EXECUTIVE SUMMARY

ENVIRONMENTAL IMPACT ASSESSMENT REPORT

&

ENVIRONMENTAL MANAGEMENT PLAN

OF

INTEGRATED MUNICIPAL SOLID WASTE MANAGEMENT FACILITY

FOR

CHAMBA & NEW TEHRI

AT

KHANDKHALA, TEHRI GARHWAL

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EXECUTIVE SUMMARY

1.0 INTRODUCTION

The Integrated Municipal Solid Waste Management Facility has become an urgent requirement to be established as a Cluster for **Chamba and New Tehri in District Tehri Garhwal, Uttarakhand**. As such, it is anticipated that due to growing population there will be generation of more Municipal Solid Waste from household and commercial places of both Chamba and New Tehri. In view of this Nagar Palika aims to achieve 100% source collection, segregation, transportation, storage& treatment of the Municipal Solid Waste.

The proposal for handling & treatment of Municipal Solid Waste by establishing Integrated Municipal Solid Waste Management Facility is being initiated by Nagar Palika Parishad, New Tehri to treat Municipal Solid Waste of **14.272 TPD** out of which **4.3TPD (Designed) from Chamba 9.972TPD (Designed) from New Tehri.** The system will be designed as per projected population upto 2031 for Chamba**12839** and for Tehri **28511(Total Population - 42350).**

The Integrated Municipal Solid Waste Management Facility will be developed as per cluster basis for both Chamba and New Tehri at a common site **Khandakhal** which is 18 km from Chamba and 4-5km from New Tehri.

The proposed project is categorized under Item "7(i) Common Municipal Solid Waste Management Facility (CMSWMF)" in the EIA Notification, dated September 14, 2006 issued by Ministry of Environment Forest &Climate Change (MoEF & CC), New Delhi and needs prior Environmental Clearance. The proposed project falls under Category 'B', and thus, being appraised by the SEIAA at SEIAA, Uttarakhand. The ToR has been obtained on 15th July 2021 vide letter no. 228/SEAC. The draft EIA has been prepared as per the approved ToR and hereby submitted for Public Hearing.

2.0 PROJECT DETAILS

The project has the following Salient Features:

SALIENT FEATURES

Proposed Activity	Storage, Handling and Treatment of Municipal Solid Waste
Location	Khasra No. 3660, 3661, 3697 & 3698 Kandakhal, District Tehri Garhwal.
Latitude	30°23'25.10"N
Longitude	78°27'45.35" E
Altitude	920 m
Nearest Tourism Place	Tehri Dam
Nearest Habitat/Town	Tehri – 5 km
Nearest Railways Station	Rishikesh Railway Station – 55km
Nearest Airport	Dehradun (Jolly Grant) Airport – 80 km
Nearest Highway	Chamba to Rishikesh – Gangotri NH-94
Land requirement	32550 sq.mtr
Land use	Notified for establishing of Municipal Solid Waste Management Facility.
Green Belt	30% of the project area
Manpower	80 during operation and 35 during construction
Water Demand and Supply source	Municipal Supply Water consumption 5 KLD
Power requirement and sources	250 KVA and will be met from Uttarakhand Power Development. Apart from this, DG set of 250 KVA will used during power failure.
Seismic Zone	Zone – IV
Estimated Project Cost	Rs. 6.69 Crore

3.0 COLLECTION AND TRANSPORTATION

Collection and transportation (C&T) is the most important component of the SWM operations and requires active involvement of citizens, societies and RWA's. Besides introduction of latest equipment and vehicles for minimum handling of waste, IEC activities and awareness creation has key role in developing model system for C&T considering following:

- Promotion of the practice of source segregation
- Door to door collection with community participation

- Minimize the multiple handling of waste
- Improvement in the productivity of labour and equipment
- An organized and hierarchical system for C&T system
- Containerized secondary storage facilities with designated bins for effective source segregation.
- Daily transportation of waste to the processing facility
- Vehicle tracking & monitoring using GPS/GPRS and latest IT services
- Customer care and timely complaint redressal

Waste collection, transportations and disposal are interrelated functional elements of solid waste management system. It is essential to segregate waste into different fractions, commonly referred to as primary segregation. Segregation of MSW needs to be linked to primary collection of waste from the doorstep and given high priority. The fractions into which the waste has to be segregated in detail should be based on waste characterization. At a minimum level, indicated as the basic segregation, waste should be segregated by waste generators into three fractions: wet (Green container), dry (Blue container), and domestic hazardous waste (Black container). This is referred to as the three-bin system. Apart from these wastes, construction and demolition and Industrial Waste shall be collected and disposed off separately by respective municipal council.

Waste collection service is divided into primary and secondary collection. Primary collection refers to the process of collecting waste from households, markets, institutions, and other commercial establishments and taking the waste to a storage depot or transfer station or directly to the disposal site, depending on the size of the city and the prevalent waste management system.

Secondary collection includes picking up waste from community bins, waste storage depots, or transfer stations and transporting it to waste processing sites or to the final disposal site. Primary collection must be introduced both in small and large towns and cities. Secondary collection systems are necessary in all cities and towns for collection of waste in the community bins or at the secondary waste storage depots

or at decentralized sorting centers by sanitation workers for onward transportation of waste to processing and disposal facilities.

