

RPP -Sathyamoorthy (JV)

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Lr. No. RPP-SM-JV/RRW/735

Date: 22-12-2025

To,
The Authority's Engineer,
The Team Leader,
M/s Aarvee Engineering Consultant Limited.
8-2-5, Ravula Residency, Srinagar Colony Main Rd
Hyderabad 500082
Telangana, India
Email: aarvee@aarvee.net

Project: Major up gradation of Raipur Railway Station of SECR on Engineering Procurement and Construction (EPC) mode.

Subject: Confirmation of Operations & Maintenance Responsibility (Point No-7) for IGBC Green Building Certification

References:

1. LOA issued vide Lr No: Raipur Division – Gati Shakti / DyCE-GSU-R-T-18-23- 24/00634660101437 dt 20-Apr-24.
2. EPC Contract Agt No: SECR/R/GS/2024/0005 dt 03-Jul-24.
3. Contractor's Lr No: RPP-SM-JV/RRW727 dated 15-12-2025

Dear Sir,

With reference to this Lr No. RPP-SM-JV/RRW727 we already informed you that the Raipur Railway Major Upgradation Project is being registered under the IGBC Green Building Rating System.

As part of the IGBC documentation requirements, confirmation is required with respect to Operations and Maintenance (O&M) of the railway station after handover, in line with IGBC (Point No-7) - Operations & Maintenance.

In this regard, we would like to clarify that our scope of work as the Contractor is limited to execution of construction works and attending to defects, if any, during the Defect Liability Period of 18 months from the date of handover, as per the contract conditions. Routine operations and maintenance activities are not included in our scope of work.

Further, we request confirmation that IGBC Credit SSF-7 (Operations & Maintenance) shall be implemented by Indian Railways.

This confirmation is required solely for the purpose of IGBC Green Building Certification documentation and shall not alter or amend the contractual obligations.

Thanking you and assuring our best services always.

For RPP-SATHYAMOORTHY (JV)

Abhishek Garg
Project Coordinator
(Authorized Signatory)

Encl: IGBC Document

Copy to:

1. CPM/GSU/R for kind information please.
2. Dy CE/GSU/R for kind information please.
3. Head Office, RPP Infra Projects Ltd, Email- tender.bo@rppipl.com and projects@rppipl.com - For information please

Redevelopment of Raipur Railway Station

IGBC Mandatory Design & Specification Guidelines

IGBC Rating Facilitation

Redevelopment of Raipur Railway Station

IGBC Mandatory Design & Specification

Guidelines

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IGBC

IGBC Green New Buildings rating system® is designed primarily for new buildings. New Buildings include (but are not limited to) offices, IT parks, banks, shopping malls, hotels, airports, stadiums, convention centers, libraries, museums, etc., Building types such as residential, factory buildings, schools will be covered under other IGBC rating programmes

IGBC Mandatory Design & Specification Guidelines

- Demonstrate implementation of at least 6 of the following passenger amenities* at the station complex as per IR code.

1	Platforms with lighting fixtures and level of illumination (lux level)	8	Emergency medical care facilities
2	Firmly fixed waiting chairs/ benches on each platform	9	Foot-Over-Bridges or Sub-ways
3	Waiting Rooms/ Halls with lighting fixtures, ventilation & well maintained facilities	10	Elevators & Escalators
4	Cloak Room	11	Mobile charging points on every platform
5	Booking Office with seating & lighting	12	Trolley Based System for Luggage Assistants
6	Toilets (for Male & Female) at least at main platforms (1st and last platform) with daily maintenance plan	13	Pickup and drop-off points for vehicles
7	Retiring Rooms	14	Snack Kiosks & Drinking water points on each platform

- Demonstrate implementation of at least 4 of the following facilities at the station:

- Electric/ battery operated vehicles to ferry physically challenged & senior citizens
- Provision of wheel chairs at station
- Entrance with non-slippery ramps, handrails on at least one side (as applicable)
- Tactile path from all entrances/ exit points of station to platform, along with warning strip on platform edge
- At least One Toilet designed for differently abled people at main platform & waiting rooms
- Adequate Signage system for guiding the person up to the lift / elevators and amenities
- Braille buttons inside and outside of all lifts.
- May I help you' Booth close to entrance of the station building
- E-booking service for wheelchairs with dedicated assistants at station

- Provide at least 4 of the following facilities to enhance accessibility to the railway station:

