report should be prepared as per the structure suggested in 2 meeting of the Executing Committee
- Major Towns and Major Industries, Total sewage generation, Existing STPs and their capacities and the gaps identified should be indicated
- Health Camp details to be upload on the website.
- Ground Water samples results not found and same need to be included.
- Details of measurement of drain flow to be indicated
- Aspects relating to waste management should be included;
- Proposal for management of Sewerage generated from rural areas also be included in the action plan.
- Cleanliness drive earlier held, photos to be uploaded on website.
- Health Status of the public
- Any other aspects related to compliance to the Hon'ble NGT Order

### **Chandigarh**

- District Level STF and State Level STF report to be uploaded on website and actions taken by the DLSTF and SLSTF need to be included
- Samples of industrial effluent discharge and the compliance status to be included
- Ground water samples, 7 samples taken, result awaited and results of the ground water samples to be included in the report
- Drain Flow measurement missing and characteristics of drains also be included.

- Industry-wise water consumption, wastewater generation and treatment system and mode of disposal also be included in the report.
- Industry-wise effluent characteristics and their compliance status also be included in the report.
- Treated sewage management, STP sludge disposal Plans to be included
- Timeline should be revised from 2022 to Dec., 2020 for installing STPs.
- Any other aspects related to compliance to the Hon'ble NGT Order

### **Haryana**

- No Health Camp organized till date and Specify dates of Health Camps which are to be organized in future in Action Plan.
- Ground water samples collected and their characteristics to be included. Also, report of CGWA relating to ground water characteristics in the catchment of river Ghaggar also be included.
- All drains should be mentioned in Action Plan with flow and also should be shown in the map.
- STP proposal should be given as per capacity.
- Industry wise water consumption/wastewater generation, ETP availability, effluent characteristics, compliance status and mode of disposal also be included in the report
- Compliance status reports on STP's as well as ETPs pertaining to industries also be included.
- Mode of treated sewerage disposal and STP sludge Management based on the characteristics of the sludge to be proposed
- CETPs, STPs compliance status reports should be included in the report.
- One map showing towns, industrial hubs, CETPs and STP's locations should be included in the report
- Any other aspects related to compliance to the Hon'ble NGT Order

After reviewing the draft action plans by the executing committee, Justice Pritam Pal, Chairman, Executing Committee directed all the States to incorporate all aspects in compliance to the Hon'ble NGT order dated 07.08.2019 and for submission of the revised action plans preferably by 15.01.2019 to the Executing Committee.

The Meeting ended with vote of thanks to the Chair.

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**Annexure-I**

**List of participants of 9<sup>th</sup> meeting of the Executing Committee held on 08.01.2019 under the Chairmanship of Hon'ble Justice Pritam Pal at 'Forest Complex, Sector 68, Mohali'.**

| <b>S.No</b> | <b>Name &amp; Designation</b>  |
|-------------|--|
| 1.          | Hon'ble Justice Pritam Pal, Chairman, Executive Committee (Ghaggar River)                                |
| 2.          | Sh. J Chandra Babu, Member Executive Committee, (Ghaggar River)  |
| 3.          | Dr. K.K Garg, Deputy Director, Ministry of Environment, Forest and Climate Change, Sector 31, Chandigarh |
| 4.          | Sh. S.S. Marwaha, Chairman, Punjab Pollution Control Board   |
| 5.          | Sh. Pawan Garg, Member Secretary, Punjab Pollution Control Board   |
| 6.          | Sh. Surinder Singh Matharu, Nodal Officer, Punjab Pollution Control Board, Mohali                        |
| 7.          | Sh.Gulshan Rai, CEE, Punjab Pollution Control Board  |
| 8.          | Dr. R.K Pruthi Member Secretary Himachal Pradesh Pollution Control Board                                 |
| 9.          | Sh. S.K. Shandil, Nodal Officer, Himachal Pradesh Pollution Control Board                                |
| 10.         | Sh.Debendra Dalai, IFS, Special Secretary, Environment Chandigarh  |
| 11.         | Sh. T.C. Nautiyal, Member Secretary, Chandigarh Pollution Control Committee                              |
| 12.         | Sh. J.P. Singh, Environmental Engineer, Haryana State Pollution Control Board, Panchkula                 |
| 13.         | Sh. Rajinder Sharma, RO, Haryana State Pollution Control Board, Panchkula                                |
| 14.         | Sh. Sidharth Bhargava, AEE, Haryana State Pollution Control Board  |

# **ANNEXURES**

## **III to V**

**Analysis results of the River Ghaggar/Kaushalya/Markhanda Samples collected during 22-23.10.2018 and 29-30.10.2018 for physico-chemical parameters**

| Sampling point                                 | Date       | pH  | Conductivity (µmho/cm) | TDS (mg/l) | COD (mg/l) | BOD (mg/l) | Total Hardness as CaCO <sub>3</sub> in mg/l | Total Alkalinity as CaCO <sub>3</sub> in mg/l | Ca in mg/l | Mg in mg/l | Cl in mg/l | SO <sub>4</sub> In mg/l | NO <sub>2</sub> -N | PO <sub>4</sub> -P in mg/l | NH <sub>3</sub> -N in mg/l |
|--|------------|-----|------------------------|------------|------------|------------|---|---|------------|------------|------------|-------------------------|--------------------|----------------------------|----------------------------|
| R1-River Markhanda at Narayangarh              | 22.10.2018 | 6.9 | 825                    | 522        | 18         | 3          | 332   | 117   | 53         | 48         | 137        | 63                      | 0.03               | 0.04                       | 1.3                        |
| R3-River Markhanda (U/s Kala Amb)              | 22.10.2018 | 7.4 | 400                    | 252        | 9          | 1          | 190   | 173   | 7          | 41         | 17         | 26                      | 0.01               | 0.05                       | 0.4                        |
| R4-River Ghaggar ( A/c of River Kaushalya)     | 22.10.2018 | 7.4 | 436                    | 300        | 35         | 2          | 248   | 201   | 42         | 34         | 18         | 21                      | 0.05               | 0.09                       | 0.1                        |
| R5- River Kaushalya at Village Kambli          | 22.10.2018 | 7.6 | 338                    | 196        | 9          | 2          | 162   | 145   | 10         | 33         | 13         | 18                      | 0.01               | 0.06                       | BDL                        |
| R7-River Ghaggar at Mubarakpur                 | 22.10.2018 | 7.3 | 523                    | 322        | 10         | 5          | 276   | 217   | 26         | 51         | 20         | 31                      | 0.06               | 0.1                        | 0.2                        |
| R13-River Ghaggar (A/c of Jhermal Choe)        | 23.10.2018 | 7.1 | 789                    | 440        | 25         | 6          | 296   | 288   | 42         | 46         | 60         | 39                      | 0.086              | 0.37                       | 8.1                        |
| R16-River Ghaggar ( A/c of Ghel Drain)         | 23.10.2018 | 7   | 842                    | 448        | 29         | 7          | 316   | 296   | 40         | 52         | 66         | 46                      | 0.1                | 0.57                       | 6.6                        |
| R 19 -River Ghaggar ( Shambu Border)           | 23.10.2018 | 7.1 | 864                    | 490        | 27         | 6          | 300   | 296   | 43         | 46         | 72         | 46                      | 0.08               | 0.54                       | 8.5                        |
| R2-U/s Markhanda B/c River Ghaggar)            | 29.10.2018 | 7.1 | 800                    | 496        | 43         | 11         | 207   | 293   | 58         | 15         | 59         | 29                      | 0.65               | 0.81                       | 5.96                       |
| R3-U/s Ghaggar River @ Village Chiali, Haryana | 29.10.2018 | 7.4 | 925                    | 516        | 25         | 4          | 292   | 305   | 80         | 22         | 84         | 36                      | 0.18               | 0.94                       | 14                         |
| R4-D/s River Ghaggar (at Village Dhandota)     | 29.10.2018 | 7.5 | 895                    | 528        | 25         | 5          | 300   | 308   | 77         | 26         | 77         | 28                      | 0.36               | 0.93                       | 12.1                       |
| R6-D/s River Ghaggar (A/c of Patiala Nadi)     | 29.10.2018 | 7.5 | 1128                   | 680        | 338        | 94         | 317   | 373   | 104        | 11         | 100        | 180                     | 0.04               | 1.25                       | 25.3                       |
| R9-River Ghaggar ( at Chandpur Syphon)         | 29.10.2018 | 7.5 | 950                    | 594        | 47         | 12         | 292   | 336   | 75         | 25         | 84         | 32                      | 0.01               | 1.44                       | 9.71                       |
| R10-River Ghaggar, Sirdulgarh                  | 29.10.2018 | 7.4 | 1000                   | 676        | 172        | 39         | 327   | 348   | 88         | 25         | 88         | 48                      | 0.04               | 0.09                       | 10.6                       |
| R11-River Ghaggar-Sirsa Dabhvali Road          | 30.10.2018 | 7.7 | 935                    | 640        | 158        | 24         | 317   | 328   | 85         | 25         | 80         | 58                      | 0.03               | 0.09                       | 9.2                        |
| R12-River Ghaggar- Ottu                        | 30.10.2018 | 7.4 | 810                    | 516        | 54         | 4          | 254   | 273   | 58         | 26         | 71         | 40                      | 0.25               | 0.68                       | 5.2                        |
| SW-1-River Ghaggar (D/s Mubarikpur)            | 30.10.2018 | 7.9 | 532                    | 334        | 26         | 4          | 227   | 192   | 66         | 15         | 25         | 14                      | 0.08               | 0.08                       | 0.33                       |

**Analysis results of the River Ghaggar/Kaushalya/Markhanda Samples collected during 22-23.10.2018 and 29-30.10.2018 for Heavy Metals and the Biological parameters**

| Sampling point                                      | Date       | As (mg/l) | Cd (mg/l) | Cr (mg/l) | Cu (mg/l) | Fe (mg/l) | Mn (mg/L) | Ni (mg/l) | Pb (mg/l) | Zn (mg/l) | Total Coliform (MPN/100 ml) | Fecal Coliform (MPN/100ml) |
|---|------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------------------------|----------------------------|
| R1-River Markhanda at Narayangarh                   | 22.10.2018 | BDL       | BDL       | BDL       | BDL       | 2.35      | 0.73      | BDL       | BDL       | 0.13      | 46000                       | 33000                      |
| R3-River Markhanda (U/s Kala Amb)                   | 22.10.2018 | BDL       | BDL       | BDL       | BDL       | 0.19      | 0.15      | BDL       | 0.03      | BDL       | 70000                       | 70000                      |
| R4-River Ghaggar ( A/c of River Kaushalya)          | 22.10.2018 | BDL       | BDL       | 0.07      | 0.04      | 74.29     | 2.7       | 0.08      | BDL       | 0.15      | 49000                       | 22000                      |
| R5- River Kaushalya at Village Kambli               | 22.10.2018 | BDL       | BDL       | 0.01      | BDL       | 7.21      | 0.21      | 0.01      | BDL       | BDL       | 33000                       | 11000                      |
| R7-River Ghaggar at Mubarakpur                      | 22.10.2018 | BDL       | BDL       | BDL       | BDL       | 5.07      | 0.85      | BDL       | BDL       | BDL       | 170000                      | 45000                      |
| R13-River Ghaggar (A/c of Jhermal Choe)             | 23.10.2018 | BDL       | BDL       | BDL       | BDL       | 5.73      | 0.32      | BDL       | BDL       | BDL       | 79000                       | 79000                      |
| R16-River Ghaggar ( A/c of Ghel Drain)              | 23.10.2018 | BDL       | BDL       | BDL       | BDL       | BDL       | 0.37      | BDL       | BDL       | BDL       | 49000                       | 33000                      |
| R 19 -River Ghaggar ( Shambu Border)                | 23.10.2018 | BDL       | BDL       | 0.01      | 0.01      | 3.93      | 0.58      | BDL       | BDL       | 0.04      | 70000                       | 33000                      |
| R2-U/s Markhanda Before Confluencing River Ghaggar) | 29.10.2018 | BDL       | BDL       | BDL       | BDL       | 1.84      | 0.29      | BDL       | BDL       | BDL       | 790                         | 490                        |
| R3-U/s Ghaggar River @ Village Chiali, Haryana      | 29.10.2018 | BDL       | BDL       | BDL       | BDL       | 1.97      | 0.29      | BDL       | BDL       | 0.02      | 790                         | 330                        |
| R4-D/s River Ghaggar (at Village Dhandota)          | 29.10.2018 | BDL       | BDL       | BDL       | BDL       | 1.41      | 0.21      | BDL       | BDL       | BDL       | 6000                        | 2000                       |
| R6-D/s River Ghaggar (A/c of Patiala Nadi)          | 29.10.2018 | BDL       | BDL       | BDL       | BDL       | 2.29      | 0.32      | BDL       | BDL       | 0.01      | 2400000                     | 340000                     |
| R9-River Ghaggar ( at Chandpur Syphon)              | 29.10.2018 | BDL       | BDL       | 0.02      | BDL       | 0.49      | 0.32      | BDL       | BDL       | 0.02      | 2400                        | 1300                       |
| R10-River Ghaggar, Sirdulgarh                       | 29.10.2018 | BDL       | BDL       | BDL       | BDL       | 1.33      | 0.86      | BDL       | BDL       | BDL       | 200                         | 200                        |
| R11-River Ghaggar-Sirsa Dabhvali Road               | 30.10.2018 | BDL       | BDL       | BDL       | BDL       | 0.86      | 0.86      | BDL       | BDL       | BDL       | 45000                       | 2000                       |
| R12-River Ghaggar- Ottu Weir                        | 30.10.2018 | BDL       | BDL       | BDL       | BDL       | 0.48      | 0.14      | BDL       | BDL       | BDL       | 7800                        | 200                        |
| SW-1-River Ghaggar (D/s Mubarikpur)                 | 30.10.2018 | BDL       | BDL       | 0.03      | 0.02      | 31.19     | 1.44      | 0.04      | BDL       | 0.05      | -                           | -                          |

## Analysis results of the Drain samples collected during 22-23.10.2018 and 29-30.10.2018 for General Parameters and Heavy Metals

| Sampling point                         | Date       | pH   | TSS in mg/l | TDS (mg/l) | COD (mg/l) | BOD (mg/l) | PO4-P in mg/l | NH3-N in mg/l | As (mg/l) | Cd (mg/l) | Cr (mg/l) | Cu (mg/l) | Fe (mg/l) | Mn (mg/L) | Ni (mg/l) | Pb (mg/l) | Zn (mg/l) |
|--|------------|------|-------------|------------|------------|------------|---------------|---------------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|-----------|
| D-1-SH 11, Palar, Haryana-136035       | 29.10.2018 | 6.91 | 108         | -          | 456        | 119        | 1.08          | 3             | BDL       | BDL       | BDL       | 0.01      | 0.75      | 0.15      | BDL       | BDL       | BDL       |
| D-5- Patiala Drain                     | 29.10.2018 | 6.87 | 612         | -          | 5637       | 1439       | 8.49          | 89            | BDL       | BDL       | 0.01      | 0.04      | 6.7       | 0.36      | 0.01      | BDL       | 0.41      |
| D-8-Khaital Drain B/c of River Ghaggar | 29.10.2018 | 8.53 | 36          | -          | 30         | 6          | 0.89          | BDL           | BDL       | BDL       | BDL       | BDL       | 0.43      | 0.01      | BDL       | BDL       | BDL       |
| D-7-Sagar Para Drain@ Chicharwala      | 29.10.2018 | 7.16 | 68          | -          | 464        | 121        | 1.86          | 5             | BDL       | BDL       | BDL       | BDL       | 1.07      | 0.19      | BDL       | BDL       | BDL       |
| D-2-Jattawala Nallah                   | 22.10.2018 | 6.37 | 83          | 760        | 253        | 80         | -             | 8             | BDL       | BDL       | BDL       | BDL       | 1.64      | 0.21      | BDL       | BDL       | 0.09      |
| D-6-Sukhna Nallah                      | 22.10.2018 | 6.81 | 30          | 208        | 42         | 13         | -             | 4             | BDL       | BDL       | BDL       | BDL       | 1.11      | 0.82      | BDL       | BDL       | 0.07      |
| D-8-Baltana Drain                      | 22.10.2018 | 6.83 | 64          | 120        | 184        | 76         | -             | 21            | BDL       | BDL       | BDL       | BDL       | 0.98      | 0.1       | BDL       | BDL       | 0.03      |
| D-11Derabassi Drain                    | 23.10.2018 | 6.73 | 304         | 6060       | 6741       | 2000       | -             | 87            | BDL       | BDL       | 0.28      | 0.34      | 5.69      | 0.3       | 0.27      | 0.02      | 0.32      |
| D-12-Jhermal Choe ( Tiwana Village)    | 23.10.2018 | 7.33 | 68          | 2012       | 273        | 80         | -             | 15            | BDL       | BDL       | 0.01      | 0.02      | 1.1       | 0.46      | BDL       | BDL       | BDL       |
| D-15-Bassouli Drain                    | 23.10.2018 | 7.23 | 123         | 2316       | 259        | 53         | -             | 8             | BDL       | BDL       | BDL       | BDL       | 0.35      | 0.39      | BDL       | BDL       | BDL       |
| D-17-Ghel Drain                        | 23.10.2018 | 6.59 | 29          | 272        | 69         | 13         | -             | 10            | BDL       | BDL       | BDL       | BDL       | 0.74      | 0.2       | BDL       | BDL       | BDL       |
| D-18- 25 Dhara                         | 23.10.2018 | 6.57 | 47          | 160        | 105        | 26         | -             | 12            | BDL       | BDL       | BDL       | BDL       | 0.94      | 0.3       | BDL       | BDL       | BDL       |

# **ANNEXURE - VI**

# **Action Plan for Control of Pollution in River Ghaggar**



**Chandigarh Pollution Control  
Committee**

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|       |  |  |
|-------|--|--|
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|       | (vi) Awareness   |  |
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|       | Health status and organising health camps.                                     |  |
| (vii) | Monitoring of executing the actions plans.                                     |  |

## 1. Back Ground.

Hon'ble National Green Tribunal, New Delhi in the matter original application No. 138 of 2016 and 139 of 2016 has passed an order dated 7<sup>th</sup> August, 2018 vide which it is informed that proceedings in the matter O.A. No. 138 of 2016 and O.A. No. 139 of 2016 titled Stench Grips Mansa's Sacred Ghaggar River (Suo-Motu case) were initiated before the Tribunal on a reference received from the National Human Right Commission (NHRC). The NHRC took Suo-Motu action on the basis of a news item appearing in The Tribune, dated 12.05.2014 under the caption "**Stench Grips Mansa's Sacred Ghaggar River**" to the effect that the river Ghaggar had turned into a polluted water body on account of discharge of effluents – industrial as well as municipal.

In pursuant to the order of Tribunal dated 09.12.2016, a joint inspection has been carried out by the representatives of the Central Pollution Control Board, Punjab State Pollution Control Board, Haryana State Pollution Control Board, Himachal Pradesh State Pollution Control Board. Officials of Union Territory, Chandigarh also joined the said inspection team. Further, as per report, submitted by the concerned Pollution Control Boards to the NHRC as well as Minutes of the meetings on various dates in which the respective States participated. The joint analysis report of the joint monitoring of river Ghaggar samples has also been filed. The findings of the joint inspection report are that values of various parameters such as BOD, TSS, Faecal Coliform, Lead and Iron were beyond permissible limits at most of the locations in Himachal Pradesh, Haryana, Punjab and Chandigarh.

In view of above disappointing scenario, the Chief Secretaries of the States of Himachal Pradesh, Haryana, Punjab and also the Administrator of U.T., Chandigarh have been directed to constitute Special Task Force (STFs) comprising of District Magistrate, Superintendent of Police, Regional Officer of the State Pollution Control Board in concerned District and one person to be nominated by the District Judge in every District in his capacity of Head of the District Legal Services Authority. Such STF may identify persons responsible for violation of law so that action can be taken. At the State Level, the STF will comprise of the Chief Secretary, Secretary Environment, Secretary of Urban Development and Secretary of Local Body. The District Level Special Task Force will submit a monthly action taken report to the State Level Task

Force and State Level Special Task Force will furnish 3 monthly report or the action taken to the Central Pollution Control Board.

The mandate of the above task force has also been given in the order of Hon'ble NGT. The STF at the district level has the mandate of indentifying the persons responsible for the violations of the law so that the action can be taken. The State level STF has to furnish three monthly report to the CPCB which will be based on the monthly report submitted by District Level STF.

An Executing Committee was also constituted by Hon'ble NGT (as per para 8 of the order) under the Chairmanship of Justice Pritam Pal, Former Judge, Punjab and Haryana High Court.

**2. About River Ghaggar and Its Tributaries, activity in the catchment area of river Ghaggar and its tributaries.**

Ghaggar River, Ghaggar also spelled Ghagghar, river, northern India. The Ghaggar rises in the Siwalik (Shiwalik) Range, in northwestern Himachal Pradesh state and flows about 200 miles (320 km) southwest through Haryana state, where it receives the Saraswati River. It eventually dries up in the Great Indian (Thar) Desert. Just southwest of Sirsa it feeds two irrigation canals that extend into Rajasthan state. Its seasonal flow is dependent on monsoonal (seasonal) rainfall. The main tributaries of the Ghaggar are the Kaushalya river, Markanda, Sarsuti, Tangri and Chautang. The river flows at a distance of 7.0 K.M. from the nearest point in the U.T. of Chandigarh

Ghaggar River and Other drains is given in **Figure 1 & Figure 2.**

Figure 1

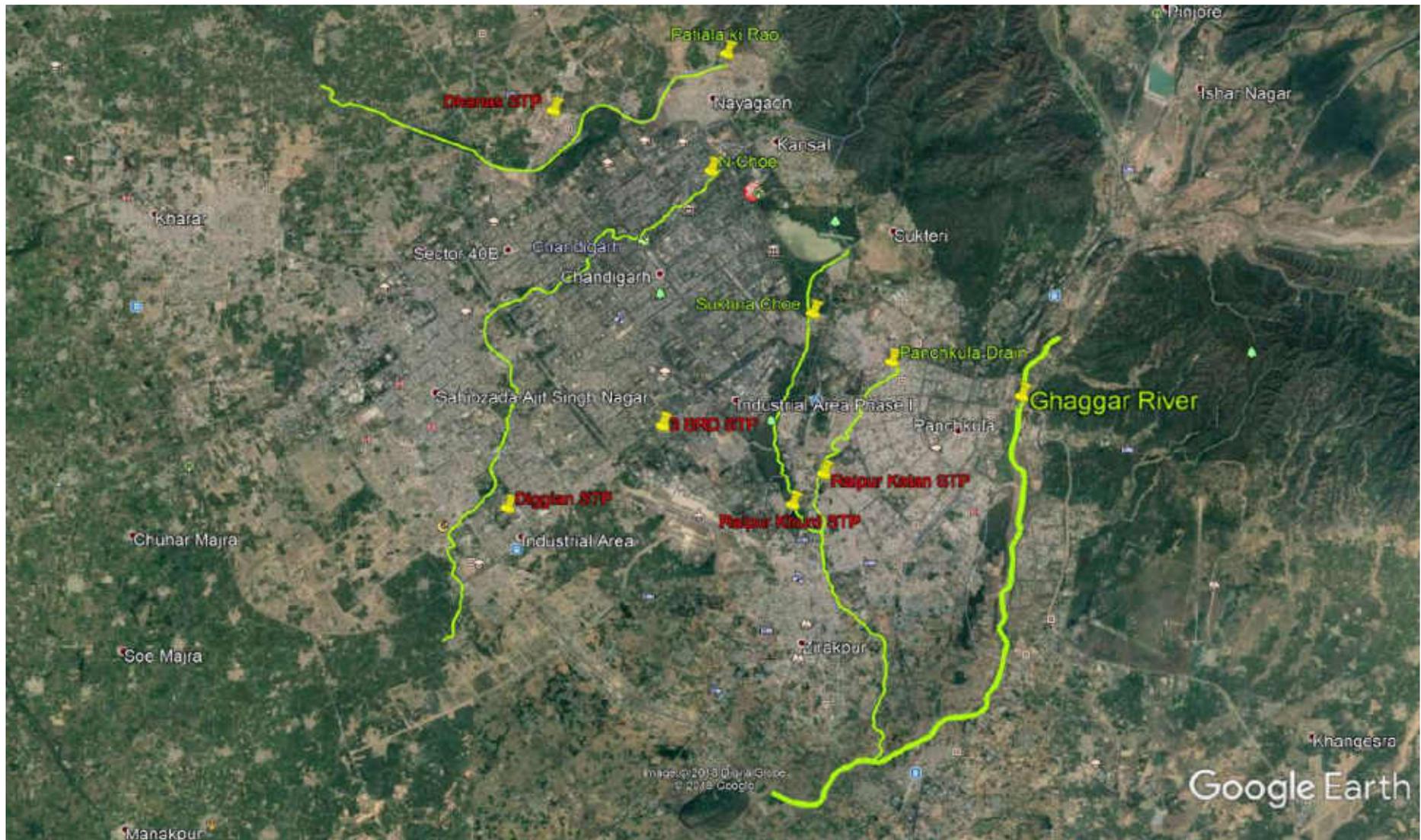
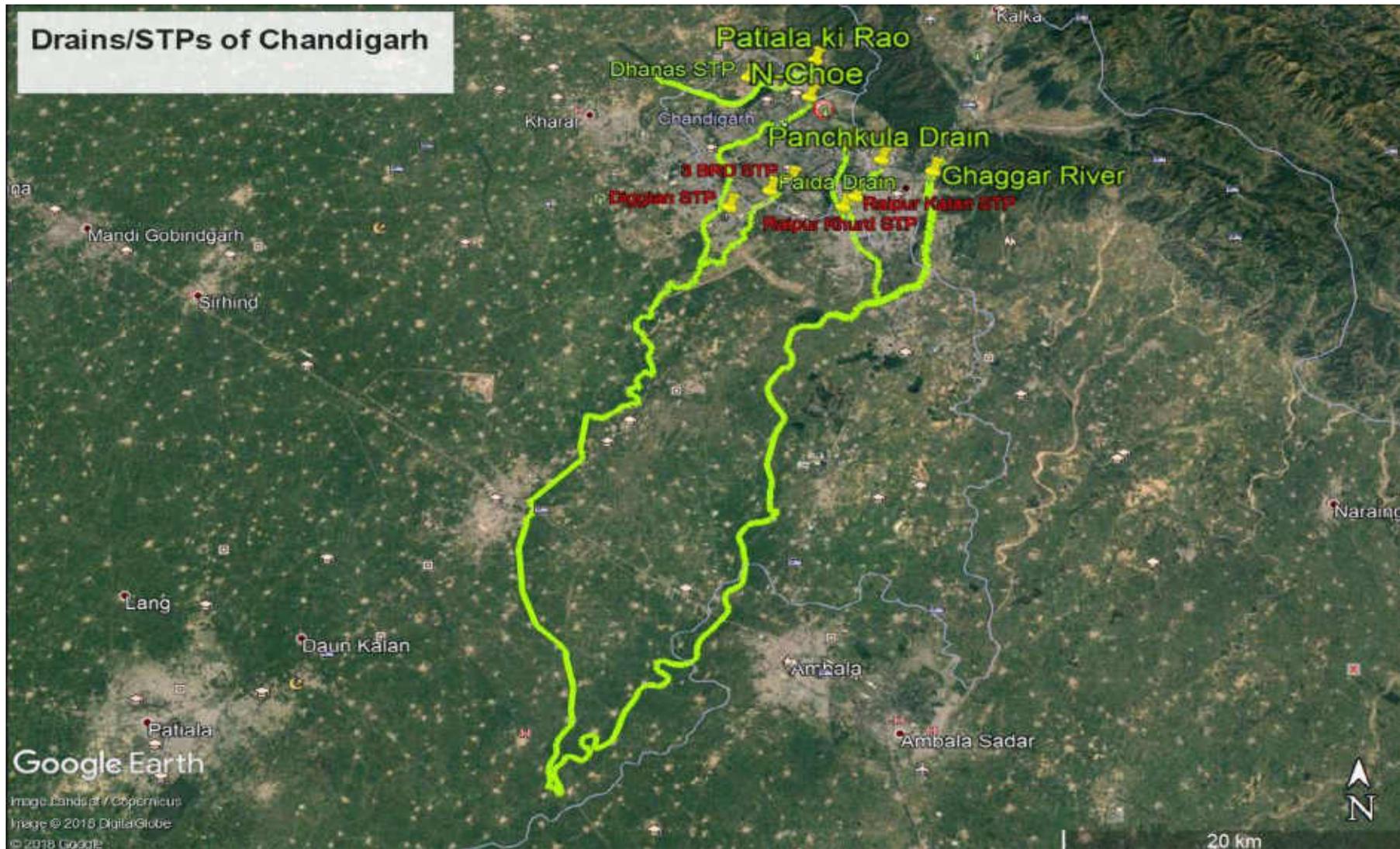


Figure 2



**3. Water quality goals as per the existing provisions or guidelines/specifications of CPCB.**

As per provisions water quality should meet with the standards prescribed in scheduled VI of Environment (Protection) Act, 1986 for discharge of effluents in inland surface water. As Sukhna Choe and N-Choe are joining River Ghaggar hence, before meeting with river Ghaggar both of the choes should meet with the prescribed standards as mentioned in Schedule VI of Environment (Protection) Act, 1986.

**4. Sources of Pollution of River Ghaggar and Its tributaries within the jurisdiction of the respective State/UT.**

In the catchment area of river Ghaggar, the waste water is generated mainly by the two sources:

- 1. Domestic**
- 2. Industrial**

**4.1 Domestic**

Being a planned city Chandigarh is completely covered with sewerage network. Details w.r.t. water consumption and discharge are as given below :

|   |   |
|---|---|
| Municipal Population                                  | 10.54 Lacs (as per 2011 census)   |
| Volume of Domestic & Industrial Waste Water Generated | 54 MGD (Approx.)  |
| Treated waste water                                   | 48.85 MGD   |
| No. of STPs   | 5   |
| Capacity of Each STP                                  | 11 MGD – 3 BRD<br>5 MGD – Raipur Kalan<br>30 MGD – Diggian<br>1.25 MGD – Raipur Khurd<br>1.6 MGD – Dhanas<br><b>Total : 48.85 MGD</b> |
| Mode of Disposal                                      | Natural Choe for all except Diggian.<br>Diggian STP effluent goes to Irrigation Channel   |

River Ghaggar is passing at around 7 Kms. distance from Chandigarh and there are two main sources of discharge from Chandigarh which contribute to River Ghaggar.

- 1) Sukhna Choe
- 2) N-Choe.

In these choes two types of waste water are being discharged.

- 1) Treated waste water from the STPs.
- 2) Direct discharge of untreated waste water

#### **4.2 Industrial**

Ghaggar river is flowing around 7.0 K.M. far from Chandigarh and in Chandigarh **no unit is allowed to run without consent and without ETP** (if unit is generating waste water). After treatment in their captive ETP, treated waste water is released into sewer line which further goes to Terminal Sewage Treatment Plant and gets further treatment. Monitoring of both drains (i.e. Sukhna Choe and N-Choe) which mixes into River Ghaggar, shows that **no industrial effluent is being discharged without treatment.**

Being a Planned city Chandigarh has notified Industrial Area and most of the industries are either in Industrial Area Phase-I or Industrial Area Phase-II except Hotel/Restaurant/Hospitals etc which are in sectors.

Chandigarh Pollution Control Committee grants consent to operate to only those industries which are having proper effluent treatment plant or air pollution control device (whichever is applicable). Hence, all the industries operational in Chandigarh are having Effluent Treatment Plants or Air Pollution Control Devices.

Treated effluent by industries is being released into the public sewer system which further goes to Terminal Sewage Treatment Plant and gets further treatment.

Chandigarh is neither having 17 category of highly polluting industry nor there is any grossly polluting industry. There are total 3336 no. of industries operational in Chandigarh which comprise of 192 Red, 575 Orange, 577 Green and 1625 are White category industries. Red category industries includes 98 Nos. of very small scale

electroplating unit, 5 nos. of sewage treatment plants, 48 nos. of pickling plants, 1 no. Slaughter house (abattoir) run by Municipal Corporation Chandigarh, 11 nos. of microbreweries and 4 nos. of zinc processing units.

Orange category industries include majority of small scale Hotel and Restaurant which are 229 in nos. 10 nos. bottling plants, around 44 nos. of hospitals, 7 nos. of wire drawing unit without pickling, 91 nos. of service stations

Following is the table highlighting the details of industries in Chandigarh:-

|               |                                   |             |
|---------------|-----------------------------------|-------------|
| <b>Red</b>    |                                   | <b>192</b>  |
| <b>Orange</b> |                                   | <b>575</b>  |
| <b>Green</b>  |                                   | <b>577</b>  |
| <b>White</b>  |                                   | <b>1625</b> |
|               | Electroplating                    | 98          |
|               | Foundries                         | 33          |
|               | Hotel & Restaurants               | 229         |
|               | Sewage Treatment Plants           | 05          |
|               | Potable Alcohol's bottling plants | 10          |
|               | Automobile Service Stations       | 91          |
|               | Hospitals                         | 44          |
|               | Wire Drawing with Pickling        | 48          |
|               | Wire Drawing without Pickling     | 07          |
|               | Slaughter House (Abattoir)        | 01          |
|               | Zinc processing units             | 04          |
|               | Microbreweries                    | 11          |

### **Waste Management:**

#### **Solid Waste Management:**

Municipal Corporation, Chandigarh is collecting daily around 450 Tonnes of municipal waste from all over Chandigarh and hand over the waste to the Processing Plant at Dadu majra which has RDF plant of 500 Tonnes/day, Compost Plant of 300 Tonnes/day and Bio-Methanation Plant of 5 Tonnes/day.

Municipal solid waste is being collected from house to house through cycle carts and transferred to Sahaj Safai Kendra (SSK)/Municipal Bin and it is transported to Processing Plant. Waste from mandi and hotels goes directly to Dumping Ground. In the Processing Plant (which is operated by Jai Parkash Associates Ltd.) municipal waste is processed and converted into RDF (Refused Derived Fuel) which is further

used in kilns and other furnaces as fuel additive. Old Dumping site has been capped and covered and sanitary landfill site has been developed under the CPCB project in which around 50 % funding was done by CPCB. Out of 45 Acres total area of Dumping Ground, 25 Acres has been reclaimed by capping of 16.72 Acres and 8.28 Acres sanitary land fill site has been developed in a scientific manner. Daily around 450 Tonnes municipal waste is generated in Chandigarh and transported to Processing Plant or Dumping Ground.

#### **Construction and Demolition Waste:**

The Municipal Corporation Chandigarh has awarded contact for the management of Construction and Demolition waste and the Tile manufacturing plant will be operational by March, 2019.

#### **Bio-Medical Waste Management:**

Chandigarh is having total 788 Health Care Facilities (HCFs) which are generating biomedical waste. These 788 HCFs include 49 bedded hospitals, 583 small clinics/dispensaries, 13 veterinary institutions, 3 animals houses, 4 blood banks, 118 pathological laboratories, 4 research institutes and 14 ayush hospitals/dispensaries. Total bed strength in Chandigarh is 4413. On an average 2503 kgs of biomedical waste is being generated in Chandigarh on daily basis and the same is being treated daily.

There is only one Bio-medical Waste Treatment Facility operational in Chandigarh which is collecting bio-medical waste from all Private health care facilities including Hospitals, Nursing Homes, Clinics etc. and disposing off the waste after proper treatment. Presently two incinerators are operational which are installed at PGIMER, Sector 12 and GMSH, Sector 16 with capacities of 200 kg/hr and 100 kg/hr respectively. These two Institutes treat their bio-medical waste in their own facility.

#### **d) Management of Hazardous Waste**

As very less amount (2847 MT in F.Y. 2016-2017) of hazardous waste is generated in Chandigarh, therefore the waste is transported and disposed off in the facilities available in the nearby states.

For disposal of landfillable waste (70 MT), Chandigarh Pollution Control Committee has made formal agreement with Punjab Pollution Control Board for utilizing their TSDF facility namely M/s Ramky Enviro Engineers Ltd. (Unit: Punjab Waste Management Project). CPCC has authorised M/s Ramky Enviro Engineer Ltd. for collection and transportation of landfillable hazardous waste from various units located in Chandigarh to their TSDF located at Village Nimbua, Derabassi, Punjab.

For disposal of incinerable waste (11.25 MT), CPCC has authorised M/s Bharat Oil and Waste Management Ltd. Sahibabad, Industrial Area, Ghaziabad, U.P. for collection and transportation of incinerable hazardous waste from various units located in Chandigarh.

For disposal of recyclable waste i.e. used oil, spent acid, acid residue (2767 MT), CPCC has authorised the following units located in Punjab, Haryana and UP for collection and transportation of recyclable waste from various units located in Chandigarh to their facilities.

| <b>S. No</b> | <b>Name of the Unit</b>              | <b>Address</b>   | <b>Category</b>                  |
|--------------|--------------------------------------|--|----------------------------------|
| 1.           | M/s Ramky Enviro Engineers Limited   | Opposite Vardhman Chemtech Ltd., Village-Nimbua, PO.-RampursainiaS, Tehsil-Derabassi, District-Mohali, Punjab. | ETP Sludge, Chemical Sludge etc. |
| 2.           | Bharat Oil Company (I) Regd.         | E-18, Sahibabad Industrial Area, Site-IV, Ghaziabad, Uttar Pradesh.  | Used Oil and Incinerable Waste   |
| 3.           | M/s B.N. Concast (P) Limited         | HSIDC Complex, Plot No. 18, Industrial Area, Alipur, Barwala, Panchkula, Haryana                               | Used Oil                         |
| 4.           | M/s Golden Petro                     | Plot No. C-45, Industrial Focal Point, Chanalon, District- SAS Nagar, Punjab.                                  | Used Oil                         |
| 5.           | M/s Mahadev Petrochemicals           | Plot No. D-116(P), Industrial Focal Point, Mandi Gobindgarh, Distt. Fatehgarh Sahib (Punjab).                  | Used Oil                         |
| 6.           | M/s BRS Lubricants                   | D-57, Focal Point, Mandi Gobindgarh, Distt Fatehgarh sahib, Punjab - 147301                                    | Used Oil                         |
| 7.           | M/s J.B.R Technologies (P) Ltd. - II | Opposite Nexo Industries, Kohara Machhiwara Road, Kohara, Ludhiana east, Punjab.                               | Acid residue                     |
| 8.           | M/s Bhagwati Agro Industries         | Tosham Road, VPO. Balawas, Hisar, (Haryana).   | Acid residue                     |

e) **Management of E-Waste:**

All the big I.T. companies are disposing their E-Waste through registered Recyclers and M/s Ramky Enviro Engineers Pvt. Ltd., Opposite Vardhman, Nimbua, Derabassi is collecting e-waste from Chandigarh. As Chandigarh is very small city and cost of land is very high. Hence, there is no dismantler and recycler facility for E-waste in Chandigarh and we are totally dependent upon the facilities situated in other states. There are following three E-waste collection centres of Karo Sambhav in Chandigarh which are authorized by Central Pollution Control Board:-

1. Savex Technologies Pvt. Ltd., SCO No. 364, 2nd Floor, Sector 44-D, Chandigarh
2. Mobile Connect, SCO 2473-2474, 2nd Floor, Sector 22-C, Chandigarh.
3. Supertron Electronics Pvt. Ltd., Plot No. 38-D, Indl. Area, Phase - II, Chandigarh.

**5. Actions initiated for ensuring compliance to the Hon'ble National Green Tribunal (NGT), Principal Bench, Delhi Order dated 07.08.2018 in the matter of OA No. 138/2016 (T<sub>NHRC</sub>) and OA No. 139 of 2016 (T<sub>NHRC</sub>)**

Initiatives taken by Chandigarh Administration in pursuance to the Hon'ble National Green Tribunal (NGT) order dated 07.08.2018 are detailed below:-

- 5.1** As per direction of Hon'ble National Green Tribunal District Level Special Task force and State Level Special Task Force has been constituted vide order no. ED/2018/316 dated 07.09.2018.

Constitution of Task Force is as given below. **(Annexure-I)**

**District Level Special Task Force**

| S.No. | Members                               |          |
|-------|---------------------------------------|----------|
| 1     | District Magistrate, U. T. Chandigarh | Chairman |
| 2.    | Superintendent of Police, Chd. Police | Member   |

|          |    |  |                  |
|----------|----|--|------------------|
| <b>S</b> | 3. | Sh. Amarinder Sharma, Secretary, District Legal Services Authority | Member           |
|          | 4. | SE, PH Division, Engg. Deptt., Chd. Admn.                          | Member           |
|          | 5. | SE, PH Division, Municipal Corporation                             | Member           |
|          | 6. | Scientist 'B', CPCC  | Member Secretary |

### **State Level Special Task Force**

| S.No. | Members  |                  |
|-------|--|------------------|
| 1     | Advisor to the Administrator, U. T. Chandigarh | Chairman         |
| 2.    | Secretary Environment, Chd. Admn.              | Member           |
| 3.    | Secretary, Urban Planning, U. T. Chd.          | Member           |
| 4.    | Secretary, Local Body, U. T. Chd.              | Member           |
| 5.    | Commissioner, Municipal Corporation            | Member           |
| 6.    | Chief Engineer, Chd. Admn.                     | Member           |
| 7.    | Member Secretary, CPCC                         | Member Secretary |

#### **5.2 Meeting with concerned officers:**

In pursuance to the Hon'ble NGT order dated 07.08.2018 and orders of Executing Committee, Member Secretary, Chandigarh Pollution Control Committee convened a meeting on 12.09.2018 (**Annexure-II**) with the officers of Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration in the office of CPCC to discuss the matter regarding preparation of Action Plan w.r.t. Up-gradation of existing Sewage Treatment Plants & Tapping of untreated waste water into Choes/Drainage and other follow-up actions to be taken for ensuring compliance to Hon'ble NGT Order dated 07.08.2018.

The following points were discussed.

- 1) Stoppage of sewer discharge point in N-Choe.

- 2) Stoppage of untreated waste water discharge near Sector 48 (3BRD).
- 3) Stoppage of waste water discharge points in Sukhna Choe specifically about colony no. 4 & Hallomajra.
- 4) Stoppage of going of industrial waste water into Sukhna Choe (pump house behind poultry farm)
- 5) Stoppage of waste water behind Gaushala, Industrial Area, Phase-I, Chandigarh.
- 6) Stoppage of waste water inside the forest area, Phase-I.
- 7) Upgradation of existing STPs
- 8) Construction of new STPs
- 9) Quantification of complete waste water discharge (Total Load).

**5.3 Joint Inspection to check the various outlets where sewage water is charged without treatment into Sukhna choe and N-Choe as directed by Hon'ble National Green Tribunal, New Delhi**

As per directions of Hon'ble National Green Tribunal, CPCPC and the officers of Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration have done the survey of entire Sukhna Choe and N-Choe on dated 18.09.2018 (**Annexure-III**) and as result of which it was found that there were many places where waste water was being discharge into drain/chow without any treatment. The points are as given below:

**Discharge Points in Sukhna Choe**

| <b>Sr. No.</b> | <b>Point</b>  | <b>Status as on September 2018</b>  |
|----------------|---|---|
| 1              | Kishangarh Outlet   | There is sewage water discharge from the outlet.  |
| 2              | Outlet of Village Kishangarh inside Forest Nursery  | There is sewage water discharge from the outlet.  |
| 3              | Outlet of Shastri Nagar   | There is sewage water discharge.  |
| 4              | First outlet of Bapu Dham near bridge on the road connecting IT park with Sector 26, Chandigarh | There is sewage water discharge at first outlet of Bapu Dham near bridge on the road connecting IT Park |
| 5              | Second outlet of Bapu Dham Colony (Known as Madrasi Colony)                                     | There is sewage water discharge at second outlet of Bapu Dham colony                                    |

|    |  |  |
|----|--|--|
| 6  | Outlet from back of Gaushala, Industrial Area, Phase-I, Chd.   | There is substantial sewage discharge from back of Gaushala, Industrial Area, Phase-I, Chd.  |
| 7  | Outlet near CTU workshop Industrial Area, Phase-I, Chd. (Inside Forest Area)   | There is sewage discharge at the outlet near CTU workshop.                                   |
| 8  | Indl. Area, Phase - I, Colony No. 4.   | There is discharge from many outlets from Indl. Area, Phase - I, Colony No. 4.               |
| 9  | Pump House operated by Municipal Corporation behind Central Poultry Development Organization, Indl. Area, Phase - I, Chandigarh. | In case of Non-operation of pump, waste water directly goes to Sukhna Choe on regular basis. |
| 10 | Outlet of Village Hallomajra   | There is substantial sewage discharge from the outlet of Village Hallomajra.                 |
| 11 | Village Daria  | There is discharge of sewage water from Village Daria  |

#### Discharge Points in N-Choe

| Sr. No. | Point                                       | Status as on September 2018            |
|---------|---|--|
| 1       | Leisure valley                              | 02 outlets are discharging waste water |
| 2       | Near red cross (Madhya Marg)                | 01 outlet discharging waste water      |
| 3       | Sec 23 near B.D Hospital (Neuro Psychiatry) | 01 outlet discharging waste water      |
| 4       | Bal Bhawan side                             | Very less discharge                    |
| 5       | 01 outlet in Beant Memorial                 | Water logging                          |
| 6       | Sector 52 (starting)                        | Two outlets discharging Sewage Water   |
| 7       | Sector 52 (End)                             | Two outlets discharging Sewage Water   |
| 8       | One outlet coming from Sec 51               | Sewage Water                           |

#### **5.4 CPCC letters to Municipal Corporation, Chandigarh and Engineering Department Chandigarh Administration.**

Subsequent to the meeting held with the Officials MCC and Chd., Admn. and after joint inspection, D.O. letter vide No. CPCC/2018/1490 & CPCC/2018/1491 dated 09.10.2018 issued to both the departments to submit the action taken report and action plan for compliance of order of Hon'ble NGT Delhi.

#### **5.5 Meetings of District Level Special Task Force:**

District Level Special Task Force has conducted the meeting on 01.10.2018 in which the following decisions were taken.

1. Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration will upgrade the existing STPs/set up new STPs in their respective jurisdiction to meet with the standards directed by CPCB/CPCC and action plan in this regard alongwith timeline will be submitted within 15 days.
2. The officers of Chandigarh Pollution Control Committee (CPCC), Engineering Department Chd. Admn. and Municipal Corporation, Chd. have identified the 10 points where sewerage water is discharged without treatment into Sukhna Choe. Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration will take measures to tap these points to ensure that no untreated waste water release into Sukhna Choe. Status report in this regard will be submitted by the M.C. within 15 days.
3. Prior intimation shall be given by the CPCC to the Police Deptt. for providing police protection to the officers for carrying out inspection and deputing the beat cops with the team.
4. Municipal Corporation, Chandigarh will provide the list of industrial plots who have not taken sewer connection.
5. Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration will make standby arrangement of pumps alongwith the existing pumps at sewage pumping stations and Log Book shall be maintained at each pumping station.

6. Points where waste water is being discharged into N-Choe to be identified in the coming time.
7. CPCC will provide the quality of drains at entry/exit points.
8. MC, Chd. will provide the details of discharge points at Patiala ki rao and provide the action plan for stoppage of the same.
9. MC, Chd. will identify the people who have laid down illegal pipelines and discharging waste water into storm water drainage system/drains and Public Notice shall be given by the CPCC in this regard.

**5.4 2nd meeting of DLSTF:** After that the District Level Special Task Force conducted the 2nd meeting on 11.10.2018 vide which Scientist 'B' CPCC submitted the test report of water quality of all the drains at entry and exit point of Chandigarh and also showing the waste water discharge points at N-Choe. Accordingly the following decision were taken in the meeting.

1. The points through which the waste water is being discharged directly into the N-choe should be closed by the Municipal Corporation, Chandigarh with the support of Police.
2. The format of action paln will be given by CPCC to Municipal Corporaiton, Chandigarh and Engineering Department, Chandigarh Administration and thereafter both the department will be submitted the action plan

**5.5 3rd meeting of DLSTF** Thereafter the third meeting of District Level Special Task Force conducted on 07.12.2018 and accordingly Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration submitted the action taken report of the various outlets from which waste water is being discharged into Sukhna Choe and N-Choe.

## STATUS OF UNTREATED WASTE WATER DISCHARGE IN SUKHNA CHOE

| Sr. No. | Point   | Status as on September 2018   | Status as on 07.12.2018   | Action taken  |
|---------|---|---|---|---|
| 1       | Kishangarh Outlet   | There is sewage water discharge from the outlet.  | As a short term measure proposal has been submitted to lift the waste water and connect it with sewerage line | As a short term measure proposal has been submitted to lift the waste water and connect it with sewerage line. Later STP will be installed by Nov. 2022 |
| 2       | Outlet of Village Kishangarh inside Forest Nursery  | There is sewage water discharge from the outlet.  | Still sewage is being discharged  | -   |
| 3       | Outlet of Shastri Nagar   | There is sewage water discharge.  | Sump has already been created   | Sewage water has been tapped.   |
| 4       | First outlet of Bapu Dham near bridge on the road connecting IT park with Sector 26, Chandigarh | There is sewage water discharge at first outlet of Bapu Dham near bridge on the road connecting IT Park | -   | Leakage has been plugged  |

|   |  |   |  |  |
|---|--|---|--|--|
| 5 | Second outlet of Bapu Dham Colony (Known as Madrasi Colony)                  | There is sewage water discharge at second outlet of Bapu Dham colony                        | The slum developers have constructed their toilets on the existing CBD. Matter has now been taken up with Estate Office, U.T. Chandigarh for removal of encroachment on the CBD at Bapu Dham Colony, so that flow coming into Choe may be plugged. | All such discharges points have been plugged                                 |
| 6 | Outlet from back of Gaushala, Industrial Area, Phase-I, Chd.                 | There is substantial sewage discharge from back of Gaushala, Industrial Area, Phase-I, Chd. | -  | Municipal Corporation Chandigarh has plugged the discharge point             |
| 7 | Outlet near CTU workshop Industrial Area, Phase-I, Chd. (Inside Forest Area) | There is sewage discharge at the outlet near CTU workshop.                                  | -  | CTU has plugged the waste water flow. Now there is no waste water discharge. |
| 8 | Indl. Area, Phase - I, Colony No. 4.   | There is discharge from many outlets from Indl. Area, Phase - I, Colony No. 4.              | -  | Waste water has already been tapped and diverted to sewer line.              |

|    |  |  |   |  |
|----|--|--|---|--|
| 9  | Pump House operated by Municipal Corporation behind Central Poultry Development Organization, Indl. Area, Phase - I, Chandigarh. | In case of Non-operation of pump, waste water directly goes to Sukhna Choe on regular basis. | -   | New stand by motor has already been installed and now no waste water is being discharged into Sukhna Choe.   |
| 10 | Outlet of Village Hallomajra   | There is substantial sewage discharge from the outlet of Village Hallomajra.                 | -   | Around 70 % household have already been connected to sewerline. Rest will be connected to sewer line by 31.01.19.  |
| 11 | Village Daria  | There is discharge of sewage water from Village Daria  | Excess sewage of unauthorised colony in village Daria has been tapped and put in the sump and the same is being pumped into the sewer line. | Excess sewage of unauthorised colony in village Daria has been tapped and put in the sump and the same is being pumped into the sewer line. Now there is no discharge. |

### **STATUS OF UNTREATED WASTE WATER DISCHARGE IN N- CHOE**

| <b>Sr. No.</b> | <b>Point</b>           | <b>Status as on September 2018</b>     | <b>Status as on 07/12/2018 Action taken</b>                               |
|----------------|------------------------|--|---|
| 1              | Leisure valley         | 02 outlets are discharging waste water | One Outlet has been plugged and there is little discharge from one outlet |
| 2              | Near red cross (Madhya | 01 outlet discharging                  | Outlet has been plugged. Now there is                                     |

|   |   |                                      |   |
|---|---|--------------------------------------|---|
|   | Marg)                                       | waste water                          | no waste water discharge.                                       |
| 3 | Sec 23 near B.D Hospital (Neuro Psychiatry) | 01 outlet discharging waste water    | Outlet has been plugged. Now there is no waste water discharge. |
| 4 | Bal Bhawan side                             | Very less discharge                  | Outlet has been plugged. Now there is no waste water discharge. |
| 5 | 01 outlet in Beant Memorial                 | Water logging                        | No action is taken  |
| 6 | Sector 52 (starting)                        | Two outlets discharging Sewage Water | No action is taken  |
| 7 | Sector 52 (End)                             | Two outlets discharging Sewage Water | No action is taken  |
| 8 | One outlet coming from Sec 51               | Sewage Water                         | Already tapped.   |

***The Minutes of Meeting (i.e. 01.10.2018, 11.10.2018 & 07.12.2018) is enclosed at Annexure- IV, V, VI).***

#### **5.6 Meeting of State Level Special Task Force:**

After submission of the monthly reports by District Level Special Task Force has submitted their monthly reports alongwith action taken and action plan (Reports of October 2018, November 2018 & December, 2018 are enclosed at **Annexure-VII**) to State Level Special Task Force, State Level special Task Force Committee convened the 1<sup>st</sup> meeting on 19.12.2018 to discuss the issues of discharge of various outlets into Sukhna Choe and N-Choe and also the monthly reports submitted by District Level Special Task Force, which was finally submitted to Central Pollution Control Board.

In the first meeting of State Level Special Task Force, Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration submitted the action taken report.

**Action taken to stop the discharge of waste water from various outlets in Sukhna Choe.**

| <b>Sr. No.</b> | <b>Point</b>  | <b>Status as on September 2018</b>  | <b>Action Taken</b>   |
|----------------|---|---|---|
| 1              | Kishangarh Outlet   | There is sewage water discharge from the outlet.  | As a short term measure proposal has been submitted to lift the waste water and connect it with sewerage line. Later STP will be installed by Nov. 2022 |
| 2              | Outlet of Village Kishangarh inside Forest Nursery  | There is sewage water discharge from the outlet.  | -   |
| 3              | Outlet of Shastri Nagar   | There is sewage water discharge.  | Sewage water has been tapped.   |
| 4              | First outlet of Bapu Dham near bridge on the road connecting IT park with Sector 26, Chandigarh | There is sewage water discharge at first outlet of Bapu Dham near bridge on the road connecting IT Park | Leakage has been plugged  |
| 5              | Second outlet of Bapu Dham Colony (Known as Madrasi Colony)                                     | There is sewage water discharge at second outlet of Bapu Dham colony                                    | All such discharges points have been plugged  |

|    |  |  |  |
|----|--|--|--|
| 6  | Outlet from back of Gaushala, Industrial Area, Phase-I, Chd.   | There is substantial sewage discharge from back of Gaushala, Industrial Area, Phase-I, Chd.  | Municipal Corporation Chandigarh has plugged the discharge point   |
| 7  | Outlet near CTU workshop Industrial Area, Phase-I, Chd. (Inside Forest Area)   | There is sewage discharge at the outlet near CTU workshop.                                   | CTU has plugged the waste water flow. Now there is no waste water discharge.   |
| 8  | Indl. Area, Phase - I, Colony No. 4.   | There is discharge from many outlets from Indl. Area, Phase - I, Colony No. 4.               | Waste water has already been tapped and diverted to sewer line.  |
| 9  | Pump House operated by Municipal Corporation behind Central Poultry Development Organization, Indl. Area, Phase - I, Chandigarh. | In case of Non-operation of pump, waste water directly goes to Sukhna Choe on regular basis. | New stand by motor has already been installed and now no waste water is being discharged into Sukhna Choe.   |
| 10 | Outlet of Village Hallomajra   | There is substantial sewage discharge from the outlet of Village Hallomajra.                 | Around 70 % household have already been connected to sewerline. Rest will be connected to sewer line by 31.01.19.  |
| 11 | Village Daria  | There is discharge of sewage water from Village Daria  | Excess sewage of unauthorised colony in village Daria has been tapped and put in the sump and the same is being pumped into the sewer line. Now there is no discharge. |

**Action taken to stop the discharge of waste water from various outlets in N-Choe.**

| <b>Sr. No.</b> | <b>Point</b>                                | <b>Status as on September 2018</b>     | <b>Action Taken</b>   |
|----------------|---|--|---|
| 1              | Leisure valley                              | 02 outlets are discharging waste water | One Outlet has been plugged and there is little discharge from one outlet |
| 2              | Near red cross (Madhya Marg)                | 01 outlet discharging waste water      | Outlet has been plugged. Now there is no waste water discharge.           |
| 3              | Sec 23 near B.D Hospital (Neuro Psychiatry) | 01 outlet discharging waste water      | Outlet has been plugged. Now there is no waste water discharge.           |
| 4              | Bal Bhawan side                             | Very less discharge                    | Outlet has been plugged. Now there is no waste water discharge.           |
| 5              | 01 outlet in Beant Memorial                 | Water logging                          | -   |
| 6              | Sector 52 (starting)                        | Two outlets discharging Sewage Water   | -   |
| 7              | Sector 52 (End)                             | Two outlets discharging Sewage Water   | -   |
| 8              | One outlet coming from Sec 51               | Sewage Water                           | Already tapped. Now there is no waste water discharge.                    |

6) **Existing Status in the catchment of river Ghaggar and Its Tributaries: - Sewage & Industrial effluent management in rural and urban areas, ground water quality, health status of the Public, Water quality of River Ghaggar and Its Tributaries as well as drains contributing to the pollution load in River Ghaggar and Its Tributaries.**

There are five STPs **operational** in U.T. Chandigarh which are being operated and maintained by Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration as per details given below.

| <b>Sr. No.</b> | <b>Name of STP</b> | <b>Technology</b> | <b>Capacity</b> | <b>Consent Status</b>   | <b>Validity</b> | <b>Operated by</b>          |
|----------------|--------------------|-------------------|-----------------|-------------------------|-----------------|-----------------------------|
| 1.             | Diggian            | MBBR              | 136.2 MLD       | Consent Granted by PPCB | -               | MC, Chd.                    |
| 2.             | 3 BRD              | SBR               | 49.94 MLD       | Consent Granted         | 30.06.19        | MC, Chd.                    |
| 3.             | Raipur Kalan       | UASB              | 22.7 MLD        | Consent Granted         | 31.12.21        | MC, Chd.                    |
| 4.             | Raipur Khurd       | ASP               | 5.675 MLD       | Consent Granted         | 30.06.25        | Engg. Deptt.,<br>Chd. Admn. |
| 5.             | Dhanas             | SBR               | 7.26 MLD        | Consent Granted         | 31.03.22        | Engg. Deptt.,<br>Chd. Admn. |

Chandigarh Pollution Control Committee monitors the performance of STPs on monthly basis. Data of year 2018 is given in Table 1 to 5.

**Table -1**  
**STP Diggian Outlet-2018**

| Sr.No. | Parameters         | Unit      | Permissible Limit | Jan.              | Feb.              | March.            | April             | May               | June              | July              | Aug.              | Sept.             | Oct.              | Nov.              | Dec.              |
|--------|--------------------|-----------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 1      | pH                 | -         | 5.5 to 9.0        | 6.5               | 7.0               | 7.2               | 7.1               | 7.0               | 6.9               | 6.9               | 7.1               | 7.3               | 7.4               | 7.2               | 7.1               |
| 2      | DO                 | mg/l      | -                 | --                | 3.9               | 3.5               | 3.3               | 2.9               | 1.9               | 3.2               | 4.9               | 4.5               | 4.2               | 2.6               | 1.2               |
| 3      | COD                | mg/l      | 250               | 198               | 198               | 200               | 187               | 130               | 128               | 95                | 71                | 61                | 56                | 126               | 135               |
| 4      | BOD                | mg/l      | 30                | 79                | 96                | 47                | 63                | 58                | 49                | 41                | 21                | 28                | 28                | 51                | 58                |
| 5      | TSS                | mg/l      | 100               | 84                | 72                | 73                | 85                | 65                | 56                | 43                | 19                | 46                | 30                | 45                | 39                |
| 6      | NH <sub>3</sub> -N | mg/l      | 50                | 20                | 26                | 32                | 25                | 32                | 23                | 30                | 21                | 28                | 37                | 41                | 34                |
| 7      | PO <sub>4</sub> -P | mg/l      | 5.0               | 3.74              | 2.21              | 2.44              | 3.16              | 3.01              | 2.48              | 2.11              | 2.05              | 2.20              | 3.50              | 3.10              | 4.30              |
| 8      | Total Coliform     | MPN/100ml | -                 | $9.3 \times 10^4$ | $9.3 \times 10^2$ | $1.4 \times 10^4$ | $9.6 \times 10^3$ | $1.7 \times 10^5$ | $2.7 \times 10^5$ | $1.7 \times 10^5$ | $7.6 \times 10^4$ | $9.3 \times 10^5$ | $8.0 \times 10^6$ | $1.8 \times 10^6$ | $2.7 \times 10^6$ |
| 9      | Faecal Coliform    | MPN/100ml | -                 | $6.1 \times 10^4$ | $6.1 \times 10^2$ | $1.1 \times 10^4$ | $5.4 \times 10^3$ | $6.1 \times 10^4$ | $6.9 \times 10^4$ | $1.4 \times 10^5$ | $5.4 \times 10^4$ | $6.9 \times 10^5$ | $4.5 \times 10^6$ | $1.4 \times 10^5$ | $1.4 \times 10^5$ |

**Table -2****STP 3BRD FINAL OUTLET - 2018 (11 MGD)**

| Sr.No. | Parameters         | Unit      | Permissible Limit | Jan.              | Feb.              | March.            | April             | May               | June              | July              | Aug.              | Sept.             | Oct.              | Nov.              | Dec.              |
|--------|--------------------|-----------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 1      | pH                 | -         | 5.5 to 9.0        | 6.5               | 7.3               | 7.3               | 7.2               | 7.2               | 7.3               | 7.5               | 7.3               | 7.7               | 7.3               | 7.3               | 7.3               |
| 2      | DO                 | mg/l      | -                 | --                | 6.9               | 1.7               | 6.2               | 5.9               | 4.4               | 5.4               | 4.6               | 5.1               | 4.8               | 5.6               | 3.6               |
| 3      | COD                | mg/l      | 250               | 100               | 37                | 122               | 33                | 27                | 34                | 73                | 25                | 17                | 11                | 32                | 28                |
| 4      | BOD                | mg/l      | 30                | 33                | 15                | 50*               | 9                 | 7                 | 11                | 25                | 9                 | 5                 | 3                 | 8                 | 9                 |
| 5      | TSS                | mg/l      | 100               | 52                | 27                | 93                | 28                | 10                | 35                | 77                | 5                 | 25                | 9                 | 7                 | 7                 |
| 6      | NH <sub>3</sub> -N | mg/l      | 50                | 3                 | 3                 | 4                 | 3                 | 7                 | 3                 | 5                 | 5                 | 3                 | 3                 | 6                 | 10                |
| 7      | PO <sub>4</sub> -P | mg/l      | 5.0               | 3.71              | 0.44              | 8.32              | 1.76              | 1.83              | 1.80              | 1.91              | 1.57              | BDL               | 3.80              | 1.50              | 3.10              |
| 8      | Total Coliform     | MPN/100ml | -                 | $3.8 \times 10^4$ | $2.1 \times 10^1$ | $6.9 \times 10^4$ | $3.0 \times 10^3$ | $1.1 \times 10^4$ | $1.1 \times 10^3$ | $1.8 \times 10^3$ | $7.6 \times 10^3$ | $7.6 \times 10^4$ | $9.3 \times 10^3$ | $8.0 \times 10^4$ | $7.6 \times 10^4$ |
| 9      | Faecal Coliform    | MPN/100ml | -                 | $3.2 \times 10^4$ | $1.7 \times 10^1$ | $4.5 \times 10^4$ | $2.2 \times 10^3$ | $4.5 \times 10^3$ | $6.9 \times 10^2$ | $9.2 \times 10^2$ | $3.2 \times 10^3$ | $1.4 \times 10^4$ | $6.1 \times 10^3$ | $4.5 \times 10^4$ | $4.0 \times 10^4$ |

**Table -3**  
**STP Raipur Khurd-2018**

| Sr.No. | Parameters         | Unit      | Permissible Limit | Jan.              | Feb.              | March.            | April             | May | June | July              | Aug.              | Sept              | Oct.              | Nov.              | Dec.              |
|--------|--------------------|-----------|-------------------|-------------------|-------------------|-------------------|-------------------|-----|------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 1      | pH                 | -         | 5.5 to 9.0        | 7.8               | 7.5               | 7.5               | 7.3               | -   | -    | 7.3               | 7.2               | 7.3               | 7.6               | 7.1               | 7.3               |
| 2      | DO                 | mg/l      | -                 | 1.7               | 2.7               | 2.0               | 0.92              | -   | -    | NIL               | NIL               | NIL               | NIL               | 0.48              | NIL               |
| 3      | COD                | mg/l      | 250               | 187               | 254               | 262               | 215               | -   | -    | 223               | 245               | 147               | 195               | 158               | 167               |
| 4      | BOD                | mg/l      | 30                | 84                | 103               | 95                | 90                | -   | -    | 84                | 114               | 64                | 59                | 62                | 69                |
| 5      | TSS                | mg/l      | 100               | 87                | 79                | 57                | 88                | -   | -    | 147               | 141               | 68                | 95                | 84                | 56                |
| 6      | NH <sub>3</sub> -N | mg/l      | 50                | 41                | 41                | 40                | 35                | -   | -    | 39                | 38                | 41                | 28                | 26.00             | 31.00             |
| 7      | PO <sub>4</sub> -P | mg/l      | 5.0               | 1.71              | 2.55              | 0.61              | 0.65              | -   | -    | 0.80              | 1.57              | BDL               | 1.20              | 1.00              | 2.10              |
| 8      | Total Coliform     | MPN/100ml | -                 | $4.0 \times 10^3$ | $4.1 \times 10^3$ | $7.6 \times 10^3$ | $6.9 \times 10^3$ | -   | -    | $4.0 \times 10^4$ | $4.5 \times 10^4$ | $1.1 \times 10^5$ | $1.7 \times 10^5$ | $3.0 \times 10^5$ | $1.4 \times 10^6$ |
| 9      | Faecal Coliform    | MPN/100ml | -                 | $2.0 \times 10^3$ | $2.0 \times 10^3$ | $5.4 \times 10^3$ | $4.0 \times 10^3$ | -   | -    | $1.4 \times 10^4$ | $1.4 \times 10^4$ | $4.5 \times 10^4$ | $1.1 \times 10^5$ | $1.8 \times 10^5$ | $4.5 \times 10^5$ |

**Table-4**  
**STP Raipur Kalan-2018**

| Sr.No. | Parameters         | Unit      | Permissible Limit | Jan.              | Feb.              | March             | April             | May               | June              | July              | Aug.              | Sept.             | Oct.              | Nov.              | Dec.              |
|--------|--------------------|-----------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 1      | pH                 | -         | 5.5 to 9.0        | 7.3               | 6.8               | 7.0               | 7.0               | 7.0               | 7.0               | 7.1               | 7.0               | 7.1               | 7.1               | 6.9               | 7.1               |
| 2      | DO                 | mg/l      | -                 | 0.6               | NIL               | 0.4               | NIL               | NIL               | NIL               |
| 3      | COD                | mg/l      | 250               | 312               | 182               | 150               | 110               | 147               | 149               | 130               | 170               | 181               | 138               | 118               | 145               |
| 4      | BOD                | mg/l      | 30                | 122               | 82                | 77                | 60                | 66                | 69                | 47                | 84                | 60                | 59                | 59                | 70                |
| 5      | TSS                | mg/l      | 100               | 157               | 21                | 26                | 25                | 49                | 38                | 43                | 48                | 59                | 38                | 41                | 22                |
| 6      | NH <sub>3</sub> -N | mg/l      | 50                | 37                | 41                | 34                | 27                | 29                | 34                | 35                | 33                | 32                | 36                | 29                | 43                |
| 7      | PO <sub>4</sub> -P | mg/l      | 5.0               | 3.80              | 4.23              | 3.65              | 4.23              | 4.40              | 4.23              | 3.95              | 2.61              | 3.50              | 3.80              | 3.50              | 4.70              |
| 8      | Total Coliform     | MPN/100ml | -                 | $1.4 \times 10^4$ | $2.7 \times 10^3$ | $5.4 \times 10^3$ | $6.9 \times 10^3$ | $9.3 \times 10^5$ | $2.0 \times 10^4$ | $4.0 \times 10^4$ | $3.2 \times 10^4$ | $1.7 \times 10^3$ | $4.5 \times 10^4$ | $1.4 \times 10^5$ | $3.2 \times 10^5$ |
| 9      | Faecal Coliform    | MPN/100ml | -                 | $1.1 \times 10^4$ | $1.7 \times 10^3$ | $4.0 \times 10^3$ | $4.5 \times 10^3$ | $6.9 \times 10^5$ | $1.1 \times 10^4$ | $7.6 \times 10^3$ | $8.3 \times 10^3$ | $1.4 \times 10^3$ | $2.0 \times 10^4$ | $9.3 \times 10^4$ | $2.7 \times 10^5$ |

**Table -5**  
**STP Dhanas-2018**

| Sr.No. | Parameters         | Unit      | Permissible Limit | Jan. | Feb.                  | March | April | May                   | June                  | July                  | Aug.                  | Sept | Oct.                  | Nov.                  | Dec.                  |
|--------|--------------------|-----------|-------------------|------|-----------------------|-------|-------|-----------------------|-----------------------|-----------------------|-----------------------|------|-----------------------|-----------------------|-----------------------|
| 1      | pH                 | -         | 5.5 to 9.0        | 8.0  | 7.9                   | 7.6   | 7.5   | 7.3                   | 7.4                   | 7.7                   | 7.6                   | 7.6  | 7.6                   | 7.6                   | 7.2                   |
| 2      | DO                 | mg/l      | -                 | --   | 5.4                   | 4.1   | 4.9   | 1.9                   | 2.8                   | 3.6                   | 4.5                   | 5.9  | 5.2                   | 5.3                   | 5.3                   |
| 3      | COD                | mg/l      | 250               | 84   | 86                    | 124   | 67    | 65                    | 41                    | 33                    | 36                    | 14   | 22                    | 39                    | 62                    |
| 4      | BOD                | mg/l      | 30                | 21   | 17                    | 33    | 24    | 26                    | 13                    | 12                    | 87                    | 4    | 7                     | 10                    | 12                    |
| 5      | TSS                | mg/l      | 100               | 24   | 16                    | 24    | 17    | 19                    | 17                    | 11                    | 8                     | 17   | 6                     | 11                    | 10                    |
| 7      | NH <sub>3</sub> -N | mg/l      | 50                | 19   | 10                    | 36    | 38    | 37                    | 32                    | 30                    | 22                    | 10   | 12                    | 13                    | 13                    |
| 8      | PO <sub>4</sub> -P | mg/l      | 5.0               | 0.82 | 0.39                  | 0.78  | 0.97  | 0.51                  | 0.65                  | 0.53                  | 0.40                  | BDL  | 1.30                  | BDL                   | 1                     |
| 9      | Total Coliform     | MPN/100ml | -                 | 21   | 7.6 × 10 <sup>3</sup> | 69    | 34    | 9.3 × 10 <sup>3</sup> | 2.2 × 10 <sup>3</sup> | 9.3 × 10 <sup>4</sup> | 6.1 × 10 <sup>4</sup> | 172  | 2.0 × 10 <sup>4</sup> | 1.1 × 10 <sup>5</sup> | 5.4 × 10 <sup>4</sup> |
| 10     | Faecal Coliform    | MPN/100ml | -                 | 14   | 5.4 × 10 <sup>3</sup> | 45    | 32    | 6.9 × 10 <sup>3</sup> | 1.8 × 10 <sup>3</sup> | 2.0 × 10 <sup>4</sup> | 2.2 × 10 <sup>4</sup> | 130  | 1.3 × 10 <sup>4</sup> | 6.9 × 10 <sup>4</sup> | 2.7 × 10 <sup>4</sup> |

**Ground Water Quality:**

Chandigarh Pollution Control Committee Monitor the quality of ground water on half yearly basis. Now, as per direction of Executive Committee monitoring of Ground Water Quality will be done on quarterly basis.

The Data of ground water quality monitored by CPCC in year 2018 is given in Table 6.

**Table -6 (Ground Water Quality) -2018**

| Sr.No. | Parameters              | Desirable  | Units     | Dadu Majra |      | SEC-15 |      | SEC-22 |     | VILL  |      | DHANAS |      | Sec -35   |      | Sec -20 |      |
|--------|-------------------------|------------|-----------|------------|------|--------|------|--------|-----|-------|------|--------|------|-----------|------|---------|------|
|        |                         |            |           | April      | Oct  | April  | Octr | April  | Oct | April | Oct  | April  | Oct  | April     | Oct  | April   | Oct  |
| 1      | Temp.                   | --         | °C        | 21.5       | 24.0 | 22.0   | 24.5 | 22.0   | --  | 22.0  | 24.0 | 22.5   | 24.0 | 22.0      | 24.0 | 20.5    | 24.0 |
| 2      | pH                      | 6.5 to 8.5 | --        | 7.6        | 7.6  | 7.0    | 7.6  | 7.0    | --  | 7.0   | 7.2  | 7.3    | 7.7  | 7.0       | 7.3  | 7.2     | 7.4  |
| 3      | Conductivity            | --         | µs/cm     | 746        | 753  | 938    | 878  | 853    | --  | 1181  | 1210 | 664    | 647  | 905       | 863  | 721     | 662  |
| 4      | BOD                     | --         | mg/l      | <1         | <1   | <1     | <1   | <1     | --  | <1    | 2    | <1     | <1   | <1        | <1   | <1      | <1   |
| 5      | COD                     | --         | mg/l      | 9          | 21   | 4      | 21   | 8      | --  | 7     | 28   | 10     | 17   | 8         | 24   | 7       | 21   |
| 6      | NO <sub>3</sub> -N      | 50         | mg/l      | 2.80       | 2.50 | 1.70   | 5.9  | 1.60   | --  | 0.40  | <1   | 2.60   | 2.6  | 5.20      | 4.70 | 4.60    | 4.90 |
| 7      | NH <sub>3</sub> -N      | --         | mg/l      | BDL        | 0.85 | 1.03   | 0.92 | 0.15   | --  | 0.76  | 1.44 | 0.49   | 0.77 | BDL       | 0.55 | BDL     | 1.03 |
| 8      | Turbidity               | 5          | NTU       | 3          | 2    | 132    | 44   | 4      | --  | 50    | 13   | 46     | 18   | 4         | 5    | 6       | 4    |
| 9      | P-alk                   | --         | mg/l      | 14         | NIL  | 28     | NIL  | 18     | --  | 16    | NIL  | 12     | NIL  | 18        | NIL  | 20      | NIL  |
| 10     | T-alk                   | 200        | mg/l      | 322        | 354  | 366    | 374  | 352    | --  | 450   | 496  | 310    | 328  | 412       | 412  | 288     | 280  |
| 11     | Hardness as             | 300        | mg/l      | 294        | 240  | 262    | 180  | 294    | --  | 244   | 160  | 204    | 180  | 314       | 200  | 278     | 260  |
| 12     | Ca as CaCO <sub>3</sub> | 75         | mg/l      | 224        | 146  | 142    | 90   | 274    | --  | 212   | 72   | 182    | 116  | 256       | 116  | 228     | 174  |
| 13     | Mg as CaCO <sub>3</sub> | 30         | mg/l      | 70         | 94   | 120    | 90   | 20     | --  | 32    | 88   | 22     | 64   | 58        | 84   | 50      | 86   |
| 14     | Sulphate                | 200        | mg/l      | 35         | 39   | 55     | 50   | 33     | --  | 66    | 72   | 18     | 22   | 34        | 39   | 51      | 51   |
| 15     | TDS                     | 500        | mg/l      | 394        | 656  | 590    | 769  | 421    | --  | 627   | 765  | 353    | 368  | 489       | 528  | 388     | 398  |
| 16     | Total Fixed             | --         | mg/l      | 355        | 370  | 567    | 460  | 436    | --  | 616   | 552  | 270    | 258  | 398       | 378  | 331     | 310  |
| 17     | TSS                     | --         | mg/l      | 4          | 4    | 147    | 8    | 9      | --  | 8     | 7    | 17     | 7    | 2         | 4    | 3       | 5    |
| 18     | Fluoride                | 1          | mg/l      | 0.85       | 0.77 | 0.14   | 0.31 | 0.46   | --  | 0.34  | 0.28 | BDL    | BDL  | 0.20      | 0.37 | 0.90    | 0.88 |
| 19     | Chloride                | 250        | mg/l      | 50         | 35   | 45     | 45   | 45     | --  | 80    | 85   | 20     | 18   | 27        | 28   | 23      | 16   |
| 20     | Phosphate               | --         | mg/l      | 0.02       | BDL  | 0.35   | BDL  | 0.01   | --  | 0.05  | BDL  | 0.01   | BDL  | 0.02      | BDL  | 0.04    | BDL  |
| 21     | Colour                  |            |           | <5         | <5   | 10     | 10   | <5     | --  | 10    | 10   | 10     | <5   | <5        | <5   | <5      | <5   |
| 22     | Boron                   |            | mg/l      | 0.07       | <1   | 0.05   | <1   | 0.06   | --  | 0.11  | <1   | 0.07   | <1   | 0.07      | <1   | 0.06    | <1   |
| 23     | TKN                     |            | mg/l      | BDL        | <1   | BDL    | <1   | BDL    | --  | BDL   | <1   | BDL    | <1   | BDL       | <1   | BDL     | <1   |
| 24     | Sodium                  |            | mg/l      | 51         | 49   | 38     | 32   | 42     | --  | 128   | 128  | 41     | 36   | <b>38</b> | 28   | 44      | 39   |
| 25     | potassium               |            | mg/l      | BDL        | 1    | 3      | 3    | 1      | --  | 5     | 5    | 2      | 2    | <b>2</b>  | 2    | BDL     | <1   |
| 26     | Fecal Coliform          | --         | MPN/100ml | 34         | <2   | --     | <2   | 22     | --  | --    | 11   | 84     | <2   | <2        | <2   | <2      | <2   |
| 27     | Total Coliform          | --         | MPN/100ml | 39         | <2   | --     | 7    | 26     | --  | --    | 32   | 94     | <2   | <2        | <2   | <2      | <2   |

| Sr.No. | Parameters           | Units | Dadu Majra |      | SEC-15 |      | SEC-22 |      | VILL PALSORA |      | DHANAS |      | Sec -35 |      | Sec -20 |      |
|--------|----------------------|-------|------------|------|--------|------|--------|------|--------------|------|--------|------|---------|------|---------|------|
|        |                      |       | April      | Oct. | April  | Oct. | April  | Oct. | April        | Oct. | April  | Oct. | April   | Oct. | April   | Oct. |
| 28     | ARSENIC              | mg/l  | BDL        | --   | BDL    | --   | BDL    | --   | BDL          | --   | BDL    | --   | BDL     | --   | BDL     | --   |
| 29     | CADMIUM              | mg/l  | BDL        | --   | BDL    | --   | BDL    | --   | BDL          | --   | BDL    | --   | BDL     | --   | BDL     | --   |
| 30     | COPPER               | mg/l  | BDL        | --   | BDL    | --   | BDL    | --   | BDL          | --   | BDL    | --   | BDL     | --   | BDL     | --   |
| 31     | LEAD                 | mg/l  | BDL        | --   | BDL    | --   | BDL    | --   | BDL          | --   | BDL    | --   | BDL     | --   | BDL     | --   |
| 32     | NICKEL               | mg/l  | BDL        | --   | BDL    | --   | BDL    | --   | BDL          | --   | BDL    | --   | BDL     | --   | BDL     | --   |
| 33     | ZINC                 | mg/l  | BDL        | --   | BDL    | --   | BDL    | --   | BDL          | --   | BDL    | --   | BDL     | --   | BDL     | --   |
| 34     | MERCURY              | mg/l  | BDL        | --   | BDL    | --   | BDL    | --   | BDL          | --   | BDL    | --   | BDL     | --   | BDL     | --   |
| 35     | IRON                 | mg/l  | 0.43       | --   | 0.78   | --   | 0.92   | --   | 1.2          | --   | 2.1    | --   | 0.09    | --   | 0.84    | --   |
| 36     | CHROMIUM (TOTAL)     | mg/l  | BDL        | --   | BDL    | --   | BDL    | --   | BDL          | --   | BDL    | --   | BDL     | --   | BDL     | --   |
| 37     | Alpha BHC            | µg/l  | BDL        | --   | BDL    | --   | BDL    | --   | BDL          | --   | BDL    | --   | BDL     | --   | BDL     | --   |
| 38     | Beta BHC             | µg/l  | BDL        | --   | BDL    | --   | BDL    | --   | BDL          | --   | BDL    | --   | BDL     | --   | BDL     | --   |
| 39     | Gama BHC (Lindane)   | µg/l  | BDL        | --   | BDL    | --   | BDL    | --   | BDL          | --   | BDL    | --   | BDL     | --   | BDL     | --   |
| 40     | OP DDT               | µg/l  | BDL        | --   | BDL    | --   | BDL    | --   | BDL          | --   | BDL    | --   | BDL     | --   | BDL     | --   |
| 41     | PP DDT               | µg/l  | BDL        | --   | BDL    | --   | BDL    | --   | BDL          | --   | BDL    | --   | BDL     | --   | BDL     | --   |
| 42     | Alpha Endosulphan    | µg/l  | BDL        | --   | BDL    | --   | BDL    | --   | BDL          | --   | BDL    | --   | BDL     | --   | BDL     | --   |
| 43     | Beta Endosulphan     | µg/l  | BDL        | --   | BDL    | --   | BDL    | --   | BDL          | --   | BDL    | --   | BDL     | --   | BDL     | --   |
| 44     | Dieldrin             | µg/l  | BDL        | --   | BDL    | --   | BDL    | --   | BDL          | --   | BDL    | --   | BDL     | --   | BDL     | --   |
| 45     | Carboryl (Carbamate) | µg/l  | BDL        | --   | BDL    | --   | BDL    | --   | BDL          | --   | BDL    | --   | BDL     | --   | BDL     | --   |
| 46     | 2.4 D                | µg/l  | BDL        | --   | BDL    | --   | BDL    | --   | BDL          | --   | BDL    | --   | BDL     | --   | BDL     | --   |
| 47     | Aldrin               | µg/l  | BDL        | --   | BDL    | --   | BDL    | --   | BDL          | --   | BDL    | --   | BDL     | --   | BDL     | --   |
| 48     | Malathian            | µg/l  | BDL        | --   | BDL    | --   | BDL    | --   | BDL          | --   | BDL    | --   | BDL     | --   | BDL     | --   |
| 49     | Methyl Parathian     | µg/l  | BDL        | --   | BDL    | --   | BDL    | --   | BDL          | --   | BDL    | --   | BDL     | --   | BDL     | --   |
| 50     | Anilophos            | µg/l  | BDL        | --   | BDL    | --   | BDL    | --   | BDL          | --   | BDL    | --   | BDL     | --   | BDL     | --   |
| 51     | Chloropyriphos       | µg/l  | BDL        | --   | BDL    | --   | BDL    | --   | BDL          | --   | BDL    | --   | BDL     | --   | BDL     | --   |

### **Water quality of River Ghaggar :**

Although river Ghaggar is not flowing through Chandigarh. It is passing around 7.0 Km away from Chandigarh but still CPCC from time to time has collected the samples from River Ghaggar after Sukhna Choe joins river ghaggar near Mubarakpur in Punjab. The water quality of River Ghaggar near confluence point at Mubarakpur, Punjab is given in Table -7

**Table -7**

### **Quality of River Ghaggar - 2018**

| <b>Date of monitoring</b> | <b>pH</b> | <b>COD</b> | <b>BOD</b> | <b>TSS</b> | <b>NH<sub>3</sub>-N</b> | <b>PO<sub>4</sub>-P</b> | <b>Chloride</b> |
|---------------------------|-----------|------------|------------|------------|-------------------------|-------------------------|-----------------|
|                           |           | mg/l       | mg/l       | mg/l       | mg/l                    | mg/l                    | mg/l            |
| 18.04.18                  | 7.4       | 159        | 27         | 2294       | 4.21                    | 1.2                     | 45              |
| 23.10.18                  | 7.8       | 20         | 4          | 138        | 2.58                    | BDL                     | -               |
| 19.11.18                  | 7.6       | 53         | 17         | 649        | 7.16                    | BDL                     | 23              |
| 03.12.18                  | 7.4       | 83         | 17         | 391        | 4.32                    | 1.7                     | -               |

### **Quality of Drains:**

Chandigarh Pollution Control Committee monitors the quality of waste water of Sukhna Choe and N-Choe at the exit point of Chandigarh. Data of which is as given below.

