

**PART 1:**

**Charter of Scope of services and details of development**

**1. Project Details and Requirements**

Brief of works:	Construction, operation and Maintaianance of <b>Automated Tower Parking of 102 ECS</b> at Ernakulam South Metro Station, Kochi, and Kerala.
Type of Contract:	Item Rate contract with Lump sum comprehensive O&M
Type of bidding:	Single stage Two envelope bidding
Type of parking system	Automated- Tower type parking system
Mode of financial Evaluation:	Financial Quote based on Lowest Bidder as per ITB
Taxes:	Quoted Rates must be inclusive of Labour Cess and all other taxes. GST Shall be payable Extra.
Time of execution of Project	<b>12 months from the day of letter of award</b>
O&M period	<b>5 Years</b>
Defect Liability Period (DLP):	All of O&M period.
Total time of contract	6 years (Including time of execution period.)
Material supply:	No material will be supplied by either NHIDCL or KMRL.

**1.1. Summary of Development**

For the project, the feasibility and development details have been finalized. Majorly, the development is to be a parking facility, a complete building catering to different functions in their own right. Given the context of development locally, the facility should be state of art, robust and open public place with maximized convenience and service standards for potential users.

- **Three identical tower** modules put up side by side integrated as a single system. Wherein each tower has a central elevator shaft for vertical movement and parking pallets on either side for storing cars. **Each such tower** shall have **2 parking spots per level** and **17 levels** above ground for parking. Total parking capacity calculates to be **102 ECS**.

# Automated Multilevel Car Parking Facility at Ernakulam South Metro Station, Kochi

## ADDITIONAL APPENDIX A

- All Tower Parking systems serving cars on ground floor with all the subsequent storage levels above it.
- Parking entry access through the station road on the Ground floor guided by separate access lanes. All the services and two wheeler parking are placed as well on ground as open to sky marked arrays.
- **The system stores the cars in 17 above ground levels. Ground level is used for maneuvering.**
- Parking exit from the side of development to provide speedy egress from site. Apart from this, the area on the ground floor is dedicated to services and parking management only.
- On the first floor all the covered area is used for parking storage.
- An additional space can be used two wheeler parking slots with separate entry and exit passage on the ground floor.
- From the first Floor to the 17<sup>th</sup> Parking floor, Movement, carriage and storage of cars is handled by the mechanical Tower parking system.
- On the terrace all area is dedicated for services and lifting mechanism (as required) for parking Equipment.
- An additional 1 basement is given for exclusive Firefighting and services provision and Lift pits.
- The structure is designed as a Structural steel shell with RCC foundation covered on top with an RCC slab.
- The cladding all around shall be done with paneled cladding materials like structural glazing, ACP etc.
- For item details and specifications of the above drawings, bill of quantities and Volume 2 of Specifications shall be read in conjunction.

	DESCRIPTION	Norms Applicable
1.	Ground Area	600 SQM
2	Site Location	Ernakulam South Metro station, Kochi, Kerala.
3	Total no of Tower modules	3/ Three (3 towers of G+17)
4	No. of Car Parking Spaces to be provided	Min. 102 (34 slots each for two towers)
5	No. of Scooter Parking Spaces to be provided (Provision in open to sky spots on ground floor)	Min. 30
6	Type of Parking System	Automated Tower parking
7	Maximum FAR permitted	As per Kochi Master Plan 2031/ prevailing Byelaws.
8	Permissible Conventional Depth	As per prevailing Byelaws (KMBR)

# Automated Multilevel Car Parking Facility at Ernakulam South Metro Station, Kochi

## ADDITIONAL APPENDIX A

9	Permissible Height above Ground	As per prevailing Byelaws (KMBR)
10	Car Dimension	As per Technical specification
11	Operation and maintenance Period	5 (Five) Years Only.
12	Waiting of vehicle meant for parking on the street during peak hours	3 Minutes
13	No. of rotation of each parking space per day for Operational expenses (max)	3

- 1.1.1. The bidder shall, as part of an integrated Parking facility, construct “Parking Structure”) of Automated multilevel parking facility, as may be necessary to provide Automated multilevel car parking facility with specified Equivalent Car Spaces (ECS), 2 wheeler parking spaces (Open to sky) and the Control rooms. No commercial activity shall be allowed apart from the operation and maintenance parking facility. The parking facility will be provided as per the prevailing norms of the Kochi Master Plan 2031, Kochi Municipal Building Rules 2019 and National Building Code 2016, for the specifications of works relevant codes have been mentioned with the Additional Appendix of Specifications.

TOTAL BUILT UP AREA OF EACH FLOOR				
S.NO.	FLOOR	TOTAL AREA IN SQ.M.	FLOOR LEVEL	REMARK
1	lift pit , pump room and fire water tank	354.769	-2.925	pump room
2	ground floor	222.825	+0.30	entry and exit
3	typical parking floor with corridor ten floors (230.230x10)	2302.3	1st,3rd,5th,7th,9th,11th,13th,15th,17th,18th floor	parking
4	typical parking floor without corridor eight floors (198.520 x 8)	1588.16	2nd,4th,6th,8th,10th,12th,14th,16th floor	parking
5	staircase mumty	22.781	+38.12	terrace
	OVER HEAD WATER TANK	22.781		above mumty
	<b>TOTAL</b>	<b>4513.61</b>		

1	Total Ground Coverage (%)	33.1%
2	Total Built up area (sq.m.)	4513.61 sqm
3	Total Height (m)	38.12
4	Total ECS	102 Cars (+6 on GF)

Note: In case the permissible FAR will be increased due to any statutory orders, in that case the contractor will not be entitled for the any commercial area on account of increased FAR.

**1.1.2. General Requirements for the parking facility:**

The bidder may adopt appropriate parking system of technology conforming to approve development control norms, specifications and details for the project facility and approval from the various authorities as mentioned in document. The technology of tower parking system shall be automated capable of parking and retrieving cars in an automated manner. The ground floor shall be appealing, accessible and cleanly maintained for the use of the general public. All other levels above shall be man-less and secured of any encroachment. The whole structure shall be protected and actively serviced for optimal performance. The structure shall be predominantly in steel components with civil structure and services to complete the building in all respects of design. The parking system shall be as per specifications and norms and shall meet the performance requirements of the project.

The contractor shall maintain all works executed by him in active state with routine maintenance.

In addition to the above the bidder will maintain adequate lighting system in the parking area and proper illuminated signage's in accordance with specifications. The contractor will also maintain backup power required for 110% of the designed power load of the parking facilities. The backup power system should have a mechanism of Conventional switch over so as to Auto-Transfer in case of power failure. The backup power system should be installed in a separate soundproof room/enclosure. The bidder shall develop a drainage system in such a manner that there is no water stagnation in the project site and area in and around the parking facility. There shall be a comprehensive maintenance of the Building and Automated Parking system by the contractor.

Type of Operation	Item Description	Covenant
Automated	Parking Slot (Pallet) Min Dimensions per ECS	Not More than 2.27 (W) X 4.8 (L) X 1.6 M (H) (For Sedans)  Not More than 2.27 (W) X 4.8 (L) X 2.04 M (H) (For SUVs)
Automated	Retrieval time	Not more than 3 minutes.
Conventional	Carriageway of pavement for circulation space within parking facilities.	Not less than 4.25 M, if one way, and not less than 7.5 M if it is two ways flow. Ramp slope shall be less than 1:10 Steep. Aisle width min. 6.0M
Automatic	Power back up	Not less than 110% with automatic switch over mechanism.

- (i) Other than these, the common infrastructure facilities within scheme shall include but not limit to Wide Internal Concrete Roads, Storm-water Drainage, Rain Water Harvesting and Sewerage facilities, Power Supply and Distribution facility scheme, Full DG (110%) backup system

required for complete parking complex, Landscaped areas and Area Lighting, Comprehensive Fire Detection and Extinguishing systems, Car scanning system at the entrance and CCTV system within the proposed development.

