

SCHEDULE 11- SPECIFICATIONS AND STANDARDS
OF
PROJECT DEVELOPMENT AND MANAGEMENT AGREEMENT

between

GUJARAT COUNCIL OF SCIENCE CITY (AUTHORITY)

and

(DEVELOPER)

For

**Tender for Upgradation and Digitalization of IMAX 3D GT
laser projection system installed at Gujarat Science City on
PPP mode**



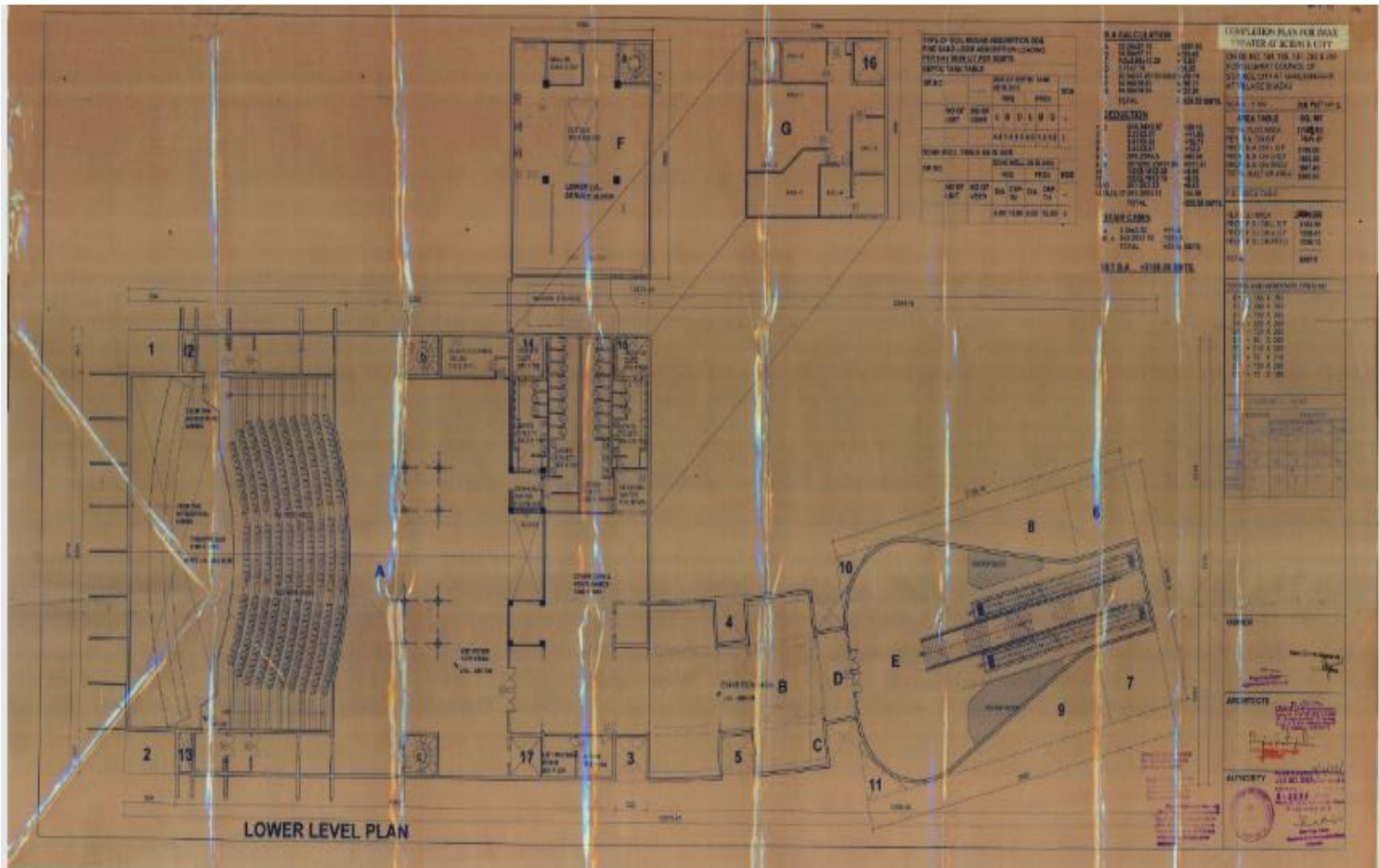
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Contents