Sukhna Choe : Table 8

N-Choe : Table 9

**Table 8 (Sukhna Choe Entry Point) - 2018**

| Sr.No. | Parameters              | Unit    | Jan.                   | Feb.                  | March.                | April                 | May  | June | July | Aug. | Sept. | Oct | Nov. | Dec. |
|--------|-------------------------|---------|------------------------|-----------------------|-----------------------|-----------------------|------|------|------|------|-------|-----|------|------|
| 1      | pH                      | -       | 7.3                    | 7.5                   | 7.6                   | 7.5                   | 7.5  | 7.3  | 7.0  | 7.4  | 7.5   | 7.5 | 7.5  | 7.3  |
| 2      | Conductivity            | µs/cm   | 1288                   | 1084                  | 1069                  | 1119                  | 1050 | 952  | --   | --   | --    | --  | --   | --   |
| 3      | DO                      | mg/l    | 2.5                    | 2.8                   | 2.0                   | 2.3                   | 2.1  | 1.3  | 2.7  | NIL  | 1.4   | 1.4 | 2.1  | 2.0  |
| 4      | COD                     | mg/l    | 302                    | 476                   | 446                   | 435                   | 360  | 279  | 23   | 237  | 455   | 353 | 463  | 584  |
| 5      | BOD                     | mg/l    | 92                     | 252                   | 245                   | 193                   | 179  | 162  | 13   | 165  | 227   | 230 | 216  | 301  |
| 6      | NO <sub>3</sub> -N      | mg/l    | 1.2                    | --                    | 1.4                   | 3.20                  | --   | --   | --   | --   | --    | --  | --   | --   |
| 7      | NH <sub>3</sub> -N      | mg/l    | 47                     | 35                    | 41                    | 37                    | 41   | 37   | 31   | 38   | 19    | 37  | 36   | 49   |
| 8      | Phosphate               | mg/l    | 5.58                   | 4.14                  | 3.8                   | 3.9                   | 5.60 | 3.53 | 3.15 | 3.82 | 5.00  | 4.3 | 5.10 | 5.6  |
| 9      | Total Suspended Solid   | mg/l    | 154                    | 123                   | 132                   | 182                   | 89   | 93   | 49   | 120  | 165   | 82  | 125  | 217  |
| 10     | TDS                     | mg/l    | 646                    | 591                   | 601                   | 656                   | 617  | 622  | --   | --   | --    | --  | --   | --   |
| 11     | TFS                     | mg/l    | 461                    | 424                   | 502                   | 491                   | 431  | 420  | --   | --   | --    | --  | --   | --   |
| 12     | Turbidity               | NTU     | 190                    | 230                   | 240                   | 280                   | 220  | 165  | --   | --   | --    | --  | --   | --   |
| 13     | TH as CaCO <sub>3</sub> | mg/l    | 220                    | 272                   | 260                   | 266                   | 242  | 266  | --   | --   | --    | --  | --   | --   |
| 14     | Ca as CaCO <sub>3</sub> | mg/l    | 168                    | 170                   | 156                   | 144                   | 132  | 160  | --   | --   | --    | --  | --   | --   |
| 15     | Mg as CaCO <sub>3</sub> | mg/l    | 52                     | 102                   | 104                   | 122                   | 110  | 106  | --   | --   | --    | --  | --   | --   |
| 16     | Sulphate                | mg/l    | 79                     | 80                    | 77                    | 70                    | 64   | 54   | --   | --   | --    | --  | --   | --   |
| 17     | Chloride                | mg/l    | 81                     | 80                    | 58                    | 105                   | 59   | 50   | --   | --   | --    | --  | --   | --   |
| 18     | P-Alkalinity            | mg/l    | NIL                    | NIL                   | NIL                   | NIL                   | NIL  | NIL  | --   | --   | --    | --  | --   | --   |
| 19     | Total alkalinity as     | mg/l    | 506                    | 456                   | 464                   | 242                   | 486  | 430  | --   | --   | --    | --  | --   | --   |
| 20     | Fluoride                | mg/l    | BDL                    | 0.13                  | BDL                   | 0.15                  | 0.15 | 0.22 | --   | --   | --    | --  | --   | --   |
| 21     | colour                  | Hazen   | 40                     | 50                    | 30                    | 30                    | 30   | 40   | --   | --   | --    | --  | --   | --   |
| 22     | Boron(B)                | mg/l    | 0.10                   | 0.21                  | 0.23                  | 0.24                  | 0.23 | 0.21 | --   | --   | --    | --  | --   | --   |
| 23     | TKN                     | mg/l    | <1                     | <1                    | BDL                   | 9.5                   | --   | --   | --   | --   | --    | --  | --   | --   |
| 24     | Potassium               | mg/l    | 6                      | 6                     | 4                     | 3                     | --   | --   | --   | --   | --    | --  | --   | --   |
| 25     | Sodium                  | mg/l    | 27                     | 29                    | 17                    | 15                    | --   | --   | --   | --   | --    | --  | --   | --   |
| 26     | Total Coliform          | MPN/100 | 1.1 × 10 <sup>4</sup>  | 3.2 × 10 <sup>4</sup> | 6.9 × 10 <sup>4</sup> | 2.2 × 10 <sup>6</sup> | --   | --   | --   | --   | --    | --  | --   | --   |
| 27     | Feecal Coliform         | MPN/100 | 8.09 × 10 <sup>3</sup> | 2.7 × 10 <sup>4</sup> | 4.0 × 10 <sup>4</sup> | 1.8 × 10 <sup>6</sup> | --   | --   | --   | --   | --    | --  | --   | --   |

**Table 8.1 (Sukhna Choe Exit Point) - 2018**

| Sr. No. | Parameters                            | Unit    | Jan.                  | Feb.                  | March                 | April                 | May                   | June                  | July                  | Aug.                  | Sept.                 | Oct                   | Nov.                  | Dec.                  |
|---------|---------------------------------------|---------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1       | pH                                    | -       | 7.3                   | 7.3                   | 7.5                   | 7.2                   | 7.2                   | 7.3                   | 7.2                   | 7.5                   | 7.6                   | 7.6                   | 7.0                   | 7.5                   |
| 2       | Conductivity                          | µs/cm   | 930                   | 971                   | 959                   | 950                   | 954                   | 888                   | 810                   | 918                   | 719                   | 1010                  | 956                   | 1018                  |
| 3       | DO                                    | mg/l    | 0.83                  | NIL                   | NIL                   | NIL                   | NIL                   | NIL                   | 2.2                   | NIL                   | NIL                   | NIL                   | NIL                   | NIL                   |
| 4       | COD                                   | mg/l    | 423                   | 508                   | 546                   | 242                   | 264                   | 301                   | 148                   | 242                   | 163                   | 321                   | 362                   | 386                   |
| 5       | BOD                                   | mg/l    | 195                   | 267                   | 270                   | 125                   | 123                   | 167                   | 64                    | 179                   | 75                    | 207                   | 133                   | 220                   |
| 6       | NO <sub>3</sub> -N                    | mg/l    | 1.30                  | --                    | 1.10                  | 2.10                  | 1.30                  | 4.30                  | 2.40                  | 4.20                  | 2.60                  | 1.10                  | 1.90                  | 2.30                  |
| 7       | NH <sub>3</sub> -N                    | mg/l    | --                    | 31                    | 34                    | 33                    | 31                    | 27                    | 20                    | 32                    | 24                    | 30                    | 33                    | 41                    |
| 8       | Phosphate                             | mg/l    | --                    | 3.34                  | 3.21                  | 3.68                  | 3.94                  | 2.45                  | 2.12                  | 2.46                  | 1.40                  | 2.80                  | 2.60                  | 3.60                  |
| 9       | TSS                                   | mg/l    | 261                   | 317                   | 418                   | 148                   | 159                   | 147                   | 180                   | 136                   | 139                   | 295                   | 250                   | 408                   |
| 10      | TDS                                   | mg/l    | 441                   | 533                   | 464                   | 452                   | 493                   | 520                   | 199                   | 580                   | 517                   | 580                   | 488                   | 464                   |
| 11      | TFS                                   | mg/l    | 367                   | 453                   | 565                   | 454                   | 450                   | 439                   | 283                   | 547                   | 425                   | 426                   | 438                   | 424                   |
| 12      | Turbidity                             | NTU     | 195                   | 270                   | 320                   | 210                   | 190                   | 180                   | 300                   | 160                   | 148                   | 155                   | 170                   | 220                   |
| 13      | TH as CaCO <sub>3</sub>               | mg/l    | 260                   | 258                   | 270                   | 270                   | 264                   | 250                   | 106                   | 236                   | 240                   | 268                   | 250                   | 270                   |
| 14      | Ca as CaCO <sub>3</sub>               | mg/l    | 160                   | 160                   | 160                   | 160                   | 152                   | 140                   | 84                    | 162                   | 130                   | 150                   | 150                   | 160                   |
| 15      | Mg as CaCO <sub>3</sub>               | mg/l    | 100                   | 98                    | 110                   | 110                   | 112                   | 110                   | 22                    | 74                    | 120                   | 118                   | 100                   | 110                   |
| 16      | Sulphate                              | mg/l    | 72                    | 76                    | 85                    | 57                    | 64                    | 61                    | 55                    | 53                    | 52                    | 67                    | 48                    | 63                    |
| 17      | Chloride                              | mg/l    | 52                    | 55                    | 47                    | 70                    | 61                    | 57                    | 33                    | 56                    | 45                    | 53                    | 61                    | 41                    |
| 18      | P-Alkalinity                          | mg/l    | NIL                   | NIL                   | NIL                   | 16                    | NIL                   |
| 19      | Total alkalinity as CaCO <sub>3</sub> | mg/l    | 506                   | 514                   | 420                   | 406                   | 446                   | 378                   | 322                   | 398                   | 308                   | 422                   | 396                   | 418                   |
| 20      | Fluoride                              | mg/l    | BDL                   | BDL                   | BDL                   | BDL                   | 0.07                  | 0.20                  | 0.12                  | 0.13                  | 0.15                  | 0.21                  | 0.13                  | 0.22                  |
| 21      | colour                                | Haze n  | 30                    | 40                    | 50                    | 30                    | 40                    | 30                    | 30                    | 40                    | 40                    | 40                    | 40                    | 40                    |
| 22      | Boron(B)                              | mg/l    | 0.15                  | 0.30                  | 0.28                  | 0.24                  | 0.22                  | 0.23                  | 0.24                  | 0.25                  | 0.16                  | <1                    | <1                    | <1                    |
| 23      | TKN                                   | mg/l    | 2.90                  | 3.2                   | 2.90                  | 1.50                  | 3.30                  | 3.90                  | 1.90                  | 3.70                  | 2.30                  | 3.10                  | 7.30                  | 6.10                  |
| 24      | Potassium                             | mg/l    | 4                     | 5                     | 6                     | 6                     | 7                     | 7                     | 5                     | 9                     | 6                     | 8                     | 9                     | 12                    |
| 25      | Sodium                                | mg/l    | 23                    | 28                    | 20                    | 17                    | 23                    | 26                    | 16                    | 31                    | 17                    | 20                    | 48                    | 17                    |
| 26      | Total Coliform                        | MPN/100 | 1.4 × 10 <sup>5</sup> | 7.6 × 10 <sup>4</sup> | 2.7 × 10 <sup>4</sup> | 3.2 × 10 <sup>4</sup> | 7.6 × 10 <sup>6</sup> | 4.5 × 10 <sup>6</sup> | 9.3 × 10 <sup>4</sup> | 7.6 × 10 <sup>4</sup> | 1.0 × 10 <sup>6</sup> | 1.4 × 10 <sup>6</sup> | 4.5 × 10 <sup>6</sup> | 3.8 × 10 <sup>6</sup> |
| 27      | Faecal Coliform                       | MPN/100 | 1.1 × 10 <sup>4</sup> | 5.4 × 10 <sup>4</sup> | 1.7 × 10 <sup>4</sup> | 2.2 × 10 <sup>4</sup> | 3.2 × 10 <sup>6</sup> | 1.2 × 10 <sup>6</sup> | 6.9 × 10 <sup>4</sup> | 5.4 × 10 <sup>4</sup> | 7.6 × 10 <sup>5</sup> | 4.5 × 10 <sup>5</sup> | 6.9 × 10 <sup>5</sup> | 5.4 × 10 <sup>5</sup> |

**Table -9 (N-Choe Entry Point) - 2018**

| Sr.No. | Parameters                            | Unit    | Jan. | Feb. | March. | April | May  | June | July | Aug. | Sept. | Oct. | Nov. | Dec. |
|--------|---------------------------------------|---------|------|------|--------|-------|------|------|------|------|-------|------|------|------|
| 1      | pH                                    | -       | 7.8  | 7.7  | 7.7    | 7.2   | 7.1  | 7.5  | 7.5  | 7.6  | 7.6   | 7.5  | 7.8  | 7.4  |
| 2      | Conductivity                          | µs/cm   | 341  | 307  | 329    | 325   | 356  | 295  | 405  | --   | --    | --   | --   | --   |
| 3      | DO                                    | mg/l    | 7.6  | 8.1  | 7.6    | 6.9   | 6.8  | 6.5  | 6.3  | 6.0  | 6.2   | 6.8  | 7.1  | 7.6  |
| 4      | COD                                   | mg/l    | 7    | 27   | 28     | 30    | 22   | 15   | 20   | 18   | 10    | 12   | 14   | 18   |
| 5      | BOD                                   | mg/l    | 2    | 1    | 2      | 3     | 2    | 2    | 2    | 2    | 1     | 2    | 2    | 2    |
| 6      | NO <sub>3</sub> -N                    | mg/l    | 1.60 | --   | 3.40   | 3.00  | --   | --   | --   | --   | --    | --   | --   | --   |
| 7      | NH <sub>3</sub> -N                    | mg/l    | 0.02 | 0.11 | BDL    | 0.26  | 0.29 | 0.51 | 0.54 | 0.34 | 0.57  | 0.62 | 0.59 | 0.37 |
| 8      | Phosphate                             | mg/l    | 0.03 | 0.03 | 0.05   | 0.04  | 0.07 | 0.08 | 0.08 | 0.07 | BDL   | 0.08 | BDL  | 0.05 |
| 9      | TSS                                   | mg/l    | 9    | 2    | 8      | 12    | 27   | 12   | 16   | 7    | 24    | 22   | 13   | 10   |
| 10     | TDS                                   | mg/l    | 186  | 159  | 155    | 181   | 205  | 209  | --   | --   | --    | --   | --   | --   |
| 11     | TFS                                   | mg/l    | 133  | 51   | 74     | 146   | 227  | 165  | --   | --   | --    | --   | --   | --   |
| 12     | Turbidity                             | NTU     | 4    | 12   | 23     | 22    | 20   | 30   | --   | --   | --    | --   | --   | --   |
| 13     | TH as CaCO <sub>3</sub>               | mg/l    | 162  | 184  | 180    | 150   | 152  | 148  | --   | --   | --    | --   | --   | --   |
| 14     | Ca as CaCO <sub>3</sub>               | mg/l    | 114  | 130  | 120    | 80    | 70   | 92   | --   | --   | --    | --   | --   | --   |
| 15     | Mg as CaCO <sub>3</sub>               | mg/l    | 48   | 54   | 60     | 70    | 82   | 56   | --   | --   | --    | --   | --   | --   |
| 16     | Sulphate                              | mg/l    | 23   | 24   | 27     | 28    | 23   | 29   | --   | --   | --    | --   | --   | --   |
| 17     | Chloride                              | mg/l    | 12   | 27   | 15     | 20    | 10   | 27   | --   | --   | --    | --   | --   | --   |
| 18     | Total alkalinity as CaCO <sub>3</sub> | mg/l    | 154  | 114  | 134    | 142   | 166  | 110  | --   | --   | --    | --   | --   | --   |
| 19     | P-Alkalinity                          | mg/l    | 4    | 4    | 6      | NIL   | NIL  | NIL  | --   | --   | --    | --   | --   | --   |
| 20     | Fluoride                              | mg/l    | 0.08 | BDL  | BDL    | 0.13  | 0.09 | 0.18 | --   | --   | --    | --   | --   | --   |
| 21     | colour                                | Hazen   | 5    | 5    | 5      | 5     | 5    | 5    | --   | --   | --    | --   | --   | --   |
| 22     | Boron(B)                              | mg/l    | 0.09 | 0.10 | 0.13   | 0.11  | 0.14 | <1   | --   | --   | --    | --   | --   | --   |
| 23     | TKN                                   | mg/l    | 1.2  | 1.2  | 1.4    | 1.2   | --   | --   | --   | --   | --    | --   | --   | --   |
| 24     | Potassium                             | mg/l    | 2    | 2    | 3      | 2     | --   | --   | --   | --   | --    | --   | --   | --   |
| 25     | Sodium                                | mg/l    | 12   | 7    | 6      | 6     | --   | --   | --   | --   | --    | --   | --   | --   |
| 26     | TOTAL COLIFORM                        | MPN/100 | 5    | <2   | 39     | 21    | --   | --   | --   | --   | --    | --   | --   | --   |
| 27     | FAECAL COLIFORM                       | MPN/100 | 4    | <2   | 26     | 17    | --   | --   | --   | --   | --    | --   | --   | --   |

**Table - 9.1 (N-Choe (Exit Point) - 2018**

| Sr.No. | Parameters                            | Unit       | Jan.                  | Feb.                  | March                 | April                 | May                   | June                  | July                  | Aug.                  | Sept.                 | Oct.                  | Nov.                  | Dec.                  |
|--------|---------------------------------------|------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1      | pH                                    | -          | 6.6                   | 6.9                   | 7.1                   | 7.3                   | 7.1                   | 6.9                   | 7.1                   | 7.1                   | 7.4                   | 7.4                   | 7.0                   | 7.1                   |
| 2      | Conductivity                          | µs/cm      | 644                   | 551                   | 668                   | 663                   | 643                   | 638                   | 616                   | 559                   | 724                   | 584                   | 611                   | 696                   |
| 3      | DO                                    | mg/l       | NIL                   | 0.6                   | 1.0                   | 0.7                   | NIL                   |
| 4      | COD                                   | mg/l       | 261                   | 261                   | 214                   | 176                   | 168                   | 141                   | 164                   | 82                    | 114                   | 160                   | 204                   | 228                   |
| 5      | BOD                                   | mg/l       | 161                   | 117                   | 98                    | 80                    | 73                    | 65                    | 77                    | 49                    | 82                    | 79                    | 65                    | 69                    |
| 6      | NO <sub>3</sub> -N                    | mg/l       | 5.90                  | --                    | 2.40                  | 2.10                  | 2.00                  | 2.20                  | 2.40                  | 2.80                  | 1.20                  | 1.50                  | 2.00                  | 6.30                  |
| 7      | NH <sub>3</sub> -N                    | mg/l       | 23                    | 17                    | 20                    | 17                    | 24                    | 18                    | 22                    | 15                    | 19                    | 23                    | 23                    | 29                    |
| 8      | Phosphate                             | mg/l       | 2.55                  | 2.05                  | 2.05                  | 2.36                  | 2.51                  | 1.83                  | 2.01                  | 1.03                  | 1.40                  | 2.40                  | 2.40                  | 3.30                  |
| 9      | TSS                                   | mg/l       | 100                   | 149                   | 82                    | 81                    | 105                   | 82                    | 80                    | 62                    | 37                    | 100                   | 120                   | 113                   |
| 10     | TDS                                   | mg/l       | 326                   | 259                   | 350                   | 394                   | 297                   | 317                   | 342                   | 345                   | 390                   | 384                   | 300                   | 318                   |
| 11     | TFS                                   | mg/l       | 267                   | 269                   | 236                   | 273                   | 310                   | 271                   | 274                   | 289                   | 317                   | 280                   | 248                   | 324                   |
| 12     | Turbidity                             | NTU        | 110                   | 160                   | 118                   | 125                   | 109                   | 95                    | 113                   | 92                    | 96                    | 112                   | 119                   | 112                   |
| 13     | TH as CaCO <sub>3</sub>               | mg/l       | 190                   | 206                   | 230                   | 212                   | 220                   | 194                   | 214                   | 210                   | 242                   | 220                   | 220                   | 220                   |
| 14     | Ca as CaCO <sub>3</sub>               | mg/l       | 118                   | 100                   | 120                   | 120                   | 124                   | 116                   | 122                   | 120                   | 138                   | 128                   | 142                   | 140                   |
| 15     | Mg as CaCO <sub>3</sub>               | mg/l       | 72                    | 106                   | 110                   | 92                    | 96                    | 78                    | 92                    | 90                    | 104                   | 92                    | 78                    | 80                    |
| 16     | Sulphate                              | mg/l       | 66                    | 72                    | 49                    | 52                    | 52                    | 51                    | 62                    | 54                    | 63                    | 68                    | 74                    | 66                    |
| 17     | Chloride                              | mg/l       | 42                    | 45                    | 50                    | 45                    | 48                    | 46                    | 45                    | 42                    | 42                    | 40                    | 41                    | 40                    |
| 18     | Total alkalinity as CaCO <sub>3</sub> | mg/l       | 260                   | 208                   | 252                   | 258                   | 254                   | 246                   | 246                   | 224                   | 264                   | 234                   | 266                   | 282                   |
| 19     | P-Alkalinity                          | mg/l       | NIL                   |
| 20     | Fluoride                              | mg/l       | 0.28                  | BDL                   | BDL                   | BDL                   | BDL                   | BDL                   | 0.13                  | 0.14                  | 0.13                  | <1                    | 0.12                  | 0.12                  |
| 21     | colour                                | Hazen      | 30                    | 20                    | 20                    | 20                    | 20                    | 20                    | 20                    | 20                    | 30                    | 30                    | 30                    | 30                    |
| 22     | Boron(B)                              | mg/l       | 0.19                  | 0.21                  | 0.15                  | 0.14                  | 0.14                  | <1                    | 0.12                  | 0.15                  | 0.08                  | <1                    | <1                    | <1                    |
| 23     | TKN                                   | mg/l       | 4.20                  | 4.70                  | 4.20                  | 4.10                  | 3.90                  | 4.30                  | 4.90                  | 4.90                  | 5.30                  | 4.90                  | 26                    | 10.90                 |
| 24     | Potassium                             | mg/l       | 7                     | 9                     | 11                    | 8                     | 8                     | 9                     | 10                    | 10                    | 11                    | 12                    | 22                    | 2                     |
| 25     | Sodium                                | mg/l       | 23                    | 27                    | 37                    | 30                    | 24                    | 38                    | 43                    | 43                    | 47                    | 28                    | 17                    | 39                    |
| 26     | Total Coliform                        | MPN/100 ml | 2.2 × 10 <sup>4</sup> | 3.2 × 10 <sup>4</sup> | 1.4 × 10 <sup>6</sup> | 6.1 × 10 <sup>5</sup> | 2.2 × 10 <sup>6</sup> | 1.7 × 10 <sup>5</sup> | 5.4 × 10 <sup>5</sup> | 2.7 × 10 <sup>5</sup> | 2.7 × 10 <sup>6</sup> | 2.7 × 10 <sup>6</sup> | 1.8 × 10 <sup>7</sup> | 7.6 × 10 <sup>6</sup> |
| 27     | Faecal Coliform                       | MPN/100 ml | 1.8 × 10 <sup>4</sup> | 2.0 × 10 <sup>4</sup> | 9.3 × 10 <sup>5</sup> | 4.1 × 10 <sup>5</sup> | 1.1 × 10 <sup>6</sup> | 1.4 × 10 <sup>5</sup> | 4.0 × 10 <sup>5</sup> | 1.4 × 10 <sup>5</sup> | 8.6 × 10 <sup>5</sup> | 8.0 × 10 <sup>5</sup> | 8.0 × 10 <sup>6</sup> | 1.1 × 10 <sup>5</sup> |

**7. The detail of pollution load in river Ghaggar and Its tributaries within the jurisdiction of the State/UT).**

|   |   |            |           |              |           |                             |          |                 |           |           |          |
|---|---|------------|-----------|--------------|-----------|-----------------------------|----------|-----------------|-----------|-----------|----------|
| A map (preferably digital map) showing the sources of pollution         | Mentioned above Figure 1 & Figure 2   |            |           |              |           |                             |          |                 |           |           |          |
| area-wise information relating to– population                           | Chandigarh Population - 10.54 Lacs (as per 2011 census)   |            |           |              |           |                             |          |                 |           |           |          |
| water consumption in MLD  | 304 MLD   |            |           |              |           |                             |          |                 |           |           |          |
| sewage generation in MLD  | 245 MLD   |            |           |              |           |                             |          |                 |           |           |          |
| existing STPs with numbers and exiting sewage treatment capacity in MLD | <table border="0"> <tr><td>1. Diggian</td><td>136.2 MLD</td></tr> <tr><td>2. 3 BRD</td><td>49.94 MLD</td></tr> <tr><td>3. Raipur Kalan</td><td>22.7 MLD</td></tr> <tr><td>4. Raipur Khurd</td><td>5.675 MLD</td></tr> <tr><td>5. Dhanas</td><td>7.26 MLD</td></tr> </table> | 1. Diggian | 136.2 MLD | 2. 3 BRD     | 49.94 MLD | 3. Raipur Kalan             | 22.7 MLD | 4. Raipur Khurd | 5.675 MLD | 5. Dhanas | 7.26 MLD |
| 1. Diggian  | 136.2 MLD   |            |           |              |           |                             |          |                 |           |           |          |
| 2. 3 BRD  | 49.94 MLD   |            |           |              |           |                             |          |                 |           |           |          |
| 3. Raipur Kalan   | 22.7 MLD  |            |           |              |           |                             |          |                 |           |           |          |
| 4. Raipur Khurd   | 5.675 MLD   |            |           |              |           |                             |          |                 |           |           |          |
| 5. Dhanas   | 7.26 MLD  |            |           |              |           |                             |          |                 |           |           |          |
| proposed STPs- Nos with treatment capacity in MLD                       | <table border="0"> <tr><td>Maloya</td><td>22.7 MLD</td></tr> <tr><td>Raipur Kalan</td><td>5.6 MLD</td></tr> <tr><td>Kishangarh near Sukhna Lake</td><td>2.0 MLD</td></tr> </table>  | Maloya     | 22.7 MLD  | Raipur Kalan | 5.6 MLD   | Kishangarh near Sukhna Lake | 2.0 MLD  |                 |           |           |          |
| Maloya  | 22.7 MLD  |            |           |              |           |                             |          |                 |           |           |          |
| Raipur Kalan  | 5.6 MLD   |            |           |              |           |                             |          |                 |           |           |          |
| Kishangarh near Sukhna Lake   | 2.0 MLD   |            |           |              |           |                             |          |                 |           |           |          |
| drains contributing to pollution load in river Ghaggar                  | Data placed in Table 1 & 2  |            |           |              |           |                             |          |                 |           |           |          |

**8. The detail of Industrial Pollution as well STPs etc.**

|  |  |              |   |     |                 |   |     |                |   |     |                |   |      |                |    |           |    |                     |     |                         |    |                            |    |
|--|--|--------------|---|-----|-----------------|---|-----|----------------|---|-----|----------------|---|------|----------------|----|-----------|----|---------------------|-----|-------------------------|----|----------------------------|----|
| A map (preferably digital map) showing the sources of Industrial pollution | No industrial waste water is being discharged directly into River Ghaggar and industries are allowed to discharge waste water only after treatment which discharged into sewerage system ultimately reaches to Terminal Sewage Treatment Plant for further treatment.  |              |   |     |                 |   |     |                |   |     |                |   |      |                |    |           |    |                     |     |                         |    |                            |    |
| Area-wise information relating to– sector-wise no. of industries           | <p>Being a Planned city Chandigarh has notified Industrial Area and most of the industries are either in Industrial Area Phase-I or Industrial Area Phase-II except Hotel/Restaurant/Hospitals etc which are in sectors</p> <p>the details of industries in Chandigarh</p> <table border="0"> <tr><td>Red Category</td><td>-</td><td>192</td></tr> <tr><td>Orange Category</td><td>-</td><td>575</td></tr> <tr><td>Green Category</td><td>-</td><td>577</td></tr> <tr><td>White Category</td><td>-</td><td>1625</td></tr> </table> <table border="1"> <tr><td>Electroplating</td><td>98</td></tr> <tr><td>Foundries</td><td>33</td></tr> <tr><td>Hotel &amp; Restaurants</td><td>229</td></tr> <tr><td>Sewage Treatment Plants</td><td>05</td></tr> <tr><td>Potable Alcohol's bottling</td><td>10</td></tr> </table> | Red Category | - | 192 | Orange Category | - | 575 | Green Category | - | 577 | White Category | - | 1625 | Electroplating | 98 | Foundries | 33 | Hotel & Restaurants | 229 | Sewage Treatment Plants | 05 | Potable Alcohol's bottling | 10 |
| Red Category   | -  | 192          |   |     |                 |   |     |                |   |     |                |   |      |                |    |           |    |                     |     |                         |    |                            |    |
| Orange Category  | -  | 575          |   |     |                 |   |     |                |   |     |                |   |      |                |    |           |    |                     |     |                         |    |                            |    |
| Green Category   | -  | 577          |   |     |                 |   |     |                |   |     |                |   |      |                |    |           |    |                     |     |                         |    |                            |    |
| White Category   | -  | 1625         |   |     |                 |   |     |                |   |     |                |   |      |                |    |           |    |                     |     |                         |    |                            |    |
| Electroplating   | 98   |              |   |     |                 |   |     |                |   |     |                |   |      |                |    |           |    |                     |     |                         |    |                            |    |
| Foundries  | 33   |              |   |     |                 |   |     |                |   |     |                |   |      |                |    |           |    |                     |     |                         |    |                            |    |
| Hotel & Restaurants  | 229  |              |   |     |                 |   |     |                |   |     |                |   |      |                |    |           |    |                     |     |                         |    |                            |    |
| Sewage Treatment Plants  | 05   |              |   |     |                 |   |     |                |   |     |                |   |      |                |    |           |    |                     |     |                         |    |                            |    |
| Potable Alcohol's bottling   | 10   |              |   |     |                 |   |     |                |   |     |                |   |      |                |    |           |    |                     |     |                         |    |                            |    |

|  |   |                |       |           |       |                     |       |                                   |       |                             |       |           |       |                            |       |                |       |  |
|--|---|----------------|-------|-----------|-------|---------------------|-------|-----------------------------------|-------|-----------------------------|-------|-----------|-------|----------------------------|-------|----------------|-------|--|
|  | plants  |                |       |           |       |                     |       |                                   |       |                             |       |           |       |                            |       |                |       |  |
|  | Automobile Service Stations   | 91             |       |           |       |                     |       |                                   |       |                             |       |           |       |                            |       |                |       |  |
|  | Hospitals   | 44             |       |           |       |                     |       |                                   |       |                             |       |           |       |                            |       |                |       |  |
|  | Wire Drawing with Pickling  | 48             |       |           |       |                     |       |                                   |       |                             |       |           |       |                            |       |                |       |  |
|  | Wire Drawing without Pickling   | 07             |       |           |       |                     |       |                                   |       |                             |       |           |       |                            |       |                |       |  |
|  | Slaughter House (Abattoir)  | 01             |       |           |       |                     |       |                                   |       |                             |       |           |       |                            |       |                |       |  |
|  | Zinc processing units   | 03             |       |           |       |                     |       |                                   |       |                             |       |           |       |                            |       |                |       |  |
|  | Microbreweries  | 11             |       |           |       |                     |       |                                   |       |                             |       |           |       |                            |       |                |       |  |
| Sector-wise total water consumption in MLD                             | <table border="1"> <tbody> <tr> <td>Electroplating</td> <td>0.371</td> </tr> <tr> <td>Foundries</td> <td>0.053</td> </tr> <tr> <td>Hotel &amp; Restaurants</td> <td>5.498</td> </tr> <tr> <td>Potable Alcohol's bottling plants</td> <td>0.352</td> </tr> <tr> <td>Automobile Service Stations</td> <td>0.479</td> </tr> <tr> <td>Hospitals</td> <td>1.212</td> </tr> <tr> <td>Slaughter House (Abattoir)</td> <td>0.048</td> </tr> <tr> <td>Microbreweries</td> <td>0.300</td> </tr> </tbody> </table> | Electroplating | 0.371 | Foundries | 0.053 | Hotel & Restaurants | 5.498 | Potable Alcohol's bottling plants | 0.352 | Automobile Service Stations | 0.479 | Hospitals | 1.212 | Slaughter House (Abattoir) | 0.048 | Microbreweries | 0.300 |  |
| Electroplating   | 0.371   |                |       |           |       |                     |       |                                   |       |                             |       |           |       |                            |       |                |       |  |
| Foundries  | 0.053   |                |       |           |       |                     |       |                                   |       |                             |       |           |       |                            |       |                |       |  |
| Hotel & Restaurants  | 5.498   |                |       |           |       |                     |       |                                   |       |                             |       |           |       |                            |       |                |       |  |
| Potable Alcohol's bottling plants                                      | 0.352   |                |       |           |       |                     |       |                                   |       |                             |       |           |       |                            |       |                |       |  |
| Automobile Service Stations  | 0.479   |                |       |           |       |                     |       |                                   |       |                             |       |           |       |                            |       |                |       |  |
| Hospitals  | 1.212   |                |       |           |       |                     |       |                                   |       |                             |       |           |       |                            |       |                |       |  |
| Slaughter House (Abattoir)   | 0.048   |                |       |           |       |                     |       |                                   |       |                             |       |           |       |                            |       |                |       |  |
| Microbreweries   | 0.300   |                |       |           |       |                     |       |                                   |       |                             |       |           |       |                            |       |                |       |  |
| Sector-wise industrial effluent generation in MLD                      | <table border="1"> <tbody> <tr> <td>Electroplating</td> <td>0.161</td> </tr> <tr> <td>Foundries</td> <td>0.001</td> </tr> <tr> <td>Hotel &amp; Restaurants</td> <td>0.176</td> </tr> <tr> <td>Potable Alcohol's bottling plants</td> <td>0.022</td> </tr> <tr> <td>Automobile Service Stations</td> <td>0.127</td> </tr> <tr> <td>Hospitals</td> <td>0.387</td> </tr> <tr> <td>Slaughter House (Abattoir)</td> <td>0.001</td> </tr> <tr> <td>Microbreweries</td> <td>0.048</td> </tr> </tbody> </table> | Electroplating | 0.161 | Foundries | 0.001 | Hotel & Restaurants | 0.176 | Potable Alcohol's bottling plants | 0.022 | Automobile Service Stations | 0.127 | Hospitals | 0.387 | Slaughter House (Abattoir) | 0.001 | Microbreweries | 0.048 |  |
| Electroplating   | 0.161   |                |       |           |       |                     |       |                                   |       |                             |       |           |       |                            |       |                |       |  |
| Foundries  | 0.001   |                |       |           |       |                     |       |                                   |       |                             |       |           |       |                            |       |                |       |  |
| Hotel & Restaurants  | 0.176   |                |       |           |       |                     |       |                                   |       |                             |       |           |       |                            |       |                |       |  |
| Potable Alcohol's bottling plants                                      | 0.022   |                |       |           |       |                     |       |                                   |       |                             |       |           |       |                            |       |                |       |  |
| Automobile Service Stations  | 0.127   |                |       |           |       |                     |       |                                   |       |                             |       |           |       |                            |       |                |       |  |
| Hospitals  | 0.387   |                |       |           |       |                     |       |                                   |       |                             |       |           |       |                            |       |                |       |  |
| Slaughter House (Abattoir)   | 0.001   |                |       |           |       |                     |       |                                   |       |                             |       |           |       |                            |       |                |       |  |
| Microbreweries   | 0.048   |                |       |           |       |                     |       |                                   |       |                             |       |           |       |                            |       |                |       |  |
| Existing capacity of captive ETPs and CETPs in MLD                     | All the units which require to treat waste water are having captive ETPs except Restaurant however, all the restaurant are equipped with oil & grease trap as per the mandate of notification of MoEF&CC. At present there is no CETP in Chandigarh.  |                |       |           |       |                     |       |                                   |       |                             |       |           |       |                            |       |                |       |  |
| Sludge generated from STPs as well as municipal solid waste management | Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration were asked to provide the details however, no reply was received from Engineering Department, Chandigarh Administration. Municipal Corporation, Chandigarh has informed that their STPs are being operated by private contractor and disposal of STP sludge lies with them and being lifted accordingly. No further   |                |       |           |       |                     |       |                                   |       |                             |       |           |       |                            |       |                |       |  |

|  |  |
|--|--|
|  | <p>information was provided by MCC.</p> <p>Sludge from ETPs of Industrial units which is not hazardous is being disposed with municipal waste and sludge which is hazardous in nature is being disposed through TSDF Nimbua.</p> |
|--|--|

## 9. Observations on Gap Analysis etc.

| Observations on Gap Analysis w.r.to   |  |  |                    |         |                |         |                          |              |         |  |
|---|--|--|--------------------|---------|----------------|---------|--------------------------|--------------|---------|--|
| Sewage management   | Total Sewage Generated : 245 MLD<br>Treatment capacity : 221 MLD<br>Gap (245-221) : 24 MLD   |  |                    |         |                |         |                          |              |         |  |
| Industrial effluent management  | All the industries which are required to treat their waste water are allowed to operate only after having proper ETP hence, there is no gap.   |  |                    |         |                |         |                          |              |         |  |
| Operation and maintenance of existing STPs  | Existing STPs are being maintained by MCC and Engg. Deptt. by themselves or through private contractors.   |  |                    |         |                |         |                          |              |         |  |
| operation and maintenance of existing captive ETPs  | ETPs are being maintained and operated by concerned industry.  |  |                    |         |                |         |                          |              |         |  |
| operation and maintenance of existing CETPs   | N.A.   |  |                    |         |                |         |                          |              |         |  |
| <b>Compliance status w.r.to the industries located in the catchment area of river Ghaggar and its tributaries within the jurisdiction of the respective SPCB/PCC)</b>             |  |  |                    |         |                |         |                          |              |         |  |
| (a) List of industries not having valid consents under Water (Prevention and Control of Pollution) Act, 1974 and authorisation under the HW & OW ( M & TM) Rules, 2016 as amended | Nil  |  |                    |         |                |         |                          |              |         |  |
| (b) List of Industries complying and non-complying to the effluent discharge norms prescribed by the respective SPCB/PCC;   | <table border="1"> <thead> <tr> <th>Month</th> <th>No. of inspections</th> <th>Remarks</th> </tr> </thead> <tbody> <tr> <td>September 2018</td> <td>40 Nos.</td> <td>All units are complying.</td> </tr> <tr> <td>October 2018</td> <td>14 Nos.</td> <td>All units are complying except one which was service station and</td> </tr> </tbody> </table> | Month  | No. of inspections | Remarks | September 2018 | 40 Nos. | All units are complying. | October 2018 | 14 Nos. | All units are complying except one which was service station and |
| Month   | No. of inspections   | Remarks  |                    |         |                |         |                          |              |         |  |
| September 2018  | 40 Nos.  | All units are complying.   |                    |         |                |         |                          |              |         |  |
| October 2018  | 14 Nos.  | All units are complying except one which was service station and |                    |         |                |         |                          |              |         |  |

|   |   |         |  |
|---|---|---------|--|
|   |   |         | releasing waste water without treatment. Unit is sealed and case for filing prosecution has already been handed over to counsel. |
|   | November 2018   | 49 Nos. | All units are complying.   |
|   | <p>Further, as per the directions of Executing Committee on 08.01.2019, samples were collected from various industries, status of which are given below:-</p> <p>Total inspected unit : 26<br/> Complying : 22<br/> Non complying : 4 (Show Cause Notice is being issued)<br/> (03- Electroplating &amp; 01- Bottling Plant)<br/> <b>List enclosed at annexure-VIII</b></p> |         |  |
| (c) List of industries indulged in illegal disposal of industrial effluent;                   | Nil   |         |  |
| (d) Industrial hazardous waste (generated from industries, captive ETPs and CETPs) management | Hazardous waste generated in industrial units is disposed through recyclers/reprocessor/TSDF situated in other states. Details of which has been already been provided at Sr. No. 4.2 (d) above.  |         |  |

- 10. Proposed action plans (short term, medium and long term plans) with time lines including the organisation/agency responsible for its implementation- action plan should cover aspects as detailed below:-**

**Action Plan for control of Domestic Sewage**

As per information received from Engineering Department, Chandigarh Administration, Municipal Corporation, Chandigarh and Chandigarh Smart City Limited, action plan has been prepared regarding stoppage of discharge waste water into Sukhna Choe & N-Choe, upgradation of existing STPs and installation of new STPs. Details of which are given as under.

**Action Plan for control of discharge of waste water into Sukhna Choe**

| Sr. No. | Point   | Status as on December 2018  | Long Term/Short Term Action Plan   | Financial Implications | Implementing Agency        |
|---------|---|---|--|------------------------|----------------------------|
| 1       | Kishangarh Outlet   | There is sewage water discharge from the outlet.  | STP has been proposed to treat the waste water (Will be commissioned by Nov. 2021)   | -                      | Chandigarh Smart City Ltd. |
| 2       | Outlet of Village Kishangarh inside Forest Nursery          | There is sewage water discharge from the outlet.  | Engineering Department, Chandigarh Administration will tap the same by 31.03.2019.   | Rs. 19.94 Lakhs        | Engg. Deptt., Chd. Admn.   |
| 3       | Outlet of Village Hallomajra                                | Around 70 % household have already been connected to sewer line.  | By 31.01.2019 all the household will be connected to sewer line. After that there will no discharge of waste water.  | -                      | MC, Chd.                   |
| 4       | Second outlet of Bapu Dham Colony (Known as Madrasi Colony) | The slum developers have constructed their toilets on the existing CBD. Matter has now been taken up with Estate Office, U.T. Chandigarh for removal of encroachment on the CBD at Bapu Dham Colony, so that flow coming into | Municipal Corporation Chandigarh has stopped all such discharges points and there is no waste water discharge.<br><br>(For long term CBD will be replaced by RCC pipe and will be completed by 31.12.2019) | Rs. 22.00 Lakhs        | MC, Chd.                   |

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|  |  | Choe may be plugged. |  |  |  |
|--|--|----------------------|--|--|--|

**Action Plan for control of discharge of waste water into N-Choe**

| Sr. No. | Point                       | Status as on December 2018            | Long Term/Short Term Action Plan   | Financial Implications | Implementing Agency |
|---------|-----------------------------|---------------------------------------|--|------------------------|---------------------|
| 1       | Leisure valley              | 01 outlets is discharging waste water | One Outlet has been plugged and there is little discharge from one outlet, will be plugged by 31.12.2018.  | Rs. 5.00 Lakhs         | MC,Chd.             |
| 2       | 01 outlet in Beant Memorial | Water logging                         | This is major work and will be completed by August, 2019.  | Rs. 182.00 Lakhs       | MC,Chd.             |
| 3       | Sector 52 (starting)        | Two outlets discharging Sewage Water  | The work will be taken care when the work of Sr. No. 2 will be completed ( Will be plugged by 31.12.2019). | -                      | MC,Chd.             |
| 4       | Sector 52 (End)             | Two outlets discharging Sewage Water  | One outlet has been plugged and another outlet will be plugged by 31.12.2019.                              | -                      | MC,Chd.             |

**Sewage Treatment Plant**

Chandigarh Smart City Limited is in process for **upgradation** of below 05 STPs to treat the waste water upto the level of 5 mg/l BOD and also in the process for setting up of new STPs as per detail given below.

| Sr. No. | Location of STP | Capacity | Action Plan | Implementing Agency |
|---------|-----------------|----------|-------------|---------------------|
|---------|-----------------|----------|-------------|---------------------|

|    |              |                        |   |                               |
|----|--------------|------------------------|---|-------------------------------|
| 1. | Diggian      | 30 MGD<br>(136.2 MLD)  | Will be upgraded to treat the waste water upto the level of 5 mg/l BOD <b>by Nov. 2021</b>                                | Chandigarh Smart City Limited |
| 2. | 3 BRD        | 11 MGD<br>(49.94 MLD)  | Will be upgraded to treat the waste water upto the level of 5 mg/l BOD <b>by Nov. 2021</b>                                | Chandigarh Smart City Limited |
| 3. | Raipur Kalan | 5 MGD<br>(22.7 MLD)    | Will be upgraded to treat the waste water upto the level of 5 mg/l BOD <b>by Nov. 2021</b>                                | Chandigarh Smart City Limited |
| 4. | Raipur Khurd | 1.25 MGD<br>(5.67 MLD) | Will be <b>upgraded to 2.0 MGD</b> Capacity and to treat the waste water upto the level of 5 mg/l BOD <b>by Nov. 2021</b> | Chandigarh Smart City Limited |
| 5. | Dhanas       | 1.6 MGD<br>(7.26 MLD)  | Will be upgraded to treat the waste water upto the level of 5 mg/l BOD <b>by Nov. 2021</b>                                | Chandigarh Smart City Limited |

Further, the following Sewage Treatment Plants are **under construction**:-

| Sr. No. | Location of STPs | Capacity               | Timelines                          | Implementing Agency                                |
|---------|------------------|------------------------|------------------------------------|--|
| 1.      | Maloya           | 5 MGD<br>(22.70 MLD)   | Will be operational by 31.01.2019  | Municipal Corporation, Chandigarh                  |
| 2       | Raipur Kalan     | 1.25 MGD<br>(5.67 MLD) | Will be operational by 30.06.2019. | Engineering Department, Chandigarh Administration. |

One new Sewage Treatment Plant is also **proposed** to be constructed in Kishangarh Near Sukhna Lake, detail of which is given below:-

| Sr. No. | Location of STPs            | Capacity | Timelines                          | Implementing Agency           |
|---------|-----------------------------|----------|------------------------------------|-------------------------------|
| 1       | Kishangarh near Sukhna Lake | 2.0 MLD  | Will be Completed by November 2021 | Chandigarh Smart City Limited |

**(I) Domestic Sewage Management**

including source reduction and Bulk generators and even houses where

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|--|---|
| control measures by bulk sewage generators   | tertiary water supply is available are asked to use as much as possible tertiary water which will reduce the fresh water consumption.   |
| measures for conveyance of sewage through dedicated sewer lines connectivity to STPs   | Whole of Chandigarh connected with Sewerage System and dedicated sewerage lines are there to carry the waste water directly to the sewage treatment plant.  |
| measurement of flows of drains connected to the river/tributaries under reference  | Despite of request to MCC and Engg. Deptt. Chd. Admn, no department has measured the flows of drains.   |
| on-site or in-site treatment measures  | Waste water from whole of the Chandigarh goes to Terminal Sewage Treatment Plants. Now, as per order of Hon'ble NGT residential societies having more than 10,000 sq. meters built up area have to install on site STP which is being enforced.                           |
| end use of treated sewage for beneficial use complying to the prescribed standards   | Treated water is being supplied to various gardens and institutions for gardening purpose. Further, network is being laid to supply the treated water in all areas after which around 20 MGD tertiary waste water will be supplied. This will be completed by March 2020. |
| preparation and execution of the project proposals for sewage management through state-of-the-art STP                                  | Chandigarh Smart City Limited is going to upgrade all the existing STPs to treat the waste water upto the level of 5 mg/l BOD.  |
| strict vigilance effective enforcement of standards prescribed under the Environment (Protection) Act, 1986                            | CPCC is monitoring performance of STPs on monthly basis and results are shared with concerned agencies to take corrective measures.   |
| actions initiated against violators, sewage management in rural areas with low cost treatment technologies like constructed wet lands) | N.A.  |

|  |  |
|--|--|
| <b>(II) Industrial effluent management</b>   |  |
| measures which include source control like adoption of state-of-the-art technologies | Presently there is no CETP in Chandigarh being a very small city and very less generation of waste water. There are around 100 electroplating units all of which have captive ETPs. Because of cost of land no CETP is feasible in U.T. Chandigarh. Now, there is one firm which is in process for |

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|--|--|
|  | setting up of CETP in Punjab and ready to accept the waste of electroplating units of Chandigarh.  |
| reuse of treated industrial effluent to reduce fresh water consumption   | Treated industrial effluent goes to Sewage Terminal Treatment Plant and again treated there from where tertiary treated waste water is supplied to various gardens and institute.  |
| adoption of zero liquid discharge  | Possibility in this regard will be looked out.   |
| sludge management  | Sludge from ETPs of Industrial units which is not hazardous is being disposed with municipal waste and sludge which is hazardous in nature is being disposed through TSDF Nimbua.  |
| recovery and reuse of recovered chemicals in the process   | N.A.   |
| measures for conveyance of industrial effluent through dedicated lines and its connectivity to ETPs/CETPs            | There is no CETP in Chandigarh.  |
| preparation and execution of the project proposals for industrial effluent management (ETPs/CETPs)                   | Presently there is no CETP in Chandigarh being a very small city and very less generation of waste water. There are around 100 electroplating units all of which have captive ETPs. Because of cost of land no CETP is feasible in U.T. Chandigarh. Now, there is one firm which is in process for setting up of CETP in Punjab and ready to accept the waste of electroplating units of Chandigarh. |
| Strict vigilance   | All efforts are being done to monitor industries and applicable actions as and when required are being taken.  |
| Effective Enforcement of standards prescribed under the Environment (Protection) Act, 1986, action against violators |  |

|  |   |
|--|---|
| <b>(III) Ground water management</b>                         |   |
| obtaining of NOC from CGWB for use of ground water resources | On enquiring, it has been informed that in case of Chandigarh CGWB is not giving NOC it is being done by Municipal Corporation, Chandigarh. |
| ground water survey for quality assessment                   | Ground water data has already been given in Table 2.  |
| identification of problem sources                            | Till date as per the available data there is no such problem in ground water of U.T. Chandigarh.  |

|   |   |
|---|---|
| sealing of contaminated hand pumps/tube wells used by the general public for drinking water purposes                              | Municipal Corporation, Chandigarh has already banned use of hand pump for drinking purpose. Tube wells are used for supply only by MC, Chd. |
| supply of ground water to the public living in areas where ground water is contaminated   | N.A.  |
| measures to control depletion of groundwater table as well as for increasing ground water levels (ground water recharge measures) | There is no such problem in U.T. Chandigarh.  |
| remedial measures for decontamination of highly polluted groundwater resources within the jurisdiction of the respective State/UT | There is no polluted ground water source in U.T. Chandigarh.  |

**(IV) Restoration of river Ghaggar and its tributaries water quality**

All the efforts are being done to ensure that no sewer/waste water will be allowed to discharge into Sukhna choe and no industrial waste water goes to river ghaggar so in future (after implementation of action plan) there will not be any pollution load in river Ghaggar.

**(V) Maintaining of E-Flows for having ecological balance in the river system**

River Ghaggar is passing around 7.0 K.M. far from Chandigarh hence maintaining of E-flow is not applicable in case of U.T. Chandigarh.

**(VI) Awareness on :**

|  |   |
|--|---|
| Effective use of groundwater resources for agriculture purpose | N.A.  |
| Health status and organising health camps                      | Health camps was organised by Health Department on <b>11.11.2018</b> . In future more health camps will be organised to aware general public regarding ill effect of improper disposal of waste water. <b>(Annexure-IX)</b> |

**(vii) Monitoring of executing the actions plans:**

Execution of Action Plan will be monitored by Chandigarh Pollution Control Committee.

CHANDIGARH ADMINISTRATION  
DEPARTMENT OF ENVIRONMENT

ORDER

A District Level Special Task Force and State Level Special Task Force consisting of the following members are hereby constituted as per the direction of Hon'ble National Green Tribunal, New Delhi in the matter O.A. No. 138 of 2016 and O.A. No. 139 of 2016 titled "Stench Grips Mansa's Sacred Ghaggar River".

District Level Special Task Force:-

- |   |   |                  |
|---|---|------------------|
| 1. District Magistrate, U.T., Chandigarh  | - | Chairman         |
| 2. Superintendent of Police, Chandigarh Police  | - | Member           |
| 3. One person to be nominated by the District Judge in his capacity of Head of the District Legal Services Authority. | - | Member           |
| 4. Superintending Engineer, Public Health Division, Engineering Department, Chandigarh Administration.                | - | Member           |
| 5. Superintending Engineer, Public Health Division, Municipal Corporation, Chandigarh.                                | - | Member           |
| 6. Scientist 'B', Chandigarh Pollution Control Committee  | - | Member Secretary |

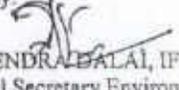
State Level Special Task Force:-

- |  |   |                  |
|--|---|------------------|
| 1. Advisor to the Administrator, U.T., Chandigarh                    | - | Chairman         |
| 2. Secretary Environment, Chandigarh Administration                  | - | Member           |
| 3. Secretary, Urban Planning, U.T., Chandigarh                       | - | Member           |
| 4. Secretary, Local Body, U.T., Chandigarh.                          | - | Member           |
| 5. Commissioner, Municipal Corporation, Chandigarh                   | - | Member           |
| 6. Chief Engineer, Engineering Department, Chandigarh Administration | - | Member           |
| 7. Member Secretary, Chandigarh Pollution Control Committee          | - | Member Secretary |

The District Level Special Task Force so constituted shall identify the persons responsible for violation of law in the said matter. The District Level Task Force will submit a monthly action taken report to the State Level Special Task Force and State Level Special Task Force will furnish 3 monthly report or the action taken report to the Central Pollution Control Board.

This is issued with the approval of Competent Authority.

Dated Chandigarh  
the September 7th, 2018

  
DEBENDRA LAL, IFS  
Special Secretary Environment  
Chandigarh Administration

Endst.No.ED/2018/1310 - 1322

Chandigarh, dated the 7/9/18

A copy is forwarded to the following for information and necessary action:-

1. Advisor to the Administrator, U.T., Chandigarh.
2. Secretary Environment, Chandigarh Administration.
3. Secretary, Urban Development, U.T., Chandigarh.
4. Secretary, Local Body, U.T., Chandigarh.
5. Commissioner, Municipal Corporation, Chandigarh.
6. Chief Engineer, Engineering Department, Chandigarh Administration.
7. Member Secretary, Chandigarh Pollution Control Committee.
8. District Magistrate, U.T., Chandigarh.
9. Superintendent of Police, Chandigarh Police.
10. One person to be nominated by the District Judge in his capacity of Head of the District Legal Services Authority.
11. Superintending Engineer, Public Health Division, Engineering Department, Chandigarh Administration.
12. Superintending Engineer, Public Health Division, Municipal Corporation, Chandigarh.
13. Scientist 'B', Chandigarh Pollution Control Committee.

  
DEBENDRA LAL, IFS  
Special Secretary Environment  
Chandigarh Administration

Endst.No.ED/2018/1323

Chandigarh, dated the 7/9/18

A copy is forwarded to the Secretary to the Administrator, U.T. Chandigarh for the kind information of the H.E. the Administrator, U.T., Chandigarh.

Minutes of the meeting held on 12<sup>th</sup> September, 2018 regarding preparation of Action Plan w.r.t. Up-gradation of existing Sewage Treatment Plants & Tapping of untreated waste water into Choes/Drainage.

.....

A meeting to discuss the matter regarding preparation of Action Plan w.r.t. Up-gradation of existing Sewage Treatment Plants & Tapping of untreated waste water into Choes/Drainage is held in the O/o Member Secretary, Chandigarh Pollution Control Committee. The following members were present:-

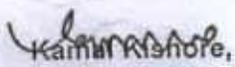
1. Sh. T.C. Nautiyal, IFS, Member Secretary, Chandigarh Pollution Control Committee.
2. Sh. Vivek Pandey, Scientist 'B', Chandigarh Pollution Control Committee.
3. Sh. Harish Kumar Saini, Executive Engineer, Municipal Corporation, Chandigarh.
4. Sh. Amit Sharma, Sub Divisional Engineer, Municipal Corporation, Chandigarh.
5. Sh. Kamal Kishore, Executive Engineer, Chandigarh Administration.
6. Sh. Rajinder Singh, Superintending Engineer, Chandigarh Administration.

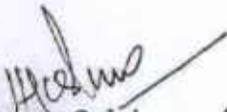
The following points have been discussed in the meeting:-

- 1) Stoppage of sewer discharge point in N-Choe.
- 2) Stoppage of untreated waste water discharge near Sector 48 (3BRD).
- 3) Stoppage of waste water discharge points in Sukhna Choe specifically about colony no. 4 & Hallomajra.
- 4) Stoppage of going of industrial waste water into Sukhna Choe (pump house behind poultry farm)
- 5) Stoppage of waste water behind Gaushala, Industrial Area, Phase-I, Chandigarh.
- 6) Stoppage of waste water inside the forest area, Phase-I.
- 7) Upgradation of existing STPs
- 8) Construction of new STPs
- 9) Quantification of complete waste water discharge (Total Load).

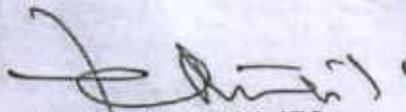
During discussion, it has been decided that a joint field visit will be carried out on 18.09.2018 at 11:00 AM onwards alongwith the officers of Engineering Department, Chandigarh Administration and Municipal Corporation, Chandigarh for identification of all the discharge points of untreated waste water into drains. Thereafter, Engineering Department, Chandigarh Administration and Municipal Corporation, Chandigarh will submit the action plan by 21.09.2018.

  
Rajinder Singh,  
Superintending  
Engineer, Engg.  
Deptt. Chd. Admn.

  
Kamal Kishore,  
Executive Engineer,  
Engg. Deptt.  
Chd. Admn.

  
Harish Kumar Saini,  
Executive Engineer,  
MCC

  
Amit Sharma,  
Sub Div. Engineer,  
MCC

  
T.C. Nautiyal, IFS  
Member Secretary, CPCC

  
Vivek Pandey,  
Scientist 'B', CPCC

(65)

**MINUTES OF THE JOINT INSPECTION HELD ON 18<sup>TH</sup> SEPTEMBER, 2018 TO CHECK THE DISCHARGE OF UNTREATED WASTE WATER IN SUKHNA CHOE.**

A joint inspection was carried out by the following Officers of Engineering Department, Chandigarh Administration, Municipal Corporation, Chandigarh and Chandigarh Pollution Control Committee to check the various points where sewage water is discharged without treatment into Sukhna Choe:-

1. Sh. T.C. Nautiyal, IFS, Member Secretary, Chandigarh Pollution Control Committee.
2. Sh. Vivek Pandey, Scientist 'B', Chandigarh Pollution Control Committee.
3. Sh. Kamal Kishore, Executive Engineer, Chandigarh Administration.
4. Sh. Prabhjot Singh, Sub. Divisional Officer, Municipal Corporation, Chandigarh.
5. Sh. Sukhraj Singh, Sub. Divisional Engineer, Engineering Department, Chandigarh Administration.
6. Sh. Bhupinder Singh, Junior. Engineer, Municipal Corporation, Chandigarh.

The observations are given as under:-

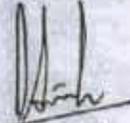
| Sr. No. | Point   | Status  |
|---------|---|---|
| 1       | Kishangarh Outlet   | There is sewage water discharge from the outlet.  |
| 2       | Outlet of Village Kishangarh inside Forest Nursery  | There is sewage water discharge from the outlet.  |
| 3       | Outlet of Shastri Nagar   | There is sewage water discharge of sewage water.  |
| 4       | First outlet of Bapu Dham near bridge on the road connecting IT park with Sector 26, Chandigarh | There is sewage water discharge at first outlet of Bapu Dham near bridge on the road connecting IT Park |
| 5       | Second outlet of Bapu Dham Colony (Known as Madrasi Colony)                                     | There is sewage water discharge at second outlet of Bapu Dham colony                                    |
| 6       | Outlet from back of Gaushala, Industrial Area, Phase-I, Chd.                                    | There is substantial sewage discharge from back of Gaushala, Industrial Area, Phase-I, Chd.             |
| 7       | Outlet near CTU workshop Industrial Area, Phase-I, Chd. (Inside Forest Area)                    | There is sewage discharge at the outlet near CTU workshop.  |

|    |  |  |
|----|--|--|
| 8  | Indl. Area, Phase - I, Colony No. 4.   | There is discharge from many outlets from Indl. Area, Phase - I, Colony No. 4.               |
| 9  | Pump House operated by Municipal Corporation behind Central Poultry Development Organization, Indl. Area, Phase - I, Chandigarh. | In case of Non-operation of pump, waste water directly goes to Sukhna Choe on regular basis. |
| 10 | Outlet of Village Hallomajra   | There is substantial sewage discharge from the outlet of Village Hallomajra.                 |

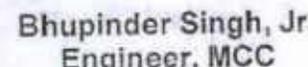
Other than above, there was one point at Makhan Majra, where waste water leakage is there which is assured by Engineering Department, Chandigarh Administration that they will repair the same with immediate effect.

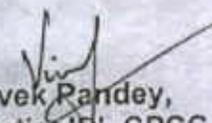
Thereafter, Engineering Department, Chandigarh Administration and Municipal Corporation, Chandigarh have assured that they will submit the action plan by 21.09.2018 (Friday) on the following points:-

1. Stoppage of Sewage waste water from above points.
2. Up-gradation of existing Sewage Treatment Plants.
3. Tapping of untreated waste water into Choes/Drainage.

  
Prabhjot Singh, Sub.  
Div. Officer, MCC

  
Sukhraj Singh, Sub. Div.  
Engineer, Engg. Deptt.,  
Chd. Admn.

  
Bhupinder Singh, Jr.  
Engineer, MCC

  
Vivek Pandey,  
Scientist 'B', CPCC

  
Kamal Kishore,  
Executive Engineer,  
Engg. Deptt.  
Chd. Admn

  
T.C. Nautiyal, IFS  
Member Secretary,  
CPCC

(171)

Annexure - IV

**MINUTES OF MEETING OF DISTRICT LEVEL TASK FORCE HELD ON 01.10.2018 AT 11:00 A.M. UNDER THE CHAIRMANSHIP OF DISTRICT MAGISTRATE, U.T. CHANDIGARH IN COMPLIANCE OF HON'BLE NGT ORDER DATED 07.08.2018 IN THE MATTER OF OA NO.138 OF 2016 (TNHRC) (CASE NO. 559/19/11/14) AND OA NO. 139 OF 2016 (TNHRC) TITLED STENCH GRIPS MANSA'S SACRED GHAGGAR RIVER (SUO-MOTU CASE) AND YOGENDER KUMAR.**

The following officers were present in the meeting: -

| <u>Sr. No.</u> | <u>Name of Officer &amp; Designation</u> | <u>Deptt's. Name</u>                   | <u>Mobile No.</u> |
|----------------|--|--|-------------------|
| 1.             | Sh. Amarinder Sharma, Secretary,         | District Legal Services Authority,     | 7569730007        |
| 2.             | Sh. Vivek Pandey, Scientist 'B'          | Chandigarh Pollution Control Committee | 9888116680        |
| 3.             | Sh. Suresh Kumar, XEN                    | PH-2, M.C.                             | -----             |
| 4.             | Ms. Sarita Roy, SI                       | I/C Neelam Police Post                 | 9779580932        |
| 5.             | Sh. Sukhraj Singh, SDE                   | PH Divn., Engg. Deptt., Chd.           | 7508185457        |

At the outset, Sh. Vivek Pandey, Scientist 'B', CPCC apprised about the directions of the Hon'ble National Green Tribunal, New Delhi regarding the discharge of waste water – industrial as well as municipal into River Ghaggar. The District Level Special Task Force will identify the defaulters for discharging the waste water into the drains which ultimately reaches to Ghaggar river. Under the statutory scheme, the Pollution Control Boards are required to prosecute all those who are responsible for discharging the effluents beyond standards and also to close all such commercials/industrial establishments. The District Level Special Task Force will submit monthly report to the State Level Special Task Force. Then, the State Level Task Force will submit a 3 monthly report, or recommendation to the Executing Committee.

The following points were discussed in the meeting: -

1. Stoppage of Sewer discharge points in N-Choe.
2. Stoppage of waste water discharge points in Sukhna Choe specifically about colony No.4 & Hallomajra.
3. Stoppage of going of industrial waste water into Sukhna Choe (pump house behind poultry farm).
4. Upgradation of existing STPs/setting up of new STPs.
5. Maintenance of Log Book.
6. Formation of Action Plan.
7. Identification of the defaulters by M.C.

The following decisions were taken in the meeting: -

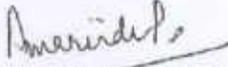
1. Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration will upgrade the existing STPs/set up new STPs in their respective jurisdiction to meet with the standards directed by CPCB/CPCC.

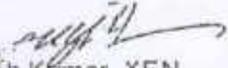
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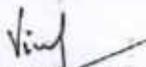
and action plan in this regard alongwith timeline will be submitted within 15 days. The CPCB will further ensure the purity of water up to 5 BOD.

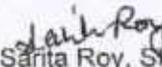
2. The officers of Chandigarh Pollution Control Committee (CPCC), Engineering Department Chd. Admn. and Municipal Corporation, Chd. have identified the 10 points where sewerage water is discharged without treatment into Sukhna Choe. Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration will take measures to tap these points to ensure that no untreated waste water release into Sukhna Choe. Status report in this regard will be submitted by the M.C. within 15 days.
3. Prior intimation shall be given by the CPCC to the Police Deptt. for providing police protection to the officers for carrying out inspection and deputing the beat cops with the team.
4. Municipal Corporation, Chandigarh will provide the list of industrial plots who have not taken sewer connection.
5. Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration will make standby arrangement of pumps alongwith the existing pumps at sewage pumping stations and Log Book shall be maintained at each pumping station.
6. Points where waste water is being discharged into N-Choe to be identified in the coming time in scheduled manner. M.C. and CPCC will submit plan of action in 15 days.
7. CPCC will provide the quality of drains at entry/exit points of Chandigarh region.
8. MC. Chd. will provide the details of discharge points at Patiala ki rao and provide the action plan for stoppage of the same.
9. MC. Chd. will identify the people who have laid down illegal pipelines and discharging waste water into storm water drainage system/drains and Public Notice shall be given by the CPCC in this regard. Police will follow this.
10. The next meeting will be held on 10.10.2018.

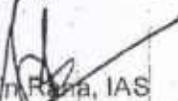
  
Amarinder Sharma, Secretary  
O/o District Legal Services Authority  
(Member)

  
Suresh Kumar, XEN  
O/o P.H. Divn. No.2, M.C.  
(Member)

  
Sukhraj Singh, SDE  
O/o P.H. Divn. Engg. Deptt.  
(Member)

  
Vivek Pandey, Scientist 'B'  
O/o Chd. Pollution Control Board  
(Member)

  
Sarita Roy, SI  
I/C Neelam Police Post  
O/o Superintendent of Police,  
(Member)

  
Sachin Rana, IAS  
District Magistrate, Chd.  
(Chairman)

(173)

Annexure-V

MINUTES OF 2<sup>nd</sup> MEETING OF DISTRICT LEVEL TASK FORCE HELD ON 11.10.2018 AT 09:30 A.M. UNDER THE CHAIRMANSHIP OF SHRI SACHIN RANA, IAS, DISTRICT MAGISTRATE, U.T. CHANDIGARH IN COMPLIANCE OF HON'BLE NGT ORDER DATED 07.08.2018 IN THE MATTER OF OA NO.138 OF 2016 (TNHRC) (CASE NO. 559/19/11/14) AND OA NO. 139 OF 2016 (TNHRC) TITLED STENCH GRIPS MANSA'S SACRED GHAGGAR RIVER (SUO-MOTU CASE) AND YOGENDER KUMAR.

The following officers were present in the meeting: -

| Sr. No. | Name of Officer & Designation   | Deptt's. Name                          | Mobile No. |
|---------|---------------------------------|--|------------|
| 1       | Sh. Vivek Pandey, Scientist 'B' | Chandigarh Pollution Control Committee | 9888116680 |
| 2       | Sh. Suresh Kumar Gill, XEN      | PH-2, M.C.                             | 9872511258 |
| 3       | Insp. Pavnesh Kumar             | Chandigarh Police                      | 9779580998 |
| 4       | Sh. Sukhraj Singh, SDE          | PH Divn., Engg. Deptt., Chd.           | 7508185457 |

Initially, Sh. Vivek Pandey, Scientist 'B', CPCC submitted the test reports of water quality of all the three drains at Entry and Exit points of Chandigarh and also submitted the list showing waste water discharge points at N-Choe. He also informed that public notice w.r.t. prohibition of discharge of waste water into drains, as decided in 1<sup>st</sup> meeting, has been published in various newspapers. He further apprised that BOD/TSS levels are very high at all the exit points which should be less than 30 mg/l for BOD and 100 mg/l for TSS as per existing norms. He has also submitted that there is no provision for treatment of coliform in the existing STPs except in Diggian which is also not sufficient. He, thereafter informed the Chair that the action plan has not been received from both the deptt. and DO letters have also been sent by the Secretary Environment.

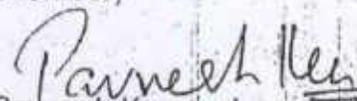
Further, Sh. Suresh Kumar, XEN, P.H., Divn. No. 2, M.C. apprised that waste water discharge in N-Choe has been stopped upto sector 23 and action plan for stopping of remaining points will be submitted by the M.C. immediately in two days of this meeting.

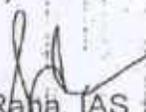
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The following decisions were taken in the meeting: -

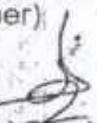
1. The points through which the waste water is being discharged directly into the N-choe should be closed within 15 days by the M.C. with the support of police.
2. The format for action plan will be given by CPCC to the Municipal Corporation and Engg. Deptt., Chd. Admn. by today and thereafter the action taken report will be submitted by both the departments within three days.
3. The next meeting will be held on 22.10.2018 at 04:00 p.m.

  
Vivek Pandey, Scientist 'B'  
O/o Chd. Pollution Control Board  
(Member)

  
Pavnesh Kumar, Insp. 12/10/18  
O/o Superintendent of Police,  
(Member)

  
Sachin Rana, IAS  
District Magistrate, Chd.  
(Chairman)

  
Suresh Kumar, XEN 12/10/18  
O/o P.H. Divn. No.2, M.C.  
(Member)

  
Sukhraj Singh, SDE  
O/o P.H. Divn. Engg. Deptt.  
(Member)

Annexure-VI

MINUTES OF 3<sup>rd</sup> MEETING HELD ON 07.12.2018 AT 03:00 P.M. UNDER THE CHAIRMANSHIP OF DEPUTY COMMISSIONER, U.T. CHANDIGARH IN CONNECTION WITH THE DIRECTIONS DATED 07.08.2018 ISSUED BY THE HON'BLE NGT IN THE MATTER O.A. No. 138 of 2016 AND O.A. No. 139 of 2016 TITLED - "STRENCH GRIPS MANSA's SACRED GHAGGAR RIVER AND YOGENDER KUMAR".

The following officers were present in the meeting: -

| Sr. No. | Name of Officer & Designation                          | Deptt's. Name                          | Mobile No. |
|---------|--|--|------------|
| 1.      | Sh. Amarinder Sharma, Secretary,                       | District Legal Services Authority,     | 7569730007 |
| 2.      | Er. Sh. Sanjay Arora, SE                               | S.E. (PH) MCC                          | 995711456  |
| 2.      | Sh. Vivek Pandey, Scientist 'B'                        | Chandigarh Pollution Control Committee | 9888116680 |
| 3.      | Sh. Suresh Gill, XEN                                   | M.C., P.H.-2                           | 9872511258 |
| 4.      | Sh. I.D. Sharma, XEN                                   | P.H., M.C.                             | 9872511231 |
| 5.      | Ms. Shobhna Pathania, Nodal Officer, Health Department | GMSH-16, Chd.                          | 9041046076 |
| 6.      | Sh. Kamal Kishore, XEN                                 | P.H.-3, Chd.                           | 9915222400 |
| 7.      | Sh. Vijay Kumar, XEN                                   | M.C. P.H.                              | 9872511245 |
| 8.      | Sh. Sukhraj Singh, SDE                                 | O/o EE PH-3                            | 7508185457 |
| 9.      | Sh. Rajbir Singh, SDE                                  | P.H., MC                               | 9872511352 |
| 10.     | Sh. Harish Saini, XEN                                  | PH-1, M.C.                             | 9872511254 |
| 11.     | Dr. Amrit, MOH   | M.C.                                   | 9888348852 |
| 12.     | Sh. Jaspal Singh, SHO, PS-17                           | Police Deptt.                          | 9779580917 |
| 13.     | Sh. N.P. Sharma, General Manager                       | Chandigarh Smart City Ltd.             | 9781010000 |
| 14.     | Sh. Surinder Kumar, SDO (Bldg.)                        | Estate Office                          | 9216465070 |

At the outset, Sh. Vivek Pandey, Scientist 'B', CPCC apprised about the directions of the Hon'ble National Green Tribunal, New Delhi regarding the discharge of effluents - industrial as well as municipal into River Ghaggar. The District Level Special Task Force will identify the defaulters for discharging the effluents into the Ghaggar river beyond standards. Under the statutory scheme, the Pollution Control Boards are required to prosecute all those who are responsible for discharging the affluents beyond standards and also to close all commercial establishments. The District Level Special Task Force will submit monthly report to the State Level Special Task Force. Then, the State Level Task Force will submit a 3 monthly report or recommendation to the Central Pollution Control Board.

Sh. Vivek Pandey Informed that River Ghaggar is passing around 7 Kms. far from Chandigarh and there are two main sources of discharge from Chandigarh 1) Sukhna Choe 2) N-Choe. In these choes two types of waste water is being discharged

- 1) Treated waste water from the STPs.
- 2) Direct discharge of untreated waste water

Thereafter Municipal Corporation and Engg. Department were asked to provide the information related to action taken on discharge points in Sukhna Choe and N-Choe and action

- 2 -

plan where action is yet to be taken. Details w.r.t. action taken and action plan are as given below

**STATUS OF UNTREATED WASTE WATER DISCHARGE IN SUKHNA CHOE**

| Sr. No. | Point   | Status as on September 2018   | Status as on 07.12.2018  | Action Plan  |
|---------|---|---|--|--|
| 1       | Kishangarh Outlet   | There is sewage water discharge from the outlet.  | As a short term measure proposal has been submitted to lift the waste water and connect it with sewerage line  | STP has been proposed to treat the waste water (Will be commissioned by Nov. 2022)   |
| 2       | Outlet of Village Kishangarh inside Forest Nursery  | There is sewage water discharge from the outlet.  | Still sewage is being discharged   | Chandigarh Administration will tap the same by 31.03.2019.   |
| 3       | Outlet of Shastri Nagar   | There is sewage water discharge.  | Sump has already been created  | Sewage water will be pumped to the sewer line.   |
| 4       | First outlet of Bapu Dham near bridge on the road connecting IT park with Sector 26, Chandigarh | There is sewage water discharge at first outlet of Bapu Dham near bridge on the road connecting IT Park | Leakage has been plugged.  | -  |
| 5       | Second outlet of Bapu Dham Colony (Known as Madrasi Colony)                                     | There is sewage water discharge at second outlet of Bapu Dham colony                                    | The slum developers have constructed their toilets on the existing CBD. Matter has now been taken up with Estate Office, U.T. Chandigarh for removal of encroachment on the CBD at Bapu Dham Colony, so that flow coming into Choe may be plugged. | Municipal Corporation Chandigarh will stop all such discharges within 10 days by providing alternate arrangements for the locals i.e. 18.12.18 |
| 6       | Outlet from back of Gaushala, Industrial Area, Phase-I, Chd.                                    | There is substantial sewage discharge from back of Gaushala, Industrial Area, Phase-I, Chd.             | -  | Municipal Corporation Chandigarh will plug the discharge within 10 days i.e. 18.12.18  |
| 7       | Outlet near CTU workshop Industrial Area, Phase-I, Chd. (Inside Forest Area)                    | There is sewage discharge at the outlet near CTU workshop.  | CTU has plugged the waste water flow. Now there is no waste water discharge.   | Regular inspection will be done to ensure that there is no waste water discharge into  |

|    |   |  |   |  |
|----|---|--|---|--|
|    |   |  |   | Sukhna Choe.   |
| 8  | Indl. Area, Phase -1, Colony No. 4.   | There is discharge from many outlets from Indl. Area, Phase - 1, Colony No. 4.               | Waste water has already been tapped and diverted to sewer line.   | Regular inspection will be done to ensure that there is no waste water discharge into Sukhna Choe. |
| 9  | Pump House operated by Municipal Corporation behind Central Poultry Development Organization, Indl. Area, Phase -1, Chandigarh. | In case of Non-operation of pump, waste water directly goes to Sukhna Choe on regular basis. | New stand by motor has already been installed and now no waste water is being discharged into Sukhna Choe.                                  | Regular inspection will be done to ensure that there is no waste water discharge into Sukhna Choe. |
| 10 | Outlet of Village Hallomajra  | There is substantial sewage discharge from the outlet of Village Hallomajra.                 | Around 70% of household have been connected to sewer line and for remaining 30% work is under process.                                      | By 31.01.2019 all the household will be connected to sewer line.                                   |
| 11 | Village Daria   | There is discharge of sewage water from Village Daria  | Excess sewage of unauthorised colony in village Daria has been tapped and put in the sump and the same is being pumped into the sewer line. |  |

**STATUS OF UNTREATED WASTE WATER DISCHARGE IN N- CHOE**

| Sr. No. | Point                                       | Status as on September 2018            | Status as on 07.12.2018   | Action Plan |
|---------|---|--|---|-------------|
| 1       | leisure valley                              | 02 outlets are discharging waste water | Outlets have been plugged. Now there is no waste water discharge. | -           |
| 2       | Near red cross (Madhya Marg)                | 01 outlet discharging waste water      | Outlet has been plugged. Now there is no waste water discharge.   | -           |
| 3       | Sec 23 near B.D Hospital (Neuro Psychiatry) | 01 outlet discharging waste water      | Outlet has been plugged. Now there is no waste water discharge.   | -           |

|   |                               |                                      |   |   |
|---|-------------------------------|--------------------------------------|---|---|
| 4 | Bal Bhawan side               | Very less discharge                  | Outlet has been plugged. Now there is no waste water discharge. | -   |
| 5 | 01 outlet in Beant Memorial   | Water logging                        | -   | This is major work and will be completed by August, 2019.                             |
| 6 | sector 52 (starting)          | Two outlets discharging Sewage Water | -   | Municipal Corporation Chandigarh will plug the discharge within 10 days i.e. 18.12.18 |
| 7 | sector 52 (End)               | Two outlets discharging Sewage Water | -   | Municipal Corporation Chandigarh will plug the discharge within 10 days i.e. 18.12.18 |
| 8 | One outlet coming from Sec 51 | Sewage Water                         | Already tapped.   | -   |

**STATUS OF TREATED WASTE WATER FROM STPs DISCHARGE INTO RIVER GHAGGAR**

At present five Sewage Treatment Plants are operational in Chandigarh as per detail given below.

| Sr. No. | Location of STP | Capacity              |
|---------|-----------------|-----------------------|
| 1.      | Diggian         | 30 MGD (1,36,200 KLD) |
| 2.      | 3 BRD           | 11 MGD (49,940 KLD)   |
| 3.      | Raipur Kalan    | 5 MGD (22,700 KLD)    |
| 4.      | Raipur Khurd    | 1.25 MGD (5,675 KLD)  |
| 5.      | Dhanas          | 1.6 MGD (7,264 KLD)   |

Chandigarh Smart City Limited is in process for upgradation of below 05 STPs to treat the waste water upto the level of 5 mg/l BOD and also in the process for setting up of new STPs as per detail given below.

| Sr. No. | Location of STP | Capacity              | Action Plan   |
|---------|-----------------|-----------------------|---|
| 1.      | Diggian         | 30 MGD (1,36,200 KLD) | Will be upgraded to treat the waste water upto the level of 5 mg/l BOD by Nov. 2022 |
| 2.      | 3 BRD           | 11 MGD (49,940 KLD)   | Will be upgraded to treat the waste water upto the                                  |

|    |              |                      |   |
|----|--------------|----------------------|---|
|    |              |                      | level of 5 mg/l BOD by Nov. 2022  |
| 3. | Raipur Kalan | 5 MGD (22,700 KLD)   | Will be upgraded to treat the waste water upto the level of 5 mg/l BOD by Nov. 2022                         |
| 4. | Raipur Khurd | 1.25 MGD (5,675 KLD) | Will be upgraded to 2.0 MGD Capacity and to treat the waste water upto the level of 5 mg/l BOD by Nov. 2022 |
| 5. | Dhanas       | 1.6 MGD (7,264 KLD)  | Will be upgraded to treat the waste water upto the level of 5 mg/l BOD by Nov. 2022                         |

02 Nos. new Sewage Treatment Plants are under construction.

| Sr. No. | Location of STPs | Capacity             | Remarks   | Timelines  |
|---------|------------------|----------------------|---|--|
| 1.      | Maloya           | 5 MGD (22,700 KLD)   | Constructed by Municipal Corporation, Chandigarh                  | Will be operational by 31 <sup>st</sup> January 2019 |
| 2       | Raipur Kalan     | 1.25 MGD (5,675 KLD) | Constructed by Engineering Department, Chandigarh Administration. | Not provided   |

Further, 01 No. new Sewage Treatment Plant is proposed.

| Sr. No. | Location of STPs            | Capacity            | Remarks                                      | Timelines                          |
|---------|-----------------------------|---------------------|--|------------------------------------|
| 1       | Kishangarh near Sukhma Lake | 2.0 MLD (2,000 KLD) | As informed by Chandigarh Smart City Limited | Will be Completed by November 2022 |

However it was informed by Sh. Vivek Pandey that some of the STPs are not meeting with the prescribed norms (Designed criteria). Chairman told the Municipal Corporation and Engg. Deptt., Chd. Admn. to look into the matter immediately and to ensure that all the waste water treated from STPs should meet with prescribed norms otherwise responsibility will be fixed and suitable action would be taken. Following decisions were also taken during meeting :

1. Action Plan as prepared above should be complied by all the respective deptt.
2. One Seminar will be conducted by Municipal Corporation Chandigarh in association with Health department and CPCC to aware/sensitize the public regarding ill effects and penal provisions w.r.t. illegal discharge of waste water into drains/Choes.
3. During next sampling CPCC will inform MCC and Engg. Deptt., Chd. Admn. So that they can also take samples simultaneously if they want.
4. SDC (Bldg.) will provide the list of industrial plots, by 17.12.18, who have not taken sewerage connection till date.

5. Health Deptt. will conduct health camp in the month of December also.
6. Municipal Corporation will provide the information related to ground water extraction as required by CPCC by 17.12.18.

The meeting ended with a vote of thanks to the Chair.

**Monthly Status Report for October w.r.t. O.A. No. 138 of 2016 and O.A. No. 139 of 2016 titled Stench Grips Mansa's Sacred Ghaggar River (Suo-Motu case)**

.....

It is submitted that Hon'ble National Green Tribunal, Principal Bench, New Delhi has passed an order dated 7<sup>th</sup> August, 2018 (flag 'A') vide which it is informed that proceedings in the matter O.A. No. 138 of 2016 and O.A. No. 139 of 2016 titled Stench Grips Mansa's Sacred Ghaggar River (Suo-Motu case) were initiated before the Tribunal on a reference received from the National Human Right Commission (NHRC). The NHRC took Suo-Motu action on the basis of a news item appearing in The Tribune, dated 12.05.2014 under the caption "Stench Grips Mansa's Sacred Ghaggar River" to the effect that the river Ghaggar had turned into a polluted water body on account of discharge of effluents – industrial as well as municipal.

In pursuant to the order of Tribunal dated 09.12.2016, a joint inspection has been carried out by the representatives of the Central Pollution Control Board, Punjab State Pollution Control Board, Haryana Pollution Control Board, Himachal Pradesh State Pollution Control Board. Officials of Union Territory, Chandigarh also joined the said inspection team. Further, as per report, submitted by the concerned Pollution Control Boards to the NHRC as well as Minutes of the meetings on various dates in which the respective States participated. The joint analysis report of the joint monitoring of river Ghaggar samples has also been filed. The findings of the joint inspection report are that values of various parameters such as BOD, TSS, Faecal Coliform, Lead and Iron were beyond permissible limits at most of the locations in Himachal Pradesh, Haryana, Punjab and Chandigarh.

The Chief Secretaries of the States of Himachal Pradesh, Haryana, Punjab and also the Administrator of U.T., Chandigarh have been directed to constitute Special Task Force (STFs) comprising of District Magistrate, Superintendent of Police, Regional Officer of the State Pollution Control Board in concerned District and one person to be nominated by the District Judge in every District in his capacity of Head of the District Legal Services Authority. Such STF may identify persons responsible for violation of law so that action can be taken. At the State Level, the STF will comprise of the Chief Secretary, Secretary Environment, Secretary of Urban Development and Secretary of Local Body. The District Level Special Task Force will submit a monthly action taken report to the State Level Task Force and State Level Special Task Force will furnish 3 monthly report or the action taken to the Central Pollution Control Board

An Executive Committee was also constituted by Hon'ble NGT (as per para 8 of the order) under the Chairmanship of Justice Pritam Pal, Former Judge, Punjab and Haryana High Court. A preliminary meeting of the representatives of all the State/UT was held on 31.08.2018, in which, the issue of constitution of Special Task Force (STF) in compliance of the above referred order of the Hon'ble NGT was also discussed (para 6 of the order).



|   |  |  |
|---|--|--|
|   |  | (placed at Annexure-III)   |
| 6 | CPCC will provide the quality of drains at entry/exit points.  | CPCC has provided the Data in 2 <sup>nd</sup> meeting (placed at Annexure-IV). |
| 7 | MC, Chd. will provide the details of discharge points at Patiala kiRao and provide the action plan for stoppage of the same.   | Not provided by Municipal Corporation, Chandigarh                              |
| 8 | MC, Chd. will identify the people who have laid down illegal pipelines and discharging waste water into storm water drainage system/drains and Public Notice shall be given by the CPCC in this regard | Not provided by Municipal Corporation, Chandigarh                              |

The second meeting of District Level Special Task Force was held on 11.10.2018. The detail of decisions taken in the said meeting and action taken on the decisions are given as under:-

| Sr. No. | Decision taken in the meeting  | Action taken report  |
|---------|--|--|
| 1       | The points through which the waste water is being discharged directly into the N-choe should be closed within 15 days by the M.C.  | No reply was received from Municipal Corporation, Chandigarh                                     |
| 2       | The draft of action plan will be given by the Environment Deptt. to the Municipal Corporation by today and thereafter the action taken report will be submitted by the Municipal Corporation within today. | Format for Action Plan has been provided to both Agencies but Action Plan has not been received. |
| 3       | The pipeline laid down illegally by the road side vendors near the N-choe should be closed by the M.C. within 3-4 days.  | No reply has been received.  |
| 4       | Advertisement should be given by the M.C. in which the team is going for removal of pipeline laid down illegally in the area under the Chandigarh jurisdiction by the roadside vendors near the N-choe.    | No intimation was provided by Municipal Corporation, Chandigarh                                  |

Thereafter, meeting of all the concerned Head of Departments alongwith their Nodal Officers as well as State Level Special Task Force and District Level Special Task Force was held on 22<sup>nd</sup> October, 2018 under the Chairmanship of Justice Pritam Pal, Chairman, Executing Committee.