- (ii) Bidders must familiarize themselves with local conditions and take them into account in preparing their proposal. A pre-proposal conference will be held on the date specified in the data sheet. All requests for clarification should reach the NHIDCL's office on the date specified in the data sheet.
- (iii) Please note that the costs of preparing the proposal and of negotiating the contract including a visit to the C's sites and Offices are not reimbursable.
- (iv) NHIDCL is not bound to accept any of the proposals submitted.
- (v) The Bidder/ Consortium cannot sub-let or sell the entire project as a whole without prior permission of the NHIDCL. However specific technical consultants and sub-contractors can be hire by the bidder whose bid is accepted.

### **1.2. NHIDCL's RESPONSIBILITIES**

- 1.2.1. NHIDCL shall function as the oversight agency for the development of the project for KMRL.
- 1.2.2. NHIDCL shall be engaged by KMRL to oversee and manage process for development, engineering and execution of the project through its empaneled consultants.
- 1.2.3. NHIDCL shall facilitate coordination for documentation of project particulars. The documentation of the project shall be the responsibility of bidder, the NHIDCL shall act as an authority for discussions & decisions related to the project.
- 1.2.4. The selection of bidder and finalization of agreement shall be coordinated by NHIDCL.
- 1.2.5. The Contract agreement for project, bank guarantees and deposits like EMD, PG etc shall be enforced by NHIDCL and all the documents shall address to it solely.
- 1.2.6. NHIDCL shall form the channel of official communication and correspondence between all the parties and KMRL for the execution and finalization of the project, unless specified otherwise.
- 1.2.7. NHIDCL on behalf of the KMRL shall finalize all parameters, specifications and deliverables for the NHIDCL in regard to the execution and development of the project through its various consultants.

### **1.3. NHIDCL's Requirements**

- 1.3.1. NHIDCL is the KMRL for the works contract.
- 1.3.2. To realize the vision of the project for the KMRL has decided to select a suitable contractor to build an automated multilevel car parking facility at site location for KMRL.
- 1.3.3. KMRL requires Mechanical design, Installation, testing and commissioning, construction and Operation & management of Automated Multilevel parking. While designing the project, the best use of land has been made for its viability as well as harmony with surrounding development. This shall be maintained at all times by the contractor.
- 1.3.4. An aesthetically pleasing design has been developed to provide Automated Car Parking as well as site space to cross subsidize the project. The contractor has to explore and adopt innovative, futuristic and cost effective enhancements/ products. The Technology should be an eco- friendly and energy saving one. The Technology should also provide for proper traffic and pedestrian circulation and be amenable to rapid execution in this very busy and central location of the city.
- 1.3.5. The provisions of KMP-2031, NBC 2016 and KMBR 2019 will be the guiding factor for development of Multilevel Automated Car Parking in this area for such projects.

- 1.3.6. Automated Multilevel Car Parking is to be planned with access control, parking and retrieval systems and safety features, meeting the requirements of the details of this tender and of the technology provider as per the approved design of such structures including requirements for fire safety, ventilation, power back-up, maintenance, etc. Traffic Circulation - planning is also to be maintained for proper traffic circulation, Entry and exit for vehicles as well as pedestrians.
- 1.3.7. The bidder must familiarize itself with all the requirements, details, benchmarks of design capacity, area related to development, site conditions local byelaws, statutory requirements etc before submitting the financial quotation for development of project.
- 1.3.8. Due to the volume of documentary scrutiny, technical submission shall follow the specified order of requirements with documents separated as instructed for evaluation, any proposal violating the order of submission is deemed to be unresponsive by the discretion of NHIDCL.
- 1.3.9. The bidder must familiarize itself with parameters and observations of the feasibility study supplied with the tender as **details of development/ project details**. However, the contractor has to consider his own calculations and assumptions for the price bid. NHIDCL or its Consultants cannot be held liable for any mismatch in assumptions in feasibility study and Bidders should carry out their own analysis to their satisfaction required for their scope execution. NHIDCL shall not be liable for any mistake/error/neglect by the Bidders in this respect.
- 1.3.10. The bidder must produce mechanical designs, detail and drawings of the proposed Automated Car parking system in consonance with the provided layouts, plans, 3D walkthrough etc to present the **NHIDCL** with all the design and details of the proposal.
- 1.3.11. Although, the basic details/ configuration of proposed automated car parking system will be provided by **NHIDCL**, the bidder shall be accountable to confirm with all the relevant laws, requirements, Norms etc for the approval of the design of Automated Car Parking system. The bidders are required to harmonize their mechanical design with the given details. The Changes in the building layouts, plans, and sections etc which do not conform to the details of proposed design the development shall not be acceptable.
- 1.3.12. Minor Modifications, adjustments in dimensions, detail and specifications of various design components like lift, stalls, space clearances etc may be allowed as per the selected contractor's technology requirements. However, all designs, specifications and layouts must be submitted to **NHIDCL** and gotten approved by **NHIDCL's** consultant well in advance before the selection of contractor for detail design. **NHIDCL** is not bound to accept these modifications requested by the contractor.
- 1.3.13. The Proposals would be examined for eligibility and responsiveness at the **stage-I of technical evaluation** by means of a **technical presentation** (if required). The submitted bid shall be treated as final and all further development and modifications (if any) should be approved beforehand by NHIDCL in charge/ consultant.
- 1.3.14. No modification to the design and cost shall be permitted at the evaluation stage and minor modifications are to be done as per process only after the finalization of contractor.
- 1.3.15. The financial responsiveness of proposal shall be evaluated in **Stage II of Financial Evaluation** by means of comparison with justified rates etc.
- 1.3.16. The contract shall facilitate **NHIDCL** with all the required details and documentation beyond submission during either of the Single stage two envelope bidding and further for signing of agreement.
- 1.3.17. The mode of bidding & bid composition prescribes the minimum eligibility criteria which shall be the benchmark of evaluation (i.e. incompliance shall result in direct disqualification from the

bidding process). Given the type and mode of development, it is suggested that the bidder must acquaint itself with relevant partners (if required as allowed) for the project execution. After the selection of the selected bidder based on the marking criteria, the work shall be awarded to the selected bidder as the contractor of the project.

- 1.3.18. As design selected for development, the following details and drawing will be provided by NHIDCL:
- Development drawings,
  - Architectural scheme drawings (including parking layout and suggested scheme),
  - Structural layout drawings,
  - Minimum MEP provisions,
  - Exterior / Interior façade designs.

The drawings are supplied to the bidders for the purpose of understanding the scheme and areas dedicated for different design requirements. Please corroborate the Scope of works with RFP, drawings and specifications for complete understanding of work.

- 1.3.19. Working drawings shall be made by incorporating the mechanical design details of the APS of the finalized bidder into the working drawings like plans, details, and elevations etc of the project.
- 1.3.20. Bidders must familiarize themselves with local conditions and take them into account in while preparing their proposal. A pre-bid meeting will be held on the date specified in the NIT at the NHIDCL OFFICE. All requests for clarification should reach the NHIDCL's office or email before the date specified in the data sheet.