Transportation of waste from collection centers to processing or final disposal site is very important step for solid waste management system and for this purpose; suitable vehicles (1 no. of Auto tippers - nearly140 Kg per trip and 4 no. of hydraulic pickup vehicles - nearly 600-900 Kgs per trip) and equipment are required. A well synchronized primary and secondary collection and transportation system is essential to avoid containers' overflow and waste littering on streets. Further, the transport vehicles should not only be able to transport segregated waste, but also be compatible with the equipment design at the waste storage depot to avoid multiple handling of waste.

4.0 PROCESSING

The entire area and MSW Facility is in hilly region, hence Thermal Processing Technology (Gasification, Incineration and Pyrolysis will not be adopted. As such Biological and Physical Processing technology will be adopted at site.

MSW Processing Technologies

Biological processing technologies		**Pros**
Composting	Controlled decomposition of organic matter by micro-organisms into stable humus. It can be done by either open/window composting or enclosed/in vessel composting	❖ Relatively cost effective
Bio-methanation	Biodegradable material is broken down by bacteria into methane and CO2 in the absence of oxygen	❖ Treatment at source ❖ Gas/Power generation

Physical Processing Technologies		**Pros**
Refuse Derived fuel Technology	MSW may be separated, shredded and/or dried in a processing facility The resulting material is referred to as **Refuse Derived Fuel (RDF**)	❖ Higher calorific value from for Power generation ❖ Suitable for low input capacity

5.0 BASELINE ENVIRONMENTAL STATUS

The Baseline study has been conducted during April 2021 to June 2021 covering Ambient Air Quality, Water Quality, Soil Quality, Noise Level, Ecological and Socio Economic parameters as per applicable CPCB guidelines in the study area of 10 Km radius circle from the project site.

All the environmental parameters, i.e. Ambient Air, Water, Soil and Noise are found well within the applicable IS/CPCP standard. The details have been presented in the EIA report.

6.0 ANTICIPATED ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Any development activity in its wake will bring about some impacts associated with its origin, which can be broadly classified as reversible, irreversible, long and short-term impacts, an endeavor has been made to identify various environmental impacts associated with the construction and operation of facility and other activities wherein, there may be chance of pollution.

The anticipated impacts during various phase of the project have been discussed and mitigation measures have been provided in Chapter-4 of the EIA report.

7.0 ENVIRONMENT MANAGEMENT PLAN

The Environmental Management Plan (EMP) is required to ensure a sustainable development of the plant area and the surrounding areas of the plant. The EMP will be integrated in all the major activities of the project, with clearly defined policies, to ensure that the ecological balance of the area is maintained and the adverse effects are minimized. EMP requires multidisciplinary approach with mitigation, management, monitoring and institutional measures to be taken during implementation and operation, to eliminate adverse environmental impacts or reduce them to acceptable levels. In order to ensure sustainable development in the study area; it needs to be an all-encompassing plan for which the plant authorities, government, regulating agencies, and the population of the study area need to extend their cooperation and contribution. Total project capital investment (Rs 6.69 crore) on

environmental improvement works is envisaged Rs. 20.00 lakhs/- and recurring expenditure during the stage of operation is Rs. 8.00 lakhs/- as recurring investment is earmarks for EMP.

Addition to above the project proponent has proposed to invest amount of Rs. 3.25 Lakhs per year on Labours safety, proper drinking water facilities at site, Health checkup facilities, awareness & recreation programs etc. below table is the breakup proposed for budget investment for labours working in this proposed project.

The mitigation measures are planned for construction and operation phases and the overall management plan helps to improve the supportive capacity of the receiving bodies. The EMP aims to control pollution at the source level to the possible extent with the available and affordable technology followed by the standard treatments before getting discharged. The recommended mitigation measures will synchronize the economic development of the study area with the environmental protection of the region.

8.0 ENVIRONMENT MONITORING PROGRAM

Environmental monitoring program describes the processes and activities that need to take place to characterize and monitor the quality of the environment. Environmental monitoring is used in the preparation of environmental impact assessments, as well as in many circumstances in which human activities carry a risk of harmful effects on the natural environment. Different activities involved in the proposed project and their impact on various environmental attributes have been taken into account while designing a detailed environmental monitoring program. Environmental monitoring program has been prepared for the proposed project for assessing the efficiency of implementation of Environment

Management Plan and to take corrective measures in case of any degradation in the surrounding environment. A comprehensive monitoring mechanism has been devised for monitoring of impacts due to proposed project.

All monitoring strategies and program have reasons and justifications which are often designed to establish the current status of an environment or to establish trends in environmental parameters. In all cases the results of monitoring will be reviewed, analyzed statistically and submitted to concerned authorities. The design of a monitoring program must therefore have regard to the final use of the data before monitoring starts. The monitoring program will have three phases:

- Construction phase
- Operation phase
- Post Operation phase

9.0 PROJECT BENEFITS

The contribution of the proposed project on local social infrastructure is expected to be significant. This Project will provide a significant amount of direct and indirect employment opportunities to the local people. From the proposed project the major benefits, include improving the degraded environment by establishing an Integrated Solid Waste Management Facilities. From the proposed project the major benefits, include improving the degraded environment by establishing Integrated Municipal Solid Waste Processing and Disposal Facility.

- It will be the showcase for other states for management of solid waste with additional benefit of green and clean environment.
- It minimizes the pollution load on environment from municipal solid waste.
- Compliance with prescribed regulatory norms which in turn avert the risk of closure on account of violation of rules.
- It reduces the number of Municipal Solid Waste dump sites in the area and also eliminates the pollution potential.
- The management of wastes is relatively easier & economically viable at common facility.
- Cost of environmental monitoring is less at common facility.
- Prevention of natural resource contamination thereby improving overall environmental status of the region.