As per the directions of Executing Committee reply has been filed by the Municipal Corporation, Chandigarh w.r.t. Solid Waste Management and Waste Water discharge however no reply from Engineering Department, Chandigarh Administration (which is managing some areas of drains & STPs)

and Chandigarh Smart City Limited (which is going to upgrade existing STPs & setting up of new STPs).

**Sub:- Interim monthly Status Report for Nov w.r.t. O.A. No. 138 of 2016 and O.A. No. 139 of 2016 titled Stench Grips Mansa's Sacred Ghaggar River (Suo-Motu case)**

.....

Interim report regarding progress on the points discussed earlier is as follows:

| Sr. No. | Decision taken in the meeting   | Action taken report  |
|---------|---|--|
| 1       | Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration will upgrade the existing STPs/set up new STPs in their respective jurisdiction to meet with the standards directed by CPCB/CPCC and action plan in this regard alongwith timeline will be submitted within 15 days.  | Action Plan has been submitted by Municipal Corporation on 06.11.2018  |
| 2       | The officers of Chandigarh Pollution Control Committee (CPCC), Engineering Department Chd. Admn. and Municipal Corporation, Chd. have identified the 10 points where sewerage water is discharged without treatment into SukhnaChoe. Municipal Corporation, Chandigarh and Engineering Department, Chandigarh Administration will take measures to tap these points to ensure that no untreated waste water release into SukhnaChoe. Status report in this regard will be submitted by the M.C. within 15 days. | Reply submitted by Municipal Corporation, Chandigarh & Engineering Department, Chandigarh Administration is placed at <b>Annexure-I &amp; II</b> . |
| 3       | Prior intimation shall be given by the CPCC to the Police Deptt. for providing police protection to the officers for carrying out inspection and deputing the beat cops with the team.  | Action will be taken whenever required.  |
| 4       | Municipal Corporation, Chandigarh will provide the list of industrial plots who have not taken sewer connection.  | To be provided by SDO Building branch who grants permission for sewerage connection on completion of building                                      |
| 5       | Points where waste water is being discharged into N-Choe to be identified in the coming time  | CPCC has provided the list of points where waste water is being discharged into N-Choe in 2 <sup>nd</sup> meeting (placed at <b>Annexure-III</b> ) |

|    |  |  |
|----|--|--|
|    |  | 7 points of discharge into N-Choe have been plugged. Only one at Beant Memorial is left now, estimate of approx. 3 crores, for the same is being prepared. 9 Months time is required for the same. |
| 6  | CPCC will provide the quality of drains at entry/exit points.  | CPCC has provided the Data in 2 <sup>nd</sup> meeting (placed at <b>Annexure-IV</b> ).   |
| 7  | MC, Chd. will provide the details of discharge points at Patiala kiRao and provide the action plan for stoppage of the same.   | Sewerage treatment plant to tap the discharge points is in commissioning stage and all the discharge points will be tapped in next three months.   |
| 8  | MC, Chd. will identify the people who have laid down illegal pipelines and discharging waste water into storm water drainage system/drains and Public Notice shall be given by the CPCC in this regard       | The sullage identified as coming through the standposts stands plugged.  |
| 9  | The points through which the waste water is being discharged directly into the N-choe should be closed within 15 days by the M.C.  | Complied as detailed in S.No. 5 above  |
| 10 | The draft of action plan will be given by the Environment Deptt. to the Municipal Corporation by today and thereafter the action taken report will be submitted by the Municipal Corporation within today's. | Action plan has been received.   |
| 11 | The pipeline laid down illegally by the road side vendors near the N-choe should be closed by the M.C. within 3-4 days.  | Needful has been done.   |
| 12 | Advertisement should be given by the M.C. in which the team is going for removal of pipeline laid down illegally in the area under the Chandigarh jurisdiction by the roadside vendors near the N-choe.      | Needful has been done.   |

**Minutes of 1<sup>st</sup> Meeting of State Level Special Task Force held on 19<sup>th</sup> December, 2018 under the Chairmanship of Worthy Advisor to the Administrator in compliance to the Hon'ble NGT order dated 07.08.2018 in the matter of OA No. 139 of 2016 titled Stench Grips Mansa's Sacred Ghaggar River (Suo-Motu Case) and Yogender Kumar.**

.....

1<sup>st</sup> Meeting of State Level Special Task Force was held on 19<sup>th</sup> December, 2018 under the Chairmanship of Worthy Advisor to the Administrator in U.T., Secretariat, Sector 9, Chandigarh to discuss the report submitted by District Level Special Force in compliance to the Hon'ble NGT order dated 07.08.2018 in the matter of OA No. 139 of 2016 titled Stench Grips Mansa's Sacred Ghaggar River (Suo-Motu Case) and Yogender Kumar. The list of officials who attended the meeting is enclosed as Annexure-I.

The Chairman welcomed all the Members of State Level Special Task Force as well as officers of Chandigarh Administration. Thereafter the Member Secretary, State Level Special Task Force informed the members about the order of Hon'ble NGT and constitution of Executing Committee, District level Special Task Force and State Level Special Task Force. He further informed that District Level Special Task Force has conducted three meeting and submitted the report to State Level Special Task Force. Accordingly, all the information has been compiled and shown to the members in the form of Power Point Presentation. During presentation, Member Secretary informed about the status of waste water discharge and other related issues. He further informed that water supply in Chandigarh was coming from Bhakra main line through Kajouli and Sector 39 Water Works. Around 67 MGD water is being supplied from this and 22 MGD water is being supplied through tubewells. Total around 89 MGD is being supplied daily to Chandigarh and as per the information provided by Municipal Corporation, Chandigarh total waste water generation is around 58 MGD and treatment capacity is 48.85 MGD. At present 05 Nos. of Sewage Treatment Plants are operational in Chandigarh.

Thereafter, members were apprised of status of waste water discharge points at Sukhna Choe and N-Choe and action taken along with Action plan to stop the same as per details given below :-

| Sr. No. | Point   | Status as on September 2018   | Status as on 07.12.2018   | Status as on 19.12.2018                      | Long Term/Short Term Action Plan   |
|---------|---|---|---|--|--|
| 1       | Kishangarh Outlet   | There is sewage water discharge from the outlet.  | As a short term measure proposal has been submitted to lift the waste water and connect it with sewerage line   | -  | STP has been proposed to treat the waste water (Will be commissioned by Nov. 2022) |
| 2       | Outlet of Village Kishangarh inside Forest Nursery  | There is sewage water discharge from the outlet.  | Still sewage is being discharged  | -  | Chandigarh Administration will tap the same by 31.03.2019.                         |
| 3       | Outlet of Shastri Nagar   | There is sewage water discharge.  | Sewage water has been tapped.   | -  | -  |
| 4       | First outlet of Bapu Dham near bridge on the road connecting IT park with Sector 26, Chandigarh | There is sewage water discharge at first outlet of Bapu Dham near bridge on the road connecting IT Park | Leakage has been plugged.   | Leakage has been plugged                     | -  |
| 5       | Second outlet of Bapu Dham Colony (Known as Madrasi Colony)                                     | There is sewage water discharge at second outlet of Bapu Dham colony                                    | The slum residents have constructed their toilets on the existing CBD. Matter has now been taken up with Estate Office, U.T. Chandigarh for removal of encroachment on the CBD at | All such discharges points have been plugged | -  |

|    |  |  |  |   |  |
|----|--|--|--|---|--|
|    |  |  | Bapu Dham Colony, so that flow coming into Choe may be plugged.  |   |  |
| 6  | Outlet from back of Gaushala, Industrial Area, Phase-I, Chd.   | There is substantial sewage discharge from back of Gaushala, Industrial Area, Phase-I, Chd.  | -  | Municipal Corporation Chandigarh has plugged the discharge points | -  |
| 7  | Outlet near CTU workshop Industrial Area, Phase-I, Chd. (Inside Forest Area)   | There is sewage discharge at the outlet near CTU workshop.                                   | CTU has plugged the waste water flow. Now there is no waste water discharge.                               | -   | -  |
| 8  | Indl. Area, Phase - I, Colony No. 4.   | There is discharge from many outlets from Indl. Area, Phase - I, Colony No. 4.               | Waste water has already been tapped and diverted to sewer line.  | -   | -  |
| 9  | Pump House operated by Municipal Corporation behind Central Poultry Development Organization, Indl. Area, Phase - I, Chandigarh. | In case of Non-operation of pump, waste water directly goes to Sukhna Choe on regular basis. | New stand by motor has already been installed and now no waste water is being discharged into Sukhna Choe. | -   | -  |
| 10 | Outlet of Village Hallomajra   | There is substantial sewage discharge from the outlet of                                     | Around 70% of household have been connected to sewer line and  | All the household will be connected to sewer line within time     | By 31.01.2019 all the household will be connected to |

|    |               |   |   |       |             |
|----|---------------|---|---|-------|-------------|
|    |               | Village Hallomajra.                                   | for remaining 30% work is under process.  | line. | sewer line. |
| 11 | Village Daria | There is discharge of sewage water from Village Daria | Excess sewage of unauthorised colony in village Daria has been tapped and put in the sump and the same is being pumped into the sewer line. | -     | -           |

### Status of N-Choe

| Sr. No. | Point                                       | Status as on September 2018            | Status as on 07.12.2018   | Status as on 19.12.2018 | Action Plan/Action Taken |
|---------|---|--|---|-------------------------|--------------------------|
| 1       | leisure valley                              | 02 outlets are discharging waste water | Outlets have been plugged. Now there is no waste water discharge. | -                       | -                        |
| 2       | Near red cross (Madhya Marg)                | 01 outlet discharging waste water      | Outlet has been plugged. Now there is no waste water discharge.   | -                       | -                        |
| 3       | Sec 23 near B.D Hospital (Neuro Psychiatry) | 01 outlet discharging waste water      | Outlet has been plugged. Now there is no waste water discharge.   | -                       | -                        |

|   |                               |                                      |   |   |   |
|---|-------------------------------|--------------------------------------|---|---|---|
| 4 | Bal Bhawan side               | Very less discharge                  | Outlet has been plugged. Now there is no waste water discharge. | - | -   |
| 5 | 01 outlet in Beant Memorial   | Water logging                        | -   | - | This is major work and will be completed by August, 2019.                     |
| 6 | Sector 52 (starting)          | Two outlets discharging Sewage Water | -   | - | (related with Sr. No. 5 ) Will be plugged by 31.12.2019                       |
| 7 | Sector 52 (End)               | Two outlets discharging Sewage Water | -   | - | One outlet has been plugged and another outlet will be plugged by 31.12.2019. |
| 8 | One outlet coming from Sec 51 | Sewage Water                         | Already tapped.   | - | -   |

The Member Secretary also informed that the status of existing STPs, under construction STPs and proposed STPs. It was also informed that Chandigarh Smart City Ltd. is going to upgrade existing STPs to treat the waste water upto the level of less than 5 mg/l BOD and the work will be completed by Nov. 2022. The details of STPs are given as under:-

Existing STPs Operational in Chandigarh:-

| Sr. No. | Location of STP | Capacity              |
|---------|-----------------|-----------------------|
| 1.      | Diggian         | 30 MGD (1,36,200 KLD) |
| 2.      | 3 BRD           | 11 MGD (49,940 KLD)   |
| 3.      | Raipur Kalan    | 5 MGD (22,700 KLD)    |
| 4.      | Raipur Khurd    | 1.25 MGD (5,675 KLD)  |
| 5.      | Dhanas          | 1.6 MGD (7,264 KLD)   |

Sewage Treatment Plants **under construction**:-

| Sr. No. | Location of STPs | Capacity                | Remarks   | Timelines                          |
|---------|------------------|-------------------------|---|------------------------------------|
| 1.      | Maloya           | 5 MGD<br>(22,700 KLD)   | Constructed by Municipal Corporation, Chandigarh                  | Will be operational by 31.01.2019  |
| 2       | Raipur Kalan     | 1.25 MGD<br>(5,675 KLD) | Constructed by Engineering Department, Chandigarh Administration. | Will be operational by 30.06.2019. |

**Proposed Sewage Treatment Plant:-**

| Sr. No. | Location of STPs            | Capacity               | Remarks                                      | Timelines                          |
|---------|-----------------------------|------------------------|--|------------------------------------|
| 1       | Kishangarh near Sukhna Lake | 2.0 MLD<br>(2,000 KLD) | As informed by Chandigarh Smart City Limited | Will be Completed by November 2022 |

Advisor to the Administrator appreciated the action taken on Short Term Plans and advised for continuous monitoring on Long Term Plan. He further suggested that the Municipal Corporation, Chandigarh should explore setting up of localised Sewage Treatment Plants in existing colonies. Commissioner, Municipal Corporation informed that Sewage Treatment Plant of Maloya is now ready and under commissioning stage.

Advisor to the Administrator also directed that if there is any discharge found other than the above points, the same should be stopped immediately.

Member Secretary informed that presently some of the STPs are not running up to the mark and even fail to achieve the designed level of BOD i.e. 30 mg/l. Advisor directed all concerned to look into the matter and to take appropriate action so that all STPs meet the prescribed norms. Sh. Sanjay Arora, Suptt. Engineer, Public Health Chandigarh Admn. informed that gap between the treatment capacity and waste water generation is not correct projection as water loss during transmission has not been accounted for. Thereafter Advisor directed him to provide the exact figures to CPCC so that same can be incorporated in Action Plan to be forwarded to Executing Committee.

Advisor also desired to call Chief Architect, Chandigarh Administration as Special Invitee from next meeting onwards.

The Member Secretary informed the committee about the Industrial Scenario in Chandigarh, Bio-Medical Waste Management, Municipal Solid Waste

Management in Chandigarh, Hazardous Waste Management, Plastic Waste Management and E-Waste Management in Chandigarh, which is being carried out as per the prescribed rules.

District Commissioner, Chairman of the District Level Task Force complimented the Engg. Department of U.T. Admn. and Municipal Corporation for speedy action in stopping the waste water discharge in Sukhna Choe and N-Choe. Advisor also appreciated the efforts of both the Engg. wings and directed to ensure continuous compliance of orders of Hon'ble NGT. The Committee discussed and approved the Action Plan with Timeline of upgradation of existing STPs and setting up of new STPs as well as stopping of discharge of waste water into drains.

The meeting ended with thanks to the Chair.

# Test Results of Industries

Annexure - VIII

| Sr No. | Name of the Unit  | Address                                   | Process<br>↓<br>Permissible Limit | PARAMETERS |            |            |            |                           |                           |            | STATUS       |
|--------|---|---|-----------------------------------|------------|------------|------------|------------|---------------------------|---------------------------|------------|--------------|
|        |   |   |                                   | pH         | TSS (mg/l) | COD (mg/l) | BOD (mg/l) | NH <sub>3</sub> -N (mg/l) | PO <sub>4</sub> -P (mg/l) | O&G (mg/l) |              |
| 1      | A.B. MOTORS   | Plot No. 53, Indl. Area Ph-II, Chd        | Service Station                   | 5.5-9.0    | 600        | ...        | 350        | 50                        | ....                      | 20         | Complied     |
| 2      | KLG Enterprises (Hotel KLG)                               | Plot No. 51, Indl. Area Ph-II, Chd        | Hotel                             | 7.50       | 13         | 114        | 38         | 2.48                      | 0.22                      | <1         | Complied     |
| 3      | Krishna Automobiles                                       | Plot No. 177-E, Indl. Area Ph-I, Chd      | Service Station                   | 7.18       | 10         | 58         | 29         | 0.37                      | 0.03                      | <1         | Complied     |
| 4      | Em Pee Motors Ltd.  | Plot No. 177-H, Indl. Area Ph-I, Chd      | Service Station                   | 7.31       | 189        | 219        | 111        | 3.60                      | 0.39                      | 2.5        | Complied     |
| 5      | Rock & Storm Bottlers Pvt. Ltd.                           | Plot No. 214, Indl. Area Ph-I, Chd        | Bottling Plant                    | 7.17       | 80         | 276        | 50         | 3.60                      | 0.28                      | 3.5        | Complied     |
| 6      | Kujjal Builders Hotel (The Lalit)                         | RGCTP, Kishangarh                         | Hotel                             | 6.31       | 59         | 13800      | 6750       | 2.91                      | 0.19                      | 1.3        | Non-Complied |
| 7      | DLF Info City Developers (Chandigarh) Ltd                 | PLOT NO. 2, RGCTP, Kishangarh             | IT Industry                       | 7.56       | 187        | 495        | 123        | 6.34                      | 0.50                      | <1         | Complied     |
| 8      | Infosys Limited   | PLOT NO.1, RGCTP, Kishangarh              | IT Industry                       | 7.03       | 20         | 59         | 31         | 6.34                      | 6.02                      | <1         | Complied     |
| 9      | Tech Mahindra Ltd.  | PLOT NO.23 (SEZ) PH-II, RGCTP, Kishangarh | IT Industry                       | 7.14       | 12         | 66         | 23         | 45.12                     | 2.09                      | <1         | Complied     |
| 10     | Punjab State Co-op. Milk Producer's Fed Ltd. (Milk Plant) | Indl. Area, Ph-I, Chd.                    | Milk Plant                        | 7.37       | 35         | 79         | 42         | 37.67                     | 3.92                      | 1          | Complied     |
| 11     | Freaking Amazing Foods Pvt. Ltd.                          | SCO 32, Sec 26, Chd                       | Micro Brewery                     | 8.14       | 116        | 153        | 56         | 2.48                      | 1.78                      | 2.3        | Complied     |
| 12     | Lemon Tree Hotels   | Plot No. 3 (MW), Indl. Area Ph-I, Chd     | Hotel                             | 6.95       | 17         | 13         | 4          | 1.85                      | 0.27                      | <1         | Complied     |
| 13     | Hind Inns & Hotels Ltd.                                   | Plot No. 15, Indl. Area Ph-I, Chd         | Hotel                             | 7.90       | 109        | 375        | 165        | 38.72                     | 2.04                      | <1         | Complied     |
| 14     | PASCO Motors  | Plot No. 2, Indl. Area Ph-I, Chd          | Service Station                   | 7.15       | 15         | 64         | 18         | 18.90                     | 1.23                      | <1         | Complied     |
|        |   |   | Service Station                   | 7.05       | 17         | 88         | 21         | 3.85                      | 0.32                      | 1.1        | Complied     |

## PARAMETERS

| Sr No. | Name of the Unit           | Address                                  | Process<br>↓    | Permissible Limit | pH      | TSS<br>(mg/l) | COD<br>(mg/l) | BOD (mg/l) | NH <sub>3</sub> -N (mg/l) | PO <sub>4</sub> -P<br>(mg/l) | O&G<br>(mg/l) | STATUS   |
|--------|----------------------------|--|-----------------|-------------------|---------|---------------|---------------|------------|---------------------------|------------------------------|---------------|----------|
|        |                            |  |                 |                   | 5.5-9.0 | 600           | ...           | 350        | 50                        | ....                         | 20            |          |
| 15     | Charisma Goldwheels        | Plot No. 7, Indl. Area Ph-1,<br>Chd      | Service Station |                   | 6.95    | 112           | 223           | 63         | 3.00                      | 0.41                         | 1.8           | Complied |
| 16     | Sterling Mobikes Pvt. Ltd. | Plot No. 167, Indl. Area Ph-1,<br>Chd    | Service Station |                   | 7.10    | 8             | 36            | 11         | 1.51                      | 0.56                         | <1            | Complied |
| 17     | Lally Motors Ltd.          | Plot No. 6, Indl. Area Ph-1,<br>Chd      | Service Station |                   | 7.05    | 173           | 247           | 71         | 3.42                      | 0.64                         | 1.3           | Complied |
| 18     | G.M.P. Motors              | Plot No. 128, Indl. Area Ph-1,<br>Chd    | Service Station |                   | 7.05    | 13            | 106           | 45         | 4.88                      | 0.38                         | <1            | Complied |
| 19     | Modern Automobiles         | Plot No. 4 (MW), Indl. Area<br>Ph-1, Chd | Service Station |                   | 6.95    | 30            | 127           | 36         | 5.05                      | 0.4                          | <1            | Complied |

## Test Results of Industries

| Sr No. | Name of the Unit           | Address                                | Process<br>↓<br>PERMISSIBLE<br>LIMIT → | PARAMETERS |               |               |               |                              |                              |               |              |              |              |              |              |              |                    |              |              |              | STATUS |
|--------|----------------------------|--|--|------------|---------------|---------------|---------------|------------------------------|------------------------------|---------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------------|--------------|--------------|--------------|--------|
|        |                            |  |  | pH         | TSS<br>(mg/l) | COD<br>(mg/l) | BOD<br>(mg/l) | NH <sub>3</sub> -N<br>(mg/l) | PO <sub>4</sub> -P<br>(mg/l) | O&G<br>(mg/l) | Al<br>(mg/l) | Cu<br>(mg/l) | Zn<br>(mg/l) | Cd<br>(mg/l) | Pb<br>(mg/l) | Ni<br>(mg/l) | Total Cr<br>(mg/l) | Sn<br>(mg/l) | Ag<br>(mg/l) |              |        |
|        |                            |  |  | 6.0-9.0    | 100           | ....          | ....          | 50                           | 5                            | 10            | 5            | 3            | 5            | 2            | 0.1          | 3            | 2                  | 2            | ...          |              |        |
| 1      | Khanna Sanitations Pvt.Ltd | Plot No. 121, Indl. Area Ph-I, Chd     | Electroplating                         | 8.50       | 486           | ....          | ....          | 2.74                         | 0.29                         | 1.3           | <1           | 0.103        | <0.1         | 0.016        | <0.1         | <0.5         | 0.515              | BDL          | BDL          | COMPLIED     |        |
| 2      | H.S.Fastners               | Plot No. 316, Indl. Area Ph-I, Chd     | Electroplating                         | 8.25       | 205           | ....          | ....          | 7.02                         | 0.55                         | <1            | <1           | 0.113        | 0.192        | 0.017        | <0.1         | <0.5         | <0.5               | BDL          | BDL          | COMPLIED     |        |
| 3      | Groz Beckett Asia Pvt.Ltd  | Plot No. 177-A, Indl. Area, Ph-I, Chd. | Electroplating                         | 8.89       | 118           | ....          | ....          | 5.43                         | 0.03                         | <1            | <1           | <0.1         | <0.1         | <0.01        | <0.1         | <0.5         | 1                  | BDL          | BDL          | COMPLIED     |        |
| 4      | Deepak Fasteners           | 136-140/57 Indl. Area Ph-I, Chd        | Electroplating                         | 9.60       | 179           | ....          | ....          | 10.65                        | 0.03                         | <1            | <1           | 0.114        | 0.182        | <0.01        | <0.1         | 0.95         | 3.153              | BDL          | BDL          | NON-COMPLIED |        |
| 5      | Srijan Exports             | Plot No. 280, Indl. Area Ph-I, Chd     | Electroplating                         | 2.90       | 38            | 204           | 47            | 6.42                         | 0.23                         | <1            | <1           | <0.1         | 30.4         | 0.066        | 0.76         | 449          | 12.8               | BDL          | BDL          | NON-COMPLIED |        |
| 6      | Thapar Industries          | Plot No. 335, Indl. Area Ph-I, Chd     | Electroplating                         | 7.50       | 190           | 266           | 59            | 3.25                         | 0.30                         | <1            | <1           | <0.1         | 57.9         | 0.023        | <0.1         | <0.5         | <0.5               | BDL          | BDL          | NON-COMPLIED |        |
| 7      | S.G.Industries             | Plot No. 3106, Indl. Area Ph-II, Chd   | Electroplating                         | 6.80       | 200           | ....          | ....          | 47                           | 0.80                         | <1            | <1           | <0.1         | 0.195        | <0.01        | <0.01        | <0.5         | <0.5               | BDL          | BDL          | COMPLIED     |        |

**HEALTH DEPARTMENT CHANDIGARH**  
under guidance of National Green Tribunal  
is organising a  
**HEALTH AWARENESS & CHECK UP CAMP**  
at  
CIVIL DISPENSARY, HALLOMAJRA, Chandigarh  
on 11th, NOVEMBER, 2018  
9:00 A.M. TO 2:00 P.M.







# HEALTH MELA



**For Screening & Awareness**

on

**11.11.2018**

**At Civil Dispensary, Hallomajra, Chandigarh**

**National Health Mission, U.T. Chandigarh**



# **ANNEXURE - VII**

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# Action Plan for Clean Ghaggar



18<sup>th</sup> Jan 2019

Directorate of Environment and Climate Change  
Department of Science, Technology and Environment,  
Government of Punjab

## **Chapter 1 - Introduction**

### **1.1. Punjab – Land of Rivers**

- 1.1.1. The word Punjab is a compound of two Persian words, panj (“five”) and āb (“water”), thus signifying the land of five waters. The erstwhile Punjab State had five rivers namely Beas, Chenab, Jhelum, Ravi, and Sutlej. However after the partition of India in 1947, only two rivers, the Sutlej and the Beas, lie within Punjab’s territory, while the Ravi flows only along part of its western border.
- 1.1.2. The rivers in the State have been used as a source of irrigation, drinking purpose especially in southern Punjab, development of hydro-electric projects to meet the energy requirements in the State and various activities including industrial purposes. The rivers have played a significant role in the socio-economic and industrial development of the State.

### **1.2. Rapid Urbanization and Industrialization – Main cause of River Pollution**

- 1.2.1. The rapid urbanization and industrialization during the last few decades has adversely impacted the environment of the State. The quantum of sewage and sullage generated from the habitation areas has significantly increased and finding its way into natural drains, eventually leading to riverine system of the State. In the rural areas, due to increase in the population, the capacity of most of the ponds has been exhausted due to which this sewage and sullage has also started flowing into the natural drains and finally becoming a part of river waters.
- 1.2.2. Therefore, the quality of water flowing in the water bodies has deteriorated as these water bodies lack sufficient assimilation capacity for self purification not only due to increase in the quantum of discharge of untreated sewage/ sullage, but, also due to decrease in the quantum of water in the water bodies owing to construction of check dams on the upstream side.

### **1.3. About Ghaggar**

- 1.3.1. The Ghaggar, an intermittent, Endorheic river flows only during the monsoon season. The river is known as Ghaggar before the Ottu barrage near Sirsa and as the Hakra downstream of the barrage. The basin is classified in two parts, Bangar and Khadar. The higher area which is not flooded in rainy season is called Bangar and the lower flood-prone area is called Khadar.
- 1.3.2. It originates in the village Dagshai in the Shivalik Hills of Himachal Pradesh at an elevation of 1,927 metres (6,322 ft) above mean sea level and flows through Punjab and Haryana states into Rajasthan just southwest of Sirsa, Haryana and by the side of Talwara Lake in Rajasthan. From Ottu barrage near Sirsa, Ghaggar feeds two irrigation canals that extend into Rajasthan.
- 1.3.3. Initially, it receives municipal sewage of various towns located in Himachal Pradesh and Haryana namely Parwanoo, Kalka and Pinjore through Sukhna Nallah merging into Kaushalya river tributary of Ghaggar near Amravati Enclave. Besides, Ghaggar river also receives the sewage of various towns of Haryana including that of Panchkula before entering into the State of Punjab. It enters Punjab near Village Mubarikpur, District Mohali.
- 1.3.4. After passing through District Mohali, District Patiala and District Sangrur, river Ghaggar carrying sewage of some of the towns of Punjab, re-enters State of Haryana and then enters into Sardulgarh, District Mansa of Punjab before finally re-entering into Haryana.
- 1.3.5. The drains meeting with the river are non-perennial and treated / partially treated / untreated sewage / sullage of some of the cities, towns and villages situated nearby these drains as well as surface run off from fields falling in their catchment area during rainy season is discharged into river Ghaggar directly or indirectly through various drains / choes etc.

### **1.4. State’s past efforts to control pollution in Ghaggar**

- 1.4.1. Keeping in view deterioration in the water quality of Ghaggar, the Government of Punjab (GOP) initiated action in 2008 to identify the sources of its pollution in coordination with Punjab Pollution Control Board (PPCB). Meetings were regularly held under the chairmanship of Chief Minister, Punjab from the year, 2008 onwards. Eight meetings have been held by the higher authorities of the State of Punjab, UT Chandigarh, Haryana, and Himachal Pradesh.
- 1.4.2. The State Government is serious to control the pollution in river Ghaggar and the concerned departments have already identified the sources of wastewater falling into river Ghaggar at various towns and cities located in the catchment area of the river. As of now, out of 30 towns, which are discharging their wastewater into river Ghaggar, a total of 43 STPs need to be installed out of which 20 STPs have already been installed, 4 are under installation and remaining 19 are under various stages of planning for establishment.
- 1.5. **Directions issued by NGT**
  - 1.5.1. National Green Tribunal (NGT) vide its order dated 7.08.18 passed in case OA no. 138 of 2016 and O.A. no. 139 of 2016 directed to restore the standard of water quality in the river Ghaggar to the prescribed level. NGT also constituted an 'Executing Committee' under Chairmanship of Justice Pritam Pal, State level Special Task Force under Chief Secretary and District level Special Task Force under Deputy Commissioner to monitor the compliance of the order.
  - 1.5.2. NGT vide another order dated 20.09.18 passed in OA no. 673/2018 titled as news item published in "The Hindu" authored by Shri. Jacob Kosuhy titled "More river stretches are now critically polluted: CPCB" has directed to prepare Action Plans within two months for bringing all the polluted river stretches to be fit at least for bathing purposes (i.e BOD <3 mg/l and FC < 500 MPN/100 ml) within six months from the date of finalization of the action plans.
  - 1.5.3. There are 4 number of polluted river stretches falling under the jurisdiction of State of Punjab as per the details given in the judgement:
    - (i). Ghaggar (Sardulgarh to Mubarkpur)
    - (ii). Sutlej (Roopnagar to Harike bridge)
    - (iii). Kali Bein (SultanpurLodhi to Confluence point to Beas)
    - (iv). Beas (along Mukerian)
  - 1.5.4. It has been directed that the action plans be prepared by four-member Committee comprising Director, Environment; Director, Urban Development; Director Industries; Member Secretary, State Pollution Control Board of concerned State. This Committee will also be the Monitoring Committee for execution of the action plan. The Committee may be called "River Rejuvenation Committee" (RRC). The RRC will function under the overall supervision and coordination of Principal Secretary, Environment. The Chief Secretaries of the State and Administrators / Advisors to Administrators of the Union Territories will be personally accountable for failure to formulate action plan, as directed.

## Chapter 2 – Vision, Mission and Strategy

### 2.1. **Overarching Vision of the State - Mission Tandrust Punjab**

The Government of Punjab has launched Mission Tandrust Punjab to make Punjab a healthy State with healthy people by ensuring the quality of air, water, food and a good living Environment. Mission Tandrust Punjab comprises of nine sub missions namely Clean Air, Clean Water, Improve Waste Management, Safe Food, Safe Drugs, Preventive Health, Khedo Punjab, Green Punjab, Conservation Agriculture.

### 2.2. **Vision for Clean Ghaggar**

To restore the quality of water in Ghaggar to prescribed standards to ensure ecological balance and socio-economic well being of the people.

### 2.3. **Mission Clean Ghaggar**

To prepare and implement a comprehensive action plan for clean Ghaggar:

- (i). Creating awareness about the adverse impact of water pollution
- (ii). Identifying the sources of water pollution
- (iii). Setting up facilities for treating the pollutants
- (iv). Ensuring effective operations of the facilities
- (v). Ensuring effective monitoring of the quality of water
- (vi). Mitigating adverse impact on health of the people in the surrounding areas

### 2.4. **Strategy for Clean Ghaggar**

#### 2.4.1. **Identification of the Stakeholders**

The State of Punjab envisages a comprehensive plan for cleaning of river Ghaggar by involving all the Stakeholders namely:

- (i). Department of Science, Technology and Environment
  - (a). Directorate of Environment and Climate Change
  - (b). Punjab Pollution Control Board
- (ii). Department of Water Resources
  - (a). Chief Engineer, Drainage
- (iii). Department of Local Government
  - (a). Municipal Corporations/ Municipal Councils/ Nagar Panchayats
  - (b). Punjab Water Supply and Sewerage Board
- (iv). Department of Housing and Urban Development
  - (a). Greater Mohali Area Development Authority
  - (b). Patiala Development Authority
- (v). Department of Rural Development and Panchayat
  - (a). Directorate of Rural Development and Panchayat
  - (b). District/ Block Development and Panchayat Officers and Village Panchayats
- (vi). Department of Industries and Commerce
  - (a). Punjab Small Industries and Export Corporation
- (vii). Department of Agriculture
  - (a). Directorate of Soil and Water conservation

(viii). Department of Health and Family Welfare

(ix). District Administration

**2.4.2. Nodal Department**

The Department of Science, Technology and Environment will be the nodal department for coordinating and monitoring activities of the plan.

**2.4.3. Integration of Departmental plans**

The Nodal Department will integrate plans of individual departments for control of pollution from various sources and prepare a comprehensive plan and will coordinate its execution by tracking the progress through a centralized IT platform.

**2.4.4. Monitoring and Governance**

(i). There will be rigorous monitoring of implementation of the comprehensive plan:

(a). Monitoring of physical and financial progress of works being executed

(b). Monitoring of operations and management of facilities set up

(c). Monitoring of quality of water

(d). Monitoring of health and diseases in the surrounding areas

(e). Monitoring of awareness campaign

(ii). Setting up of IT platform for tracking progress and analysis

(iii). The monitoring will be done at the District level, State Level and Executing Committee set up by NGT

### Chapter 3 – Current Status and Trends of Water Quality in Ghaggar

#### 3.1. Monitoring Locations

The water quality of river Ghaggar is being monitored at 14 locations, starting from upstream of Mubarikpur (where it enters State of Punjab) upto Sardulgarh in Distt. Mansa on monthly basis:

- (i). Ghaggar at Mubarikpur Rest House
- (ii). Ghaggar at Bhankarpur, Dera Bassi
- (iii). Ghaggar at D/s Chattbir
- (iv). Ghaggar at U/s Jharmal Nadi
- (v). Ghaggar at D/s Jharmal Nadi
- (vi). Ghaggar at U/s Dhakansu Nallah
- (vii). Ghaggar at D/s Dhakansu Nallah
- (viii). Ghaggar at Rattanheri D/s of Patiala Nadi
- (ix). Ghaggar at 100 m D/s of Khanauri
- (x). Ghaggar at Moonak
- (xi). Ghaggar at U/s Sardulgarh
- (xii). Ghaggar at D/s Sardulgarh
- (xiii). Ghaggar at U/s Sagarpara (wef May 2018)
- (xiv). Ghaggar at D/s Sagarpara (wef May 2018)

#### 3.2. CPCB's norms for designated best use

The Central pollution Control Board has laid down criteria for designated best use class of the water of the water bodies, which is as under:

| S.N. | Constituent Parameters                   | Designated Best Use Class |         |      |         |       |
|------|--|---------------------------|---------|------|---------|-------|
|      |  | A                         | B       | C    | D       | E     |
| 1.   | Dissolved oxygen, mg/l, Min              | 6                         | 5       | 4    | 4       | -     |
| 2.   | Biochemical Oxygen Demand, mg/l, Max     | 2                         | 3       | 3    | -       | -     |
| 3.   | Total coliform Organisms MPN/100 ml, Max | 50                        | 500     | 5000 | -       | -     |
| 4.   | pH value                                 | 6.5-8.5                   | 6.5-8.5 | 6-9  | 6.5-8.5 | 6-8.5 |
| 5.   | Free ammonia (As N) mg/l, Max            | -                         | -       | -    | 1.2     | -     |
| 6.   | Electrical conductivity $\mu$ s/cm max.  | -                         | -       | -    | -       | 2250  |

|    |                               |   |   |   |   |     |
|----|-------------------------------|---|---|---|---|-----|
| 7. | Sodium absorption ratio, Max. | - | - | - | - | 2.6 |
| 8. | Boron, mg/l, Max              | - | - | - | - | 2   |

**Note:**

Class A: Drinking water sources without conventional treatment, but, after disinfection.

Class B: Organized outdoor bathing.

Class C: Drinking water sources with conventional treatment followed by disinfection.

Class D: Propagation of wild life and fisheries.

Class E: Irrigation, Industrial cooling and controlled water disposal.

**3.3. Current Status of Quality of Water in Ghaggar**

3.3.1. The representative quality of water of river Ghaggar at 14 locations for the month of October, 2018 is given in **Annexure-A**. The quality of water at few locations has degraded which may pose threat of water borne diseases to the health of people residing in the catchment area of river Ghaggar. The river Ghaggar being an unlined water body and the polluted water flowing in it might have deteriorated the groundwater quality in the catchment area. In order to ascertain the extent of effect of polluted water of river Ghaggar on the health of inhabitants, the State Government has planned to hold health check camps in the catchments areas of river Ghaggar.

3.3.2. The details of analysis results of surface water monitoring under National Water Monitoring Program (NWMP) for the year 2015-16, 2016-17 & 2017-18 are given in **Annexure-B**. It is evident that Class-D quality of water enters the State of Punjab, which becomes Class-E, thereafter, while travelling a distance of approximately 165 Km. The deterioration of water quality is due to untreated waste being discharged in the river directly or indirectly.

3.3.3. It is pertinent to mention here that earlier the river Ghaggar was a perennial water body, but, due to construction of check dams and watersheds, it has become a non-perennial water body carrying sewage and sillage of the habitation areas located in its catchment area. It finally terminates near Sardulgarh.

**3.4. Ground Water Quality in the catchment area of river Ghaggar**

**3.4.1. Sampling by Central Ground Water Board**

The Central Ground Water Board (CGWB) has carried out ground water sampling in the catchment area of river Ghaggar and the information supplied by CGWB regarding quality of ground water is as under:

(i). **Ground Water Quality**

During the month of May, 2017 ground water samples were collected from the structures spread uniformly over the area. The water samples were analyzed for major cations (Ca, Mg, Na, K) and anions (CO<sub>3</sub>, HCO<sub>3</sub>, Cl, NO<sub>3</sub>, SO<sub>4</sub>) in addition to pH, EC, F, SiO<sub>2</sub>, PO<sub>4</sub> and TH as CaCO<sub>3</sub> and Heavy Metals such as Cd, Cu, Mn, Pb, Zn in the Regional Chemical Laboratory by following 'Standard analytical procedures' as given in APHA 2017.

(ii). **Composition of Water**

Chemical analysis shows that the ground water is slightly to moderately alkaline in nature. The pH values range from 7.44 at Sirsini in SAS Nagar district to 9.71 at Fatta Maluka in Mansa district. Hardness reported in terms of CaCO<sub>3</sub> ranges from 31 at Bhikhi in Mansa to 936 mg/l at Raipur in Mansa district. EC value of ground water in the area varies from 233 at

Dehri in SAS Nagar district to 4898  $\mu\text{S}/\text{cm}$  at Raipur in Mansa district. Chloride content of ground water normally follows the distribution pattern of EC and it ranges from 14 mg/l to 681 mg/l in the Ghaggar Basin of the State. Chloride concentration above 400 mg/l gives salty taste to water, Nitrate in ground water above 5.0 mg/l reflects contamination at some stage of its percolation and circulation. Nitrate in water samples varies from traces to 208 mg/l at Burj Bhalaike in Mansa district, whereas the fluoride concentration in ground water ranges from BDL to 5.63 mg/l at Bhatari in Fatehgarh Sahib District. Fluoride concentration upto 1.0 mg/l in drinking water is desirable, upto 1.5 mg/l is permitted and above 1.5 mg/l is injurious.

(iii). **Heavy Metals**

Presence of heavy metals in ground water is also monitored by CGWB and studies were carried out during the year 2017. Some elements such as Fe, Mn, Zn, Cu, Se, Sn, Mo are essential in trace amounts for growth and development of living organisms as well as plants. Nevertheless, these are hazardous in large amounts. The details are as under:

- (a). Cadmium in shallow ground water varies from 0.00006 mg/l at Goga in district SAS Nagar to 0.02 mg/l at Raipur in district Mansa. Copper in shallow ground water has been found to be within permissible limits of 1.5 mg/l (as per BIS Limit) except at Issapur in Dera Bassi Block of district SAS Nagar.
- (b). Manganese in shallow ground water ranges from 0.0024 mg/l at Sunam in district Sangrur to 1.457 mg/l at Bassama Pipla in district Patiala. Concentration of Lead in shallow ground water ranges from 0.0008mg/l at Handesra in district SAS Nagar to 1.896 mg/l at Lachru Kalan in district Patiala.
- (c). Zinc in shallow ground water ranges from 0.002 mg/l at Patran in district Patiala to 5.615 mg/l at Bhutan in district Sangrur. All locations show that Zinc has been observed within permissible limit of 15 mg/l (as per BIS Limit). Arsenic in shallow ground water at all locations has been observed within permissible limits.

3.4.2. **Ground water sampling in the vicinity of river Ghaggar**

The Punjab Pollution Control Board has carried out ground water sampling at 79 locations in and around 62 industries (in some industries, more than one sample was drawn) to ascertain the quality of ground water in respect of parameters such as fluoride, sulphate, cadmium, copper, lead, nickel, zinc, arsenic, mercury and oil & grease. Out of these, 71 samples were found conforming to the prescribed standards as laid down in IS: 10500 – 2012. In 8 samples, the concentration of either fluoride or sulphate or both was found beyond the prescribed standards. The Board will take necessary action and monitor the quality of ground water regularly and the same will be reviewed at the district and state level.

## Chapter 4 – Sources of Water Pollution in River Ghaggar

### 4.1. Major Drains

4.1.1. There are 13 major drains/ choes/ nallahs which are directly discharging into the river Ghaggar. The details of these drains/ choes/ nallahs are given in **Annexure-C**. There are 29 creeks which are discharging into 13 major drains, which are given in **Annexure-D**. It is also mentioned here that wastewater of 47 Local Bodies/ Villages is directly discharged into river Ghaggar. The list of the same is given in **Annexure –E**. The list of urban and rural habitations discharging indirectly through various drains/nallahs/creeks is given in **Annexure-F**.

4.1.2. There are following major sources polluting the river Ghaggar:

- (i). Sewage/ sullage generated from Urban Areas
- (ii). Sewage/ sullage generated from Rural Areas
- (iii). Industrial sources

### 4.2. Sewage/ sullage generated from Urban Areas

4.2.1. There are 30 local bodies which are discharging their wastewater either directly or indirectly into river Ghaggar. STPs have been installed and commissioned in 14 towns meeting their full requirements. STPs have been installed in another 4 towns meeting partial requirement. The details of fully completed and partially completed STPs are given in **Annexure-G (A) and G(B)**. Status regarding total sewage generation, available capacity of the STPs, additional STPs to be installed and balance quantity of sewage to be treated is given in **Annexure-G (C)**.

### 4.3. Sewage/ sullage generated from Rural Areas

There are 389 villages, which are discharging wastewater through various creeks and drains into Ghaggar. The Details of these villages are given in **Annexure-F**. In order to install necessary treatment facilities to treat the wastewater of rural areas, 389 villages will be prioritise into following phases:

**Phase 1:** Villages having discharge more than 300 KLD – 114 villages

**Phase 2:** Villages having discharge between 100 KLD and 300 KLD – 157 villages

**Phase 3:** Villages having discharge less than 100 KLD – 118 villages

### 4.4. Industrial Sources

#### 4.4.1. Industrial units located at Dera Bassi and adjoining areas

- (i). There are 41 water polluting industries in the catchment area of river Ghaggar at Dera Bassi and adjoining areas. None of the industries is allowed to discharge the untreated / treated wastewater into the drains/ choes leading to river Ghaggar. A list of these industries is as per **Annexure-H**. The brief detail about these industries is as under:

| Sr. No. | Type of industry | No. of units | No. of industries installed ETPs | No. of industries installed online continous monitoring system |
|---------|------------------|--------------|----------------------------------|--|
|         |                  |              |                                  |  |

|     |                                      |    |       |   |
|-----|--------------------------------------|----|-------|---|
| 1)  | Pharmaceutical industries            | 11 | 11    | 5 |
| 2)  | Pharmaceutical formulation units     | 3  | 3     | 0 |
| 3)  | Dyeing units                         | 8  | 8     | 0 |
| 4)  | Pulp & Paper mills                   | 2  | 2     | 2 |
| 5)  | Electroplating industries            | 5  | CETP* | 0 |
| 6)  | Engineering goods units              | 3  | CETP  |   |
| 7)  | Pesticide manufacturing              | 1  | 1     | 1 |
| 8)  | Distillery unit                      | 1  | 1     | 1 |
| 9)  | Brewery unit                         | 1  | 1     | 0 |
| 10) | Meat Plant                           | 2  | 2     | 0 |
| 11) | Gelatine manufacturing unit          | 1  | 1     | 0 |
| 12) | Organic Chemical manufacturing units | 2  | 2     | 0 |
| 13) | Resin Manufacturing                  | 1  | 1     | 0 |

*\* Tied up with M/s JBR Technologies (P) Ltd., Ludhiana, who is the operator of the CETP at Ludhiana meant for treatment of wastewater containing heavy metals.*

- (ii). However, the screening plants of Dera Bassi area are partly discharging their wastewater into river Ghaggar, but, their wastewater neither contains any organic materials contributing BOD/ COD nor any chemicals. Therefore, the PPCB envisages to pursue the industries to devise a mechanism for 100% recirculation of the wastewater generated from the washing of river bed material.

#### 4.4.2. Industrial units located in the catchment area of Patiala Nadi

- (i). There are 7 water polluting industries in Distt. Patiala in the catchment area of river Ghaggar. A list of these industries is attached herewith as **Annexure-I**. The break-up of these industries is as under:

| Sr. No. | Type of industry | No. of units | No. of industries installed ETPs | No. of industries installed online continuous monitoring system |
|---------|------------------|--------------|----------------------------------|---|
|---------|------------------|--------------|----------------------------------|---|

|   |                    |   |   |   |
|---|--------------------|---|---|---|
| 1 | Pulp & Paper mills | 4 | 4 | 3 |
| 2 | Distillery unit    | 1 | 1 | 1 |
| 3 | Board mills        | 2 | 2 | 0 |

- (ii). Since, all these industries are located near the bank of Patiala Nadi/ Jacob drain, as such, there is need to monitor all these industries in odd hours to rule out the possibility for discharge of wastewater into said drains during odd hours.

## Chapter 5 – Other sources of pollution and their management

### 5.1. Bio Medical Waste

- 5.1.1. The bio-medical waste of all the Healthcare Facilities in the State is collected, transported, treated and disposed of by 4 authorized Common Bio-Medical Waste Treatment Facilities (CBWTF) located at Ludhiana, SAS Nagar, Amritsar and Pathankot. The Bio-Medical Waste generation in the State is in the range of 14-15 tons per day (TPD) depending upon patient load. The status of HCFs operating in towns falling in catchment areas of river Ghaggar is given in **Annexure-J**.
- 5.1.2. The collection vehicles of the CBWTF operators are equipped with Global Positioning System (GPS) with access to Punjab Pollution Control Board (PPCB). The CBWTF operators are using Bar-code based software system for collection of bio-medical waste from Healthcare Facilities since 2012 and the data of collection of bio-medical waste from the healthcare facility is sent online to server within 1-2 minutes and the access of same is available with PPCB. CCTV cameras are also installed in the processing areas of all the 4 CBWTF operators with access to PPCB to monitor the working of the facility.
- 5.1.3. The stack of the incinerator installed in all the 4 CBWTFs have been provided with Online Continuous Emission Monitoring System and the data is transferred online to PPCB and CPCB. This system helps in observing/monitoring the emissions discharged while treatment of bio-medical waste is being done.
- 5.1.4. Since, the Bio-Medical Waste generated in the catchment area of River Ghaggar is handled and managed in proper manner through the Common Bio-Medical Waste Treatment Facilities (CBWTF), as such, there is no impact of this waste on the water quality of River Ghaggar.

### 5.2. Hazardous Waste

- 5.2.1. The Government of India has framed Hazardous and Other Wastes (Management and Trans-boundary Movement) Rules, 2016 for the scientific handling of hazardous waste. The occupier of the facility is to apply for authorization for handling, generation, collection, storage, packaging, transportation, use, treatment, processing, recycling, recovery, pre-processing, co-processing, utilization, offering for sale, transfer or disposal of the waste to the Board. A pass book is issued along-with authorization to the actual user of the hazardous waste.
- 5.2.2. As per the interim order dt. 14-10-2003 of Hon'ble Supreme Court in Writ Petition (Civil) No. 657 of 1995, regarding handling of hazardous waste and development of common treatment, storage and disposal facility, a Common Treatment, Storage and Disposal Facility (CTSDF) at Village Nimbuan, Tehsil Dera Bassi, Distt. SAS Nagar was constructed by M/s Nimbuan Green Field Punjab Limited (NGPL) and commissioned in October, 2007.
- 5.2.3. The facility has been designed for 15 years capacity considering the generation of storable quantity of hazardous waste as 36,000MTA based on the assessment study carried out by M/s Tetrattech India Limited. The total capacity of the facility is 5,40,000 MT. The capacity to store hazardous waste in the existing CTSDF is sufficient upto year 2030 at the present rate of generation. The vehicles used by the common facility operator for transportation of hazardous waste are equipped with GPS system.
- 5.2.4. At present no common incinerator has been installed at CTSDF and the same is under planning. All the major industries generating incinerable hazardous waste have installed captive incinerator in their premises for disposal of incinerable waste. Eighteen such captive incinerators are in operation for the disposal of incinerable waste. In addition to the above, the incinerable waste from the

remaining industries is received by the operator of CTSDf and is incinerated at the incinerator installed by the CTSDf at its another unit at Kanpur.

5.2.5. Since, the Hazardous Waste generated by the industries in the catchment area of River Ghaggar is handled and managed in proper manner through the Common Treatment, Storage & Disposal Facility installed at Vill. Nimbuan, Tehsil Dera Bassi, Distt. SAS Nagar, as such, there is no impact of this waste on the water quality of River Ghaggar.

5.2.6. Data of quantity of hazardous waste generated during the period January, 2018 to December, 2018 is as under :

| S.N. | Name of District | Quantity of hazardous waste generated (in TPA) |            |                     |
|------|------------------|--|------------|---------------------|
|      |                  | Incinerable                                    | Disposable | Recyclable          |
| 1    | Sangrur          | 72.53  | 664.176    | 332.426             |
| 2.   | Mansa            | 92.08  | 2.2        | 170.33 & 8400 drums |
| 3.   | SAS Nagar        | 1453.148                                       | 7263.23    | 120                 |
| 4.   | Patiala          | 243.18   | 1053.39    | 5355.75             |

### 5.3. E-Waste

5.3.1. Government of India has framed E-Waste (Management & Handling) Rules, 2016 as amended on 22.3.2018. PPCB has granted NOC / 'Consent to Operate' to one dismantling facility, M/s Ramky Enviro Engineers Limited, Vill. Nimbua, Tehsil DeraBassi, Distt. SAS Nagar with capacity to handle 4 TPD of E-waste.

5.3.2. PPCB has granted 'Consent to Establish' to two industries i.e. M/s Black Diamond Cements Pvt. Ltd., Tehsil Dera Bassi, district SAS Nagar and M/s Spreco Recycling, Tehsil Raikot, District Ludhiana to establish E-Waste recycling facility of capacities 30 TPD and 0.8 TPD respectively. These said industries have yet not commissioned the said facility. Two parties each in Amritsar and Jalandhar, have also been given go ahead by PPCB for setting up of the E-Waste recycling facilities.

5.3.3. Although, the channelization of E-Waste has recently been started, disposal of such waste has never been noticed in the River Ghaggar.

### 5.4. Solid Waste

5.4.1. The Department of Local Government (DLG) vide notification dated 09.07.2018 has notified the Punjab State Solid Waste Management Policy, 2018. In view of the past experience, it has been decided to adopt both decentralized and centralized solid waste management approach depending upon the profile of the locality.

5.4.2. Further, in compliance to the orders of the Hon'ble Punjab and Haryana High Court in CWP No. 7039 of 2010, a Common Action Plan containing 10 points was prepared in 2012 for viable alternative measures for disposal of garbage till setting up of Solid Waste Management Plants. The Directorate of Local Government is the implementing agency for this Action Plan and PPCB is monitoring the status of compliance. Out of 167 Urban Local Bodies (ULBs), 113 ULBs are partially complying with the Common action plan and remaining 54 ULBs are yet to comply with the same.

5.4.3. The Ministry of Environment and Forests, GOI has notified Solid Waste Management Rules, 2016. Implementation of these Rules is being monitored by the Board. As per Rule 24 of the Solid Waste Management Rules, 2016, the local body shall submit its annual report to the Board on or before the 30th day of June every year. Further, the Board is required to submit the consolidated annual

report to the Central Pollution Control Board and Ministry of Urban Development by the 31st day of July of each year. The same are regularly uploaded on the official website of the Board also.

## Chapter 6 – Utilization of Treated Wastewater and Sludge from STPs

### 6.1. The State Treated Waste Utilization Policy

- 6.1.1. The Department of Local Govt. has notified "The State Treated Waste Policy -2017" to promote the recycling and reusing the treated sewage for non-potable applications and to make sewage project economical and environmentally sustainable,.
- 6.1.2. The policy envisages to tackle the issues pertaining to the provisions of adequate wastewater collection and treatment facilities, consideration of treated effluents as resource for reuse in irrigation/ industrial/ other fields and thereby improvement of the socio-economic conditions in the areas to served by the proposed systems.
- 6.1.3. The Department of Soil and Water Conservation, Punjab is executing projects for utilization of treated wastewater for irrigation of various towns/cities across the State by laying network of underground pipelines in agricultural fields.

### 6.2. Utilization of treated wastewater in the catchment area of Ghaggar River

- 6.2.1. The Department of Soil and Conservation has already commissioned irrigation projects from 8 STPs to utilise the treated wastewater of the STPs located in the catchment area of River Ghaggar. Two more projects are under progress. The details are given in **Annexure-K**. These projects utilise about 33 MLD of treated wastewater and about 959 hectares of agricultural land is being irrigated.
- 6.2.2. From the experience of using STP's treated wastewater for irrigation purposes, following issues emerge, which need to be addressed:
  - (i). In case of STPs based on SBR technology, the discharge of treated wastewater is not continuous and for the gap period of about 45 minutes, the pump through which the treated wastewater is pumped for utilization onto land for irrigation is required to be shutdown, which discourages the farmers to utilize the treated wastewater. Therefore, there is a need to provide a storage tank of sufficient capacity for treated wastewater so that without shutting down the pumping station, the wastewater can be made available to the farmers.
  - (ii). The payment of electricity bill is required to be regulated by fixing the responsibility of the concerned department and funds for this purpose need to be made available with the operating agency.
  - (iii). The farmers need to be educated and made aware about the advantages of use of treated wastewater for irrigation purpose.

### 6.3. Management of sludge from STPs

The management of sludge from STPs will be carried out as per the standards laid down by the Board from time to time. The quality of sludge and compliance will be moitored by the Board and reported for review at the district and State level.

## Chapter 7 – Measures for control of water pollution and timelines

### 7.1. Categories of Projects

7.1.1. The action plan envisages the following facilities to be set up/ upgraded to meet the challenges of pollution in river Ghaggar:

- (i). Setting up of treatment facilities for sewage/sullage in Urban areas
- (ii). Setting up of online system for monitoring STPs
- (iii). Setting up of treatment facilities for sewage/sullage in Rural areas
- (iv). Setting up of facilities for reuse of treated wastewater
- (v). Setting up of treatment facilities in Industrial Areas
- (vi). Setting up of online system for monitoring industrial effluents

7.1.2. Each project will have timelines for various stages of the project. Following stages have been identified to monitor the progress:

| Name of the Project        |  |            |                 |
|----------------------------|--|------------|-----------------|
| Brief Scope of the Project |  |            |                 |
| Sno.                       | Stage  | Start Date | Completion Date |
| 1                          | Preparation of DPR                                 |            |                 |
| 2                          | Financial Closure                                  |            |                 |
| 3                          | Tendering of the Work including allotment          |            |                 |
| 4                          | Commencement of Work                               |            |                 |
| 5                          | Quarterly Milestones during the construction Stage |            |                 |
| 6                          | Completion and Commissioning                       |            |                 |

### 7.2. Timelines for Setting up of treatment facilities for sewage/sullage in Urban areas

- (i). **Department of Local Government**  
The Department of Local Government has chalked out plans for setting up of new STPs, upgrading STPs and laying down sewerage system for left out areas. The details are given in **Annexure-L**.
- (ii). **Military Engineering Service, Patiala**

Military Engineering Service, Patiala has given the plan for completing the STP, which is given at **Annexure-M**.

**7.3. Timelines for installing online continuous monitoring system for STPs**

In order to get real time data of the quality of treated wastewater, there is need to install Online Continuous Monitoring System with facility of flow meter at the outlet of all the STPs of the towns / cities located in the catchment area of River Ghaggar and this system should be attached with server of the concerned department as well as PPCB so that quality of treated wastewater can be put in the public domain. Further CCTV cameras will be installed to monitor the operation of STPs. All concerned agencies, which are operating the facilities will ensure online system as per the timelines. The timelines for installing online systems and CCTVs is given in **Annexure –N**.

**7.4. Timelines for Setting up of treatment facilities for sewage/sullage in Rural areas**

The Department of Rural Development and Panchayat has to prioritise the villages for setting up of treatment facilities. The complete list of villages identified is given in **Annexure-O**. The Department has yet to finalize the treatment technology to be adopted in rural areas.

**7.5. Timelines for setting up of Reuse of treated wastewater**

The Department of Soil and Water Conservation has given the timelines for setting up of reuse of treated wastewater. The details are given in **Annexure-P**.

**7.6. Timelines for setting up of treatment facilities in Industrial Areas**

The Department of Industries and Commerce through Punjab State Industries & Export Corporation (PSIEC) is currently executing two projects. The details are given in **Annexure-Q**.

**7.7. Timelines for installing online continuous monitoring system by Industries**

All the 17 categories of industries have installed online continuous monitoring system, which are attached with server of CPCB as well as PPCB. Therefore, out of 48 industries, 15 fall in the list of 17 categories of industries, have already installed online continuous monitoring system. As such, the remaining industries having discharge of trade effluent 50 KLD or more are required to install Online Continuous Monitoring System with facility of flow meter at the outlet of their ETPs. The time schedule for installing online system is given in **Annexure -R**

## Chapter 8 – Monitoring Requirements and Formats

### 8.1. Monitoring Requirements

There are following key components of monitoring

- (i). Monitoring of progress of projects for setting up of new/ upgraded facilities
- (ii). Monitoring of operations and management of STPs
- (iii). Monitoring of ETPs and Industrial Effluents
- (iv). Monitoring of Quality of Water of River Ghaggar
- (v). Monitoring of Ground Water quality
- (vi). Monitoring of adverse impact on health of the people in surrounding areas due to water pollution
- (vii). Monitoring of Awareness campaign
- (viii). Monitoring of other violations of laws/ regulations

### 8.2. Monitoring of Progress of projects for setting up of new/up graded facilities

In order to ensure that the stakeholder departments adhere to the timelines given for setting up of new/upgraded treatment facilities, the departments shall submit progress of the project on monthly basis in the proforma attached as **Annexure-S** for monitoring.

### 8.3. Monitoring of operations and management of STPs

To ensure proper functioning of the STPs, regular availability of funds for operation and maintenance has to be ensured. All the STPs should also have standby source of power. The O&M contracts shall have the responsibilities of the Operator clearly defined. Monthly reports as per **Annexure-T & U** will be submitted for monitoring.

### 8.4. Monitoring of ETP's and Industrial Effluents

Punjab Pollution Control Board shall visit the industries located in the catchment area of River Ghaggar as per protocol regarding frequency of visit to the industries to carry out monitoring of Effluent Treatment Plants & ground water and maintain proper record of all these visits. PPCB will submit report as per the proforma given in **Annexure-V**.

### 8.5. Monitoring of Quality of Water of River Ghaggar

The Punjab Pollution Control Board shall continue to monitor the quality of water of River Ghaggar at 14 locations under National Water Monitoring Programme and shall report to State Level Special Task Force on monthly basis in the proforma as per **Annexure-W**. Further, the 6 continuous monitoring systems will be installed to get the real time data regarding quality of water of river Ghaggar, which will be put in public domain for information of public in general.

### 8.6. Monitoring of Ground Water Quality

The Punjab Pollution Control Board will monitor the ground water quality by taking samples in the Industrial areas. The data from Central Ground Board will also be taken. The reports will be presented for review at the district and state level.

**8.7. Monitoring of adverse impact on health of the people in surrounding areas**

The District Level Special Task Force shall get organized / conducted the health check up camps of the people in the catchment area of River Ghaggar and shall submit the monthly report in proforma as per **Annexure-X**, which will be reviewed by State Level Special Task Force and the Executing Committee.

**8.8. Monitoring of Awareness campaign**

The PPCB will organize awareness programme in partnership with the Department of Health & Family Welfare and other stakeholders in the habitation area falling in the catchment area in River Ghaggar to educate them about the harmful effects of water pollution. The PPCB shall submit monthly report in the proforma as per **Annexure-Y**.

**8.9. Monitoring of other violations of laws/ regulations**

The PPCB will monitor any violation not covered above and shall take appropriate action against the violator and report in this regard to the State Level Special Task Force and Executing Committee.

**8.10. Role of Nodal officers of Stakeholder departments**

The Nodal officers of the stakeholder departments will be responsible to send the status reports of the projects related to their departments and monitoring reports in the prescribed proformas. The Departments will appoint Nodal Officers, who would have necessary authority and influence to collect and provide reports. Once the centralised web based IT system is developed, the relevant officers shall directly update the information on the portal and Nodal officer shall monitor the same.

## Chapter 9 – Governance and Supervision

### 9.1. Three Tier Monitoring

9.1.1. Monitoring will be done by the concerned Departments/ Agencies, which are executing or responsible for particular activities and it will be their primary responsibility to ensure compliance of the Action Plan.

9.1.2. In addition, there will be three level of Committees to review and monitor the status:

- (i). District Level Special Task Force
- (ii). River Rejuvenation Committee
- (iii). State Level Special Task Force / Executing Committee

9.1.3. PPCB will set up a dedicated team for supporting coordination and monitoring of the Action Plan. The team will collate and analyse data from all the concerned agencies and escalate the issues and challenges to the appropriate level for resolution. It will also develop suitable IT platform for monitoring purposes.

### 9.2. District Level Special Task Force (DLSTF)

- (i). The mandate of this task force as per order dated 14.11.2018 issued by the Govt. of Punjab, Deptt. of Science, Technology & Environment is as under:
  - (a). It shall identify all persons responsible for violation of law and norms relating to pollution in Ghaggar river and the drains joining it.
  - (b). It shall review action by the Competent Authority w.r.t. Civil and Criminal action against the violators as well as those who fail to perform their duties in this regard.
  - (c). It shall submit a monthly report on all actions taken by it to the State Level Special Task Force (SLSTF), by first week of every month.
  - (d). It shall assist the SLSTF in preparation of the action plan and finalizing the timelines.
  - (e). It shall involve Civil Society Organizations and public participation in preparing the action plan in all the relevant areas.
  - (f). It shall ensure periodic sampling of river water as well as ground water to check water quality.

### 9.3. River Rejuvenation Committee

The River Rejuvenation Committee will monitor the Status of implementation of the Action Plan at the State Level.

### 9.4. State Level Special Task Force

- (i). The mandate of this task force as per order dated 14.11.2018 issued by the Govt. of Punjab, Deptt. of Science, Technology & Environment is as under:
  - (a). It shall finalize the Action Plan with firm timelines and review the same.
  - (b). It shall submit quarterly report on action taken during the quarter to the Central Pollution Control Board.
  - (c). It will also ensure that the quarterly Action Taken Reports are uploaded on the website of Punjab Pollution Control Board.
  - (d). It shall Co-ordinate with the Executing Committee, appointed by NGT

- (ii). The State Level Special Task Force will accordingly hold regular meetings to review the progress and taken necessary action against the defaulters.

9.5. **Executing Committee**

- (i). The National Green Tribunal (NGT) has constituted an 'Executing Committee' with the following mandate:
  - (a). The Committee is entitled to issue appropriate directions to concerned authorities for ensuring compliance of the orders of the Hon'ble Tribunal.
  - (b). The target of the Committee will be to restore the standard of water quality in the river to the prescribed level.
  - (c). The Committee may carry out personal visits, if necessary or call for information or reports.
  - (d). The Committee may also consider need for getting organised health camps and need for providing clean drinking water for the affected inhabitants.
  - (e). The sampling of ground water may also be done apart from the sampling of the river water periodically.
  - (f). Submit fortnightly basis report to the Hon'ble NGT through e-mail i.e. [filing.ngt@gmail.com](mailto:filing.ngt@gmail.com)
- (ii). The Executing Committee will accordingly review the progress from time to time and issue necessary directions to the concerned authorities.

## Chapter 10 – Risk Mitigation Plan

### 10.1. Identification of Major Risks in the Action Plan

10.1.1. The Action Plan to clean Ghaggar and restore the quality of water to the prescribed standards is a complex multi sectoral and multi agency action plan. Successful implementation would face many challenges. Following major risks have been identified

- (i). Accuracy and completeness of Baseline Data
- (ii). Accuracy and completeness of Project timelines
- (iii). Financial closure and timely releases of funds
- (iv). Discharge from unapproved habitation areas
- (v). Tracking the Progress and program management
- (vi). Resolution of Administrative and Technical Issues

### 10.2. Mitigation Plan for identified Risks

It is important to devise strategies and plans to mitigate the identified risks. Action plan will remain on paper if the bottlenecks and the risks are not dealt satisfactorily. Mitigation plan for each of the identified risk has been prepared in the following paras.

### 10.3. Accuracy and completeness of Baseline Data

Due to paucity of time, the information about the sources of pollution, current treatment facilities, quantity and quality of discharges etc. could not be properly validated and there could be gaps in the same, which may lead to substantial alterations in the plans. In order to ensure accuracy and completeness of baseline data, another round of validation of the same would be got done through the respective Administrative Departments and Action plan updated accordingly. This will be completed in 30 days.

### 10.4. Accuracy and completeness of Project timelines

Due to paucity of time, the information about the project timelines could not be properly validated and deliberated and there could be gaps in the same. In order to ensure accuracy and completeness of Project timelines, each Administrative Department would be asked to validate the project timelines carefully after taking into account all the relevant factors. The needful will be done in 45 days in parallel to the activity in para 10.3 and Action plan updated accordingly.

### 10.5. Discharge from unapproved habitation areas

There are certain unapproved colonies or villages, which have come under municipal limit, which are currently not covered in the plans but are discharging their untreated sewage directly or indirectly into river Ghaggar. The concerned authorities for urban and rural areas will be asked to identify such localities and plan for their connectivity with the main sewer or development of the sewer system shall be worked out.

### 10.6. Financial closure and timely releases of funds

Availability of funds for completing the projects on time is a major risk. Some of the projects have still not achieved financial closure. It has also been observed that the release of funds is often not

regular even though the project had appropriate financial approval. In case of operation and maintenance of the facilities, substantial blame has been apportioned to lack of regular release of funds for maintenance, which resulted in failure of STPs to treat the wastewater and as a result untreated water has been discharged in the drain. In order to overcome the challenges, efforts will be made towards:

- (i). Seeking a firm commitment of Department of Finance to release the funds for the projects on priority.
- (ii). In case of operation and maintenance, seeking firm commitment of ULBs/ Department of Local Government to treat this as committed expenditure according to highest priority and release the funds regularly. Further, arrangement may be worked out with the Administrative Department and Department of Finance that in case of default of ULB to pay to the operator, funds will be deducted from the grant to be released to ULB and paid directly to the Operator.

#### **10.7. Tracking the Progress and program management**

The action plan for clean Ghaggar is a complex, multi department and multi agency program and the current capacity and skill sets in PPCB are not adequate to track the progress of various milestones and carry out effective program management for successfully implementing the program. In order to mitigate the risk, a dedicated team with requisite Program Management and IT skills will be positioned to collate data, analyse the same, prepare status updates, escalate issues and assist various committees in review and issue resolution.

#### **10.8. Resolution of Administrative and Technical Issues**

There are some other administrative and technical issues, which may hold up the progress of the implementation of the Action Plan:

- (i). Acquisition of land,
- (ii). Usage of water being more than the designed norm of 135 lpcd
- (iii). Mixing of treated/ untreated industrial effluents with domestic sewage system
- (iv). Left out residential pockets need to be integrated with the System
- (v). Treatment technologies

The Program management team will continuously track and identify such issues and escalate to the appropriate level. The three tier monitoring and review system will help in resolving the issues.

**Annexure A - Representative Quality of Water for the month of October, 2018**

| S. N. | Point of Sample Collection       | pH  | DO mg/l | BOD mg/l | T.Coli MPN/100ml | Cond $\mu$ s/Cm | Boron mg/l | DBU Classification |
|-------|----------------------------------|-----|---------|----------|------------------|-----------------|------------|--------------------|
| 1.    | Ghaggar at Mubarikpur Rest House | 7.9 | 5.2     | 6        | 24000            | 528             | 0.08       | D                  |
| 2.    | Ghaggar at Bhankarpur            | 7.7 | 4.2     | 11       | 35000            | 623             | 0.10       | D                  |
| 3.    | Ghaggar at Chattbir              | 7.7 | 3.3     | 9        | 28000            | 606             | 0.10       | E                  |
| 4.    | U/s Jharmal Nadi                 | 7.4 | 3.9     | 8        | 22000            | 610             | 0.11       | E                  |
| 5.    | D/s Jharmal Nadi                 | 7.6 | 3.7     | 10       | 28000            | 756             | 0.09       | E                  |
| 6.    | U/s Dhakanshu Nallah             | 7.6 | 4.3     | 10       | 15000            | 877             | 0.09       | D                  |
| 7.    | D/s Dhakanshu Nallah             | 7.5 | 3.9     | 13       | 21000            | 898             | 0.10       | E                  |
| 8.    | Ghaggar at Rattanheri            | 7.5 | 3.7     | 14       | 22000            | 774             | 0.11       | E                  |
| 9.    | U/s Sagar Para                   | 7.5 | 4.0     | 14       | 21000            | 760             | 0.11       | D                  |
| 10.   | D/s Sagar Para                   | 7.7 | 2.9     | 36       | 28000            | 1069            | 0.12       | E                  |
| 11.   | Ghaggar at Khanauri              | 7.3 | 3.4     | 42       | 35000            | 987             | 0.10       | E                  |
| 12.   | Ghaggar at Moonak                | 7.4 | 3.0     | 39       | 28000            | 755             | 0.15       | E                  |
| 13.   | U/s Sardulgarh                   | 7.8 | 3.5     | 9        | 21000            | 871             | 0.14       | E                  |
| 14.   | D/s Sardulgarh                   | 7.8 | 3.3     | 11       | 24000            | 991             | 0.14       | E                  |

**Annexure B - Analysis Results of Surface Water Monitoring 2015-16 to 2017-18**

| Sno. | Sampling points at river Ghaggar | 2015-16   | 2016-17 | 2017-18 | 2015-16 | 2016-17 | 2017-18 | 2015-16    | 2016-17 | 2017-18 | 2015-16                 | 2016-17 | 2017-18 | 2015-16               | 2016-17 | 2017-18 |
|------|----------------------------------|-----------|---------|---------|---------|---------|---------|------------|---------|---------|-------------------------|---------|---------|-----------------------|---------|---------|
|      |                                  | DO (mg/l) |         |         | pH      |         |         | BOD (mg/l) |         |         | T.Coliform (MPN/100 ml) |         |         | D.B.U. classification |         |         |
| 1    | Mubarkpur Rest House             | 6.2       | 5.6     | 5.13    | 7.4     | 8.1     | 7.9     | 8.8        | 4.2     | 6.07    | 6862                    | 16642   | 21000   | D                     | D       | D       |
| 2    | Bhankarpur, DeraBassi            | 4.7       | 4.6     | 3.61    | 7.5     | 7.6     | 7.5     | 13         | 7.9     | 12.93   | 19485                   | 25667   | 26417   | D                     | D       | E       |
| 3    | D/S Chattbir                     | 4.9       | 4.5     | 4.17    | 7.4     | 7.6     | 7.6     | 12         | 6.5     | 8.11    | 19825                   | 24273   | 19417   | D                     | D       | D       |
| 4    | U/S JharmalNadi                  | 4.7       | 3.9     | 2.83    | 7.4     | 7.6     | 7.6     | 14         | 10.2    | 14.92   | 17350                   | 21583   | 20083   | D                     | E       | E       |
| 5    | D/S JharmalNadi                  | 3.9       | 2.4     | 1.97    | 7.7     | 7.6     | 7.7     | 21         | 17.8    | 25.58   | 27625                   | 26917   | 25250   | E                     | E       | E       |
| 6    | U/S Dhakansu Nallah              | 4.3       | 3.6     | 3.24    | 7.4     | 7.6     | 7.7     | 16         | 9.6     | 10.25   | 22100                   | 14091   | 14500   | D                     | E       | E       |
| 7    | D/S Dhakansu Nallah              | 3.7       | 3.1     | 2.94    | 7.3     | 7.7     | 7.7     | 18         | 11.8    | 12.23   | 30375                   | 20709   | 18667   | E                     | E       | E       |
| 8    | Rattanheri D/S of PatialaNadi    | 3.7       | 2.9     | 1.76    | 7.5     | 7.7     | 7.7     | 20         | 51.7    | 33.06   | 31500                   | 24333   | 24333   | E                     | E       | E       |

|    |                          |     |     |      |     |     |     |    |      |       |       |       |       |   |   |   |
|----|--------------------------|-----|-----|------|-----|-----|-----|----|------|-------|-------|-------|-------|---|---|---|
| 9  | 100 m D/s of<br>Khanauri | 3.5 | 2.1 | 1.42 | 7.6 | 7.7 | 7.8 | 25 | 30.3 | 41.08 | 39200 | 26833 | 34083 | E | E | E |
| 10 | Moonak                   | 3.2 | 2.2 | 1.75 | 7.6 | 7.8 | 7.9 | 33 | 25.5 | 25.50 | 52625 | 29333 | 24000 | E | E | E |
| 11 | U/S Sardulgarh           | 3.7 | 2.7 | 2.23 | 7.4 | 7.9 | 7.8 | 18 | 19.4 | 18.83 | 56700 | 19258 | 17417 | E | E | E |
| 12 | D/S Sardulgarh           | 3.6 | 2.5 | 2.03 | 7.4 | 7.9 | 7.9 | 20 | 19.8 | 20.83 | 55975 | 24733 | 21583 | E | E | E |

**Annexure C - List of 13 major drains directly discharging into river Ghaggar**

| Sno. | Name of the drain               | Point of origin  | Approx. Length (in Km) | Coordinates at which the drain meets river Ghaggar | Location at which it meets river Ghaggar | Approx. Discharge (MLD) |
|------|---------------------------------|--|------------------------|--|--|-------------------------|
| 1.   | Sukhna Choe                     | Sukhna Lake  | 8.17                   | 30° 36'49" N<br>76° 50'09" E                       | 450 m upstream of Bhankhapur Bridge      | 105                     |
| 2.   | Dera Bassi Choe                 | Near Village Haripur Hinduan, Dera Bassi                         | 8.75                   | 30° 36'13" N<br>76° 48'51" E                       | Near upstream of Village Satabgarh       | 17.5                    |
| 3.   | Jharmal Choe                    | Near village Rampur Sainian, Tehsil Dera Bassi, Distt. SAS Nagar | 22.86                  | 30° 28'27" N<br>76° 46'11" E                       | Near Village Tiwana                      | 17.5                    |
| 4.   | Basauli Drain                   | Near Village Jaula Khurd, Distt. SAS Nagar                       | 24.39                  | 30° 26'39" N<br>76° 44'54" E                       | Near Village Sadhanpur                   | 12.5                    |
| 5.   | Bagna Drain                     | Near Village Salempur, Distt. SAS Nagar                          | 19.5                   | 30.3397<br>76.6986                                 | Village Nanheri, Rajpura                 | -                       |
| 6.   | Pachisdara Drain (Dakansu Choe) | Near PCS, Sector-2, Chandigarh under the name of N-choe          | 22                     | 30.305197<br>76.627918                             | Near Village Sarala-Khurd                | 125                     |
| 7.   | Patiala Nadi                    | Village Cholti Kheri, Distt. Fatehgarh Sahib                     | 73                     | 30.078934<br>76.243909                             | Village Ratanheri                        | 150                     |
| 8.   | Sagarpara Drain                 | Kurkshetra (Haryana)   | 7.92                   | 29.8975741<br>76.169735                            | Village Sagara                           | 180                     |
| 9.   | Kaithal Drain                   | From Keorak, Distt. Kaithal (Haryana)                            | 6.4                    | 29° 50'50" N<br>76° 06'00" E                       | Near Khanauri Bridge                     | 15                      |
| 10.  | Jhambowali choe                 | Village Chanarthal Kalan, Distt. Fatehgarh Sahib                 | 72                     | 29.8291<br>76.0011                                 | Village Chandu, Tehsil Moonak            | 32.5                    |
| 11.  | Lehragagga Main                 | Near Kalajar   | 67                     | 29°50'03''<br>75° 45' 41''                         | Near Village Bakshiwala, Distt. Sangrur  | 82.5                    |
| 12.  | Sirhind Choe                    | Near Bassi Pathana   | 166                    | 29.7460<br>75.4726                                 | Near Village Kheri, Haryana              | 245                     |
| 13.  | Miranpur Choe                   | Near Village Haripur, Sub Tehsil Ghanour                         | 58.69                  | 30.0980<br>76.3069                                 | Near Village Khambera, Haryana           | 125                     |

**Note:** Analysis of water of two points of origin i.e. at Sr. No. 1 & 8 has been carried out, whereas, for other points the same is to be determined in due course of time.