Please note that:-

- No costs of preparing the proposal and of negotiating the contract including the visits to the site is accountable to be reimbursed.
  - NHIDCL is not bound to accept any of the proposals submitted
  - NHIDCL is not bound to finalize all works in a single agreement.
- 1.3.21. The Bidder/ Contractor cannot sub-let or sell the construction contract as whole or in part thereof. However the contractor may use the services of specialized agencies for execution of MEP works, installations and specific jobs etc. provided that the specialized vendors or contractors must be clarified with the submission and pre-approved by consultant / NHIDCL prior to start of respective works.
- 1.3.22. General Requirement for Parking Facility shall be the minimum provision of car parking spaces in the specified technology. However, bidder will be bound to choose automated technology for the parking facility operations as per specifications. It should be adoptable to proposed civil works of building and shall be automated. The bidder shall ensure that technology chosen is: -
- Appropriate to the site, structure and demand on site.
  - Can fulfil the functionality required of it.
  - Has a precedent for use in a project of similar nature, successfully completed and system should be functional.
  - Is Supported directly by the technology / service provider for design, supply, Implementation And commissioning and on-going maintenance etc.
  - Should not create any problem for smooth flow of traffic and pedestrian movement in and around the parking facility with the premises.
  - Should be able to generate data for occupancy, revenue etc as required by the NHIDCL (both digitally and manually) in form of his choice.



- 1.3.23. The major interest of the NHIDCL is that the proposed system should optimize the available space, work smoothly, requires minimum maintenance, optimize power consumption and reduce local pollution by faster management of queue.
- 1.3.24. NHIDCL also envisages that it should be supplied the most feasible technology under the circumstances, and such a technology should be in operation and should be safe and convenient and environmentally friendly and should satisfy the technical parameters provided in the document.
- 1.3.25. The consultant would be responsible for designing the details of the development like plan & layouts, section, elevations, site development features etc (including MEP systems, parking system/ equipment layout and general configuration). While, Contractor shall be solely responsible for construction, supplying installation, testing and commissioning of all components of building development.
- 1.3.26. The contractor would be responsible for operating and maintaining the parking facility for the O&M period.
- 1.3.27. The critical material like APS, control panel & motor shall be inspected by NHIDCL before the commissioning of such equipment. A team of at least NHIDCL's officials shall visit the factory/ comparable place of installation of APS technology, before the confirmation from the contractor that the material is ready for dispatch or shall be inspecting the documentation of the items beforehand. For this purpose, the contractors shall give a 21 days' notice the NHIDCL to exercise its right to check.
- 1.3.28. The work shall be awarded on basis of lowest quote for works amongst technically qualified bidders. However, NHIDCL reserves the right to reject any bid or call L2 for negotiations for an offer higher than the lowest bidder.
- 1.3.29. No claim whatsoever shall be entertained by NHIDCL in respect of any proprietary rights of any other party relating to the plans, models and drawings. The bidder shall indemnify and keep NHIDCL or the Consultants indemnified against all such claims, cost and expenses paid by the contractor or its Consultants in defending themselves against all such claims.
- 1.3.30. The bidders shall always keep NHIDCL or its Consultants indemnified against any claim concerning any other parties in connection with the discharge of the responsibilities for this work.
- 1.3.31. All such taxes and levies shall be borne by KMRL.
- 1.3.32. The contractor is bound to ensure that the documentation required for the payment of such tax like the As-built drawings, specifications, details etc are submitted to the KMRL. Any failure in doing so shall result in penalties.

**1.4. Scope and Responsibilities of contractor.**

- 1.4.1. The bidder shall be responsible for compliance of all the conditions of contract specified in the RFP document.
- 1.4.2. It shall be solely responsible for compliance of statutory laws and guidelines for works.
- 1.4.3. The site security and maintainance throughout the contract period shall be done by contractor.
- 1.4.4. The Contractor would be responsible for design, engineering and execution of APS including installation - commissioning as well as operation and maintenance (including management) of the entire project including all clearances, approvals etc required through the operation and maintenance period.
- 1.4.5. RMC must be used for casting of structure duly lab tested and recorded for quality at site. Reinforcement steel and formwork etc should be made by the contractor at their own yard.

- 1.4.6. The contractor will be responsible for site security and maintaince through the period of execution as well as the O&M period. Through the course of contract, the contractor shall keep a separate office space for the NHIDCL and its consultants.
- 1.4.7. The inventory storage, fabrication yard and material store shall be maintained by contractor only under his own initiative.
- 1.4.8. Contractor shall make his own arrangement of logistics, storage of material, labour camps etc. No separate space will be made available for site office and stores, workshops, fabrication yard etc as part of the contract in view of the neighborhood being an active public place. Barricading of proposed site, yard demarcation, stores etc shall be clearly provided with the NHIDCL beforehand as a submittal.
- 1.4.9. The Contractor would be responsible for all described construction, finishing installation testing and commissioning for full operationalization of parking facility.
- 1.4.10. This shall include the **construction of both foundation and super structure, engineering and execution** of all MEP services including all related finishing items as per given Specifications & development Standards.
- 1.4.11. It shall also include installation, testing commissioning of all services and components of Automated car parking system, all necessary licenses & approvals etc. Before the handing over of the project and before the completion of the construction works (During the testing and commissioning stage), the client's representative shall check the performance of the installed systems, building components, appliances etc for benchmarking as per specifications, activation of failsafe mechanisms, redundancy measures, quality etc. If these are not upto the standards, contractor shall be liable to rectify upto the satisfaction of KMRL/ NHIDCL.
- 1.4.12. Proposed **Automated Car Parking system** should be provided with automated access control, drive in and drive out guidance systems and safety features, meeting the requirements of the details of this tender with provision of suitable parking operation and management technology as per the approved designs. These shall include requirements for fire safety, ventilation, power back-up, maintenance, etc.
- 1.4.13. Contractor would be required to execute **Electrical & mechanical works** related to structure and parking system including supply and installation of panels, switch boards, grounding work, supply and installation of all fixtures, lightening arrestor etc complete as per the provided Specifications/ Standards. This includes shop drawings/ details/ specifications required by the NHIDCL/ consultant to execute the works relating to parking equipment layout and installation, civil, MEP works etc.
- 1.4.14. Contractor would be required to execute **fire detection and suppression system** including sprinklers, pumps, fire hydrants, wet riser and hose reels etc. as per specifications. If required by law, Contractor would execute ventilation and smoke extraction system including fresh air fans, exhaust fans, fresh air supply ducts and exhaust ducts, dampers etc complete as per specifications as well.
- 1.4.15. The contractor would be required responsible for comprehensively operating and maintaining the parking facility for O&M period after the successful completion of defect liability period with all maintaince works, spares & consumables, on payment of monthly/annual cost with basis set out in this Tender document. The contractor would be responsible for the manpower and electricity during the set period of contract. Cost of Energy (Electrical) for O&M period shall be borne by contractor. Contractor will maintain optimal manpower for round the clock functioning of parking facility daily. Contractor shall maintain daily records, maintaince logs & compile them monthly

- including details of all collections of car parking both online and offline as per O&M manual. He is also responsible to share these records on-line & complied on weekly basis with NHIDCL.
- 1.4.16. Shifting of Utility/Other Services: The bidder will be responsible for surveying and assessing the site for any utilities that may be present within the development area. For shifting of various utility services, if any passing through the parking site and the cost thereof shall be borne by contractor at actual Cost at his own risk and cost. NHIDCL / KMRL will assist in communicating with various agencies involved. The bidder are advised to get it verified from the services department of KMRL.
- a) If any utility services are passing through the proposed site, Contractor is to re-route them with prior approval from the KMRL. However, the KMRL shall assist in preparation of documents required by contractor. **KMRL shall not facilitate the contractor with any formalities in obtaining requisite permissions from the concerned authorities.** The cost of utility diversion/ tree cutting etc will be borne by the contractor and shall be reimbursed as actual on an item rate basis.
- b) Additionally, in the event of/ during the shifting of utilities, contractor shall work with the NHIDCL- in charge to ensure the timely completion of construction and make arrangements for contingencies in management and planning (if needed) for the same and to avoid delays & hindrances in construction deadlines & milestones.
- 1.4.17. **Facilities at Site:** The bidder will include the other following expenses like air-conditioned office at site for NHIDCL officials and consultant with photocopy machines, two sets of computers (networked), Printers and with software installed namely Windows-8 or 7, MS office, Auto CAD etc. with internet connectivity and two laser black & white printers to print A-3 size.
- 1.4.18. During construction as well O&M period, the provisions of permission/ license as well as cost of such provisions for electricity, backup power, water supply, EHS, labors etc shall be arranged by the contractor and nothing extra shall be payable towards such expenses.
- 1.4.19. The Contractor shall be responsible for getting **all approvals executed works** like Electrical, Fire detection and suppression, DG set etc from the concerned statutory departments/ local bodies etc. including the ones for Automated Car Parking system like structure, components, Manufacturer's testing certificates, Norms/ compliances etc.