SCOPE OF WORK 4

- 1. SCOPE OF WORKS- GENERAL 4
- 2. SCOPE OF WORKS- PROJECTION SYSTEM 5
- 3. SCOPE OF RENOVATION AND RETROFITTING OF EXISTING FACILITY: 7
- 3. SCOPE OF INSTALLATION RESPONSIBILITIES 8
- 4. SCOPE OF OPERATION AND MAINTENANCE: 9

THEATER BLUEPRINT



Scope of Work

1. Scope of Works- General

- i. Bidders are advised to submit their respective Bids after visiting the Project site and ascertaining for themselves the site conditions, location, surroundings, climate, availability of power, and other utilities for renovation, access to site, handling and storage of materials, weather data, applicable laws and regulations, and any other matter considered relevant by them
- ii. Electricity- Developer shall utilize the existing electricity infrastructure for executing the construction works. Cost of Electricity shall be borne by GCSC during the Construction Phase. Developer shall be responsible for making their own arrangements for electricity, if additional load is envisaged. During the O&M phase, the cost of electricity and water shall be borne by the Developer, which shall be through a metered connection, monitored separately
- iii. Digitalization of IMAX 3D theatre of Gujarat Science City. Developer will also have to carry out all ancillary works of civil, interiors and finishing works including but not limited to changes required in theatre chairs, acoustic system, screen and screen fixtures, projector room etc as mentioned herewith
- iv. Commissioning of the Project shall be completed on or before Scheduled Commercial Operation Date
- v. Property Tax (if any), shall be borne by the Developer

2. Scope of Works- Projection System

- i. The Developer shall the purchase and installation of projection equipment, sound system and speakers, auditorium improvements, 3D system, and preventative maintenance. All prices shall be listed with the estimated quantities. In addition, all products, installations, and warranties must meet or exceed the specifications .
- ii. The scope also include supply, installing, testing, commissioning of the Laser Projection system which, shall give visitors a real- life experience of the desired contents through 3D imagery and special effects. Through this medium visitor shall get a feel of the stunning visual effects that it creates on the screen.
- iii. The Upgraded Imax Theater System should comprise of the following minimum components:
 - a. IMAX 4K Laser Projection System capable of 2D and 3D
 - b. 12 Channel Sound System with the projection system
 - c. Screen System compatible with the projection system
 - d. 3D Glasses Cleaning System compatible with the glasses
 - e. 3D glasses of IMAX as compatible with the projection system
- iv. The System should have applicable regulatory certifications (safety, etc.) including all other local approvals/certifications as required for operating and maintaining the theatre.
- v. The projection system unit should include the minimum following features:
 - a. Dual Laser digital 4K projectors
 - b. Laser Illumination System
 - c. 1.43 Aspect Ratio available
 - d. Capability for higher frame rates at 2K resolution
 - e. Secure enclosure with security monitoring system
 - f. Content protection
 - g. Proprietary Image Enhancement system, with external camera for image calibration ensuring perfect alignment and brightness
 - h. Custom high-performance server
 - i. Auto focus calibration
 - j. Alternate content input
 - k. Integrated, electronically controlled power supplies
 - l. Lenses to suit theatre's geometry
- vi. The **Control console** should be LED Touch screen for operator user interface, that should provide facility for regular show operation, status display and access to variety of programming and maintenance functions, It should also incorporate basic automation needs and be compatible with theatre management systems
- vii. **Sound system:**
 - a. Capable of handling Audio files specially enhanced to provide depth and clarity using 12 channels plus sub-bass system.
 - b. It should have High resolution playback from uncompressed audio files Necessary Mixers, Pre-amplifiers, Graphic equalizers, Power Amplifiers (7.1 surround with necessary RMS power for each channel and woofer), good quality power compatible speakers
 - c. The audio system should be of perfect acoustic design. The audio feeds are to be synchronized by reliable mechanism with the show program that runs in the computer.
 - d. A highly user-friendly multi-channel licensed audio recording software capable of recording, editing and rendering 7.1 and similar audio formats is required.
- viii. **Electronic Equipment for Sound system:**
 - a. It should include a dedicated power amplification channel for each of the main channels.
 - b. There should be Programmable equalization for each of the main channels.