**Annexure D** - List of 29 creeks discharging into main drains

| <b>Sr. No.</b> | <b>Name of the creek</b>     |
|----------------|------------------------------|
| 1.             | Drain passing through K-area |
| 2.             | Singh Nallah                 |
| 3.             | Gazipur Drain                |
| 4.             | Dhabi Nallah                 |
| 5.             | Banur Drain                  |
| 6.             | Chhoti Nadi                  |
| 7.             | Khadoli Drain                |
| 8.             | Jacob Drain                  |
| 9.             | Model Town Drain             |
| 10.            | Kalwano Drain                |
| 11.            | L-6 Drain                    |
| 12.            | Nabha Drain                  |
| 13.            | Sangrur Drain                |
| 14.            | Bareta Drain                 |
| 15.            | Ladal Drain                  |
| 16.            | Mander Drain                 |
| 17.            | Toderpur Drain               |
| 18.            | Hargobindpura Datewas Drain  |
| 19.            | Khiwa Sahajada Drain         |
| 20.            | Dodra Drain                  |
| 21.            | Bahadur Singh Wala Drain     |
| 22.            | Balian Drain                 |
| 23.            | Bhagwanpura Link Drain       |
| 24.            | Dhuri Drain                  |
| 25.            | Sahoke Main Drain            |
| 26.            | Jassarwal Drain              |
| 27.            | Buggar Link Drain            |
| 28.            | Shekhupura Adalatipura Drain |
| 29.            | Hassanpura Drain             |

**Annexure E- List of urban and rural areas discharging directly into river Ghaggar**

| Sr No        | Name of the source                          | Identifica<br>tion<br>mark | Location /<br>Coordinates at the<br>outfall (latitude &<br>Longitude) | Approxim<br>ate<br>Discharge<br>(KLD) | Present<br>treatment<br>facility<br>installed, if<br>any |
|--------------|---|----------------------------|---|---------------------------------------|--|
| 1            | Village Mubarikpur, Distt. SAS Nagar        | D-1                        | 30.618993<br>76.852268  | 250                                   | No   |
| 2            | Village Bhankharpur, Distt. SAS Nagar       | D-2                        | 30°36'16 "N<br>76°49'23"E   | 1100                                  | No   |
| 3            | MC, Zirakpur                                | D-3                        | 30.3609<br>76.4904  | 15000                                 | Installed  |
| 4            | Village Manoli Surat, Distt. Patiala        | D-4                        | 30.515277<br>76.765277  | 668                                   | No   |
| 5            | Village Nanheri, Distt. Patiala             | D-5                        | 30.277222<br>76.692777  | 196                                   | No   |
| 6            | Village Samaspur, Distt. Patiala            | D-6                        | 30.365833<br>76.688333  | 196                                   | No   |
| 7            | Village Utsar, Distt. Patiala               | D-7                        | 30.365833<br>76.70716   | 225                                   | No   |
| 8            | Village Chamaru, Distt. Patiala             | D-8                        | 30.335555<br>76.661111  | 457                                   | No   |
| 9            | Village Rampur, Distt. Patiala              | D-9                        | 30.3302777<br>76.644722   | 349                                   | No   |
| 10           | Village Maru, Distt. Patiala                | D-10                       | 30.288424<br>76.6011796   | 451                                   | No   |
| 11           | Village Mandi/ Pur, Distt. Patiala          | D-11                       | 30.271858<br>76.550271  | 186                                   | No   |
| 12           | Village Sirkapra, Distt. Patiala            | D-12                       | 30.287427<br>76.580975  | 219                                   | No   |
| 13           | Village Hadana, Distt. Patiala              | D-13                       | 30.248568<br>76.545608  | 488                                   | No   |
| 14           | Village Hasanpur Kamboj, Distt. Patiala     | D-14                       | 30.209991<br>76.529837  | 320                                   | No   |
| 15           | Village RurkiBudh Singh, Distt. Patiala     | D-15                       | 30.198125<br>76.524154  | 355                                   | No   |
| 16           | Village Ram Nagar Chuniwala, Distt. Patiala | D-16                       | 30.188423<br>76.517152  | 1202                                  | No   |
| 17           | Village Badla, Distt. Patiala               | D-17                       | 30.171519<br>76.487979  | 109                                   | No   |
| 18           | Village Kapuri, Distt. Patiala              | D-18                       | 30.183286<br>76.514487  | 278                                   | No   |
| 19           | Village Kheri Raju Singh, Distt. Patiala    | D-19                       | 30.15762<br>76.480933   | 207                                   | No   |
| 20           | Village Bhasmara, Distt. Patiala            | D-20                       | 30.151285<br>76.468842  | 192                                   | No   |
| <b>Total</b> |   |                            |   | <b>22448</b>                          |  |

|       |  |      |                              |         |    |
|-------|--|------|------------------------------|---------|----|
| 21    | Village Mehmudpur, Distt. Patiala                  | D-21 | 30.149398<br>76.454012       | 315     | No |
| 22    | Village SadhunagarurfJalahkheri, Distt. Patiala    | D-22 | 30.142181<br>76.450986       | 22      | No |
| 23    | Village Kotbhai Lakheya, Distt. Patiala            | D-23 | 30.7788<br>76.2423           | 135     | No |
| 24    | Village Ratanheri, Distt. Patiala                  | D-24 | 30.07788<br>76.2423          | 326     | No |
| 25    | Village Marori, Distt. Patiala                     | D-25 | 30.6798<br>76.22828          | 754     | No |
| 26    | Village Harchandpura Town, Distt. Patiala          | D-26 | 30.03198<br>76.19351         | 94      | No |
| 27    | Village HarchandpuraHavali, Distt. Patiala         | D-27 | 30.02684<br>76.15519         | 75      | No |
| 28    | Village Seona Kath, Distt. Patiala                 | D-28 | 29.983211<br>76.196813       | 825     | No |
| 29    | Village Arnetu, Distt. Patiala                     | D-29 | 29.958466<br>76.196936       | 652     | No |
| 30    | Village Karim Nagar Urf Chicarwala, Distt. Patiala | D-30 | 29.903727<br>76.171937       | 807     | No |
| 31    | Village Rasoli, Distt. Patiala                     | D-31 | 29.903438<br>76.170917       | 320     | No |
| 32    | Village Shatrana, Distt. Patiala                   | D-32 | 29.877390<br>76.137291       | 3447    | No |
| 33    | Village Matoli, Distt. Patiala                     | D-33 | 29.871764<br>76.136660       | 520     | No |
| 34    | Vill. Dera Jheel, Distt. Patiala.                  | D-34 | 29.940701<br>76.170949       | 110     | No |
| 35    | Vill. Makror Sahib, Distt. Sangrur (three outlets) | D-35 | 29°47'30.8"N<br>75°57'12.8"E | 268.10  | No |
|       |  |      | 29°47'26.7"N<br>75°56'50.3"E |         |    |
|       |  |      | 29°47'22.2"N<br>75°56'44.8"E |         |    |
| 36    | Vill. Mandvi, Distt. Sangrur (three outlets)       | D-36 | 29°49'05.6"N<br>75°59'21.8"E | 427.35  | No |
|       |  |      | 29°48'40.3"N<br>75°59'11.3"E |         |    |
|       |  |      | 29°48'29.8"N<br>75°59'01.2"E |         |    |
| 37    | Vill. Fulad, Distt. Sangrur                        | D-37 | 29°47'07.4"N<br>75°56'02.2"E | 120.40  | No |
| 38    | Vill. Shahpur Their, Distt. Sangrur                | D-38 | 29°49'48.1"N<br>76°01'00.0"E | 63.84   | No |
| 39    | Vill. Chandu, Distt. Sangrur                       | D-39 | 29°49'41.7"N<br>75°59'58.8"E | 112.28  | No |
| Total |  |      |                              | 9393.97 |    |

|                    |                                     |      |                        |                 |  |
|--------------------|-------------------------------------|------|------------------------|-----------------|--|
| 40                 | M.C., Moonak, Distt. Sangrur        | D-40 | 29.812017<br>5.889865  | 1500            | STP of 3<br>MLD<br>capacity<br>installed |
| 41                 | Village Phoos Mandi, Distt. Mansa   | D-41 | 29.7025<br>75.2755     | 75              | No                                       |
| 42                 | MC, Sardulgarh, Distt. Mansa        | D-42 | 29.6991<br>75.2391     | 4000            | WSP<br>installed                         |
| 43                 | Village Rorki, Distt. Mansa         | D-43 | 29.6892<br>75.2096     | 105             | WSP<br>installed                         |
| 44                 | Village Jhanda Khurd, Distt. Mansa  | D-44 | 29.6703<br>75.1783     | 210             | No                                       |
| 45                 | Village Bhunder 1, Distt. Mansa     | D-45 | 29.697150<br>75.226098 | 5               | No                                       |
| 46                 | Village Bhunder 2, Distt. Mansa     | D-46 | 29.695267<br>75.224569 | 11              | No                                       |
| 47                 | Vill. Bhagwanpur Higna Distt. Mansa | D-47 | 29.685953<br>75.332885 | 7               | No                                       |
|                    |                                     |      | 29.687<br>75.335       | 3               | No                                       |
| Total              |                                     |      |                        | 5916            |  |
| <b>Grand Total</b> |                                     |      |                        | <b>37757.97</b> |  |



**Annexure F - List of urban / rural areas discharging indirectly into Ghaggar**

| <b>1. Sukhna Choe</b>                |  |                            |   |  |                               |  |
|--------------------------------------|--|----------------------------|---|--|-------------------------------|--|
| <b>1.1 Drain passing near K-area</b> |  |                            |   |  |                               |  |
| <b>S.N.</b>                          | <b>Name of the Source</b>                | <b>Identification mark</b> | <b>Location of the outfall into drain</b>         | <b>Coordinates at the outfall into the drain</b> | <b>Apprx. Discharge (KLD)</b> | <b>Present treatment facility installed, if any.</b> |
| 1                                    | K-area (MC, Zirakpur)                    | IN-2.1.1.1                 | Bridge near Gurudwara Sahib                       | 30.64 9651<br>76.83 71 57                        | 180                           | Not connected to STP of 17.3 MLD capacity            |
| <b>1.2. Singh Nallah</b>             |  |                            |   |  |                               |  |
| 1.                                   | Green City, Mamta Enclave / Baltana Area | IN-2.1.2.1                 | Dera Bassi, Kalka Road, Near Green city bridge    | 30.664357<br>76.843824                           | 50                            | Not connected to STP of 17.3 MLD capacity            |
| <b>1.3 Gazipur Drain</b>             |  |                            |   |  |                               |  |
| 1.                                   | Gazipur (MC, Zirakpur)                   | IN-2.1.3.1                 | Confluence point of Gazipur Drain and Sukhna Choe | 30.63 54 29<br>76.84 05 75                       | 1000                          | Not connected to STP of 17.3 MLD capacity            |
| Total                                |  |                            |   |  | 1230                          |  |

| <b>2 Dera Bassi Choe</b> |   |                            |  |  |                                |  |
|--------------------------|---|----------------------------|--|--|--------------------------------|--|
| <b>S.N.</b>              | <b>Name of the Source</b>   | <b>Identification mark</b> | <b>Location of the outfall into drain</b>              | <b>Coordinates at the outfall into drian</b> | <b>Apprx. Discharge in KLD</b> | <b>Present treatment facility installed, if any.</b>         |
| 1.                       | Vill. Haibatpur   | IN-2.2.1                   | Up steam of village Haibatpur approx. 1.5 Km           | 30°35'48"N<br>76°53'07"E                     | 192                            | No   |
| 2.                       | M.C., Dera Bassi  | IN-2.2.2                   | Near over bridge (two no. outlets)                     | 30.593051<br>76.846355                       | 2500                           | STP of 4 MLD capacity installed & commissioned on 17.11.2018 |
| 3.                       | Vill. Issapur located within MC   | IN-2.2.3                   | Habitpur drain passing into Issapur Road, near bridge. | 30.60486<br>76.831447                        | 140                            | No   |
| <b>2.1 Dhabi Nallah</b>  |   |                            |  |  |                                |  |
| 1.                       | Domestic effluent of industry through storm water sewer of Focal Point    | IN-2.2.1.1                 | Bridge near M/s. Nibber Castings                       | 30°36'26"<br>76°51'37"                       | 20                             | The industries will connect by 15.1.19.                      |
| 2.                       | STP (2 MLD), Industrial Area, Focal point Dera Bassi                      | IN-2.2.1.2                 | Industrial Area, Dera Bassi                            | 30.604039<br>76.854303                       | 500                            | 2 MLD  |
| 3.                       | Silver City   | IN-2.2.1.3                 | Near PCCPL bridge                                      | 30.603779<br>76.849283                       | 480                            | STP installed  |
| <b>3 Jharmal Choe</b>    |   |                            |  |  |                                |  |
| 1.                       | Vill.Gulabgarh located within limits of MC, Dera Bassi, Distt. SAS Nagar. | IN-2.3.1                   | D/s of Vill. Gulabgarh Near GBP Flats                  | 30.577264<br>76.863174                       | 100                            | No   |
| Total                    |   |                            |  |  | 3932                           |  |

|              |  |          |                                   |                          |             |                                  |
|--------------|--|----------|-----------------------------------|--------------------------|-------------|----------------------------------|
| 2.           | Vill.Mahiwala located within limits of MC, Dera Bassi, Distt. SAS Nagar. | IN-2.3.2 | D/s of Vill. Mahiwala Near Bridge | 30.570767<br>76.855121   | 40          | No                               |
| 3.           | Vill. Jawaharpur, Distt. SAS Nagar. (within MC limits)                   | IN-2.3.3 | Near Bridge                       | 30.557355<br>76.832997   | 235         | No                               |
| 4.           | Vill. Gholumajra, Distt. SAS Nagar. . (within MC limits)                 | IN-2.3.4 | Near Vill. Gholumajra             | 30°31'56"N<br>76°49'35"E | 100         | STP of 0.3 MLD has been proposed |
| 5.           | Vill. Kheri Gujran, Distt. SAS Nagar.                                    | IN-2.3.5 | Near bridge Vill. Kheri Gujran    | 30.557381<br>76.872394   | 180         | No                               |
| 6.           | Vill. Bijanpur, Distt. SAS Nagar.  | IN-2.3.6 | Near bridge of Bijanpur           | 30°31'42"N<br>76°51'27"E | 142         | No                               |
| 7.           | Vill. Dapper within MC limits of Lalru, Distt. SAS Nagar.                | IN-2.3.7 | Near vill. Dapper                 | 30°31'08"N<br>76°48'55"E | 600         | STP of 1.0 MLD has been proposed |
| 8.           | Vill. Chaundheri located within MC limits of Lalru, Distt. SAS Nagar.    | IN-2.3.8 | Near Bridge of Chaundheri         | 30.512129<br>76.812967   | 115         | STP of 0.3 MLD has been proposed |
| <b>Total</b> |  |          |                                   |                          | <b>1412</b> |                                  |

|                             |  |            |  |  |      |   |
|-----------------------------|--|------------|--|--|------|---|
| 9.                          | Nagar Panchayat,<br>Lalru, Distt. SAS<br>Nagar.                | IN-2.3.9   | Entering into<br>Jharmal Choe                          | 30°29'21"N<br><br>76°47'29"E<br><br>30°29'14"N<br><br>76°47'32"E | 2500 | STP of 1.5 MLD<br>capacity installed<br>but operated to<br>treat 0.5 MLD of<br>wastewater.<br>Another STP of 1.5<br>MLD is yet to be<br>installed at Grain<br>Market, Lalru |
| 10.                         | Vill. Dehar within MC<br>limits of Lalru, Distt.<br>SAS Nagar. | IN-2.3.10  | At the bridge,<br>where from<br>Jharmal Choe<br>passes | 30.478121<br><br>76.777919                                       | 170  | No  |
| 11.                         | Vill. Tiwana, Distt.<br>SAS Nagar                              | IN-2.3.11  | Near village<br>Tiwana                                 | 30°28'27"<br><br>76°46'10"                                       | 130  | No  |
| <b>3.1 Hassanpura Drain</b> |  |            |  |  |      |   |
| 1.                          | Village Hassanpur  | IN-2.3.1.1 | From Vill.<br>Hassanpur                                | 30°30'53"N<br>76°47'38"E   | 120  | No  |
| 2.                          | Dappar Colony<br>(Within MC limits of<br>Lalru)                | IN-2.3.1.2 | In Garden Estate                                       | 30°31'00"N<br>76°47'00"E   | 100  | STP of 0.2 MLD<br>proposed  |
| Total                       |  |            |  |  | 3020 |   |

| <b>4 Basauli Choe</b>                     |   |          |                                       |                         |      |    |
|---|---|----------|---------------------------------------|-------------------------|------|----|
| 1   | Vill. Jaula Khurd, Distt. SAS Nagar       | IN-2.4.1 | Up stream of Cad Chem Industry bridge | 30.461867<br>76.878166  | 100  | No |
| 2.  | Vill. Basauli, Distt. SAS Nagar           | IN-2.4.2 | Near bridge of village Basauli        | 30.449688<br>76.861485  | 150  | No |
| 3.  | Vill. Kurli, Distt. SAS Nagar             | IN-2.4.3 | Near Vill. Kurli                      | 30° 26'32"<br>76°47'35" | 250  | No |
| <b>5 Bhagna Nadi</b>                      |   |          |                                       |                         |      |    |
| 1.  | Village Bhasma, Distt. SAS Nagar          | IN-2.5.1 | Near village Bhasma                   | 30.46555<br>76.72666    | 442  | No |
| 2.  | Village Tepla, Distt. Patiala.            | IN-2.5.2 | Near Village Tepla                    | 30.440000<br>77.003611  | 818  | No |
| <b>6 Pachisdara Drain (Dhakansu Choe)</b> |   |          |                                       |                         |      |    |
| 1.  | Village Jagatpura, Distt. SAS Nagar       | IN-2.6.1 | Near Gurudwara Sahib                  | 76.4537<br>30.4051      | 101  | No |
| 2.  | Village Ambsahib Colony, Distt. SAS Nagar | IN-2.6.2 | Near Culvert                          | 76.4513<br>30.4044      | 300  | No |
| 3.  | Village Kambala, Distt. SAS Nagar         | IN-2.6.3 | Bridge on Rudewal Road                | 76.4458<br>30.3953      | 300  | No |
| Total                                     |   |          |                                       |                         | 2461 |    |

|       |   |           |                            |                    |       |                               |
|-------|---|-----------|----------------------------|--------------------|-------|-------------------------------|
| 4.    | Village Kambali, Distt. SAS Nagar                 | IN-2.6.4  | Near Hot mix plant         | 76.4509<br>30.4031 | 250   | No                            |
| 5.    | Village Papri, Distt. SAS Nagar                   | IN-2.6.5  | Bridge on drain            | 76.4437<br>30.3923 | 150   | No                            |
| 6.    | MC, SAS Nagar                                     | IN-2.6.6  | Near the STP               | 76.7238<br>30.6522 | 45000 | 45 MLD capacity STP installed |
| 7.    | Village Manoli, Distt. SAS Nagar (Two outlets)    | IN-2.6.7  | Near S. Pyara Singh Field  | 76.4320<br>30.3343 | 320   | No                            |
|       |   |           | Bridge on Drain            | 76.4327<br>30.3829 |       |                               |
| 8.    | Village Chachumajra Distt. SAS Nagar              | IN-2.6.8  | Bridge on Drain            | 76.4441<br>30.3922 | 100   | No                            |
| 9.    | Village Sainimajra (Prem Nagar), Distt. SAS Nagar | IN-2.6.9  | Near Pakka Outlet to drain | 76.4309<br>30.3801 | 70    | No                            |
| 10.   | Village Chahumajra, Distt. SAS Nagar              | IN-2.6.10 | Near H/o Sewa Singh        | 76.4251<br>30.3736 | 160   | No                            |
| Total |   |           |                            |                    | 46050 |                               |

|                        |  |            |                           |                        |      |   |
|------------------------|--|------------|---------------------------|------------------------|------|---|
| 11.                    | Village Dehri, Distt.<br>SAS Nagar             | IN-2.6.11  | Bridge on Drain           | 76.4133<br>30.3705     | 60   | No  |
| 12.                    | Village Nageri, Distt.<br>SAS Nagar            | IN-2.6.12  | Bridge on Drain           | 76.4109<br>30.3631     | 80   | No  |
| 13.                    | Village Kaloli, Distt.<br>SAS Nagar            | IN-2.6.13  | Bridge on Drain           | 76.4059<br>30.3508     | 85   | No  |
| 14.                    | MC, Banur                                      | IN-2.6.14  | Near the STP              | 76.6925<br>30.5608     | 4000 | 4 MLD STP installed   |
| 15.                    | MC, Rajpura and Focal<br>Point area of Rajpura | IN-2.6.15  | At Ambala Road<br>Rajpura | 30.47936,<br>76.60753  | 3700 | STP of 7 MLD<br>capacity installed at<br>Ambala Road<br>Rajpura |
| <b>6.1 Banur Drain</b> |  |            |                           |                        |      |   |
| 1.                     | Village Kaloli, Distt.<br>Patiala              | IN-2.6.1.1 | Near village Kaloli       | 30.585555, 76.68277    | 378  | No  |
| <b>7 Patiala Nadi</b>  |  |            |                           |                        |      |   |
| 1.                     | Village Gauspur                                | IN-2.7.1   | Near habitation<br>area   | 30.255722<br>76.303608 | 105  | No  |
| Total                  |  |            |                           |                        | 8408 |   |

|       |                             |           |      |                          |      |    |
|-------|-----------------------------|-----------|------|--------------------------|------|----|
| 2.    | Village Shankarpura         | IN-2.7.2  | -do- | 30.255881<br>76.303644   | 300  | No |
| 3.    | Village FatehpurJattan      | IN-2.7.3  | -do- | 30.25728<br>76.294283    | 247  | No |
| 4.    | Village Mohabatpura         | IN-2.7.4  | -do- | 30.255787<br>76.285561   | 89   | No |
| 5.    | Village Kauli               | IN-2.7.5  | -do- | 30.25555<br>76.302215    | 629  | No |
| 6.    | Village Alampur             | IN-2.7.6  | -do- | 30.245757<br>76.293879   | 312  | No |
| 7.    | Village Bhatari             | IN-2.7.7  | -do- | 30.23396<br>76.262062    | 353  | No |
| 8.    | Village Doun Kalan          | IN-2.7.8  | -do- | 30.24278<br>76.281014    | 940  | No |
| 9.    | Village DounKhurd           | IN-2.7.9  | -do- | 30.24233<br>76.24449     | 359  | No |
| 10.   | Village Rasulpur Joran      | IN-2.7.10 | -do- | 30.233654<br>76.262487   | 226  | No |
| 11.   | Village Daulatpur           | IN-2.7.11 | -do- | 30.222779<br>76.254515   | 150  | No |
| 12.   | Village Kalwa               | IN-2.7.12 | -do- | 30.423076<br>76.423715   | 320  | No |
| 13.   | Village Mirjapur            | IN-2.7.13 | -do- | 30.40663<br>76.43478     | 143  | No |
| 14.   | Village Sefdipur            | IN-2.7.14 | -do- | 30.2149039<br>76.2623697 | 202  | No |
| 15.   | Village<br>MehmoodpurAraian | IN-2.7.15 | -do- | 30.2149039<br>76.2623697 | 52   | No |
| 16.   | Village Faloli              | IN-2.7.16 | -do- | 30.211363<br>76.254298   | 83   | No |
| 17.   | Focal Point, Patiala        | IN-2.7.17 | -do- | 30.3756310<br>76.4292680 | 1250 | No |
| Total |                             |           |      |                          | 5655 |    |

|       |  |           |      |                        |       |  |
|-------|--|-----------|------|------------------------|-------|--|
| 18.   | Outlet of Shanti Nagar & Virk Colony within MC limits of Patiala                     | IN-2.7.18 | -do- | 30.356682<br>76.429527 | 150   | Outlet in Badi Nadi                      |
| 19.   | Nagar Panchayat, Sanour, Distt. Patiala.   | IN-2.7.19 | -do- | 30.320038<br>76.417061 | 2500  | No                                       |
| 20.   | Outlet of treated sewage of Urban Estate Patiala                                     | IN-2.7.20 | -do- | 30.335933<br>76.425814 | 5000  | STP of capacity 13 MLD installed by PUDA |
| 21.   | Outlet of Storm water carrying sewage / sullage of habitation area near Patiala Nadi | IN-2.7.21 | -do- | 30.336438<br>76.425488 | 1875  | No                                       |
| 22.   | Two no. Nalas falling into Badi Nadi from Internal area of Patiala City              | IN-2.7.22 | -do- | 30.299030<br>76.390280 | 3000  | No                                       |
| 23.   | Village Rewas Brahmna  | IN-2.7.23 | -do- | 30.28,<br>76.38        | 323   | No                                       |
| 24.   | Village Jalal Khera  | IN-2.7.24 | -do- | 30.142181<br>76.450986 | 127   | No                                       |
| 25.   | Village Kalar Bhani  | IN-2.7.25 | -do- | 30.24<br>76.33         | 471   | No                                       |
| 26.   | Village Dhurad   | IN-2.7.26 | -do- | 30.26<br>76.35         | 335   | No                                       |
| 27.   | Village Passiana   | IN-2.7.27 | -do- | 30.29<br>76.37         | 809   | No                                       |
| Total |  |           |      |                        | 14590 |  |

|       |  |           |      |                                  |      |    |
|-------|--|-----------|------|----------------------------------|------|----|
| 28.   | Village Sher Majra                           | IN-2.7.28 | -do- | 30.22<br>76.32                   | 501  | No |
| 29.   | Village Main                                 | IN-2.7.29 | -do- | 30.25<br>76.32                   | 590  | No |
| 30.   | Village Bhanra                               | IN-2.7.30 | -do- | 30.24<br>76.31                   | 688  | No |
| 31.   | Village Bhanri                               | IN-2.7.31 | -do- | 30.25<br>76.32                   | 497  | No |
| 32.   | Village Langroi                              | IN-2.7.32 | -do- | 30.24<br>76.31                   | 375  | No |
| 33.   | Village Dakala<br>(two outlets)              | IN-2.7.33 | -do- | 30.13<br>76.32<br>30.23<br>76.19 | 1240 | No |
| 34.   | Village Mavi Sappan                          | IN-2.7.34 | -do- | 30.18<br>76.28                   | 397  | No |
| 35.   | Village Daroli                               | IN-2.7.35 | -do- | 30.21<br>76.29                   | 267  | No |
| 36.   | Village Darola                               | IN-2.7.36 | -do- | 30.34<br>76.34                   | 250  | No |
| 37.   | Village Madho Majra                          | IN-2.7.37 | -do- | 30.21<br>76.37                   | 234  | No |
| 38.   | Village Train                                | IN-2.7.38 | -do- | 30.23<br>76.32                   | 433  | No |
| 39.   | Village Harinagar<br>Khedki (two<br>outlets) | IN-2.7.39 | -do- | 30.10<br>76.28<br>30.18<br>76.16 | 481  | No |
| Total |  |           |      |                                  | 5953 |    |

| <b>7.1 Chhoti Nadi</b>   |   |            |                          |                        |      |  |
|--------------------------|---|------------|--------------------------|------------------------|------|--|
| 1.                       | Badha Road, Tej Bagh Colony, Patiala (Near slaughter House)       | IN-2.7.1.1 | Near Mathura Colony      | 30.328738<br>76.412954 | 1250 | This outlet is to be connected with existing STP |
| 2.                       | SST Nagar, Patiala Near, Chotti Masjid Muslim Colony              | IN-2.7.1.2 | Near transport area      | 30.334128<br>76.413971 | 750  | -do-   |
| 3.                       | Shree Santoshi Mata Mandir area                                   | IN-2.7.1.3 | Near Mandir              | 30.331478<br>76.413876 | 1675 | -do-   |
| <b>7.2 Khadoli Drain</b> |   |            |                          |                        |      |  |
| 1.                       | A part of the sewage of Rajpura town located towards Patiala side | IN-2.7.2.1 | Near the Habitation area | 30.46910<br>76.56616   | 6000 | STP of 10 MLD capacity is under stabilization.   |
| Total                    |   |            |                          |                        | 9675 |  |

| <b>7.3 Jacob Drain</b> |  |            |      |                        |    |  |
|------------------------|--|------------|------|------------------------|----|--|
| 1.                     | Outlet of Dhillon Colony & Kesar Bagh, Patiala | IN-2.7.3.1 | -do- | 30.315532<br>76.399751 | 06 | Individual untapped points on the embankments of Jacob drain will be connected with the STP of Shermajra of capacity 46 MLD sewer is already laid in these colonies.   |
| 2.                     | Moti Bagh, Patiala & Darru Kutia area          | IN-2.7.3.2 | -do- | 30.308700<br>76.381793 | 06 | Individual untapped points on the embankments of Jacob drain will be connected with the STP of Shermajra of capacity 46 MLD sewer is initially laid in these colonies. |
| Total                  |  |            |      |                        | 12 |  |

|                               |   |            |                              |                        |       |   |
|-------------------------------|---|------------|------------------------------|------------------------|-------|---|
| 3.                            | Dakala, Terin, Bhanari, Main Road, Sullar Colony, (From Military Area) Within MC limit, Patiala | IN-2.7.3.3 | Near Dargah of Sullar Colony | 30.301800<br>76.375237 | 30    | No  |
| 7.                            | Outlet of MES Patiala   | IN-2.7.3.4 | -do-                         | 76.373482<br>76.373482 | 5500  | MES has submitted the proposal to install STP based on MBBR technology of capacity 6 MLD by August, 2020. |
| 8.                            | Outlet of STP Shermajra (46 MLD)  | IN-2.7.3.5 | -do-                         | 30.283308<br>76.365508 | 46000 | STP of 46 MLD capacity installed at Shermajra   |
| <b>7.3.1 Model Town Drain</b> |   |            |                              |                        |       |   |
| 1.                            | Outlet of STP Ablawal (10 MLD)  | IN-2.7.3.1 | Adjoining to STP             | 30.349564<br>76.349342 | 7000  | STP of 10 MLD capacity installed at Ablawal   |
| Total                         |   |            |                              |                        | 58530 |   |

| <b>8 Sagarpara Drain</b> |                                    |          |                          |  |      |                                 |
|--------------------------|------------------------------------|----------|--------------------------|--|------|---------------------------------|
| 1.                       | Vill. Jhagir, Distt. Patiala.      | IN-2.8.1 | Near habitation area     | 29H885155<br>76H207242                       | 28   | No                              |
| <b>9 Kaithal Drain</b>   |                                    |          |                          |  |      |                                 |
| 1.                       | Village Guru Nanakpura             | IN-2.9.1 | Near Habitation area     | 29.840699<br>76.116888                       | 205  | No                              |
| 2.                       | Village Dhabi Gujran (two outlets) | IN-2.9.2 | Near Habitation area     | 29.81280<br>76.12101<br>29.80451<br>76.12161 | 904  | No                              |
| 3.                       | Village Jalalpur (Basti Plata)     | IN-2.9.3 | Near Habitation area     | 29.970819<br>76.183261                       | 32   | No                              |
| 4.                       | Sewage of Nagar Panchaya, Khanauri | IN-2.9.4 | In front of STP Khanauri | 29.840619<br>76.117315                       | 1500 | STP of capacity 3 MLD installed |
| Total                    |                                    |          |                          |  | 2669 |                                 |

| <b>10 Jhambowali Choe, Patiala</b> |  |           |                             |                         |      |    |
|------------------------------------|--|-----------|-----------------------------|-------------------------|------|----|
| 1                                  | Village PhaganMajra<br>Distt. Patiala          | IN-2.10.1 | Near the<br>Habitation area | 30.440265,<br>76.390524 | 570  | No |
| 2                                  | Village Kathmathi<br>Distt. Patiala            | IN-2.10.2 | Near the<br>Habitation area | 30.43234576.334371      | 311  | No |
| 3                                  | Village KheriManian<br>Distt. Patiala          | IN-2.10.3 | Near the<br>Habitation area | 30.389693,<br>76.292799 | 218  | No |
| 4                                  | Village Dharmkot<br>Distt. Patiala             | IN-2.10.4 | Near the<br>Habitation area | 30.380004,<br>76.291354 | 114  | No |
| 5                                  | Village Jhambo alias<br>Balipur Distt. Patiala | IN-2.10.5 | Near the<br>Habitation area | 30.38004,<br>76.291354  | 103  | No |
| 6                                  | Village Kalyan Distt.<br>Patiala               | IN-2.10.6 | Near the<br>Habitation area | 30.357895,<br>76.300945 | 614  | No |
| 7                                  | Village Chuharpur<br>Marasian Distt. Patiala   | IN-2.10.7 | Near the<br>Habitation area | 30.291359,<br>76.277879 | 83   | No |
| Total                              |  |           |                             |                         | 2013 |    |

|       |  |            |                             |  |      |    |
|-------|--|------------|-----------------------------|--|------|----|
| 8     | Village Mehmampur<br>Distt. Patiala    | IN-2.10.8  | Near the<br>Habitation area | 30.290464,<br>76.28149                       | 221  | No |
| 9     | Village Kakrala Distt.<br>Patiala      | IN-2.10.9  | Near the<br>Habitation area | 30.2818102<br>76.3076544                     | 212  | No |
| 10    | Village Fatehpur Distt.<br>Patiala     | IN-2.10.10 | Near the<br>Habitation area | 30.284833,<br>76.255942                      | 247  | No |
| 11    | Village Tarora Kalan<br>Distt. Patiala | IN-2.10.11 | Near the<br>Habitation area | 30.267335,<br>76.228732                      | 216  | No |
| 12    | Village Tarora Khurd<br>Distt. Patiala | IN-2.10.12 | Near the<br>Habitation area | 30.26822976.216484                           | 132  | No |
| 13    | Village Gajumajra<br>Distt. Patiala    | IN-2.10.13 | Near the<br>Habitation area | 30.25689476.205275                           | 508  | No |
| 14    | Village Lalochhi Distt.<br>Patiala     | IN-2.10.14 | Near the<br>Habitation area | 30.244227,<br>76.18786                       | 949  | No |
| 15    | Village Majri Distt.<br>Patiala        | IN-2.10.15 | Near the<br>Habitation area | 30.21058,<br>30.21371<br>76.1745<br>76.17575 | 477  | No |
| Total |  |            |                             |  | 2962 |    |

|       |  |            |                          |                      |      |    |
|-------|--|------------|--------------------------|----------------------|------|----|
| 16    | Village Danipur (Jeto patti Dera) Distt. Patiala | IN-2.10.16 | Near the Habitation area | 30.21058<br>76.1745  | 443  | No |
| 17    | Village Gajipur Distt. Patiala                   | IN-2.10.17 | Near the Habitation area | 30.19956<br>76.16409 | 446  | No |
| 18    | Village Kahangarh Bhootna Distt. Patiala         | IN-2.10.18 | Near the Habitation area | 30.18485<br>76.15552 | 499  | No |
| 19    | Village Bhamna Distt. Patiala                    | IN-2.10.19 | Near the Habitation area | 30.18468<br>76.15524 | 1296 | No |
| 20    | Village Basti Bhamna Distt. Patiala              | IN-2.10.20 | Near the Habitation area | 30.18468<br>76.15524 | 119  | No |
| 21    | Village Bhedpuri Distt. Patiala                  | IN-2.10.21 | Near the Habitation area | 30.15309<br>76.14985 | 307  | No |
| 22    | Village Dodra Distt. Patiala                     | IN-2.10.22 | Near the Habitation area | 30.14501<br>76.15463 | 274  | No |
| 23    | Village Sehjpur Kalan Distt. Patiala             | IN-2.10.23 | Near the Habitation area | 30.12435<br>76.15232 | 241  | No |
| Total |  |            |                          |                      | 3625 |    |

|       |  |            |                             |                        |       |  |
|-------|--|------------|-----------------------------|------------------------|-------|--|
| 24    | Village Sehjpur Khurd<br>Distt. Patiala    | IN-2.10.24 | Near the<br>Habitation area | 30.12951<br>76.16383   | 254   | No   |
| 25    | Outlet of Samana STP<br>of 10 MLD capacity | IN-2.10.25 | Near the<br>Habitation area | 30.00825<br>76.191833  | 7500  | STP of 10 MLD<br>capacity installed at<br>Samana |
| 26    | Village Kularan Distt.<br>Patiala          | IN-2.10.26 | Near the<br>Habitation area | 30.12213<br>76.13134   | 1810  | No   |
| 27    | Village Ghagroli Distt.<br>Patiala         | IN-2.10.27 | Near the<br>Habitation area | 30.12002<br>76.1175    | 323   | No   |
| 28    | Village Dharmgarh<br>Distt. Patiala        | IN-2.10.28 | Near the<br>Habitation area | 30.11773<br>76.12323   | 128   | No   |
| 29    | village Baras Distt.<br>Patiala            | IN-2.10.29 | Near the<br>Habitation area | 30.047986<br>76.055797 | 933   | No   |
| 30    | village Dugal Kalan<br>Distt. Patiala      | IN-2.10.30 | Near the<br>Habitation area | 29.994244<br>76.041356 | 1008  | No   |
| Total |  |            |                             |                        | 11956 |  |

|       |  |            |                             |                         |      |   |
|-------|--|------------|-----------------------------|-------------------------|------|---|
| 31.   | village Dugal Khurad<br>Distt. Patiala                               | IN-2.10.31 | Near the<br>Habitation area | 29.988309<br>76.041255  | 921  | No  |
| 32.   | village Jeonpura Distt.<br>Patiala                                   | IN-2.10.32 | Near the<br>Habitation area | 29.95728<br>76.0394     | 145  | No  |
| 33.   | village Chunagran<br>Distt. Patiala                                  | IN-2.10.33 | Near the<br>Habitation area | 29.948901<br>76.039708  | 690  | No  |
| 34.   | Outlet of Patran STP<br>of 4 MLD capacity at<br>Chunagra Road Patran | IN-2.10.34 | Near the<br>Habitation area | 29.948667,<br>76.039667 | 2800 | STP of 4 MLD<br>capacity installed at<br>Patran |
| 35.   | Village Deogarh Distt.<br>Patiala                                    | IN-2.10.35 | Near the<br>Habitation area | 29.937973<br>76.037758  | 584  | No  |
| 36.   | village Hariau Khurd<br>Distt. Patiala                               | IN-2.10.36 | Near the<br>Habitation area | 29.91162<br>76.02029    | 446  | No  |
| 37.   | village Hariau Kalan<br>Distt. Patiala                               | IN-2.10.37 | Near the<br>Habitation area | 29.9079<br>76.02066     | 1134 | No  |
| Total |  |            |                             |                         | 6720 |   |

|       |  |            |                                  |                       |      |  |
|-------|--|------------|----------------------------------|-----------------------|------|--|
| 38.   | village Khanewal Distt. Patiala              | IN-2.10.38 | Near the Habitation area         | 29.88455<br>76.02144  | 756  | No                                       |
| 39.   | Bharaj (Distt. Sangrur)<br>(Th. Rohti Drain) | IN-2.10.39 | Near the Habitation area         | 30°17'31"N 76°10'52"E | 66   | Seechewal Model STP (Work being Started) |
| 40.   | Lakhewal (Distt. Sangrur)                    | IN-2.10.40 | Near the Habitation area         | 30°17'16"N 76°9'31"E  | 43   | Seechewal Model STP (Work being Started) |
| 41    | Channo (Distt. Sangrur)                      | IN-2.10.41 | Near the Habitation area         | 30°16'30"N 76°10'13"E | 126  | Seechewal Model STP (Work being Started) |
| 42    | Baghrol (Distt. Sangrur)                     | IN-2.10.42 | Near the Habitation area         | 30°6'09"N 75°6'12"E   | 130  | No                                       |
| 43    | Safipur Kalan (Distt. Sangrur)               | IN-2.10.43 | On Kakrala Road                  | 30°5'04"N 75°6'37"E   | 147  | No                                       |
| 44    | Sihal (Distt. Sangrur)                       | IN-2.10.44 | On Gagga Road                    | 30°3'56"N 75°04'31"E  | 106  | No                                       |
| 45    | Dhandia I (Distt. Sangrur)                   | IN-2.10.45 | Jeonpur Near Avtar Singh Fields. | 29°57'26"N 76°1'52"E  | 129  | No                                       |
| Total |  |            |                                  |                       | 1503 |  |

|                            |  |             |                           |                         |      |    |
|----------------------------|--|-------------|---------------------------|-------------------------|------|----|
| 46.                        | Bangan (Distt. Sangrur)                  | IN-2.10.46  | D/S of Bridge Near Chandu | 29°51'26"N<br>76°0'53"E | 183  | No |
| 47.                        | Nawan Gaon (Distt. Sangrur)              | IN-2.10.47  | D/S of Bridge Near Chandu | 29°51'26"N<br>76°0'53"E | 186  | No |
| <b>10.1. Kalwanu Drain</b> |  |             |                           |                         |      |    |
| 1.                         | Village Kalwanu, Distt. Patiala          | IN-2.10.1.1 | Near Habitation area      | 29.996608<br>76.136216  | 1331 | No |
| 2.                         | Village Daroli, Distt. Patiala           | IN-2.10.1.2 | -do-                      | 29.973939<br>76.115354  | 634  | No |
| 3.                         | Village Tambuwala, Distt. Patiala        | IN-2.10.1.3 | -do-                      | 29.965649<br>76.096308  | 304  | No |
| 4.                         | Village Banwala, Distt. Patiala          | IN-2.10.1.4 | -do-                      | 29.96051<br>76.09069    | 432  | No |
| 5.                         | Village Kahngarh Ghracho, Distt. Patiala | IN-2.10.1.5 | -do-                      | 29.941986<br>76.081488  | 400  | No |
| 6.                         | Village Khaspur, Distt. Patiala          | IN-2.10.1.6 | -do-                      | 29.941986<br>76.081488  | 305  | No |
| 7.                         | Village Hamjheri, Distt. Patiala         | IN-2.10.1.7 | -do-                      | 29.919371<br>76.049844  | 831  | No |
| Total                      |  |             |                           |                         | 4606 |    |

| <b>11 Lehragagga Main</b> |   |            |   |                          |      |  |
|---------------------------|---|------------|---|--------------------------|------|--|
| 1.                        | Sewage of M.C.,<br>Lehra, Distt. Sangrur    | IN-2.11.1  | Bacside STP<br>Lehragaga                      | 29.937728<br>75.8058515  | 1500 | STP of 4 MLD<br>capacity of<br>installed       |
| 2                         | Kalia Distt. Sangrur                        | IN-2.11.2  | Near Ghaggar<br>Escape.                       | 29°49'03"N<br>75°45'13"E | 136  | No   |
| 3                         | Alisher Distt. Sangrur                      | IN-2.11.3  | RHS of L/gaga<br>Link Drain                   | 29°52'02"N<br>75°46'35"E | 111  | No   |
| 4                         | Kotra Lehal Distt.<br>Sangrur               | IN-2.11.4  | RHS of L/gaga<br>Link Drain                   | 29°54'20"N<br>75°46'39"E | 180  | No   |
| 5                         | Chotian Distt. Sangrur                      | IN-2.11.5  | LHS of Lehragaga<br>Main near Bridge.         | 29°50'33"N<br>75°47'26"E | 232  | Seechewal Model<br>STP (Work being<br>Started) |
| 6                         | Gurne Distt. Sangrur                        | IN-2.11.6  | LHS of Drain Near<br>Bus Stand of<br>Alampur. | 29°52'39"N<br>75°48'03"E | 58   | No   |
| 7                         | Bakhora Kalan Distt.<br>Sangrur             | IN-2.11.7  | Near Bus Stand                                | 29°56'15"N<br>75°48'39"E | 316  | No   |
| 8                         | Bakhora Khurd Distt.<br>Sangrur             | IN-2.11.8  | Near School                                   | 29°53'11"N<br>75°48'42"E | 89   | No   |
| 9                         | Gobindpura<br>Jawaharwala Distt.<br>Sangrur | IN-2.11.9  | Near Gurudawara<br>Sahib                      | 29°53'42"N<br>75°48'07"E | 130  | No   |
| 10                        | Rampura Jawaharwala<br>Distt. Sangrur       | IN-2.11.10 | Near Gurudawara<br>Sahib                      | 29°54'02"N<br>75°48'11"E | 100  | No   |
| 11                        | Balran Distt. Sangrur                       | IN-2.11.11 | Near Chular Road                              | 29°50'26"N<br>75°50'39"E | 460  | Seechewal Model<br>STP (Work being<br>Started) |
| Total                     |   |            |   |                          | 3312 |  |

|       |                                 |            |   |                          |      |    |
|-------|---------------------------------|------------|---|--------------------------|------|----|
| 12    | Lehal Kalan Distt. Sangrur      | IN-2.11.12 | Near Peer                               | 29°50'36"N<br>75°51'22"E | 416  | No |
|       |                                 |            | Near Tower                              | 29°52'52"N<br>75°51'7"E  |      |    |
| 13    | Lehal Khurd Distt. Sangrur      | IN-2.11.13 | LHS of Lehtagaga Link Drain             | 29°55'24"N<br>75°50'06"E | 218  | No |
| 14    | Khai Distt. Sangrur             | IN-2.11.14 | RHS of Lehtagaga Link Drain             | 29°56'19"N<br>75°44'39"E | 92   | No |
| 15    | Kalbanjara Distt. Sangrur       | IN-2.11.15 | Near Water Works                        | 29°55'58"N<br>75°53'36"E | 188  | No |
| 16    | Jhaloor Distt. Sangrur          | IN-2.11.16 | Near SC Shamshanghat                    | 29°56'15"N<br>75°55'22"E | 227  | No |
| 17    | Bhotal Kalan Distt. Sangrur     | IN-2.11.17 | Near Guga Marri                         | 29°54'14"N<br>75°52'11"E | 391  | No |
|       |                                 |            | Near Commnity Centre                    | 29°54'14"N<br>75°52'11"E |      |    |
| 18    | Ramgarh Sandhuan Distt. Sangrur | IN-2.11.18 | RHS Lehtagaga Link Drain                | 29°56'53"N<br>75°50'58"E | 186  | No |
| 19    | Sekhuwas Distt. Sangrur         | IN-2.11.19 | RHS L-3 Link Drain                      | 29°58'44"N<br>75°51'47"E | 193  | No |
| 20    | Ghorenab Distt. Sangrur         | IN-2.11.20 | LHS Lehtagaga Link Drain                | 29°57'35"N<br>75°52'46"E | 254  | No |
| 21    | Bhai Ki Pishor Distt. Sangrur   | IN-2.11.21 | RHS L-3 Link Drain                      | 29°56'53"N<br>75°50'58"E | 243  | No |
| 22    | Rorewala Distt. Sangrur         | IN-2.11.22 | RHS South Side.                         | 29°57'20"N<br>75°54'57"E | 133  | No |
| 23    | Harigarh Distt. Sangrur         | IN-2.11.23 | Jhaloor Road Near Bhagwant Singh Fields | 29°57'22"N<br>75°56'12"E | 142  | No |
| 24    | Shadihari Distt. Sangrur        | IN-2.11.24 | Near Hari Singh Fields.                 | 29°56'12"N<br>75°56'53"E | 344  | No |
| 25    | Kohrian Distt. Sangrur          | IN-2.11.25 | On Bhai Ki Pishor Road.                 | 29°59'38"N<br>75°54'26"E | 259  | No |
| 26    | Ubhia Distt. Sangrur            | IN-2.11.26 | On Ladbanjara Road                      | 29°59'13"N<br>75°58'10"E | 185  | No |
| Total |                                 |            |   |                          | 3471 |    |

|                        |  |             |                            |                      |      |  |
|------------------------|--|-------------|----------------------------|----------------------|------|--|
| 27                     | Khetla Distt. Sangrur                                    | IN-2.11.27  | On Kheri Naga Road.        | 30°1'28"N 75°59'3"E  | 288  | No                                       |
| 28                     | Rogla Distt. Sangrur                                     | IN-2.11.28  | Near Mukhtiar Singh Fields | 30°0'48"N 75°56'14"E | 411  | No                                       |
| 29                     | Diwangarh Kempar Distt. Sangrur                          | IN-2.11.29  | On Khetla Road.            | 30°1'50"N 75°59'0"E  | 163  | No                                       |
| 30                     | Kadial Distt. Sangrur                                    | IN-2.11.30  | On Dirba Road              | 30°3'47"N 75°01'13"E | 202  | No                                       |
| 31                     | Kamalpur Distt. Sangrur                                  | IN-2.11.31  | Near Satyabharti School    | 30°6'45"N 76°2'31"E  | 226  | No                                       |
|                        |  |             | Near Bus Stand             | 30°6'49"N 76°2'45"E  |      |  |
|                        |  |             | On Ghanaur Rajputtan Road  | 30°6'50"N 76°2'43"E  |      |  |
| 32                     | Munshiwala Distt. Sangrur                                | IN-2.11.32  | LHS on Masani Road.        | 30°15'9"N 76°8'33"E  | 53   | Seechewal Model STP (Work being Started) |
| 33                     | Kheri Gillan Distt. Sangrur                              | IN-2.11.33  | Near Pond.                 | 30°17'16"N 76°9'27"E | 75   | Seechewal Model STP (Work being Started) |
| 34                     | Kalajhar Distt. Sangrur                                  | IN-2.11.34  | Near Pond.                 | 30°6'15"N 76°9'11"E  | 141  | Seechewal Model STP (Work In-progress)   |
| <b>11.1 L-6 Drain</b>  |  |             |                            |                      |      |  |
| 1.                     | Bhootgarh Distt. Patiala                                 | IN-2.11.1.1 | Directly                   | 75.93201<br>29.91247 | 674  | No                                       |
| <b>12 Sirhind Choe</b> |  |             |                            |                      |      |  |
| 1.                     | Village Mahadiyan, Tehsil Sirhind Distt. Fatehgarh Sahib | IN-2.12.1   | Outlet of village pond     | 30.4001, 76.2514     | 107  | No                                       |
| Total                  |  |             |                            |                      | 2340 |  |

|       |   |           |  |                         |       |  |
|-------|---|-----------|--|-------------------------|-------|--|
| 2.    | Village Badali,<br>Tehsil Amloh Distt.<br>Fatehgarh Sahib | IN-2.12.2 | Near bridge<br>on road<br>leading to<br>Amoh | 30.36083,<br>76.17116   | 73    | No   |
| 3.    | Sirhind Mandi,<br>Tehsil Sirhind                          | IN-2.12.3 | Sirhind Mandi                                | 30.635696,<br>76.380802 | 2200  | No   |
| 4.    | Sirhind City Road<br>(Zone-II)                            | IN-2.12.4 | Near Pully of<br>sirhind city road           | -                       |       | No   |
| 5.    | Focal Point Mandi<br>Gobindgarh                           | IN-2.12.5 | Near village<br>Ambey Majra,<br>Tehsil Amloh | 30.627004, 76.319103    | 3000  | No   |
| 6.    | STP, Mandi<br>Gobindgarh outlet,<br>Tehsil Amloh          | IN-2.12.6 | village Kumbra,<br>Tehsil Amloh              | 30.620825, 76.299315    | 19000 | STP- 25 MLD                                  |
| 7.    | MC, Bassi Pathana   | IN-2.12.7 | Namdev Road                                  | 30.687287<br>76.406558  | 600   | STP of 3.0 MLD is<br>under<br>installation   |
|       |   |           | Near ITI                                     | 30.681626<br>46.403936  | 300   |  |
|       |   |           | Mohalla<br>Singhpura<br>Chungi               | 30.687681<br>76.397627  | 500   |  |
|       |   |           | Brota Majri<br>Chowk                         | 30.687384<br>76.395645  | 300   |  |
|       |   |           | Near BSNL<br>Exchange                        | 30.685063<br>76.402374  | 300   |  |
| 8.    | MC, Amloh   | IN-2.12.8 | Village Bir<br>Tehsil Amloh                  | 30.57312<br>76.27297    | 2000  | STP of 3.0 MLD is<br>proposed under<br>HUDCO |
| Total |   |           |  |                         | 28273 |  |

|       |  |            |                                     |                              |     |  |
|-------|--|------------|-------------------------------------|------------------------------|-----|--|
| 9.    | Village Mehsampur Distt. Sangrur         | IN-2.12.9  | U/S of Vill. Dittupur RHS.          | 30°20'57"N<br>75°59'35"E     | 76  | Seechewal Model STP (Work being Started) |
| 10.   | Village Dittupur Distt. Sangrur          | IN-2.12.10 | RHS on South-East                   | 30°20'09.7"N<br>75°59'16.8"E | 18  | Seechewal Model STP (Work In-progress)   |
| 11.   | Village Nandgarh Distt. Sangrur          | IN-2.12.11 | RHS U/S of Dittupur Road.           | 30°20'51"N 75°59'46"E        | 52  | Seechewal Model STP (Work In-progress)   |
|       |  |            | RHS On Dittupur Road Culvert        | 30°20'44"N 75°59'49"E        |     | No                                       |
| 12.   | Village Gehlan Distt. Sangrur            | IN-2.12.12 | LHS Towards North Near Bhalwan Road | 30°19'10"N<br>75°59'01.0"E   | 58  | No                                       |
| 13.   | Village Rasoolpur Channa Distt. Sangrur  | IN-2.12.13 | RHS Towards South-East              | 30°19'11"N 75°58'58"E        | 44  | Seechewal Model STP (Work In-progress)   |
| 14.   | Village Kheri Chandwan Distt. Sangrur    | IN-2.12.14 | RHS Towards South-East              | 30°18'27.8"N<br>75°58'27.2"E | 52  | Seechewal Model STP (Work being Started) |
| 15.   | Village Santokhpura Distt. Sangrur       | IN-2.12.15 | RHS Towards South-East              | 30°17'34.9"N<br>75°58'22.4"E | 31  | Seechewal Model STP (Work In-progress)   |
| 16.   | Village Jalan Distt. Sangrur             | IN-2.12.16 | RHS Near Basti on Drain Bank        | 30°17'10"N 75°57'51"E        | 85  | Seechewal Model STP (Work being Started) |
| 17.   | Village Jollian Distt. Sangrur           | IN-2.12.17 | Near Pond                           | 30°19'27"N<br>76°2'58"E      | 74  | Seechewal Model STP (Work being Started) |
| 18.   | Village Fatehgarh Bhadson Distt. Sangrur | IN-2.12.18 | Near Bridge on Panwan Road.         | 30°18'55"N 76°2'1"E          | 96  | Seechewal Model STP (Work In-progress)   |
| Total |  |            |                                     |                              | 586 |  |

|       |                                     |            |   |                                |      |  |
|-------|-------------------------------------|------------|---|--------------------------------|------|--|
| 19.   | Village Panwan Distt. Sangrur       | IN-2.12.19 | Near Brigde on F.G. Bhadson Road.         | 30°18'55"N 76°1'53"E           | 101  | Seechewal Model STP (Work being Started) |
| 20.   | Village Sakroudi Distt. Sangrur     | IN-2.12.20 | South Side of Village.                    | 30°18'22"N 76°0'36"E           | 142  | Seechewal Model STP (Work being Started) |
| 21    | Village Ghabdan Distt. Sangrur      | IN-2.12.21 | RHS Near Fish Farm.                       | 30°16'12.8"N<br>75°57'19.7"E   | 233  | No                                       |
| 22    | Village Kalaudi Distt. Sangrur      | IN-2.12.22 | RHS on Gharachon Road.                    | 30°13'55.0"N<br>75°56'33.0"E   | 93   | No                                       |
| 23    | Village Balwar Kalan Distt. Sangrur | IN-2.12.23 | RHS on Gharachon Road.                    | 30°13'27.0"N<br>75°55'56.3"E   | 56   | No                                       |
| 24    | Village Gharachon Distt. Sangrur    | IN-2.12.24 | Near Bridge on Sangrur-Grachon Road.      | 30°13'54"N 75°56'34"E          | 674  | Seechewal Model STP (Work being Started) |
| 25    | Village Sajuma Distt. Sangrur       | IN-2.12.25 | Near Bridge on Ealwal Road.               | 30°11'17"N 75°55'18"E          | 60   | No                                       |
| 26    | Village Gaggarpur                   | IN-2.12.26 | LHS On Sajuma Road.                       | 30°11'18.7"N<br>75°55'18.7"E   | 188  | No                                       |
| 27    | Village Bishanpura Distt. Sangrur   | IN-2.12.27 | LHS on Near Bridge on Sangrur-Sunam Road. | 30° 8' 35" N<br>75° 50' 24" E  | 126  | No                                       |
| 28    | Village Chowas Distt. Sangrur       | IN-2.12.28 | LHS On Ghassiwala Road.                   | 30° 3' 377" N<br>75° 43' 47" E | 319  | No                                       |
| 29    | Village Dhaliwalwas Distt. Sangrur  | IN-2.12.29 | LHS On Tolawal Road.                      | 30°03'57.4"N<br>75°43'25.4"E   | 154  | No                                       |
| Total |                                     |            |   |                                | 2146 |  |

|       |  |            |  |                               |      |  |
|-------|--|------------|--|-------------------------------|------|--|
| 30    | Village Ghasiwala<br>Distt. Sangrur            | IN-2.12.30 | RHS on North<br>Side.                            | 30°06'02.5"N<br>75°45'05.5"E  | 156  | No   |
| 31    | Village Satoj Distt.<br>Sangrur                | IN-2.12.31 | RHS On South<br>Side.                            | 30°03'11.8"N<br>75°38'48.2"E  | 229  | Seechewal Model<br>STP (Work being<br>Started) |
| 32    | Village Kotra Amru<br>Distt. Sangrur           | IN-2.12.32 | RHS U/S Jakhepal<br>Road Bridge.                 | 30°04'17"N 75°43'53"E         | 110  | No   |
| 33    | Village Sheron Model<br>Town-1 Distt. Sangrur  | IN-2.12.33 | LHS On South<br>Side.                            | 30°06'49.8"N<br>75°45'23.6"E  | 710  | No   |
| 34    | Village Tibbi<br>Ravidaspura Distt.<br>Sangrur | IN-2.12.34 | LHS Near Sitassar<br>Sunam.                      | 30° 7' 52" N<br>75° 47' 30" E | 96   | No   |
| 35    | Village Humbalwas<br>Distt. Sangrur            | IN-2.12.35 | LHS On<br>Ghassiwala Road.                       | 30° 3' 35" N<br>75° 44' 3" E  | 310  | No   |
| 36    | VillageJakhepalwas                             | IN-2.12.36 | LHS D/S of<br>Humbal was disp.<br>Pt.            | 30° 3' 44" N<br>75° 43' 44" E | 120  | No   |
| 37    | Village Mehlan, Distt.<br>Sangrur              | IN-2.12.37 | LHS Down Stream<br>of Sangrur-<br>Mehlan Bridge. | 30°09'34"N 75°52'58"E         | 391  | No   |
| 38    | Chathe Nake Distt.<br>Sangrur                  | IN-2.12.38 | RHS D/S of Bridge                                | 30°08'47"N 75°50'06"E         | 45   | No   |
| 39    | Akalgarh Distt. Sangrur                        | IN-2.12.39 | RHS D/S of Bridge                                | 30°08'47"N 75°50'06"E         | 45   | No   |
| 40    | Tolawal Distt. Sangrur                         | IN-2.12.40 | RHS D/S<br>Dharamgarh Road<br>Bridge.            | 30°03'39"N 75°40'40"E         | 268  | No   |
| 41    | Dharamgarh Distt.<br>Sangrur                   | IN-2.12.41 | LHS Water Works.                                 | 30°03'12"N 75°40'22"E         | 118  | Seechewal Model<br>STP (Work being<br>Started) |
| Total |  |            |  |                               | 2598 |  |

|       |  |            |   |                         |       |  |
|-------|--|------------|---|-------------------------|-------|--|
| 42    | Nagar Panchayat,<br>Cheema Distt. Sangrur  | IN-2.12.42 | Jakhepal Road,<br>Cheema                  | 30.065643<br>75.722730  | 500   | STP of 2.0 MLD is<br>proposed under<br>HUDCO |
| 43    | M.C., Sunam                                | IN-2.12.43 | Sunam Budhlada<br>Byepass                 | 30.121086<br>75.789754  | 8000  | STP of capacity 8<br>MLD installed           |
| 44    | Village Farid ke<br>Distt. Mansa           | IN-2.12.44 | Near Shamshan<br>ghat                     | 29.791361, 75.4483      | 15    | No   |
| 45    | Village Malkon Distt.<br>Mansa             | IN-2.12.45 | kacha rasta<br>ladduwas road<br>(Haryana) | 29.803666,<br>75.449450 | 7     | No   |
| 46    | Village Uddat<br>Saidewala Distt.<br>Mansa | IN-2.12.46 | backside SC<br>Dharmshalla                | 29.822309<br>75.479533  | 32    | No   |
| 47    | Akkanwali Distt.<br>Mansa                  | IN-2.12.47 | main pull rasta<br>joian                  | 29.867959<br>75.428836  | 50    | No   |
| 48    | Village Piplian Distt.<br>Mansa            | IN-2.12.48 | Kacha rasta<br>Mandhali                   | 29.898368<br>75.453998  | 50    | No   |
| 49    | Village Ahmedpur<br>Distt. Mansa           | IN-2.12.49 | Ahmedpur Road<br>Bridge                   | 29.941037<br>75.499767  | 50    | No   |
| 50    | Nagar Panchayat<br>Budhlada Distt. Mansa   | IN-2.12.50 | Railway Line<br>crossing over<br>drain    | 29.941037<br>75.499767  | 5300  | No   |
| Total |  |            |   |                         | 14004 |  |

|       |  |            |   |                         |      |    |
|-------|--|------------|---|-------------------------|------|----|
| 51    | Village Hasanpur<br>Distt. Mansa       | IN-2.12.51 | near<br>playground                                | 29.962936<br>75.526926  | 7    | No |
| 52    | Village Gurne Kalan<br>Distt. Mansa    | IN-2.12.52 | Main pull on<br>drain Rasta<br>phaphre bhai<br>ke | 29.977479<br>75.529897  | 60   | No |
| 53    | Village Borawal<br>Distt. Mansa        | IN-2.12.53 | main pull<br>rasta bhikhi                         | 30.003417<br>75.545233  | 7    | No |
| 54    | Village Borawal<br>Distt. Mansa        | IN-2.12.54 | Near Shamshan<br>ghat                             | 30.001762<br>75.539893  | 14   | No |
| 55    | Village Dhalewan<br>Distt. Mansa       | IN-2.12.55 | near<br>playground                                | 30.023340,<br>75.580270 | 20   | No |
| 56    | Village Khiwa<br>Khurd Distt.<br>Mansa | IN-2.12.56 | near pond   | 30.128038,<br>75.570434 | 2    | No |
| 57    | Village Hodla<br>Khurd Distt.<br>Mansa | IN-2.12.57 | near petrol<br>pump                               | 30.046644,<br>75.614067 | 2    | No |
| 58    | Village Mangewal,<br>Distt. Mansa      | IN-2.12.58 | Near Habitation<br>area                           | 30.483192<br>76.200978  | 320  | No |
| 59    | Village Sohndewal,<br>Distt. Mansa     | IN-2.12.59 | Near<br>Habitation<br>area                        | 29.630100<br>74.720043  | 334  | No |
| 60    | Village Chaswal,<br>Distt. Mansa       | IN-2.12.60 | Near<br>Habitation<br>area                        | 30.494018<br>76.216606  | 433  | No |
| 61    | Village Shamashpur,<br>Distt. Mansa    | IN-2.12.61 | Near<br>Habitation<br>area                        | 30.528035<br>76.254106  | 112  | No |
| Total |  |            |   |                         | 1311 |    |

|                           |   |             |  |                              |      |               |
|---------------------------|---|-------------|--|------------------------------|------|---------------|
| 62                        | Village Khijjerpur,<br>Distt. Mansa                           | IN-2.12.62  | Near<br>Habitation<br>area               | 30.543475<br>76.263961       | 105  | No            |
| 63                        | Village Jhambali<br>Sahni, Distt. Mansa                       | IN-2.12.63  | Near<br>Habitation<br>area               | 30.527305<br>76.254352       | 132  | No            |
| 64                        | Village Ram Garh,<br>Distt. Mansa                             | IN-2.12.64  | Near<br>Habitation<br>area               | 30.508812<br>76.243226       | 512  | No            |
| 65                        | Village Bhari<br>Panchan, Distt.<br>Mansa                     | IN-2.12.65  | Near<br>Habitation<br>area               | 30.543618<br>76.263981       | 413  | No            |
| 66                        | MC, Bhadson, Distt.<br>Mansa                                  | IN-2.12.66  | Near bridge<br>on Amloh-<br>Bhadson Road | 30.514960<br>76.246270       | 730  | No            |
| 67                        | Domestic effluent of<br>village Gurdaspura,<br>Distt. Sangrur | IN -2.12.67 | South side of<br>village                 | 30°14'37.0"N<br>75°57'04.1"E | 82   | No            |
| <b>12.1 Nabha Drain</b>   |   |             |  |                              |      |               |
| 1                         | MC, Nabha   | IN-2.12.1.1 | Near Dulladi                             | 30.3650<br>76.1380           | 7200 | Not installed |
| <b>12.2 Sangrur Drain</b> |   |             |  |                              |      |               |
| 1.                        | Bhindran (Th. B/pura<br>Drain) (Distt. Sangrur)               | IN-2.12.2.1 | Pond Near Anaj<br>Mandi                  | 30°15'48"N<br>75°54'49"E     | 159  | No            |
| Total                     |   |             |  |                              | 9333 |               |

|       |                                    |             |                                  |                              |     |    |
|-------|------------------------------------|-------------|----------------------------------|------------------------------|-----|----|
| 2.    | Khurana (Distt. Sangrur)           | IN-2.12.2.2 | LHS Main NH-7 Near Bridge.       | 30°14'51"N<br>75°54'05"E     | 114 | No |
|       |                                    |             | LHS Fields                       | 30°14'36"N<br>75°53'56"E     |     |    |
| 3.    | Khurani (Distt. Sangrur)           | IN-2.12.2.3 | LHS Balwar Kalan Road.           | 30°14'10"N<br>75°52'37"E     | 52  | No |
| 4.    | Village Kammomajra, Distt. Sangrur | IN-2.12.2.4 | RHS of South Side.               | 30°12'24.9"N<br>75°52'10.4"E | 87  | No |
| 5.    | Ramnagar Sibian (Distt. Sangrur)   | IN-2.12.2.5 | LHS Main Sunam-Sangrur Road.     | 30°13'07"N<br>75°50'41"E     | 88  | No |
| 6.    | Tungan (Distt. Sangrur)            | IN-2.12.2.6 | RHS Near Culvert                 | 30°10'35"N<br>75°50'53"E     | 169 | No |
| 7.    | Kanoi (Distt. Sangrur)             | IN-2.12.2.7 | LHS Main Sunam-Sangrur Road.     | 30°12'02"N<br>75°50'48"E     | 103 | No |
| 8.    | Kularan (Distt. Sangrur)           | IN-2.12.2.8 | LHS through fields towards East. | 30°09'27"N<br>75°51'33"E     | 45  | No |
| 9.    | Village Kheri, Distt. Sangrur      | IN-2.12.2.9 | LHS On Kheri-Kanoi Road.         | 30°11'31.9"N<br>75°51'49.4"E | 215 | No |
| Total |                                    |             |                                  |                              | 873 |    |

| <b>12.2.1 Balian Drain</b> |                                |               |   |                          |      |  |
|----------------------------|--------------------------------|---------------|---|--------------------------|------|--|
| 1.                         | M.C. Sangrur                   | IN-2.12.2.1.1 | In front of MPS,<br>Sunam Road,<br>Sangrur  | 30.225152<br>75.842543   | 7000 | STP of 11 MLD<br>capacity is proposed<br>under HUDCO |
|                            |                                |               | Near Akalsar<br>Sahib<br>Gurudwara<br>along with Sant<br>Nagar Gali no. 2<br>Sunam Road,<br>Sangrur | 30.232506<br>75.839868   | 200  | STP of 4 MLD<br>capacity is proposed<br>under HUDCO  |
| 2.                         | Rupaheri (Distt.<br>Sangrur)   | IN-2.12.2.1.2 | LHS of Balian<br>Drain.   | 30°17'56"N<br>75°54'34"E | 93   | No   |
| 3.                         | Mangwal (Distt.<br>Sangrur)    | IN-2.12.2.1.3 | LHS Near<br>Govt. School<br>towards East.   | 30°15'15"N<br>75°51'59"E | 634  | No   |
| <b>12.3. Bareta Drain</b>  |                                |               |   |                          |      |  |
| 1.                         | Rattakhera (Distt.<br>Sangrur) | IN-2.12.3.1   | D/S of Village.   | 29°57'58"N 75°41'30"E    | 141  | No   |
| 2.                         | Ladal (Distt. Sangrur)         | IN-2.12.3.2   | Near Stadium  | 29°54'49"N 75°43'38"E    | 193  | No   |
| 3.                         | Hariaou (Distt.<br>Sangrur)    | IN-2.12.3.3   | Near Bus Stand  | 29°45'53"N 75°43'08"E    | 356  | No   |
| 4.                         | Gidriani (Distt.<br>Sangrur)   | IN-2.12.3.4   | Near School   | 29°58'33"N 75°45'45"E    | 162  | No   |
| 5.                         | Gaga (Distt. Sangrur)          | IN-2.12.3.5   | LHS B-5.  | 29°56'25"N 75°47'48"E    | 228  | No   |
| 6.                         | Fatehgarh (Distt.<br>Sangrur)  | IN-2.12.3.6   | RHS Near School<br>on Kanakwal Road   | 30°29'21"N 75°43'40"E    | 171  | No   |
|                            |                                |               | RHS Hariau Road   | 30°58'44"N 75°43'26"E    |      |  |
|                            |                                |               | RHS U/S Lehra<br>Road Bridge.   | 30°58'53"N 75°43'57"E    |      |  |
| Total                      |                                |               |   |                          | 9178 |  |

|       |                                      |              |                                     |                           |      |    |
|-------|--------------------------------------|--------------|-------------------------------------|---------------------------|------|----|
| 7.    | Ganduan (Distt. Sangrur)             | IN-2.12.3.7  | RHS Focal Point Road.               | 30°0'10"N 75°45'25"E      | 366  | No |
|       |                                      |              | RHS Near Bridge Khokhar Road.       | 29°59'25"N 75°45'35"E     |      | No |
| 8.    | Bhaini Ganduan (Distt. Sangrur)      | IN-2.12.3.8  | RHS Khokhar Road Pipe Bridge.       | 29°59'57"N 75°47'04"E     | 66   | No |
| 9.    | Maidewas (Distt. Sangrur)            | IN-2.12.3.9  | RHS Lehra Main Road Bridge.         | 30°0'46"N 75°47'43"E      | 113  | No |
| 10.   | Chajjla (Distt. Sangrur)             | IN-2.12.3.10 | RHS Gobindgarh Jejjian road bridge. | 30°1'58"N 75°47'58"E      | 145  | No |
| 11.   | Gobindgarh Jejjian (Distt. Sangrur)  | IN-2.12.3.11 | LHS Khokhar Road Pipe Bridge.       | 29°59'57"N 75°47'04"E     | 218  | No |
|       |                                      |              | LHS Chajjla Road.                   | 30°01'55"N 75°47'50"E     |      |    |
| 12.   | Nangla (Distt. Sangrur)              | IN-2.12.3.12 | LHS of B-6 Link Drain.              | 29°59'42"N 75°49'58"E     | 236  | No |
| 13.   | Sangatiwala (Distt. Sangrur)         | IN-2.12.3.13 | RHS Bridge on Chajjli Road.         | 30°0'59"N 75°51'34"E      | 428  | No |
| 14.   | Chajjli (Distt. Sangrur)             | IN-2.12.3.14 | RHS Bridge Nangla Road.             | 30°1'18"N 75°48'01"E      | 935  | No |
|       |                                      |              | RHS Bridge Sangtiwala Road.         | 30°1'58"N 75°49'58"E      |      |    |
|       |                                      |              | RHS Near Gugga Marri                | 30°1'15"N 75°49'59"E      |      |    |
|       |                                      |              | RHS Bridge Model Town Road.         | 30°1'15"N 75°49'59"E      |      |    |
| 15.   | Vill. Chatha Nanhera, Distt. Sangrur | IN-2.12.3.15 | RHS Bank South Side.                | 30°03'34.1"N 75°52'52.9"E | 358  | No |
| Total |                                      |              |                                     |                           | 2865 |    |

|       |  |              |                                |                                 |      |    |
|-------|--|--------------|--------------------------------|---------------------------------|------|----|
| 16.   | Chahhar (Distt. Sangrur)                               | IN-2.12.3.16 | RHS On Bhai Ki Pishor Road.    | 30°1'27"N 75°54'22"E            | 428  | No |
| 17.   | Dhandoli Kalan (Distt. Sangrur)                        | IN-2.12.3.17 | On Rogla Road.                 | 30°2'28"N 75°55'46"E            | 176  | No |
| 18.   | Janal (Distt. Sangrur)                                 | IN-2.12.3.18 | On Gujran Road.                | 30°4'18"N 75°57'6"E             | 293  | No |
| 19.   | Taranji Khera (Distt. Sangrur)                         | IN-2.12.3.19 | Near Culvert on Distributory   | 30°6'24"N 75°54'14"E            | 149  | No |
| 20.   | Mauran (Distt. Sangrur)                                | IN-2.12.3.20 | Naar Nagari                    | 30°8'4"N 75°55'33"E             | 336  | No |
| 21.   | Toorbanjara (Distt. Sangrur)                           | IN-2.12.3.21 | Near Panchayat Land            | 30°5'39"N 75°57'53"E            | 154  | No |
|       |  |              | Dirba Sangtiwala Road          | 30°5'18"N 75°57'48"E            |      |    |
| 22.   | Gujran (Distt. Sangrur)                                | IN-2.12.3.22 | Near Grid on Mauran Road       | 30°7'34"N 75°57'44"E            | 104  | No |
|       |  |              | Near Anaj Mandi                | 30°7'09"N 75°58'29"E            |      |    |
| 23.   | Changaliwala (Distt. Sangrur)                          | IN-2.12.3.23 | RHS of L/Gaga Link Drain.      | 29°56'46"N 75°47'50"E           | 77   | No |
| 24.   | Khokhar Kalan (Distt. Sangrur)                         | IN-2.12.3.24 | Near Bus Stand                 | 29°57'32"N 75°48'21"E           | 159  | No |
| 25.   | Khokhar Khurd (Distt. Sangrur)                         | IN-2.12.3.25 | RHS of L/Gaga Link Drain.      | 29°58'57"N 75°49'02"E           | 56   | No |
| 26.   | Domestic effluent of Village Khadial, Distt. Sangrur   | IN-2.12.3.26 | RHS Bank South Side.           | 30°05'45.2"N<br>75°53'10.8"E    | 450  | No |
| 27.   | Domestic effluent of Village Reond Khurd, Distt. Mansa | IN-2.12.3.27 | Near Shamshan ghat             | 29.759900,<br>75.585001         | 15   | No |
| 28.   | Domestic effluent of Village Reond Kalan, Distt. Mansa | IN-2.12.3.28 | main pull rasta birewala dogra | Lt. 29.76123,<br>Long 75.590784 | 5    | No |
| Total |  |              |                                |                                 | 2402 |    |

|                           |  |               |  |                                  |      |  |
|---------------------------|--|---------------|--|----------------------------------|------|--|
| 29.                       | Domestic effluent of Village Bhakrial, Distt. Mansa          | IN-2.12.3.29  | Near main pull rasta Ramgarh Shahpuria | Lt. 29.800565.<br>Long 75.621263 | 5    | No   |
| 30.                       | Domestic effluent of Village Dharpura, Distt. Mansa          | IN-2.12.3.30  | Bhawa bareta road                      | 29.826229,<br>75.648320          | 12   | No   |
| 31.                       | Domestic effluent of Village Jalwara, Distt. Mansa           | IN-2.12.3.31  | Drain pull on bareta road              | 29.856722<br>75.662118           | 5    | No   |
| 32.                       | MC, Bareta   | IN-2.12.3.32  | Near jalwara Bridge                    | 29051'37"<br>75040' 23"          | 2000 | STP of capacity 3 MLD based on WSP technology is installed |
| 33.                       | Domestic effluent of vill. Ramgarh Jawandhey, Distt. Sangrur | IN -2.12.3.33 | On Chajjli Path D/s of Bridge          | 30°03'56"N<br>75°52'39"E         | 195  | No facility  |
| <b>12.3.1 Ladal Drain</b> |  |               |  |                                  |      |  |
| 1.                        | Kishangarh   | IN-2.12.3.1.1 | Near Drain pull Daska road             | 29.910752<br>75.724687           | 70   | No   |
| Total                     |  |               |  |                                  | 2287 |  |

| <b>12.3.2 Mander Drain</b>   |                                    |               |   |                         |    |    |
|------------------------------|------------------------------------|---------------|---|-------------------------|----|----|
| 1.                           | Village Mander,<br>Distt. Mansa    | IN-2.12.3.2.1 | Main pull<br>bareta road                        | 29.824823<br>75.684634  | 50 | No |
| 2.                           | Village Juglan, Distt.<br>Mansa    | IN-2.12.3.2.2 | Kacha rasta<br>pond to drain<br>along stadium   | 29.823109<br>75.699637  | 02 | No |
| <b>12.3.3 Toderpur Drain</b> |                                    |               |   |                         |    |    |
| 1.                           | Village Gamiwala,<br>Distt. Mansa  | IN-2.12.3.3.1 | Drain pull<br>main rasta<br>Radha Swami<br>Dera | 29.806189<br>75.533512  | 04 | No |
| 2.                           | Village Gamiwala,<br>Distt. Mansa  | IN-2.12.3.3.2 | near Drain pull                                 | 29.803932<br>75.530153  | 04 | No |
| 3.                           | Village Maghania,<br>Distt. Mansa  | IN-2.12.3.3.3 | near pull rasta<br>Saidewala                    | 29.806853<br>75.577562  | 10 | No |
| 4.                           | Village Saidewala,<br>Distt. Mansa | IN-2.12.3.3.4 | pond to kacha<br>rasta toderpur<br>drain        | 29.630100,<br>74.720043 | 2  | No |
| Total                        |                                    |               |   |                         | 72 |    |

| <b>12.3.4 Hargobindpura Datewas Drain</b> |   |               |   |                         |      |   |
|---|---|---------------|---|-------------------------|------|---|
| 1   | Village Manderna (Rampura mander), Distt. Mansa | IN-2.12.3.4.1 | Near Bridge Village Satike                              | 29.847898<br>75.556194  | 2    | No  |
| 2   | Village Satika, Distt. Mansa                    | IN-2.12.3.4.2 | Near Bridge Village phulluwala Dod                      | 29.862740<br>75.593327  | 8    | No  |
| 3   | Nagar Panchayat, Boha, Distt. Mansa             | IN-2.12.3.4.3 | Near Serkhal road                                       | 29.827<br>74.542        | 1200 | No  |
| <b>12.4 Khiwa Sahajada Drain</b>          |   |               |   |                         |      |   |
| 1.  | Village Khiva Kalan, Distt. Mansa               | IN-2.12.4.1   | Near Anganwari  | 30.101256,<br>75.565631 | 15   | No  |
|   |   |               | Near Pandit wali shamshanghat                           | 30.108611<br>75.565555  | 10   | No  |
| <b>12.5 Dodra Drain</b>                   |   |               |   |                         |      |   |
| 1.  | Village Gurne Khurd, Distt. Mansa               | IN-2.12.5.1   | Kacha rasta upto drain from Balwinder singh Ex Sarpanch | 29.965501<br>75.527674  | 12   | No  |
| 2.  | Village Chak bhai ke, Distt. Mansa              | IN-2.12.5.2   | Bachuuana road  | 30.585642<br>75.501149  | 10   | No  |
| 3.  | MC, Budhlada, Distt. Mansa                      | IN-2.12.5.3   | Ahmadpur Bridge   | 29.941408<br>75.499763  | 5300 | STP of 6.5 MLD capacity based on MBBR Technology is installed and in operation. |
| Total                                     |   |               |   |                         | 6557 |   |

| <b>12.6 Bahadur Singh Wala Drain</b> |  |              |     |                          |            |    |
|--------------------------------------|--|--------------|-----|--------------------------|------------|----|
| 1.                                   | Jalalgarh (Distt. Sangrur)                     | IN-2.12.6.1  | LHS | 30°31'17"N<br>76°04'05"E | 49         | No |
| 2                                    | Chounda (Distt. Sangrur)                       | IN-2.12.6.2  | LHS | 30°30'54"N<br>76°03'15"E | 45         | No |
| 3                                    | Mohmadpura<br>(Nawan Pind)<br>(Distt. Sangrur) | IN-2.12.6.3  | LHS | 30°29'43"N<br>76°01'45"E | 34         | No |
| 4                                    | Jhall (Distt. Sangrur)                         | IN-2.12.6.4  | RHS | 30°28'40"N<br>76°00'31"E | 134        | No |
| 5                                    | Langrian (Distt. Sangrur)                      | IN-2.12.6.5  | LHS | 30°28'25"N<br>75°59'21"E | 122        | No |
| 6                                    | Niamatpura (Distt. Sangrur)                    | IN-2.12.6.6  | RHS | 30°27'23"N<br>75°58'51"E | 93         | No |
| 7                                    | Lohar Majra (Distt. Sangrur)                   | IN-2.12.6.7  | LHS | 30°25'32"N<br>75°56'43"E | 34         | No |
| 8                                    | Sherpur Sodian<br>(Distt. Sangrur)             | IN-2.12.6.8  | LHS | 30°23'26"N<br>75°55'49"E | 55         | No |
| 9                                    | Jakhlan (Distt. Sangrur)                       | IN-2.12.6.9  | LHS | 30°23'03"N<br>75°55'20"E | 99         | No |
| 10                                   | Harchandpura<br>(Distt. Sangrur)               | IN-2.12.6.10 | LHS | 30°22'03"N<br>75°54'07"E | 132        | No |
| <b>Total</b>                         |  |              |     |                          | <b>797</b> |    |

|       |   |              |   |                                     |      |  |
|-------|---|--------------|---|-------------------------------------|------|--|
| 11    | Village Mannwala,<br>Distt. Sangrur       | IN-2.12.6.11 | LHS North Side<br>of Village near<br>Railway Line | 30° 21' 4.68" N<br>75° 52' 21.22" E | 56   | No   |
| 12    | Benra, Distt.<br>Sangrur                  | IN-2.12.6.12 | RHS   | 30°20'01"N<br>75°51'17"E            | 315  | No   |
|       |   |              | RHS   | 30°19'51"N<br>75°51'09"E            |      |  |
| 13    | Ladda Nayak Basti<br>Distt. Sangrur       | IN-2.12.6.13 | RHS Near Ladda<br>Bus Stand                       | 30°18'43"N<br>75°50'22"E            | 315  | No   |
| 14    | Mohmadpur<br>Rassaldar, Distt.<br>Sangrur | IN-2.12.6.14 | RHS near<br>Main Road.                            | 30°17'46"N<br>75°50'03"E            | 33   | No   |
| 15    | Akoi Sahib,<br>Distt. Sangrur             | IN-2.12.6.15 | RHS near<br>Main Road.                            | 30°16'52"N<br>75°50'03"E            | 116  | No   |
| 16    | Sarron,<br>Distt. Sangrur                 | IN-2.12.6.16 | RHS Near Culvert                                  | 30°18'49"N 75°53'36"E               | 280  | No   |
|       |   |              | RHS Near Co-op<br>Bank.                           | 30°19'2"N 75°53'49"E                |      |  |
| 17    | Fatehgarh Channa,<br>Distt. Sangrur       | IN-2.12.6.17 | RHS toward East<br>in fields.                     | 30°18'09"N 75°52'16"E               | 113  | No   |
| 18    | Thaleshan, Distt.<br>Sangrur              | IN-2.12.6.18 | RHS of Drain<br>at Nankiana<br>Road               | 30°16'58"N<br>75°51'09"E            | 85   | No   |
| 19    | Hareri,<br>Distt. Sangrur                 | IN-2.12.6.19 | LHS of BS<br>Wala.                                | 30°16'16"N<br>75°48'39"E            | 604  | No   |
| 20    | Changal,<br>Distt. Sangrur                | IN-2.12.6.20 | Near<br>Badrukhan.                                | 30°15'58"N<br>75°47'30"E            | 156  | Seechewal Model<br>STP (Work being<br>Started) |
| Total |   |              |   |                                     | 2073 |  |

|       |                                 |              |                      |                          |      |  |
|-------|---------------------------------|--------------|----------------------|--------------------------|------|--|
| 21    | Badrukhan,<br>Distt. Sangrur    | IN-2.12.6.21 | LHS of BS Wala.      | 30°15'26"N<br>75°47'14"E | 73   | No                                       |
|       |                                 |              | LHS of BS Wala.      | 30°15'26"N<br>75°47'13"E |      |  |
| 22    | Bhamabaddi,<br>Distt. Sangrur   | IN-2.12.6.22 | LHS of BS Wala.      | 30°14'10"N<br>75°45'19"E | 79   | Seechewal Model STP (Work being Started) |
| 23    | Ubhewal,<br>Distt. Sangrur      | IN-2.12.6.23 | LHS of BS Wala.      | 30°13'57"N 75°44'36"E    | 489  | No                                       |
| 24    | Duggan,<br>Distt. Sangrur       | IN-2.12.6.24 | RHS on Kila Road.    | 30°13'36"N 75°43'54"E    | 364  | No                                       |
| 25    | Kila Bharian,<br>Distt. Sangrur | IN-2.12.6.25 | LHS on Duggan Rd.    | 30°13'35"N 75°43'54"E    | 79   | No                                       |
| 26    | Sahoke,<br>Distt. Sangrur       | IN-2.12.6.26 | LHS of Sahoke Drain. | 30°10'41"N 75°35'36"E    | 140  | No                                       |
|       |                                 |              | LHS of Sahoke Drain. | 30°10'26"N 75°35'20"E    |      |  |
| 27    | Loha Khera,<br>Distt. Sangrur   | IN-2.12.6.27 | LHS of Dhuri Drain.  | 30°12'42"N 75°37'07"E    | 211  | No                                       |
| 28    | Ratoke,<br>Distt. Sangrur       | IN-2.12.6.28 | LHS of BS Wala.      | 30°10'46"N<br>75°56'54"E | 79   | No                                       |
| 29    | Takipur,<br>Distt. Sangrur      | IN-2.12.6.29 | LHS of BS Wala.      | 30°10'29"N 75°36'54"E    | 80   | No                                       |
| 30    | Togalwal,<br>Distt. Sangrur     | IN-2.12.6.30 | LHS Near Village.    | 30°9'16"N 75°36'51"E     | 184  | No                                       |
|       |                                 |              | LHS Near Village.    | 30°9'14"N 75°36'38"E     |      |  |
|       |                                 |              | LHS Near Village.    | 30°9'15"N 75°36'29"E     |      |  |
| Total |                                 |              |                      |                          | 1778 |  |

|       |   |              |   |                                |      |   |
|-------|---|--------------|---|--------------------------------|------|---|
| 31    | Shahpur,<br>Distt. Sangrur                      | IN-2.12.6.31 | LHS of BS<br>Wala.                        | 30°8'42"N<br>75°39'46"E        | 45   | No  |
| 32    | Jharon,<br>Distt. Sangrur                       | IN-2.12.6.32 | LHS of Jainpur<br>Road                    | 30°7'17.23"N<br>75°37'56.34" E | 330  | No  |
| 33    | Village Dhura, Distt.<br>Sangrur                | IN-2.12.6.33 | LHS near AP<br>Solevex.                   | 30°20'53"N<br>75°52'2"E        | 247  | No  |
|       |   |              | LHS near AP<br>Solevex                    | 30°21'39"N<br>75°53'54"E       |      |   |
| 34    | Dohla, Distt. Sangrur                           | IN-2.12.6.34 | RHS Near<br>Harchandpura on<br>Nabha Road | 30°22'18.4"N<br>75°54'14.0"E   | 74   | No  |
| 35    | Issi, Distt. Sangrur                            | IN-2.12.6.35 | LHS On<br>Rajindrapuri Road               | 30°25'12.34"N<br>75°56'01.98"E | 115  | No  |
|       |   |              | LHS                                       | 30°24'59"N<br>75°55'56"E       |      |   |
| 36    | Kheri Jattan, Distt.<br>Sangrur                 | IN-2.12.6.36 | LHS Near School.                          | 30°25'57.0"N<br>75°57'21.8"E   | 103  | No  |
| 37    | Dhadogal, Distt.<br>Sangrur                     | IN-2.12.6.37 | LHS On Jainpur<br>Road.                   | 30°26'15.63"N<br>75°57'48.23"E | 203  | No  |
| 38    | Nagar Panchayat,<br>Longowal, Distt.<br>Sangrur | IN-2.12.6.38 | Shahpur Road,<br>Near Drain<br>Bridge     | 30.188338<br>75.683476         | 1000 | STP of 3.0 MLD is<br>proposed under<br>HUDCO                  |
| 39    | M.C., Dhuri, Distt.<br>Sangrur                  | IN-2.12.6.39 | Totapuri<br>Mohalla                       | 30.347929<br>75.867512         | 2000 | 2 no. STPs of 5 & 6<br>MLD are proposed<br>under HUDCO        |
| 40    | M.C., Bhikhi, Distt.<br>Mansa                   | IN-2.12.6.40 | At Dolwe Road,<br>Bhikhi                  | 30039'90''<br>75032'04''       | 2500 | STP of 3.0 MLD<br>based on WSP<br>technology is<br>installed. |
| Total |   |              |   |                                | 6617 |   |

|                                      |                                  |               |   |                                  |      |  |
|--------------------------------------|----------------------------------|---------------|---|----------------------------------|------|--|
| 41                                   | Diwane Kothe, Distt. Mansa       | IN-2.12.6.41  | Diwane Kothe                                | 30.04'57"<br>75.35'04"           | 05   | No                                       |
| 42                                   | Dhaipai, Distt. Mansa            | IN-2.12.6.4   | Near Shamshan ghat                          | 30.094444,<br>75.615555          | 15   | No                                       |
| 43                                   | Hiron Kalan, Distt. Mansa        | IN-2.12.6.43  | near pond                                   | 30.114044,<br>75.630581          | 10   | No                                       |
| 44                                   | Gurdaspura Basti (Sangrur)       | IN -2.12.6.44 | Dhuri Main Road U/s of Bridge Near Sun Rise | 30°16'41.5"N<br>75°50'03.7"E     | 63   | No facility                              |
| 45                                   | Sheron (Distt. Sangrur)          | IN -2.12.6.45 | LHS under HT Line                           | 30°09'15"N<br>75°45'07"E         | 710  | No facility                              |
| <b>12.6.1 Bhagwanpura Link Drain</b> |                                  |               |   |                                  |      |  |
| 1.                                   | Vill. Dhandra, Distt. Sangrur    | IN-2.12.6.1.1 | On Meemsa-Bagri Road                        | 30°23'42.48" N<br>75°55'57.89" E | 155  | No                                       |
| 2.                                   | Vill. Burj Sedha, Distt. Sangrur | IN-2.12.6.1.2 | RHS on Bank.                                | 30°24'06.8"N<br>75°58'34.6"E     | 864  | No                                       |
| 3.                                   | Vill.Meemsa, Distt. Sangrur      | IN-2.12.6.1.3 | RHS in Fields.                              | 30°22'42.8"N<br>75°57'44.1"E     | 265  | Seechewal Model STP (Work Being Started) |
| Total                                |                                  |               |   |                                  | 2087 |  |

| <b>12.6.2 Dhuri Drain</b> |  |               |                              |                                |      |    |
|---------------------------|--|---------------|------------------------------|--------------------------------|------|----|
| 1.                        | Vill. Pedhni Kalan<br>(Distt. Sangrur) | IN-2.12.6.2.1 | RHS in Fields.               | 30°21'48.67"N<br>75°47'57.95"E | 117  | No |
| 2.                        | Vill. Banganwali<br>(Distt. Sangrur)   | IN-2.12.6.2.2 | On Rajindrapuri<br>Road      | 30°25'43.76"N<br>75°54'15.20"E | 81   | No |
| 3.                        | Vill. Babbanpur<br>(Distt. Sangrur)    | IN-2.12.6.2.3 | RHS Bank on<br>Dhuri Road.   | 30°25'19.9"N<br>75°51'59.2"E   | 41   | No |
| 4.                        | Vill. Kanjhli (Distt.<br>Sangrur)      | IN-2.12.6.2.4 | RHS Bank South<br>Side.      | 30°18'08.13"N<br>75°44'25.47"E | 94   | No |
| 5.                        | Vill. Batuha (Distt.<br>Sangrur)       | IN-2.12.6.2.5 | RHS Bank Natt<br>Road.       | 30°18'32.2"N<br>75°43'20.5"E   | 75   | No |
| 6.                        | Vill. Jahangir (Distt.<br>Sangrur)     | IN-2.12.6.2.6 | RHS on Bank.                 | 30°23'10.8"N<br>75°49'14.3"E   | 150  | No |
| 7.                        | Tolawal (Distt.<br>Sangrur)            | IN-2.12.6.2.7 | LHS near Main<br>Rd. Bridge. | 30°28'54"N 75°58'24"E          | 268  | No |
| 8.                        | Banbhura (Distt.<br>Sangrur)           | IN-2.12.6.2.8 | RHS                          | 30°28'03"N 75°57'28"E          | 281  | No |
| 9.                        | Jainpur (Distt.<br>Sangrur)            | IN-2.12.6.2.9 | LHS                          | 30°27'05"N 75°56'37"E          | 78   | No |
| Total                     |  |               |                              |                                | 1185 |    |

|       |   |                |                                    |                                     |      |  |
|-------|---|----------------|------------------------------------|-------------------------------------|------|--|
| 10.   | Vill. Ruldu Singh Wala (Distt. Sangrur)       | IN-2.12.6.2.10 | RHS on Bardwal Road.               | 30°24'23.88"N<br>75°53'49.06"E      | 68   | No   |
| 11.   | Bardwal (Distt. Sangrur)                      | IN-2.12.6.2.11 | LHS                                | 30°24'04"N 75°53'22"E               | 244  | No   |
|       |   |                | LHS                                | 30°24'03"N 75°53'13"E               |      |  |
|       |   |                | LHS                                | 30°23'59"N 75°52'48"E               |      |  |
| 12    | Daulatpur (Distt. Sangrur)                    | IN-2.12.6.2.12 | RHS                                | 30°23'39"N 75°51'19"E               | 70   | No   |
| 13    | Kaheru (Distt. Sangrur)                       | IN-2.12.6.2.13 | RHS                                | 30°23'20"N 75°49'58"E               | 181  | No   |
|       |   |                | RHS                                | 30°23'19"N 75°49'57"E               |      |  |
|       |   |                | RHS                                | 30°23'19"N 75°49'50"E               |      |  |
| 14    | Punawal (Distt. Sangrur)                      | IN-2.12.6.2.14 | LHS                                | 30°19'58"N 75°47'26"E               | 233  | No   |
|       |   |                | LHS                                | 30°19'34"N 75°47'16"E               |      |  |
| 15    | Vill. Kanjhla (Distt. Sangrur)                | IN-2.12.6.2.15 | LHS Bank on Ladda-Kila Hakima Road | 30° 18'37.61" N<br>75° 46' 44.84" E | 358  | Seechewal Model STP (Work Being Started)                   |
| 16    | Vill. Natt (Distt. Sangrur)                   | IN-2.12.6.2.16 | LHS Bank Batuha Road.              | 30°17'35.4"N<br>75°43'25.7"E        | 109  | No   |
| 17    | Bhaini Mehraj (Distt. Barnala)                | IN-2.12.6.2.17 | RHS                                | 30°17'41"N 75°42'48"E               | 326  | No   |
|       |   |                | RHS                                | 30°16'40"N 75°41'01"E               |      |  |
|       |   |                | RHS                                | 30°16'39"N 75°41'01"E               |      |  |
| 18    | Badbar (Distt. Barnala)                       | IN-2.12.6.2.18 | LHS                                | 30°15'47"N 75°38'49"E               | 479  | No   |
| 19    | A part of sewage of M.C, Dhuri Distt. Sangrur | IN-2.12.6.2.19 | Village Doulatpur Road.            | 30.395218<br>75.858836              | 2500 | Work for installation of STP of capacity 5 MLD is allotted |
| Total |   |                |                                    |                                     | 4568 |  |

|                                 |   |                |  |                                |     |             |
|---------------------------------|---|----------------|--|--------------------------------|-----|-------------|
| 20                              | Domestic effluent of Vill. Ladda (Distt. Sangrur) | IN-2.12.6.2.20 | Ladda Kanjhla Road on Changal Junction | 30°18'26.1"N<br>75°46'44.9"E   | 314 | No facility |
| 21                              | Harigarh (Distt. Barnala)                         | IN-2.12.6.2.21 | Near Bus Stand                         | 30°15'31"N<br>75°37'35"E       | 249 | No facility |
| <b>12.6.3 Sahoke Main Drain</b> |   |                |  |                                |     |             |
| 1.                              | Village Dhadrian Distt. Sangrur                   | IN-2.12.6.3.1  | On LHS of Bank.                        | 30° 10' 27" N<br>75° 35' 20" E | 206 | No          |
| 2.                              | Vill. Dullat Wala Distt. Sangrur                  | IN-2.12.6.3.2  | On Mander Kalan Takipur Road           | 30°10'50.0"N<br>75°38'8.47"E   | 26  | No          |
| 3.                              | Samao Distt. Mansa                                | IN-2.12.6.3.3  | Near Gurdawara                         | 30.081411<br>75.548214         | 18  | No          |
| 4.                              | Gurthari Distt. Mansa                             | IN-2.12.6.3.4  | near school                            | 30.116850<br>75.539715         | 07  | No          |
| Total                           |   |                |  |                                | 820 |             |

| <b>12.6.3.1 Jassarwal Drain</b>   |                                   |                 |                               |                                     |      |    |
|-----------------------------------|-----------------------------------|-----------------|-------------------------------|-------------------------------------|------|----|
| 1.                                | Vill. Dialgarh, Distt. Sangur     | IN-2.12.6.3.1.1 | On South-West Side of Village | 30°08'55.9"N<br>75°34'46.5"E        | 114  | No |
| 2.                                | Vill. Mander Kalan, Distt. Sangur | IN-2.12.6.3.1.2 | On LHS Bank.                  | 30° 10'54.47" N<br>75° 38' 8.47" E  | 144  | No |
| <b>12.6.3.2 Buggar Link Drain</b> |                                   |                 |                               |                                     |      |    |
| 1.                                | Vill. Buggar, Distt. Sangrur      | IN-2.12.6.3.2.1 | On LHS Bank.                  | 30° 12'46.15" N<br>75° 35' 50.21" E | 87   | No |
| <b>13 Miranpur Choe</b>           |                                   |                 |                               |                                     |      |    |
| 1.                                | Village Rathian, Distt. Patiala   | IN-2.13.1       | Near habitation area          | 30.185<br>76.315415                 | 405  | No |
| 2.                                | Village Balamgarh, Distt. Patiala | IN-2.13.2       | -do-                          | 30.162667<br>76.2936.09             | 324  | No |
| 3.                                | Village Balla, Distt. Patiala     | IN-2.13.3       | -do-                          | 30.164915<br>76.295513              | 227  | No |
| 4.                                | Village Bolri, Distt. Patiala     | IN-2.13.4       | -do-                          | 30.174768<br>76.312579              | 105  | No |
| 5.                                | Village Ganour, Distt. Patiala    | IN-2.13.5       | -do-                          | 30.155634<br>76.292372              | 154  | No |
| Total                             |                                   |                 |                               |                                     | 1560 |    |

|                       |  |            |                      |                                 |             |    |
|-----------------------|--|------------|----------------------|---------------------------------|-------------|----|
| 6.                    | Village Khuda, Distt. Patiala                        | IN-2.13.6  | -do-                 | 30.153675<br>76.291219          | 487         | No |
| 7.                    | Village Katakheri, Distt. Patiala                    | IN-2.13.7  | -do-                 | 30.237292<br>76.488194          | 97          | No |
| 8.                    | Village Gangrola                                     | IN-2.13.8  | -do-                 | 30.242082<br>76.4912            | 236         | No |
| 9.                    | Village Devi nagar Sivaye Singh wala, Distt. Patiala | IN-2.13.9  | -do-                 | 30.220709<br>76.482227          | 359         | No |
| 10.                   | Village Dolatpur Fakira, Distt. Patiala              | IN-2.13.10 | -do-                 | 30.169743<br>76.458001          | 136         | No |
| 11.                   | Village Sassi Brahmna, Distt. Patiala (two outlets)  | IN-2.13.11 | -do-                 | 30.6<br>76.34<br>30.11<br>76.20 | 186         | No |
| 12.                   | Village Haripura, Distt. Patiala (Two outlets)       | IN-2.13.12 | -do-                 | 30.6<br>76.34<br>30.11<br>76.20 | 37          | No |
| <b>14 Badi Tangri</b> |  |            |                      |                                 |             |    |
| 1.                    | Village Mohalgarh, Distt. Patiala                    | IN-2.14.1  | Near Habitation area | 30.20422<br>76.635359           | 228         | No |
| 2.                    | Village Kharabgarh, Distt. Patiala                   | IN-2.14.2  | -do-                 | 30.103801<br>76.561817          | 292         | No |
| <b>Total</b>          |  |            |                      |                                 | <b>2058</b> |    |

| <b>14.1 Shekhupura Adalatiwala Drain</b> |   |             |                         |                        |                   |    |
|--|---|-------------|-------------------------|------------------------|-------------------|----|
| 1.                                       | Village Isharheri,<br>Distt. Patiala      | IN-2.14.1.1 | Near Habitation<br>area | 30.197553<br>76.596858 | 405               | No |
| 2.                                       | Village Chuhat,<br>Distt. Patiala         | IN-2.14.1.2 | -do-                    | 30.18614<br>76.563624  | 244               | No |
| 3  | Village Dudan<br>Gujran,<br>Distt.Patiala | IN-2.14.1.3 | -do-                    | 30.143929<br>76.541415 | 240               | No |
| Total                                    |   |             |                         |                        | 889               |    |
| <b>GRAND TOTAL</b>                       |   |             |                         |                        | <b>313022 KLD</b> |    |