- Dedicated Drop-off zones for Intermediate Public Transport (e-Rickshaw, Auto Rickshaw, Cycle Rickshaw etc.) Within the premises of the railway station.
- Parking facility for Intermediate Public Transport (e-Rickshaw, Auto Rickshaw, Cycle Rickshaw etc.)
- Parking facility for 2-wheelers and 4-wheelers
- Dedicated parking space for bicycles with provision of bicycle racks
- Electric charging points for 5% of parking spaces to encourage electric cars in parking lot.
- Well-lit footpaths for ease of pedestrians within the station complex
- Policy measures to prevent encroachment of footpaths by hawkers at entrance

4. Demonstrate implementation of at least 2 of the following measures at the station premise:
 - Preserve all existing trees within the station premise, without interfering with the expansion of railway lines.
 - Retain natural topography or vegetation (AND/OR) design landscaped areas (with native/ adaptive species) for at least 15% of the station area.
 - Plantation of at least 10 native plant saplings/ acre of station premise.
 - Development of organic garden (or) vertical gardens within station premise.
 - Use of organic fertilizers for all garden applications.

5. Reduce heat islands to minimize impact on microclimate.

For at least 75% of exposed non-roof impervious areas within the non-traction areas of the station, implement at least one or combination of the following:

- Shade from tree cover
- Open grid pavers, grass pavers
- Hardscape materials (SRI)

Use material with high solar reflective index (SRI) value (or) vegetation (or) a combination, to cover at least 75% of the exposed roof areas:

- Minimum SRI value of 78 for Low-sloped roof (Slope: < 2:12)
- Minimum SRI Value of 29 for Steep-sloped roof (Slope: > 2:12) and Maximum SRI of 64.
(OR)
- Develop vegetation/ green roof/ solar PVs to cover at least 50% on the Exposed Station Roof Areas

6. External Lighting

- Provide exterior lighting such that no external light fixture emits more than 5% of the total initial designed fixture lumens, at an angle of 90 degrees or higher from nadir (straight down). All lighting fixtures must be LED

7. Station - Operations & Maintenance

- Have in place an in-house team at the railway station to handle the operation & maintenance (O&M) for Housekeeping, Water supply & Maintenance of Plumbing Systems, Electrical Systems, Mechanical Equipment, Solid waste management, as applicable
- Have a feedback mechanism in place to receive feedback from the passengers and take the corrective actions based on feed back
(OR)
- Maintenance Contract with External Agency (2 Point)
- Have an annual maintenance contract with external agency for the O&M of all building systems (energy, water & waste) and housekeeping.
- Have a feedback mechanism in place

8. No Smoking within the Station Premises

- Install NO SMOKING signage at following locations in the station premise:
- All platforms
- Booking Office
- Waiting Halls
- Retiring Rooms
(AND)
- Prohibit sale of tobacco products in the station premise

9. Safe Drinking Water Facility

Demonstrate that potable drinking water is available at all platforms for passengers, through piped water supply (or) through tube-wells with hand pumps (or) mobile or stationary water containers (In case, piped water supply is technically and economically not feasible)

- Ensure implementation of the following measures at the station:
- Safe drinking water unit/ storage facility at Station
- Each platform should have provision of at least 2 taps per coach (As per IR Works Manual: Chapter 4: 403 Minimum Essential Amenities Passenger Amenities, Stations and Yards)
Quality of water to meet the prescribed standards as per IS 10500: 2012- Indian Standard for Drinking Water as per BIS specifications
- Periodic check on quality of water and report by a competent authority from Indian Railways

10. Fresh Air Ventilation

For Naturally Ventilated Rooms: Demonstrate that the ratio of openable area (windows, doors, ventilators) to the carpet area is:

- At least 8% in all regularly occupied spaces in station.
- At least 10% in all regularly occupied spaces in station.

For Air Conditioned Rooms: Demonstrate that the fresh air ventilation in all regularly occupied spaces in station:

- Meet the minimum ventilation rates as prescribed in Annexure I.
- Exceed the minimum ventilation rates by 10%

11. Solid Waste Management Plan

- Provide 2 separate bins for collection of food waste (organic) and recyclable waste (plastic & paper) at every platform at an interval of 100m.
- Have provision of a central waste collection area in station premise with separate bins for dry waste (paper, plastic, cardboard, metal, glass), wet waste (garden & food waste) and hazardous waste (e waste like batteries, lamps)
- Maintenance Plan for keeping the centralised waste collection area free from insects and mosquitos.
- Station authority shall have a contract in place with recyclers for diverting paper & plastic waste for recycling.
- Have an organic waste management system in place within the station premise
- Dispose the hazardous waste as per Hazardous Waste Management Guidelines of Ministry of Environment & Forest (MoEF), Government of India.