**1.5.** Proposed Parking and Other Charges (Indicative Only, subject to change by KMRL) shall be specified by the KMRL and the NHIDCL for the contractor to follow.

**1.6.** The Contractor can work out various modules for various categories of user to be issued with smart cards which will be gotten approved by the KMRL before implementation. The indicative charges are without prejudice to any direction passed by Hon'ble Courts in the matter or any upward revision from time to time. Any statutory increase in the parking fees beyond that stated in the tender document will be shared between the Bidder and the KMRL equally.

**1.7.** The parking management system software program must show:

- Rate per user
- Order of parking spaces

- Occupancy ratio
- Parking stay per user/ module

**1.8.** The right of advertisement is restricted for the contractor and shall rest solely with KMRL. Bidder shall have no right to object whatsoever on the decisions taken by KMRL in this regard.

**1.9.** There may be additional activities carried put in the site area of the contractor during construction and during the later stages of O&M period as well. Under this time the KMRL may choose to intimate the contractor of such activities but the contractor shall not interfere or object to such activities of the KMRL. The contractor shall integrate the facility of usage of **Kochi1 Card** into its pay and park facility without any additional cost than its financial bid price.

**1.10.** As the Site is a part of a public place, the contractor shall work in consonance to the local rules of establishment of the KMRL and work with NHIDCL's representatives to optimize its area of operation causing minimum obstruction to the surroundings.

**1.10.1. Penalties and Delays**

- a) In case of delay beyond 1 month the weekly penalty of 1% of cost of construction will be imposed on the bidder. Failure to do so will result in invoking of the Bank Guarantee to that extent.
- b) Once this penalty reaches 5% of the Project cost Security deposit submitted may be forfeited.
- c) O&M cost to be annually paid to the contractor through the completion of the Contract period shall be brought under proportionate penalization in regard to the performance of the contractor or project revenue.
- d) In case of delay in execution of works leading to extension of period of execution of project by NHIDCL in charge, there shall be no extension of time for the operation and maintenance period of the contractor.
- e) In case the parking facility remains inoperative during O&M period, for a period more than 24 hours than the bidder will have to pay a penalty of Rs. 10,000/- (Rupees ten thousand only) per day to KMRL. This will be exclusive of any other claim made by the user of the facilities. All these claims whatsoever will be borne by the bidder.

**1.10.2. Collection of Revenue from Parking Operations**

The parking fee collected and revenue from parking operation by the contractor throughout the total tenure of contract shall contribute towards the return on investment on the project and shall be deposited to the KMRL in whole as required by him, annually or monthly or daily (as finalized by KMRL). The collected amount against the parking operations of the project shall be deposited to the KMRL in favor of the "**MD, Kochi Metro Rail Corporation Limited**", as per specified by the KMRL.

**No revenue sharing is provisional for the O&M period.** KMRL shall reserve the right to authenticate and scrutinize the revenue collection through engaging its own personnel or by requiring the contractor to submit the parking data or by any other means necessary.

**NOTE:** The minimum rate of parking fees will be regulated by KMRL. The mode and schedule of payment shall be subject to KMRL instructions in the Contract agreement.

- 1.10.3. Cash collection/ any form of generation of revenue details for both parking may be desired by KMRL and shall be submitted in the requested manner in periodic intervals specified by the NHIDCL with supporting digital documents for the same.
- 1.10.4. After the completion of the contract, KMRL may request the contractor to continue the contract for O&M work, conditional to the successful completion of the initial contract to the satisfaction of KMRL. However, the contractor shall hold the first right of refusal without conditions on such request.
- 1.10.5. For the validity of agreements for the O&M work beyond the O&M period, conditions of the Contract agreement shall prevail.

## **2. DETAIL SCOPE OF WORK, SCHEDULES, APPENDICES AND FORMS**

### **2.1. DETAILS OF WORKS**

#### **2.1.1. About the Project**

The Project is formulated by NHIDCL as the executive agency for project development of **Kochi Metro Rail Corporation Limited**. It may be borne in mind that the details given are accurate but not exhaustive, they give the essence and details of Project implementation aspects. The Prospective Bidders are advised to visit the Project site and collect all required data for validating their assumptions and submissions.. The Project is proposed to be implemented as **Item-rate contract** on **lowest** contract price **bid**.

#### **2.1.2. Scope of Work**

- a) The Successful Bidder is required to undertake Electro- Mechanical Design, Engineering of Automated car parking, and Construction including operation and maintaince of Automated Multilevel Parking at the Project Site.

**b) The Major Scope of Work involves**

- i. Preparation of Mechanical Designs and Plans;
- ii. Preparation of Structural Design of APS and getting **them approved**;
- iii. Execution of Bill of Quantity as per CPWD approved specifications and relevant IS Codes and specifications of the RFP;
- iv. Preparation of Detailed Mechanical Designs and Plan incorporated into Architectural Plan for Project Execution and all other related drawings concerned with execution of the Project.
- v. To execute design as per good for construction drawings for having the project consonance with the prevailing bye laws & other statutory regulations of the governmental instrumentalities in addition to detailed architectural, traffic management drags with the view of optimum utilization of space, structural design, geometrical design, Mechanical ventilation, firefighting system /sprinklers as well as wet riser system, smoke evacuation during fire, up flow down flow ramps, water harvesting system arrangement, drainage system, boundary wall, exit and entry gate, drinking and raw water system and other ancillaries of parking areas etc. any other statutory requirement as per NBC along with the specification shall be as per the scheduled item of DSR/ SOR, market rate items along with analysis of rates based on the above scope shall be executed.
- vi. Getting Approvals from NHIDCL at each Stage; and Supply, Installation, Construction & Commissioning of the Project on item rate basis. The Bidder has to execute the structures based on load calculation as approved by NHIDCL. The designs shall be proof checked by IIT/ NIT at his own cost.

- vii. Maintaining project documentation, NOCs required for construction works and site security of the project.
- viii. Execution of all items in the Bill of quantities as per working drawings and specifications along with any additional works that may be required by the NHIDCL.
- ix. Operation and maintaince of the Automated Parking facility and site area upto the period of O&M as per specifications.

**c) Minimum Development Obligations for the Contractor**

- i. The total Project Site has an area of approximately **600 sq. m.** The Site Area available for development of the Project is approximately **468 sq. m** after reducing the areas of internal road. It is proposed to develop the project as a modern iconic structure with modern amenities along with automated multilevel parking, compliant with green building considerations.
- ii. The building is proposed to be a **1 basements + Ground+17 structure.** The total construction area of the proposed design is **4513.61** sq. mtrs. Approx. as per the Detailed Construction Area Statement below and is exclusive of the external development area (consisting of car parking, utilities, internal road and approach road to exit).