**Annexure G – (A) Local Bodies which have installed STPs of full capacities**

| <b>Sr. No</b> | <b>Name of Town</b> | <b>Sewage Generation in MLD (present)</b> | <b>Capacity of STP (MLD)</b> | <b>Technology of STP</b> |
|---------------|---------------------|---|------------------------------|--------------------------|
| 1.            | Banur               | 2.53                                      | 4.0                          | MBBR                     |
| 2.            | Baretta             | 2.13                                      | 3.0                          | WSP                      |
| 3.            | Bhikhi              | 2.52                                      | 3.0                          | WSP                      |
| 4.            | Budhlada            | 5.50                                      | 6.5                          | MBBR                     |
| 5.            | Khanauri            | 1.82                                      | 3.0                          | SBR                      |
| 6.            | Lehragaga           | 2.92                                      | 4.0                          | SBR                      |
| 7.            | Moonak              | 2.34                                      | 3.0                          | SBR                      |
| 8.            | SAS Nagar           | 24.35                                     | 45.4                         | UASB                     |
| 9.            | Pattran             | 3.70                                      | 4.0                          | SBR                      |
| 10.           | Samana              | 6.95                                      | 10.0                         | SBR                      |
| 11.           | Sardulgarh          | 2.69                                      | 4.0                          | WSP                      |
| 12.           | Sunam               | 8.37                                      | 8.0                          | MBBR                     |
| 13.           | Zirakpur            | 13.87                                     | 17.0                         | SBR                      |

|     |                  |    |      |     |
|-----|------------------|----|------|-----|
| 14. | Mandi Gobindgarh | 19 | 25.0 | SBR |
|-----|------------------|----|------|-----|

**Annexure G – (B) Local Bodies which have installed partially completed STPs**

| <b>Sr. No.</b> | <b>Name of the Town</b> | <b>Capacity of the STP already installed (MLD)</b> | <b>Capacity of the STP yet to be installed/ commissioned (MLD)</b> | <b>Status of STP yet to be installed/ commissioned</b>   |
|----------------|-------------------------|--|--|--|
| 1.             | MC, Dera Bassi          | 4  | 2  | Construction will be completed by 31.03.2020.  |
| 2.             | MC Lalru                | 1.5  | 1.5  | The nearby residents have filed a suit against MC for change of site of 1.5 MLD capacity STP. Construction of 0.3 + 0.3 MLD STP will be completed by 31.12.2020 and 1 MLD STP by 31.10.2020. |
| 3.             | Rajpura                 | 7  | 10   | Commissioned for Stabilization   |
| 4.             | Patiala                 | 46   | 15   | Additional module of 15 MLD is likely to be installed by 31.12.2020.   |
|                |                         | 10.0   | -  | Sufficient capacity  |
|                |                         | 13   | -  | Sufficient capacity  |

**Annexure G - (C) Status regarding sewage treatment in urban areas**

| S.N. | Name of the Town | Population in year 2018 | Water consumption (MLD) | Wastewater generation (MLD) | Existing capacity of STP (MLD) | Proposed capacity of the STP (MLD)                     | Balance quantity yet to be treated (MLD) |
|------|------------------|-------------------------|-------------------------|-----------------------------|--------------------------------|--|--|
| 1.   | Banur            | 22052                   | 2.98                    | 2.53                        | 4.0                            | 0.0  | 0.0                                      |
| 2.   | Baretta          | 18533                   | 2.50                    | 2.13                        | 3.0                            | 0.0  | 0.0                                      |
| 3.   | Bhikhi           | 21937                   | 2.96                    | 2.52                        | 3.0                            | 0.0  | 0.0                                      |
| 4.   | Budhlada         | 47953                   | 6.47                    | 5.50                        | 6.5                            | 0.0  | 0.0                                      |
| 5.   | Khanauri         | 15882                   | 2.14                    | 1.82                        | 3.0                            | 0.0  | 0.0                                      |
| 6.   | Lehragaga        | 25457                   | 3.44                    | 2.92                        | 4.0                            | 0.0  | 0.0                                      |
| 7.   | Mandi Gobindgarh | 87323                   | 11.79                   | 10.02                       | 25.0                           | 0.0  | 0.0                                      |
| 8.   | Moonak           | 20431                   | 2.76                    | 2.34                        | 3.0                            | 0.0  | 0.0                                      |
| 9.   | Mohali           | 212242                  | 28.65                   | 24.35                       | 45.4                           | 0.0  | 0.0                                      |
| 10.  | Patiala          | 506012                  | 82.35                   | 70.00                       | 46                             | Additional module of STP of 15 MLD yet to be installed | 14.0                                     |
|      |                  |                         |                         |                             | 10                             |  |  |
|      |                  |                         |                         |                             | 6.0                            |  |  |
| 11.  | Pattran          | 32255                   | 4.35                    | 3.70                        | 4.0                            | 0.0  | 0.0                                      |
| 12.  | Rajpura          | 124821                  | 16.85                   | 14.32                       | 7.0                            | 10.0   | 7.32                                     |
| 13.  | Samana           | 60591                   | 8.18                    | 6.95                        | 10.0                           | 0.0  | 0.0                                      |
| 14.  | Sardulgarh       | 23417                   | 3.16                    | 2.69                        | 4.0                            | 0.0  | 0.0                                      |
| 15.  | Sunam            | 72963                   | 9.85                    | 7.00                        | 8.0                            | 0.0  | 0.0                                      |
| 16.  | Zirakpur         | 120867                  | 16.32                   | 13.87                       | 17.0                           | 0.0  | 0.0                                      |

|     |               |       |               |               |              |                        |              |
|-----|---------------|-------|---------------|---------------|--------------|------------------------|--------------|
| 17. | Bassi Pathana | 22090 | 2.98          | 2.53          | -            | 3.0                    | 2.53         |
| 18. | Boha          | 14206 | 1.92          | 1.63          | -            | 2.0                    | 1.63         |
| 19. | Lalru         | 41330 | 5.58          | 4.74          | 1.5          | 1.5, 1.0,<br>0.3 & 0.3 | 3.24         |
| 20. | Dera Bassi    | 50277 | 6.79          | 5.77          | 4.0          | 2.0 & 2.0              | 1.77         |
| 21. | Sirhind       | 65706 | 8.87          | 7.54          | -            | 5.0, 4.0 &<br>2.0      | 7.54         |
| 22. | Amloh         | 19837 | 2.7           | 2.28          | -            | 3.0                    | 2.28         |
| 23. | Cheema        | 13087 | 1.8           | 1.50          | -            | 2.0                    | 1.5          |
| 24. | Dhuri         | 62614 | 8.6           | 7.19          | -            | 5.0 & 6.0              | 7.19         |
| 25. | Sangrur       | 98671 | 13.6          | 11.32         | -            | 11.0 & 4.0             | 11.32        |
| 26. | Nabha         | 68031 | 9.4           | 7.81          | -            | 12.05                  | 7.81         |
| 27. | Longowal      | 28418 | 3.9           | 3.26          | -            | 3.0                    | 3.26         |
| 28. | Sanaur        | 24390 | 3.36          | 2.80          | -            | 4.0                    | 2.80         |
| 29. | Bhadson       | 8063  | 1.11          | 0.93          | -            | 3.0                    | 0.93         |
| 30. | Ghanour       | 7500  | 1.0           | 0.8           | -            | 2.0                    | 0.8          |
|     | <b>TOTAL</b>  |       | <b>276.36</b> | <b>238.76</b> | <b>221.4</b> | <b>103.10</b>          | <b>75.92</b> |

**Annexure H - List of Industries located in Dera Bassi area**

| Sr. No | Name and Address of industry   | Type of industry | Water consumption (KLD) | Effluent discharge (KLD) |                   | ETP component  | Mode of Disposal of treated wastewater authorized by the Board. |
|--------|--|------------------|-------------------------|--------------------------|-------------------|--|---|
|        |  |                  |                         | Trade (KLD)              | Domestic Effluent |  |   |
| 1.     | T.C. Terrytex Limited, Village Sarsini, PO Lalru, Dera Bassi                                 | Dyeing           | 2200                    | 1800                     | 50                | Physico chemical followed by aerobic biological treatment and tertiary treatment | Onto land for plantation  |
| 2.     | Bhandari Export Industries Ltd., Village Sarsini, Dera Bassi                                 | Dyeing           | 200                     | 160                      | 10                | Physico chemical followed by aerobic biological treatment and tertiary treatment | Onto land for plantation  |
| 3.     | Rana Polycot Ltd. (Dyeing Unit), Village Alamgir, Dera Bassi                                 | Dyeing           | 600                     | 500                      | 3                 | Physico chemical followed by aerobic biological treatment and tertiary treatment | Onto land for plantation  |
| 4.     | Nahar Spinning Mills Ltd.(M & D Unit), Village Lehli, PO Dappar, Lalru, Dera Bassi           | Dyeing           | 1850                    | 1700                     | 50                | Physico chemical followed by aerobic biological treatment.                       | Onto land for plantation  |
| 5.     | Nahar Industrial Enterprises Ltd. (Process House-I), Village Jalalpur, PO Dappar, Dera Bassi | Dyeing           | 2800                    | 2300                     | 200               | Aerobic biological treatment followed by tertiary treatment.                     | Onto land for plantation  |
| 6.     | Nahar Industrial Enterprises Ltd. (Process House-2),   | Dyeing           | 3500                    | 2750                     | 200               | Aerobic biological treatment.  | Onto land for plantation  |

|     |   |                |      |      |       |  |                          |
|-----|---|----------------|------|------|-------|--|--------------------------|
|     | Village Jalalpur, PO Dappar, Dera Bassi                               |                |      |      |       |  |                          |
| 7.  | Oswal Denims, Village Dappar, Lalru, Dera Bassi                       | Dyeing         | 1100 | 710  | 150   | Physico chemical followed by aerobic biological treatment and tertiary treatment.  | Onto land for plantation |
| 8.  | Rainbow Denim Ltd., Village Chaundheri, Dera Bassi (98140-88924)      | Dyeing         | 590  | 455  | 55    | Physico chemical followed by aerobic biological treatment and tertiary treatment.  | Onto land for plantation |
| 9.  | Mirha Exports (P) Ltd., Village Jaula Khurd, Dera Bassi (84276-77844) | Meat Plant     | 1910 | 1620 | 23.5  | An-aerobic followed by aerobic biological treatment and tertiary treatment.  | Onto land for plantation |
| 10. | SHL Agro foods INC, Village Jaula Khurd, Dera Bassi                   | Meat Plant     | 100  | 75   | 13.68 | Aerobic biological treatment and tertiary treatment.   | Onto land for plantation |
| 11. | Cad Chem Laboratories Ltd Village Jaula Kalan, Dera Bassi             | Pharmaceutical | 36   | 11   | 2.6   | The industry is generating two type of effluent stream i.e. High TDS and Low TDS. The industry has installed MEE for the treatment of High TDS and installed ETP based on physio-chemical treatment for the low TDS. | Onto land for plantation |
| 12. | Parabolic Drugs Ltd., Village Chachrouli, Dera Bassi                  | Pharmaceutical | 15   | 12   | 1.5   | MEE for high TDS stream and aerobic biological treatment system for low TDS stream.  | Lying closed.            |
| 13. | Punjab Chemical & Crop Protection Ltd                                 | Pharmaceutical | 118  | 27   | 10    | MEE installed.   | ZLD                      |

|     |  |                |       |      |       |   |  |
|-----|--|----------------|-------|------|-------|---|--|
|     | (Pharma Division),<br>(Old name Alpha<br>Drugs Ltd.), Village<br>Samalheri, Dera Bassi                   |                |       |      |       |   |  |
| 14. | Nectar Lifesciences<br>Ltd. Unit-2 (Old Name<br>Surya Medicare Ltd.),<br>Village Saidpura, Dera<br>Bassi | Pharmaceutical | 220   | 200  | 15    | MEE for high TDS stream<br>and aerobic biological<br>treatment system for low<br>TDS stream.    | Onto land for<br>plantation  |
| 15. | Allychem Laboratories<br>(P) Ltd, E-68-69, focal<br>point, Dera Bassi                                    | Pharmaceutical | 38    | 12   | 3     | MEE installed.  | The unit was<br>closed by the<br>Hon'ble NGT vide<br>order dated<br>25.10.2018<br>passed in OA no.<br>30 & 33 of 2013. |
| 16. | Essix Biosciences Ltd.,<br>B-4 & 5, Focal Point,<br>Dera Bassi   | Pharmaceutical | 10    | 7.2  | 2     | Single stage evaporator for<br>high TDS stream and<br>aerobic biological for low<br>TDS stream. | Onto land for<br>plantation  |
| 17. | Vardhman Chemtech<br>Ltd., Focal Point, Dera<br>Bassi.   | Pharmaceutical | 50    | 39.5 | 4.5   | MEE installed.  | Lying Closed.  |
| 18. | Anuja Healthcare Ltd.<br>(Old name Anuja<br>Impex (P) Ltd.), C-26 &<br>C-31, Focal Point,<br>Dera Bassi  | Pharmaceutical | 176.5 | 9.5  | 1.764 | MEE installed.  | The unit was<br>closed by the<br>Hon'ble NGT vide<br>order dated<br>25.10.2018<br>passed in OA no.<br>30 & 33 of 2013. |

|     |  |                            |     |      |     |  |  |
|-----|--|----------------------------|-----|------|-----|--|--|
| 19. | Nectar Lifesciences Ltd. Unit-1 (Old Name Surya Medicare Ltd), Village Saidpur, Dera Bassi | Pharmaceutical             | 175 | 29   | 6   | ETP common with Nectar Life Sciences Unit-2.   | Please see the status of Nectar Life Sciences Unit-2 at S.No. 14.                                    |
| 20. | ARK Healthcare, D-12, Focal Point, Dera Bassi  | Pharmaceutical             | 2.4 | 1.07 | 0.5 | Low TDS treated through ETP based on physico chemical followed by biological treatment and high TDS treated through Single effect evaporator | The unit was closed by the Hon'ble NGT vide order dated 25.10.2018 passed in OA no. 30 & 33 of 2013. |
| 21. | Panacea Biotech Ltd., Village Samalheri, Near Lalru, Dera Bassi                            | Pharmaceutical             | 100 | 83   | 13  | The industry has installed ETP based on biological treatment.  | Onto land for plantation   |
| 22. | Punjab Chemicals & Crop Protection Ltd (Agro Division), Village Bhankharpur, Dera Bassi    | Pesticide                  | 193 | 21   | 10  | MEE installed.   | ZLD  |
| 23. | Sarwal Pharmaceuticals, F-14, Focal Point, Dera Bassi                                      | Pharmaceutical Formulation | 3.4 | 0.2  | 1.2 | Pan type evaporator  | The unit was closed by the Hon'ble NGT vide order dated 25.10.2018 passed in OA no. 30 & 33 of 2013. |
| 24. | Austin Pharmaceuticals, E-40, Focal Point, Dera Bassi                                      | Pharmaceutical Formulation | 7   | 0.1  | 0.8 | Pan type evaporator  | The case of this industry has been fixed for next hearing on 9.1.19 before the                       |

|     |   |                            |       |      |     |                             |  |
|-----|---|----------------------------|-------|------|-----|-----------------------------|--|
|     |   |                            |       |      |     |                             | Hon'ble NGT.   |
| 25. | Ticoma Pharmacia, E-47, focal Point Dera Bassi                    | Pharmaceutical Formulation | 1.2   | 0.06 | 0.4 | Pan type evaporator         | ZLD  |
| 26. | Steel Strips Wheels Ltd., Village Smalheri, Dera Bassi            | Engineering Goods          | 500   | 293  | 75  | Physico-chemical treatment. | Onto land for plantation   |
| 27. | Prerna Strips, Village Bhankharpur, Dera Bassi                    | Engineering Goods          | 1.2   | 0.5  | 0.3 | Joined CETP                 | Closed temporarily   |
| 28. | A.R. Fastners, E-71, Indl. Focal Point, Dera Bassi                | Engineering Goods          | 2     | 0.35 | 0.5 | Joined CETP                 | -  |
| 29. | Kiran Industries (Vipan Kumar), F-19, Focal Point, Dera Bassi     | Electroplating             | 0.45  | 0.15 | 0.3 | Joined CETP                 | -  |
| 30. | Kamal Hi-tech Engineers (P) Ltd, B-10-11, Focal Point, Dera Bassi | Electroplating             | 10    | 7.5  | 2   | Joined CETP                 | -  |
| 31. | Morff International, E-27, Focal Point, Dera Bassi                | Electroplating             | 1     | 0.1  | 0.4 | Joined CETP                 | The unit was closed by the Hon'ble NGT vide order dated 25.10.2018 passed in OA no. 30 & 33 of 2013. |
| 32. | Kaura Inds.Corp., D-2, Focal Point, Dera Bassi                    | Electroplating             | 0.525 | 0.4  | 0.1 | Joined CETP                 | -  |

|     |  |                           |      |      |     |  |  |
|-----|--|---------------------------|------|------|-----|--|--|
| 33. | Yashwani Enterprises, F-28, Focal Point, Dera Bassi                            | Electroplating            | 0.5  | 0.24 | 0.1 | Joined CETP  | -  |
| 34. | Piyanshu chemicals (P) Ltd., D-22A & D-23, Focal Point, Dera Bassi             | Resin manufacturing       | 5    | 0.3  | 0.5 | No ETP installed as the quantity of generation of effluent is quite less. Therefore, the industry has installed electric heater. | ZLD  |
| 35. | Varindra Organica (P) Ltd., D-24, Focal Point, Dera Bassi                      | Organic Chemical industry | 12   | 8    | 2.4 | Physico-chemical treatment.  | Treated wastewater is used in cooling water as make up water.  |
| 36. | Power Chem Plast Ltd.(Formerly Power Drugs Ltd), C-25, Focal Point, Dera Bassi | Organic Chemical industry | 1    | 0    | 1   | Reuse in Cooling Tower   | The unit was closed by the Hon'ble NGT vide order dated 25.10.2018 The next date of hearing in the case is 9.1.19. |
| 37. | Vishal Papertech (India) Ltd., Village Mubarikpur, Dera Bassi                  | Pulp & Paper              | 1250 | 1224 | 8   | Primary treatment followed by secondary aerobic biological treatment.  | Onto land for plantation   |
| 38. | Nachiketa Papers Ltd., Village Mubarikpur, Dera Bassi                          | Pulp & Paper              | 196  | 6    | 5   | Settling tank and sedi cell.   | Reused   |
| 39. | Molson Coors india (P)   | Brewery                   | 800  | 700  | 72  | The industry has installed   | Onto land for  |

|     |   |            |      |      |     |  |                          |
|-----|---|------------|------|------|-----|--|--------------------------|
|     | Ltd. (Old name Mount Shivalik Breweries), Village Bhankharpur, Dera Bassi |            |      |      |     | ETP based on physico chemical followed by biological treatment.                              | plantation               |
| 40. | Chandigarh Distillers & Bottlers Ltd., Banur                              | Distillery | 2500 | 2310 | 120 | MEE followed by drier for spent wash. Aerobic Biological treatment system for other streams. | ZLD                      |
| 41. | Rama Industries Ltd., Village Chaundheri, Lalru, Dera Bassi               | Gelatine   | 4810 | 1615 | 10  | Physico chemical followed by aerobic biological treatment and tertiary treatment.            | Onto land for plantation |

**Annexure I - List of Industries located in Patiala area**

| S. No. | Name and Address of industry  | Type of industry | Water consumption (KLD) | Effluent discharge (KLD) |                | ETP component                  | Mode of Disposal of treated wastewater authorized by the Board. |
|--------|---|------------------|-------------------------|--------------------------|----------------|--------------------------------|---|
|        |   |                  |                         | Trade (KLD)              | Domestic (KLD) |                                |   |
| 1      | Vishal Coater Pvt. Ltd., Vill. Khusropur, Patiala                     | Pulp & Paper     | 627                     | 510                      | 6              | Aerobic biological treatment.  | Onto land for plantation  |
| 2      | Vishal Paper Industries Pvt. Ltd., Vill. Khusropur, Patiala           | Pulp & Paper     | 1075                    | 510                      | 9              | Aerobic biological treatment.  | Onto land for plantation  |
| 3      | SSG Paper Mills, Vill. Khusropur, Maine Road, Patiala                 | Pulp & Paper     | 235                     | 90                       | 10             | Aerobic biological treatment.  | Onto land for plantation  |
| 4      | Shree Swami Card Board Mills, Bhanri Road, Vill. Main, Distt. Patiala | Paper Board      | 21                      | 0                        | 0.5            | Recirculation system provided. | Reused in the process   |
| 5      | Mittal Card Board Mills, Vill. Main, Tehsil and Distt. Patiala        | Paper Board      | 18                      | 0                        | 0.5            | Recirculation system provided. | Reused in the process   |
| 6      | DSG Paper Mill, Vill. Bhanri  | Pulp & Paper     | 1076                    | 1000                     | 18             | Aerobic biological             | Onto land for   |

|   |   |            |      |      |   |  |                          |
|---|---|------------|------|------|---|--|--------------------------|
|   | Road, Maine Road, Patiala                                 |            |      |      |   | treatment  | plantation               |
| 7 | Patiala Distillers & Mfrs. Pvt. Ltd., Vill. Main, Patiala | Distillery | 4000 | 3000 | 5 | Anaerobic treatment followed by aerobic biological treatment | Onto land for plantation |

**Annexure J - Status of HCFs operating in catchment areas of Ghaggar**

| <b>Sr. No</b> | <b>Name of the town</b> | <b>No. of HCFs covered</b> | <b>No. of bedded HCFs</b> | <b>No. of non-bedded HCFs</b> | <b>No. of HCFs not made agreement with CBWTF</b> |
|---------------|-------------------------|----------------------------|---------------------------|-------------------------------|--|
| 1             | SAS Nagar               | 170                        | 119                       | 51                            | 33   |
| 2             | Patiala                 | 499                        | 319                       | 180                           | 39   |
| 3             | Sangrur                 | 151                        | 125                       | 26                            | 57   |
| 4             | Mansa                   | 147                        | 92                        | 55                            | 7  |
| 5             | Fatehgarh Sahib         | 138                        | 100                       | 38                            | 0  |

**Annexure K - List of schemes for utilization of treated wastewater**

| <b>STP no.</b> | <b>Name of Town where STPs operational</b> | <b>Capacity of STP (MLD)</b> | <b>STP Technology</b> | <b>Area Irrigated (Hectares)</b> | <b>Remarks</b>                  |
|----------------|--|------------------------------|-----------------------|----------------------------------|---------------------------------|
| 1              | Banur                                      | 4                            | MBBR                  | 65                               | Irrigation Project Commissioned |
| 2              | Baretta                                    | 3                            | WSP                   | 130                              | Irrigation Project Commissioned |
| 3              | Bhikhi                                     | 3                            | WSP                   | 145                              | Irrigation Project Commissioned |
| 4              | Moonak                                     | 3                            | SBR                   | 88                               | Irrigation Project Commissioned |
| 5              | Pattran                                    | 4                            | SBR                   | 120                              | Irrigation Project Commissioned |
| 6              | Sardulgarh                                 | 4                            | WSP                   | 108                              | Irrigation Project Commissioned |
| 7              | Lehragaga                                  | 4                            | SBR                   | 138                              | Irrigation Project Commissioned |
| 8              | Sunam                                      | 8                            | MBBR                  | 165                              | Irrigation Project              |

|  |  |  |  |  |              |
|--|--|--|--|--|--------------|
|  |  |  |  |  | Commissioned |
|--|--|--|--|--|--------------|

**Annexure L - Timelines for setting up of treatment facilities by Local Bodies**

|  |  |                                      |                        |
|--|--|--------------------------------------|------------------------|
| <b>(1) PWSSB</b>   |  |                                      |                        |
| <b>(i) Name of the Project:</b> Providing Sewerage & Construction of 10 MLD STP at Rajpura |  |                                      |                        |
| <b>Brief Scope of Work</b>   |  | <b>1 No. STP of 10 MLD</b>           |                        |
| <b>Sr.No.</b>  | <b>Stage</b>                                       | <b>Start Date</b>                    | <b>Completion Date</b> |
| 1  | Preparation of DPR                                 | Prepared                             | Approved               |
| 2  | Financial Closure                                  | Funds tied up under HUDCO loan.      |                        |
| 3  | Tendering of the work including allotment          | Started                              | Completed              |
| 4  | Commencement of work                               | Started                              | 28.2.2019              |
| 5  | Quarterly milestones during the construction stage | -                                    | -                      |
| 6  | Completion and commissioning                       | 1.3.2019                             | 30.6.2019              |
| <b>(ii) Name of the Project:</b> Providing Sewerage & Construction of 2 MLD STP at Boha    |  |                                      |                        |
| <b>Brief Scope of Work</b>   |  | <b>1 No. STP of 2 MLD</b>            |                        |
| 1  | Preparation of DPR                                 | Prepared                             | Approved               |
| 2  | Financial Closure                                  | Funds tied up under HUDCO loan       |                        |
| 3  | Tendering of the work including allotment          | Tender allotted                      |                        |
| 4  | Commencement of work                               | Started                              | 31.03.2020             |
| 5  | Quarterly Milestones during the construction stage | -                                    | -                      |
| 6  | Completion and Commissioning                       | 01.04.2020                           | 31.07.2020             |
| <b>(iii) Name of the Project:</b> Providing Sewerage & Construction of 2 MLD STP at Cheema |  |                                      |                        |
| <b>Brief Scope of the Project</b>  |  | <b>1 No STP of 2 MLD</b>             |                        |
| <b>Sr. No.</b>   | <b>Stage</b>                                       | <b>Start Date</b>                    | <b>Completion Date</b> |
| 1  | Preparation of DPR                                 | Prepared                             | Approved.              |
| 2  | Financial Closure                                  | Funds being tied up under HUDCO loan |                        |
| 3  | Tendering of the work including allotment          | Started                              | 31.07.2019             |
| 4  | Commencement of work                               | 01.08.2019                           | 31.07.2020             |

|  |  |   |                        |
|--|--|---|------------------------|
| 5  | Quarterly Milestones during the construction stage | 25%   | 25%                    |
| 6  | Completion and Commissioning                       | 01.08.2020  | 31.10.2020             |
| <b>(iv) Name of the Project: Providing Sewerage &amp; Construction of 3 MLD STP at Bhadson</b>           |  |   |                        |
|  | <b>Brief Scope of the Project</b>                  | <b>1 No STP of 3 MLD</b>  |                        |
| 1  | Preparation of DPR                                 | 1.7.2019  | 31.3.2019              |
| 2  | Financial Closure                                  | T   |                        |
| 3  | Tendering of the work including allotment          | T+ 3 months   | T+6 months             |
| 4  | Commencement of work                               | T+ 6 months   | T+ 18 months           |
| 5  | Quarterly Milestones during the construction stage | 25%   | T+18 months.           |
| 6  | Completion and Commissioning                       | T+18 months   | T+21 months.           |
| <b>(v) Name of the Project: Providing Sewerage &amp; Construction of 12 MLD STP at Nabha</b>             |  |   |                        |
|  | <b>Brief Scope of the Project</b>                  | <b>1 No STP of 12 MLD</b>   |                        |
| 1  | Preparation of DPR                                 | Prepared  | Already approved       |
| 2  | Financial Closure                                  | Funds being tied up under HUDCO Loan  |                        |
| 3  | Tendering of the work including allotment          | Land being finalized and tendering will be started after possession of land - T | T+ 6 months            |
| 4  | Commencement of work                               | T + 6 months  | T + 18 months          |
| 5  | Quarterly Milestones during the construction stage | 25%   | 25%                    |
| 6  | Completion and Commissioning                       | T + 18 months   | T + 21 months          |
| <b>(vi) Name of the Project: Providing Sewerage &amp; Construction of 5 MLD &amp; 6 MLD STP at Dhuri</b> |  |   |                        |
|  | <b>Brief Scope of the Project</b>                  | <b>Scope: 1 No. STP of 5 MLD</b>  |                        |
| <b>Sr. No.</b>   | <b>Stage</b>                                       | <b>Start Date</b>   | <b>Completion Date</b> |
| 1  | Preparation of DPR                                 | Prepared  | Approved.              |

|   |  |  |                 |
|---|--|--|-----------------|
| 2   | Financial Closure                                  | Funds tied up under HUDCO loan                       |                 |
| 3   | Tendering of the work including allotment          | Tender allotted                                      |                 |
| 4   | Commencement of work                               | Started  | 31.03.2020      |
| 5   | Quarterly Milestones during the construction stage | -  | -               |
| 6   | Completion and Commissioning                       | 01.04.2020   | 31.07.2020      |
| Brief Scope of the Project  |  | Scope: 1 No. STP of 6 MLD                            |                 |
| Sr. No.   | Stage  | Start Date   | Completion Date |
| 1   | Preparation of DPR                                 | Prepared   | Approved.       |
| 2   | Financial Closure                                  | Funds tied up under HUDCO loan                       |                 |
| 3   | Tendering of the work including allotment          | Tender allotted but land is being finalized          |                 |
| 4   | Commencement of work                               | Work will be started after possession of land<br>- T | T + 12 months   |
| 5   | Quarterly Milestones during the construction stage | -  | -               |
| 6   | Completion and Commissioning                       | T + 12 months  | T + 18 months   |
| Name of the Project: Providing Sewerage & Construction of 4 MLD and 11 MLD STP at Sangrur |  |  |                 |
| Brief Scope of the Project  |  | Scope: 1 No. STP of 04 MLD                           |                 |
| 1   | Preparation of DPR                                 | Prepared   | Approved.       |
| 2   | Financial Closure                                  | Funds tied up under HUDCO loan                       |                 |
| 3   | Tendering of the work including allotment          | Tender allotted                                      |                 |
| 4   | Commencement of work                               | Started  | 31.03.2020      |
| 5   | Quarterly Milestones during the construction stage | -  | -               |
| 6   | Completion and Commissioning                       | 01.04.2020   | 31.07.2020      |
| Brief Scope of the Project  |  | Scope: 1 No. STP of 11 MLD                           |                 |
| 1   | Preparation of DPR                                 | Prepared   | Approved.       |
| 2   | Financial Closure                                  | Funds tied up under HUDCO loan                       |                 |
| 3   | Tendering of the work including allotment          | Tender allotted but land is being finalized          |                 |
| 4   | Commencement of work                               | Work will be started                                 | T + 12 months   |

|   |  |                                      |                  |
|---|--|--------------------------------------|------------------|
|   |  | after possession of land<br>- T      |                  |
| 5   | Quarterly Milestones during the construction stage | -                                    | -                |
| 6   | Completion and Commissioning                       | T + 12 months                        | T + 18 months    |
|   |  |                                      |                  |
| Name of the Project:- Providing Sewerage & Construction of 3 MLD STP at Bassi Pathana |  |                                      |                  |
| Brief Scope of the Project  |  | Scope:- 1 No. STP 3 MLD              |                  |
| Sr.No.  | Stage  | Start Date                           | Completion Date  |
| 1   | Preparation of DPR                                 | Prepared                             | Approved.        |
| 2   | Financial Closure                                  | Funds tied up under HUDCO loan       |                  |
| 3   | Tendering of the work including allotment          | Tender allotted                      |                  |
| 4   | Commencement of work                               | Started                              | 31.03.2020       |
| 5   | Quarterly Milestones during the construction stage | -                                    | -                |
| 6   | Completion and Commissioning                       | 01.04.2020                           | 31.07.2020       |
| Name of the Project: Providing Sewerage & Construction of 3 MLD STP at Longowal       |  |                                      |                  |
| Brief Scope of the Project  |  | 1 No STP of 3 MLD                    |                  |
| 1   | Preparation of DPR                                 | Prepared                             | Approved.        |
| 2   | Financial Closure                                  | Funds being tied up under HUDCO loan |                  |
| 3   | Tendering of the work including allotment          | Started                              | 31.07.2019       |
| 4   | Commencement of work                               | 01.08.2019                           | 31.07.2020       |
| 5   | Quarterly Milestones during the construction stage | 25%                                  | 25%              |
| 6   | Completion and Commissioning                       | 01.08.2020                           | 31.10.2020       |
| Name of the Project: Providing Sewerage & Construction of 3 MLD STP at Amlah          |  |                                      |                  |
| Brief Scope of the Project  |  | 1 No STP of 3 MLD                    |                  |
| Sr. No.   | Stage  | Start Date                           | Completion Date  |
| 1   | Preparation of DPT                                 | Prepared                             | Already approved |
| 2   | Financial Closure                                  | Funds being tied up under HUDCO Loan |                  |

|   |  |   |                 |
|---|--|---|-----------------|
| 3   | Tendering of the work including allotment          | Land being finalized and tendering will be started after possession of land - T | T + 6 months    |
| 4   | Commencement of work                               | T + 6 months  | T + 18 months   |
| 5   | Quarterly Milestones during the construction stage | 25%   | 25%             |
| 6   | Completion and Commissioning                       | T + 18 months   | T + 21 months   |
| Name of the Project:- Providing Sewerage & Construction of two number STps of 2 MLD each at Issapur & Mirpur, Mubarakpur at Derabassi |  |   |                 |
| Brief Scope of the Project  |  | 2 No STPs of 2 MLD capacity each  |                 |
| Sr. No.   | Stage  | Start Date  | Completion Date |
| 1   | Preparation of DPR                                 | Prepared  | Approved.       |
| 2   | Financial Closure                                  | Funds being tied up under HUDCO loan  |                 |
| 3   | Tendering of the work including allotment          | Started   | 31.07.2019      |
| 4   | Commencement of work                               | 01.08.2019  | 31.07.2020      |
| 5   | Quarterly Milestones during the construction stage | 25%   | 25%             |
| 6   | Completion and Commissioning                       | 01.08.2020  | 31.10.2020      |
| Name of the Project:- Providing Sewerage & Construction of 1 MLD STP at Dappar Lalru  |  |   |                 |
| Brief Scope of the Project  |  | 1 No STP of 1 MLD   |                 |
| Sr. No.   | Stage  | Start Date  | Completion Date |
| 1   | Preparation of DPR                                 | Prepared  | Approved.       |
| 2   | Financial Closure                                  | Funds being tied up under HUDCO loan  |                 |
| 3   | Tendering of the work including allotment          | Started   | 31.07.2019      |
| 4   | Commencement of work                               | 01.08.2019  | 31.07.2020      |
| 5   | Quarterly Milestones during the construction stage | 25%   | 25%             |
| 6   | Completion and Commissioning                       | 01.08.2020  | 31.10.2020      |
| Name of the Project: Construdtion of 1.5 MLD STP at Lalru Mandi   |  |   |                 |
| Brief Scope of the Project  |  | 1 No STP of 1.5 MLD   |                 |
| 1   | Preparation of DPR                                 | Prepared  | Approved        |

|   |  |  |
|---|--|--|
| 2 | Financial Closure                                  | Funds being tied up with GMADA   |
| 3 | Tendering of the work including allotment          | The residents of Village Lalru have filed a suit in the Court of Law at Dera Bassi for change of site to another location. |
| 4 | Commencement of work                               |  |
| 5 | Quarterly Milestones during the construction stage |  |
| 6 | Completion and Commissioning                       |  |

|  |  |   |                 |
|--|--|---|-----------------|
| Name of the Project:- Providing Sewerage & Construction of 4 MLD STP at Sanour |  |   |                 |
| Brief Scope of the Project   |  | 1 No STP of 4 MLD   |                 |
| Sr. No.  | Stage  | Start Date  | Completion Date |
| 1  | Preparation of DPR                                 | Land for STP yet not available and DPR will be prepared after identification of land. |                 |
| 2  | Financial Closure                                  | T   |                 |
| 3  | Tendering of the work including allotment          | T+ 3 months   | T+6 months      |
| 4  | Commencement of work                               | T+ 6 months   | T+ 18 months    |
| 5  | Quarterly Milestones during the construction stage | 25%   | T+18 months.    |
| 6  | Completion and Commissioning                       | T+18 months   | T+21 months.    |

|  |  |                                      |                  |
|--|--|--------------------------------------|------------------|
| Name of the Project: Providing Sewerage & Construction of 2 MLD STP at Ghanaur |  |                                      |                  |
| Brief Scope of the Project   |  | 1 No STP of 2 MLD                    |                  |
| Sr. No.  | Stage  | Start Date                           | Completion Date  |
| 1  | Preparation of DPT                                 | Prepared                             | Already approved |
| 2  | Financial Closure                                  | Funds being tied up under HUDCO Loan |                  |
| 3  | Tendering of the work including allotment          | Started                              | 31.07.2019       |
| 4  | Commencement of work                               | 01.08.2019                           | 31.07.2020       |
| 5  | Quarterly Milestones during the construction stage | 25%                                  | 25%              |
| 6  | Completion and Commissioning                       | 01.08.2020                           | 31.10.2020       |

|  |  |  |  |
|--|--|--|--|
| Name of the Project: Providing Sewerage & Construction of 2 MLD, 4 MLD and 5 MLD STPs at Sirhind |  |  |  |
|--|--|--|--|

|  |  |   |                         |
|--|--|---|-------------------------|
| Brief Scope of Work  |  | 3 No. STPs 2 MLD, 4 MLD and 5 MLD for Sirhind                       |                         |
| Sr.No.   | Stage  | Start Date  | Completion Date         |
| 1  | Preparation of DPR                                 | Prepared  | Approved                |
| 2  | Financial Closure                                  | Funds tied up under HUDCO loan.                                     |                         |
| 3  | Tendering of the work including allotment          | Tender allotted   |                         |
| 4  | Commencement of work                               | Started   | 31/03/2020              |
| 5  | Quarterly milestones during the construction stage | --  | --                      |
| 6  | Completion and commissioning                       | 01/04/2020  | 31/07/2020              |
| Name of the Project: Providing Sewerage & Construction of 2 number STPs of 0.3 MLD capacity each at Gholu Majra and Chaundheri & Samalheri |  |   |                         |
| Brief Scope of Work  |  | 2 No. STP of 0.3 MLD each for Gholumajra and Chaundheri & Samalheri |                         |
| Sr.No.   | Stage  | Start Date  | Completion Date         |
| 1  | Preparation of DPR                                 | Prepared  | Approved                |
| 2  | Financial Closure                                  | Funds tied up under HUDCO loan.                                     |                         |
| 3  | Tendering of the work including allotment          | 01/07/2019  | 30/09/2019              |
| 4  | Commencement of work                               | 01/10/2019  | 30/09/2020              |
| 5  | Quarterly milestones during the construction stage | 25%   | 25%                     |
| 6  | Completion and commissioning                       | 01/10/2020  | 31/12/2020              |
| Name of the Project: Upgradation of Existing WSP based STPs to achieve latest CPCB norms at Baretta, Bhikhi and Sardulgarh.                |  |   |                         |
| Brief Scope of Work  |  | Upgradations of 3 STPs  |                         |
| Sr.No.   | Stage  | Start Date  | Completion Date         |
| 1  | Preparation of DPR                                 | 1.2.2019  | 30.4.2019               |
| 2  | Financial Closure                                  | T   |                         |
| 3  | Tendering of the work including allotment          | T + 2 months  | T + 5 months            |
| 4  | Commencement of work                               | T + 5 months  | T + 11 months           |
| 5  | Quarterly milestones during the construction stage | -   | -                       |
| 6  | Completion and commissioning                       | T + 11 months   | T + 13 months           |
| Municipal Corporation, Patiala   |  |   |                         |
| Name of the Project : Upgradation of STP Shermajra from 46 MLD to 61 MLD   |  |   |                         |
| Brief Scope of Work  |  | Upgradation of STP shermajra from 46 MLD to 61 MLD                  |                         |
| Sr.No.   | Stage  | Start Date  | Completion Date         |
| 1  | Preparation of DPR                                 | Already approved  | Completed               |
| 2  | Financial Closure                                  | 17 crores   | Completed               |
| 3  | Tendering of the work including allotment          | Tendering process is completed and allotment is under               | Completed yet to allot. |

|   |  |                                      |                                       |
|---|--|--------------------------------------|---------------------------------------|
|   |  | process                              |                                       |
| 4 | Commencement of work                               | -                                    | Likely to be commenced on 31.1.2019   |
| 5 | Quarterly milestones during the construction stage | -                                    |                                       |
| 6 | Completion and commissioning                       | Two years from the date of allotment | Two years from the date of allotment. |

**Annexure M - Timelines for setting up of treatment facilities by MES, Patiala**

**Name of the Project: Military Engineering Services, Patiala – STP of 6 MLD capacity**

| <b>Brief Scope of Work</b> |  | <b>STP based on MBBR Technology of capacity 6 MLD.</b>   |                        |
|----------------------------|--|--|------------------------|
| <b>Sr.No.</b>              | <b>Stage</b>                                       | <b>Start Date</b>  | <b>Completion Date</b> |
| 1                          | Preparation of DPR                                 | August, 2016   | January, 2017          |
| 2                          | Financial Closure                                  | Govt. sanctioned Final Report for provision of 6 MLD STP on 27 <sup>th</sup> March, 2017   | August, 2020           |
| 3                          | Tendering of the work including allotment          | Technical sanction issued for tendering by CECZ (Chief Engg. Chd Zone) on 18 <sup>th</sup> October, 2018   | February, 2019         |
| 4                          | Commencement of work                               | 15 <sup>th</sup> March, 2019   | August, 2020           |
| 5                          | Quarterly milestones during the construction stage | 1 <sup>st</sup> Quarter = 15%<br>2 <sup>d</sup> Quarter = 20%<br>3 <sup>rd</sup> Quarter = 30%<br>4 <sup>th</sup> Quarter = 20%<br>5 <sup>th</sup> Quarter = 20%<br>In remaining time = 5% |                        |
| 6                          | Completion and commissioning                       | August, 2020   | August, 2020           |

**Annexure N - (A) Times lines for installation of online continuous effluent monitoring system**

|   |   |  |                        |
|---|---|--|------------------------|
| <b>(1) PWSSB for the STPs already in operation in the towns nanely Banur, Baretta, Bhikhi, Budhlada, Khanuari, Lehragaga, Moonka, Pattran, Rajpura, Samana, Sardulgarh, Sunam, Zirakpur and Mandi Gobindgarh.</b> |   |  |                        |
| <b>Name of the Project</b>  |   | <b>All Existing STPs where maintenance is with PWSSB</b> |                        |
| <b>Sr.No.</b>   | <b>Stage</b>                              | <b>Start Date</b>  | <b>Completion Date</b> |
| 1   | Financial Closure                         | 7.1.2019   | 31.3.2019              |
| 2   | Tendering of the work including allotment | 1.4.2019   | 30.6.2019              |
| 3   | Commencement of the work                  | 1.7.2019   | 30.9.2019              |
| 4   | Completion and commissioning              | 1.10.2019  | 30.11.2019             |
| <b>(2) GMADA</b>  |   |  |                        |
| <b>Name of the Project</b>  |   | <b>STP of 45 MLD capacity at Sector 83, SAS Nagar.</b>   |                        |
| 1   | Financial Closure                         | 10.1.2019  | 31.3.2019              |
| 2   | Tendering of the work including allotment | 5.4.2019   | 10.5.2019              |
| 3   | Commencement of the work                  | 15.5.2019  | 30.6.2019              |
| 4   | Completion and commissioning              | 30.6.2019  | 30.6.2019              |
| <b>Name of the Project</b>  |   | <b>STP of 4 MLD capacity at Dera Bassi.</b>              |                        |
| 1   | Financial Closure                         | 10.1.2019  | 31.3.2019              |
| 2   | Tendering of the work including allotment | 5.4.2019   | 10.5.2019              |
| 3   | Commencement of the work                  | 15.5.2019  | 30.6.2019              |
| 4   | Completion and commissioning              | 30.6.2019  | 30.6.2019              |
| <b>Name of the Project</b>  |   | <b>STP of 1.5 MLD capacity at Lalru</b>                  |                        |
| <b>Sr.No.</b>   | <b>Stage</b>                              | <b>Start Date</b>  | <b>Completion Date</b> |
| 1   | Financial Closure                         | 10.1.2019  | 31.3.2019              |

|                  |   |   |           |
|------------------|---|---|-----------|
| 2                | Tendering of the work including allotment | 5.4.2019  | 10.5.2019 |
| 3                | Commencement of the work                  | 15.5.2019   | 30.6.2019 |
| 4                | Completion and commissioning              | 30.6.2019   | 30.6.2019 |
| <b>(3) PSIEC</b> |   |   |           |
|                  | <b>Name of the Project</b>                | <b>STP of 2 MLD capacity at Focal Point, Dera Bassi</b> |           |
| 1                | Financial Closure                         | 15.2.2019   | 31.3.2019 |
| 2                | Tendering of the work including allotment | 1.4.2019  | 20.4.2019 |
| 3                | Commencement of the work                  | 21.4.2019   | 20.5.2019 |
| 4                | Completion and commissioning              | 21.5.2019   | 30.5.2019 |
|                  | <b>Name of the Project</b>                | <b>STP of 3 MLD at Focal Point, Mandi Gobindgarh</b>    |           |
| 1                | Financial Closure                         | 15.2.2019   | 31.3.2019 |
| 2                | Tendering of the work including allotment | 1.4.2019  | 30.4.2019 |
| 3                | Commencement of the work                  | 1.5.2019  | 31.5.2019 |
| 4                | Completion and commissioning              | 1.6.2019  | 15.6.2019 |

Note : For STP to be installed for Focal Point, Nabha, the installation of online continuous effluent monitoring system is a part of the main project and the same will be installed alongwith installation of STP.

|   |   |   |                        |
|---|---|---|------------------------|
| <b>(4) Municipal Corporation, Patiala</b> |   |   |                        |
| <b>Name of the Project</b>                |   | <b>STP Shermajra and STP Ablawal</b>      |                        |
| <b>Brief Scope of the Project</b>         |   | <b>Online Cotinuous Monitoring System</b> |                        |
| <b>Sr.No.</b>                             | <b>Stage</b>                              | <b>Start Date</b>                         | <b>Completion Date</b> |
| 1   | Preparation of DPR                        | 11.1.2019                                 | 18.1.2019              |
| 2   | Financial Closure                         | About 50 lakh                             | -                      |
| 3   | Tendering of the work including allotment | Within one month                          | Within four months     |
| 4   | Commencement of the work                  | Within four months                        | Within four months     |
| 5   | Completion and                            | 11.4.19                                   | 11.5.19                |

|  |   |  |           |
|--|---|--|-----------|
|  | commissioning                             |  |           |
| <b>(5) Patiala Development Authority</b> |   |  |           |
|  | <b>Name of the Project</b>                | <b>STP of 13 MLD capacity at Urban Estate, Patiala</b> |           |
|  | <b>Brief Scope of the Project</b>         | <b>Online Continuous Monitoring System</b>             |           |
| <b>1</b>                                 | Financial Closure                         | 1.1.2019   | 31.1.2019 |
| <b>2</b>                                 | Tendering of the work including allotment | 1.2.2019   | 15.2.2019 |
| <b>3</b>                                 | Commencement of the work                  | 20.2.2019  | 15.3.2019 |
| <b>4</b>                                 | Completion and commissioning              | 16.3.2019  | 31.3.2019 |

**Annexure N - (B) Times lines for installation of CCTV cameras in already operational STPs**

|   |   |  |                        |
|---|---|--|------------------------|
| <b>(1) PWSSB for the STPs already in operation in the towns nanely Banur, Baretta, Bhikhi, Budhlada, Khanuari, Lehragaga, Moonka, Pattran, Rajpura, Samana, Sardulgarh, Sunam, Zirakpur and Mandi Gobindgarh.</b> |   |  |                        |
| <b>Name of the Project</b>  |   | <b>All Existing STPs where maintenance is with PWSSB</b> |                        |
| <b>Sr.No.</b>   | <b>Stage</b>                              | <b>Start Date</b>  | <b>Completion Date</b> |
| 1   | Financial Closure                         | 5.1.2019   | 15.2.2019              |
| 2   | Tendering of the work including allotment | 15.2.2019  | 31.3.2019              |
| 3   | Commencement of the work                  | 1.4.2019   | 15.4.2019              |
| 4   | Completion and commissioning              | 15.4.2019  | 30.4.2019              |
| <b>(2) GMADA</b>  |   |  |                        |
| <b>Name of the Project</b>  |   | <b>STP of 45 MLD capacity at Sector 83, SAS Nagar.</b>   |                        |
| 1   | Financial Closure                         | 10.1.2019  | 31.3.2019              |
| 2   | Tendering of the work including allotment | 5.4.2019   | 10.5.2019              |
| 3   | Commencement of the work                  | 15.5.2019  | 30.6.2019              |
| 4   | Completion and commissioning              | 30.6.2019  | 30.6.2019              |
| <b>Name of the Project</b>  |   | <b>STP of 4 MLD capacity at Dera Bassi.</b>              |                        |
| 1   | Financial Closure                         | 10.1.2019  | 31.3.2019              |
| 2   | Tendering of the work including allotment | 5.4.2019   | 10.5.2019              |
| 3   | Commencement of the work                  | 15.5.2019  | 30.6.2019              |
| 4   | Completion and commissioning              | 30.6.2019  | 30.6.2019              |
| <b>Name of the Project</b>  |   | <b>STP of 1.5 MLD capacity at Lalru</b>                  |                        |
| 1   | Financial Closure                         | 10.1.2019  | 31.3.2019              |
| 2   | Tendering of the work including allotment | 5.4.2019   | 10.5.2019              |
| 3   | Commencement of the                       | 15.5.2019  | 30.6.2019              |

|                  |   |   |           |
|------------------|---|---|-----------|
|                  | work                                      |   |           |
| 4                | Completion and commissioning              | 30.6.2019   | 30.6.2019 |
| <b>(3) PSIEC</b> |   |   |           |
|                  | <b>Name of the Project</b>                | <b>STP of 2 MLD capacity at Focal Point, Dera Bassi</b> |           |
| 1                | Financial Closure                         | 15.2.2019   | 15.3.2019 |
| 2                | Tendering of the work including allotment | 16.3.2019   | 31.3.2019 |
| 3                | Commencement of the work                  | 1.4.2019  | 20.4.2019 |
| 4                | Completion and commissioning              | 21.4.2019   | 30.4.2019 |
|                  | <b>Name of the Project</b>                | <b>STP at Focal Point, Mandi Gobindgarh</b>             |           |
| 1                | Financial Closure                         | 1.3.2019  | 15.3.2019 |
| 2                | Tendering of the work including allotment | 16.3.2019   | 15.4.2019 |
| 3                | Commencement of the work                  | 16.4.2019   | 15.5.2019 |
| 4                | Completion and commissioning              | 16.5.2019   | 31.5.2019 |
|                  | <b>Name of the Project</b>                | <b>STP at Focal Point, Nabha</b>                        |           |
| 1                | Financial Closure                         | 1.4.2019  | 15.4.2019 |
| 2                | Tendering of the work including allotment | 16.4.2019   | 15.5.2019 |
| 3                | Commencement of the work                  | 16.5.2019   | 31.5.2019 |
| 4                | Completion and commissioning              | 1.6.2019  | 15.6.2019 |

|   |   |   |                 |
|---|---|---|-----------------|
| <b>(4) Municipal Corporation, Patiala</b> |   |   |                 |
| Name of the Project                       |   | STP (Shermajra and Ablowal)   |                 |
| Sr.No.                                    | Stage                                     | Start Date  | Completion Date |
| 1   | Financial Closure                         | 20-25 thousands   | 10-15 days      |
| 2   | Tendering of the work including allotment | CCTV cameras and monitor already have been installed and the new wiring work will be completed within 10-15 days. |                 |
| 3   | Commencement of the work                  |   |                 |

|  |   |  |                        |
|--|---|--|------------------------|
| 4  | Completion and commissioning              |  |                        |
| <b>(5) Patiala Development Authority</b> |   |  |                        |
| <b>Name of the Project</b>               |   | <b>STP of 13 MLD capacity at Urban Estate, Patiala</b> |                        |
| <b>Brief Scope of the Project</b>        |   | CCTV camera  |                        |
| <b>Sr.No.</b>                            | <b>Stage</b>                              | <b>Start Date</b>                                      | <b>Completion Date</b> |
| <b>1</b>                                 | Financial Closure                         | 1.1.2019   | 31.1.2019              |
| <b>2</b>                                 | Tendering of the work including allotment | 1.2.2019   | 15.2.2019              |
| <b>3</b>                                 | Commencement of the work                  | 20.2.2019  | 15.3.2019              |
| <b>4</b>                                 | Completion and commissioning              | 16.3.2019  | 31.3.2019              |

### Annexure O - Timelines for setting up of treatment facilities in Rural areas

The phase wise timelines are given as under:

| <b>Phase – I</b>           |  |   |                        |
|----------------------------|--|---|------------------------|
| <b>Brief Scope of Work</b> |  | <b>Treatment facilities for villages having discharge more than or equal to 300 KLD</b> |                        |
| <b>Sr.No.</b>              | <b>Stage</b>                                       | <b>Start Date</b>   | <b>Completion Date</b> |
| 1                          | Preparation of DPR                                 | 1.3.2019  | 31.5.2019              |
| 2                          | Financial Closure                                  | 1.6.2019  | 31.7.2019              |
| 3                          | Tendering of the work including allotment          | 1.8.2019  | 30.9.2019              |
| 4                          | Commencement of work                               | 1.10.2019   | 31.12.2019             |
| 5                          | Quarterly milestones during the construction stage | -   | -                      |
| 6                          | Completion and commissioning                       | 1.1.2020  | 31.1.2020              |
| <b>Phase – 2</b>           |  |   |                        |
| <b>Brief Scope of Work</b> |  | <b>Treatment facilities for villages having discharge between 100 KLD to 300 KLD</b>    |                        |
| 1                          | Preparation of DPR                                 | 1.1.2020  | 31.3.2020              |
| 2                          | Financial Closure                                  | 1.4.2020  | 30.6.2020              |
| 3                          | Tendering of the work including allotment          | 1.7.2020  | 31.8.2020              |
| 4                          | Commencement of work                               | 1.9.2020  | 31.12.2020             |
| 5                          | Quarterly milestones during the construction stage | -   | -                      |
| 6                          | Completion and commissioning                       | 1.1.2021  | 31.1.2021              |
| <b>Phase – 3</b>           |  |   |                        |

| <b>Brief Scope of Work</b> |  | <b>Treatment facilities for villages having discharge less than 100 KLD</b> |                        |
|----------------------------|--|---|------------------------|
| <b>Sr.No.</b>              | <b>Stage</b>                                       | <b>Start Date</b>   | <b>Completion Date</b> |
| 1                          | Preparation of DPR                                 | 1.2.2021  | 30.4.2021              |
| 2                          | Financial Closure                                  | 1.5.2021  | 30.6.2021              |
| 3                          | Tendering of the work including allotment          | 1.7.2021  | 31.8.2021              |
| 4                          | Commencement of work                               | 1.9.2021  | 31.12.2021             |
| 5                          | Quarterly milestones during the construction stage | -   | -                      |
| 6                          | Completion and commissioning                       | 1.1.2022  | 31.1.2022              |

**Annexure P - Timelines for providing irrigation schemes to utilize the treated sewage**

|                               |   |  |                        |
|-------------------------------|---|--|------------------------|
| <b>Name of Project</b>        |   | Utilization of Treated Water from Sewerage Treatment Plants(STP's) situated in Ghaggar Catchment   |                        |
| <b>Brief Scope of Project</b> |   | The project involves laying network of underground pipelines from Sewerage Treatment Plants for conveyance of treated water for irrigation in agricultural fields. |                        |
| <b>S.No.</b>                  | <b>Stage</b>                                  | <b>Start Date</b>  | <b>Completion Date</b> |
| 1                             | Preparation of DPR                            | Under Progress   | 30.6.2019              |
| 2                             | Financial Closure                             | Projects already proposed to Gol and State for funding (49.87 cr required)   | T                      |
| 3                             | Tendering of Work including allotment         | T+1 month  | T+4 months             |
| 4                             | Commencement of Work                          | T+5 months*  | T+11 months*           |
| 5                             | Quarterly Milestone during construction Stage | NA   | NA                     |
| 6                             | Completion and Commissioning                  | T+11 to T+18 months  | T+14 to T+20 months    |

\*Delay in commencement of work after funding and tendering process is mainly because as irrigation pipeline has to be laid in agricultural fields, due to which irrigation projects can be installed during harvest season. It shall depend upon month of availability of funds for projects, i.e. why period of 1 month upto 6 month has been identified in commencement of work

**Fund Requirement for Individual Irrigation Projects from STP's**

| S No.                                   | Name of Town       | Capacity of STP (MLD) | STP Technology | Irrigation system Cost (Rs. In Lakh) |
|---|--------------------|-----------------------|----------------|--------------------------------------|
| <b>STP's Operational</b>                |                    |                       |                |                                      |
| 1                                       | Khanauri           | 3                     | SBR            | 110                                  |
| 2                                       | Mandi Gobindgarh   | 25                    | SBR            | 673                                  |
| 3                                       | Patiala            | 46                    | SBR            | Under Feasibility Study              |
| <b>Total (A )</b>                       |                    | <b>74</b>             |                | <b>783</b>                           |
| <b>STP's under Construction</b>         |                    |                       |                |                                      |
| 4                                       | Bassi Pathana      | 3                     | SBR            | 115                                  |
| 5                                       | Boha               | 2                     | SBR            | 65                                   |
| 6                                       | Lalru (GMADA)      | 3                     | SBR            | 85                                   |
| 7                                       | Dera Bassi (GMADA) | 3.5                   | SBR            | 108                                  |
| 8                                       | Sirhind            | 5                     | SBR            | 225                                  |
|   |                    | 4                     | SBR            | 109                                  |
|   |                    | 2                     | SBR            | 80                                   |
| 9                                       | Rajpura            | 10                    | SBR            | 390                                  |
| <b>Total (B)</b>                        |                    | <b>32.5</b>           |                | <b>1177</b>                          |
| <b>STP's Proposed to be Constructed</b> |                    |                       |                |                                      |
|   | Amloh              | 3                     |                | 115                                  |
| 10                                      | Cheema             | 2                     |                | 70                                   |
| 11                                      | Dera Bassi         | 2                     |                | 75                                   |
| 12                                      | Dhuri              | 6                     |                | 225                                  |
| 13                                      |                    | 5                     |                | 175                                  |
| 14                                      | Ghanaur            | 2                     |                | 74                                   |
| 15                                      | Sangrur            | 11                    |                | 385                                  |
| 16                                      |                    | 4                     |                | 150                                  |
| 17                                      | Nabha              | 10                    |                | 325                                  |
| 18                                      | Lalru              | 1.5                   |                | 60                                   |
| 19                                      | Longowal           | 3                     |                | 105                                  |
| 20                                      | Lalru Dappar       | 1                     |                | 25                                   |
| 21                                      | Lalru Gholumajra   | 0.6                   |                | 20                                   |
| 22                                      | Dera Bassi         | 2                     |                | 70                                   |
| <b>Total (C)</b>                        |                    | <b>53.1</b>           |                | <b>1874</b>                          |
| <b>GRAND TOTAL (A+B+C)</b>              |                    | <b>159.6</b>          |                | <b>3834</b>                          |

Irrigation Projects from STP Mohali (46 MLD), Zirakpur (17 MLD), Patiala (10MLD), Budhlada (6.5 MLD) are not feasible because of non-availability of Irrigation command as STP is located in urbanized area

**Annexure Q – Installation of STPs by PSIEC**

| <b>Name of the Project</b> |  | <b>Operation and Maintenance STP, IFP, Mandi Gobindgarh</b>                    |                        |
|----------------------------|--|--|------------------------|
| <b>Sr.No.</b>              | <b>Stage</b>                                       | <b>Start Date</b>  | <b>Completion Date</b> |
| 1                          | Preparation of DPR                                 | NA   | NA                     |
| 2                          | Financial Closure                                  | NA   | NA                     |
| 3                          | Tendering of the work including allotment          | NA   | NA                     |
| 4                          | Commencement of the work                           | In progress  | 31.3.2019              |
| 5                          | Quarterly Milestones during the construction stage | -  | -                      |
| 6                          | Completion and commissioning                       | 1.4.2019   | 30.5.2019              |
| <b>Name of the Project</b> |  | <b>Operation and Maintenance of STP, IFP, Nabha (work already in progress)</b> |                        |
| 1                          | Preparation of DPR                                 | NA   | NA                     |
| 2                          | Financial Closure                                  | NA   | NA                     |
| 3                          | Tendering of the work including allotment          | NA   | NA                     |
| 4                          | Commencement of the work                           | In progress  | 30.9.2019              |
| 5                          | Quarterly Milestones during the construction stage | -  | -                      |
| 6                          | Completion and commissioning                       | 1.10.2019  | 30.11.2019             |

**Annexure R – Timelines for Online Continuous Monitoring System for Industries**

| Sr No. | Activity   | Date of Start | Date of completion |
|--------|--|---------------|--------------------|
| 1      | Procurment Process   | 01.02.2019    | 28.02.2019         |
| 2      | Finalization of Supply orders  | 01.03.2019    | 31.03.2019         |
| 3      | Installation of online continuous monitoring system                        | 01.04.2019    | 31.05.2019         |
| 4.     | Caliberation of online continuous monitoring system                        | 01.06.2019    | 30.06.2019         |
| 5.     | Connecting the online continuous monitoring system with the server of PPCB | 01.07.2019    | 31.07.2019         |

**Annexure S - Monitoring of Progress of projects for setting up of new/up graded facilities**

| <b>Name of the Project</b>        |  | <b>Progress achieved at the end of the month</b> |                        |                       |
|-----------------------------------|--|--|------------------------|-----------------------|
| <b>Brief Scope of the Project</b> |  |  |                        |                       |
| <b>S. no.</b>                     | <b>Stage</b>   | <b>Start Date</b>                                | <b>Completion Date</b> | <b>Current Status</b> |
| 1                                 | Preparation of DPR   |  |                        |                       |
| 2                                 | Financial Closure  |  |                        |                       |
| 3                                 | Tendering of the Work including allotment                        |  |                        |                       |
| 4                                 | Commencement of Work   |  |                        |                       |
| 5                                 | Quarterly Milestones during the construction / development Stage |  |                        |                       |
| 6                                 | Completion and Commissioning                                     |  |                        |                       |



**Annexure T - Performa for operational record of the STP**

| Location of STP | Capacity of STP (MLD) | Reading of Water meter at 8 am | Quantity of waste water treated (in KLD) | Sludge wasted (kg/day) | Qty. of Chlorine used/ DAY (Kg/day) | Details of chemical used for dozing purpose and the component at which the same was imparted. | Name of the component remained out of order during the day and reasons thereof. | Qty of treated w/w reused for irrigation of agricultural land / irrigation of green area / construction purpose (KLD) | Qty of treated w/w discharged into drain leading to river Ghaggar (KLD) |
|-----------------|-----------------------|--------------------------------|--|------------------------|-------------------------------------|---|---|---|---|
|                 |                       |                                |  |                        |                                     |   |   |   |   |
|                 |                       |                                |  |                        |                                     |   |   |   |   |

**Annexure U – Performa for keeping record of analysis result of STP**

| Date of Sampling | Point of sampling | Values of the parameters in mg/l except pH |            |            |                     |                     |
|------------------|-------------------|--|------------|------------|---------------------|---------------------|
|                  |                   | pH   | TSS (mg/l) | BOD (mg/l) | T.Coli (MPN/100 ml) | F.Coli (MPN/100 ml) |
|                  |                   |  |            |            |                     |                     |
|                  |                   |  |            |            |                     |                     |
|                  |                   |  |            |            |                     |                     |



**Annexure V - Proforma regarding inspection of industries by PPCB**

| S.No. | Name & location of the industry | Date of visit | Observations noticed during visit | Analysis results of trade effluent samples | Whether meeting with the effluent standards or not | Remarks, if any |
|-------|---------------------------------|---------------|-----------------------------------|--|--|-----------------|
|       |                                 |               |                                   |  |  |                 |
|       |                                 |               |                                   |  |  |                 |
|       |                                 |               |                                   |  |  |                 |
|       |                                 |               |                                   |  |  |                 |

**Annexure W - Proforma for monitoring of water quality of River Ghaggar**

| <b>Sr. no.</b> | <b>Sampling points at river Ghaggar</b> | <b>Date of Sampling</b> | <b>DO (mg/l)</b> | <b>pH</b> | <b>BOD (mg/l)</b> | <b>T.Coliform (MPN/100 ml)</b> | <b>D.B.U. classification</b> |
|----------------|---|-------------------------|------------------|-----------|-------------------|--------------------------------|------------------------------|
|                |   |                         |                  |           |                   |                                |                              |
|                |   |                         |                  |           |                   |                                |                              |

**Annexure X - Proforma for submission of report regarding Health Check Camps**

| <b>Sr. No.</b> | <b>Location of the camp</b> | <b>Date on which camp was organized</b> | <b>Name of the Doctor(s) &amp; name of their organization</b> | <b>No. of people examined</b> | <b>No. of people found effected with water borne disease</b> |
|----------------|-----------------------------|---|---|-------------------------------|--|
|                |                             |   |   |                               |  |
|                |                             |   |   |                               |  |
|                |                             |   |   |                               |  |
|                |                             |   |   |                               |  |
|                |                             |   |   |                               |  |
|                |                             |   |   |                               |  |
|                |                             |   |   |                               |  |



**Annexure Y - Proforma for submission of report regarding awareness programme**

| <b>Sr. No.</b> | <b>City / Town / Location where the awareness programme is organized</b> | <b>Name of the Officer(s) who hold this programme</b> | <b>Date</b> | <b>No. of participants</b> | <b>Brief detail about awareness detail</b> |
|----------------|--|---|-------------|----------------------------|--|
|                |  |   |             |                            |  |
|                |  |   |             |                            |  |
|                |  |   |             |                            |  |
|                |  |   |             |                            |  |

# **ANNEXURE - VIII**

**ACTION PLAN FOR  
RIVER GHAGGAR**

**22.01. 2019**

**Government of Haryana**



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## 1. INTRODUCTION

OA No. 138 of 2016- Stench Grips Mansa's Sacred Ghaggar River (Suo-Moto case) is pending before the Hon'ble NGT regarding pollution problem in river Ghaggar. This case was taken up suo-moto by the Hon'ble National Human Right Commission, New Delhi in 2014 and was transferred to NGT in 2016. The Hon'ble NGT has observed that the authorities especially the pollution Control Boards have failed to perform their duty inspite of having adequate powers. In the disappointing scenario the Executing Committee has been formed by the Hon'ble NGT comprising of:-

1. Justice Pritam Pal, Former Judge, Punjab and Haryana High Court, Chairman.
2. Dr. Vimal K Hatwal, Joint Director, MOEF, Chandigarh, Member.
3. Sh. J. Chandra Babu, Scientist-D, CPCB, Delhi, Member.

Besides, above State Level Special Task Force and District Level Special Task Force have been constituted comprising of the following:-

### **State Level STF**

1. Chief Secretary
2. Administrative Secretary, Environment Department
3. Administrative Secretary, Town and Country Planning Department
4. Administrative Secretary, Urban Local Bodies Department

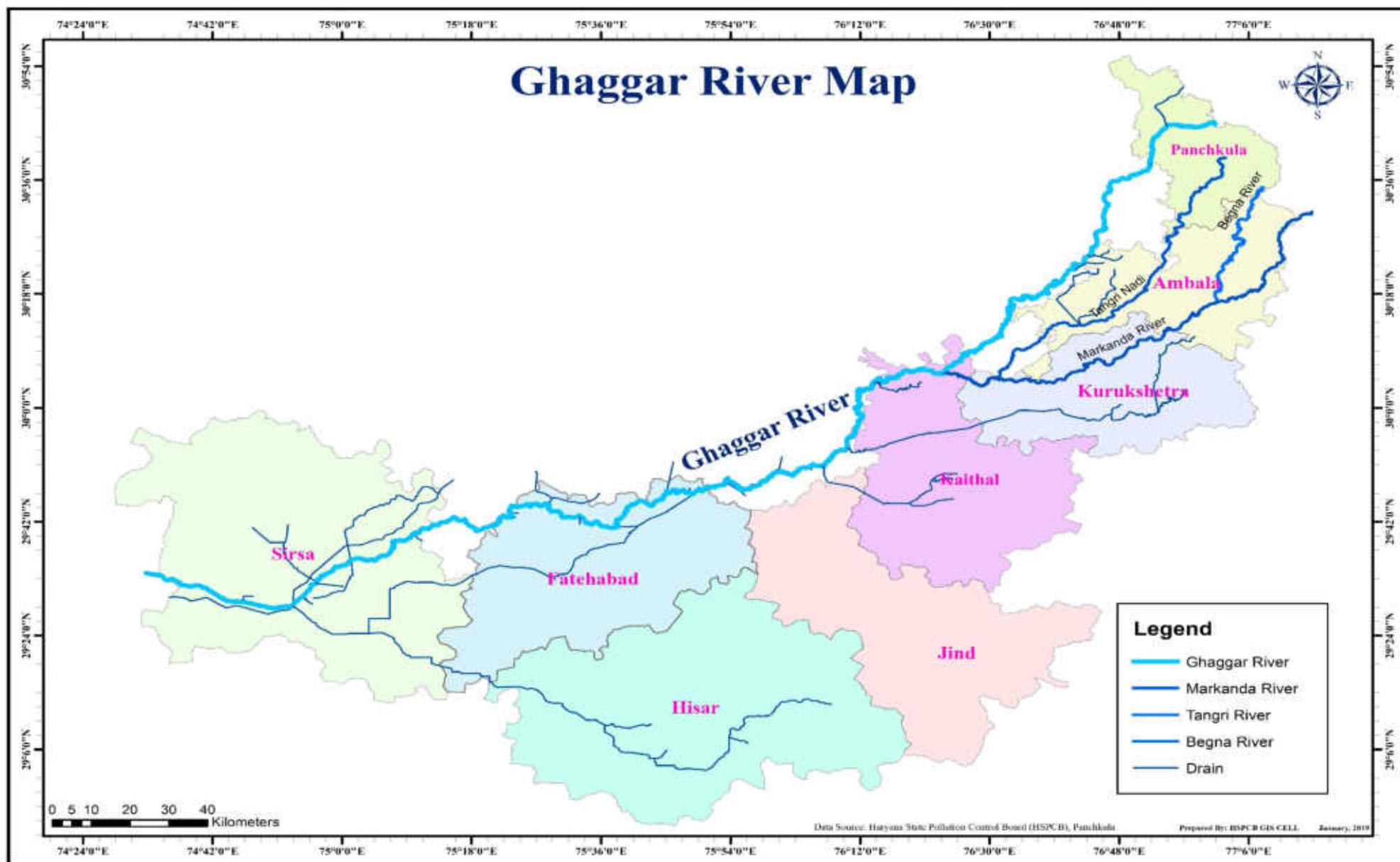
### **District Level STF**

1. Deputy Commissioner of the concerned District
2. Superintendent of Police of the concerned District
3. Regional Officer, HSPCB of the concerned District
4. Representative of the District Judge of the concerned District

The STF is to prepare action plan and the restore the water quality in the river upto prescribed level. The District Level Task Force has to submit monthly report to State Level STF and the State Level STF has to submit quarterly report to CPCB for onwards to Executing Committee. The Executing Committee is to monitor the progress fortnightly basis. The Special Task Force has ordered to identify the persons responsible for violations of law and file criminal cases against them.

### **The River Ghaggar**

The River Ghaggar originates in Sirmour District of Himachal Pradesh and travels a length of 320 KM through the State of Haryana, Punjab & Rajasthan. It enters the territory of Haryana in Panchkula District near Kalka. It passes through the district Panchkula to Mohali in Punjab. Then again it enters in Ambala and then re-enters into district Patiala in Punjab. IT again enters in Haryana in Kaithal district and then crosses to Sangrur district. It again enters in Fatehabad district and crosses to Mansa district and re-enter in Haryana in Sirsa district and finally enter in Hanuman district of Rajasthan.



## Main Sources of Pollution in River Ghaggar

The River Ghaggar as well as the major drain outfalls into the river are being monitored regularly by the State Pollution Control Boards (SPCB) at different locations. The Biochemical Oxygen Demand (BOD) level does not conform to the prescribed norms in many points and the river shows fluctuations in dissolved oxygen (DO) levels from 'Nil' to 'above saturation' levels, thereby indicating the presence of organic pollution load and prevalence of eutrophic conditions.

## Major drains of River Ghaggar in Haryana, their status and action plan for their treatment

There are 11 major drains, i.e., STP Panchkula, Drain of Panchkula, Sukhna Choe, Ambala Drain, Ghail drain, Markanda River, Sagarpara (Saraswati) Drain, Kaithal Drain, Ratia Drain and Sukhana Nallah falling out in River Ghaggar in the State of Haryana.

### OA No. 138 of 2016

Hon'ble NGT has taken up the matter SUO-Moto for prevention of pollution of Ghaggar river.

The State of Haryana was also issued directions alongwith other States vide Order dated 07.08.2018. The State of Haryana has been implementing the directions of the Tribunal by preparing an action plan to control pollution in river Ghaggar, involving the stakeholder Departments. Vide order dated 07.08.2018, the Hon'ble NGT has passed stringent remarks regarding the failure of the administration in handling the situation and the repeated failure in carrying out the binding directions in various orders. Accordingly, the NGT has constituted a Executing Committee comprising of Justice Pritam Pal Former Judge Punjab & Haryana High Court and one Scientist from CPCB and one Scientist from Ministry of Environment and Forest and Climate Change, New Delhi.

The State of Haryana took a series of steps to religiously implement the directions of Hon'ble NGT. Accordingly a series of meetings were held at the level of Chief Secretary of Government of Haryana and other senior officials with the administrative Secretaries and senior officials of various stakeholder Departments including Irrigation, Public Health, Urban Local Bodies, Environment, State Pollution Control Board and Town and Country Planning. Accordingly, the following plan has been finalized at State level, including short and long term actions, with specific time frames, as identified by the agencies concerned.