12. Plastic Free Environment

- If the Ministry of Environment & Forest (MoEF) or local authorities prescribe ban on use of plastic bags, then the station complex shall comply with the respective criteria.
- Conduct Periodic supervision to check the plastic litter at station premise (and) Organise awareness programme about adverse effects of ‘plastic use’ periodically
(OR)
- Install permanent signage (or) play digital messages on screens at all the railway platforms to create awareness on adverse environmental impacts of plastic bags.
- Conduct Periodic supervision to check the plastic litter at station premise (and) Organise awareness programme about adverse effects of ‘plastic use’ periodically

13. Enhanced Indoor Air Quality

Carbon dioxide Monitoring & Control

- For Air Conditioned Spaces: Demonstrate that the station has installed CO₂ sensors and a control system to maintain a differential CO₂ level of 530 ppm in all regularly occupied areas. For densely occupied areas, have in place CO₂ sensors at the breathing zone levels with monitoring systems.
- For Naturally Ventilated Spaces: For each regularly occupied area in the station, demonstrate that the ratio of openable area to the carpet area is at least 12%.

Isolation of Polluting Equipment & Systems

- Isolate areas exposed to hazardous gases or chemicals (such as UPS room, printer rooms, chemical storage rooms, janitor rooms) from regularly occupied areas through design measures like exhaust system, self-closing door, deck-to-deck partition / hard ceiling.

Use of Certified Green Products (1 point)

- Have a policy in place which mandates the use of certified green products during renovation, operation and maintenance of the station building.
- Utilize the products & materials having minimal health impacts i.e., products having very low VOC Content, formaldehydes, aldehydes etc.
- Use paints and coatings (including primers) with low or ultralow VOC content
- Use adhesives in the interior work, which does not exceed the VOC limits.
- Use Composite wood/ Agri-fiber materials with no added urea-formaldehyde resins.
- New wood furniture items such as work stations, chairs, tables, cabinets, etc., with low emissions.

14. Daylighting

- Demonstrate through daylight illuminance measurement that at least 50% of the regularly occupied spaces in the station achieve daylight illuminance levels for a minimum of 110 Lux. Measurements shall be taken at floor level at 9 am, 12 noon, and 3 pm, on a 10 feet square grid. To show compliance, consider the average of the measurements taken at 9 am, 12 noon, and 3 pm.

15. Station Housekeeping Plan

- Demonstrate that station facility management team (or) external housekeeping agency is using housekeeping chemicals that meet GreenPro – Green Product Certification standard, or other internationally recognised equivalent standards, for all station applications.
(AND)
- Implement at least 2 measures as per Environment and Housekeeping Management Directorate of Indian Railways, addressing the following measures, as applicable:

Mechanised Cleaning

Repairs to Amenities

Pest & Rodent Control

Linen Management at station

Support Station for on board housekeeping services on platform

16. Enhanced Energy Performance – Non-Traction

- Energy Efficient Lighting Fixtures: Demonstrate at least 75% of the lighting fixtures installed in the station non traction areas are having LED lamps
- Lighting Controls All non-emergency exterior & common area lighting such as façade, pathways, landscaping, surface and covered parking, street lighting, staircases should have at least one of the following:
Daylight sensor
Occupancy/ Motion sensor
Timer
- Energy Efficient Fans: Demonstrate at least 50% of fans in the stations with minimum BEE 3-star rating or equivalent.
- Energy Efficiency in Appliances & Equipment: Demonstrate at least 50% of computers/ monitors/ printers used in station office & booking office with Energy Star rating or equivalent program.
- Energy Efficient Air-conditioners: Demonstrate all unitary air-conditioners with minimum BEE 3-star rating or equivalent
- Heating Systems: Stations having more than 150 Heating Degree days (HDD18) shall consider setting up heating systems with a minimum COP of 2.5 (EER of 8.53).
- Energy Efficient Pumps & Motors: Demonstrate all pumps & motors with minimum BEE 3-star rating or equivalent.