- c. Presence of Patented auto-calibration technology.
 - d. Dedicated sub bass amplification.
 - e. Projection room monitor speaker should be installed
 - f. There should be a control screen selection of input channels, sound levels, programming, and diagnostics.
 - g. It should have ability to connect to facility's non-sync sound source.
- ix. **Screen:** Projection screen should be from a recognized manufacturer of theater screens.
- a. The screen must synchronize and provide a seamless image for the visitor sitting in either the 1st row or the last row.
 - b. No visible defects in projected image from minimum 6 meters (20')
 - c. Tubular steel supporting structure for screen sheet. (if required)
- x. **Performance Guarantee Test:** The Developer shall see that the system is already thoroughly tested at the facility, should be put through a complete functional start-up and test procedure to ensure proper operation of the projector.
- a. It should include checking adjustments of critical components, performing any installation specific work and a review of the installation work itself.
 - b. The sound system should be calibrated for the finished theatre environment.
 - c. The decision on any item/component whether to be repaired or replaced following defect/non-performance of those items during performance test shall be solely at the discretion of the client.
- xi. **Show elements & Show:** The following minimum elements need to be provided by the developer:
- a. Only those movies/documentaries certified for General Audiences(G) by Motion Picture Association of America (MPAA) and Unrestricted Public Exhibition "U" certified by Central Board of Film Certification with no violence content/profanity/drug abuse will be permitted to be shown.
 - b. Developer must ensure that both 3D and 2D shows are shown.
 - c. Show duration – shall be a Minimum 25-40 Minutes
 - d. At least one documentary show must be played per day
 - e. The developer shall have all responsibility for obtaining license from the distributors, or production houses as the case may be, for the movies played at the theater. GCSC will not pay for any license during the operations phase.
 - f. The topics/subject of non-commercial movies must minimum cover the following topics, as the list is not exhaustive in nature-
 - History of India
 - Achievements of India in Space
 - Contribution of India in field of Science
 - Culture, Mythology & Traditions of India
 - Scientific fictions/scientific movies
 - g. The Superheroes movies shall be allowed subject to approval of Authority.
 - h. All Free shows available from international producers like NASA/ESO/ESA etc.
 - i. Wherever possible, all the shows should be in English and with voice over Hindi.
 - j. Necessary scripts and original soundtracks must be supplied.

3. Scope of Renovation and Retrofitting of existing facility:

- i. **Auditorium:** The Developer should include auditorium improvements in their scope of work as per the requirements mentioned below, which in no way is exhaustive in nature-
 - a. Improvements to exterior signage and lighting and sight lines to the Theatre building.
 - b. Improvements to the furniture, fixtures, and finishes of the theatre interior, upgrading its aesthetic and comfort, in line with the new, state-of-the-art digital projection technology, including supply and fixing of reclining chairs.
 - c. Upgrade of analog distribution system to digital, including all necessary equipment and cabling. Full-projection system with surround sound, inclusive of all equipment's
 - d. Complete electrical and firefighting system
 - e. The Developer shall provide all the necessary facilities to the entry/exit seating and movement of physically challenged persons including wheelchairs, ramps etc.
 - f. Developer shall provide any other components required for proper functioning of the theater.

- ii. **Projection Room:**
 - a. Civil works in the projection room including but not limited to false ceiling, painting, flooring etc.
 - b. The Projection should be upgraded in such a way for accommodation for IMAX compatible equipment
 - c. Existing exhaust fans can be used to reduce the Laser system heat load if required, or new fans/Air conditioning system should be will be installed in place as per the requirement.
 - d. The facility HVAC system will be responsible for the management of this heat to keep the room temperature within required Environment
 - e. Responsibility for arranging the installation of exhaust and projection system air filtration system, as per the guidelines and extant provisions of law.
 - f. All the existing equipment of the old system shall be suitably and safely moved to a new location as designated by the GCSC. It is expected that GCSC uses this old equipment to showcase in a museum.

3. Scope of Installation Responsibilities

- i. Provide qualified labor (both general and specialized) as well as all material required for the installation of the projection, sound, screen and glasses cleaning system.
- ii. Assume responsibility for all Health & Safety regulations for the installation labor.
- iii. Maintain the environment of each building space into which the supplied equipment is installed as outlined. Failure to do so may result in damage to the equipment.
- iv. Provide power circuit distribution and protection for all equipment per the approved drawings.
- v. Provide all raceways and conduits necessary to connect those components supplied and/or specified.
- vi. Arrange for electrical contractor to supply, install and terminate all power cabling as well as install the specialized loudspeaker and control wires as supplied.
- vii. Provide necessary infrastructural support (such as flooring, anchor points for speakers etc.) for any installations.