## 2. Estimation of sewage in towns encasement of river Ghaggar.

The estimation for generation of sewage for population upto year 2040 and the gap in treatment capacity is given in the table.

| S.No. | Name of Town | Total Population (As per Census 2011) | Projected Population for the year 2040 | Quantity of Sewage generated (MLD) | Treatment Capacity (MLD) |          |                    |                   | Treatment Capacity required upto 2040 MLD | Gap in treatment upto 2040 MLD |
|-------|--------------|---------------------------------------|--|------------------------------------|--------------------------|----------|--------------------|-------------------|---|--------------------------------|
|       |              |                                       |  |                                    | Existing                 | Existing | Under Construction | In planning stage |   |                                |
|       |              |                                       |  |                                    |                          |          |                    |                   |   |                                |

| S.No. | Name of Town       | Total Population (As per Census 2011) | Projected Population for the year 2040 | Quantity of Sewage generated (MLD) | Treatment Capacity (MLD) |              |                    |                   | Treatment Capacity required upto 2040 MLD | Gap in treatment upto 2040 MLD |
|-------|--------------------|---------------------------------------|--|------------------------------------|--------------------------|--------------|--------------------|-------------------|---|--------------------------------|
|       |                    |                                       |  |                                    | Existing                 | Existing     | Under Construction | In planning stage |   |                                |
| 1     | Naraingarh         | 22832                                 | 32764                                  | 2.97                               | 3                        | 0            | 1                  | 4                 | 3.5                                       | -                              |
| 2     | Ambala             | 300127                                | 430683                                 | 45.05                              | 39                       | 24           | 15                 | 78                | 46.5                                      | -                              |
| 3     | Barara             | 21545                                 | 30917                                  |                                    | 0                        | 4            | 0                  | 4                 | 3.3                                       | -                              |
| 4     | Ratia              | 37152                                 | 53313                                  | 4.84                               | 6.5                      | 5            | 0                  | 11.5              | 5.8                                       | -                              |
| 5     | Tohana             | 63871                                 | 91655                                  | 8.30                               | 10                       | 0            | 0                  | 10                | 9.9                                       | -                              |
| 6     | Jhakai Mandi       | 7788                                  | 11176                                  |                                    | 0                        | 3            | 0                  | 3                 | 1.2                                       | -                              |
| 7     | Fatehabad          | 70777                                 | 101565                                 | 10.84                              | 20                       | 0            | 0                  | 20                | 11  | -                              |
| 8     | Bhuna              | 30094                                 | 43185                                  |                                    | 0                        | 8            | 0                  | 8                 | 4.7                                       | -                              |
| 9     | Barwala            | 43384                                 | 62256                                  |                                    | 6                        | 0            | 0                  | 6                 | 6.7                                       | 0.7                            |
| 10    | Hisar              | 307024                                | 440579                                 |                                    | 70                       | 4            | 15                 | 89                | 47.6                                      | -                              |
| 11    | Uklana Mandi       | 13219                                 | 18969                                  |                                    | 6.5                      | 0            | 0                  | 6.5               | 2   | -                              |
| 12    | Narnaund           | 17242                                 | 24742                                  |                                    | 4                        | 0            | 0                  | 4                 | 2.7                                       | -                              |
| 13    | Hansi              | 86770                                 | 124515                                 |                                    | 12.5                     | 6.5          | 5                  | 24                | 13.4                                      | -                              |
| 14    | Narwana            | 62090                                 | 89099                                  |                                    | 9.25                     | 0            | 0                  | 9.25              | 9.6                                       | 0.35                           |
| 15    | Uchana             | 16815                                 | 24130                                  |                                    | 3.5                      | 0            | 0                  | 3.5               | 2.6                                       | -                              |
| 16    | Jind               | 167592                                | 240495                                 |                                    | 30                       | 7            | 0                  | 37                | 26  | -                              |
| 17    | Julana             | 18755                                 | 26913                                  |                                    | 4                        | 0            | 0                  | 4                 | 2.9                                       | -                              |
| 18    | Safidon            | 34728                                 | 49835                                  |                                    | 9                        | 0            | 0                  | 9                 | 5.4                                       | -                              |
| 19    | Cheeka             | 38952                                 | 55896                                  | 5.09                               | 10                       | 0            | 0                  | 10                | 6   | -                              |
| 20    | Kaithal            | 144915                                | 207953                                 | 18.8                               | 37.5                     | 0            | 0                  | 37.5              | 22.5                                      | -                              |
| 21    | Kalayath           | 18660                                 | 26777                                  |                                    | 5                        | 0            | 0                  | 5                 | 2.9                                       | -                              |
| 22    | Pundri             | 33484                                 | 48050                                  | 2.44                               | 3.5                      | 0            | 0                  | 3.5               | 5.2                                       | 1.7                            |
| 23    | Rajaund            | 17434                                 | 25018                                  |                                    | 0                        | 0            | 5                  | 5                 | 2.7                                       | -                              |
| 24    | Shahbad            | 42607                                 | 61141                                  | 6.66                               | 11.5                     | 0            | 0                  | 11.5              | 6.6                                       | -                              |
| 25    | Pehowa             | 38853                                 | 55754                                  | 5.09                               | 8                        | 0            | 0                  | 8                 | 6   | -                              |
| 26    | Thanesar           | 155152                                | 222643                                 |                                    | 0                        | 25           | 0                  | 25                | 24  | -                              |
| 27    | Kalka              | 34134                                 | 48982                                  | 3.99                               | 4.75                     | 0            | 0                  | 4.75              | 5.3                                       | 0.55                           |
| 28    | Pinjore            | 35912                                 | 51534                                  | 3.43                               | 5                        | 0            | 8                  | 13                | 5.6                                       | -                              |
| 29    | Mandi Dabwali      | 52873                                 | 75873                                  |                                    | 16.5                     | 0            | 0                  | 16.5              | 8.2                                       | -                              |
| 30    | Kalanwali          | 22095                                 | 31706                                  |                                    | 9.5                      | 0            | 0                  | 9.5               | 3.4                                       | -                              |
| 31    | Sirsa              | 182534                                | 261936                                 | 23.69                              | 25                       | 20           | 7.5                | 52.5              | 28.3                                      | -                              |
| 32    | Rania              | 25123                                 | 36052                                  | 3.87                               | 6                        | 0            | 0                  | 6                 | 3.9                                       | -                              |
| 33    | Ellenabad          | 36623                                 | 52554                                  | 5.65                               | 7.5                      | 0            | 0                  | 7.5               | 5.7                                       | -                              |
| 34    | Panchkula          | 211355                                | 303294                                 |                                    | 72                       | 0            | 0                  | 72                | 32.8                                      |                                |
| 35    | <b>Kurukshetra</b> |                                       |  | 20.15                              |                          |              |                    |                   |   |                                |
|       | <b>Total</b>       | <b>2412511</b>                        | <b>3461954</b>                         | <b>149.49</b>                      | <b>455</b>               | <b>106.5</b> | <b>56.5</b>        | <b>618</b>        | <b>373.9</b>                              | <b>3.3</b>                     |

### 3. Industrial effluent Management

The industrial pollution is controlled by the HSPCB through consent Management system. The Industries apply for obtaining consent in prescribed form. They submit detail of

effluent to be generated and the capacity of Effluent Treatment Plant (ETP). The industries are either installed in Industrial Area or outside the industrial area. Most of Industrial areas are having CETP for the treatment of effluent generated from the industries (Trade + Domestic). The detail for number of industries and the quantity of effluent generated and treated by them is given in the table.

| District  | Name of the Town or City and District | Sector                                   | No. of Industries | Industrial Water Consumption in KLD | Source of Water supply | Industrial effluent generation in KLD (trade effluent) | No. of CETP |          | CETP capacity (in KLD) |          |                     | Final mode of disposal of trade effluent in drains /River nearby (in KLD) |           |
|-----------|---------------------------------------|--|-------------------|-------------------------------------|------------------------|--|-------------|----------|------------------------|----------|---------------------|---|-----------|
|           |                                       |  |                   |                                     |                        |  | Existing    | Proposed | Existing               | Proposed | Under commissioning | Treated   | Untreated |
| Panchkula | Kalka                                 | Food and Food Processing                 | 1                 | 10                                  | HSI IDC                | 2  | Nil         | Nil      | Nil                    | Nil      | Nil                 | Ghaggar River   | NA        |
|           |                                       | Electroplating                           | 3                 | 11.1                                | HSI IDC                | 8.6  | 0           | 0        | 0                      | 0        | 0                   | Ghaggar River   | NA        |
|           |                                       | Hospitals                                | 4                 | 4                                   | M.C/Own Tubewell       | 0.8  | 0           | 0        | 0                      | 0        | 0                   | Ghaggar River   | NA        |
| Panchkula | Barwala                               | Food and Food Processing                 | 1                 | 20                                  | HSI IDC                | 18   | 1           | Nil      | 0.5                    | 0        | 0                   | Tangri River  | NA        |
|           |                                       | Service Station                          | 1                 | 8.5                                 | HSI IDC                | 8  | 1           | Nil      | 0.5                    | 0        | 0                   | Tangri River  | NA        |
|           |                                       | Electroplating                           | 4                 | 49.75                               | HSI IDC                | 22.5   | 1           | Nil      | 0.5                    | Nil      | Nil                 | Ghaggar   | NA        |
|           |                                       | Pharmaceutical Formulation of injectable | 2                 | 6.8                                 | HSI IDC                | 5.5  | 1           | Nil      | 0.5                    | Nil      | Nil                 | Tangri River  | NA        |
|           |                                       | Phosphating & Powder coating             | 2                 | 3.1                                 | HSI IDC                | 1.1  | 1           | Nil      | 0.5                    | Nil      | Nil                 | Tangri River  | NA        |
| Panchkula | Panchkula City                        | Dairy Firm (Milk Product)                | 1                 | 6                                   | HUDA                   | 5  | Nil         | Nil      | Nil                    | Nil      | Nil                 | Ghaggar   | NA        |
|           |                                       | Service Station                          | 18                | 127.56                              | HUDA/Own tubewell      | 108.3  | Nil         | Nil      | 0                      | Nil      | Nil                 | Ghaggar   | NA        |
|           |                                       | Electroplating                           | 15                | 59.375                              | HUDA/Own Tubewell      | 42   | 0           | 0        | 0                      | 0        | 0                   | Ghaggar River   | NA        |
|           |                                       | Electroplating (E-Waste)                 | 1                 | 500                                 | HUDA                   | 100  | Nil         | Nil      | Nil                    | Nil      | Nil                 | Ghaggar River   | NA        |

| District | Name of the Town or City and District | Sector   | No. of Industries | Industrial Water Consumption in KLD | Source of Water supply | Industrial effluent generation in KLD (trade effluent) | No. of CETP |          | CETP capacity (in KLD) |          |                     | Final mode of disposal of trade effluent in drains /River nearby (in KLD) |           |
|----------|---------------------------------------|--|-------------------|-------------------------------------|------------------------|--|-------------|----------|------------------------|----------|---------------------|---|-----------|
|          |                                       |  |                   |                                     |                        |  | Existing    | Proposed | Existing               | Proposed | Under commissioning | Treated   | Untreated |
|          |                                       | Pharmaceutical Formulation for R & D Centre                      | 2                 | 5.7                                 | HUDA                   | 3.1  | Nil         | Nil      | Nil                    | Nil      | Nil                 | Ghaggar   | NA        |
|          |                                       | Fermentation industry yeast, beer                                | 5                 | 14                                  | HUDA                   | 8.9  | Nil         | Nil      | Nil                    | Nil      | Nil                 | Ghaggar River   | NA        |
|          |                                       | Printing Press   | 2                 | 23                                  | HUDA                   | 19   | Nil         | Nil      | Nil                    | Nil      | Nil                 | Ghaggar River   | NA        |
|          |                                       | Bakery and confectionary   | 2                 | 23                                  | HUDA                   | 20   | Nil         | Nil      | Nil                    | Nil      | Nil                 | Ghaggar River   | NA        |
|          |                                       | Pharmaceutical Formulation of injectable                         | 1                 | 35                                  | HUDA/H SIIDC           | 20   | 0           | 0        | 0                      | Nil      | Nil                 | Ghaggar River   | NA        |
|          |                                       | Phosphating & Powder coating                                     | 3                 | 7                                   | HUDA                   | 5.9  | 0           | Nil      | 0                      | Nil      | Nil                 | Ghaggar River   | NA        |
|          |                                       | Lead/Copper ingot (Unit covered under schedule IV of HWTM Rules) | 1                 | 2.2                                 | HUDA                   | 2  | Nil         | Nil      | Nil                    | Nil      | Nil                 | Ghaggar River   | NA        |
|          |                                       | Hotel Industry   | 9                 | 110                                 | HUDA/M .C/Own Tubewell | 0  | Nil         | Nil      | Nil                    | Nil      | Nil                 | Ghaggar River   | NA        |
|          |                                       | Building and Construction Project                                | 1                 | 80                                  | HUDA                   | 0  | Nil         | Nil      | Nil                    | Nil      | Nil                 | Ghaggar River   | NA        |
|          |                                       | Hospitals  | 21                | 179.1                               | HUDA/M .C/Own Tubewell | 5.4  | Nil         | Nil      | Nil                    | Nil      | Nil                 | Ghaggar River   | NA        |
| Ambala   | Naraingarh                            | Hospitals  | 9                 | 9                                   | HUDA/M .C/Own          | 1.8  | Nil         | Nil      | Nil                    | Nil      | Nil                 | Ghaggar River   | NA        |

| District    | Name of the Town or City and District | Sector                                      | No. of Industries | Industrial Water Consumption in KLD | Source of Water supply | Industrial effluent generation in KLD (trade effluent) | No. of CETP |          | CETP capacity (in KLD) |          |                     | Final mode of disposal of trade effluent in drains /River nearby (in KLD) |           |
|-------------|---------------------------------------|---|-------------------|-------------------------------------|------------------------|--|-------------|----------|------------------------|----------|---------------------|---|-----------|
|             |                                       |   |                   |                                     |                        |  | Existing    | Proposed | Existing               | Proposed | Under commissioning | Treated   | Untreated |
|             |                                       |   |                   |                                     | Tubewell               |  |             |          |                        |          |                     |   |           |
| Ambala      | Saha                                  | Hotel Industry                              | 2                 | 19                                  | M.C/Own Tubewell       | 0  | Nil         | Nil      | Nil                    | Nil      | Nil                 | Ghaggar River   | NA        |
| Ambala      | Ambala City                           | Dairy Firm (Milk Product)                   | 1                 | 244                                 | Own Tubewell           | 156  | Nil         | Nil      | Nil                    | Nil      | Nil                 | Ghaggar   | NA        |
|             |                                       | Service Station                             | 3                 | 16                                  | Own Tubewell           | 13   | 0           | 0        | 0                      | 0        | 0                   | Ghaggar   | NA        |
|             |                                       | Electroplating                              | 12                | 6.106                               | Own Tubewell /M.C      | 3.106  | 0           | Nil      | Nil                    | Nil      | Nil                 | Ghaggar/Tangri River  | NA        |
|             |                                       | Phosphating & Powder coating                | 2                 | 1.3                                 | HSI IDC                | 0.6  | 1           | Nil      | 0.5                    | Nil      | Nil                 | Ghaggar River   | NA        |
|             |                                       | Tanneries (Semi finish to finished leather) | 1                 | 30                                  | Own Tubewell           | 28   | Nil         | Nil      | Nil                    | Nil      | Nil                 | Ghaggar River   | NA        |
|             |                                       | Hospitals                                   | 34                | 34                                  | HUDA/M.C/Own Tubewell  | 6.9  | Nil         | Nil      | Nil                    | Nil      | Nil                 | Ghaggar River   | NA        |
| Kurukshetra | Pehowa                                | Food and Food Processing                    | 0                 | 0                                   | 0                      | 0  | 0           | 0        | 0                      | 0        | 0                   | 0   | 0         |
|             |                                       | Dairy Firm (Milk Product)                   | 1                 | 206                                 | Own Tubewell           | 100  | Nil         | Nil      | Nil                    | Nil      | Nil                 | Saraswati Drain   | NA        |
|             |                                       | Paper Mills                                 | 1                 | 4000                                | Tubewell               | 3350   | Nil         | Nil      | Nil                    | Nil      | Nil                 | Saraswati River   | NA        |
|             |                                       | Hospitals                                   | 1                 | 21.5                                | Own Tubewell           | 20   | Nil         | Nil      | Nil                    | Nil      | Nil                 | Saraswati River   | NA        |
| Kurukshetra | Shahabad                              | Service Station                             | 1                 | 2.4                                 | Own Tubewell           | 0.8  | 0           | 0        | 0                      | 0        | 0                   | Saraswati Drain   | NA        |

| District     | Name of the Town or City and District | Sector                                      | No. of Industries | Industrial Water Consumption in KLD | Source of Water supply | Industrial effluent generation in KLD (trade effluent) | No. of CETP |          | CETP capacity (in KLD) |          |                     | Final mode of disposal of trade effluent in drains /River nearby (in KLD) |                 |                 |    |
|--------------|---------------------------------------|---|-------------------|-------------------------------------|------------------------|--|-------------|----------|------------------------|----------|---------------------|---|-----------------|-----------------|----|
|              |                                       |   |                   |                                     |                        |  | Existing    | Proposed | Existing               | Proposed | Under commissioning | Treated   | Untreated       |                 |    |
|              |                                       | Hotel Industry                              | 1                 | 15                                  | Own Tubewell           | 0  | 0           | 0        | 0                      | 0        | 0                   | Nil   | Sarawati River  | NA              |    |
|              |                                       | Hospitals                                   | 3                 | 5.2                                 | Own Tubewell /M.C      | 0.9  | Nil         | Nil      | Nil                    | Nil      | Nil                 | Nil   | Sarawati River  | NA              |    |
| Kuruksheetra | Kuruksheetra City                     | Service Station                             | 5                 | 22.4                                | HUDA/Own tubewell      | 16.1   | 0           | 0        | 0                      | 0        | 0                   | 0   | Saraswati Drain | NA              |    |
|              |                                       | Pharmaceutical Formulation for R & D Centre | 1                 | 1.3                                 | HUDA                   | 0.3  | 0           | Nil      | Nil                    | Nil      | Nil                 | Nil   | Nil             | Saraswati Drain | NA |
|              |                                       | Hotel Industry                              | 1                 | 15                                  | Own Tubewell           | 0  | Nil         | Nil      | Nil                    | Nil      | Nil                 | Nil   | Nil             | Saraswati River | NA |
|              |                                       | Hospitals                                   | 18                | 35.9                                | Own Tubewell /M.C      | 19.1   | Nil         | Nil      | Nil                    | Nil      | Nil                 | Nil   | Nil             | Saraswati River | NA |

#### 4. Measurement of Flow Rate and Quality of Drains

The details of flow of water in the eleven drains outfalling in river Ghaggar and the quality of water, as measured by Irrigation Department and HSPCB are given as below.

##### Statement of flow and quality of drains outfalling directly/indirectly into river Ghaggar

5.

| Sr. No. | Drains meeting with river Ghaggar                             | Towns  | Flow (MLD) |           |             |            |
|---------|---|--|------------|-----------|-------------|------------|
|         |   |  | July, 2018 | Aug, 2018 | Sept., 2018 | Oct., 2018 |
| 1       | Discharge of STP, Sec-28, Panchkula at Vill- Kakrali, Punjab. | Panchkula, Nada Sahib, Ramgarh                     | 8          | 9         | 9.8         | 8.57       |
| 2       | Drain of Panchkula entering to Sukhna Nallah                  |  | 24         | 20        | 22          | 20.8       |
| 3       | Sukhna choe at Vill- Bhankarpur, Punjab                       | Zirakpur (Pb), Dhakoli (Pb), Chandigarh, Panchkula | 49         | 45        | 47.5        | 46.5       |
| 4       | Ambala Drain  | Ambala   |            |           |             | 24.46      |
| 5       | Ghail drain at Rampur, Ambala                                 | Ambala   | 24.5       | 19.6      | 24.5        | 23         |
| 6       | Markanda River at Vill. Dhandhota                             | Ambala, Kala Amb (Haryana and Himachal)            |            |           |             |            |
| 7       | Sagar Para Drain at Vill. Sagra                               | Kurukshetra, Shahabad, Pehowa                      | 257.2      | 240       | 257         | 245        |
| 8       | Kaithal drain at Vill. Khanauri                               | Kaithal, Guhla                                     |            | 156       | 535         | 2.1        |
| 9       | Discharge of M.C. Ratia (Fatehabad)                           | Ratia (Fatehabad)                                  |            |           |             |            |
| 10      | Sukhana Nallah  |  | 5          | 3.9       | 6.3         | 4.7        |
| 11      | Jattan walla Nallah   |  | 17.1       | 19.6      | 29.4        | 21         |

#### Identification of sources of pollution having out fall in drains.

Irrigation Department, after a detailed field survey, has identified the pollution sources which are releasing effluent into main drains and the list of such sources has been given in the table below. Irrigation Department has also been directed to make further surveys periodically to identify additional points which will be added to this existing list. The Special Task Force, constituted at District level has been directed to verify these points on ground and to submit a

time bound action plan to control the pollution or altogether stop the discharge of the effluent from these points.

**Details of Drains/ Sources discharges effluent in the Ghaggar river in the stretch of District Panchkula.**

| Sr. No. | Name of town/ city  | Name of Drain                                      | Sources of untreated/ treated discharge to drains   | Actual location of untreated/ treated discharge meeting the drains    | Ultimately discharge going to drain reaches to | Approx. quantity of discharges/ day |
|---------|---|--|---|---|--|-------------------------------------|
| 1       | Pinjore   | Jhajra Drain                                       | Treated 5 MLD STP   | Manakpur Nanakchand   | Sukhna Nadi a tributary of river Ghaggar       | 2.5 MLD                             |
| 2       | Himshikha Colony  | Virat NagarDr                                      | Untreated/ waste water of virat Nagar residentail area  | Near Issar nagar  | Mallah Nadi a tributary of river Ghaggar       | 0.5 MLD                             |
| 3       | Kalka   | Jhajra Drain                                       | treated 4.50 MLD STP  | Jhajra Drain (treated)  | Sukhna Nadi a tributary of river Ghaggar       | 1.45 MLD                            |
| 4       | Kalka   | Railway Drain                                      | Treated 0.25 MLD STP  | Jhajra Drain (treated)  | Sukhna Nadi a tributary of river Ghaggar       | 0.05 MLD                            |
| 5       | Pinjore (Saini Mohalla & Chouna Chowk), Vishva karma Colony, Pinjore, Shive Shakti colony | Nallah Along with rains/ nallah Shiv Shakti Colony | Domestic water of Pinjore Saini Mohalla & Chouna Chowk, Vishva Karma Colony, Shiv Shakti Colony | Old NH-22 OPP., Pinjore garden entry point, near kalka shimla highway | kaushalya river a tributary of river Ghaggar   | 0.86 MLD                            |
| 6       | Shive Colony lekhu Colony   | Drains/ nallah (Lekhu Colony)                      | Donestic water of Shiv Colony of Lekhu Colony   | Open Nallah Near Forest Complex                                       | Jhajra river a tributary of river Ghaggar      | 0.48 MLD                            |

| Sr. No. | Name of town/ city  | Name of Drain  | Sources of untreated/ treated discharge to drains   | Actual location of untreated/ treated discharge meeting the drains                                     | Ultimately discharge going to drain reaches to | Approx. quantity of discharges/ day |
|---------|---|--|---|--|--|-------------------------------------|
|         | Dharampur colony Officer colony, Model Town Rathpur Colony Abdulpur Colony Khurana Colony | Nallah near forest drains/ Nallah, open Nallah/ drains/ Nallahg arh Road drains / Nallah | Domestic Water of Dharmpur colony a officer colony, domestic wter of model town, domestic water of rathpur colony abdulapur colony Khurana colony | Nallah alongwith Rathpur Colony end point off Nallah NH-21 and Jhajra river side end of Khurana Colony | Jhajra river a tributary of river Ghaggar      | 1.23 MLD                            |
| 8       | Kalka Town Khatik Mohalla Handiya Mohalla   | Open Nallah/ Drains in town khatik Mohalla Handiya Mohalla                               | Domestic water of Khatic Mohalla/ Handiya Mohalla   | Sukhna River side Near Bridge Khatic Mohalla/ Handiya Mohalla  | Sukhna Nadi a tributary of river Ghaggar       | 0.31 MLD                            |
| 9       | Kalka Town Khatik Mohalla Handiya Mohalla   | Open Nallah/ Drains in town khatik Mohalla Handiya Mohalla                               | Domestic water of Khatic Mohalla/ Handiya Mohalla   | Sukhna River side Near Bridge Khatic Mohalla/ Handiya Mohalla  | Sukhna Nadi a tributary of river Ghaggar       | 0.31MLD                             |
| 10      | Bheron ki Sher  | Open Nallah/ Drains in Bheron ki Sher  | Domestic water of Bheron ki sher  | Sukhna River side near Rambagh Road (Bridge)   | Sukhna Nadi a tributary of river Ghaggar       | 0.09 MLD                            |
| 11      | Kamla Nagar/ Khila Colony   | Open Nallah in Kamla Nagar & Khilla Colony   | Domestic water of Kamla nagar a Khila Colony  | Sukhna river of tributary of Ghaggar River   | Sukhna Nadi a tributary of river Ghaggar       | 0.39 MLD                            |

| Sr. No. | Name of town/ city                                   | Name of Drain                                     | Sources of untreated/ treated discharge to drains                      | Actual location of untreated/ treated discharge meeting the drains | Ultimately discharge going to drain reaches to | Approx. quantity of discharges/ day |
|---------|--|---|--|--|--|-------------------------------------|
| 12      | Lower Kurari/ Upper Mohalla                          | Open Nallah lower kurari Upper Mohalla            | Domestic water of lower kurari upper mohalla                           | Near Railway station opp. Railway Bridge kalka                     | Jhajjra river a tributary of river Ghaggar     | 0.48 MLD                            |
| 13      | Valmiki Basti/ Gurbax Colony                         | Open Nallah Valmiki basti Gurbax colony           | Domestic water of Valmiki Basti Gurbax colony                          | Back side of MC Office Near Ren Basera Kalka                       | Jhajjra river a tributary of river Ghaggar     | 0.19 MLD                            |
| 14      | Azad colony bharaat nagar Bangala Basti Shakti       | open nallah bharaat Nagar Bangala basti           | Domestic water of Azad Colony Bharaat Nagar Bangala Basti, Shakti      | Near Railway Washing Center Kalka                                  | Jhajjra river a tributary of river Ghaggar     | 0.39 MLD                            |
| 15      | Sharma Colony Basant Vihar & Vikas Vihar & Ram Nagar | open Nallah sharma colony Basant Vihar/ Ram Nagar | domestic Water of Sharma Colony Basant Vihar & Vikas Vihar & ram Nagar | Near BDO Office Kalka  | Jhajjra river a tributary of river Ghaggar     | 0.53 MLD                            |
| 16      | Panchkula Town Ramgarh Village                       | Ramgarh village Drains/ Nallah                    | Domestic water of Ramgarh village                                      | Sector-23 & 28 Dividing Road to Ghaggar River                      | Ghaggar River                                  | 0.48 MLD                            |
| 17      | Bir Ghaggar  | BIR Ghaggar village drains Nallah                 | Domestic water of village BIR Ghaggar                                  | river Ghaggar  | Ghaggar River                                  | 0.53 MLD                            |
| 18      | Chandi Mandir  | Chandi Mandir village area drains                 | Domestic Water of village Chandi Mandir                                | Abad area of river Ghaggar   | Ghaggar River                                  | 0.31 MLD                            |

| Sr. No. | Name of town/ city    | Name of Drain                          | Sources of untreated/ treated discharge to drains                    | Actual location of untreated/ treated discharge meeting the drains | Ultimately discharge going to drain reaches to | Approx. quantity of discharges/ day  |
|---------|-----------------------|--|--|--|--|--------------------------------------|
| 19      | Surajpur, BCW, Raipur | Surajpur Village BCW Raipur Area drain | Domestic water of Village Surajpur, BCW & Raipur                     | Abadi area to river Ghaggar  | Ghaggar River                                  | 0.34 MLD                             |
| 20      | Ishar Nagr            | Ishar Nagar Drain                      | Flood water/ waste water   | Near Mallah Bridge   | kaushalya river a tributary of river Ghaggar   | 51.37 MLD (During Flood season only) |
| 21      | Panchkula             | Ghaggar River                          | STP, Sector-28   | Bank of Ghaggar River  | Ghaggar River                                  | 8.0 MLD                              |
| 22      | Chandi Mandir Cantt.  | Singh Nallah choe                      | Flood water/ domestic water of chandi mandir cantt. Area through STP | Near Old Panchkula left side NH-22                                 | Ghaggar River                                  | 4893 MLD (during flood season only)  |
| 23      | Khetpurali            | Khetpur ali village Nallah             | Public used water  | River end of Khetpurali Village                                    | River Tangri a Tributary of Ghaggar            | 0.06 MLD                             |
| 24      | Raipur Rani           | Raipur rani nallah                     | Public used water  | Near Bridge of River Tangri  | River Tangri a Tributary of Ghaggar            | 0.14 MLD                             |
| 25      | Alipur Barwala        | HSI IDC Drain                          | used water of HSI IDC through STP                                    | HSI IDC alipur Barwala   | River Tangri a Tributary of Ghaggar            | 0.4 MLD                              |
| 26      | Panchkula             | Manima jra, Choe                       | untreated Sector-4, 6 MDC, Panchkula                                 | Sector-5, MDC Bridge   | Ghaggar River                                  | 0.25 MLD                             |
| 27      | Panchkula             | Manima jra, Choe                       | Treated Swastik Vihar, Sec-5, MDC Panchkula                          | Swastic Vihar, Sector-5, MDC, Panchkula                            | Ghaggar River                                  | 0.17 MLD                             |
| 28      | Panchkula             | Manima jra, Choe                       | untreated Sector-4, 6 MDC, Panchkula                                 | GH-1, Sector-5, MDC, Panchkula                                     | Ghaggar River                                  | 0.12 MLD                             |

| Sr. No. | Name of town/ city | Name of Drain                    | Sources of untreated/ treated discharge to drains | Actual location of untreated/ treated discharge meeting the drains | Ultimately discharge going to drain reaches to | Approx. quantity of discharges/ day |
|---------|--------------------|----------------------------------|---|--|--|-------------------------------------|
| 29      | Panchkula          | Manimajra, Choe                  |   | Bridge Sector-7 & 18, Dividing Road Sector-7, Panchkula            | Ghaggar River                                  | 0.25 MLD                            |
| 30      | Panchkula          | rajiv-Indira colony rainy Nallah | SWD NAC Manimajra                                 | Bridge 17/18   | Ghaggar River                                  | 0.30 MLD                            |
| 31      | Panchkula          | rajiv-Indira colony rainy Nallah | Sector-17, Panchkula                              | Sector-17  | Ghaggar River                                  | 0.4 MLD                             |
| 32      | Panchkula          | rajiv-Indira colony rainy Nallah | Domestic water of Rajiv Colony                    | Sector-17  | Ghaggar River                                  | 0.4 MLD                             |
| 33      | Panchkula          | rajiv-Indira colony rainy Nallah | Domestic water of Rajiv Colony                    | Raji Indira Colony   | Ghaggar River                                  | 0.4 MLD                             |
| 34      | Panchkula          | rajiv-Indira colony rainy Nallah | Domestic water of Rajiv Colony                    | Sector-17, Near # 1023   | Ghaggar River                                  | 0.25 MLD                            |
| 35      | Panchkula          | rajiv-Indira colony rainy Nallah | Bhudhanpur Village                                | Opp. New Guga Mari   | Ghaggar River                                  | 1.00 MLD                            |
| 36      | Panchkula          | Singh Nallah choe                | Sewer Waster of Sector-4, Panchkula               | 4/12 Bridge near H. No. 869 sector-12                              | Ghaggar River                                  | 280 MLD                             |
| 37      | Panchkula          | Singh Nallah choe                | Sewer Waster of Sector-12A, Panchkula             | near Harihar Mandir Central Bridge 12 A                            | Ghaggar River                                  | 1.00 MLD                            |

| Sr. No. | Name of town/ city | Name of Drain     | Sources of untreated/ treated discharge to drains | Actual location of untreated/ treated discharge meeting the drains | Ultimately discharge going to drain reaches to | Approx. quantity of discharges/ day |
|---------|--------------------|-------------------|---|--|--|-------------------------------------|
| 38      | Panchkula          | Singh Nallah choe | STP, Sector-20                                    | NH-22  | Ghaggar River                                  | 30.00 MLD                           |

### Kaithal

| Sr. No. | Name of Drains  | Discharge (CS) | Location of Outfall RD. & Village                     | Starting point of drain                 |
|---------|---|----------------|---|---|
| 1       | KAITHAL DRAN FROM RD. 18000-163000  | 2044.00        | IN GHAGGAR RIVER NEAR KHANOURI                        | KEORAK                                  |
| 2       | MEERAPUR CHOE DR. FROM RD. 0-8600   | 830.00         | GHAGGAR RIVER NEAR VILL THATIANA                      | PUNAJB STATE                            |
| 3       | OLD GHAGGAR FROM RD. 0-56730  | 50.00          | GHAGGAR RIVER NEAR VILL BHATIAN                       | CO CHEEKA PATIALA ROAD NEAR CHEEKA TOWN |
| 4       | PARA RIVER  |                | GANGGAR RIVER   |   |
| 5       | MANAS L/DR. FROM RD. 0-19500  | 48.00          | AT RD. AT RD. 111900/L KTL. DR. NEAR VILL. SILA KHERA | MANAS                                   |
| 6       | SILA KHERA L/DR. FROM RD. 0-9700  | 30.00          | AT RD. 102000/L KTL DR. NEAR VILL. SILA KHERA         | POND OF NEAR CHANDANA GATE KTL          |
| 7       | MAGHO MAJRI L/DR. FROM RD. 0-24100  | 50.00          | AR RD. 111900/R KTL DR. NEAR PATTI KHOT               | KHANPUR                                 |
| 8       | GEONG DR. FROM RD. 0-17300  | 141.00         | AR RD. 111900/R AMIN DR. NEAR KAITHAL                 | GEONG                                   |
| 9       | DEVIGARH L/DR. FROM RD. 0-12000   | 55.00          | AR RD. 37700/R AMIN DR. NEAR KHITHAL                  | DEVIGARH                                |
| 10      | SARASVATI DR. FROM RD. 0-101000 (NOW UNDER IN XEN/SARASVATI HERITAGE DIVISION NO.3 KTL) | 16000.00       | PARA RIVER NEAR VILLAGE CHAKU LADANA                  | BIBIPUR LAKE                            |
| 11      | PAPSAR L/DR. FROM RD. 0.21300   | 87.00          | AT RD. 31400/R SARASVATI DR. NEAR VILL. POLAR         | PAPSAR                                  |

| Sr. No. | Name of Drains                       | Discharge (CS)  | Location of Outfall RD. & Village                | Starting point of drain  |
|---------|--------------------------------------|-----------------|--|--------------------------|
| 12      | KAKRALA INAIT L/FR. FROM RD. 0-16900 | 48.50           | AR RD. 9000/L PAPSAR L/DR. NEAR VILL. KHNGTHALI  | KAKRALA                  |
| 13      | PUNDRI L/DR. 0-22743                 | 37.50           | AR RD. 58600 AMIN DR. NEAR VILL. PILINI          | KAKOT                    |
| 14      | PUNDRI DR. NO.1 0-99590              | 285.00          | AT RD. 22743 PUNDRI L/DR. NEAR VILL. SAPAN KHERI | NIGDHU                   |
| 15      | PUNDRI DR. 0-140000                  | 1410.00         | AR RD. 82000 KAITHAL DR. NEAR VILL. DIWAL        | RAISAN                   |
| 16      | KAUL L/DR. 0-6250                    | 11.40           | AT RD. 118500 AMIN DR. NEAR VILL. KAUL           | KAUL                     |
| 17      | KAUL L/DR. (PUCCA ECTION) 0-2100     | 11.25           | AR RD. 118500 AMIN DR. NEAR VILL. KAUL           | KAUL                     |
| 18      | KAUL L/DR. (PUCCA ECTION) 0-1800     | 11.40           | AR RD. 118500 AMIN DR. NEAR VILL. KAUL           | KAUL                     |
| 19      | OLD MANAS L/DR. FROM RD. 0-18500     | 50.00           | AT RD. 98000/R KAITHAIL DR. NEAR VILL. KUTABPUR  | FROM VILL. POND OF MANAS |
|         | <b>Total</b>                         | <b>18276.05</b> |  |                          |

### Kaithal

| Sr. No. | NAME OF DRAIN ETC. WITH LENGTH             | DISCHARGE (IN CS.)               | ORIGINATING FROM  | POINT NO.   | OUT FALLING AT                          | SHORT NOTE/REMARKS   | S.T.P . |
|---------|--|----------------------------------|---|-------------|---|--|---------|
| 1       | PAPSAR LINK DRAIN FROM RD 0 TO 21300       | 0.94 CS.<br>0.87 CS.<br>1.58 CS. | PAPER BOARD MILL VILLAGE<br>KANGTHALI-DO-VILLAGE<br>KANTHALI VILLAGE<br>KANGRHALI | 1<br>2<br>3 | 4200-L TO 4500-L 47-R<br>10000 TO 12000 | OUTFALLS IN SARASWATI DRAIN WHICH FURTHER OUT FALLS IN RIVER GHAGGAR |         |
| 2       | OLD GHAGGAR CREEK DRAIN FROM RD 0 TO 56730 | 5.40 CS.                         | CHEEKA CITY   | 4           | 56000-40000                             | DIRECTLY OUTFALLS IN RIVER GHAGGAR.                                  | STP     |

| Sr. No. | NAME OF DRAIN ETC. WITH LENGTH         | DISCHARGE (IN CS.) | ORIGINATING FROM                                  | POINT NO. | OUT FALLING AT               | SHORT NOTE/REMARKS   | S.T.P . |
|---------|--|--------------------|---|-----------|------------------------------|--|---------|
| 3       | GEONG LINK DRAIN FROM RD 0 TO 17300    | 12 CS.<br>8 CS.    | ABADI OF KAITHAL CITY.<br>ABADI OF BILLAGE GEONG. | 5<br>6    | 21000-6000<br>34000 TO 32000 | OUTFALLS IN AMIN DRAIN AT RD 29785-R WHICH FURTHER OUTFALLS AT RD 82000 KAITHAL DRAIN. KAITHAL DRAIN OUTFALLS IN RIVER GHAGGAR NEAR KHANOURI (PUNJAB). |         |
| 4       | DEVIGARH LINK DRAIN FROM RD 0 TO 12000 | 8 CS.              | ABADI OF KAITHAL CITY.                            | 7         | 12000 TO 8000                | OUTFALLS IN AMIN DRAIN AT RD 37700-R WHICH FURTHER OUTFALLS AT RD 82000 KAITHAL DRAN. KAITHAL DRAIN OUTFALLS IN RIVER GHAGGAR NEAR KHANOURI (PUNJAB).  |         |

| Sr. No. | NAME OF DRAIN ETC. WITH LENGTH      | DISCHARGE (IN CS.)   | ORIGINATING FROM   | POINT NO.  | OUT FALLING AT  | SHORT NOTE/REMARKS   | S.T.P .     |
|---------|-------------------------------------|--|--|--|---|--|-------------|
| 5       | KAITHAL DRAIN FROM RD 0 TO 163600   | 3 CS.<br>15 CS.<br>12 CS.<br>12 CS.<br>3 CS.<br>1 CS.<br>0.25 CS.<br>1 CS.<br>1 CS.<br>1 CS.<br>0.50 CS. | HCTM COLLEGE<br>KAITHAL<br>VILLAGE<br>KEORAK<br>VILLAGE<br>UJHANA.<br>VILLAGE<br>JAGDISHPURA.<br>FROM HUDA<br>COLONY<br>KAITHAL<br>GADLA DERA<br>KAITHAL<br>CARD BOARD<br>MILL<br>KAITHAL CITY<br>(PUBLIC HEALTH<br>DEPTT.)<br>KAITHAL CITY<br>(PUBLIC HEALTH<br>DEPTT.)<br>VILLAGE<br>QUTABPUR<br>(SEWRAGE<br>WATER)<br>BILLAGE GUHNA<br>(SEWRAGE<br>WATER) | 8<br>9<br>10<br>11<br>12<br>13<br>14<br>15<br>16<br>17<br>18 | 140000-R<br>151800-L<br>142500-R<br>138000-L<br>132800-L<br>U/S<br>121000-L<br>D/S<br>120000-R<br>123500-R<br>114200-L<br>U/S<br>91900-L<br>D/S<br>56500-R<br>U/S | KAITHAL<br>DRAIN<br>OUTFALLS IN<br>RIVER<br>GHAGGAR<br>NEAR<br>KHANOURI<br>(PUNJAB)                    | STP,<br>STP |
| 6       | PATIALA NADI                        | 15 CS.   | PATIALA CITY   | 19   | NEAR<br>VILLAGE<br>BHATIAN  | PATIALA<br>NADI<br>OUTFALL<br>NEAR<br>VILLAGE<br>BHATIAN   |             |
| 7       | SARASWATI DRAIN FROM RD 0 TO 101000 | 25 CS.<br>10 CS.   | CARD BOARD<br>FACTORY<br>VILLAGE SOTHA.  | 20<br>21   | 67500-R<br>23400-R  | SARASWATI<br>DRAIN<br>OUTFALLS IN<br>PARA RIVER<br>WHICH<br>FURTHER<br>OUTFALLS IN<br>RIVER<br>GHAGGAR |             |
| 8       | MANAS DRAIN FROM RD 0 TO 19500      | 5 CS.  | KAITHAL CITY   | 22   | 19500   | OUTFALLS IN<br>KAITHAL<br>DRAIN AT RD<br>111900<br>WHICH<br>FURTHER<br>OUTFALLS IN                     |             |

| Sr. No. | NAME OF DRAIN ETC. WITH LENGTH          | DISCHARGE (IN CS.) | ORIGINATING FROM       | POINT NO. | OUT FALLING AT | SHORT NOTE/REMARKS   | S.T.P . |
|---------|---|--------------------|------------------------|-----------|----------------|--|---------|
|         |   |                    |                        |           |                | RIVE GHAGGAR NEAR KHANOURI (PUNJAB).   |         |
| 9       | MAGO MAJRI DRAIN FROM RD 0 TO 24100     | 1 CS.              | VILLAGE KHANPUR        | 23        | 24100          | OUTFALLS IN KAITHAL DRAIN AT RD 111900 WHICH FUTHER OUTFALLS IN RIVER GHAGGAR NEAR KHANOURI (PUNJAB).  |         |
| 10      | SILLA KHARA DRAIN FROM RD 0 TO 9700     | 5 CS.              | KAITHAL CITY           | 24        | 9700           | OUTFALLS IN KAITHAL DRAIN AT RD 102000 WHICH FURHTER OUTFALLS IN RIVER GHAGGAR NEAR KHANOURI (PUNJAB). |         |
| 11      | OLD MANAS LINK DRAIN FROM rd 0 TO 18500 | 2 CS.              | VILLAGE MANAS          | 25        | 18500          | OUTFALLS IN KAITHAL DRAIN AT RD 92000 WHICH FUTHER OUTFALLS IN RIVER GHAGGAR NEAR KHANOURI (PUNJAB).   |         |
| 12      | AMIN DRAIN RD. 0-140000                 | 8.5 CS.            | KAITHAL CITY JIND ROAD | 26        | RD.29500       | OUTFALLS IN AMIN DRAIN WHICH FURHTER OUTFALLS IN KAITHAL DRAIN AND KAITHAL DRAN                        | STP     |

| Sr. No. | NAME OF DRAIN ETC. WITH LENGTH | DISCHARGE (IN CS.) | ORIGINATING FROM                                 | POINT NO. | OUT FALLING AT | SHORT NOTE/REMARKS   | S.T.P . |
|---------|--------------------------------|--------------------|--|-----------|----------------|--|---------|
|         |                                |                    |  |           |                | OUTFALLS<br>GHAGGAR<br>RIVER   |         |
| 13      | PUNDRI DRAIN NO. 1             | 5 CS.              | JATERI ROAD<br>PUNDRI<br>FATEHPUR<br>ROAD PUNDRI | 27        | RD.27500       | PUNDRI DRAIN NO. 1<br>OUTFALL IN AMIN DRAIN<br>AND AMIN DRAIN<br>OUTFALL IN KAITHAL<br>DRAIN AND KAITHAL<br>DRAIN<br>OUTFALL IN GHAGGAR<br>RIVER | STP     |
|         | <b>TOTAL</b>                   | <b>163.04CS</b>    |  |           |                |  |         |

#### Kurukshetra

| SR. NO. | NAME OF DRAIN   | SOURCE OF UNTREATED DISCHARGE TO DRAINS    | ULTIMATELY DISCHARGE GOING TO DRAIN REACHES TO | AVERAGE FLOW |
|---------|---|--|--|--------------|
| 1       | EFFLUENT OF VILLAGE ABADI MALIKPUR OF 4 NO. NALLAH IN LENGTH 350 FT   | WASTE WATER OF ABADI OF VILLAGE MALIKPUR   | MARKANDA RIVER                                 | 5.00 CS      |
| 2       | EFFLUENT OF VILLAGE ABADI KALSANA OF 6 NO. NALLAH IN LENGTH 400 FT    | WASTE WATER OF ABADI OF VILLAGE KALSANA    | MARKANDA RIVER                                 | 11.00 CS     |
| 3       | EFFLUENT OF VILLAGE ABADI KATWA OF 1 NO. NALLAH IN LENGTH 200 FT      | WASTE WATER OF ABADI OF VILLAGE KATWA      | MARKANDA RIVER                                 | 3.00 CS      |
| 4       | EFFLUENT OF VILLAGE ABADI TANGOR OF 1 NO. NALLAH IN LENGTH 4000 FT    | WASTE WATER OF ABADI OF VILLAGE TANGOR     | MARKANDA RIVER                                 | 8.00 CS      |
| 5       | EFFLUENT OF VILLAGE ABADI JHANSA OF 1 NO. NALLAH IN LENGTH 200 FT     | WASTE WATER OF ABADI OF VILLAGE JHANSA     | MARKANDA RIVER                                 | 5.00 CS      |
| 6       | EFFLUENT OF VILLAGE ABADI MOHMADSHAH OF 1 NO. NALLAH IN LENGTH 200 FT | WASTE WATER OF ABADI OF VILLAGE MOHMADSHAH | MARKANDA RIVER                                 | 2.00 CS      |

| SR. NO. | NAME OF DRAIN   | SOURCE OF UNTREATED DISCHARGE TO DRAINS                                    | ULTIMATELY DISCHARGE GOING TO DRAIN REACHES TO | AVERAGE FLOW    |
|---------|---|--|--|-----------------|
| 7       | PIPE LINE FROM JALBHERA VILLAGE RD 0 TO 2000 IN LENGTH 2000 | WASTE WATER  | MARKANDA RIVER                                 | 2.00 CS         |
| 8       | ISMAILABAD DRAIN IN LENGTH 41830                            | WASTE WATER/RAIN WATER OF ISMAILABAD, CHAMMU, THASKA MIRAJI, TABRA, NAISI. | MARKANDA RIVER                                 | 50.00 CS        |
| 9       | JAKHWALA DRAIN FORM RD 0 TO 14000 IN LENGTH 14000           | RAIN WATER OF TANGOLI, JAKHWALA, TEOKAR ETC.                               | MARKANDA RIVER                                 | 150.00 CS       |
| 10      | PUMP HOUSE AT RD 62500                                      | RAIN WATER OF AGRICULTURAL FIELD OF VILLAGES TEOKAR, MOHANPUR, KARAH.      | MARKANDA RIVER                                 | 10.00 CS        |
| 11      | KARAH DRAIN RD 0 TO 5800 IN LENGTH 5800                     | MARKANDA RIVER   | MARKANDA RIVER                                 | 142.00 CS       |
|         |   |  | <b>TOTAL</b>                                   | <b>388.0 CS</b> |

#### Ambala

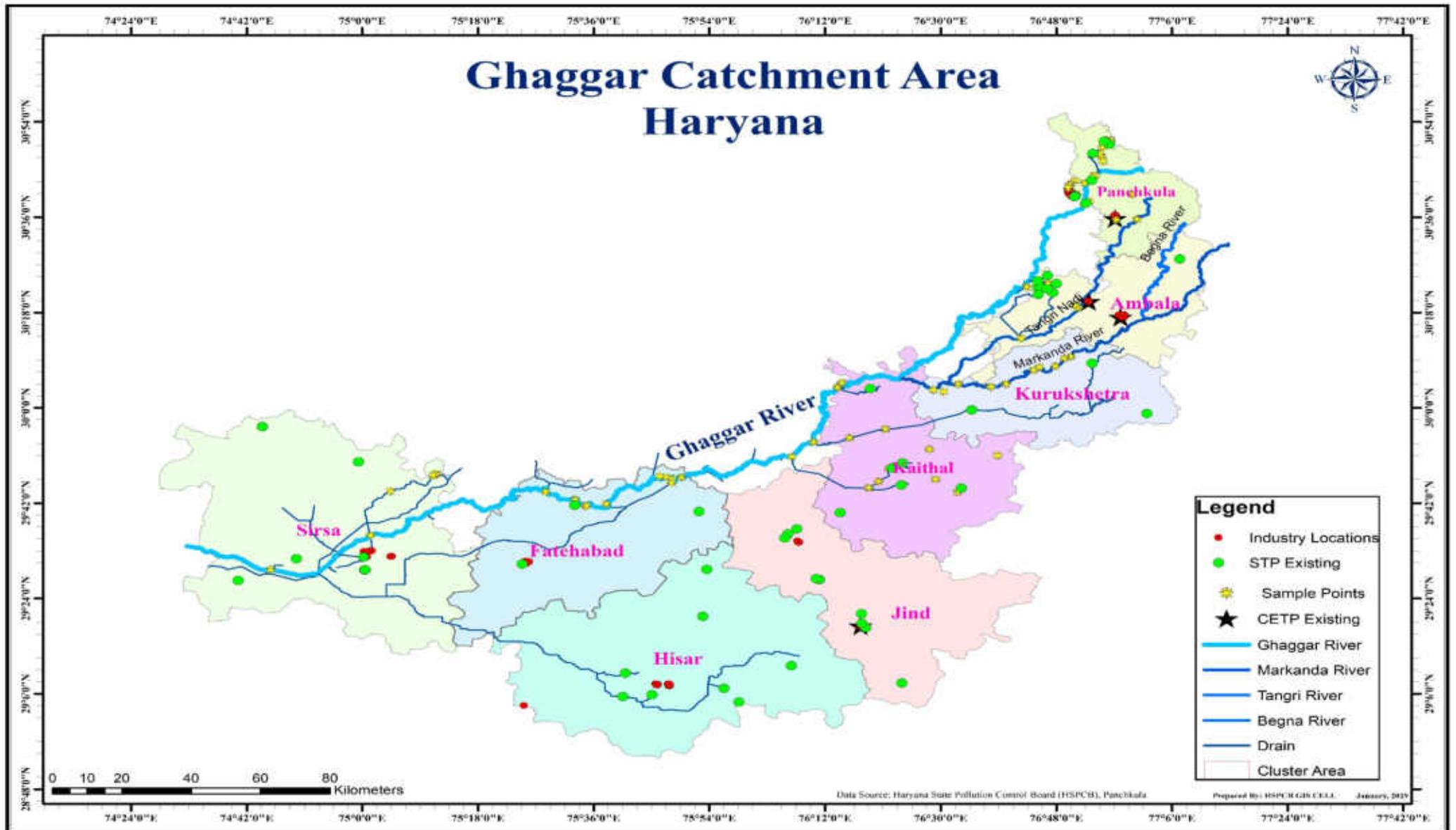
| SR. NO. | NAME OF TOWN/CITY | NAME OF DRAIN LENGTH/ DISCHARGE | SOURCES OF UNTREATED/TREATED DISCHARGE TO DRAINS   | ACTUAL LOCATION OF TREATED/UNTREATED DISCHARGE MEETING THE DRAIN  | IN TAKE RD & DISCHARGE                                     | ULTIMATELY DISCHARGE GOING TO DRAIN REACHES TO | APPROX. QUANTITY OF DISCHARGE / DAY       |
|---------|-------------------|---------------------------------|--|---|--|--|---|
| 1       | AMBALA CITY       | AMBALA DRAIN (48600FT, 250 CS.) | MC AREA OF AMBALA CITY I.E. HOUSING BOARD COLONY, GETA COLONY, BALDEV NAGAR, JAGGI COLONY, MOTOR MARKET, MANMOHAN NAGAR, DEVI NAGAR ETC. | (A) ACTUAL LOCATION OF TREATED DISCHARGE<br>(I) BALDEV NAGAR STP<br>(II) DEVI NAGAR STP<br>(B) ACTUAL LOCATION OF UNTREATED DISCHARGE<br>(I) VARIOUS POINTS IN BELOW SAID AREAS MC AREA OF AMBALA CITY I.E. HOUSING BOARD COLONY, GEETA COLONY, BALDEV NAGAR, JAGGI COLONY, MOTOR MARKET, MANMOHAN NAGAR, DEVI NAGAR ETC. | 22000FT., 6.75 MLD<br>5900 FT., 2.25 MLD                   | GHAGGAR RIVER AS SHOWN IN MAP                  | TREATED IN 9 MLD AND UNTREATED 20.35 MLD  |
| 2       | AMBALA CITY       | GHEL DRAIN 4.173 KM DS. 150 CS. | MC AREA OF AMBALA CITY I.E. NAYA GAON, VILLAGE KALU MAJRA, VILLAGE GHEL  | A) ACTUAL LOCATION OF TREATED DISCHARGE<br>I) MOTI NAGAR STP<br>II) NAYA GAON STP<br>B) VARIOUS POINTS IN BELOW SAID AREA MC AREA OF AMBALA CITY I.E. COURT ROAD AREA AND NAYAGAON, VILLAGE KALU MAJRA AND GHEL   | 3.75KM, 7 MLD<br>2.80KM, 5MLD<br>4.190KM TO 1KM, 12.45 MLD | GHAGGAR RIVER AS SHOWN IN MAP                  | TREATED IN 12 MLD AND UNTREATED 12.45 MLD |

| SR. NO. | NAME OF TOWN/CITY | NAME OF DRAIN LENGTH/ DISCHARGE         | SOURCES OF UNTREATED/TREATED DISCHARGE TO DRAINS   | ACTUAL LOCATION OF TREATED/UNTREATED DISCHARGE MEETING THE DRAIN   | IN TAKE RD & DISCHARGE  | ULTIMATE DISCHARGE GOING TO DRAIN REACHES TO | APPROX. QUANTITY OF DISCHARGE / DAY |
|---------|-------------------|---|--|--|---|--|-------------------------------------|
| 3       | AMBALA CITY       | GHEL DRAIN (4300 FT, 29.64 CS.)         | DRAIN NEAR HIRA NAGAR, SA JAIN COLLEGE AMBALA CITY   | GHEL   | NIL   | GHAGGAR RIVER                                | 7.34 MLD                            |
| 4       | VILL. NAGGAL      | OUTFALL LINK DRAIN (2800 FT, 2111 CS.)  | THE DISCHARGE OF SULLAR DRAIN, CHAURMASTPUR DARIN KHERA NADYALI OUTFALL IN SYL PARALLEL AND SYL PARALLEL DRAIN OUTFALL IN OUTFALL LINK DRAIN, GANDA NALLAH OUTFALL IN OUTFALL LINK DRAIN AND THERE AFER OUTFALL LINK DRAIN FALLS IN RIVER TANGRI | 1. SULLAR DRAIN OUTFALL IN SYL PARALLEL<br>2. CHAURMASTPUR OUTFALL IN SYL PARALLEL<br>3. KHERA NADYALI OUTFALL IN SYL PARALLEL<br>4. SYL DRAIN OUTFALL IN OUTFALL LINK DRAIN<br>5. GANDHA NALLAH OUTFALL IN OUTFALL LINK DRAIN | 28431 FT, 244 CS, 18588 FT. 52CS. 1900FT., 87 CS 1900 FT., 902 CS. 2800FT., 588 CS. | OUTFALL IN RIVER TANGRI                      | 97.84 MLD                           |
| 5       | AMBALA CANT       | MAHESH NAGAR DRAIN (42000 FT., 326 CS.) | VILLAGE NAGLA, BOH   | RIVER TANGRI AMBALA-SAHARNPUR RAILWAY LINE.  | NIL   | RIVER TANGRI                                 | 85.61 MLD                           |
| 6       | AMBALA CANT       | LINK DRAIN (2585 FT., 80 CS.)           | UPSTREAM RD 26000 OF MAHESH NAGAR DRAIN  | RIVER TANGRI OPPOSITE RD 10900 OF BABYAL BUND  | NIL   | RIVER TANGRI                                 | -                                   |

## Sirsa

| Sr. No. | Name of Division            | Constituency | Name of Drains           | Discharge | Length     | Outfall RD.                         | Name of Village  |
|---------|-----------------------------|--------------|--------------------------|-----------|------------|-------------------------------------|--|
| 1       | Ghaggar W/s Division, Sirsa | Kalanwali    | Rori Ghaggar Drain       | 75.00 CS  | 130750 FT. | 63280/R R/Ghaggar just U/s Rly line | Sharani, Burj Bhangu, Baragudha, Biruwala, Gudha Jhorrohi, Desu Khurd, Thiraj, Phaggu, Rohan, Rori, Surtia |
| 2       | Ghaggar W/s Division, Sirsa | Kalanwali    | Drain No. 1, Jhorar Rori | 2.00 CS   | 3500 FT.   | RD. 62280/L Rori Ghaggar Drain      | Jhorar Rohi  |

| <b>Sr. No.</b> | <b>Name of Division</b>     | <b>Constituency</b> | <b>Name of Drains</b>         | <b>Discharge</b> | <b>Length</b> | <b>Outfall RD.</b>                      | <b>Name of Village</b>              |
|----------------|-----------------------------|---------------------|-------------------------------|------------------|---------------|---|-------------------------------------|
| 3              | Ghaggar W/s Division, Sirsa | Kalanwali           | Surtia Link Dr. No. II        | 5.00 CS          | 7500 FT.      | RD. 114450/R Rori Ghaggar Drain         | Surtia                              |
| 4              | Ghaggar W/s Division, Sirsa | Kalanwali           | Surtia Sub Link Drain No. I   | 5.00 CS          | 53 FT.        | RD. 6650/R Surtia Link Drain No. II     | Surtia                              |
| 5              | Ghaggar W/s Division, Sirsa | Kalanwali           | Surtia Sub Link Drain No. II  | 5.00 CS          | 4600 FT.      | RD. 6950/R Surtia Link Drain No. II     | Surtia                              |
| 6              | Ghaggar W/s Division, Sirsa | Kalanwali           | Surtia Sub Link Drain No. III | 1.00 CS          | 800 FT.       | RD. 1900/L Surtia Sub Link Drain No. II | Surtia                              |
| 7              | Ghaggar W/s Division, Sirsa | Kalanwali           | Rania Link Drain              | 51.00 CS         | 13000 FT.     | RD. 47950/R River Ghaggar D/s Ottu Weir | Patti Kirpal, Sheku Khera, Nagriana |



## 6. Regular monitoring of industries by STF and action against violators

The State Government has already constituted Special Task Force (STF) at District level, with Deputy Commissioner of the concerned District and Superintendent of Police and nominee of District Judge and Regional Officer of HSPCB as Members of the task force. This STF has been mandated to identify persons responsible for violation of law and norms relating to pollution in rivers and to conduct surprise inspections of polluting sources.

## 7. Dredging & de-silting of drains in the cities.

As per the directions of Hon'ble NGT, Urban Local Bodies Department and Irrigation Department have been directed to regularly conduct the exercise of de-silting and repairs of drains under their jurisdiction and the details on its compliance will be reviewed in its meeting and at State Level by the Chief Secretary. ULB Department has also been directed to prepare a detailed plan for the process along with the financial requirements and funding sources.

## 8. Providing Sewerage in un-sewered area of unapproved colonies

There are many unapproved areas in most of the towns where sewage has not been tapped. The task of tapping and treat the same before its outfall into the drain/ river, the ULBD was directed to provide a time bound plan and it has prepared the following plan with specific time frames for specific towns of Haryana, as below.

| Sr. No. | Name of MC    | Date of which compliance shall be made |
|---------|---------------|--|
| 1       | Ambala        | 31.12.2020                             |
| 2       | Hisar         | 31.12.2019                             |
| 3       | Panchkula     | 31.12.2019                             |
| 4       | Thanesar      | 31.12.2019                             |
| 5       | kaithal       | 31.12.2019                             |
| 6       | hansi         | 31.12.2019                             |
| 7       | Fatehabad     | 31.12.2019                             |
| 8       | Tohana        | 31.12.2019                             |
| 9       | Sirsa         | 31.12.2019                             |
| 10      | Mandi Dabwali | 31.12.2019                             |
| 11      | Jind          | 31.12.2019                             |
| 12      | Narwana       | 31.12.2019                             |
| 13      | Naraingarh    | 31.12.2019                             |
| 14      | Barara        | 31.12.2019                             |
| 15      | Shahabad      | 31.12.2019                             |
| 16      | Ladwa         | 31.12.2019                             |
| 17      | Pehowa        | 31.12.2019                             |
| 18      | Pundri        | 31.12.2019                             |
| 19      | Cheeka        | 31.12.2019                             |
| 20      | Kalayat       | 31.12.2019                             |
| 21      | Rajound       | 31.12.2019                             |
| 22      | Barwala       | 31.12.2019                             |
| 23      | Narnaund      | 31.12.2019                             |
| 24      | Uklana        | 31.12.2019                             |
| 25      | Ratia         | 31.12.2019                             |

| Sr. No. | Name of MC | Date of which compliance shall be made |
|---------|------------|--|
| 26      | Bhuna      | 31.12.2019                             |
| 27      | Rania      | 31.12.2019                             |
| 28      | Kalawali   | 31.12.2019                             |
| 29      | Ellenabad  | 31.12.2019                             |
| 30      | Safidon    | 31.12.2019                             |
| 31      | Uchana     | 31.12.2019                             |
| 32      | Julana     | 31.12.2019                             |
| 33      | Jakhal     | 31.12.2019                             |

### 9. Plan for laying of sewerage in approved colonies along river Ghaggar

The sewerage network is being laid in the towns to carry the sewage to STPs for treatment. The status and the action plan alongwith target date is given in the table.

#### Plan of PHED and ULBD for laying of sewerage.

| Sr. No.              | Name of town | Deptt. | %age sewerd area | % age unsewered area |             | Latest status  |
|----------------------|--------------|--------|------------------|----------------------|-------------|--|
|                      |              |        |                  | Approved             | Unappro ved |  |
| <b>Ambala Circle</b> |              |        |                  |                      |             |  |
| 1.                   | Ambala City  | PHED   | 90               | 10                   | -           | No ongoing work in the hand, the balance area will be covered under AMRUT scheme by the Municipal corporation Ambala City  |
| 2.                   | Ambala Sadar | PHED   | 67               | 33                   | -           | The 67% area of old Ambala Sadar Town excluding M.C Limit provided with sewerage system. The balance 33% approved area of old Town & 100% approved area of extended M.C Limit (63 Nos approved colonies) is not provided with sewerage system. However the works for laying of sewerage facilities is un sewerd area is being monitored / executed by Urban Local Bodies itself. |
| 3.                   | Naraingarh   | PHED   | 92               | 08                   | -           | Estimate for laying of sewer in balance approved area, is under preparation and work will be completed by 31.03.2020.  |
| 4.                   | Barara       | PHED   | 0                | 0                    | -           | The work for laying of sewerage network is in progress. The completion date of the project is 30.04.2020.  |
| 5.                   | Kalka        | PHED   | 95               | 5                    | -           | Work in balance 5% area held up due to non availability of land for construction of 2 MLD and 0.30 MLD STP at Kalka.   |

| Sr. No.               | Name of town | Deptt. | %age sewered area | % age unsewered area |            | Latest status  |
|-----------------------|--------------|--------|-------------------|----------------------|------------|--|
|                       |              |        |                   | Approved             | Unapproved |  |
| 6.                    | Pinjore      | PHED   | 95                | -                    | 5          | Sewer has been laid in approved area but not commissioned in 5% approved area, as case for site for construction of IPS has been taken up with Director, Horticulture and case is under process. |
| <b>Hisar Circle</b>   |              |        |                   |                      |            |  |
| 7.                    | Barwala      | PHED   | 85                | 15                   | -          | Estimate for laying of sewer in balance approved area, is under preparation and work will be completed by 31.03.2020.  |
| 8.                    | Hansi        | PHED   | 92                | -                    | 8          | Work completed.  |
| 9.                    | Narnaund     | PHED   | 90                | 10                   | -          | Estimate for laying of sewer in balance approved area, is under preparation and work will be completed by 31.03.2020.  |
| 10.                   | Uklana       | PHED   | 90                | 10                   | -          | Balance work in progress and will be completed upto 31.03.2019.  |
| <b>Jind Circle</b>    |              |        |                   |                      |            |  |
| 11.                   | Jind         | PHED   | 88%               | 10%                  | 2%         | Work for laying of sewer lines in approved area of the Town is in progress and likely to be completed up to 31.05.2019.  |
| 12.                   | Julana       | PHED   | 92%               | 6%                   | 2%         | Estimate for laying of sewer in balance approved area, is under preparation and work will be completed by 31.03.2020.  |
| 13.                   | Narwana      | PHED   | 92%               | 2%                   | 6%         | Work for laying of sewer lines in approved area of the Town is in progress and likely to be completed up to 31.03.2019.  |
| 14.                   | Safidon      | PHED   | 80%               | 20%                  | 0%         | Work for laying of sewer lines in approved area of the Town is in progress and likely to be completed up to 30.06.2019.  |
| 15.                   | Uchana       | PHED   | 94%               | 01%                  | 5%         | Work for laying of sewer lines in approved area of the Town is in progress and likely to be completed up to 31.03.2019.  |
| <b>Kaithal Circle</b> |              |        |                   |                      |            |  |
|                       | Cheeka       | PHED   | 82                | 10                   | 8          | Balance work in progress and will be completed upto 31.03.2019.  |
| 16.                   | Kaithal      | PHED   | 85                | 5                    | 10         | 85% completed & work in progress and will be completed upto 31.03.2019   |
| 17.                   | Kalayyat     | PHED   | 90                | 5                    | 5          | 90% approved area completed & work in progress and will be completed upto 31.03.2019   |

| Sr. No.             | Name of town  | Deptt. | %age sewered area | % age unsewered area |            | Latest status   |
|---------------------|---------------|--------|-------------------|----------------------|------------|---|
|                     |               |        |                   | Approved             | Unapproved |   |
| 18.                 | Pundri        | PHED   | 75                | 5                    | 20         | 75% completed & work in progress and will be completed upto 30.06.2019.   |
| 19.                 | Pehowa        | PHED   | 95                | 0                    | 5          | Work completed  |
| 20.                 | Shahbad       | PHED   | 76                | 10                   | 14         | 76% approved area completed & work in progress and will be completed upto 30.06.2019  |
| 21.                 | Kurukshetra   | PHED   | 83                | 6                    | 11         | 83% approved area completed & work in progress and will be completed upto 30.06.2019  |
| 22.                 | Rajound       | PHED   |                   |                      |            | The town has been declared notified by ULB on 05.08.2013. The land for construction of STP was transferred by PW(B&R) Deptt to PHED but the land for augmentation of W/Ws is not available yet and without augmenting the W/s, it would not be feasible to lay sewer in the town. |
| <b>Sirsa Circle</b> |               |        |                   |                      |            |   |
| 23.                 | Bhuna         | PHED   | 0%                | 95%                  | 5%         | Work in progress and likely to completed 31/12/2019.  |
| 24.                 | Ellenabad     | PHED   | 85                | 5                    | 10         | Work for laying of sewer lines in approved area of the Town is in progress and likely to be completed up to 31.03.2019.   |
| 25.                 | Fatehabad     | PHED   | 80                | 10                   | 10         | Estimate for laying of sewer in balance approved area, is under preparation and work will be completed by 31.03.2020.   |
| 26.                 | Kalanawali    | PHED   | 85                | -                    | 15         | Work completed  |
| 27.                 | Mandi Dabwali | PHED   | 90                | -                    | 10         | Work completed  |
| 28.                 | Rania         | PHED   | 85                | 8                    | 7          | Work for laying of sewer lines in approved area of the Town is in progress and likely to be completed up to 30.06.2019.   |
| 29.                 | Ratia         | PHED   | 80                | 10                   | 10         | Work for laying of sewer lines in approved area of the Town is in progress and likely to be completed up to 30.06.2019.   |
| 30.                 | Sirsa         | PHED   | 90                | -                    | 10         | Work completed  |
| 31.                 | Tohana        | PHED   | 90                | 5                    | 5          | Work for laying of sewer lines in approved area of the Town is in progress and likely to be completed up to 31.03.2019.   |
| 32.                 | Jakhal        | PHED   | 10                | 90                   | -          | Estimate for laying of sewer in balance approved area, is under preparation and work will be completed by 31.03.2021.   |

**Town covered under AMRUT and where work is being executed by ULB**

| Sr. No. | Name of town | Deptt. | %age sewers area | %age un-sewered area | Action plan for laying of sewerage system in approved areas |   |
|---------|--------------|--------|------------------|----------------------|---|---|
|         |              |        |                  |                      | Approved  | Un-approved   |
| 1.      | Hisar        | PHED   | 85               | 15                   | --  | Work of balance approved area will be executed by ULB under AMRUT. The latest status shall be given by ULB. |

**10. Action Plan for STP**

The action plan for the STPs along river Ghaggar is given in the table:-

**Existing STPs**

| Sr. No. | Name of the district | Name of the town/ city             | Deptt. | Existing STP and Capacity (MLD) | Range of BOD (mg/l) achieved in 2018 |
|---------|----------------------|------------------------------------|--------|---------------------------------|--------------------------------------|
| 1       | Ambala               | Naya Gaon, Unit-I, Ambala City     | PHED   | 3.25                            | 8 - 14                               |
| 2       | Ambala               | Naya gaon, Unit-II, Ambala City    | PHED   | 3.25                            | 12                                   |
| 3       | Ambala               | Baldev Nagar, Unit-I, Ambala City  | PHED   | 5                               | 9 - 21                               |
| 4       | Ambala               | Baldev Nagar, Unit-II, Ambala City | PHED   | 3.25                            | 9 - 21                               |
| 5       | Ambala               | Moti Nagar, Unit-I, Ambala City    | PHED   | 5                               | 9 - 12                               |
| 6       | Ambala               | Moti Nagar, Unit-II, Ambala City   | PHED   | 5                               | 9 - 17                               |
| 7       | Ambala               | Modal Town, Ambala City            | PHED   | 6                               | 8 - 14                               |
| 8       | Ambala               | Nasirpur, Ambala City              | PHED   | 3.25                            | 12 - 17                              |
| 9       | Ambala               | Sadopur                            | PHED   | 0.25                            | 10 -18                               |
| 10      | Ambala               | Devi Nagar, Ambala City            | PHED   | 3.25                            | 10 -18                               |
| 11      | Ambala               | Naraingarh                         | PHED   | 3                               | 12 - 18                              |
| 12      | Kurukshetra          | Modal Town, Pehowa                 | PHED   | 8                               | 9 - 12.5                             |
| 13      | Kurukshetra          | Ladwa Road, Shahbad                | PHED   | 11.5                            | 8 - 14.5                             |
| 14      | Kurukshetra          | Indri Road, Ladwa                  | PHED   | 7                               | 8 - 16                               |
| 15      | Panchkula            | Kalka                              | PHED   | 4.5                             | 9 - 15                               |
| 16      | Panchkula            | Kalka                              | PHED   | 0.25                            | 9 - 23                               |
| 17      | Panchkula            | Nalagarh Road, Pinjore             | PHED   | 5                               | 8.5 - 18                             |
| 18      | Jind                 | Jind                               | PHED   | 15                              | 14 - 21                              |

| Sr. No. | Name of the district | Name of the town/ city                     | Deptt. | Existing STP and Capacity (MLD) | Range of BOD (mg/l) achieved in 2018 |
|---------|----------------------|--|--------|---------------------------------|--------------------------------------|
| 19      | Jind                 | Narwana                                    | PHED   | 3.5                             | 14 - 22                              |
| 20      | Jind                 | Narwana                                    | PHED   | 3.75                            | 15 - 20                              |
| 21      | Jind                 | Narwana                                    | PHED   | 2                               | 16 - 18                              |
| 22      | Jind                 | Uchana                                     | PHED   | 2                               | 18 - 24                              |
| 23      | Jind                 | Uchana                                     | PHED   | 1.5                             | 16 - 21                              |
| 24      | Jind                 | Jind                                       | PHED   | 5                               | 16 - 18                              |
| 25      | Jind                 | Safidon                                    | PHED   | 9                               | 17                                   |
| 26      | Jind                 | Julana                                     | PHED   | 4                               | 16 - 19                              |
| 27      | Kaithal              | Cheeka                                     | PHED   | 10                              | 7 - 18                               |
| 28      | Kaithal              | Jind Road, Kaithal                         | PHED   | 10                              | 9 - 19                               |
| 29      | Kaithal              | Manas Road, Kaithal                        | PHED   | 10                              | 9 - 18                               |
| 30      | Kaithal              | Manas Road, Kaithal                        | PHED   | 10                              | 10 - 18                              |
| 31      | Kaithal              | Kalayath                                   | PHED   | 5                               | 8.5 - 17                             |
| 32      | Kaithal              | Pundri                                     | PHED   | 3.5                             | 11 - 20                              |
| 33      | Hisar                | Dhani Kushal, Bhiwani Road, Hansi          | PHED   | 5                               | 12 - 16                              |
| 34      | Hisar                | Lalpura- Jind Road, Hansi                  | PHED   | 7.5                             | 8 - 14                               |
| 35      | Hisar                | Dhani Gram, Barwala                        | PHED   | 6                               | 8 - 12                               |
| 36      | Hisar                | Azad Nagar, Rajgarh Road Hisar             | PHED   | 15                              | 6 - 8                                |
| 37      | Hisar                | Rishi Nagar, Hisar                         | PHED   | 40                              | 4 - 8                                |
| 38      | Hisar                | Kamri Road, Hisar                          | PHED   | 4                               | Under Trial                          |
| 39      | Hisar                | Uklana                                     | PHED   | 6.5                             | 9 - 14                               |
| 40      | Sirsa                | Chautala Road, Dabwali                     | PHED   | 16.5                            | 6 - 36                               |
| 41      | Sirsa                | Shamsabad patti, Kalania Road, Sirsa       | PHED   | 15                              | 6 - 16                               |
| 42      | Sirsa                | Vill. Nattar 1, Sirsa                      | PHED   | 5                               | 6 - 18                               |
| 43      | Sirsa                | Vill. Nattar 2, Sirsa                      | PHED   | 5                               | 10 - 14                              |
| 44      | Sirsa                | Daddu Road, Kalanwali                      | PHED   | 9.5                             | 8 - 10                               |
| 45      | Sirsa                | Ellenabad                                  | PHED   | 7.5                             | 8 - 16                               |
| 46      | Sirsa                | Rania                                      | PHED   | 6                               | 6                                    |
| 47      | Fatehabad            | Vill. Bhodia Khera, Bhattu Road, Fatehabad | PHED   | 10                              | 12 - 18                              |
| 48      | Fatehabad            | Vill.Amani, Tohana, Distt. Fatehabad       | PHED   | 10                              | 12 - 16                              |
| 49      | Fatehabad            | Ratia                                      | PHED   | 6.5                             | 10 -16                               |

| Sr. No. | Name of the district | Name of the town/ city           | Deptt. | Existing STP and Capacity (MLD) | Range of BOD (mg/l) achieved in 2018 |
|---------|----------------------|----------------------------------|--------|---------------------------------|--------------------------------------|
|         | <b>HSVP</b>          |                                  |        | <b>342.6</b>                    |                                      |
| 1       | Ambala               | Sec-7, Urban Estate, Ambala City | HSVP   | 2                               | 12                                   |
| 2       | Panchkula            | Sec-20, Panchkula                | HSVP   | 18                              | 7 - 12                               |
| 3       | Panchkula            | Sec-20, Panchkula                | HSVP   | 39                              | 9 - 10                               |
| 4       | Panchkula            | Sec-28, Panchkula                | HSVP   | 15                              | 9 - 15                               |
| 5       | Jind                 | Jind                             | HSVP   | 10                              | 10 - 17                              |
| 6       | Kaithal              | Kaithal                          | HSVP   | 7.5                             | 9 - 19                               |
| 7       | Hisar                | Dabara Tosham Road, Hisar        | HSVP   | 15                              | 6 - 9                                |
| 8       | Fatehbad             | Village Majra                    | HSVP   | 10                              | 5 - 6                                |

### STPs under construction

| Sr. No | Name of the district | Name of the town/city            | Deptt. | capacity (MLD) | Date of Completion of construction |
|--------|----------------------|----------------------------------|--------|----------------|------------------------------------|
|        | <b>PHED</b>          |                                  |        |                |                                    |
| 1      | Kurukshetra          | Thanesar                         | PHED   | 25             | 31.3.2019                          |
| 2      | Hisar                | Narnaund                         | PHED   | 4              | 31.05.2018                         |
| 3      | Hisar                | Hansi                            | PHED   | 6.5            | 31.12.2018                         |
| 4      | Fatehabad            | Fatehabad                        | PHED   | 5              | 31.10.2018                         |
| 5      | Ambala               | Barara                           | PHED   | 4              | 30.06.2019                         |
| 6      | Jind                 | Jind                             | PHED   | 5              | 30.06.2019                         |
|        | <b>HUDA</b>          |                                  |        |                |                                    |
| 1      | Kurukshetra          | Sec-6, Urban Estate, Thanesar    | HUDA   | 15             | 31.12.2020                         |
| 2      | Ambala               | Sec-21 Urban Estate, Ambala City | HUDA   | 5              | 30.04.2019                         |
|        |                      |                                  |        | <b>20</b>      |                                    |
|        | <b>ULBD</b>          |                                  |        |                |                                    |
| 1      | Ambala Cantt         | 12 Cross Road                    | ULB    | 12             | November, 2019                     |
| 2      | Ambala Cantt         | Village Nagal                    | ULB    | 12             | November, 2019                     |
| 3      | Panchkula            | Khagesara & Taka                 | ULB    | 0.5            | December, 2019                     |
| 4      | Panchkula            | Nangal & Allipur                 | ULB    | 0.5            | December, 2019                     |
| 5      | Panchkula            | Khatoli                          | ULB    | 0.75           | December, 2019                     |
| 6      | Panchkula            | Kot                              | ULB    | 0.75           | December, 2019                     |
| 7      | Panchkula            | Billa                            | ULB    | 0.75           | December, 2019                     |
| 8      | Panchkula            | Sukhdarshanapur                  | ULB    | 0.75           | December, 2019                     |
| 9      | Panchkula            | Ramgarh                          | ULB    | 1              | December, 2019                     |
| 10     | Panchkula            | Tipra (Khanguwala)               | ULB    | 1              | December, 2019                     |

|    |           |               |     |             |                |
|----|-----------|---------------|-----|-------------|----------------|
| 11 | Panchkula | Saketri       | ULB | 1.5         | December, 2019 |
| 12 | Hisar     | Village Dabra | ULB | 8           |                |
|    |           |               |     | <b>39.5</b> |                |

#### Status of Under Proposal STPs

| Sr. No. | Name of the district | Name of the town/city    | Deptt. | Capacity (MLD) | Date of Start of construction and completion |
|---------|----------------------|--------------------------|--------|----------------|--|
|         | <b>HSVP</b>          |                          |        |                |  |
| 1       | Ambala               | Sector-32, Ambala City   | HSVP   | 5              | 31.12.2021                                   |
| 2       | Ambala               | Naraingarh               | HSVP   | 1              | 30.09.2022                                   |
| 3       | Panchkula            | Pinjore                  | HSVP   | 8              | 30.4.2023                                    |
| 4       | Jind                 | Jind                     | HSVP   | 5              | 30.06.2023                                   |
| 5       | Hisar                | Hansi                    | HSVP   | 5              | 30.06.2025                                   |
| 6       | Hisar                | Hisar                    | HSVP   | 10             | 31.3.2024                                    |
| 7       | Hisar                | Hisar                    | HSVP   | 5              | 30.06.2024                                   |
| 8       | Sirsa                | Sirsa                    | HSVP   | 7.5            | 30.06.2023                                   |
|         | <b>ULBD</b>          |                          |        |                |  |
| 1       | Ambala               | village Babyal           | ULB    | 10             |  |
| 2       | Ambala               | Sector-32, 33, 34 Ambala | ULB    | 5              |  |