**The Land Use Matrix of the Project Site is as below:**

<b>Land Use Matrix</b>		
<b>S.No</b>	<b>Nomenclature</b>	<b>Area (in sq.m)</b>
1A	Facility + Common Areas	<b>4136.06</b>
1B	Utility	<b>377.55</b>
1C	Internal Open Area	<b>377.17</b>
	<b>Total</b>	<b>4890.76</b>

- iii. The above area statements are on the basis of design Concept Plans. Final available area shall be arrived at on the basis of Approved Concept Plans with minor modifications.
- iv. The Volumetric Constraints/Minimum Development Obligations of the Contractor are:
  - i. Automated Multilevel Car Park-Of Capacity of **102 ECS tower system – Automated.**
  - ii. Control, and services rooms as part of the facility
  - iii. To develop the minimum areas as per the Detailed Construction Area Statement above as well as the external development area consisting of utilities, internal road and AMLCP as mentioned above.
  - iv. To demarcate and develop the plots on the Project Site earmarked for any other features as per the Land Use Matrix above, provide construction of

Development Area for Parking Facility							
S. No	Floor	Covered Area (Sqm)	Area for parking (Sqm)	Height (m)	Total parking slots on level	Level (mm)	Area Covered(Sqm)
1	Entry + Exit Floor (Ground)	<b>222.825</b> (Incl, Staircase, Excl 2 wheeler parking and circulation)(Incl, Staircase, Excl 2 wheeler parking and circulation)	NA	3.2	6	+400	<b>4490.829</b> (Excluding provision of firefighting)
2	Typical Parking Level (First - Seventeenth Level)	198.52	147.28	1.8 (each), 2.1 ( Top three Levels of 1.8m)	6 (per level)	Varies	
3	Firefighting arrangement (Fire tank and pump room)	354.76	NA	3.0	NA	-3000	<b>354.76</b>
Comprehensive Area Summary							
1	Total Ground Coverage (%)					<b>33.1%</b>	
2	Total Built up area (sq.m.)					<b>4513.61 sqm</b>	
3	Total Height (m)					<b>38.12</b>	
4	Total ECS					<b>102 Cars (+6 on GF)</b>	



the main approach road to such plots and provide for all the underground facilities like sewage, electricity etc.

- v. The Contractor shall provide at least the above mentioned development on the Project Site and no compromise on the above referred minimum development obligations shall be acceptable from the Contractor by the Authority.

**2.1.3. Codes and Standards**

Wherever references are made in the Agreement in particular codes and standards for the execution, testing and commissioning of the Works, the effective edition(s), revision(s), amendment(s) or updating of such codes and standards as of the date of the Agreement execution/ usage of such code/standard, whichever is latest, shall apply, unless otherwise expressly stated in writing by the Authority/Project NHIDCL. All the requisite codes are specified with the Specifications for works and anything additional in reference shall be notified by engineer.

The order of preference in case of any discrepancies that are to be complied shall follow the following order of preference:

- i. Agreement
- ii. Letter of Acceptance and notice to proceed with works 53
- iii. Contractor's Bid
- iv. Contract Data
- v. Conditions of Contract including Special Conditions of Contract
- vi. Specifications
- vii. Drawings
- viii. Bill of quantities and
- ix. Any other documents listed in the Contract Data as forming part of the Contract.

In case of any conflict between any referenced codes and standards and those in the Agreement, the Contractor shall advise the Authority/Project NHIDCL in writing and the Authority/Project NHIDCL has the discretion to determine which version shall prevail. Broad Specifications Guidelines to be followed by the Contractor.

**2.1.4. Details of project components:**

The details of project components and guidelines to be adhered with while execution of Project and which entails the scope to be executed are:

**A. MULTI LEVEL CAR PARK**

**I. General Details**

The total built area of the Car Parking Facility is proposed to be approximately **3262.46 Sq.m.** Automated parking is to be used for site for all the levels. The Parking Facility shall consist of

structures and components as described below, which would co-exist with the approved development control norms.

- a) This sections details the structural design specifications for various parameters of parking systems. This shall form integral part of the development obligations of the Contractor and the Contractor shall have to comply with these specifications.

**Parking facility standards**

<b>Table for Parking Structure</b>	
<b>Fixed Parameter</b>	<b>Permissible</b>
Minimum dimension and weight of a car (General category) to be considered	Length – 5.00 m Width – 2.50m Height – 2.0m Weight –1800Kg
Minimum dimension and weight of a car (SUV category) to be considered	Length – 5.20m Width 2.50 – Height – 2.20m Weight - 2500 Kg
Carriageway of pavement meant for parking circulation within the structure	Not less than 4.25 M, if one way, and not less than 7.5 M if it is two ways flow. Ramp slope shall be less than 1:10 Steep. Aisle width min. 6.0M
Required arrangement for convenient parking by physically challenged drivers (2% of total ECS capacity) will have to be provided.	

<b>Table for Covenants for the Proposed Parking</b>		
<b>S. No.</b>	<b>Item Description</b>	<b>Covenant</b>
1	Depth of construction below ground	Should not exceed one basement levels
2	Height of parking without elevators	Should not exceed seventeen floors
3	Height of each basement floor	Should not exceed 4.5 m
4	Space for calculating one ECS within parking structure	Not less than 30m <sup>2</sup> per ECS for ground Floor covered parking and 32m <sup>2</sup> per ECS underground.

<b>S. No.</b>	<b>Item Description</b>	<b>Covenant</b>
<b>ECS</b>		

5	Bay / slot dimension per car space	Not less than 5.0 m long and 2.5 m wide
	Air conditioning	mechanical ventilation must be provided to permit a minimum of 15 air changes per hour for normal Ventilation and 30 air changes per hour in case of fire of distress call.
6	Gradient of ramp for internal movement and entry/ exit	Not more than 1:8 with minimum transition space of 5 m at the start and termination of the ramp with gradient of 50% of the main ramp
7	Width of ramp	Minimum of 5.5 m width and only one way
8	Straight turning radius. Helical length turning radius Lot turning radius	Minimum 7.5 m Minimum 10 m Minimum 5.5 m
9	Carriageway of pavement for circulation space within parking facilities	Not less than 4.5 m, if one way, and not less than 6m if it is two ways flow

**b)** Minimum delay is caused to users of the parking facility and the maximum queue length at any of the entry area the facility shall be organized within the site, at any point of time, except under exceptional circumstances.

**c) Entry and Exit Area: Location**

Location of the Entry and Exit Areas and of the driveways along with their connection to the road system should be made properly.

**d) Entry and Exit Area: Size**

The Entry and Exit Areas must be sized to allow drivers to safely and comfortably drive in and out the vehicle. Turning radii and width of drive aisles and minimum clear width of Entry and Exit Area shall be executed according to the respective needs and leaving adequate space to the left and right of the car for passengers to leave / enter the car and in accordance with Applicable Codes.

**e) Security provisions**

CCTV cameras shall be installed inside the Entry and Exit Areas to ensure 24x7 monitoring of the parking facility. Cameras shall be installed to record digital photos of the physical condition of the car entering and exiting the premises. The images are also helpful to locate cars for drivers with a lost ticket and to validate damage claims as well as to detect any suspicious activity in the parking area.

**All Entry and Exit Areas must comply with disability requirements.**

The driveways for inbound and outbound traffic shall be developed to provide sufficient queuing spaces; simple visual signage and guidance shall clearly direct approaching traffic off the street and into the Entry and Exit Areas. Respective commands via a visual message center shall be applied inside the Terminals for the drivers in such manner that an easy use of the system is possible.

**Inbound / outbound traffic conflict shall be prevented.**

As Entry and Exit Areas are the exchange station of the Parking, special attention shall be directed to ease the “drive-in” and positioning of the car by the drivers (preferably by means of physical aids).

**Payment and Accounting**

The Ticketing Station or access system shall be located outside the Entry and Exit Areas on the right side of the inbound traffic. There shall be facility of multiple payment options, especially government initiatives. Smart cards shall be integrated into the pay and park system. If the system has installed radio frequency access system, the readers shall have enough range to detect approaching vehicles from at least 9 meter outside of the Entry and Exit Areas.

**f) Fire Safety/ Fire Fighting**

Fire safety measures as recommended in applicable codes shall be implemented.

Construct the ‘Parking Facilities’ structure with non-combustible construction materials with a specified fire resistance. In addition, those portions of the facility used for the transport and / or storage shall have a finish of non-absorbent, non-combustible material.