4. Scope of Operation and Maintenance:

- i. The Developer's Scope of Operation and Maintenance/battery limit shall be limited to IMAX theatre building except the exhibit area, common passageway, vacant spaces, rooms, escalators and lifts (the "**Battery Limit**"). Any other infrastructure available in the vicinity of IMAX theatre shall not be under Developer's Scope of Operation and Maintenance/battery limit and the Developer shall not be allowed to use it for his own purpose unless otherwise written consent is given by the Authority.
- ii. Developer shall be responsible for full operation and maintenance of all systems installed (until the end of the agreement period).
- iii. The Developer shall be collecting user fees associated with theatre only. Any other fees associated with use of any infrastructure/ facility such as museum, parking fees in vicinity of theatre shall be collected and retained by Authority.
- iv. Developer shall be given access to Utility room to operate and maintain the projection system and related equipment considering the electric load.
- v. Developer shall, always, operate and maintain the Project in accordance with the provisions of the Contract, Applicable Laws and permits. In particular, the Developer shall, always during the Maintenance Period, conform to the service and maintenance requirements set forth hereof and as per Good Industry Practice.
- vi. The Developer shall repair or rectify any defect or deficiency set forth hereof within the time limit specified therein and any failure in this behalf shall constitute a breach of the Contract. Upon occurrence of any breach hereunder, the Authority shall be entitled to recover as per contract.
- vii. The Developer shall not damage, destruct or demolish any structure, area or asset, which is owned by Authority, inside or outside Project Facility areas without prior instructions and / or approval of Authority.
- viii. Developer should ensure that all arrangements are made for physical distancing and provide adequate supplies to support healthy hygiene behaviors. Supplies include soap, hand sanitizer, disinfectant wipes, cloth face coverings (as feasible).
- ix. Developer must clean and disinfect frequently touched surfaces at least daily, or as much as possible and as per the safety requirements. Establish a disinfection routine and train staff on proper cleaning timing and procedures to ensure safe and correct application of disinfectants.
- x. The Developer to ensure dedicated theatre support and qualified technical back up team in India, with OEM accreditation and remote diagnostics as a standard. The support should be available on a phone call basis. The maintenance personal should visit the theater as and when required and as per the requirements mentioned
- xi. There shall be a regular maintenance program in place for all mechanical, electrical and piping systems.

The Developer shall follow the following timetable for routine cleaning of the Project Facility:

SI No	Description	Minimum Frequency
1.	Inspection and cleaning of the Projection system and theater	Once a week
2.	Preventive maintenance of all electrical, electronic, mechanical system.	Once a week
3.	Inspection of all Seats	Once a day
4.	Electric Meter	The Developer shall check all meters once in a month time to ensure that they are functioning and are showing correct readings.

5.	Standby Power Supply	The Developer shall have arrangement of standby power supply by DG sets which shall be available 24 hours.
6.	Safety	Any fault in the electrical equipment like switches, receptacles, wiring etc. shall be identified, tested and repaired within 24 hours of detection to prevent accidents.
7.	Fire Fighting Facilities	The Developer shall provide the required fire hydrants conforming to relevant standards and the applicable laws and regulations. Additionally, Developer to ensure that the same are available at all time.
8.	Toilet cleaning and swiping	Continuous (3 times a day)
9.	Wash floors, dust, clean (open) drains (if any). Empty dustbins, scrub tables, chairs, other furniture and accessories, furniture, shelters, etc.	Once a day
10.	Clean cobwebs, clean doors windows, walls etc.	Once a week
11.	Repairs, fumigation, wash curtain, cushion covers, water tanks, filter solution etc.	Once a week
12.	Whitewash, pest eradication, contract renewals, clean air conditioning system etc	3 years.
13.	Bins being Hand scrub to ensure removal of soil from grouting	Fortnightly
14.	Walls - Hand scrub to ensure removal of soil	Monthly
15.	Bins - Hand scrub to ensure removal of soil from grouting	Fortnightly
16.	Basins Scrub with scrubbing pad to remove stubborn stains	Weekly
17.	Bowls/ Urinals - Scrub with scrubbing pad to remove stubborn stains Scrub beneath rim to ensure removal of yellow stains	Weekly
18.	Soap Dispenses Dismantle and check / clean	Weekly
19.	Exhaust Fans- Wipe clean to remove dust	Weekly

xii. The Developer is to ensure that movie shows are conducted regularly as per timing decided by the Authority. Failure to conduct a show on account of maintenance requirement / breakdown of any component of the system shall constitute a breach. Under such circumstances, Authority reserves their rights to levy damages as per provisions of the contract.

xiii. The Developer shall, through its engineer, undertake a daily visual inspection of the Project and maintain a record thereof in a register to be kept in such form and manner as the Authority may specify. Such record shall be kept in safe custody of the Developer and shall be open to inspection by the Authority.

