Indian Institute of Technology Bombay
Office of Dean (IPS)

Sub: - Request for Proposal (RFP) for Comprehensive Architectural Consultancy for the Proposed Academic Block - 1 & Academic Block - 2 at IIT Bombay. Ref. No. IIT(B) / DEAN (IPS) / Arch-Consultancy / AB1 & AB2 / 1 dated 7th September' 2022

Prebid meeting held on 23-09-2022 at Dean, IPS office at 1130 Hrs.

Response to Prebid queries.

Part I. General Response from IITB

1. The scope of obtaining statutory approvals by the architect is deleted. IITB will appoint separate liaisoning consultant and the architect-agency is expected to coordinate with the liaisoning consultant, and the relevant drawings and documents required for statutory approvals are to be furnished by the Architect under this scope.
2. Appendix A & B from Page No. 17 to 22, Data sheet Pg. No. 27 to 29 in technical Bid and Section B (Payment schedule) of Price Bid from page no. 40 to 41 has been replaced with the sheet enclosed herewith the document. No other changes apart from the sheet is to be assumed in the document and bidders are requested to consider these replaced sheets as the approved RFP. The replaced pages of the document is attached in this document as Part III.

Part II. Response to the queries from the bidders

Sr No.	Page No.	Queries by Architect	Reply by IITB
1	General Points	Please share CAD survey plan indicating existing buildings and trees.	They are attached now.
2	Page 4 - Point 1.3	a. The brief Scope mentions that the Academic block will be constructed after Demolition of Shed no S1 and N1 and the Layout map on page no 36 shows it located on Shed no S3 and N3, please clarify b. How old are the existing sheds. c. Are the existing sheds planned for demolition in future or they will be retained? d. Clarify whether the Shed no S2 will be demolished in future. Currently it seems to be too close to the Academic block. e. Can the footprint of the building be more than the indicated area to fit the program requirement more efficiently? f. Can additional space beyond demarcated footprint for MEP services like Chillers or other high end services be taken at Ground level?	a. The location of AB-1 and AB-2 will be at S1 and N1 shed only. b. More than 50 years approx. c. The sheds will be demolished in a phased manner. d. S2 will be demolished at later stage. e. Yes, if the building byelaws permit with the necessary setbacks. f. It is for the Architect to plan
3	Page 16, Point d(v) -Certification of bills	a. Will the Architect be responsible for all interim bill certifications? b. In such case, will the consultant be responsible	a. No, it would be the responsibility of PMC. b. No, it would be the responsibility of PMC. c. Only active coordination as indicated in the

		for quantity verification for executed work on site c. Is partial PMC role expected from Architect?	RfP
4	Page 18, Point e(04) – BIM Model LOD 400	a. Please elaborate IITB's expectation of LOD 200, 300, 350 & 400. b. Is any specific standard to be followed? c. Typically, Architects prepare BIM drawings upto LOD 350. Can you clarify what is expected in LOD 400	Architects are required to submit BIM models as per the part III attached herewith the document.
5	Page 19, Point 09 – Preparation of as-builtdrawing	'As-built' Drawings will be prepared by the Contractor. Architect will verify the drawings as per built condition and approve the same for submission to Client. The required number of prints will be provided by Contractor and approved by Architect for submission.	All the drawings good for construction are issued by the Architects. Any deviation from the drawings will be intimated to Architect, the Architect has to incorporate these changes and submit the completion drawing to clients. All the three parties have to sign on the completion drawing, Architect, Constructing agency and CMS agency.
6	Page 20, Point 6 – Landscape Architecture	a. Please confirm extents area for Landscape design. We understand that only 3-6m space outside of Building footprint will qualify for Landscape. The courtyard abutting existing building will be retained as it is – please confirm	The surrounding area of AB-1 and AB-2. Say 6-8 Mtr leaving the road and drain area.
7	Page 25 – TechnicalProposal	a. Can both blocks share services like HVAC, PHE, Fire Tanks, or they should be functionally independent? b. Are both blocks required to be designed independent from operational & budget point of view? c. Can the two blocks be designed as a single composite building above	a. Yes, both blocks can share services. b. No, wherever required from users' certain services may have to be provided independently. c. Yes, it is only at ground floor they are