Contractor shall make all provisions in the construction as per the Relevant Fire Safety Act as well as take all measures as per the rules and regulations including guidelines from Central Government, State Government and drafted by the ULB and any agency appointed by the government on the subject.

Sprinkler systems should be provided in the parking bays as per fire safety act.

**g) Ventilation**

Areas accessible to the public / drivers shall be equipped with sufficient ventilation. Depending on the design of the Entry and Exit Areas, a ventilation of emissions may be required in that area.

**Lighting/Accessibility for Maintenance**

- Lighting in areas accessible to the drivers / public shall be properly illuminated.
- Energy Efficient Building
- The Contractor shall ensure energy efficient buildings/ infrastructure and energy management and shall follow Energy Conservation Building Code (ECBS) design norms while executing the Works.

**h) Minimum Passenger Amenities**

The Contractor shall develop any designed passenger amenities in the parking facility in accordance with the volumetric constraints as provided herein or finally fixed as per the approved plans. These passenger amenities shall be a part of the parking facility and shall be maintained in compliance with the Applicable Laws and in accordance with the Technical Requirements in this behalf. The passenger amenities area development is to be done as per the technical specifications mentioned in the document and good Engineering practices.

The range of passenger amenities that may be designed at further stages:

- Waiting Area
- Public convenience facilities
- Seating Arrangements
- Dustbins
- Universal accessibility infrastructure
- Public infrastructure for the locality.

## **II. Standards And Codes**

In case of ambiguities, the below are the prescribed design standards and codes of reference:

- The Contractor shall follow National Building Codes for Purposes of reference of Building Design & Specifications.
- For purposes of reference of Road Work, relevant specifications of IRC / MORTH/ CPWD guidelines shall be followed.
- All the items of work shall be executed as per CPWD specifications / relevant IS Codes and specifications.
- The design of facilities for the handicapped and the disabled people, like the toilets, bathrooms, ramps shall be designed as per the respective IS Codes.
- Recyclable materials, alternative materials, control practices etc as per advisory of the Central / State Government to be used wherever applicable.
- Specific codes as per Specifications and nomenclature of the items.

## **III. APPROVALS**

The Contractor shall be required to get the following approvals:

- Mechanical drawings Plans approved from consultant. For this purpose, NHIDCL may appoint “Authority Engineer” who shall be responsible for day to day monitoring of works by the Contractor.
- Structural Designs of Proposed Car parking system Approval from IIT/ NIT or as directed by NHIDCL.
- Detailed working drawings on the basis of actual work executed will be furnished by the Contractor to Project NHIDCL from time to time.
- Taking approvals & obtaining licenses for implementation and execution of the project from local bodies like municipality, connection from electricity board, Jal board, NGT,

NOCs related to mechanical parking system, compliance certificate of EN/VDI norms required (if needed) etc. All construction related statutory compliances shall be followed by contractor through the course of contract, if required he may request attestation by NHIDCL for the same.

- Getting approval of the Final Bill of Quantity from the Project NHIDCL/ consultant. The decision of the Project NHIDCL shall be final in this respect.
- Performance tests shall be carried out on all/any items of work as directed by the Project NHIDCL. Should any item fail to pass the tests, the Contractor shall be given opportunity to take corrective measures and have the same re-tested to the satisfaction of the Project NHIDCL, who may at his sole discretion order dismantling of the whole or part of the works done and order the Contractor to reconstruct the same. The cost of all these operations and materials shall be borne by the Contractor without any extra claim.
- Approval of defects free execution of works as well as rectifications of defective work shall be taken by the contractor from the NHIDCL.

#### **IV. Indicative Specifications**

1	OFFICE AREA	Flooring – Vitrified Tiles: Kajaria/Bell/Orient Walls – POP punning with acrylic emulsion paint: Asian/Berger Ceiling – Oil Bound Distemper: Asian/Berger Door/Window – Anodized/ Powder Coated Aluminum Door/Window
2	TOILETS & LOBBIES	Flooring – Anti skid Ceramic Tiles: Kajaria/Bell/Orient Walls – Ceramic Tiles on Walls: Kajaria/Bell/Orient Ceiling – Oil Bound Distemper: Asian/Berger Internal Door – Merino Pre-lam Doors Peripheral Door/ Windows - Anodized/ Powder Coated Aluminum Door/Window Fixtures – Approved Quality: Parko/Mark Jaguar Counters – Granite/Marble
3	COMMON AREAS	Flooring & Walls Electrical & Communication Fire Protection Works Staircases – Granite/ Marble Stone Fire Staircases – Kota Stone Lift/ Lobby - Granite/ Marble Stone Walls – POP punning with acrylic emulsion paint: Asian/Berger Ceiling – Oil Bound Distemper: Asian/Berger Concealed Copper Wiring : Havells/ Finolex/ Polycab Modular Switches: CPL/North West/ Havells/ Phillips Fire Fighting Systems as per applicable NBCC Norm (Part IV and Part III): Kirloskar/Jindal/AUDCO/DSS/GETECH/ASE

For Component wise specifications and approved makes list please refer Appendix of Specifications for works.

S.No.	Materials	Approved Manufacturer / Supplier
1	Ordinary Portland Cement	LAFARGE, Birla uttam, Gujrat Ambuja, Ultratech, JK Super Cement
2	PPC Cement	Not applicable
3	Reinforcing Bars	TISCO, SAIL, RINL.
4	Chemical Admixtures and waterproofing compound	FOSROC, SIKA, Asian Laboratories, Dura Build Care, CICO Technologies. BASF, MC Bauchemie, MYK Schomburg. Pidilitie, Choksey chemical
5	Chemical waterproofing system	BASF,STP limited, MC Gaucherie, CICO Technologies, Penetron, Keyton, Sika
6	RMC	ACC, BIRLA, Ultratech, Lafarge or any RMC plant approved by KMRL/ consultant.
7	Anti-termite Treatment or Chlorpyrihos	PCI
8	RCC Man Holes Frame & Cover & Footrest	K.K. or equivalent as approved by NHIDCL
9	Anchor Fasteners	Hilti ,Fisher, Halfen
10	Structural Steel	SAIL, JSW,CORUS, TATA
11	PVC cover Block	Elmich, Aspitha Exports
12	Polypropylene Fibres	Fibermesh, Duracem, Eurofastner, Cetex
13	Adhesives & Grouts	Bal, Laticrete
14	Vitified Tile	Johnson, Nitco,Kajaria, Asian, Orient
15	Full body Vitified Tile	PAVIT, Granito, marbonite, Unistone
16	Silicon sealent	Dow Corning,GE Silicon,Wacker Silicon,
17	Metal Doors(painted with 2 hr Fire Rated)	Shakti-Met Dor, Basic Arch Products,Radiant, Navaire
18	Flush Doors	Anchor,Century,Merino, Greenply
19	Aluminium Sections	Jindal,Hindalco,Bhoruka,Hydro Aluminium Extrusion
20	Hardware	Dorset,Magnum
21	Glass	Saint Gobain,Asahi,,Pikington,Guardian Glass
22	Paints & Polish	Asain, Kensai-Nerolac, Berger, Unite, spectrum
23	Wooden Fire Door	Navaire, Sukri
24	ACP	ALUCOBOND/ EARUBOND/ ALU DÉCOR/ ALSTONE/ ALSTRONG

\* RAW MATERIAL SOURCE TO BE APPROVED BY THE KMRL/NHIDCL

Item specific list of approved makes shall be read form the Specifications of works.

## **V. Common Area and Facilities**

**i) Water Supply Structures**

The Contractor shall execute Water Storage and Supply Structures in the form of Over Head Water Storage and Under Ground Water Storage Tanks. These tanks shall be of adequate capacity to meet the peak hour requirements of the parking and shall be designed and built as per relevant standards. Apart from meeting the user requirements, water storage shall be maintained for meeting the contingency requirements in case of fire or similar incidents.

