

### I.2: Civil construction works to meet the sustainable development objectives

Various civil construction works, meeting the sustainable development objectives were completed in the Centre. The primary focus in all the civil construction works was towards reducing the generation of waste by optimum usage of the available resources. Following guiding principles were applied to the civil construction and development works in the Centre:

- Perform sewage treatment and make use of effluent for horticulture purposes
- Use *Nisurg-runa* plant for treatment of wet waste
- Perform garden waste collection and treatment to produce compost
- Perform upkeep of water bodies regularly
- Perform rain water harvesting and rejuvenate open wells
- Reuse construction debris for construction of earth retaining structure
- Construct public toilets
- Adopt green cover enrichment technique
- Perform regular housekeeping to make the campus a zero-waste campus
- Develop gardens with amenities like open gym for better community living
- Make use of renewable energy and solar powered fountains
- Repurpose existing facilities for new construction projects

Some of the major civil works completed are as follows:

**Construction of public toilets:** The civil and electrical works of three toilets constructed at different locations of colony area have been completed and all the toilets are open for use by public. One toilet is near Sukhniwas Palace, second one is near south side of Convention Centre, outside the fencing, and the third one is near Aryabhata Circle. Figure I.2.1 shows the outside view of the constructed public toilets.



Fig.I.2.1: Outside view of the constructed public toilets.

**Reuse of construction debris for construction of earth retaining structure:** Construction debris from Multi-Purpose Shed-3 has been used for strengthening of toe-wall of the palace road.

The packing of dry bricks, after stripping the mortar, was tied by chain link fence, which was available as scrap, and this served as gravity type retaining wall. The structure is similar to gabion structures, but is made out of waste. Figure I.2.2 shows a section of the retaining wall, constructed using the debris.



Fig. I.2.2: Section of retaining wall, constructed using construction debris.

**Commissioning of 2 kW off-grid solar power system:** Installation and commissioning of 2 kWp, off-grid solar power system, including solar photo-voltaic (PV) array, solar power conditioning unit, battery bank, its connecting cables, terminations, etc., for D-type multi-storied building is completed. Figure I.2.3 shows the solar panel of the commissioned system.



Fig. I.2.3: Solar panels of the commissioned 2 kWp off-grid solar power system.

**Construction of shed for collection of dry waste:** To develop RRCAT premises as zero-waste zone under the Swachh Bharat Mission, Indore Municipal Corporation (IMC) requested RRCAT to provide a covered shed of size 15m (length) x 6m (breadth) x 3m (height) at RRCAT premises and the same has been constructed for collection dry waste and segregation of dry waste in different categories like, glass, plastic, paper, cloth, metal, etc. This has helped in the reduction of cost of transportation of the daily dry waste of approximately 1.50 MT which is generated in RRCAT colony, and was being taken out by IMC for segregation and disposal. Now, the dry waste is segregated at RRCAT, and taken out for disposal by the agency engaged by IMC. RRCAT premise has been declared as zero-waste zone under Swachh Bharat Mission by IMC.

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