#### Monitoring of STPs / Compliance status

| <b>Monitoring of STP</b> |   |            |            |           |            |                         |                |
|--------------------------|---|------------|------------|-----------|------------|-------------------------|----------------|
| 1                        | <b>3.25 MLD STP Naya Gaon, Unit-I, Ambala City by PHED in January, 2011</b> |            |            |           |            |                         |                |
|                          | <b>Report No. &amp; date</b>  | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|                          | 4357 dt. 18.03.2013   | 13         | 61.6       | 8.1       | 41         | ND                      | Complying      |
|                          | 4762 dt. 03.06.2013   | 8.5        | 44         | 7.86      | 9          | ND                      | Complying      |
|                          | 5326 dt. 16.09.2013   | 19.2       | 74         | 6.79      | 21         | ND                      | Complying      |
|                          | 5605 dt. 29.11.2013   | 17.2       | 69.2       | 7.85      | 19         | ND                      | Complying      |
|                          | 6198 dt. 14.03.2014   | 19.2       | 74.4       | 7.69      | 21         | ND                      | Complying      |
|                          | 6675 dt. 25.06.2014   | 20.5       | 74         | 7.84      | 26         | ND                      | Complying      |
|                          | 7202 dt. 24.09.2014   | 19         | 70         | 7.89      | 28         | 2.5                     | Complying      |
|                          | 7571 dt. 24.11.2014   | 21.4       | 77.6       | 7.46      | 11         | 2                       | Complying      |
|                          | 612 dt. 27.07.2015  | 19.5       | 74         | 7.21      | 24         | 2                       | Complying      |
|                          | 1250 dt. 17.11.2015   | 14.4       | 59.6       | 8.83      | 32         | 2                       | Complying      |
|                          | 2000 dt. 01.06.2016   | 23.8       | 118.4      | 7.02      | 21         | 2                       | Complying      |
|                          | 2107 dt. 30.06.2016   | 15.2       | 53.2       | 7.13      | 10         | ND                      | Complying      |
|                          | 2510 dt. 29.11.2016   | 12         | 38         | 7.36      | 10         | ND                      | Complying      |

|          |   |            |            |           |            |                         |                |
|----------|---|------------|------------|-----------|------------|-------------------------|----------------|
|          | 2875 dt. 21.03.2017   | 14         | 42         | 7.40      | 68         | ND                      | Complying      |
|          | 3379 dt. 08.08.2017   | 11         | 54         | 7.08      | 8          | ND                      | Complying      |
|          | 3798 dt. 10.11.2017   | 16         | 62.4       | 7         | 12         | ND                      | Complying      |
|          | 4074 dt. 30.01.2018   | 10         | 36.4       | 7.52      | 22         | ND                      | Complying      |
|          | 4566 dt. 03.05.2018   | 8          | 48.8       | 7.31      | 11         | ND                      | Complying      |
|          | 4673 dt. 18.05.2018   | 12         | 57.6       | 7.36      | 15         | ND                      | Complying      |
|          | 4958 dt. 09.08.2018   | 14         | 49.2       | 7.59      | 13         | ND                      | Complying      |
|          | 5250, 26.10.2018  | 10         | 44         | 7.16      | 7          | ND                      | Complying      |
| <b>2</b> | <b>3.25 MLD STP Naya Gaon, Unit-II Ambala City by PHED in 1.4.2016</b>        |            |            |           |            |                         |                |
|          | <b>Report No. &amp; date</b>  | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|          | 2472 dt. 15.11.2016   | 9          | 38         | 7.18      | 9          | ND                      | Complying      |
|          | 2876 dt. 21.03.2017   | 12         | 38.8       | 7.28      | 71         | ND                      | Complying      |
|          | 3380 dt. 08.08.2017   | 15         | 62.8       | 7.02      | 8          | 2                       | Complying      |
|          | 3800 dt. 10.11.2017   | 10         | 61.2       | 6.7       | 19         | 2                       | Complying      |
|          | 4073 dt. 30.01.2018   | 12         | 37.2       | 7.23      | 20         | ND                      | Complying      |
|          | 4567 dt. 03.05.2018   | 11         | 39.6       | 7.34      | 10         | ND                      | Complying      |
|          | 4674 dt. 18.05.2018   | 16         | 52.4       | 7.11      | 23         | ND                      | Complying      |
|          | 4959, 09.08.2018  | 9          | 38.4       | 7.39      | 14         | ND                      | Complying      |
|          | 5251, 26.10.2018  | 14         | 58         | 7.11      | 13         | ND                      | Complying      |
| <b>3</b> | <b>2 MLD STP Sec-7, Urban Estate, Ambala City Ambala by HUDA in 10.9.2015</b> |            |            |           |            |                         |                |
|          | <b>Report No. &amp; date</b>  | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|          | 2474 dt. 15.11.2016   | 7.5        | 30         | 7.01      | 7          | ND                      | Complying      |
|          | 2886 dt. 21.3.2017  | 15         | 51.6       | 7.49      | 23         | 2                       | Complying      |
|          | 3495 dt. 14.09.2017   | 9          | 34.8       | 6.98      | 22         | ND                      | Complying      |
|          | 3799 dt. 10.11.2017   | 13         | 64.4       | 6.84      | 16         | ND                      | Complying      |
|          | 4072 dt. 30.01.2018   | 12         | 39.6       | 8.36      | 19         | ND                      | Complying      |
|          | 4571 dt. 03.05.2018   | 12         | 47.2       | 7.38      | 15         | ND                      | Complying      |
|          | 4966 dt. 09.08.2018   | 12         | 50         | 7.46      | 15         | ND                      | Complying      |
| <b>4</b> | <b>5 MLD Baldev Nagar, Unit-I, Ambala City by PHED 1.12.2012</b>              |            |            |           |            |                         |                |
|          | <b>Report No. &amp; date</b>  | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|          | 4358 dt.18.03.2013  | 20.4       | 97.6       | 7.3       | 21         | 2                       | Complying      |
|          | 4760 dt.03.6.2013   | 14.8       | 54.4       | 7.37      | 15         | 2                       | Complying      |
|          | 5328 dt. 16.09.2013   | 14.4       | 72.8       | 7.84      | 18         | ND                      | Complying      |
|          | 5603 dt. 29.11.2013   | 17         | 58.8       | 7.64      | 15         | ND                      | Complying      |
|          | 6196 dt. 14.03.2014   | 17.2       | 81.6       | 7.7       | 30         | ND                      | Complying      |
|          | 6672dt. 25.06.2014  | 22         | 82         | 8.35      | 27         | 2                       | Complying      |
|          | 7206 dt.24.09.2014  | 17.4       | 63.2       | 7.79      | 21         | 2                       | Complying      |
|          | 7569 dt.24.11.2014  | 22         | 79.2       | 7.49      | 16         | 2                       | Complying      |
|          | 919 dt. 07.09.2015  | 18         | 73.2       | 7.63      | 22         | 2                       | Complying      |

|          |  |            |            |           |            |                         |                |
|----------|--|------------|------------|-----------|------------|-------------------------|----------------|
|          | 1248 dt. 17.11.2015  | 12         | 59.2       | 8.57      | 24         | 2                       | Complying      |
|          | 2003 dt. 01.06.2016  | 14.2       | 88         | 7.49      | 8          | ND                      | Complying      |
|          | 2215 dt. 29.11.2016  | 14.6       | 49.2       | 7.5       | 9          | ND                      | Complying      |
|          | 2866 dt.21.03.2017   | 14         | 48         | 7.34      | 15         | ND                      | Complying      |
|          | 3371 dt.08.08.2017   | 13         | 58         | 6.96      | 10         | ND                      | Complying      |
|          | 3805 dt. 10.11.2017  | 12         | 58         | 6.74      | 32         | ND                      | Complying      |
|          | 4078 dt. 30.01.2018  | 11         | 38.4       | 8.4       | 10         | ND                      | Complying      |
|          | 4568 dt. 03.05.2018  | 19         | 102.8      | 7.5       | 15         | ND                      | Complying      |
|          | 4668 dt. 18.05.2018  | 52         | 180.8      | 7.6       | 22         | 4.5                     | Non Complying  |
|          | 4761 dt. 19.06.2018  | 21         | 129.6      | 7.61      | 31         | 2.5                     | Complying      |
|          | 4965 dt. 09.08.2018  | 15         | 67.2       | 7.62      | 12         | ND                      | Complying      |
|          | 5253, 26.10.2018   | 9          | 42         | 7.17      | 9          | ND                      | Complying      |
| <b>5</b> | <b>3.25 Baldev Nagar, Unit-II, Ambala City by PHED in 1.4.2016</b> |            |            |           |            |                         |                |
|          | <b>Report No. &amp; date</b>                                       | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|          | 2473 dt. 15.11.2016  | 14         | 68         | 7.17      | 8          | 2                       | Complying      |
|          | 2867 dt. 21.03.2017  | 12         | 42.8       | 7.72      | 9          | ND                      | Complying      |
|          | 3373 dt. 08.08.2017  | 10         | 49.6       | 6.95      | 14         | ND                      | Complying      |
|          | 3806 dt. 10.11.2017  | 18         | 75.2       | 6.83      | 24         | 2.5                     | Complying      |
|          | 4079 dt. 30.01.2018  | 12         | 39.2       | 7.26      | 33         | ND                      | Complying      |
|          | 4569 dt. 03.05.2018  | 21         | 107.6      | 7.54      | 39         | ND                      | Complying      |
|          | 4669 dt. 18.05.2018  | 56         | 200.4      | 7.71      | 32         | 8                       | Non Complying  |
|          | 4760 dt. 19.06.2018  | 20         | 105        | 7.35      | 72         | 2                       | Complying      |
|          | 4964, 09.08.2018   | 14         | 51.2       | 7.63      | 14         | ND                      | Complying      |
|          | 5252, 26.10.2018   | 9          | 39.6       | 7.12      | 8          | ND                      | Complying      |
| <b>6</b> | <b>5 MLD Moti Nagar, Unit-I, Ambala City by PHED in June 2010</b>  |            |            |           |            |                         |                |
|          | <b>Report No. &amp; date</b>                                       | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|          | 4464 dt. 26.03.2013  | 16.8       | 81.6       | 7.88      | 21         | ND                      | Complying      |
|          | 5325 dt. 16.09.2013  | 19         | 60.8       | 7.66      | 19         | ND                      | Complying      |
|          | 5606 dt. 29.11.2013  | 19.4       | 77.6       | 7.78      | 16         | ND                      | Complying      |
|          | 6199 dt.14.03.2014   | 18.4       | 70.4       | 7.57      | 18         | ND                      | Complying      |
|          | 6674 dt. 25.06.2014  | 19.2       | 73.2       | 7.94      | 27         | ND                      | Complying      |
|          | 420 dt.22.06.2015  | 21         | 76         | 7.49      | 22         | 2                       | Complying      |
|          | 1249 dt. 17.11.2015  | 11.6       | 52         | 8.48      | 13         | ND                      | Complying      |
|          | 1999 dt. 01.06.2016  | 14.2       | 52         | 7.17      | 12         | ND                      | Complying      |
|          | 2108 dt. 30.06.2016  | 13.2       | 42.8       | 7.54      | 11         | ND                      | Complying      |
|          | 2512 dt. 29.11.2016  | 9.2        | 32         | 7.35      | 9          | ND                      | Complying      |
|          | 2869 dt. 21.03.2017  | 12         | 44.8       | 7.27      | 10         | ND                      | Complying      |
|          | 3381 dt. 08.08.2017  | 10         | 49.6       | 7         | 12         | ND                      | Complying      |
|          | 3802 dt. 10.11.2017  | 9          | 40.8       | 7.1       | 11         | ND                      | Complying      |

|          |  |            |            |           |            |                         |                |
|----------|--|------------|------------|-----------|------------|-------------------------|----------------|
|          | 4077 dt. 30.01.2018  | 9          | 35.2       | 8.2       | 11         | ND                      | Complying      |
|          | 4563 dt. 03.05.2018  | 10         | 43.2       | 7.31      | 18         | ND                      | Complying      |
|          | 4671 dt. 18.05.2018  | 12         | 46         | 7.21      | 14         | ND                      | Complying      |
|          | 4960 dt. 09.08.2018  | 11         | 35.6       | 7.82      | 13         | ND                      | Complying      |
|          | 5249, 26.10.2018   | 11         | 45.6       | 7.14      | 9          | ND                      | Complying      |
| <b>7</b> | <b>5 MLD STP Moti Nagar, Unit-II, Ambala City by PHED Ambala in 1.8.2016</b> |            |            |           |            |                         |                |
|          | <b>Report No. &amp; date</b>   | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|          | 2475 dt.15.11.2016   | 11         | 42         | 7.03      | 7          | ND                      | Complying      |
|          | 2870 dt. 21.03.2017  | 16         | 54.8       | 7.22      | 11         | ND                      | Complying      |
|          | 3377 dt. 08.08.2017  | 10         | 57.2       | 7.01      | 9          | ND                      | Complying      |
|          | 3803 dt. 10.11.2017  | 13         | 49.2       | 6.75      | 9          | ND                      | Complying      |
|          | 4076 dt. 30.01.2018  | 13         | 36         | 7.64      | 32         | ND                      | Complying      |
|          | 4565 dt. 03.05.2018  | 9          | 39.6       | 7.34      | 13         | ND                      | Complying      |
|          | 4672 dt. 18.05.2018  | 13         | 47.6       | 7.24      | 12         | ND                      | Complying      |
|          | 4961, 09.08.2018   | 17         | 59.6       | 7.41      | 10         | ND                      | Complying      |
|          | 5248, 26.10.2018   | 15         | 59.2       | 7.08      | 10         | ND                      | Complying      |
| <b>8</b> | <b>6 MLD STP Modal Town, Ambala City by PHED in 1.7.2012</b>                 |            |            |           |            |                         |                |
|          | <b>Report No. &amp; date</b>   | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|          | 4359 dt. 18.03.2013  | 19         | 81.6       | 7.22      | 21         | ND                      | Complying      |
|          | 5167 dt. 02.08.2013  | 18.6       | 85.6       | 7.47      | 23         | 2                       | Complying      |
|          | 5327 dt. 16.09.2013  | 14.6       | 59.2       | 7.79      | 17         | ND                      | Complying      |
|          | 5604 dt. 29.11.2013  | 21.4       | 82         | 7.67      | 27         | ND                      | Complying      |
|          | 6197 dt.14.03.2014   | 26         | 100.8      | 8.01      | 32         | 2                       | Complying      |
|          | 6673 dt. 25.06.2014  | 24         | 93.2       | 8.12      | 28         | ND                      | Complying      |
|          | 7203 dt. 24.09.2014  | 16.8       | 67.2       | 7.62      | 22         | 2                       | Complying      |
|          | 7570 dt. 24.11.2014  | 17         | 68         | 6.57      | 12         | ND                      | Complying      |
|          | 353 dt. 15.06.2015   | 17.2       | 55.2       | 7.8       | 26         | 2                       | Complying      |
|          | 1251 dt. 17.11.2015  | 13.8       | 49.2       | 7.85      | 23         | ND                      | Complying      |
|          | 1998 dt. 01.06.2016  | 18.2       | 72.8       | 7.21      | 14         | ND                      | Complying      |
|          | 2513 dt. 29.11.2016  | 11.8       | 42         | 7.42      | 8          | ND                      | Complying      |
|          | 2872 dt. 21.03.2017  | 8          | 30         | 7.59      | 8          | ND                      | Complying      |
|          | 3378 dt. 08.08.2017  | 12         | 55.6       | 7.05      | 10         | ND                      | Complying      |
|          | 3808 dt. 10.11.2017  | 11         | 39.6       | 7.51      | 17         | ND                      | Complying      |
|          | 4071 dt. 30.01.2018  | 8          | 47.2       | 7.18      | 24         | ND                      | Complying      |
|          | 4572 dt. 03.05.2018  | 13         | 48.8       | 7.55      | 17         | ND                      | Complying      |
|          | 4670 dt. 18.05.2018  | 14         | 48.8       | 7.41      | 27         | 3                       | Complying      |
|          | 4963 dt. 09.08.2018  | 14         | 59.6       | 7.66      | 12         | ND                      | Complying      |
|          | 5246, 26.10.2018   | 11         | 66         | 7.14      | 8          | ND                      | Complying      |

| <b>9</b>  | <b>3.25 Nasirpur Ambala City by PHED in 31.9.2016</b>        |            |            |           |            |                         |                |
|-----------|--|------------|------------|-----------|------------|-------------------------|----------------|
|           | <b>Report No. &amp; date</b>                                 | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 2868 dt. 21.03.2017  | 10         | 39.2       | 7         | 8          | ND                      | Complying      |
|           | 3370 dt. 08.08.2017  | 12         | 52         | 6.87      | 8          | ND                      | Complying      |
|           | 3804 dt. 10.11.2017  | 15         | 57.6       | 6.43      | 28         | 2                       | Complying      |
|           | 4080 dt. 30.01.2018  | 15         | 57.6       | 7.44      | 36         | 2                       | Complying      |
|           | 4563 dt. 30.05.2018  | 16         | 59.2       | 7.61      | 32         | ND                      | Complying      |
|           | 4675 dt. 18.05.2018  | 17         | 56.8       | 7.79      | 34         | 2                       | Complying      |
|           | 4969 dt. 09.08.2018  | 13         | 46.8       | 7.55      | 11         | ND                      | Complying      |
|           | 5247, 26.10.2018   | 12         | 57.6       | 7.16      | 11         | ND                      | Complying      |
| <b>10</b> | <b>0.25 MLD Sadopur, Ambala PHED in 31.12.2016</b>           |            |            |           |            |                         |                |
|           | <b>Report No. &amp; date</b>                                 | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 3382 dt. 08.08.2017  | 12         | 58         | 6.98      | 13         | ND                      | Complying      |
|           | 3807 dt. 10.11.2017  | 13         | 57.2       | 7.59      | 19         | ND                      | Complying      |
|           | 4092 dt. 07.02.2018  | 13         | 52.8       | 7.67      | 15         | 2                       | Complying      |
|           | 4570 dt. 03.05.2018  | 15         | 53.2       | 7.63      | 14         | ND                      | Complying      |
|           | 4677dt.18.05.2018  | 18         | 58.8       | 7.58      | 12         | 2                       | Complying      |
|           | 4968 dt. 09.08.2018  | 10         | 42.8       | 7.68      | 11         | ND                      | Complying      |
|           | 5244, 26.10.2018   | 10         | 38.4       | 7.13      | 12         | ND                      | Complying      |
| <b>11</b> | <b>3.25 MLD Devi Nagar, Ambala City by PHED on 31.5.2013</b> |            |            |           |            |                         |                |
|           | <b>Report No. &amp; date</b>                                 | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 6721 dt. 30.06.2014  | 14.2       | 72.8       | 7.93      | 13         | ND                      | Complying      |
|           | 7205 dt.24.09.2014   | 18         | 69.2       | 7.72      | 15         | 2.5                     | Complying      |
|           | 7573 dt. 24.11.2014  | 23         | 97.6       | 7.88      | 46         | 2.5                     | Complying      |
|           | 561 dt. 22.07.2015   | 15.4       | 68         | 7.3       | 20         | ND                      | Complying      |
|           | 1278 dt.18.11.2015   | 23         | 102        | 8.02      | 26         | 2.5                     | Complying      |
|           | 2001 dt. 01.06.2016  | 17.6       | 74.4       | 7.64      | 10         | 2                       | Complying      |
|           | 2514 dt. 29.11.2016  | 13.2       | 44         | 7.6       | 8          | ND                      | Complying      |
|           | 2871 dt. 21.03.2017  | 8          | 32         | 7.27      | 9          | ND                      | Complying      |
|           | 3375 dt. 08.08.2017  | 14         | 65.2       | 6.98      | 11         | ND                      | Complying      |
|           | 3801 dt. 10.11.2017  | 13         | 44         | 6.89      | 26         | ND                      | Complying      |
|           | 4070 dt. 30.01.2018  | 10         | 30.8       | 7.59      | 15         | ND                      | Complying      |
|           | 4573 dt. 03.05.2018  | 12         | 44.8       | 7.68      | 9          | ND                      | Complying      |
|           | 4676 dt.18.05.2018   | 64         | 185        | 7.58      | 38         | 4.5                     | Non Complying  |
|           | 4762 dt.19.06.2018   | 18         | 102.4      | 7.45      | 60         | 2                       | Complying      |
|           | 4962 dt. 09.08.2018  | 18         | 66.4       | 7.5       | 12         | ND                      | Complying      |
|           | 5245, 26.10.2018   | 10         | 38         | 7.15      | 9          | ND                      | Complying      |
| <b>12</b> | <b>3 MLD STP Nariangarh, Ambala by PHED in 1.7.2014</b>      |            |            |           |            |                         |                |
|           | <b>Report No. &amp; date</b>                                 | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 7201 dt. 24.09.2014  | 17         | 63         | 7.73      | 26         | ND                      | Complying      |

|           |  |            |            |           |            |                         |                |
|-----------|--|------------|------------|-----------|------------|-------------------------|----------------|
|           | 7608 dt. 25.11.2014  | 25         | 122.4      | 7.35      | 54         | 2.5                     | Complying      |
|           | 425 dt. 23.06.2015   | 21         | 80         | 7.37      | 26         | 2                       | Complying      |
|           | 1277 dt. 18.11.2015  | 17         | 62         | 7.83      | 41         | 2                       | Complying      |
|           | 1961 dt. 10.05.2016  | 22.6       | 109.6      | 7.41      | 30         | ND                      | Complying      |
|           | 2004 dt. 01.06.2016  | 17         | 89.6       | 6.98      | 12         | 2                       | Complying      |
|           | 2511 dt. 29.11.2016  | 10.5       | 34         | 7.55      | 12         | ND                      | Complying      |
|           | 2898 dt. 31.03.2017  | 20         | 69.2       | 7.65      | 15         | 2                       | Complying      |
|           | 3387 dt. 08.08.2017  | 18         | 61.6       | 7         | 13         | 2                       | Complying      |
|           | 3797 dt. 10.11.2017  | 18         | 78.8       | 6.86      | 57         | 2.5                     | Complying      |
|           | 4075 dt. 30.01.2018  | 14         | 44.8       | 7.85      | 21         | ND                      | Complying      |
|           | 4574 dt. 03.05.2018  | 18         | 88.4       | 7.46      | 58         | ND                      | Complying      |
|           | 4957 dt. 09.08.2018  | 12         | 39.6       | 7.63      | 35         | ND                      | Complying      |
|           | 5293, 12.11.2018   | 12         | 42         | 6.58      | 14         | ND                      | Complying      |
| <b>13</b> | <b>8 MLD STP Model Town, Pehowa Kurukshetra by PHED in May, 2015</b>     |            |            |           |            |                         |                |
|           | <b>Report No. &amp; date</b>   | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 1320 dt. 27.11.2015  | 18.6       | 81.2       | 7.9       | 22         | ND                      | Complying      |
|           | 1996 dt. 01.06.2016  | 23.2       | 102.4      | 6.84      | 20         | 2.5                     | Complying      |
|           | 2690 dt. 24.1.2017   | 16         | 68         | 7.55      | 23         | 2                       | Complying      |
|           | 2938 dt. 12.04.2017  | 16         | 77.2       | 7.57      | 15         | 2                       | Complying      |
|           | 3374 dt. 08.08.2017  | 14         | 60         | 6.99      | 12         | 2                       | Complying      |
|           | 3720 dt. 31.10.2017  | 67.5       | 278.5      | 6.81      | 114        | 14                      | Non complying  |
|           | 3996 dt. 16.01.2018  | 9          | 42         | 7.51      | 32         | ND                      | Complying      |
|           | 4557 dt. 04.05.2018  | 12.5       | 48.2       | 7.73      | 14         | ND                      | Complying      |
|           | 4906 dt. 01.08.2018  | 11.5       | 43.6       | 7.63      | 13         | ND                      | Complying      |
|           | 5254, 31.10.2018   | 9          | 38         | 7.29      | 8          | ND                      | Complying      |
| <b>14</b> | <b>11.5 MLD STP Ladwa Road, Shahbad Kurukshetra by PHED in May, 2016</b> |            |            |           |            |                         |                |
|           | <b>Report No. &amp; date</b>   | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 2265 dt. 31.08.2016  | 17.2       | 70.4       | 6.68      | 22         | ND                      | Complying      |
|           | 2476 dt. 15.11.2016  | 16         | 74         | 7.25      | 15         | 2                       | Complying      |
|           | 2937 dt. 12.04.2017  | 19         | 89.2       | 7.64      | 14         | 3                       | Complying      |
|           | 3372 dt. 08.08.2017  | 8.5        | 42         | 7.27      | 15         | ND                      | Complying      |
|           | 3783 dt. 08.11.2017  | 9          | 54         | 7.39      | 18         | ND                      | Complying      |
|           | 3995 dt. 16.01.2018  | 8          | 48         | 7.83      | 9          | ND                      | Complying      |
|           | 4578 dt. 04.05.2018  | 11         | 48.8       | 8.03      | 12         | ND                      | Complying      |

|           |  |            |            |           |            |                         |                |
|-----------|--|------------|------------|-----------|------------|-------------------------|----------------|
|           | 4908 dt. 01.08.2018                                      | 14.5       | 44         | 7.39      | 12         | ND                      | Complying      |
|           | 5255, 31.10.2018   | 11         | 44.8       | 6.46      | 10         | ND                      | Complying      |
| <b>15</b> | <b>7 MLD STP Ladwa Kurukshetra by PHED in 31.10.2016</b> |            |            |           |            |                         |                |
|           | <b>Report No. &amp; date</b>                             | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 3376 dt. 08.08.2017                                      | 17         | 72         | 7.1       | 16         | 2.5                     | Complying      |
|           | 3782, dt. 08.11.2017                                     | 20         | 98         | 7         | 30         | 2.5                     | Complying      |
|           | 3994 dt. 16.01.2018                                      | 8          | 37.2       | 7.55      | 18         | ND                      | Complying      |
|           | 4576. dt. 04.05.2018                                     | 15         | 57.2       | 8.02      | 13         | ND                      | Complying      |
|           | 4907 dt. 01.08.2018                                      | 16         | 52         | 7.97      | 12         | ND                      | Complying      |
|           | 5256, 31.10.2018   | 10         | 42.8       | 7.21      | 8          | ND                      | Complying      |
| <b>16</b> | <b>18 MLD STP Panchkula by HUDA in 31.12.2002</b>        |            |            |           |            |                         |                |
|           | <b>Report No. &amp; date</b>                             | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 2813, 14.03.2017   | 14         | 56.4       | 7.47      | 17         | ND                      | Complying      |
|           | 3383, 08.08.2017   | 15         | 54         | 6.87      | 7          | ND                      | Complying      |
|           | 3781, 08.11.2017   | 10         | 44         | 7.24      | 13         | ND                      | Complying      |
|           | 4002 dt. 17.01.2018                                      | 12         | 56.8       | 7.53      | 22         | ND                      | Complying      |
|           | 4512 dt. 26.04.2018                                      | 8          | 36         | 7.49      | 10         | ND                      | Complying      |
|           | 4866 dt. 18.07.2018                                      | 9          | 40.4       | 7.62      | 42         | 2.5                     | Complying      |
|           | 5277, 05.11.2018( 18 MLD)                                | 7          | 34         | 6.86      | 18         | ND                      | Complying      |
| <b>17</b> | <b>39 MLD STP Panchkula by HUDA in Nov. 2011</b>         |            |            |           |            |                         |                |
|           | <b>Report No. &amp; date</b>                             | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 1408 dt. 31.10.2003                                      | 25.5       | 123.2      | 7.24      | 84         | 1                       | Complying      |
|           | 2773 dt. 02.05.2005                                      | 80         | 256        | 8.14      | 122        | 3                       | Non complying  |
|           | 2888 dt. 07.09.2005                                      | 40         | 140        | 8.39      | 86         | 3                       | Non complying  |
|           | 3584 dt. 16.10.2006                                      | 64         | 170        | 7.71      | 38         | 3.5                     | Non complying  |
|           | 6694 dt. 17.07.2008                                      | 44.8       | 119.5      | -         | -          | 2.5                     | Non complying  |
|           | 6937 dt. 25.09.2008                                      | 24         | 86         | 7.8       | 36         | 2                       | Complying      |
|           | 7026 dt. 22.10.2008                                      | 53.5       | 136        | 7.92      | 27         | 3.5                     | Non complying  |
|           | 7202 dt. 07.01.2009                                      | 34.35      | 112        | 7.87      | 77         | ND                      | Non complying  |
|           | 6 dt. 15.04.2009   | 47.25      | 152        | 7.48      | 57         | 4                       | Non complying  |
|           | 109 dt. 25.05.2009                                       | 24.3       | 102        | 7.85      | 51         | 2                       | Complying      |
|           | 2356 dt. 03.08.2011                                      | 45         | 172.8      | 7.88      | 48         | 3                       | Non complying  |
|           | 3318 dt. 02.07.2012                                      | 24.8       | 112.8      | 7.98      | 74         | 2                       | Complying      |
|           | 4416 dt. 21.03.2013                                      | 16.8       | 81.6       | 7.09      | 20         | 2                       | Complying      |
|           | 5601 dt. 29.11.2013                                      | 16.8       | 76.68      | 7.79      | 16         | ND                      | Complying      |
|           | 6678 dt.25.06.2014                                       | 21         | 93.2       | 7.68      | 17         | 2                       | Complying      |
|           | 7556 dt. 21.11.2014                                      | 17.4       | 50.4       | 7.95      | 19         | 2                       | Complying      |
|           | 1023 dt. 29.9.2015                                       | 14.5       | 71.2       | 7.23      | 19         | ND                      | Complying      |

|           |   |            |            |           |            |                         |                |
|-----------|---|------------|------------|-----------|------------|-------------------------|----------------|
|           | 1254 dt. 17.11.2015                                 | 14.6       | 64         | 8         | 40         | ND                      | Complying      |
|           | 1579 dt. 01.01.2016                                 | 17         | 64.8       | 7.97      | 37         |                         | Complying      |
|           | 2008 dt. 01.06.2016                                 | 8.4        | 40.8       | 7.39      | 7          | 2                       | Complying      |
|           | 2490 dt. 24.11.2016                                 | 15         | 49.6       | 7.39      | 15         | ND                      | Complying      |
|           | 2813 dt. 14.03.2017                                 | 14         | 56.4       | 7.47      | 17         | ND                      | Complying      |
|           | 3383 dt. 08.08.2017                                 | 15         | 54         | 6.87      | 7          | ND                      | Complying      |
|           | 3781 dt.08.11.2017                                  | 10         | 44         | 7.24      | 13         | ND                      | Complying      |
|           | 4002 dt. 17.01.2018                                 | 9          | 46.8       | 7.35      | 11         | ND                      | Complying      |
|           | 4511 dt. 26.04.2018                                 | 9          | 38.8       | 7.84      | 9          | ND                      | Complying      |
|           | 4865 dt. 18.07.2018                                 | 10         | 60.4       | 7.87      | 25         | ND                      | Complying      |
|           | 5275, 05.11.2018( 39 MLD)                           | 10         | 47.2       | 6.83      | 14         | ND                      | Complying      |
| <b>18</b> | <b>15 MLD STP Panchkula by HUDA in 2012</b>         |            |            |           |            |                         |                |
|           | <b>Report No. &amp; date</b>                        | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 3331 dt. 03.07.2012                                 | 21.6       | 115.2      | 7.76      | 19         | 2                       | Complying      |
|           | 4417 dt. 21.03.2013                                 | 15         | 61.6       | 8.06      | 14         | ND                      | Complying      |
|           | 4692 dt.14.05.2013                                  | 1.4        | 10         | 7.73      | 8          | ND                      | Complying      |
|           | 5310 dt. 10.09.2013                                 | 17.2       | 72         | 6.64      | 23         | 2                       | Complying      |
|           | 5602 dt. 29.11.2013                                 | 14         | 65.2       | 7.54      | 12         | ND                      | Complying      |
|           | 6043 dt. 03.02.2014                                 | 14.8       | 64.8       | 8.5       | 17         | ND                      | Complying      |
|           | 6202 dt. 14.03.2014                                 | 17.4       | 68.8       | 7.89      | 16         | ND                      | Complying      |
|           | 6677 dt. 25.06.2014                                 | 16.4       | 71.2       | 8.13      | 23         | ND                      | Complying      |
|           | 7198 dt. 24.09.2014                                 | 18         | 63.2       | 7.78      | 16         | 2                       | Complying      |
|           | 7557 dt. 21.11.2014                                 | 15         | 53.6       | 7.48      | 21         | ND                      | Complying      |
|           | 8164 dt. 08.01.2015                                 | 14.6       | 58.4       | 8.27      | 16         | ND                      | Complying      |
|           | 1024 dt. 29.09.2015                                 | 8.5        | 42         | 7.53      | 12         | ND                      | Complying      |
|           | 1255 dt. 17.11.2015                                 | 9.2        | 39.6       | 8.29      | 18         | ND                      | Complying      |
|           | 2009 dt. 01.06.2016                                 | 12.3       | 60.8       | 7.51      | 9          | ND                      | Complying      |
|           | 2488 dt. 24.11.2016                                 | 13.6       | 44.8       | 7.22      | 17         | ND                      | Complying      |
|           | 2814 dt. 14.03.2017                                 | 15         | 48.5       | 7.29      | 9          | ND                      | Complying      |
|           | 3385 dt. 08.08.2017                                 | 14         | 52         | 8.2       | 12         | ND                      | Complying      |
|           | 3724 dt. 31.10.2017                                 | 8.5        | 42.4       | 7.23      | 12         | ND                      | Complying      |
|           | 4001 dt. 17.01.2018                                 | 15         | 46.4       | 7.35      | 31         | 2                       | Complying      |
|           | 4510 dt. 26.04.2018                                 | 9          | 40.4       | 8.3       | 10         | ND                      | Complying      |
|           | 4864 dt. 18.07.2018                                 | 9          | 36.4       | 7.6       | 12         | ND                      | Complying      |
|           | 5276, 05.11.2018                                    | 8          | 36.4       | 6.84      | 17         | ND                      | Complying      |
|           | 5325, 12.11.2018                                    | 13.5       | 39.2       | 7.01      | 13         | ND                      | Complying      |
| <b>19</b> | <b>4.5 MLD Kalka Panchkula by PHED in 30.3.2015</b> |            |            |           |            |                         |                |
|           | <b>Report No. &amp; date</b>                        | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 7589 dt. 24.11.2014                                 | 180        | 580.8      | 6.6       | 12         | 14.5                    | Non complying  |

|           |   |            |            |           |            |                         |                |
|-----------|---|------------|------------|-----------|------------|-------------------------|----------------|
|           | 844 dt. 28.08.2015  | 17.4       | 59.6       | 7.16      | 21         | ND                      | Complying      |
|           | 1280 dt. 18.11.2015   | 21.5       | 57.2       | 7.79      | 19         | ND                      | Complying      |
|           | 2005 dt. 01.06.2016   | 12         | 44.8       | 7.1       | 10         | ND                      | Complying      |
|           | 2508 dt. 28.11.2016   | 16         | 72.4       | 7.23      | 14         | ND                      | Complying      |
|           | 3389 dt. 08.08.2017   | 15         | 52         | 7.35      | 16         | ND                      | Complying      |
|           | 3747 dt. 06.11.2017   | 17         | 51.6       | 7.04      | 23         | ND                      | Complying      |
|           | 4039 dt. 23.01.2018   | 15         | 52.4       | 7.33      | 22         | 2                       | Complying      |
|           | 4522 dt. 30.04.2018   | 9          | 36.4       | 7.46      | 18         | ND                      | Complying      |
|           | 4868 dt. 18.07.2018   | 9          | 60         | 7.61      | 18         | ND                      | Complying      |
|           | 5273, 05.11.2018  | 7.5        | 35.6       | 6.85      | 23         | ND                      | Complying      |
| <b>20</b> | <b>0.25 MLD Kalka Panchkula by PHED in 28.5. 2017</b>                         |            |            |           |            |                         |                |
|           | <b>Report No. &amp; date</b>  | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 3746 dt. 06.11.2017   | 19         | 90.4       | 6.83      | 19         | 2                       | Complying      |
|           | 4040 dt. 23.01.2018   | 23         | 105.2      | 7.72      | 39         | 2.5                     | Complying      |
|           | 4525 dt. 30.04.2018   | 10         | 38.8       | 7.4       | 10         | ND                      | Complying      |
|           | 4871 dt. 23.07.2018   | 9          | 36.8       | 7.48      | 14         | ND                      | Complying      |
|           | 5271, 05.11.2018  | 11         | 40         | 6.68      | 13         | ND                      | Complying      |
| <b>21</b> | <b>5 MLD STP Nalagarh Road, Manakpur, Pinjore Panchkula by PHED 31.1.2015</b> |            |            |           |            |                         |                |
|           | <b>Report No. &amp; date</b>  | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 7592 dt. 24.11.2014   | 43         | 158.4      | 7.06      | 24         | 3.5                     | Non complying  |
|           | 843 dt. 24.08.2015  | 15.6       | 66         | 7.94      | 19         | ND                      | Complying      |
|           | 1252 dt. 17.11.2015   | 18.5       | 73.2       | 7.97      | 17         | 2.5                     | Complying      |
|           | 2007 dt. 01.06.2016   | 16.2       | 52         | 7.19      | 13         | ND                      | Complying      |
|           | 2509 dt. 28.11.2016   | 14.8       | 62.4       | 7.38      | 8          | ND                      | Complying      |
|           | 3388 dt. 08.08.2017   | 17         | 54.8       | 7.43      | 17         | ND                      | Complying      |
|           | 3748 dt. 06.11.2017   | 18         | 87.2       | 6.96      | 16         | 2                       | Complying      |
|           | 4041 dt. 23.01.2018   | 18         | 83.2       | 7.73      | 17         | ND                      | Complying      |
|           | 4524 dt. 30.04.2018   | 9          | 36.8       | 7.55      | 17         | ND                      | Complying      |
|           | 4862 dt. 18.07.2018   | 16         | 63.6       | 7.73      | 20         | ND                      | Complying      |
|           | 5274, 05.11.2018  | 8.5        | 34.8       | 6.71      | 10         | ND                      | Complying      |
| <b>22</b> | <b>15 MLD STP by PHED Jind in Jan, 2009</b>                                   |            |            |           |            |                         |                |
|           | <b>Report No. &amp; date</b>  | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 294, 295 dt. 24.07.13   | 22         | 104        | 7.1       | 40         | 2                       | Complying      |

|           |   |            |            |           |            |                             |                |
|-----------|---|------------|------------|-----------|------------|-----------------------------|----------------|
|           | 326, 327 dt.<br>20.09.13  | 40         | 120        | 8         | 24         | ND                          | Non complying  |
|           | 5619 dt. 29.11.13   | 20.2       | 71.2       | 7.58      | 38         | ND                          | Complying      |
|           | 6211 dt. 14.03.14   | 42         | 140.8      | 7.36      | 44         | 2.5                         | Non complying  |
|           | 6718 dt. 30.06.14   | 48         | 161.6      | 7.23      | 21         | 2.5                         | Non complying  |
|           | 7144 dt. 15.09.14   | 68         | 382.4      | 7.22      | 106        | 12.5                        | Non complying  |
|           | 7564 dt. 21.11.14   | 25         | 120.8      | 7.34      | 26         | 3.5                         | Complying      |
|           | 177, 178 dt.<br>18.05.15  | 14         | 56         | 7.6       | 20         | ND                          | Complying      |
|           | 1338 dt. 30.11.15   | 21.2       | 82         | 7.75      | 29         | 2                           | Complying      |
|           | 1922 dt. 05.05.16   | 48         | 190.4      | 7.61      | 46         | 3                           | Non complying  |
|           | 2027 dt. 03.06.16   | 60         | 235.2      | 7.18      | 51         | 3                           | Non complying  |
|           | 2395 dt. 03.09.16   | 7.2        | 36.8       | 7.47      | 8.5        | ND                          | Complying      |
|           | 2426 dt. 19.10.16   | 49         | 154.4      | 7.18      | 16         | 4                           | Non complying  |
|           | 3420 dt. 18.8.2017  | 9          | 38.4       | 6.91      | 32         | ND                          | Complying      |
|           | Prosecution has<br>been filed in the Spl.<br>Env. Court,<br>Kurukshetra on<br>24.03.2017 and next<br>date of hearing is<br>08.12.2017 |            |            |           |            |                             |                |
|           | 3870 dt. 05.12.2017   | 7.08       | 52         | 17        | 71.2       | N.D                         | Complying      |
|           | 4118 dt. 19.02.18   | 21         | 116.4      | 7.32      | 60         | 2.5                         | Complying      |
|           | 4441 dt. 10.04.18   | 110        | 368        | 7.33      | 164        | 8.5                         | Non complying  |
|           | 4797 dt. 26.06.2018   | 20         | 85.2       | 7.49      | 25         | N.D                         | Non complying  |
|           | 122 dt. 14.08.18  | 14         | 56         | 7.7       | -          | N.D                         | Complying      |
| <b>23</b> | <b>10 MLD by HUDA Jind in 27.12.2014</b>  |            |            |           |            |                             |                |
|           | <b>Report No. &amp; date</b>  | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp;<br/>Grease</b> | <b>Remarks</b> |
|           | 1397 dt. 07.12.15   | 13.8       | 60         | 8.36      | 18         | ND                          | Complying      |
|           | 1951 dt. 10.05.16   | 40         | 144        | 7.31      | 27         | 2                           | Non complying  |
|           | 2026 dt. 03.06.16   | 36         | 132.8      | 7.68      | 34         | 3                           | Non complying  |
|           | 2396 dt. 30.09.16   | 6.8        | 32.4       | 7.67      | 9          | ND                          | Complying      |
|           | 2413 dt. 07.10.16   | 7.6        | 24.8       | 7.43      | 29         | ND                          | Complying      |
|           | 2427 dt. 19.10.16   | 9.5        | 50.4       | 7.35      | 9          | ND                          | Complying      |
|           | 2874 dt. 21.03.17   | 10         | 48.4       | 7.41      | 12         | ND                          | Complying      |
|           | 3419 dt. 18.8.2017  | 8          | 38         | 6.98      | 8          | ND                          | Complying      |
|           | 3863 dt. 05.12.2017   | 7.51       | 53         | 7.82      | 67.6       | 2                           | Complying      |
|           | 4119 dt. 19.02.18   | 17         | 95.2       | 8.23      | 26         | ND                          | Complying      |
|           | 4440 dt. 10.04.18   | 17         | 74.4       | 7.41      | 18         | ND                          | Complying      |
|           | 120 dt. 14.08.18  | 10         | 32         | 7.6       | 10         | ND                          | Complying      |
| <b>24</b> | <b>3.5 MLD Patiala Road, Narwana by PHED in Jan, 2011</b>   |            |            |           |            |                             |                |

|           | Report No. & date   | BOD  | COD   | PH   | TSS  | Oil & Grease | Remarks       |
|-----------|---|------|-------|------|------|--------------|---------------|
|           | 320, 321 dt. 20.09.13   | 36   | 112   | 8.2  | 20   | 2            | Non complying |
|           | 5621 dt. 29.11.13   | 21   | 96    | 7.03 | 22   | 2            | Complying     |
|           | 6213 dt. 14.03.14   | 18.6 | 74.4  | 7.44 | 36   | 2            | Complying     |
|           | 6715 dt. 30.06.14   | 18.2 | 84.8  | 7.08 | 23   | ND           | Complying     |
|           | 7566 dt. 21.11.14   | 20   | 62    | 7.13 | 17   | 2.5          | Complying     |
|           | 196,197 dt. 26.05.15  | 46   | 136   | 7.6  | 60   | 4            | Non complying |
|           | 1064 dt. 14.10.15   | 22.4 | 104   | 7.1  | 65   | 2.5          | Complying     |
|           | 1920 dt. 05.05.16   | 26.2 | 118   | 7.24 | 32   | ND           | Complying     |
|           | 2023 dt. 03.06.16   | 19.6 | 64.8  | 6.99 | 14   | 2            | Complying     |
|           | 2692 dt. 24.01.17   | 17   | 64.8  | 7.06 | 32   | 2            | Complying     |
|           | 3408 dt. 11.8.2017  | 10   | 48.8  | 7.2  | 21   | ND           | Complying     |
|           | 3866 dt. 05.12.2017   | 7.06 | 24    | 21   | 93.2 | 2.5          | Complying     |
|           | 4125 dt. 19.02.18   | 14   | 58.4  | 7.28 | 27   | ND           | Complying     |
|           | 4436 dt. 10.04.18   | 22   | 101.6 | 7.31 | 42   | 2            | Complying     |
|           | 130 dt. 14.08.18  | 18   | 64    | 7.6  | 18   | ND           | Complying     |
| <b>25</b> | <b>3.75 MLD STP Narwana Jind by PHED in Jan, 2011</b>   |      |       |      |      |              |               |
|           | Report No. & date   | BOD  | COD   | PH   | TSS  | Oil & Grease | Remarks       |
|           | 324,325 dt. 20.09.13  | 38   | 104   | 8.1  | 40   | 2            | Non complying |
|           | 5620 dt. 29.11.13   | 18   | 71.2  | 7.32 | 16   | ND           | Complying     |
|           | 6212 dt. 14.03.14   | 46.4 | 161.6 | 7.39 | 58   | 2            | Non complying |
|           | 6719 dt. 30.06.14   | 16.2 | 73.6  | 7.02 | 17   | ND           | Complying     |
|           | 1060 dt. 14.10.15   | 21   | 58    | 7.27 | 19   | ND           | Complying     |
|           | 7567 dt. 21.11.14   | 24.6 | 98    | 7.15 | 46   | 3.5          | Complying     |
|           | 198, 199 dt. 26.05.15   | 12   | 72    | 7.6  | 40   | ND           | Complying     |
|           | 1918 dt. 05.05.16   | 43   | 144   | 7.09 | 154  | 2            | Non complying |
|           | 2024 dt. 03.06.16   | 66   | 217.6 | 6.95 | 40   | 2.5          | Non complying |
|           | 2394 dt. 30.09.16   | 10.3 | 40.4  | 7.59 | 8    | ND           | Complying     |
|           | 2415 dt. 07.10.16   | 44   | 148   | 7.45 | 428  | 8            | Non complying |
|           | 2414 dt. 07.10.16   | 82   | 272   | 6.96 | 317  | 12.5         | Non complying |
|           | 2430 dt. 19.10.16   | 17.5 | 97.2  | 7.3  | 10.5 | 2            | Complying     |
|           | 3407 dt. 11.8.2017  | 12   | 48    | 6.96 | 26   | ND           | Complying     |
|           | Prosecution has been filed in the Spl. Env. Court, Kurukshetra on 22.03.2017 and next date of hearing is 08.12.2017 |      |       |      |      |              |               |
|           | 3865 dt. 05.12.17   | 7.1  | 34    | 15   | 62   | ND           | Complying     |
|           | 4126 dt. 19.02.18   | 15   | 70    | 7.33 | 21   | ND           | Complying     |
|           | 4434 dt. 10.04.18   | 20   | 80.4  | 7.39 | 26   | ND           | Complying     |

|           |  |            |            |           |            |                         |                |
|-----------|--|------------|------------|-----------|------------|-------------------------|----------------|
|           | 131 dt. 14.08.18   | 16         | 48         | 7.5       | 20         | ND                      | Complying      |
| <b>26</b> | <b>02 MLD STP, PHED, Dablain Road, Narwana, Jind (24.5.2017)</b> |            |            |           |            |                         |                |
|           | <b>Report No. &amp; date</b>                                     | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 3409 dt. 11.08.2017  | 7.13       | 23         | 10        | 52         | ND                      | Complying      |
|           | 3864 dt. 05.12.17  | 7.05       | 27         | 14        | 59.2       | N.D                     | Complying      |
|           | 4124 dt. 19.02.18  | 16         | 98         | 7.3       | 40         | ND                      | Complying      |
|           | 4435 dt. 10.04.18  | 18         | 74.4       | 7.27      | 33         | ND                      | Complying      |
|           | 132 dt. 14.08.18   | 18         | 48         | 7.8       | 20         | ND                      | Complying      |
| <b>27</b> | <b>2 MLD STP Uchana Jind by PHED in 22.2.2012</b>                |            |            |           |            |                         |                |
|           | <b>Report No. &amp; date</b>                                     | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 5618 dt. 29.11.13  | 45         | 140        | 7.71      | 46         | 2.5                     | Non complying  |
|           | 6214 dt. 14.03.14  | 21.2       | 84.8       | 7.35      | 37         | 2                       | Complying      |
|           | 6717 dt. 30.06.14  | 42         | 148.8      | 7.36      | 31         | 2.5                     | Non complying  |
|           | 322, 323 dt.20.09.13   | 90         | 208        | 7.2       | 80         | 4                       | Non complying  |
|           | 7563 dt. 21.11.14  | 26         | 121.6      | 7.91      | 22         | 4                       | Complying      |
|           | 192, 193 dt. 26.05.15  | 110        | 288        | 6.9       | 160        | 6                       | Non complying  |
|           | 1062 dt. 14.10.15  | 19.6       | 88         | 7.76      | 22         | ND                      | Complying      |
|           | 1917 dt.05.05.16   | 48         | 168.4      | 7.79      | 178        | 2.5                     | Non complying  |
|           | 2022 dt. 03.06.16  | 62         | 188.8      | 7.75      | 50         | 4.5                     | Non complying  |
|           | 2397dt. 30.09.16   | 13         | 45.2       | 7.46      | 7          | ND                      | Complying      |
|           | 2691 dt. 24.1.17   | 54         | 226        | 7.68      | 57         | 4.5                     | Non complying  |
|           | 3410 dt. 11.8.2017   | 22         | 76.6       | 7.31      | 39         | ND                      | Complying      |
|           | 3868 dt. 05.12.2017  | 7.58       | 78         | 24        | 124.4      | 3.5                     | Non complying  |
|           | 4123 dt. 19.02.18  | 20         | 108        | 7.38      | 64         | 2                       | Complying      |
|           | 4439 dt. 10.04.18  | 24         | 108        | 7.46      | 52         | 2.5                     | Complying      |
|           | 134 dt. 14.08.18   | 18         | 48         | 7.5       | 18         | ND                      | Complying      |
| <b>28</b> | <b>1.5 MLD Uchana by PHED in 31.5.2013</b>                       |            |            |           |            |                         |                |
|           | <b>Report No. &amp; date</b>                                     | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 6716 dt. 30.06.14  | 20.2       | 97.2       | 7.48      | 31         | ND                      | Complying      |
|           | 7568 dt. 21.11.14  | 23         | 96         | 7.71      | 19         | 3                       | Complying      |
|           | 194, 195 dt. 26.05.15  | 60         | 128        | 7.2       | 50         | 4                       | Non complying  |
|           | 1003 dt. 14.10.15  | 16.8       | 65.2       | 7.39      | 12         | ND                      | Complying      |
|           | 1919 dt. 05.05.16  | 40         | 152.8      | 7.59      | 26         | 2.5                     | Non complying  |
|           | 2021 dt. 03.06.16  | 18.4       | 68         | 7.42      | 11         | ND                      | Complying      |
|           | 2429 dt.19.10.16   | 17.5       | 97.2       | 7.3       | 10.5       | 2                       | Complying      |
|           | 2873 dt. 21.03.17  | 24         | 119.2      | 7.71      | 13         | 2                       | Complying      |
|           | 3411 dt. 11.8.2017   | 20         | 76         | 7         | 42         | 2                       | Complying      |
|           | 3871 dt. 05.12.2017  | 7.3        | 23         | 14        | 57.2       | N.D                     | Complying      |
|           | 4122 dt.19.02.18   | 21         | 94         | 7.3       | 45         | 2.5                     | Complying      |
|           | 4438 dt. 10.04.18  | 18         | 73.6       | 7.28      | 17         | ND                      | Complying      |
|           | 133 dt. 14.08.18   | 16         | 48         | 7.7       | 18         | ND                      | Complying      |

| <b>29 5 MLD STP Jind by PHED in 1.4.2016</b>             |      |       |      |      |              |               |  |
|--|------|-------|------|------|--------------|---------------|--|
| Report No. & date  | BOD  | COD   | PH   | TSS  | Oil & Grease | Remarks       |  |
| 1921 dt. 05.05.16  | 41   | 156   | 7.79 | 34   | 3            | Non complying |  |
| 2020 dt. 03.06.16  | 106  | 309.6 | 7.4  | 324  | 8            | Non complying |  |
| 2393 dt. 30.09.16  | 9    | 31.2  | 7.69 | 9.5  | ND           | Complying     |  |
| 2412 dt. 07.10.16  | 8.4  | 28    | 7.62 | 16   | ND           | Complying     |  |
| 2428 dt. 19.10.16  | 40   | 136.8 | 7.42 | 66   | 5.5          | Non complying |  |
| 3418 dt. 18.8.2017                                       | 7    | 26.4  | 6.68 | 17   | ND           | Complying     |  |
| 3869 dt. 05.12.2017                                      | 8    | 46    | 20   | 99.2 | 3            | Complying     |  |
| 4121 dt. 19.02.18  | 18   | 93.6  | 7.29 | 54   | ND           | Complying     |  |
| 4442 dt. 10.04.18  | 16   | 69.2  | 6.83 | 52   | ND           | Complying     |  |
| 123 dt. 14.08.18   | 16   | 64    | 7.8  | -    | ND           | Complying     |  |
| <b>30 4 MLD STP Julana, Jind by PHED in 1.4.2016</b>     |      |       |      |      |              |               |  |
| Report No. & date  | BOD  | COD   | PH   | TSS  | Oil & Grease | Remarks       |  |
| 1950 dt. 10.05.16  | 90   | 248   | 7.76 | 142  | 8            | Non complying |  |
| 2028 dt. 03.06.16  | 112  | 72.8  | 7.56 | 8    | ND           | Non complying |  |
| 2632 dt. 09.01.17  | 18   | 63.2  | 7.57 | 28   | ND           | Complying     |  |
| 3421 dt. 18.8.2017                                       | 5    | 21.2  | 6.98 | 10   | ND           | Complying     |  |
| 3867 dt.05.12.2017                                       | 7.34 | 30    | 12   | 42   | N.D          | Complying     |  |
| 4120 dt. 19.02.18  | 18   | 82.4  | 6.98 | 39   | ND           | Complying     |  |
| 4434 dt. 10.04.18  | 19   | 87.6  | 7.39 | 46   | 2            | Complying     |  |
| 119 dt. 14.08.18   | 16   | 56    | 7.8  | 22   | ND           | Complying     |  |
| <b>31 9 MLD STP Safidon, Jind by PHED in 31.05.2018</b>  |      |       |      |      |              |               |  |
| Report No. & date  | BOD  | COD   | PH   | TSS  | Oil & Grease | Remarks       |  |
| 4796 dt. 26.06.18  | 17   | 59.2  | 7.77 | 37   | ND           | Complying     |  |
| <b>32 10 MLD STP Cheeka, Kaithal by PHED in 1.4.2013</b> |      |       |      |      |              |               |  |
| Report No. & date  | BOD  | COD   | PH   | TSS  | Oil & Grease | Remarks       |  |
| 5629 dt. 02.12.13  | 46   | 185.6 | 7.26 | 456  | 2            | Non complying |  |
| 5971 dt. 22.01.14  | 17.6 | 57.6  | 7.84 | 28   | 2            | Complying     |  |
| 6297 dt. 09.04.14  | 20   | 72.8  | 7.3  | 39   | 2            | Complying     |  |
| 6725 dt. 02.07.14  | 22.4 | 103.6 | 7.74 | 25   | 2            | Complying     |  |
| 7151 dt. 16.09.14  | 19.8 | 68.4  | 8.22 | 34   | 2.5          | Complying     |  |
| 7644 dt. 27.11.14  | 17   | 69.2  | 7.77 | 32   | ND           | Complying     |  |
| 156, 157 dt. 12.05.15                                    | 34   | 96    | 8.4  | 22   | 6            | Non complying |  |

|           |   |            |            |           |            |                         |                |
|-----------|---|------------|------------|-----------|------------|-------------------------|----------------|
|           | 974 dt. 21.09.15  | 15.8       | 63.2       | 8.35      | 13         | ND                      | Complying      |
|           | 1336 dt. 30.11.15   | 14.2       | 71.6       | 8.51      | 16         | 2                       | Complying      |
|           | 1911 dt. 05.05.16   | 9.4        | 46         | 7.8       | 16         | ND                      | Complying      |
|           | 2094 dt. 27.06.16   | 8.2        | 42.4       | 7.51      | 6          | ND                      | Complying      |
|           | 2626 dt. 09.01.17   | 17         | 59.2       | 7.38      | 17         | 2                       | Complying      |
|           | 2908 dt. 06.04.17   | 20         | 88         | 7.71      | 12         | 2.5                     | Complying      |
|           | 3176 dt. 19.6.2017  | 16         | 58         | 7.91      | 20         | ND                      | Complying      |
|           | 3646 dt. 13.10.2017   | 9          | 37.6       | 7.46      | 8          | ND                      | Complying      |
|           | 3927 dt. 22.12.17   | 7.97       | 11         | 9         | 54         | ND                      | Complying      |
|           | 4114 dt. 16.02.18   | 9.5        | 28         | 8.24      | 8          | ND                      | Complying      |
|           | 4446 dt. 11.04.18   | 13         | 42.8       | 7.87      | 13         | ND                      | Complying      |
|           | 4681 dt. 28.05.18   | 7          | 12.4       | 7.98      | 10         | ND                      | Complying      |
|           | 4980 dt. 09.08.2018   | 12         | 38.4       | 7.41      | 28         | ND                      | Complying      |
|           | 5380 dt. 26.11.18   | 18         | 85.6       | 6.68      | 21         | ND                      | Complying      |
| <b>33</b> | <b>10 MLD STP, Jind Road Kaithal by PHED in September, 2012</b> |            |            |           |            |                         |                |
|           | <b>Report No. &amp; date</b>                                    | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 453, 454 dt. 19.03.13   | 24         | 129.6      | 7.5       | 70         | 6                       | Complying      |
|           | 5382 dt. 25.09.13   | 21.4       | 108.8      | 8.59      | 42         | 2.5                     | Complying      |
|           | 5626 dt. 02.12.13   | 36         | 131.2      | 7.94      | 33         | 2.5                     | Non complying  |
|           | 5970 dt. 22.01.14   | 18.1       | 62.4       | 7.67      | 26         | 2                       | Complying      |
|           | 6299 dt. 09.04.14   | 23         | 92.8       | 7.65      | 18         | 2                       | Complying      |
|           | 6724 dt. 02.07.14   | 23.8       | 101.6      | 7.76      | 18         | 2                       | Complying      |
|           | 7150 dt. 16.09.14   | 18         | 69.2       | 7.87      | 23         | 2                       | Complying      |
|           | 7643 dt. 26.11.14   | 16.6       | 58         | 7.87      | 23         | nd                      | Complying      |
|           | 152, 153 dt. 12.05.15   | 16         | 112        | 8         | 22         | 4                       | Complying      |
|           | 977 dt. 21.09.15  | 8          | 53.2       | 8.15      | 12         | nd                      | Complying      |
|           | 1335 dt. 30.11.15   | 8.8        | 66         | 7.92      | 13         | nd                      | Complying      |
|           | 2091 dt. 27.06.16   | 7.2        | 45.6       | 7.43      | 9          | nd                      | Complying      |
|           | 1914 dt. 05.05.16   | 10.2       | 48         | 7.82      | 16         | nd                      | Complying      |
|           | 2091 dt. 27.06.16   | 7.2        | 45.6       | 7.43      | 9          | ND                      | Complying      |
|           | 2624 dt. 09.01.17   | 9.8        | 73.2       | 7.65      | 17         | 3                       | Complying      |
|           | 2909 dt. 06.04.17   | 9          | 50         | 8.13      | 11         | ND                      | Complying      |
|           | 3177 dt. 19.6.2017  | 10         | 60.8       | 7.93      | 20         | 2                       | Complying      |
|           | 3650 dt. 13.10.2017   | 10         | 39.6       | 7.23      | 17         | ND                      | Complying      |
|           | 3924 dt. 22.12.17   | 7.84       | 13         | 9         | 49.6       | ND                      | Complying      |
|           | 4110 dt. 16.02.18   | 9          | 33.2       | 8.19      | 14         | ND                      | Complying      |
|           | 4449 dt. 11.04.18   | 15         | 54.4       | 7.97      | 11         | ND                      | Complying      |
|           | 4814 dt. 09.07.18   | 12         | 38.4       | 7.63      | 17         | ND                      | Complying      |

|           |   |            |            |           |            |                         |                |
|-----------|---|------------|------------|-----------|------------|-------------------------|----------------|
|           | 4987 dt. 09.08.2018   | 12         | 48         | 7.36      | 46         | ND                      | Complying      |
|           | 5382 dt. 26.11.18   | 19         | 86.8       | 6.76      | 37         | 2                       | Complying      |
| <b>34</b> | <b>10 MLD STP Manas Road, Kaithal by PHED in June, 2006</b> |            |            |           |            |                         |                |
|           | <b>Report No. &amp; date</b>                                | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 451, 452 dt. 19.03.13                                       | 18         | 93.6       | 7.7       | 80         | 8                       | Complying      |
|           | 5383 dt. 25.09.13   | 62         | 272        | 7.55      | 124        | 6                       | Non complying  |
|           | 5625 dt. 02.12.13   | 48         | 162.4      | 7.33      | 88         | 2                       | Non complying  |
|           | 5969 dt. 22.01.14   | 23         | 68         | 7.98      | 23         | 2.5                     | Complying      |
|           | 6298 dt. 09.04.14   | 26         | 103.2      | 7.51      | 42         | 3                       | Complying      |
|           | 6726 dt. 02.07.14   | 21.4       | 89.6       | 7.54      | 28         | 2                       | Complying      |
|           | 7152 dt. 16.09.14   | 15.4       | 52.8       | 7.57      | 38         | ND                      | Complying      |
|           | 7646 dt. 27.11.14   | 18         | 74         | 7.08      | 16         | 2.5                     | Complying      |
|           | 160, 161 dt. 12.05.15                                       | 38         | 144        | 7.9       | 30         | 6                       | Non complying  |
|           | 975 dt. 21.09.15  | 8.6        | 52         | 8.11      | 18         | ND                      | Complying      |
|           | 1334 dt. 30.11.15   | 14.8       | 72         | 7.96      | 17         | ND                      | Complying      |
|           | 1910 dt. 05.05.16   | 14.4       | 52.8       | 8.21      | 10         | ND                      | Complying      |
|           | 2090 dt. 27.06.16   | 8.4        | 50.4       | 7.53      | 12         | ND                      | Complying      |
|           | 2627 dt. 09.01.17   | 25         | 118.4      | 7.44      | 36         | 2                       | Complying      |
|           | 2905 dt. 06.04.17   | 12         | 27.2       | 8.04      | 12         | ND                      | Complying      |
|           | 3177 dt. 19.06.17   | 10         | 60.8       | 7.93      | 20         | 2                       | Complying      |
|           | 3649 dt. 13.10.2017   | 8          | 25.2       | 7.66      | 9          | ND                      | Complying      |
|           | 3925 dt. 22.12.17   | 7.91       | 13         | 9         | 43.2       | ND                      | Complying      |
|           | 4111 dt. 16.02.18   | 9          | 37.2       | 8.37      | 8          | ND                      | Complying      |
|           | 4448 dt. 11.04.18   | 12         | 39.2       | 7.88      | 14         | ND                      | Complying      |
|           | 4683 dt. 28.05.18   | 18         | 87.2       | 7.75      | 9          | ND                      | Complying      |
|           | 4815 dt. 09.07.18   | 14         | 52.4       | 7.71      | 25         | ND                      | Complying      |
|           | 4985 dt. 09.8.2018  | 15         | 68.8       | 7.47      | 10         | ND                      | Complying      |
|           | 5381 dt. 26.11.18   | 14         | 50.4       | 6.76      | 24         | ND                      | Complying      |
| <b>35</b> | <b>10 MLD Manas Road, Kaithal bby PHED in Sep, 2012</b>     |            |            |           |            |                         |                |
|           | <b>Report No. &amp; date</b>                                | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 455, 456 dt. 19.03.13                                       | 28         | 144        | 7.6       | 90         | 6                       | Complying      |
|           | 5384 dt. 25.09.13   | 122        | 676.8      | 7.5       | 82         | 14                      | Non complying  |
|           | 5627 dt. 02.12.13   | 86         | 277.6      | 7.64      | 154        | 8.5                     | Non complying  |
|           | 5968 dt. 22.01.14   | 22         | 65.6       | 7.26      | 18         | 3                       | Complying      |
|           | 6296 dt. 09.04.14   | 22         | 87.2       | 7.36      | 24         | 2                       | Complying      |
|           | 6728 dt. 02.07.14   | 40         | 152.8      | 6.91      | 27         | 3.5                     | Non complying  |
|           | 7153 dt. 16.09.14   | 17.4       | 54         | 7.9       | 28         | 2.5                     | Complying      |
|           | 7647 dt. 27.11.14   | 17.2       | 76         | 7.76      | 21         | 3                       | Complying      |
|           | 973 dt. 21.09.15  | 9.6        | 54         | 8.1       | 12         | ND                      | Complying      |

|           |   |            |            |           |            |                         |                |
|-----------|---|------------|------------|-----------|------------|-------------------------|----------------|
|           | 1333 dt. 30.11.15                                     | 9.5        | 76         | 7.99      | 15         | ND                      | Complying      |
|           | 1919 dt. 05.05.16                                     | 10.3       | 49.2       | 7.76      | 13         | ND                      | Complying      |
|           | 2092 dt. 27.06.16                                     | 9.4        | 58.4       | 7.74      | 16         | ND                      | Complying      |
|           | 2628 dt. 09.01.17                                     | 8          | 72.4       | 7.36      | 19         | 2                       | Complying      |
|           | 2906 dt. 06.04.17                                     | 10         | 54         | 7.99      | 8          | ND                      | Complying      |
|           | 3178 dt. 19.6.2017                                    | 18         | 115.6      | 7.81      | 44         | 2.5                     | Complying      |
|           | 3648 dt. 13.10.2017                                   | 10         | 32.8       | 7.22      | 12         | ND                      | Complying      |
|           | 3926 dt. 22.12.17                                     | 7.96       | 8          | 10        | 52.4       | ND                      | Complying      |
|           | 4115 dt. 16.02.18                                     | 10         | 24.8       | 7.2       | 9          | ND                      | Complying      |
|           | 4448 Dt. 11.04.18                                     | 12         | 39.2       | 7.88      | 14         | ND                      | Complying      |
|           | 4683 Dt. 28.05.18                                     | 18         | 87.2       | 7.75      | 9          | ND                      | Complying      |
|           | 4986 dt. 09.08.2018                                   | 13         | 56.8       | 7.36      | 24         | ND                      | Complying      |
|           | 5384 dt. 26.11.18                                     | 18         | 111.6      | 6.86      | 23         | ND                      | Complying      |
| <b>36</b> | <b>7.5 MLD Kaithal by HUDA in 31.8.2016</b>           |            |            |           |            |                         |                |
|           | <b>Report No. &amp; date</b>                          | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 3417 dt. 18.8.2017                                    | 11         | 36.8       | 7.05      | 33         | ND                      | Complying      |
|           | 3922 dt. 22.12.17                                     | 8.11       | 11         | 8         | 40         | ND                      | Complying      |
|           | 4112 dt. 16.02.18                                     | 10         | 33.6       | 8.09      | 28         | ND                      | Complying      |
|           | 4444 dt. 11.04.18                                     | 15         | 55         | 7.73      | 18         | ND                      | Complying      |
|           | 4982 dt. 09.08.2018                                   | 9          | 31.2       | 7.67      | 28         | ND                      | Complying      |
|           | 5379 dt. 26.11.18                                     | 19         | 66.4       | 7.22      | 24         | ND                      | Complying      |
| <b>37</b> | <b>5 MLD STP Kalayat, Kaithal by PHED in 1.4.2014</b> |            |            |           |            |                         |                |
|           | <b>Report No. &amp; date</b>                          | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 6727 dt. 02.07.14                                     | 22         | 109.6      | 7.5       | 29         | 2                       | Complying      |
|           | 7154 dt. 16.09.14                                     | 19.8       | 63.2       | 7.37      | 19         | 2                       | Complying      |
|           | 7645 dt. 27.11.14                                     | 15.2       | 56.4       | 7.76      | 14         | ND                      | Complying      |
|           | 150, 151 dt. 12.05.15                                 | 120        | 272        | 8.2       | 40         | ND                      | Non complying  |
|           | 158, 159 dt. 12.05.15                                 | 18         | 96         | 7         | 40         | ND                      | Complying      |
|           | 976 dt. 21.09.15                                      | 16.8       | 68         | 8.06      | 19         | ND                      | Complying      |
|           | 1332 dt. 30.11.15                                     | 22         | 101.2      | 7.64      | 23         | ND                      | Complying      |
|           | 1913 dt. 05.05.16                                     | 9.7        | 39.2       | 7.75      | 12         | ND                      | Complying      |
|           | 2089 dt. 27.06.16                                     | 7.5        | 48         | 7.45      | 11         | ND                      | Complying      |
|           | 2625 dt. 09.01.17                                     | 20         | 90.4       | 7.51      | 26         | 4                       | Complying      |
|           | 2904 dt. 06.04.17                                     | 26         | 101.6      | 7.57      | 42         | 3                       | Complying      |
|           | 3175 dt. 19.6.2017                                    | 15         | 48         | 7.72      | 22         | 2                       | Complying      |
|           | 3644 dt. 13.10.2017                                   | 9          | 31.6       | 7.64      | 7          | ND                      | Complying      |
|           | 3923 dt. 22.12.17                                     | 8.12       | 9          | 8         | 44         | ND                      | Complying      |
|           | 4113 dt. 16.02.18                                     | 8.5        | 33.6       | 7.5       | 13         | ND                      | Complying      |
|           | 4445 dt. 11.04.18                                     | 14         | 48         | 7.92      | 12         | ND                      | Complying      |
|           | 4685 dt. 28.05.18                                     | 14         | 60         | 7.49      | 20         | ND                      | Complying      |
|           | 4984 dt. 09.08.2018                                   | 14         | 64.8       | 7.13      | 19         | ND                      | Complying      |
|           | 5385 dt. 26.11.18                                     | 17         | 110.8      | 6.32      | 22         | ND                      | Complying      |

| <b>38</b> | <b>3.5 Pundri Kaithal by PHED in 4.7.2014</b>                                  |            |            |           |            |                         |                |
|-----------|--|------------|------------|-----------|------------|-------------------------|----------------|
|           | <b>Report No. &amp; date</b>   | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 6747 dt. 04.07.14  | 68         | 209.6      | 6.35      | 41         | 4.5                     | Non complying  |
|           | 7648 dt. 27.11.14  | 15.8       | 66         | 7.8       | 14         | ND                      | Complying      |
|           | 154, 155 dt. 12.05.15  | 110        | 240        | 8.1       | 70         | 8                       | Non complying  |
|           | 972 dt. 21.09.15   | 16         | 67.6       | 7.99      | 15         | 2.5                     | Complying      |
|           | 1337 dt. 30.11.15  | 15.4       | 69.2       | 8.02      | 13         | ND                      | Complying      |
|           | 2093 dt. 27.06.16  | 5.8        | 40         | 7.68      | 8          | ND                      | Complying      |
|           | 1912 dt. 05.08.16  | 8.5        | 36.4       | 7.89      | 13         | ND                      | Complying      |
|           | 2093 dt. 27.06.16  | 5.8        | 40         | 7.68      | 8          | ND                      | Complying      |
|           | 2623 dt. 09.01.17  | 12         | 39.6       | 7.53      | 21         | 2                       | Complying      |
|           | 2907 dt. 06.04.17  | 12         | 53.6       | 7.73      | 15         | ND                      | Complying      |
|           | 3179 dt. 19.6.2017   | 17         | 59.2       | 7.9       | 13         | 2                       | Complying      |
|           | 3647 dt. 13.10.2017  | 11         | 36.8       | 7.05      | 33         | ND                      | Complying      |
|           | 3928 dt. 22.12.17  | 7.84       | 17         | 15        | 62.4       | ND                      | Complying      |
|           | 4116 dt. 16.02.18  | 11         | 36         | 8.2       | 11         | ND                      | Complying      |
|           | 4447 dt. 11.04.18  | 13         | 44.8       | 8.08      | 9          | ND                      | Complying      |
|           | 4686 dt. 28.05.18  | 15         | 60         | 7.73      | 6          | ND                      | Complying      |
|           | 4980 dt. 09.08.2018  | 11         | 41.2       | 7.38      | 24         | ND                      | Complying      |
|           | 5383 dt. 26.11.18  | 20         | 70.4       | 6.73      | 17         | 2                       | Complying      |
| <b>39</b> | <b>5 MLD STP Dhani Kushal, Bhiwani Road, Hansi, Hisar by PHED in 15.4.2014</b> |            |            |           |            |                         |                |
|           | <b>Report No. &amp; date</b>   | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 228 dt. 04.07.14   | 110        | 288        | 7.6       | 310        | 16                      | Non complying  |
|           | 327 dt. 29.09.14   | 18         | 88         | 7.2       | 22         | 6                       | Complying      |
|           | 419 dt.24.11.14  | 16         | 100.8      | 8.8       | 50         | 4                       | Complying      |
|           | 241, 242, dt.06.07.15  | 42         | 160        | 7.9       | 60         | 4                       | Non complying  |
|           | 577, 578 dt. 01.12.15  | 24         | 96         | 7.4       | 30         | ND                      | Complying      |
|           | 117 dt.16.08.16  | 18         | 112        | 7.9       | 30         | ND                      | Complying      |
|           | 140 dt.14.09.16  | 28         | 130        | 6.9       | 26         | ND                      | Complying      |
|           | 272 dt. 20.01.17   | 22         | 104        | 6.4       | 40         | ND                      | Complying      |
|           | 51 dt. 02.06.17  | 14         | 48         | 7.4       | 16         | ND                      | Complying      |
|           | 144 dt 28.09.17  | 12         | 36         | 7.9       | 14         | ND                      | Complying      |
|           | 253 dt.08.01.18  | 10         | 36         | 7.9       | 20         | ND                      | Complying      |
|           | 304, dt. 30.03.18  | 56         | 112        | 7.2       | 140        | ND                      | Non complying  |
|           | 81, 29.06.18   | 12         | 56         | 7.7       | 20         | ND                      | Complying      |
|           | 201, 11.10.18  | 16         | 48         | 7.9       | 18         | ND                      | Complying      |

| <b>40</b> | <b>7.5 MLD STP Lalpura- Jind Road, Hansi, Hisar by PHED in 15.4.2014</b> |            |            |           |            |                         |                |
|-----------|--|------------|------------|-----------|------------|-------------------------|----------------|
|           | <b>Report No. &amp; date</b>   | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 227 dt. 04.07.14   | 120        | 224        | 7.2       | 280        | 18                      | Non complying  |
|           | 326 dt.29.09.14  | 20         | 96         | 7         | 20         | 4                       | Complying      |
|           | 417 dt. 24.11.14   | 26         | 93.6       | 8.8       | 80         | 4                       | Complying      |
|           | 243, 244 dt.06.07.15   | 60         | 168        | 7.7       | 120        | 6                       | Non complying  |
|           | 579, 580 dt. 01.12.15  | 22         | 96         | 7.9       | 28         | ND                      | Complying      |
|           | 141 dt.14.09.16  | 16         | 112        | 6.9       | 40         | ND                      | Complying      |
|           | 273 dt. 20.01.17   | 20         | 96         | 6.3       | 32         | ND                      | Complying      |
|           | 52 dt. 02.06.17  | 8          | 24         | 7.8       | 10         | ND                      | Complying      |
|           | 177 dt.12.10.17  | 8          | 16         | 7.2       | 10         | ND                      | Complying      |
|           | 252 dt. 08.01.18   | 8          | 24         | 7.9       | 16         | ND                      | Complying      |
|           | 303, 30.03.18  | 70         | 144        | 7.8       | 130        | ND                      | Non complying  |
|           | 82, 29.06.18   | 14         | 48         | 7.6       | 22         | ND                      | Complying      |
|           | 202, 11.10.18  | 14         | 64         | 8         | 16         | ND                      | Complying      |
| <b>41</b> | <b>6 MLD STP Dhani Gram, Barwala, Hisar by PHED in 9.12.2014</b>         |            |            |           |            |                         |                |
|           | <b>Report No. &amp; date</b>   | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 105, 106 dt.27.04.15   | 26         | 136        | 7.2       | 40         | 4                       | Complying      |
|           | 325, 326 dt. 05.08.15  | 12         | 56         | 7.4       | 30         | ND                      | Complying      |
|           | 565, 566 dt. 30.11.15  | 14         | 80         | 6.9       | 20         | ND                      | Complying      |
|           | 139 dt.14.09.16  | 24         | 120        | 6.4       | 20         | ND                      | Complying      |
|           | 274 dt. 20.01.17   | 24         | 112        | 7.9       | 26         | ND                      | Complying      |
|           | 49 dt. 02.06.2017  | 14         | 48         | 6.9       | 22         | ND                      | Complying      |
|           | 176 dt.12.10.17  | 10         | 24         | 7.6       | 12         | ND                      | Complying      |
|           | 213 dt.08.01.18  | 12         | 24         | 7.8       | 18         | ND                      | Complying      |
|           | 286, 16.03.18  | 10         | 32         | 7.9       | 12         | ND                      | Complying      |
|           | 76, 29.06.18   | 12         | 40         | 7.7       | 22         | ND                      | Complying      |
|           | 178, 03.10.18  | 8          | 24         | 7.2       | 10         | ND                      | Complying      |
| <b>42</b> | <b>15 MLD STP Azad Nagar, Rajgarh Road Hisar by PHED in 31.12.2014</b>   |            |            |           |            |                         |                |
|           | <b>Report No. &amp; date</b>   | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 126, 127 dt.04.05.15   | 8          | 48         | 7.4       | 14         | ND                      | Complying      |
|           | 251, 252 dt. 16.07.15  | 12         | 72         | 7.6       | 16         | 4                       | Complying      |

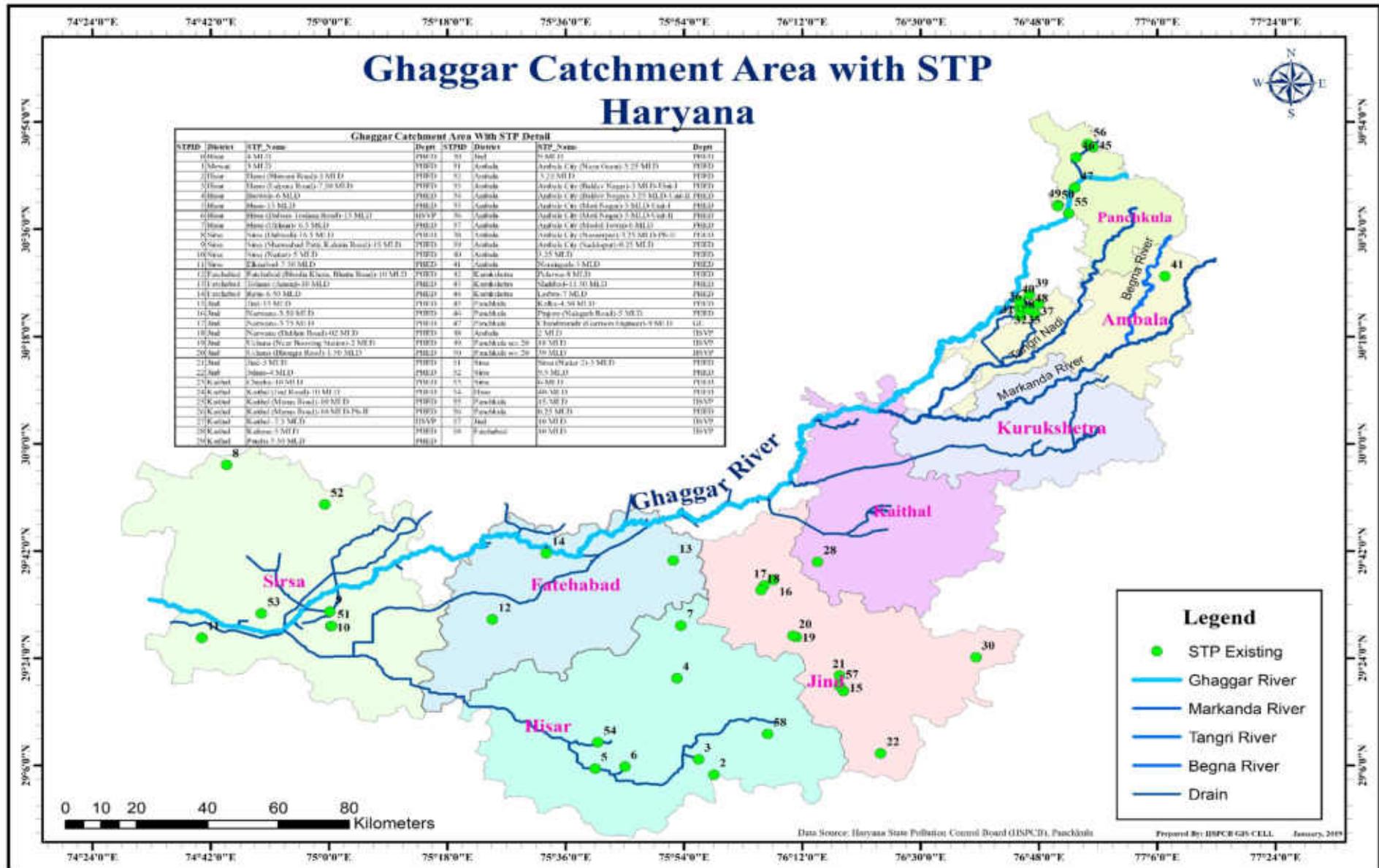
|           |   |            |            |           |            |                         |                |
|-----------|---|------------|------------|-----------|------------|-------------------------|----------------|
|           | 563, 564 dt.30.11.15  | 10         | 48         | 7.2       | 16         | ND                      | Complying      |
|           | 142 dt. 14.09.16  | 36         | 128        | 7.2       | 22         | ND                      | Non complying  |
|           | 304 dt. 17.02.17  | 8          | 40         | 6.9       | 16         | ND                      | Complying      |
|           | 53 dt. 06.06.17   | 8          | 32         | 7.2       | 10         | ND                      | Complying      |
|           | 142 dt. 28.9.2017   | 6          | 24         | 7.8       | 10         | ND                      | Complying      |
|           | 216 dt.08.01.18   | 6          | 16         | 7.4       | 10         | ND                      | Complying      |
|           | 278, dt. 06.03.18   | 8          | 32         | 7.6       | 10         | ND                      | Complying      |
|           | 68, 22.06.18  | 8          | 32         | 7.4       | 12         | ND                      | Complying      |
|           | 194, 03.10.18   | 8          | 24         | 7.9       | 12         | ND                      | Complying      |
| <b>43</b> | <b>40 MLD STP Rishi Nagar, Hisar by PHED in 02.12.2017</b>                  |            |            |           |            |                         |                |
|           | <b>Report No. &amp; date</b>  | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 215 dt. 08.01.18  | 4          | 8          | 7.2       | 10         | ND                      | Complying      |
|           | 277 dt. 06.03.18  | 6          | 24         | 7.9       | 10         | ND                      | Complying      |
|           | 69, dt. 22.06.18  | 4          | 16         | 7.4       | 10         | ND                      | Complying      |
|           | 139, 14.09.18   | 8          | 24         | 7.7       | 10         | ND                      | Complying      |
| <b>44</b> | <b>6.5 MLD STP Uklana, Hisar by PHED in 1.9.2017</b>                        |            |            |           |            |                         |                |
|           | <b>Report No. &amp; date</b>  | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 214 dt. 08.01.18  | 14         | 40         | 8         | 20         | ND                      | Complying      |
|           | 285, dt. 16.03.18   | 9          | 24         | 7.6       | 10         | ND                      | Complying      |
|           | 75, 29.06.18  | 12         | 32         | 7.5       | 20         | ND                      | Complying      |
|           | 192, 03.10.18   | 8          | 32         | 7.8       | 20         | ND                      | Complying      |
| <b>45</b> | <b>15 MLD STP Dabara Tosham Road, Hisar by HUDA in 31.7.2014</b>            |            |            |           |            |                         |                |
|           | <b>Report No. &amp; date</b>  | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 418 dt.24.11.14   | 18         | 108        | 8.5       | 20         | 6                       | Complying      |
|           | 567, 568 dt. 30.11.15   | 12         | 72         | 7.4       | 18         | ND                      | Complying      |
|           | 170, 171 dt. 13.10.16   | 12         | 64         | 7.2       | 20         | 4                       | Complying      |
|           | 234, 235 dt. 30.12.16   | 8          | 40         | 7         | 10         | ND                      | Complying      |
|           | 17 dt. 25.04.17   | 6          | 24         | 6.4       | 14         | ND                      | Complying      |
|           | 143 dt. 28.9.2017   | 4          | 16         | 7.9       | 10         | ND                      | Complying      |
|           | 217 dt. 08.01.18  | ND         |            | 7         | 10         | ND                      | Complying      |
|           | 285, dt. 16.03.18   | 9          | 24         | 7.6       | 10         | ND                      | Complying      |
|           | 67, 22.06.18  | 6          | 24         | 7.8       | 10         | ND                      | Complying      |
|           | 140, 14.09.18   | 6          | 16         | 7.5       | 10         | ND                      | Complying      |
| <b>46</b> | <b>4 MLD STP Kamri Road, Hisar by PHED in 31.05.2018</b>                    |            |            |           |            |                         |                |
|           | <b>Report No. &amp; date</b>  | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | <b>STP is under Trial</b>   |            |            |           |            |                         |                |
| <b>47</b> | <b>15 MLD STP, Shamsabad patti, Kalaria Road, Sirsa by PHED in 1.7.2012</b> |            |            |           |            |                         |                |
|           | <b>Report No. &amp; date</b>  | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 156 dt. 05.06.13  | 110        | 304        | 6.4       | 440        | 14                      | Non complying  |

|           |   |            |            |           |            |                         |                |
|-----------|---|------------|------------|-----------|------------|-------------------------|----------------|
|           | 318, 319 dt. 10.09.13                                       | 120        | 273        | 6.2       | 280        | 8                       | Non complying  |
|           | 384 dt. 27.11.13  | 120        | 336        | 7         | 280        | 18                      | Non complying  |
|           | 229 dt. 04.07.14  | 90         | 218        | 7         | 220        | ND                      | Non complying  |
|           | 402 dt. 21.11.14  | 130        | 318        | 8.6       | 180        | 18                      | Non complying  |
|           | 710 dt. 24.03.15  | 20         | 112        | 7.1       | 22         | 2                       | Complying      |
|           | 219, 220 dt. 10.06.15                                       | 18         | 96         | 7.2       | 28         | 6                       | Complying      |
|           | 467, 468 dt. 06.10.15                                       | 24         | 144        | 8.1       | 26         | 2                       | Complying      |
|           | 569, 570 dt. 01.12.15                                       | 24         | 128        | 7.3       | 26         | 4                       | Complying      |
|           | 706, 707 dt. 25.03.16                                       | 12         | 64         | 7.3       | 22         | ND                      | Complying      |
|           | 208, dt. 08.11.16   | 16         | 64         | 7.6       | 20         | ND                      | Complying      |
|           | 295, dt. 17.02.17   | 22         | 104        | 7         | 50         | 4                       | Complying      |
|           | 44 dt. 02.06.2017   | 14         | 64         | 7         | 20         | ND                      | Complying      |
|           | 138 dt. 28.9.2017   | 18         | 56         | 8.1       | 26         | ND                      | Complying      |
|           | 198 dt. 08.01.18  | 6          | 16         | 7.6       | 12         | ND                      | Complying      |
|           | 290 dt. 16.03.18  | 8          | 32         | 8.2       | 12         | ND                      | Complying      |
|           | 45, dt. 05.06.18  | 14         | 48         | 7.7       | 18         | ND                      | Complying      |
|           | 181, 03.10.18   | 16         | 48         | 7.9       | 20         | ND                      | Complying      |
| <b>48</b> | <b>5 MLD STP, Vill. Nattar 1, Sirsa by PHED in 1.5.2013</b> |            |            |           |            |                         |                |
|           | <b>Report No. &amp; date</b>                                | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 155 dt. 05.06.13  | 120        | 320        | 6.2       | 390        | 12                      | Non complying  |
|           | 232 dt. 04.07.14  | 110        | 272        | 8.9       | 320        | ND                      | Non complying  |
|           | 404 dt. 21.11.14  | 18         | 96         | 7.9       | 28         | 2                       | Complying      |
|           | 709 dt. 24.03.15  | 24         | 160        | 6.9       | 30         | 6                       | Complying      |
|           | 217, 218 dt. 10.06.15                                       | 20         | 112        | 7.8       | 26         | 4                       | Complying      |
|           | 465, 466 dt. 06.10.15                                       | 22         | 136        | 7.2       | 30         | 2                       | Complying      |
|           | 571, 572 dt. 01.12.15                                       | 22         | 160        | 7         | 22         | 6                       | Complying      |
|           | 710, 711 dt. 25.03.16                                       | 16         | 72         | 6.9       | 22         | ND                      | Complying      |
|           | 206 dt. 08.11.16  | 26         | 96         | 6.4       | 30         | ND                      | Complying      |
|           | 294 dt. 17.02.17  | 16         | 80         | 7.4       | 60         | 2                       | Complying      |
|           | 46 dt. 02.06.2017   | 16         | 64         | 6.8       | 22         | ND                      | Complying      |
|           | 139 dt. 28.9.2017   | 14         | 48         | 8.2       | 20         | ND                      | Complying      |
|           | 196 dt. 08.01.18  | 6          | 24         | 7.6       | 10         | ND                      | Complying      |
|           | 288 dt. 16.03.18  | 14         | 32         | 8.3       | 12         | ND                      | Complying      |
|           | 44, dt. 05.06.18  | 18         | 56         | 7.9       | 22         | ND                      | Complying      |
|           | 179, 03.10.18   | 18         | 56         | 7.7       | 20         | ND                      | Complying      |
| <b>49</b> | <b>5 MLD STP, Vill. Nattar 2, Sirsa by PHED in 14.09.17</b> |            |            |           |            |                         |                |
|           | <b>Report No. &amp; date</b>                                | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 289 dt. 16.03.18  | 10         | 48         | 8         | 16         | ND                      | Complying      |
|           | 46, dt. 05.06.18  | 12         | 48         | 8         | 20         | ND                      | Complying      |
|           | 180, 03.10.18   | 14         | 40         | 8.2       | 18         | ND                      | Complying      |

| <b>50 7.5 MLD STP Ellenabad Sirsa by PHED in 11.5.2015</b>                          |     |       |     |     |              |               |  |
|---|-----|-------|-----|-----|--------------|---------------|--|
| Report No. & date   | BOD | COD   | PH  | TSS | Oil & Grease | Remarks       |  |
| 405 dt. 21.11.14  | 140 | 336   | 7.8 | 440 | 18           | Non complying |  |
| 469, 470 dt. 06.10.15   | 34  | 120   | 6.8 | 40  | 8            | Non complying |  |
| 634, 635 dt. 14.01.16   | 20  | 96    | 7.2 | 30  | 4            | Complying     |  |
| 708, 709 dt. 25.03.16   | 22  | 120   | 7.3 | 30  | 4            | Complying     |  |
| 207, dt. 08.11.16   | 20  | 88    | 7   | 26  | ND           | Complying     |  |
| 296, dt. 17.02.17   | 24  | 96    | 6.9 | 60  | 4            | Complying     |  |
| 45 dt. 02.06.2017   | 10  | 48    | 6.9 | 16  | ND           | Complying     |  |
| 140 dt. 28.9.2017   | 24  | 40    | 8   | 14  | ND           | Complying     |  |
| 197 dt. 08.01.18  | 8   | 32    | 7   | 14  | ND           | Complying     |  |
| 287 dt. 16.03.18  | 12  | 40    | 8.2 | 14  | ND           | Complying     |  |
| 47, dt. 05.06.18  | 12  | 40    | 7.9 | 16  | ND           | Complying     |  |
| 188,03.10.18  | 16  | 56    | 6.9 | 24  | ND           | Complying     |  |
| <b>51 9.5 MLD STP, Daddu Road, Kalanwali, Sirsa by PHED in 17.02.2018</b>           |     |       |     |     |              |               |  |
| Report No. & date   | BOD | COD   | PH  | TSS | Oil & Grease | Remarks       |  |
| 291 dt. 16.03.18  | 8   | 24    | 8.1 | 10  | ND           | Complying     |  |
| 42 dt. 05.06.18   | 10  | 32    | 7.2 | 12  | ND           | Complying     |  |
| 189, 03.10.18   | 8   | 24    | 7.2 | 10  | ND           | Complying     |  |
| <b>52 6 MLD STP Rania Sirsa by PHED in 30.6.2017</b>                                |     |       |     |     |              |               |  |
| Report No. & date   | BOD | COD   | PH  | TSS | Oil & Grease | Remarks       |  |
| 185, 03.10.18   | 6   | 24    | 7.2 | 10  | ND           | Complying     |  |
|   |     |       |     |     |              |               |  |
| <b>53 16.5 MLD STP Dabwali, Sirsa by PHED in 30.6.2017</b>                          |     |       |     |     |              |               |  |
| Report No. & date   | BOD | COD   | PH  | TSS | Oil & Grease | Remarks       |  |
| <b>Date of commissioning of STP of PHED Sirsa at Dabwali is 4.12.2017</b>           |     |       |     |     |              |               |  |
| 261, 262 dt. 24.01.18   | 6   | 24    | 7.2 | 10  | ND           | Complying     |  |
| 43 dt. 05.06.18   | 8   | 24    | 7.6 | 10  | ND           | Complying     |  |
| 203, 11.10.18   | 36  | 104   | 8.8 | 120 | 4            | Non complying |  |
| <b>54 10 MLD STP Vill. Bhodia Khera, Bhattu Road, Fatehabad by PHED in 1.4.2013</b> |     |       |     |     |              |               |  |
| Report No. & date   | BOD | COD   | PH  | TSS | Oil & Grease | Remarks       |  |
| 10, 11 dt.23.04.14  | 26  | 158.4 | 8.1 | 40  | 6            | Complying     |  |
| 231 dt. 04.07.14  | 80  | 208   | 7.1 | 260 | 8            | Non complying |  |
| 312 dt. 22.09.14  | 20  | 96    | 6.9 | 22  | ND           | Complying     |  |
| 395 dt. 20.11.14  | 12  | 104   | 7.8 | 20  | ND           | Complying     |  |
| 705 dt. 24.03.15  | 24  | 144   | 6.8 | 22  | 4            | Complying     |  |
| 260, 261 dt. 20.07.15   | 12  | 88    | 7   | 16  | 4            | Complying     |  |
| 561, 562 dt. 30.11.15   | 16  | 88    | 7   | 18  | ND           | Complying     |  |
| 702, 703 dt.25.03.16  | 14  | 64    | 7.9 | 16  | ND           | Complying     |  |

|           |  |            |            |           |            |                         |                |
|-----------|--|------------|------------|-----------|------------|-------------------------|----------------|
|           | 204, dt. 08.11.16  | 22         | 72         | 7.2       | 20         | ND                      | Complying      |
|           | 305, dt. 17.02.17  | 16         | 72         | 7.2       | 14         | ND                      | Complying      |
|           | 39 dt. 19.05.17  | 10         | 40         | 7.4       | 14         | ND                      | Complying      |
|           | 146 dt. 28.9.2017  | 14         | 36         | 7.8       | 26         | ND                      | Complying      |
|           | 199 dt 14.12.17  | 6          | 24         | 7.4       | 16         | ND                      | Complying      |
|           | 297 dt. 30.03.18   | 12         | 40         | 7.9       | 16         | ND                      | Complying      |
|           | 64, 20.06.18   | 18         | 40         | 7.2       | 22         | ND                      | Complying      |
|           | 167, 21.09.18  | 12         | 40         | 8         | 18         | ND                      | Complying      |
| <b>55</b> | <b>10 MLD STP Vill.Amani, Tohana, Distt. Fatehabad by PHED in 1.4.2013</b> |            |            |           |            |                         |                |
|           | <b>Report No. &amp; date</b>   | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 14, 15 dt. 23.04.14  | 18         | 115.2      | 8.6       | 30         | 6                       | Complying      |
|           | 230 dt. 04.07.14   | 120        | 256        | 6.8       | 380        | 4                       | Non complying  |
|           | 325 dt.29.09.14  | 26         | 120        | 7.2       | 30         | 6                       | Complying      |
|           | 394 dt.20.11.14  | 14         | 112        | 7.6       | 16         | 4                       | Complying      |
|           | 729 dt. 26.03.15   | 28         | 192        | 6.9       | 80         | 6                       | Complying      |
|           | 262, 263 dt. 20.07.15  | 14         | 104        | 7.4       | 20         | 4                       | Complying      |
|           | 557, 558 dt. 30.11.15  | 18         | 120        | 7         | 24         | ND                      | Complying      |
|           | 700, 701 dt. 25.03.16  | 18         | 72         | 6.8       | 20         | ND                      | Complying      |
|           | 205, dt. 08.11.16  | 12         | 48         | 7.4       | 18         | ND                      | Complying      |
|           | 314, dt. 10.03.17  | 12         | 40         | 7.9       | 18         | ND                      | Complying      |
|           | 48 dt. 02.06.17  | 8          | 32         | 6.4       | 12         | ND                      | Complying      |
|           | 148 dt. 28.9.2017  | 16         | 48         | 7.9       | 22         | ND                      | Complying      |
|           | 248 dt 08.01.18  | 12         | 24         | 7.8       | 18         | -                       | Complying      |
|           | 295 dt. 30.03.18   | 12         | 40         | 7.9       | 14         | ND                      | Complying      |
|           | 66, 20.06.18   | 56         | 128        | 7.2       | 120        | 6                       | Non complying  |
|           | 135, 14.08.2018  | 16         | 48         | 7.6       | 18         | ND                      | Complying      |
|           | 165, 21.09.18  | 14         | 40         | 7.9       | 18         | ND                      | Complying      |
| <b>56</b> | <b>6.5 MLD STP Ratia, Fatehabad by PHED in 1.9.2014</b>                    |            |            |           |            |                         |                |
|           | <b>Report No. &amp; date</b>   | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 311 dt. 22.09.14   | 18         | 88         | 6.2       | 20         | ND                      | Complying      |
|           | 393 dt. 20.11.14   | 12         | 96         | 7.9       | 18         | ND                      | Complying      |
|           | 708 dt.24.03.15  | 26         | 176        | 6.7       | 28         | 6                       | Complying      |
|           | 258, 25 dt. 20.07.15   | 16         | 112        | 7.6       | 20         | 4                       | Complying      |
|           | 559, 560 dt.30.11.15   | 22         | 96         | 6.9       | 26         | ND                      | Complying      |
|           | 704, 705 dt. 25.03.16  | 18         | 88         | 7.4       | 22         | ND                      | Complying      |
|           | 203 dt.04.11.16  | 12         | 48         | 7.6       | 16         | ND                      | Complying      |
|           | 315 dt. 10.03.17   | 6          | 32         | 6.9       | 10         | ND                      | Complying      |
|           | 34 dt. 19.05.17  | 12         | 36         | 7.2       | 10         | ND                      | Complying      |
|           | 147dt. 28.9.2017   | 14         | 40         | 8         | 18         | ND                      | Complying      |
|           | 247 dt. 08.01.18   | 12         | 32         | 7.6       | 16         | ND                      | Complying      |
|           | 296 dt. 30.03.18   | 14         | 48         | 8.2       | 18         | ND                      | Complying      |

|           |  |            |            |           |            |                         |                |
|-----------|--|------------|------------|-----------|------------|-------------------------|----------------|
|           | 63, 20.06.18                               | 16         | 48         | 7.6       | 20         | ND                      | Complying      |
|           | 166, 21.09.18                              | 10         | 24         | 8.2       | 12         | ND                      | Complying      |
| <b>57</b> | <b>10 MLD STP Majra, Fatehabad by HUDA</b> |            |            |           |            |                         |                |
|           | <b>Report No. &amp; date</b>               | <b>BOD</b> | <b>COD</b> | <b>PH</b> | <b>TSS</b> | <b>Oil &amp; Grease</b> | <b>Remarks</b> |
|           | 65, 20.06.18                               | 5          | 16         | 7.6       | 10         | ND                      | Complying      |
|           | 168, 21.09.18                              | 6          | 16         | 8         | 10         | ND                      | Complying      |