The water supply distribution network shall be laid exclusively for the common area Facilities. Separate water supply meters shall be installed for usage by parking and common areas of the facility.

The Contractor shall provide adequate number of Sanitation structures along with proper flushing and cleaning arrangement.

**ii) Rain Water Harvesting Structures**

The Contractor shall mandatorily provide rain water harvesting system in the building. This shall consist of a properly designed network which shall be cleaned and maintained at all times.

**iii) Solid Waste Management System**

NR

**iv) Communication System**

The Contractor shall provide a state-of-art communication system which shall primarily consist of telecommunication and networking equipment. These shall form the basic infrastructure for implementing the Management Information System in the parking facility.

Different operation and maintenance staff of the Contractor should be accessible on call at all times. Preferably walky-talkies and wireless local loop phones shall be provided.

**v) Landscaping Area**

No area/pocket in the plot is to be left barren. Adequate landscaping shall be maintained in the Project Site Area. This area has to be suitably maintained for the aesthetics of the parking facility. The pockets shall be properly illuminated and railings of suitable type shall be provided to boundary the area. Landscaped area shall be provided as a buffer between the passenger access area and the site.

**vi) Electricity Supply & Illumination Standards**



An electric sub-station shall be separately executed (if specified) for the project, open areas, automated multilevel car parking etc. Separate electric meters shall be installed for usage by the parking operator.

Apart from the electric supply, in case of emergencies, there shall be provision for Standby Diesel Generator Sets of suitable capacity which shall be provided for the parking facility, open areas, Automated multilevel car parking in a non-polluting manner for providing electricity to the terminal during power breakdowns and power cuts. The project shall be adequately lit as per the minimum approximate illumination standards prescribed. During night time common areas and facilities should be sufficiently illuminated to ensure visibility and safety to users. High mast lighting can be provided to light up the open plaza area.

## **VI. Operation & Maintenance**

- a. Total period of operation and maintaince shall be 5 years. It shall commence at the successful completion of construction of parking facility- free from any defects. During the commissioning stage the facility shall be kept as much possible in operation by the contractor, nothing additional shall be payable extra towards this if the delay in completion certification is due to the faults of work of the contractor.

<b>Table: Minimum Illumination Standards</b>		
Sr. No.	Project Component	Minimum Approximate Illumination (Lux)
1	Passenger Circulation Area	150
2	Administrative Office	150
3	Corridors	70
4	shops	70
5	Cloakroom	100
6	Toilets	100
7	Waiting room	150
8	Parking Areas	
	Surface Parking	50
	Basement Parking	70
	Ramp	70
9	Roofs	20
10	External Lighting	20

- b. During the First 12 months of the O&M period, only operational expenses shall be considered in the part payment. For the rest of the 48 months of the O&M all expenses for operation and maintained of the facility has been accounted for. Nothing additional shall be payable during this period.
- c. Additionally, any defects and faults in work whatsoever shall be completely contractor's liability for these 5 years.

- d. On completion of project, unless the project is defect free upto the satisfaction of KMRL with all stages of testing and commissioning, the defect liability period shall not commence.
- e. The contractor shall maintain and operate the complete facility (Both equipment, Building and premises) including all the consumables, spares, manpower, electricity etc within his quoted price for O&M. Site security shall be inclusive of this with insurance protections for accidents/damages effective through the contract.
- f. The O&M Performance Security will also be covered under Performance guarantee (as mentioned in RFP). This should be valid through the period of O&M contract and will be refunded on completion of satisfactory operation and maintenance throughout O&M period, subject to smooth functioning at inspection of entire system.
- g. Defect liability period shall start after the successful completion of project with complete testing and commissioning of the entire project. Expenses of operation and routine Maintenance during the defect liability period shall be payable to contractor as lumpsum work annually. Beyond these expenses nothing shall be paid additional and the contractor shall operate and maintain the facility at his own accord during this time.
- h. The effective commencement of O&M period shall start after successful completion of defect liability period. During this period, the costs of both Operation and maintenance is considered as components of payable sum of contractor. The payment of such cost as quoted in lumpsum in BOQ shall be paid in annual sums after completion of O&M for each year.
- i. The major interest of the KMRL will be that at the time of taking over the asset, it should have a relevant, updated technology at the time (at the end of Contract period), and should be in operation, safe and convenient and environmentally friendly and should satisfy the technical parameter provided in the document.
- j. Defect liability: The contractor's liability during the O&M from the date of award of construction works shall be comprehensive and will cover rectification of defects including replacement, Maintenance, repairs, upgradation (if required) etc.
- k. The contractor may be asked by KMRL to integrate its public infrastructure facilities with the project components like payment gateways, utilities on site etc. under such circumstances, the contractor shall comply with the KMRL's initiative.
- l. During the course of the operation and maintenance the contractor shall train the client's personnel (of at least equivalent quantity as his own deployment during the O&M period) in Operation and maintenance works of the Automated Parking system.

**Format for Undertaking Original Equipment Manufacturers (OEMs) of Automated Parking Systems**  
(SAMPLE)

(On the letter head of the company)

Date:

To,

**Managing Director,**

**Kochi Metro Rail Corporation Limited,**

JLN Metro Station, 4th Floor, Kaloor,

Ernakulam, Kerala 682017,

Dear Sirs,

This is in connection with our application for admitting our compliance of to enable our organization/firm/ enterprise to be considered eligible to bid for projects of Car Parking system for KMRL.

We hereby undertake that once we are admitted as per the industry standards of EN/ VDI norms (i.e. EN 14010 or VDI 4644 ), all the manufacturing, design specifications and technology used in the parking system, will be conducted in accordance with the provisions of the guidelines as specified in the norms and any further referred norms in the same. So long as the tender conditions remain unchanged, the \_\_\_\_\_ covenants and takes full responsibility for (i) any technology of mechanical design of the parking system, (ii) manufacturing and procurement of the system parts and subcomponents and (iii) maintainance of safety and AMC requirements throughout the term of contract.

The firm agrees and undertakes to indemnify and keep indemnified and harmless NHIDCL, its officials and consultants, from and against any and all liability resulting from claims, demands, penalties, suits and judgements and all costs, charges and expenses relating thereto as a result of a breach by \_\_\_\_\_ of its covenants as stated here in above.

Additionally, the \_\_\_\_\_ shall engage directly in the process of equipment design, manufacture & supply, installation, commissioning and maintenance of the parking system as detailed vide a separate MoU with \_\_\_\_\_ as per the format in Appendix 6 detailing the responsibilities for scope and roles shared as OEM for the project. This shall clearly state that the system supplied for the project fulfills all the above mentioned, designed and manufactured in partnership with the OEM and is warranted for at least 30 years of operational life, liable for any licensed software malfunction/ damages including upgradation till the O&M contract. The availability and supply of spares and critical components for remaining system life (till 25 years) beyond the operation and maintenance period (of 1+9 years) is also guaranteed by the undersigned.

Yours faithfully,

**For (Name and Address of the Firm)**

**(Authorized Signatory)**

Memorandum of Understanding  
(SAMPLE)

This Memorandum of Understanding (MoU) has been entered into at New Delhi on this \_\_\_\_\_ day of \_\_\_\_\_, 2019, by and between

\_\_\_\_\_, a company established in \_\_\_\_\_ India and \_\_\_\_\_ having its registered office at \_\_\_\_\_

\_\_\_\_\_, India, hereinafter referred to as “\_\_\_\_\_”(which expression shall, unless repugnant to the context or meaning thereof deem to include its successors and permitted assigns) of the FIRST PART.