17. On site Renewable (Solar) Energy

- Demonstrate onsite renewable energy generation for at least 1.25% of total energy consumption of the station for non-traction areas.

Percentage of onsite renewable energy generation out of total non-traction energy consumption of station	Points
> 1.25%	1
> 2.5%	2
> 3.75%	3
> 5%	4
> 7.5%	5
> 10%	6

18. Energy Monitoring

- Demonstrate sub-metering for and identify trends (energy monitoring) for the following energy use applications in stations, as applicable:
 - Lighting
 - Elevators & escalators
 - HVAC equipment & systems
 - Onsite renewable energy systems
 - Power back-up systems (Generator sets)
- Demonstrate that the building management system is in place to control and monitor the above mentioned systems, as applicable.
- Carry out comprehensive energy audits once in three years and explore opportunities for Improvement

19. Solar Water Heating

- Demonstrate the use of solar water heating systems in place of electric geysers to meet at least 50% of the hot water requirement of canteen and restaurants within the station premise.

20. Water Conservation Measures

- Demonstrate the use of the plumbing fixtures in the station which are efficient and whose flow rates are within the prescribed criteria of uniform plumbing code, as mentioned below at 3 bar pressure:
 - Water Closet 4/2 lpf dual flushing cistern
 - Faucets 3 lpm
 - Urinals 2 lpf
 - Shower heads 6 lpm
- Demonstrate at least 10% of water requirement for coach washing is sourced through use of treated waste water (OR) use of harvested rainwater (OR) use of Automatic coach washing plants.
- Demonstrate at least 10% of water requirement for cleaning of linen is sourced through use of treated waste water (OR) use of harvested rainwater (OR) use of mechanized laundry systems.

21. Rain Water Harvesting

- Design rainwater harvesting system to capture at least 'one-day rainfall*' runoff volume from roof and non-roof areas as per IGBC guidelines
- Use captured rainwater for at least 25% of the total water required for landscaping, flushing and station cleaning applications

22. Waste Water Treatment

- Have on-site treatment systems (or) community wastewater treatment system to treat at least 95% of waste water generated at the station, to the quality standards* suitable for safe disposal into water bodies / suitable for reuse.
- Demonstrate that station authority shall conduct periodic assessment of the wastewater treatment plant to check the operations & maintenance of the facility
- Conduct periodic tests of the inlet & outlet parameters (BOD, COD and PH) every month as per Central (or) State Pollution Control Board guidelines.

23. Treated Waste Water Reuse

- Demonstrate the use of treated waste water from on-site treatment systems OR community wastewater treatment system for following applications within the station premise, thereby reducing at least 15% of total potable water requirement.

24. Water Metering

Demonstrate sub-metering for all the water supply source and at least two major water consumption areas of the following, as applicable:

- Water Supply source, as applicable:
 - Municipal water supply
 - Water supply from bore wells
 - Treated waste water supply
- Water consumption areas: (at least two)
 - Water consumption for landscape requirements
 - Water consumption for coach washing
 - Water consumption for laundry applications
 - Water consumption for station cleaning applications
 - Any other major source of water consumption
- Carry out comprehensive water audits once in three years and explore opportunities for Improvement

25. Smart Passenger Services

- Demonstrate implementation of at least 8 smart facilities at station:

1	Wi-fi facility at station	8	Pharmacy & Medical Facility
2	Multi lingual e-Ticketing portal	9	Prepaid Cab Facility
3	Automatic ticket vending machine	10	Hotel Facility at Station
4	CCTV surveillance for safety	11	Shopping Area at Station
5	Portable structures with biotoilets for senior citizens at platforms	12	Food Court at Station
6	Smart Card Ticketing	13	Tourism Information & Booking Centre
7	Laptop Charging station with seating facility	14	Touch screen information kiosk

26. Green Outreach & Awareness

- Install Green Information Signage (printed or digital) at various locations highlighting the key green features implemented in the station
- Conduct Green Awareness campaigns on Environment Day, Earth Day, Green Building Week, etc.,
- A Digital display of green impacts (in terms of reduction in energy consumption, renewable energy generation & water savings) at entrance/ prominent location of the station.

27. Green Railway Station Committee

- The station shall constitute a formal committee 'Green Railway Station Committee' for regular monitoring of implemented green features at railway station
(AND)
- The committee shall convene a meeting every two months to discuss on:
Operation & maintenance of existing green features at station
New green initiatives for the Railway Station.