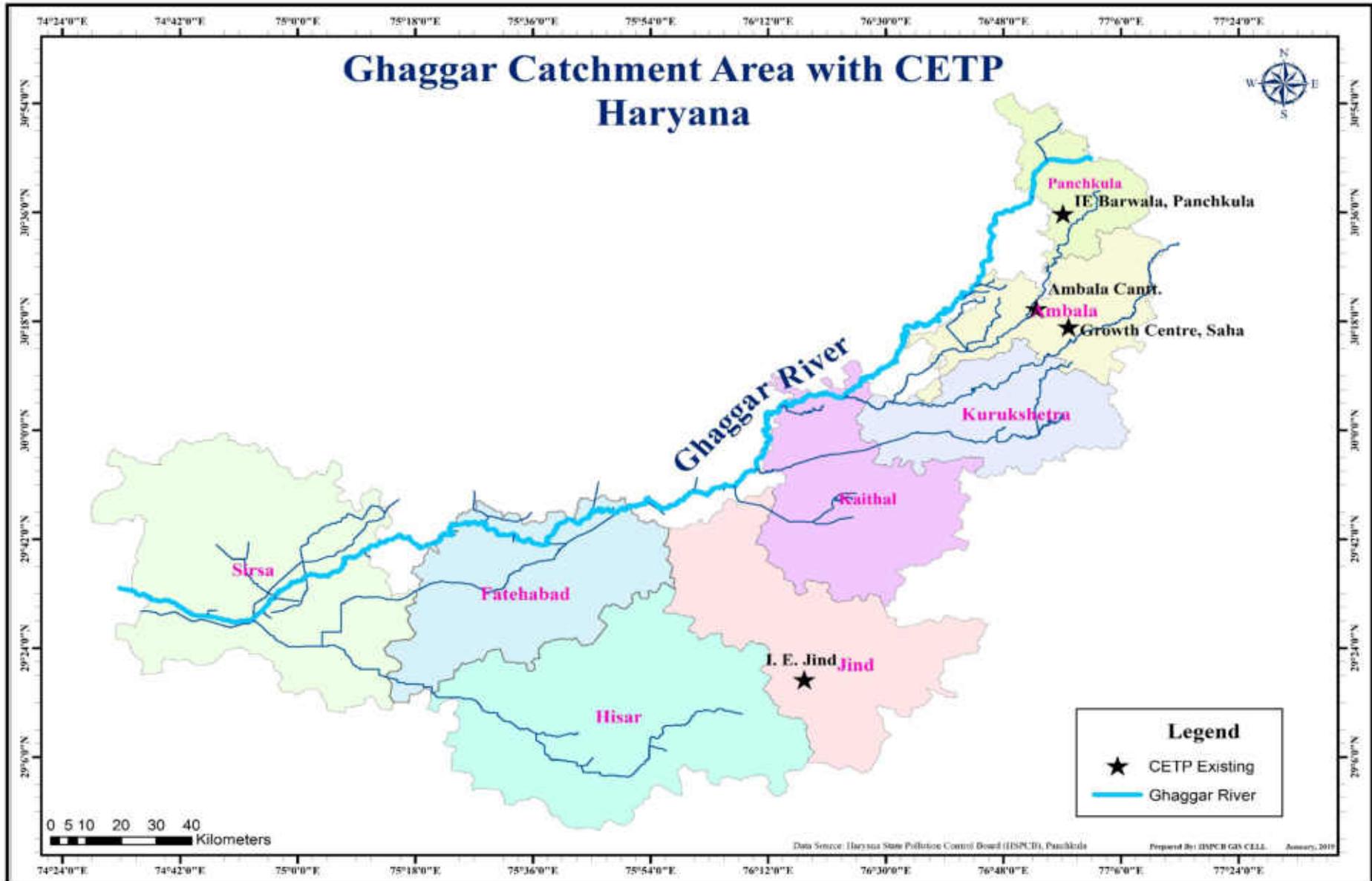
## 11. Action Plan for CETPs

The action plan for each CETP is given in the table.

| <b>Status of recycling in existing CETPs</b> |                             |                              |               |                       |   |
|--|-----------------------------|------------------------------|---------------|-----------------------|---|
| <b>Sr.No.</b>                                | <b>Name of the district</b> | <b>Name of the town/city</b> | <b>Deptt.</b> | <b>Capacity (MLD)</b> | <b>Range of BOD (mg/l) achieved in 2018</b> |
| 1  | Panchkula                   | IE Barwala, Panchkula        | HSI IDC       | 0.5                   | 10 - 14                                     |
| 2  | Ambala                      | Ambala Cantt.                | HSI IDC       | 0.5                   | 11 - 18                                     |
| 3  | Ambala                      | Growth Centre, Saha          | HSI IDC       | 5                     | 9 - 24                                      |
| 4  | Jind                        | I. E. Jind                   | HSI IDC       | 0.1                   | 12 - 26                                     |

### **Under Proposal of CETPs**

| <b>Sr. No.</b> | <b>Name of the district</b> | <b>Name of the town/city</b> | <b>Deptt.</b> | <b>Capacity (MLD)</b> | <b>Date of start of construction</b> |
|----------------|-----------------------------|------------------------------|---------------|-----------------------|--------------------------------------|
| 1              | Jind                        | IE Narwana                   | HSI IDC       | 1.5                   | 30.06.2020                           |
| 2              | Sirsa                       | IDDC, Sirsa                  | HSI IDC       | 1.5                   | 30.06.2020                           |



## 12. Online Monitoring Devices

The plan for installation of Online Monitoring Devices at STPs is given as under.

| Sr. No. | Name of the district | Name of the town/ city             | Deptt. | Capacity (MLD) | Target Date for installation of OMD |
|---------|----------------------|------------------------------------|--------|----------------|-------------------------------------|
| 1       | Ambala               | Naya Gaon, Unit-I, Ambala City     | PHED   | 3.25           | Installed                           |
| 2       | Ambala               | Naya gaon, Unit-II, Ambala City    | PHED   | 3.25           | 31.03.2019                          |
| 3       | Ambala               | Baldev Nagar, Unit-I, Ambala City  | PHED   | 5              | Installed                           |
| 4       | Ambala               | Baldev Nagar, Unit-II, Ambala City | PHED   | 3.25           | 31.03.2019                          |
| 5       | Ambala               | Moti Nagar, Unit-I, Ambala City    | PHED   | 5              | 31.03.2019                          |
| 6       | Ambala               | Moti Nagar, Unit-II, Ambala City   | PHED   | 5              | 31.03.2019                          |
| 7       | Ambala               | Modal Town, Ambala City            | PHED   | 6              | Installed                           |
| 8       | Ambala               | Nasirpur, Ambala City              | PHED   | 3.25           | 31.03.2019                          |
| 9       | Ambala               | Sadopur                            | PHED   | 0.25           | 31.03.2019                          |
| 10      | Ambala               | Devi Nagar, Ambala City            | PHED   | 3.25           | 31.03.2019                          |
| 11      | Ambala               | Naraingarh                         | PHED   | 3              | 31.03.2019                          |
| 12      | Kurukshetra          | Modal Town, Pehowa                 | PHED   | 8              | 31.03.2019                          |
| 13      | Kurukshetra          | Ladwa Road, Shahbad                | PHED   | 11.5           | 31.03.2019                          |
| 14      | Kurukshetra          | Indri Road, Ladwa                  | PHED   | 7              | 31.03.2019                          |
| 15      | Panchkula            | Kalka                              | PHED   | 4.5            | 31.03.2019                          |
| 16      | Panchkula            | Kalka                              | PHED   | 0.25           | 31.03.2019                          |
| 17      | Panchkula            | Nalagarh Road, Pinjore             | PHED   | 5              | 31.03.2019                          |
| 18      | Jind                 | Jind                               | PHED   | 15             | 31.03.2019                          |
| 19      | Jind                 | Narwana                            | PHED   | 3.5            | 31.03.2019                          |
| 20      | Jind                 | Narwana                            | PHED   | 3.75           | 31.03.2019                          |
| 21      | Jind                 | Narwana                            | PHED   | 2.6            | 31.03.2019                          |
| 22      | Jind                 | Uchana                             | PHED   | 2              | 31.03.2019                          |
| 23      | Jind                 | Uchana                             | PHED   | 1.5            | 31.03.2019                          |
| 24      | Jind                 | Jind                               | PHED   | 5              | 31.03.2019                          |
| 25      | Jind                 | Safidon                            | PHED   | 9              | 31.03.2019                          |
| 26      | Jind                 | Julana                             | PHED   | 4              | 31.03.2019                          |
| 27      | Kaithal              | Cheeka                             | PHED   | 10             | 31.03.2019                          |
| 28      | Kaithal              | Jind Road, Kaithal                 | PHED   | 10             | Installed                           |

| Sr. No.     | Name of the district | Name of the town/ city                     | Deptt. | Capacity (MLD) | Target Date for installation of OMD |
|-------------|----------------------|--|--------|----------------|-------------------------------------|
| 29          | Kaithal              | Manas Road, Kaithal                        | PHED   | 10             | Installed                           |
| 30          | Kaithal              | Manas Road, Kaithal                        | PHED   | 10             | Installed                           |
| 31          | Kaithal              | Kalayath                                   | PHED   | 5              | Installed                           |
| 32          | Kaithal              | Pundri                                     | PHED   | 3.5            | 31.03.2019                          |
| 33          | Hisar                | Dhani Kushal, Bhiwani Road, Hansi          | PHED   | 5              | 31.03.2019                          |
| 34          | Hisar                | Lalpura- Jind Road, Hansi                  | PHED   | 7.5            | 31.03.2019                          |
| 35          | Hisar                | Dhani Gram, Barwala                        | PHED   | 6              | 31.03.2019                          |
| 36          | Hisar                | Azad Nagar, Rajgarh Road Hisar             | PHED   | 15             | 31.03.2019                          |
| 37          | Hisar                | Rishi Nagar, Hisar                         | PHED   | 40             | Installed                           |
| 38          | Hisar                | Hisar                                      | PHED   | 4              | 31.03.2019                          |
| 39          | Hisar                | Uklana                                     | PHED   | 6.5            | Installed                           |
| 40          | Sirsa                | Chautala Road, Dabwali                     | PHED   | 16.5           | 31.03.2019                          |
| 41          | Sirsa                | Shamsabad patti, Kalania Road, Sirsa       | PHED   | 15             | 31.03.2019                          |
| 42          | Sirsa                | Vill. Nattar 1, Sirsa                      | PHED   | 5              | 31.03.2019                          |
| 43          | Sirsa                | Vill. Nattar 2, Sirsa                      | PHED   | 5              | 31.03.2019                          |
| 44          | Sirsa                | Daddu Road, Kalanwali                      | PHED   | 9.5            | 31.03.2019                          |
| 45          | Sirsa                | Ellenabad                                  | PHED   | 7.5            | 31.03.2019                          |
| 46          | Fatehabad            | Vill. Bhodia Khera, Bhattu Road, Fatehabad | PHED   | 10             | 31.03.2019                          |
| 47          | Fatehabad            | Vill.Amani, Tohana, Distt. Fatehabad       | PHED   | 10             | 31.03.2019                          |
| 48          | Fatehabad            | Ratia                                      | PHED   | 6.5            | 31.03.2019                          |
| <b>HSVP</b> |                      |  |        |                |                                     |
| 1           | Ambala               | Sec-7, Urban Estate, Ambala City           | HSVP   | 2              | 31.03.2019                          |
| 2           | Panchkula            | Sec-20, Panchkula                          | HSVP   | 18             | Installed                           |
| 3           | Panchkula            | Sec-20, Panchkula                          | HSVP   | 39             | Installed                           |

| Sr. No. | Name of the district | Name of the town/ city    | Deptt. | Capacity (MLD) | Target Date for installation of OMD |
|---------|----------------------|---------------------------|--------|----------------|-------------------------------------|
| 4       | Panchkula            | Sec-28, Panchkula         | HSVP   | 15             | Installed                           |
| 5       | Jind                 | Jind                      | HSVP   | 10             | Installed                           |
| 6       | Kaithal              | Kaithal                   | HSVP   | 7.5            | Installed                           |
| 7       | Hisar                | Dabara Tosham Road, Hisar | HSVP   | 15             | 31.03.2019                          |
| 8       | Fatehabad            | Village Majra             | HSVP   | 10             | Installed                           |

#### Status of Online Monitoring Devices by CETPs

| Sr.No. | Name of the district | Name of the town/city | Deptt.  | Capacity (MLD) | Online data |
|--------|----------------------|-----------------------|---------|----------------|-------------|
| 1      | Panchkula            | IE Barwala, Panchkula | HSI IDC | 0.5            | 31.03.2019  |
| 2      | Ambala               | Ambala Cantt.         | HSI IDC | 0.5            | 31.03.2019  |
| 3      | Ambala               | Saha                  | HSI IDC | 5              | installed   |
| 4      | Jind                 | I. E. Jind            | HSI IDC | 0.1            | 31.03.2019  |

### 13. Plan for Integrated Solid Waste Management (ISWM) of 7 Clusters (Falling in Ghaggar Catchment Area)

The ISWM projects for towns along river Ghaggar are being implemented by ULBD. The action plan is given in the table.

| Sr. No | Name of Cluster & Cluster ULBs  | Waste Generated (In TPD)/ Technology | Expected Release Date of Tender | Expected Completion Date of Project             | Current Status/ Justification  |
|--------|---|--------------------------------------|---------------------------------|---|--|
| 1      | Ambala (Bhandwari Gurugram)<br><br>For<br>• Ambala<br>• Cheeka<br>• Pehowa<br>• Thanesar<br>• Shahbad | 1275 Waste to Energy                 | Tender Invited                  | 24 months from the date of signing of agreement | <ul style="list-style-type: none"> <li>Both the clusters will have separate processing facility and the RDF generated in Karnaal will be transported to Ambala waste to energy plant.</li> <li>There is an existing waste to compost plant in Karnal.</li> <li>The tender for Ambala - ISWM shall be invited again and the existing plant in Karnal will be modernized and upgraded to cater the waste of all the cluster ULB and a new plant in Ambala will be setup.</li> <li>Until ISWM project is awarded, door to door collection, segregation, pit composting and MRF facilities will be developed in the ULBs for which time bound strategy is being formulated.</li> </ul> |
| 2      | Fatehabad, (Bhuna)  | 120 Waste to compost +               | Tender released on 05.01.2018   | 12 months from the date of signing of           | <ul style="list-style-type: none"> <li>Until ISWM project is awarded, door to door collection, segregation, pit composting and</li> </ul>  |

| Sr. No | Name of Cluster & Cluster ULBs  | Waste Generated (In TPD)/ Technology | Expected Release Date of Tender                | Expected Completion Date of Project             | Current Status/ Justification   |
|--------|---|--------------------------------------|--|---|---|
|        | For <ul style="list-style-type: none"> <li>• Bhuna</li> <li>• Fatehabad</li> <li>• Ratia</li> <li>• Tohana</li> <li>• Ukalana Mandi</li> <li>• Jakhal</li> </ul>  | RDF                                  | and bid evaluation is under process            | agreement                                       | MRF facilities will be developed in the ULBs for which time bound strategy is being formulated.   |
| 3      | Hisar (Hisar)<br>For <ul style="list-style-type: none"> <li>• Hisar</li> <li>• Barwala</li> <li>• Hansi</li> <li>• Narnaund</li> <li>• Siwani</li> </ul>  | 262 Waste to Compost + RDF           | November, 2018                                 | 12 months from the date of signing of agreement | <ul style="list-style-type: none"> <li>• TFR under finalization</li> <li>• Until ISWM project is awarded, door to door collection, segregation, pit composting and MRF facilities will be developed in the ULBD for which time bound strategy is being formulated.</li> </ul>                                   |
| 4      | Jind (Not identified)<br>For <ul style="list-style-type: none"> <li>• Assand</li> <li>• Jind</li> <li>• Kaithal</li> <li>• Kalayat</li> <li>• Narwana</li> <li>• Rajund</li> <li>• Safidon</li> <li>• Uchana</li> </ul> | 270 Waste to Compost+R DF            | Dec. 2018                                      | 12 Months from the date of signing of agreement | <ul style="list-style-type: none"> <li>• TFR under finalization</li> <li>• Until ISWM project is awarded, door to door collection, segregation, pit composting and MRF facilities will be developed in the ULBD for which time bound strategy is being formulated.</li> </ul>                                   |
| 5      | Panchkula (Jhuriwala )<br>For <ul style="list-style-type: none"> <li>• Panchkula</li> <li>• Narraingarh</li> </ul>  | 186 Waste to Compost+R DF            | Tender released on 05.01.2018 and bid received | 12 Months from the date of signing of agreement | <ul style="list-style-type: none"> <li>• bid evaluation has been done and project shall be awarded soon.</li> </ul>   |
| 6      | Punhana (Punhana)<br>For <ul style="list-style-type: none"> <li>• F/Jhirkha</li> <li>• Hathin</li> <li>• Hodel</li> <li>• Palwal</li> <li>• Punhana</li> </ul>  | 136 Waste to Compost+R DF            | Nov, 2018                                      | 12 Months from the date of signing of agreement | <ul style="list-style-type: none"> <li>• The tender will be invited Soon, TFR under finalization.</li> <li>• Until ISWM project is awarded, door to door collection, segregation, pit composting and MRF facilities will be developed in the ULBD for which time bound strategy is being formulated.</li> </ul> |
| 7      | Sirsa (Dabwali)<br>For <ul style="list-style-type: none"> <li>• Dabwali</li> <li>• Ellenabad</li> <li>• Kalanwali</li> <li>• Rania</li> <li>• Sirsa</li> </ul>  | 177 Waste to Compost+R DF            | Dec., 2018                                     | 12 Months from the date of signing of agreement | <ul style="list-style-type: none"> <li>• Processing and scientific disposal site will come at existing waste processing plant in Sirsa of area 13 acre.</li> <li>• Until ISWM project is awarded, door to door collection, segregation, pit composting and MRF facilities will be developed</li> </ul>          |

| Sr. No | Name of Cluster & Cluster ULBs | Waste Generated (In TPD)/ Technology | Expected Release Date of Tender | Expected Completion Date of Project | Current Status/ Justification                                  |
|--------|--------------------------------|--------------------------------------|---------------------------------|-------------------------------------|--|
|        |                                |                                      |                                 |                                     | in the ULBD for which time bound strategy is being formulated. |

#### 14. Plan for e-waste management by HSPCB/ULBD.

##### Present Scenario

A study was conducted through CSIR-NEERI in the year 2010 and accordingly the total quantity of waste Electrical & Electronic equipments generated in Haryana is **4506.9 Ton**. In the State, there are **22** number of authorized refurbishers, dismantlers and recyclers for management of E-waste. The total authorized capacity of these units is **91389 MT/annum** which is approx. **1.8** times more than the waste generation in the State.

##### Future Course of Action

1. Policy for E-waste Management will be prepared within 3 months.
2. The E-waste collection bins has been proposed to be placed at the prominent places like Govt. offices, IT Parks etc.

#### 15. Plan for plastic waste management by HSPCB/ULBD.

Draft Policy and Plan for plastic waste management has been prepared by the ULBD and accordingly plastic waste shall be collected from un-organized sectors and from house hold/commercial sectors. The challans are issued to the violators.

#### 16. Plan for Bio-Medical Waste Management.

##### Present scenario of Bio Medical Waste Management in Haryana

|                                    |   |               |
|------------------------------------|---|---------------|
| Total number of HCFs in the State  | : | 3412          |
| Total number of Bedded HCFs        | : | 2410          |
| Total number of Non Bedded HCFs    | : | 1039          |
| Total number of Beds in HCFs       | : | 48357         |
| Total BMW waste generated in State | : | 11732 Kg/ day |

For the treatment of this Bio medical Waste, **11** no. of Common Bio medical Waste Treatment Facilities (CBWTFs) has been authorized in the State. The total incineration capacity of these CBWTFs to treat Bio Medical Waste is **39600 Kg/day**. All the CBWTFs have upgraded their incinerator to meet revised emissions standards as per MOEF Notification 2016 and provided Online Continuous Monitoring System on their incinerator.

The **3393** number of Health Care Facilities made agreement with these CBWTFs for collection & disposal of their Bio Medical Waste.

The Govt. of Haryana, Environment & Climate Change Department has constituted State Level Advisory Committee (SLAC) and 1st meeting of SLAC has already been held under the Chairmanship of Additional Chief Secretary to Govt. of Haryana, Health Department-cum-Chairman of SLAC on 16.8.2018.

### **Future Course of action**

1. Establishment of a Bar- Code System for bags or containers containing bio-medical waste will be implemented by 29.3.2019 as per CPCB guidelines.
2. All the Veterinary Hospitals, Animal Houses, Pathological Laboratories, Blood Banks & Research Institutions will be inspected and complied them as per Bio Medical Waste Rules, 2016 upto 31.3.2019.

### **17. Hazardous Waste Management in Haryana**

The State is having 01 no. Common Treatment, Storage and Disposal Facility (CTSDF) for Hazardous Waste located at village Pali, District Faridabad, which is authorized for collection, transportation, treatment and disposal of various hazardous waste generated in the State. As per annual report 2016-17 state was having 3941 nos. of hazardous waste generating units, which have generated 58829.43 ton of hazardous waste during the year, and the disposal of the same was as under:

|  |             |
|--|-------------|
| Quantity disposed in captive sanitary landfill             | 687.7 ton   |
| Quantity disposed through common sanitary landfill (CTSDF) | 8308.1 ton  |
| Quantity disposed through captive incinerator              | 4135.4 ton  |
| Quantity disposed through common incinerator (CTSDF)       | 20459.6 ton |
| Quantity disposed through co-processing in cement kilns    | 5089.1 ton  |
| Quantity utilized (rule 9)                                 | 3566.2 ton  |
| Quantity recycled (schedule 4)                             | 7458.8 ton  |
| Quantity of hazardous waste stored with occupier           | 9124.1 ton  |

The State was having 124 nos. of authorized private facilities for commonly recyclable hazardous wastes, as per annual report for the year 2016-17.

### **18. Water Efficient Agriculture Practices**

The major demand for river water is for Irrigation purposes and accordingly the State of Haryana has taken initiatives for water efficient farming practices which are given in succeeding paras and these are expected to reduce the pressure on river water.

#### **(A) Pilot Project for installation of solar/grid powered micro irrigation infrastructure on sewage treatment plants for utilizing treated water for Irrigation.**

With a view of augmenting water of assured supply to the every field, a new intervention has been proposed for the reuse of treated waste water from the existing Sewage Treatment Plants for the use of water in the best alternative which will help in

enhancing the irrigation. Working on these lines this pilot project has been prepared on over exploited & critical blocks by selecting STPs of Ladwa, Shahabad and Pehowa towns for irrigation. The farmers of the area to be benefited from this water have already formed Water User Associations and also given an undertaking to the effect that their area, to be covered under this project, is not covered by any canal command and they are willing to adopt this technology. The common Micro Irrigation Infrastructure will be provided for each STP outlet for supplying pressurized water supply at farm gate by providing pumping unit (grid/solar powered), filtration, HDPE pipe network etc. the water will be provided under pressure of 2-2.5 Kg/cm<sup>2</sup> So that farmers may utilize this for sprinkler and drip system. Farmers will be provided hydrant for every 4 acres or less if the holding of the farmers is less than four acres. In this manner the treated water, which was otherwise going unutilized in drain, will be put to proper use. It is also reported that sewage water from all these STPs is being properly monitored and tested by Public Health Engineering Department and parameters of this treated water meet with the standards for irrigation.

#### ADVANTAGES OF THE PROJECTS

1. New area will be brought under irrigation with optimum utilization of the available surplus water.
2. The project will encourage use of Micro Irrigation technologies.
3. Saving of power & diesel for farmers.
4. Increase in yield as nutrient rich water will be supplied.
5. The water, which was otherwise going waste, will be put to proper use.
6. No land acquisition will be involved.

Accordingly, a project has been prepared for using the treated water in Irrigation in district Kuruksheta. A common infrastructure has been provided with the following components in the command area of each outlet to be covered under Model Command Area of Jal Kranti Abhiyan:-

1. Water storage tank near outlet head.
2. Pumping Unit (Grid/Solar Powered).
3. Filtration units.
4. HDPE pipe network.
5. Hydrant/Outlet assembly.
6. Valves

Drip/Sprinkler irrigation sets will be provided 2 no./per 15 HP pump and individual farmers can also install the drip/sprinkler sets in their farm holdings by availing the benefits of subsidy from the State Horticulture/Agriculture Departments as per their existing schemes of promoting the Drip/Micro Sprinkler Systems.

The cost of common infrastructure has been worked out as Rs. 109000/- (Approx.) per hectare of CCA and the total estimated cost of the project is Rs. 3.65 Crore. Detail list of site wise schemes taken up is as under:-

| Sr. No. | Name of District | Name of Block | CCA in Hectare | Cost {CCA (hct.) X 1.09 lakh} |
|---------|------------------|---------------|----------------|-------------------------------|
| 1.      | Kurukshetra      | Pehowa        | 76             | 8676084                       |

|    |             |              |            |                 |
|----|-------------|--------------|------------|-----------------|
| 2. | Kurukshetra | Ladwa        | 63         | 7192017         |
| 3. | Kurukshetra | Shahabad     | 151        | 17238009        |
|    |             | <b>Total</b> | <b>290</b> | <b>33106110</b> |

=33106110

Add 1% Contingency Chares = 165531

Add 15% Tender Premium = 3310611

=36582252

#### **SALIENT FEATURES**

- Total Cost of Project Rs. 3.65 Crore
- CCA to be covered in Acre/Ha. 715/290
- No. of Sprinkler sets 01 No./ 15 HP pump
- Benefit Cost Ratio 1.3:1
- Total number of schemes 3
- Number of Districts/Villages covered 1/5
- Name of villages: Pehowa- (Pehowa, Morthli, Bhatt Majra), Ladwa- (Baraichpur) & Shahabad-(Chhapra).

#### **(B) Project of Recycle and Reuse of Treated Wastewater for Irrigation Purpose in Fatehabad, Hisar, Sirsa & Jind Districts of Haryana.**

Project was prepared under the guidelines of the scheme for "Incentivization Scheme for Bridging Irrigation Gap (ISBIG) of Ministry of water Resources, River Development and Ganga Rejuvenation, govt. of India" under components infrastructure for conveyance and additional treatment of municipal and industrial wastewater for augmenting water for the farm use "Project Under newly created Irrigation Efficiency in phasing during the financial year 2018-19 to 2020-2021 for amounting in Rs. 235.94 Crore only.

This office planned to carry out the work of Recycle and Reuse of Treated Wastewater of Irrigation Purposes from the STPs of Fatehabad, Sirsa, Hisar and Jind districts having the capacity 29.50, 15.00, 22.50 & 20.00 MLD respectively amounting to Rs. 87.00 Crore in 1st phase as planned for the year 2018-19. The estimate for this project will be prepared on the basis of already approved item rates of CADA for re-use of wastewater which are the part of the estimate and remaining item rates will be prepared on the basis of HSR and market rates. Thereafter, e-tender will be called on EPC basis towards successful commissioning plus 1 year of assured performance demonstration after commissioning and comprehensive O & M of the schemes for 3 years thereafter. A new concept A.P.O.P treatment technology for Advanced Photo Oxidation processes at STPs be adopted an intervention for disinfection, removal of endocrine disruptors and other hazardous compounds. This intervention is essentially required because all the composition of the waste water has been addressed effectively and efficiently by the MBBR & SBR treatment technologies except toxic chemical and pathogens. A high concentration of pathogens such as viruses, bacteria, helminthes eggs and fecal coliforms have the potential to cause diseases if present in a human host insufficient quantity.

**District wise list of STPs provided in the project**

| <b>Sr. No.</b> | <b>Name of District</b> | <b>Name of STO</b> | <b>Capacity of STP (In MLD)</b> | <b>Treatment Technology</b> |
|----------------|-------------------------|--------------------|---------------------------------|-----------------------------|
| 1.             | Ambala                  | Barara             | 6.00                            | MBBR                        |
| 2.             | Ambala                  | Narayangarh        | 5.00                            | MBBR                        |
| 3.             | Bhiwani                 | Badra              | 10.00                           | MBBR                        |
| 4.             | Bhiwani                 | Kairu              | 10.00                           | MBBR                        |
| 5.             | Charkhi Dadri           | Charkhi Dadri      | 5.00                            | MBBR                        |
| 6.             | Faridabad               | Balhabgarh         | 18.00                           | MBBR                        |
| 7.             | Gurugram                | Behrampur          | 50.00                           | MBBR                        |
| 8.             | Hisar                   | Hansi              | 12.50                           | MBBR                        |
| 9.             | Hisar                   | Hisar, Sector 3    | 10.00                           | MBBR                        |
| 10.            | Jhajjar                 | Jhajjar            | 5.50                            | MBBR                        |
| 11.            | Jhajjar                 | Salhwas            | 5.00                            | MBBR                        |
| 12.            | Jind                    | Jind               | 15.00                           | MBBR                        |
| 13.            | Jind                    | Narwana            | 5.00                            | MBBR                        |
| 14.            | Rewari                  | Rewari             | 6.50                            | MBBR                        |
| 15.            | Rewari                  | Rewari             | 8.00                            | MBBR with Dual Mode Filter  |
| 16.            | Kaithal                 | Gulha              | 10.00                           | SBR                         |
| 17.            | Kaithal                 | Kaithal            | 10.00                           | SBR                         |
| 18.            | Fatehabad               | Fatehabad          | 10.00                           | MBBR                        |
| 19.            | Fathehabad              | Tohana             | 10.00                           | MBBR                        |
| 20.            | Fatehabad               | Jakhal             | 3.00                            | SBR                         |
| 21.            | Fatehabad               | Ratia              | 6.50                            | MBBR                        |
| 22.            | Karnal                  | Karnal             | 10.00                           | SBR                         |
| 23.            | Karnal                  | Karnal             | 8.00                            | MBBR                        |
| 24.            | Mahendergarh            | Nangal Chaudhary   | 6.50                            | MBBR                        |
| 25.            | Mahendergarh            | Narnaul            | 7.50                            | MBBR                        |
| 26.            | Mewat                   | Punhana            | 4.50                            | MBBR                        |
| 27.            | Mewat                   | Nuh                | 3.60                            | MBBR                        |
| 28.            | Panipat                 | Panipat            | 25.00                           | SBR                         |
| 29.            | Palwal                  | Hathin             | 4.50                            | MBBR                        |
| 30.            | Panchkula               | Kalka              | 4.75                            | MBBR                        |
| 31.            | Panchkula               | Pinjor             | 5.00                            | MBBR                        |
| 32.            | Rohtak                  | Rohtak             | 10.00                           | MBBR                        |
| 33.            | Sirsa                   | Sirsa              | 15.00                           | SBR                         |
| 34.            | Sonipat                 | Sector 23          | 10.00                           | MBBR                        |
| 35.            | Ghaggar Nagar           | Radaur             | 3.50                            | MBBR                        |
|                | <b>Total</b>            |                    | <b>338.85</b>                   |                             |

**(C) INSTALLATION OF COMMUNITY BASED SOLAR/GRID POWERED MICRO IRRIGATION INFRASTRUCTURE IN EXISTING CANAL COMMANDS**

The Pilot Project has been prepared by CADA for Rs. 30.60 Crore with provision for installation of community based MI schemes in commands of the 14 different canal outlets spread over 13 different district of the State covering area 2231 Hectare. The concept of community based micro-irrigation has been introduced in the first instance on pilot basis on some of the canal outlets in the command of the ongoing CADWM Projects. Common Micro

Irrigation infrastructure will be provided for each canal outlet command for supplying pressurised water supply at the farm fate of each farmer of the outlet chak instead of constructing lines filed channels. Community based water storage tank, pumping unit (Grid/solar powered), filtration unit, HDPE pipe network, hydrant/outlet assemblies, valves, etc. shall be will be constructed by the department. Drip/Sprinkler irrigation sets will be installed by the individual farmers in their farm holdings by availing the benefits of subsidy from the State Horticulture/Agriculture Departments as per their existing schemes of promoting the Drip/Sprinkler Systems.

Water User Associations (WUA have been framed for all the water courses. The WUAs have committed to provide land for construction of community pond for storing water from outlet and supplying further to individual farmers. Further the management of the water at outlet will be completely done by the shareholders. The WUAs will help in creating healthy and cordial atmosphere between the shareholders themselves. Moreover, this will also help in developing a sense of ownership amongst the shareholders and also facilitate implementation of warabandi. A better co-ordination will emerge between the end users and the CADA department for planning, execution and monitoring of the pilot project thereby initiating proper transfer of management to farmers.

The Solar Power Systems to be installed on the various schemes under the project are proposed to be connected with the utility power grid so that the energy generated by the solar modules, whenever not required for operation of the pumping system or is in excess of requirement, can be sent to the Utility Grid and when the solar power system in producing lesser power than needed for operation of the pumping system or is not producing any power at all, additional power for operation of the pumping system can be drawn from the Grid. The provision has also been made for interconnection of the solar power systems with the utility power grid through 11 KV independent feeder lines from the nearest Sub Stations for each scheme with provision of import/export (BI-directional) meter. The excess energy produced from the solar power systems and transferred to the utility power grid will be credited on the rate mutually agreed between the Department/WUA and DISCOM as per Government Policy against the power supplied from the utility grid.

The project will help in making an assessment of the workability of the proposed model in the State and evaluating its actual impact and benefits. The project will demonstrate to the farmers of the State the value of water and help in changing their mindset and motivating them to adopt the water efficient MI technology in canal commands on a large scale.

The main objectives of the project are to improve water use efficiency and increase crop productively. The water use efficiency will be achieved by adopting integrated approach in water management:-

- Supply management - By increasing the available supply by reduction in conveyance losses.
- Demand Management - By increasing the field application efficiency with the use of water efficient Sprinkler & Drip Irrigation technology.

**Detail list of sites:-**

| Sr. No. | Name of District | Name of villages             | Name of outlet | Outlet RD    | CCA in acre | CCA in Hectare |
|---------|------------------|------------------------------|----------------|--------------|-------------|----------------|
| 1       | Kurukshetra      | Gumthala Garhu               | Sandhola Minor | 25220/L      | 147         | 59             |
| 2       | Kaithal          | Kakrala Anayat, Kakeor Majra | Paharpur Minor | 44600/R      | 417         | 169            |
| 3       | Sirsa            | Shahpuria                    | Gegorani Minor | 45800/R      | 705         | 285            |
| 4       | Hisar            | Masudpur                     | Singhwa Disty  | 25300/L      | 392         | 159            |
| 5       | Ambala           | Mallour                      | Mallour Disty  | 5775-R       | 138         | 56             |
| 6       | Jind             | Behbalpur                    | Ramkali Minor  | 53620-L      | 98          | 40             |
|         |                  |                              |                | <b>Total</b> |             |                |

Date of completion of the Project is 31.12.2018.

**19. Increasing the Water Storage Capacity**

The construction of ponds/dams/reservoir along the rivers has been explored and the action taken so far in this regard has been given by the Irrigation Department with future course of action. This will helping maintaining. The same has been given in the table. The State Government as also link the village ponds with nearby existing channels for revival of ponds. The number of ponds for each circle have been given in the table:-

| Sr. No. | Bhud Dam   | Khetpurali Dam  | Tributary of Tangri Nadi   |
|---------|--|---|--|
| 1       | Panta and Tallanwali Nadi (Tributary of Tangri Nadi)   | Tributary of Tangri Nadi  | Tributary of Tangri Nadi   |
| 2       | 6440.00 Acre-ft  | 3266.79 Acre-ft   | 2834.66 Acre-ft  |
| 3       | 209 acres  | 113 acres   | 108.5 acres  |
| 4       | 21 Nos.  | 7 Nos.  | -  |
| 5       | 9525 acres CCA   | 10780 acre combined with Dudhgarh   | 8176 acres CCA   |
| 6       | 1. Bahadurpur 2. Gadwan 3. Alisherpur Majra 4. Ramgarh 5. Chholi 6. Katarwall 7. Jogiwara 8. Manakpur 9. Bari Lalhari 10. Chhoti Lalhari 11. Bankat 12. Chantpur 13. Manipur 14. Khanuwala 15. Tugalpur 16. Barauli Majra 17. Arjan Majra 18. Kot Basawar Singh 19. Kot Mushtarka 20. Ghisarpari | 1. Bhud 2. Kambala 3. Lashkarwala 4. Kherwali 5. Parwala 6. Murad Nagar 7. Jaintipur 8. Shampur 9. Penjawala 10. Kazimpur 11. Manak Tabra 12. Batwal 13. Bhandaru 14. Dhanda 15. Sukhdarshanpur 16. Khatauli 17. Rahawar 18. Barwala (part) 19. Batawar 20. Bhagwanpur 21. Nayagaon | 1. Khetpurali 2. Dulupur 3. Ganeshpur 4. Ratewali 5. Dabkauli 6. Kanauli 7. Alipur |
| 7       | Haryana  | Haryana   | Haryana  |

|    |  |  |  |
|----|--|--|--|
| 8  | Required   | Required   | Required   |
| 9  | Rs. 107.75 Crore   | Rs. 43.90 Cr.  | Rs. 47.00 Cr.  |
| 10 | 0.86:1   | 1.97:1   | 0.86:1   |
| 11 | Feasibility report submitted by WAPCOS and is under examination in field | Feasibility report submitted by WAPCOS on 05.09.2018 and is under examination in field | Feasibility report submitted by WAPCOS and is under examination in field |

| Progress report of ponds sanctioned by Department & Panchyat Department under HRDFA |                    |                  |                      |                          |                  |           |              |              |                     |              |                   |                          |  |
|---|--------------------|------------------|----------------------|--------------------------|------------------|-----------|--------------|--------------|---------------------|--------------|-------------------|--------------------------|--|
| Sr. No.   | Name of the circle | Name of District | Np. Of Village Ponds | Tender called / allotted | Work in progress | Completed | Yet to Start | Not feasible | Tender to be called | Not Required | Amount Sanctioned | Amount Released by HRDFA | Amount released by Irrigation Department |
| 1   | YWS Circle Jind    | Jind             | 6                    | 6                        | 0                | 0         | 6            | 0            | 0                   | 0            | 3005378           | 3005378                  | 0  |
| 2   | BWS Circle Hisar   | Hisar            | 9                    | 9                        | 3                | 4         | 2            | 0            | 0                   | 0            | 18783000          | 11759000                 | 9230932                                  |
| 3   | BWS Circle Kaithal | Kaithal          | 7                    | 7                        | 2                | 4         | 0            | 1            | 0                   | 0            | 19903976          | 12695882                 | 7266594                                  |
| 4   | BWS Circle Sirsa   | Sirsa            | 45                   | 35                       | 0                | 23        | 2            | 14           | 0                   | 6            | 43104000          | 43373000                 | 17842637                                 |

## 20. Greenery Development Plan

The action plan for greenery development in towns along river Ghaggar.

### HSVP

| Plantation carried out/to be carried out by HSVP in its area |              |                 |              |              |                       |              |
|--|--------------|-----------------|--------------|--------------|-----------------------|--------------|
| Sr. No.  | Name of U/E  | Plantation done |              |              | Plantation to be done |              |
|  |              | Year 2015-16    | Year 2016-17 | Year 2017-18 | Year 2018-19          | Year 2019-20 |
| 1  | Hisar        | 6000            | 3500         | 4770         | 7500                  | 6000         |
| 2  | Adampur      | 100             | 100          | 150          | 100                   | 0            |
| 3  | Agroha       | 0               | 0            | 0            | 200                   | 0            |
| 4  | Hansi        | 300             | 1550         | 200          | 1500                  | 1000         |
| 5  | Jind         | 5022            | 2840         | 4925         | 1700                  | 1700         |
| 6  | Narwana      | 50              | 0            | 0            | 100                   | 100          |
| 7  | Safidon      | 0               | 0            | 500          | 2000                  | 2000         |
| 8  | Sirsa        | 3395            | 3972         | 4065         | 5000                  | 5000         |
| 9  | Kalanwali    | 85              | 615          | 250          | 200                   | 200          |
| 10   | Ellenabad    | 75              | 0            | 205          | 100                   | 100          |
| 11   | Dabwali      | 50              | 0            | 0            | 0                     | 0            |
| 12   | Fatehabad    | 1590            | 615          | 1925         | 1000                  | 1000         |
| 13   | Ratia        | 50              | 0            | 0            | 0                     | 0            |
| 14   | Tohana       | 110             | 0            | 0            | 0                     | 0            |
| 15   | Bhattu       | 1310            | 640          | 710          | 0                     | 0            |
| 16   | Panchkula    | 4485            | 11238        | 6929         | 5000                  | 6000         |
| 17   | Ambala       | 3289            | 3800         | 2317         | 1500                  | 500          |
| 18   | Shahabad     | 180             | 155          | 0            | 0                     | 0            |
| 19   | Pehowa       | 639             | 125          | 0            | 0                     | 0            |
| 20   | Naraingarh   | 10              | 125          | 0            | 0                     | 0            |
| 21   | Kurukshetra  | 4448            | 3430         | 2050         | 2000                  | 2500         |
| 22   | MTS Gulha    | 210             | 100          | 0            | 0                     | 0            |
| 23   | MTS Pundri   | 85              | 100          | 0            | 0                     | 0            |
| 24   | Kaithal      | 10690           | 675          | 2120         | 1000                  | 1000         |
| 25   | <b>Total</b> | <b>42173</b>    | <b>33580</b> | <b>31116</b> | <b>28900</b>          | <b>27100</b> |

### Forest Department

#### Plantation to be undertaken on river banks by Forest Department

| Sr. No. | Name of Division | No. of planted/ proposed to be planted on river banks |           |          |                                       | Remarks (Please indicate approximate expenditure for planting each plant)                            |
|---------|------------------|---|-----------|----------|---------------------------------------|--|
|         |                  | Planted   |           | Proposed |                                       |  |
|         |                  | 2017-18   | 2018-19   | 2018-19  | 2019-20                               |  |
| 1.      | Morni-Pinjore    | 0   | 5000 (TP) | 0        | 110000 (15X22 size 20000 (TP) (30X45) | 11000000/-@100/- per plants (15X22)<br>7500000 @ 300/- per plant (30X45)<br>Total=18500000           |
| 2.      | Ambala           | 0   | 0         | 0        | 0                                     | 15000 TP with tree guards (Rs. 440 per plant with mtc and Rs. 1400 per tree guard Total Rs. 1840 per |

|     |                  |        |              |       |            |  |
|-----|------------------|--------|--------------|-------|------------|--|
|     |                  |        |              |       |            | plant G. Total Rs. 27600000<br>14000 P. Bag Plants @ Rs. 154 per plant with Mtc. Total Rs. 2156000     |
| 3.  | Kurukes<br>hetra | 0      | 0            | 0     | 0          | No. of Tall Plants 250 per RKM @<br>350/- per plant  |
| 4.  | Ghaggar<br>Nagar | 115750 | 132000       | 0     | 57500      | Tall Plant =Rs. 349/- per plant<br>Small Plant= Rs. 99/- per plant<br>(As per cost norms year 2018-19) |
| 5.  | Panipat          | 52911  | 90360        | 33000 | 22000      | As per cost norms  |
| 6.  | Sonepat          | 1000   | 1500         | 0     | 50000      | Rs. 32 per plants (Bunds targets)<br>Rs. 349 per plants (cities)                                       |
| 7.  | Sirsa            | 22500  | 0            | 0     | 23000      | 350/- per plants   |
| 8.  | Fatehab<br>ad    | 0      | 0            | 0     | 27000      | 14475671   |
| 9.  | Gurugra<br>m     | 0      | 0            | 0     | 0          | Rs. 350/-per plant   |
| 10. | Faridab<br>ad    | 0      | 2700<br>(TP) | 0     | 10000 (TP) | Rs. 350/- per plant  |

#### Plantation to be undertaken cities by Forest Department.

| Sr. No. | Name of<br>Division | No. of plants planted/ proposed to be<br>planted in the cities |         |             |                         | Remarks (Please indicate<br>approximate expenditure<br>for planting each plant)   |
|---------|---------------------|--|---------|-------------|-------------------------|---|
|         |                     | Planted  |         | Proposed    |                         |   |
|         |                     | 2017-18  | 2018-19 | 2018-<br>19 | 2019-20                 |   |
| 1.      | Morni-<br>Pinjore   | 0  | 0       | 0           | 5000<br>(TP)<br>(30X45) | 11000000/-@100/- per<br>plants (15X22)<br><br>7500000 @ 300/- per plant<br>(30X45)<br><br>Total=18500000  |
| 2.      | Ambala              | 6000   | 8000    | 0           | 15000                   | 15000 TP with tree guards<br>(Rs. 440 per plant with mtc<br>and Rs. 1400 per tree<br>guard Total Rs. 1840 per<br>plant G. Total Rs. 27600000<br><br>14000 P. Bag Plants @ Rs.<br>154 per plant with Mtc.<br>Total Rs. 2156000 |
| 3.      | Kurukeshetra        | 9000   | 5500    | 0           | 20000                   | No. of Tall Plants 250 per<br>RKM @ 350/- per plant   |
| 4.      | Ghaggar             | 4500   | 4000    | 0           | 5000                    | Tall Plant =Rs. 349/- per   |

|     |           |            |            |     |            |  |
|-----|-----------|------------|------------|-----|------------|--|
|     | Nagar     |            |            |     |            | plant<br>Small Plant= Rs. 99/- per plant<br>(As per cost norms year 2018-19) |
| 5.  | Panipat   | 1500       | 5500       |     |            | As per cost norms  |
| 6.  | Sonepat   | 2500       | 5500       | 0   | 7500       | Rs. 32 per plants (Bunds targets) Rs. 349 per plants (cities)                |
| 7.  | Sirsa     | 9000       | 4500       | 0   | 10500      | 350/- per plants   |
| 8.  | Fatehabad | 24000      | 2250       | 750 | 2500       | 14475671   |
| 9.  | Gurugram  | 3000 (TP)  | 15000 (TP) | 0   | 50000 (TP) | Rs. 350/-per plant   |
| 10. | Faridabad | 12000 (TP) | 6250 (TP)  | 0   | 6000 (TP)  | Rs. 350/- per plant  |

## 21. Ground Water Management

### Steps taken by HSPCB

HSPCB has decided to incorporate the necessary condition in its consent management policy that the industries shall obtain NOC from Central Ground Water Authority (CGWA) before withdrawal of ground water.

**Monitoring of Ground water/ compliance status  
Panchkula**

| Sr. No. | Sampling location  | Analysis Report No. | Date of collection | Colour & Intensity | Odor             | Human activities around station | pH (6.5 to 8.5 limit) | Conductivity | BOD mg/l | COD mg/l | Ammonia | Total Dissolved Solids mg/l (500 limits) | Total Suspended Solids mg/l |
|---------|--|---------------------|--------------------|--------------------|------------------|---------------------------------|-----------------------|--------------|----------|----------|---------|--|-----------------------------|
| 1       | Hand Pump 500 m from Ghaggar River Near Pir Khwaja At Sarala Khurd.            | 4897, 11.05.2018    | 2.05.2018          | Colourless         | <b>Odourless</b> | --                              | 7.92                  | 2330         | ND       | 33.2     | ND      | 1416                                     | 15                          |
| 2       | Hand Pump 12 meter away from River Ghaggar at Vill- Tiwana                     | 4592, 11.05.2018    | 2.05.2018          | Light Yellowish    | Odourless        | --                              | 7.71                  | 666          | ND       | 16.4     |         | 410                                      | 7                           |
| 3       | Borewell of Sh. Ram Chander Leather Units, Shiwala Mandi, Ambala.              | 4652, 14.05.2018    | 7.05.2018          | Colourless         | Odourless        | --                              | 7.51                  | 8800         |          | 139.2    |         | 5300                                     | ND                          |
| 4       | Hand Pump no. 1 at Vill- Tiwana  | 4598, 11.05.2018    | 2.05.2018          | Colourless         | Odourless        | --                              | 7.94                  | 2350         | ND       | 48.4     |         | 1422                                     | 15                          |
| 5       | Hand Pump Sh. Mehar Singh, at vil- Rampur, Ambala                              | 4593, 11.5.2018     | 2.05.2018          | Yellowish          | Odourless        | --                              | 8.26                  | 840          | ND       | 14.8     |         | 520                                      | ND                          |
| 6       | Hand Pump Sh. Surinder Singh At vill Rampur, Ambala                            | 4594, 11.05.2018    | 02.05.2018         | Colourless         | Odourless        | --                              | 8.26                  | 835          | ND       | 15.6     | ND      | 530                                      | ND                          |
| 7       | Tubewell NO. 2, Sector-24, HUDA, Panchkula                                     | 5365, 14.11.2018    | 02.11.2018         | Colourless         | Odourless        | --                              | 7.54                  |              | ND       | 8.8      |         |  | ND                          |
| 8       | Tubewell NO. 3, Sector-24, HUDA, Panchkula                                     | 5319, 12.11.2018    | 30.10.2018         | Colourless         | Odourless        | --                              | 7.21                  |              | ND       | 17.2     |         |  | ND                          |
| 9       | Tubewell No. 1, (HUDA division No. 3) Near dumping ground sector-23, Panchkula | 5318, 12.11.2018    | 30.10.2018         | Colourless         | Odourless        | --                              | 6.91                  |              | ND       | 14       |         |  | ND                          |
| 10      | Tubewell No. 5, Sector-24, HUDA, Panchkula                                     | 5321, 12.11.2018    | 30.10.2018         | Almost Colourless  | Almost Odourless | --                              | 7.18                  |              | ND       | 14.8     |         |  | ND                          |
| 11      | Tubewell No. 4, Sector-24, HUDA, Panchkula                                     | 5320, 12.11.2018    | 30.10.2018         | Almost Colourless  | Almost Odourless | --                              | 7.02                  |              | ND       | 15.6     |         |  | ND                          |

| Sr. No. | Sampling location                            | Analysis Report No. | Date of collection | Colour & Intensity | Odor             | Human activities around station | pH (6.5 to 8.5 limit) | Conductivity | BOD mg/l | COD mg/l | Ammonia | Total Dissolved Solids mg/l (500 limits) | Total Suspended Solids mg/l |
|---------|--|---------------------|--------------------|--------------------|------------------|---------------------------------|-----------------------|--------------|----------|----------|---------|--|-----------------------------|
| 12      | Tubewell No. 9, Sector-4, HUDA, Panchkula    | 5366, 14.11.2018    | 02.11.2018         | Almost Colourless  | Odourless        | --                              | 7.52                  |              | ND       | 10.4     |         |  | ND                          |
| 13      | Tubewell No. 6, Div-II, Sector-24, Panchkula | 5322, 12.11.2018    | 30.10.2018         | Almost Colourless  | Almost Odourless | --                              | 6.9                   |              | ND       | 16       | --      |  | ND                          |

|   | Sampling location   | Total Hardness mg/l (300 limit) | Fluoride mg/l (1.0 limits) | Chloride mg/l (250 limits) | Sulphate mg/l (200 limits) | Calcium mg/l (75 limits) | Magnesium mg/l | Nickel mg/l | Copper mg/l (0.05 limits) | Chromium mg/l (0.05 limits) | Zinc mg/l (5 limits) | Lead mg/l(0.05 limits) | Iron mg/l (0.3 limits) |
|---|---|---------------------------------|----------------------------|----------------------------|----------------------------|--------------------------|----------------|-------------|---------------------------|-----------------------------|----------------------|------------------------|------------------------|
| 1 | Hand Pump 500 m from Ghaggar River Near Pir Khwaja At Sarala Khurd. | 684                             |                            | 262                        |                            | 149.6                    | 75.33          | ND          | ND                        | -                           | 0.017                |                        | 0.04                   |
| 2 | Hand Pump 12 meter away from River Ghaggar at Vill- Tiwana          | 222                             |                            | 20                         |                            | 71.2                     | 10.692         | ND          | ND                        |                             | 0.007                |                        | ND                     |
| 3 | Borewell of Sh. Ram Chander Leather Units, Shiwala Mandi, Ambala.   | 1070                            |                            | 2630                       |                            | 252                      | 106.92         | ND          | ND                        |                             | 0.054                |                        | 0.062                  |
| 4 | Hand Pump no. 1 at Vill-Tiwana                                      | 554                             |                            | 262                        |                            | 121.6                    | 60.75          | ND          | ND                        |                             | 0.017                |                        | 0.028                  |
| 5 | Hand Pump Sh. Mehar Singh, at vil- Rampur, Ambala                   | 242                             |                            | 68                         |                            | 76                       | 12.636         | ND          | ND                        |                             | 0.015                |                        | ND                     |
| 6 | Hand Pump Sh. Surinder Singh At vill Rampur, Ambala                 | 200                             |                            | 72                         |                            | 41.6                     | 23.328         | ND          | ND                        |                             | 0.014                |                        | ND                     |
| 7 | Tubewell NO. 2, Sector-24, HUDA, Panchkula                          | 266                             |                            | 14                         |                            | 65.6                     | 24.786         | ND          | ND                        |                             | 0.076                |                        | 0.38                   |
| 8 | Tubewell NO. 3, Sector-24, HUDA, Panchkula                          | 242                             |                            | 38                         |                            | 56                       | 24.786         | ND          | ND                        |                             | 0.002                |                        | 0.07                   |

|    | Sampling location  | Total Hardness mg/l (300 limit) | Fluoride mg/l (1.0 limits) | Chloride mg/l (250 limits) | Sulphate mg/l (200 limits) | Calcium mg/l (75 limits) | Magnesium mg/l | Nickel mg/l | Copper mg/l (0.05 limits) | Chromium mg/l (0.05 limits) | Zinc mg/l (5 limits) | Lead mg/l(0.05 limits) | Iron mg/l (0.3 limits) |
|----|--|---------------------------------|----------------------------|----------------------------|----------------------------|--------------------------|----------------|-------------|---------------------------|-----------------------------|----------------------|------------------------|------------------------|
| 9  | Tubewell No. 1, (HUDA division No. 3) Near dumping ground sector-23, Panchkula | 107.2                           |                            | 32                         | -                          | 88                       | 11.664         | ND          | ND                        |                             | 0.037                |                        | ND                     |
| 10 | Tubewell No. 5, Sector-24, HUDA, Panchkula                                     | 184                             |                            | 28                         |                            | 42.4                     | 18.954         | ND          | ND                        |                             | 0.006                |                        | 0.05                   |
| 11 | Tubewell No. 4, Sector-24, HUDA, Panchkula                                     | 180                             |                            | 32                         |                            | 48.8                     | 14.094         | ND          | ND                        |                             | 0.007                |                        | 0.08                   |
| 12 | Tubewell No. 9, Sector-4, HUDA, Panchkula                                      | 248                             |                            | 20                         |                            | 62.4                     | 22.356         | ND          | ND                        |                             | 0.095                |                        | 0.06                   |
| 13 | Tubewell No. 6, Div-II, Sector-24, Panchkula                                   | 182                             | --                         | 20                         | --                         | 52.8                     | 12.15          | ND          | ND                        | -                           | 0.009                | -                      | 0.06                   |

## Jind

| Sr. No. | Sampling location  | Analysis Report No. | Date of collection | Colour & Intensity (5 limits) | Odor      | Human activities around station | pH (6.5 to 8.5 limit) | Conductivity | BOD mg/l     | COD mg/l | Ammonia    | Total Dissolved Solids mg/l(500 limits) | Total Suspended Solids mg/l |
|---------|--|---------------------|--------------------|-------------------------------|-----------|---------------------------------|-----------------------|--------------|--------------|----------|------------|---|-----------------------------|
| 1       | <b>Outlet of Hand pump installed by PHED near Rani Talab, Taxi Stand, Jind</b> | 4420                | 28-Mar-18          | Colourless                    | Odourless | Adjacent Commercial Market      | 7.56                  | 305          | Not Detected | 8.8      | Not Tested | 190                                     | 4                           |
| 2       | Tubewali no. 1, Near upstream Ghaggar River at Village Chiali                  | 4924                | 24.07.18           | Colourless                    | Odourless | agriculture Fields              | ND                    |              | 13.2         | 8.70     |            | ND                                      | 5                           |
| 3       | Tubewali no. 1, Near upstream Ghaggar River at Village Chiali                  | 5036                | 21.08.18           | Colourless                    | Odourless | agriculture Fields              | ND                    |              | 17.6         | 8.08     |            | ND                                      | 7                           |

| Sr. No. | Sampling location   | Analysis Report No. | Date of collection | Colour & Intensity (5 limits) | Odor      | Human activities around station | pH (6.5 to 8.5 limit) | Conductivity | BOD mg/l | COD mg/l | Ammonia | Total Dissolved Solids mg/l(500 limits) | Total Suspended Solids mg/l |
|---------|---|---------------------|--------------------|-------------------------------|-----------|---------------------------------|-----------------------|--------------|----------|----------|---------|---|-----------------------------|
| 4       | Tubewali no. 1, Near upstream Ghaggar River at Village Chiali | 5156                | 27.09.18           | Colourless                    | Odourless | agriculture Fields              | ND                    |              | 29.6     | 8.38     |         | ND                                      | ND                          |
| 5       | Tubewali no. 1, Near upstream Ghaggar River at Village Chiali | 5295                | 29.10.18           | Colourless                    | Odourless | agriculture Fields              | ND                    |              | 18.8     | 6.76     |         | ND                                      | ND                          |

| Sr. No. | Sampling location  | Total Hardness mg/l (300 limit) | Fluoride mg/l (1.0 limits) | Chloride mg/l (250 limits) | Sulphate mg/l (200 limits) | Calcium mg/l(75 limits) | Magnesium mg/l | Nickel mg/l | Copper mg/l (0.05 limits) | Chromium mg/l(0.05 limits) | Zinc mg/l (5 limits) | Lead mg/l(0.05 limits) | Iron mg/l (0.3 limits) |
|---------|--|---------------------------------|----------------------------|----------------------------|----------------------------|-------------------------|----------------|-------------|---------------------------|----------------------------|----------------------|------------------------|------------------------|
| 1       | <b>Outlet of Hand pump installed by PHED near Rani Talab, Taxi Stand, Jind</b> | 174                             | Not Tested                 | 16                         | Not Tested                 | 50.4                    | 11.664         | Not Tested  | Not Tested                | Not Tested                 | Not Tested           | Not Tested             |                        |
| 2       | Tubewali no. 1, Near upstream Ghaggar River at Village Chiali                  |                                 |                            |                            |                            |                         |                |             |                           |                            |                      |                        |                        |
| 3       | Tubewali no. 1, Near upstream Ghaggar River at Village Chiali                  |                                 |                            |                            |                            |                         |                |             |                           |                            |                      |                        |                        |
| 4       | Tubewali no. 1, Near upstream Ghaggar River at Village Chiali                  |                                 |                            |                            |                            |                         |                |             |                           |                            |                      |                        |                        |
| 5       | Tubewali no. 1, Near upstream Ghaggar River at Village Chiali                  |                                 |                            |                            |                            |                         |                |             |                           |                            |                      |                        |                        |

Hisar

| Sr. No. | Sampling location  | Analysis Report No. | Date of collection | Colour & Intensity | Odor     | Human activities around station | pH (6.5 to 8.5 limit) | Conductivity | BOD mg/l | COD mg/l | Ammonia | Total Dissolved Solids mg/l (500 limits) | Total Suspended Solids mg/l |
|---------|--|---------------------|--------------------|--------------------|----------|---------------------------------|-----------------------|--------------|----------|----------|---------|--|-----------------------------|
| 1       | Near Budhwana Ghat, Amandeep Tubewell, Farwai Kalan, Sirsa | 258                 | 19.11.18           |                    | odorless |                                 | 8.6                   |              | ND       | ND       |         | 92                                       | 12                          |
| 2       | Near point source, Village Kelania, Sirsa                  | 259                 | 19.11.18           |                    | odorless |                                 | 8                     |              | ND       | ND       |         | 120                                      | 14                          |
| 3       | Near point source, Gopal tubewell, Sirsa                   | 260                 | 19.11.18           |                    | odorless |                                 | 8.3                   | -            | ND       | ND       |         | 120                                      | 12                          |
| 4       | Near Bridge, Sirsa - Dabwali Road, Sirsa, 1025 GH-1        | 261                 | 19.11.18           |                    | odorless |                                 | 8                     |              | ND       | ND       |         |  |                             |
| 5       | Near Chandpur Syphen, GH-2 1026, Fatehabad                 | 262                 | 19.11.18           |                    | odorless |                                 | 8                     | -            | ND       | ND       |         | 190                                      | 14                          |
| 6       | Near ottu wier (1887) Sirsa                                | 263                 | 19.11.18           |                    | odorless |                                 | 7.6                   | -            |          | ND       |         | 170                                      | 16                          |

| Sr. No. | Sampling location  | Total Hardness mg/l (300 limit) | Fluoride mg/l (1.0 limits) | Chloride mg/l(250 limits) | Sulphate mg/l (200 limits) | Calcium mg/l (75 limits) | Magnesium mg/l | Nickel mg/l | Copper mg/l (0.05 limits) | Chromium mg/l(0.05 limits) | Zinc mg/l (5 limits) | Lead mg/l (0.05 limits) | Iron mg/l(0.3 limits) |
|---------|--|---------------------------------|----------------------------|---------------------------|----------------------------|--------------------------|----------------|-------------|---------------------------|----------------------------|----------------------|-------------------------|-----------------------|
| 1       | Near Budhwana Ghat, Amandeep Tubewell, Farwai Kalan, Sirsa | 190                             | ND                         | 210                       | 16                         | 130                      | 60             | ND          | ND                        | ND                         | ND                   | ND                      | ND                    |

| Sr. No. | Sampling location                                   | Total Hardness mg/l (300 limit) | Fluoride mg/l (1.0 limits) | Chloride mg/l(250 limits) | Sulphate mg/l (200 limits) | Calcium mg/l (75 limits) | Magnesium mg/l | Nickel mg/l | Copper mg/l (0.05 limits) | Chromium mg/l(0.05 limits) | Zinc mg/l (5 limits) | Lead mg/l (0.05 limits) | Iron mg/l(0.3 limits) |
|---------|---|---------------------------------|----------------------------|---------------------------|----------------------------|--------------------------|----------------|-------------|---------------------------|----------------------------|----------------------|-------------------------|-----------------------|
| 2       | Near point source, Village Kelania, Sirsa           | 100                             | ND                         | 120                       | 12                         | 70                       | 30             |             |                           | ND                         | ND                   |                         | ND                    |
| 3       | Near point source, Gopal tubewell, Sirsa            | 130                             | ND                         | 90                        | 10                         | 90                       | 40             |             |                           | ND                         |                      |                         |                       |
| 4       | Near Bridge, Sirsa - Dabwali Road, Sirsa, 1025 GH-1 |                                 |                            |                           |                            |                          |                |             |                           |                            |                      |                         |                       |
| 5       | Near Chandpur Syphen, GH-2 1026, Fatehabad          | 140                             | ND                         | 190                       | 16                         | 100                      | 40             |             |                           | ND                         | ND                   |                         | ND                    |
| 6       | Near ottu wier (1887) Sirsa                         | 170                             | ND                         | 180                       | 16                         | 110                      | 60             |             |                           |                            | ND                   |                         | ND                    |

## **Steps taken by HSVP for rain water harvesting / conservation of water/avoid exploitation of ground water**

### **1. ROOF TOP RAIN WATER HARVESTING SCHEME**

On 31.10.2001, a notification regarding making roof rain water harvesting-Conservation & Artificial recharge of ground water compulsory in Govt. buildings/HSVP Buildings, including all the private houses/buildings to be constructed in Urban Estates, in future having roof top surface area 100 Sqm. more was issued. Notification has already been circulated vide No.9945-46 dated 29.11.2001 (copy enclosed) and the areas/Urban Estates in Haryana where this notification has been made applicable have also been notified vide letter no.1200 dated 10.12.2001. (copy enclosed).

Zonal Administrator/Estate Officers of HSVP ensure that occupation certificate is not issued in the absence of the implementation of above cited notification.

Further, station wise detail of rain water harvesting systems constructed by HSVP is as under:

| <b>Sr.No.</b> | <b>Name of U/E</b> | <b>No. of rain water harvesting wells constructed</b> |
|---------------|--------------------|---|
| 1.            | Panchkula          | 22  |
| 2.            | Kaithal            | 2   |
| 3.            | Kurukshetra        | 5   |
| 4.            | Jind               | 5   |
|               | <b>TOTAL</b>       | <b>47</b>   |

### **2. INSTALLATION OF DUAL BUTTON FLUSHING CISTERN**

Haryana Govt. has issued notification on 13.08.2014, making installation of dual button cisterns (capacity 10/5 Litre and 6/3 Litre) mandatory for all types of plot holders (new buildings) in HSVP areas in addition to all Govt. Buildings and Buildings in licensed areas. Occupation certificate shall not be issued in the absence of dual button flushing cisterns in these buildings.

### **3. GRADED TARIFF FOR ECONOMIC USE OF WATER**

The graded water tariff has been implemented in various Urban Estates in Haryana for economical domestic use of water.

### **4. REUSE OF TERTIARY TREATED / RECYCLED WATER**

To avoid exploitation of ground water, tertiary treated water is being used for irrigation/flushing purpose in some of Urban Estates of HSVP. Efforts are being made for its implementation in other Urban Estates also.

### **22. Open defecation in Districts.**

Haryana (Urban) has been declared ODF first time on 2nd October, 2017 by the Ministry of Housing and Urban Affairs under Swachh Bharat Mission (Urban). Later on all the Urban Local Bodies except Faridabad, 2nd time also declared Open Defecation Free by the process of independent evaluation through the agency appointed by MoHUA. To evaluate the sustainability of

ODF, Ministry has been started recertification process of all ULBs as per the protocols of ODF third times and in this process 28 ULBs already recertified ODF out of 80.

To achieve this status Department of Urban Local Bodies has been taken various steps such as motivate community for construction of Individual House Hold Latrines (IHHL), Construction and renovation of Community Toilets and Public Toilets seats. Till date 61412 IHHL have been constructed by the individuals and Government of Haryana released Rs. 14000 to each individuals household for construction of toilets as subsidy (Rs. 4000/- from Central Government and Rs. 10000/- from State Government). Directorate of Urban Local Bodies has fixed the target of 65000 IHHL which are to be completed by September, 2019. Similarly, to stop open defecation, DULB also took initiatives for construction and renovation of Community Toilets and Public Toilets seats for providing the toilets facilities for community which have not their own toilets. Total 10122 (97%) community and Public toilets seats have been constructed against the target of 10394 seats, whereas more than 200 seats of community and public toilets are under construction. Department has been fixed its target to construct all CT/PT before 30th September, 2019.

**Action Plan to Complete the 100% Target of Construction of Individual House Hold Latrines (IHHL) Community Toilets (CT/ Public Toilets (PTs) Seats**

| Target                               | IHHL         | CT-PT Seats  |
|--------------------------------------|--------------|--------------|
|                                      | <b>65000</b> | <b>10122</b> |
| Target Achieved as on December, 2018 | 61412        | 10122        |
| <b>Target to be Achieved</b>         | <b>3588</b>  | <b>272</b>   |
| Jan-19                               | 100          | 10           |
| Feb-19                               | 150          | 20           |
| Mar-19                               | 250          | 25           |
| Apr-19                               | 350          | 30           |
| May-19                               | 400          | 35           |
| Jun-19                               | 500          | 40           |
| Jul-19                               | 550          | 35           |
| Aug-19                               | 600          | 35           |
| Sep-19                               | 700          | 45           |
| <b>Total</b>                         | <b>3600</b>  | <b>275</b>   |

**23. Disposal by sewages through tankers by private parties.**

The decentralized STPs planned along the drains shall also be planned for receiving untreated sewage by tankers for treatment. The practice of disposing sewage in drains through the tanker is going on in many town/cities. Municipal Corporation Gurugram has finalized the rate contract for disposal of sewage through Suction Tanker. Under this Septage Management Plan, the sewage of unauthorised colonies and septic tanks shall be listed through Suction taken and disposed-off at 35 No. identified locations of STP/MPS. This will be monitored by online monitoring system through QR code.

The above plan shall be implemented for all the towns in Haryana.

## 24. Involvement of Civil Society/Creation of awareness

For involving the general public and other stakeholders, it has been decided to create a website by HSPCB giving a provision for inviting suggestions, comments and feedback. A redressal system will also be provided through concerned Departments and action taken on the suggestions/complaints in the portal. It has also been planned to involve eco-clubs through the Education Department. HSPCB will be issuing advertisements on such sensitive issues periodically. Besides, the SESTF, constituted at District level will also actively involve public participation and in redressal of issues relating to pollution and cleaning of the rivers/drains.

## 25. Organizing of Health Camps.

The Health Department has been directed to organize health camps in areas prone to water pollution and to get profile studies conducted on specific diseases observed in the locality, through reputed institutions. The Health Department informed that it had issued directions on 22.11.2018 all the District Level Officers to organize health camps. Health Department shall review the status and progress in the case in its monthly meeting.

### Panchkula

| Sr. No. | Name of Village | Days of Camp                            |
|---------|-----------------|---|
| 1.      | Chandikotla     | 3 <sup>rd</sup> Saturday of Jan, 2019   |
| 2.      | Chandimandir    | 3 <sup>rd</sup> Saturday of Feb, 2019   |
| 3.      | Burjkotia       | 3 <sup>rd</sup> Saturday of Mar, 2019   |
| 4.      | Patan           | 3 <sup>rd</sup> Saturday of April, 2019 |
| 5.      | Ambwala         | 3 <sup>rd</sup> Saturday of May, 2019   |
| 6.      | Amarawati       | 3 <sup>rd</sup> Saturday of June, 2019  |
| 7.      | Koshalya Hutt   | 3 <sup>rd</sup> Saturday of July, 2019  |
| 8.      | Khatak mangoli  | 3 <sup>rd</sup> Saturday of Aug, 2019   |
| 9.      | Nada Sahib      | 3 <sup>rd</sup> Saturday of Sept., 2019 |
| 10.     | Old Panchkula   | 3 <sup>rd</sup> Saturday of Oct., 2019  |
| 11.     | Gate No. 3 & 4  | 3 <sup>rd</sup> Saturday of Nov., 2019  |
| 12.     | Brij Hutt       | 3 <sup>rd</sup> Saturday of Dec., 2019  |

**Ambala**

| <b>Sr. No.</b> | <b>Name of CHC/PHC</b> | <b>Name of Village</b> | <b>Date of Health Camp</b> |
|----------------|------------------------|------------------------|----------------------------|
| 1.             | PHC Majri              | Bara                   | 18.01.2019                 |
| 2.             | PHC Naggal             | Brishangarh            | 17.01.2019                 |
| 3.             | PHC Naggal             | Gorsian                | 24.01.2019                 |
| 4.             | PHC Noorpur            | Shahpur                | 11.01.2019                 |
| 5.             | PHC Noorpur            | Gasitpur               | 15.01.2019                 |
| 6.             | PHC Majri              | Jalbera                | 22.02.2019                 |
| 7.             | PHC Naggal             | Niharsi                | 05.02.2019                 |
| 8.             | PHC Naggal             | Adomajra               | 14.02.2019                 |
| 9.             | PHC Naggal             | Segta                  | 21.02.2019                 |
| 10.            | PHC Majri              | Kaula                  | 23.03.2019                 |
| 11.            | PHC Naggal             | Bhunni                 | 14.03.2019                 |
| 12.            | PHC Majri              | Mohra                  | 26.04.2019                 |
| 13.            | PHC Naggal             | Segta                  | 04.04.2019                 |
| 14.            | PHC Naggal             | Gorsia                 | 18.04.2019                 |
| 15.            | PHC Majri              | Dang Dehri             | 20.05.2019                 |
| 16.            | PHC Naggal             | Segta                  | 16.05.2019                 |
| 17.            | PHC Naggal             | Bishangarh             | 23.05.2019                 |
| 18.            | PHC Majri              | Lailana                | 21.06.2019                 |
| 19.            | PHC Naggal             | Addomajra              | 20.06.2019                 |
| 20.            | PHC Naggal             | Niharsi                | 13.06.2019                 |
| 21.            | PHC Majri              | Shivala Mandi          | 27.07.2019                 |
| 22.            | PHC Naggal             | Niharsi                | 02.07.2019                 |
| 23.            | PHC Majri              | Durala                 | 12.08.2019                 |
| 24.            | PHC Majri              | Ladana                 | 23.09.2019                 |
| 25.            | PHC Naggal             | Adomajra               | 05.09.2019                 |
| 26.            | PHC Majri              | Jandli                 | 21.10.2019                 |

|     |            |            |            |
|-----|------------|------------|------------|
| 27. | PHC Naggal | Segta      | 01.10.2019 |
| 28. | PHC Majri  | Ghel       | 22.11.2019 |
| 29. | PHC Naggal | Bishangarh | 04.11.2019 |
| 30. | PHC Majri  | Tharwa     | 14.12.2019 |

### Fatehabad

| Sr. No. | Proposed Camp Site CHC | Proposed Camp Site Village | Proposed date of health camp |
|---------|------------------------|----------------------------|------------------------------|
| 1       | Ratia                  | Mirana                     | 01.10.2019                   |
| 2       | Ratia                  | Kanwalgarh                 | 02.12.2019                   |
| 3       | Ratia                  | Kalotha                    | 21.02.2019                   |
| 4       | Ratia                  | Lali                       | 03.11.2019                   |
| 5       | Ratia                  | Babanpur                   | 23.04.2019                   |
| 6       | Ratia                  | Lalwas                     | 05.09.2019                   |
| 7       | Ratia                  | Baliyala                   | 15.05.2019                   |
| 8       | Ratia                  | Alika                      | 06.11.2019                   |
| 9       | Ratia                  | Kamana                     | 25.06.2019                   |
| 10      | Ratia                  | Bhunderwas                 | 07.10.2019                   |
| 11      | Ratia                  | Nathwan                    | 08.06.2019                   |
| 12      | Ratia                  | Khairpur                   | 19.08.2019                   |
| 13      | Ratia                  | Malwala                    | 17.09.2019                   |
| 14      | Ratia                  | Ganda                      | 22.10.2019                   |
| 15      | Ratia                  | Ward No. 4 & 5 Ratia       | 11.05.2019                   |
| 16      | Ratia                  | Gatta Factory              | 12.10.2019                   |
| 17      | Jakhal                 | Kasampur                   | 17.01.2019                   |
| 18      | Jakhal                 | Narail                     | 25.02.2019                   |
| 19      | Jakhal                 | Mussakhera                 | 03.07.2019                   |
| 20      | Jakhal                 | Sidhani                    | 04.03.2019                   |
| 21      | Jakhal                 | Sadhanwas                  | 20.05.2019                   |

|    |        |                |            |
|----|--------|----------------|------------|
| 22 | Jakhal | Chandura       | 06.11.2019 |
| 23 | Jakhal | Mundlian       | 15.07.2019 |
| 24 | Jakhal | Dhani Babanpur | 20.08.2019 |
| 25 | Jakhal | Kasampur       | 09.10.2019 |
| 26 | Jakhal | Sidhani        | 15.10.2019 |
| 27 | Jakhal | Dhani Babanpur | 20.11.2019 |
| 28 | Jakhal | Chandpura      | 12.09.2019 |

### Sirsa

| Sr. No. | Proposed Camp site | Month     | Proposed date of Health Camp |
|---------|--------------------|-----------|------------------------------|
| 1.      | Bansudhar          | January   | 11.01.2019                   |
| 2.      | Ottu               |           | 15.01.2019                   |
| 3.      | Jhorarnali         | February  | 11.02.2019                   |
| 4.      | Ranga              |           | 15.02.2019                   |
| 5.      | Chamal             | March     | 11.03.2019                   |
| 6.      | Chakbani           |           | 15.03.2019                   |
| 7.      | Musahibwala        | April     | 11.04.2019                   |
| 8.      | Panihari           |           | 15.04.2019                   |
| 9.      | Kelnia             | May       | 11.05.2019                   |
| 10.     | Nagoki             |           | 15.05.2019                   |
| 11.     | Chakrayian         | June      | 11.06.2019                   |
| 12.     | Saharani           |           | 15.06.2019                   |
| 13.     | Mirpur             | July      | 11.07.2019                   |
| 14.     | Farwai             |           | 15.07.2019                   |
| 15.     | Chaksahiba         | August    | 09.08.2019                   |
| 16.     | Nejadela Kalan     |           | 16.08.2019                   |
| 17.     | Ahmadpur           | September | 11.09.2019                   |
| 18.     | Dhottar            |           | 16.09.2019                   |
| 19.     | Mojgarh            | October   | 11.10.2019                   |
| 20.     | Khairekan          |           | 15.10.2019                   |
| 21.     | Kariwala           | November  | 11.11.2019                   |

|     |            |          |            |
|-----|------------|----------|------------|
| 22. | Mattar     |          | 15.11.2019 |
| 23. | Nakora     | December | 11.12.2019 |
| 24. | Bahambhoor |          | 16.12.2019 |

## 26. Concluding Remarks

The above action plan has been prepared on specific action points after consulting all the stakeholder Departments of Haryana and they have also provided a specific time frame for every activity to bring down the pollution contributing to river Ghaggar. This will be reviewed by the Departments concerned, at their level, in every monthly meeting. Further, the progress of all the actions shall be reviewed by Administrative Secretary of Environment Department every month with the Secretaries / senior officers of all stakeholder Departments, where the progress vis-a-vis timelines will be reviewed. It has also been decided that a Quarterly Review meeting will be done at the level of Chief Secretary with the Administrative Secretaries concerned and the progress will be reported after every Quarterly Review Meeting, to the Monitoring Committee appointed by NGT and the status will be reported to NGT as well.