AND

\_\_\_\_\_, having its office at \_\_\_\_\_

\_\_\_\_\_, hereinafter referred to as \_\_\_\_\_, (which expression shall, unless repugnant to the context or meaning thereof deem to include its successors and permitted assigns) of the SECOND PART

AND

\_\_\_\_\_ have been, hereinafter, also referred to individually as “the party” and collectively as “the parties”, as the context may require.

For the purpose of this MoU, DSCL shall also include its holding companies, subsidiaries, affiliates and associates.

Whereas the Government of India (GoI) through the NHIDCL (hereinafter referred to as the “NHIDCL”), has invited Request for proposal (RFP) for

\_\_\_\_\_ (hereinafter referred to as the “Project/s”)

Whereas the parties hereto have agreed to pool in their expertise, manpower, Technical know-how and resources to form this consortium entitled as \_\_\_\_\_ (‘Consortium’) to submit the RFP documents jointly for the Project/s in the name of Consortium and thereafter, on being finally awarded the Project/s, to undertake the development of the said Project/s, as per terms and conditions to be agreed under the Contract Agreement with the NHIDCL. Now therefore the Parties have entered into this MoU on the mutual agreed terms and conditions and witnessed, confirm and declare as follows:

The parties have understood the scope and nature of the works as defined in the RFP and remain responsible to the NHIDCL for the successful execution of the Project/s in accordance with the terms and conditions of the RFP document/s and the Contract Agreement.

The address of the Consortium shall be  
“ \_\_\_\_\_ ”  
\_\_\_\_\_

The parties have agreed to appoint \_\_\_\_\_ as the Lead Member of the Consortium for the performance of the Contract. Lead Member shall be the authorized signatory on behalf of consortium.

The parties hereby agree that

- a) \_\_\_\_\_ as the Lead Member shall hold a minimum equity stake not less than 51 % of the aggregate shareholding of the Consortium for contract period.
- b) \_\_\_\_\_ as a Consortium member shall hold the aggregate shareholding of the Consortium as mutually agreed with the lead member of the consortium.

The Parties shall form a core group for jointly undertaking various activities for the submission of RFP documents to the NHIDCL and to take all decisions during the bidding stage. The Core group shall be led by \_\_\_\_\_ as the Lead member of the Consortium. Any Party nominating any person/s to the core group shall have the right to remove/ replace such person/s by nominating any other person/s

That the roles and the responsibilities of each party including the shareholding pattern, as is required under the terms and conditions of the RFP Documents, shall be as follows:

No.	Participation Detail	Member 1 “ _____ ”	Member nth “ _____ ”
A	Management of SPC	_____ (Yes/ No)	_____ (Yes/ No)
B	Equity Participation in accordance with Clause 5 above	(≥51%) _____ (Yes/ No)	_____ (Yes/ No)
C	Construction & Implementation of Project/s	_____ (Yes/ No)	_____ (Yes/ No)
D	Design, Supply (including testing commissioning) & Erection of Parking System, Technology & Equipment	_____ (Yes/ No)	_____ (Yes/ No)

E	Operation & Maintenance of Parking Systems, Technology & Equipment	_____ (Yes/ No)	_____ (Yes/ No)

The above shareholding may be satisfied by each of the parties and / or their affiliates, or associates together for the purpose and the quantum of the contribution or the constitution of the holding, which may be altered by mutual consent of both the parties.

In the event of the project/s being awarded to the consortium, the Parties within a reasonable time shall incorporate a Special Purpose Company (SPC), as may be required, in line with the terms of the RFP document/s submitted and the contract Agreement entered into by the PSC with the NHIDCL.

a) Further that the SPC Shall be managed through its Board of Directors consisting of directors nominated by the parties in the ratio of their shareholding in the SPC.

B) On the incorporation of the SPC, it is intended that the SPC shall finalize the terms of the contract Agreement for the implementation of the project and to carry out all the responsibilities in terms thereof.

This MoU shall terminate upon the earliest occurrence of any of the following events:

- a) Upon the incorporation of the SPC, or
- b) Rejection by the NHIDCL of the RFP Documents for the Projects submitted by the Consortium, or
- c) If the project is not awarded to the Consortium, due to what so ever reasons, or
- d) By mutual agreement between the parties

The parties have decided to collaborate and participate jointly for the Project/s on an exclusive basis. The parties hereby agree that they shall not participate during the submission of RFP document/s for the development & construction, operations & maintenance of the said project/s in any capacity whatsoever along with any third party/ parties

The parties shall treat as confidential all information, documents and materials, including without limitation documents and other information concerning technical, economic or marketing information furnished by the other party or developed jointly hereunder or which it acquires for the purpose of this MoU and which relate to the business of the other parties.

The parties by way of supplementary Agreement or otherwise may amend, modify or alter this MoU or any clause or clauses of this MoU by mutual consent in writing after giving due consideration to the requirements of the Project/s.

This MoU shall be governed and construed in accordance with the applicable laws of Union of India and the Courts at Delhi shall have exclusive jurisdiction over the same. Any disputes between the parties shall be settled through arbitration at Delhi and the arbitrator shall be selected and appointed by both parties to settle the dispute between the Parties who's decision shall be accepted by the parties as final.

IN WITNESS WHEREOF, each of the parties has caused this MoU to be executed as of the date first written above.

For and on behalf of

For and on behalf of

Authorized Signatory

Authorized Signatory

Witnesses

Name: \_\_\_\_\_

Name: \_\_\_\_\_

**NOTES:**

- The submissions shall contain the individual information of all members of the JV required in Instruction to bidders.
- The members of the Consortium/JV shall furnish a Power of Attorney duly signed by the authorized representative of each member as per the format enclosed as in appendices. (As Format for designating the Lead Member). The Lead Member and the constitution of the JV shall remain unchanged as submitted with the proposal.
- The signed documents after selection of a JV as contractor by the authorized signatory of the Lead Member and shall be legally binding on all members of the Consortium/JV.
- A statement of participation from each constituent member shall be submitted along the proposal to the effect that they are bonafide members of the group, and in the event of qualification; they agree to be jointly and directly liable to project deliverables under the contract.
- If a JV is already constituted outside the tender, all members shall submit a dedicated Memorandum of Understanding (MOU) as part of their Proposal in addition to the JV agreement. The MOU *inter alia*, shall also clear their intent and commitment to form a joint venture company (JVC)
- The **lead member** shall hold a **minimum equity stake not less than 51%** of the aggregate shareholding of the JV till the O&M period. The lead member should preferably be a civil works contractor.”
- No change in the composition of the Consortium after the Qualification stage may be permitted.
- Bidder(s) in conflict of interest of the qualification process shall not be evaluated and as a consequence their JV’s bid will be outrightly rejected.
- All the legal consequences in case of default shall be applicable to members of the JV/ consortium/ MoU both as group and as individual members.
- The details of Agreement between the members of the group and MoU between the bidder and his counterpart shall be submitted along the credentials for evaluation as per SECTION 6, failing which their bid shall be rejected.
- If any work(s) (accounted for qualification by a bidder/ counterpart /any member for consortium or JV), has been done **in part/ percentage** by the applicant member, in such an event, the eligibility and qualification of the bidder/ Group (as a member of JV/ consortium) shall only be

applicable (and acceptable) and evaluated against the part of/ cost of/ percentage of work completed by the same in his own account.

- If a claim of work experience by contractor is for works in which the execution was in form of Joint Venture/ consortium/ Partnership with more than one firms (apart from that of the member bidder) then, to be considered for evaluation such submitted experience of member bidder shall have at least 25% equity in the JV in whose name the work was executed. Relevant documents must be submitted for this claim.



**Prescribed Electrical Usage for one operation**

Bidders to fill the requisite data with step wise time consumption of each logic step of parking cycle.

## **PART 2: Bill of quantities**

(To be read in conjunction with RFP and Specifications (Appendix B &C))

Bill of quantities is uploaded on the online portal of NHIDCL.