- xiv. Training will include system operation, System Video calibration, routine cleaning and maintenance schedules, sound system performance, projection system performance, show creation, video file upload, Screen Management System training.
- xv. In respect of any defect or deficiency not specified in hereunder the Developer shall undertake repair or rectification in accordance with Good Industry Practice and within the time limit specified by the Authority.

Sl No.	Nature of defect or deficiency	Time limit of Rectification
1.	Any failure of the internal and/ or exterior lighting including the theater and projection room	4 hours
2.	Defects in electrical/mechanical/HVAC	24 hours; however, Developer is to ensure that shows are conducted as per the schedule without affecting the quality of the show.
3.	Cracks/gaps in flooring/wall in theatre or projection room	2 days
4.	Damages to furniture, fixtures, signage etc.	3 days
5.	Damages to CCTV and security system	1 day
6.	Any other Defect as identified by the Authority and communicated to the Developer	Within 24 hours or as communicated by the authority
7.	Any failure of the exterior lighting (including theater exterior lighting and telecom/wifi-system)	4 hours
8.	Exterior painting	Once in 3 years
9.	Internal white washing/painting in service area/toilet	Every year for 3 year

- xvi. Further, Authority during the O&M as per the below mentioned timelines or as such reasonable period may be notified by the Authority at the request of the Developer with respect to any defects or deficiencies and shall adhere to the following timelines in respect thereof:
- OEM's Authorized service engineer to visit for Diagnosis of malfunction/defect- within 48 hours of receipt of notice from the Authority.
 - Root cause analysis of defect – within the next 48 hours of the (a).
 - If the root cause analysis calls for a need for calibration of the software, the same needs to be rectified in the next 24 hours.
 - If the root cause analysis calls for replacement of a component, the same needs to be replaced within a maximum period of 30 (thirty) days for projectors and a maximum period of 15 (fifteen) days for all equipment other than the projectors from the date of receipt of Notice from the Authority.
 - Install the delivered component within 3 days from the date of delivery.
- xvii. In the event that the Developer fails to respond to any defects or deficiencies as per the timelines set forth above, it shall be deemed to be Developers Default and the Authority shall be entitled to recover Damages by way of deduction of the relevant amount from the monthly maintenance fee as per the calculation detailed below: -
- INR 15,000 per day for the first 14 days from the date of occurrence of the breach.

- b. INR 50,000 per day for the next 7 days.
 - c. INR 1,00,000 per day thereafter subject to a maximum of 10% of the Estimated Contract Price; the breach of such limit of liability shall be construed as Developers 's default and make the Contract liable for termination.
- xviii. Preventive measure:
 - a. The outlets and drainpipes of the urinals shall be kept clog free and fixed in proper place.
 - b. The clogged drainpipes are to be de-clogged immediately and drain chambers cleaned thoroughly once a week as part of preventive maintenance and one register to be maintained for all the drainages of the Gallery.
- xix. The general scope of work includes operations, monitoring team and maintenance related works. The manpower deployed shall carry out equipment operations & maintenance works and attend to breakdowns as and when required. Also, the maintenance schedules shall be prepared by Developer and site-based team shall carry out the equipment related works as per schedules & instructions.
- xx. Developer shall deploy adequate safety and crowd control personnel. The basic tools required for maintenance, access ladders including special tools & tackles, measuring instruments, access ladders, scissor lift / boom lift for high access etc. and PPE's are included in the scope of Developer and this is included as part of operation cost.
- xxi. Developer must ensure the Tools & PPE's quantity as much as sufficient for the trouble-free service.
- xxii. All necessary logbooks, computers, office space, tables, chairs, registers & stationeries for report generation shall be arranged and provided by Developer.
- xxiii. In case of any defect in materials, workmanship of any element or the building, the Developer shall make good, rectify or replace the element/structure.
- xxiv. Maintenance person should be qualified (B.E / Diploma / ITI) and experience in the related field. Persons deployed should be approved / confirmed by Authority, if persons deployed are found unsatisfied by Authority after necessary communication to Developer, they must replace the person immediately.
- xxv. Storage space / Cupboards shall be provided by Developer for keeping the tools and tackles and other instruments.
- xxvi. All equipment spares shall be provided by Developer and must monitor the spares & if stock of spares is less, the same should be arranged and provided by the Developer.
- xxvii. Whole façade needs to be cleaned every 3 months. Developer has to arrange all necessary equipment's required for façade cleaning & maintenance
 - xxviii. Glass façade needs to be checked and maintained every three months. In case of any defect, panel needs to be repaired or replaced.
- xxix. Façade light needs to be checked and maintained every three months. In case of any defect, needs to be repaired or replaced.