		Ground floor – without 4m gap as indicated in the RFP? d. The design brief calls for 2 separate academic blocks - can both blocks share infrastructure like Elevators, Toilets, etc? e. Can both blocks share services like Fire Tanks, HVAC, Water tanks, etc? f. The area of the Block B (44.59 x 26M) 1159.34 sq.mts shown in the layout map is smaller than the required area of 1350 sq.mts per floors given in the requirement sheet. Can the extents be increased to match design brief area? g. Will DG backup be centralized or we need to identify dedicated space in site / building for same? h. Will Substation be centralized or we need to identify dedicated space in site/building for same?	separated by 4 Mtr corridor and in upper floor the two blocks can be combined to be one block. d. Two blocks can share infrastructures elevators, toilets, etc. except ground floor. e. Yes f. To the extent possible without violating any BMC rules, Architect can decide the dimensions. g. DG shall be within the building. h. No, need for a separate substation. Existing nearby substation will cater.
8	Page 33 - UserRequirement	a. Are the areas mentioned Carpet areas? b. Please confirm the occupancy of each requirement. c. Kindly identify the areas that needs to be Airconditioned. d. Is a BMS room/security required? e. Is there any specific width of	a. The final areas given are built up areas, the Architect will use built up area allotted to each user. b. Architect can assume occupancy. c. Mostly all facility needs air-conditioning, Architect should design central air condition system or VRV system.

		corridors and openings to move the machinery? f. What is the min Freight lift size required for the Academic buildings? g. Will there be separate space required for Administration, Staff? h. Will there be separate space required for Facility Management, Housekeeping? i. Will Loading unloading bay be required for equipment? j. Will the facility require Canteen/Cafeteria (refer Page 25)? k. Can any facilities be in Basement provided Light & Ventilation is taken care off? l. AB1-1F - In certain programs its mentioned as 'Central facility' in brackets - what does it mean? (e.g. Teaching & Research Steel Lab (Central Facility)) m. AB1-2F - Faculty space – each space is approx. 600 sq.ft, how many persons should this room be designed for? Will this have cabin for Faculty & work desk for students or it will be Faculty specific Lab – from MEP provision point of view? n. AB1-4F – Comments say	d. Yes e. It is left to Architect, there is no such specific requirement from any users. f. The dimensions will be as per manufacturers requirement. The capacity should be 2T. g. No h. No i. Yes, close to the freight lift. j. Not a centralized one, but pantries wherever required are to be provided. k. Yes, it is up to the Architect. l. It is a laboratory used for research and as well as for teaching purpose. m. In the faculty cabin space should be provided for one faculty, other area is meant for students for which work station can be proposed. n. 5.0Mtr

		rectangular layout, what is the min width expected? o. AB2-1F – Are the Faculty offices desired to be distributed on all floors or preferred to be located together at top in 1 / 2 floors? p. AB1 5F - Doctoral Students Lab & Studio/Conference room do not match with the Suggested room sizes	o. All the faculty rooms are distributed over the floors depending upon the users. p. It is left to the Architect to decide.
9	Page 37 – Layout Plan	The Setback dimensions shown are note clear – please confirm the dimensions. What is the status of the green space between N2 and N3 and whether it can be used to compensate for the area discrepancy of BLOCK 2.	a. The setback dimensions are to be decided by the Architect based on the statutory requirement. b. No, as other blocks like AB-3 and AB-4 are proposed.
10	Submission Schedule	Due to Diwali break, kindly request to consider extension by 1 week for submission of proposal.	The request is not accepted.
11	Page No.36	Kindly share the latest topographical survey of the Master Plan/Master Layout of the area in soft copy (AutoCAD format) with all the relevant details. This shall include information of the existing & proposed infrastructure including roads to be widened, existing tree locations, drain channels, etc. Kindly confirm if the dimensions mentioned in the sketch (for Block A - 52.31 x 26 mts & Block B – 44.59 x 26 mts) is the proposed building footprint or plot size. Kindly demarcate the same on the Survey layout requested in point 1a. Also, kindly identify AB1 & AB2. Kindly confirm if the building footprint can be realigned or extended/shifted beyond the given	a. The latest topographical survey in auto cad format is enclosed. The area covered is existing work shop sheds and surrounding area. b. It is up to the Architect to decide the maximum available dimensions and plan. c. Yes, it can be extended keeping in view of the statutory requirement d. Again, it is up to Architect to plan.

		outline up to the extent of the existing N1 shed. Kindly indicate the site extent to be considered for the proposed buildings to enable us to plan the site infrastructure e.g., location of UG tanks, DG Set, etc.	
12	Page No.3	As stated in the RFP document pg. no 3, the proposed AB1 & AB2 blocks 'will be constructed after the demolition of the existing old sheds S1 and N1'. However, on pg. no 36 – layout plan, the sheds are identified as S3 & N3. Kindly clarify.	AB-1 and AB-2 will come up in the area of S1 and NI shed. Nomenclature on page 36 is not correct.
13	Page No.6	As per the RFP document pg. 6, the concept design proposal should include, "Master plan for the redevelopment of proposed construction of Academic Block AB-1 and Academic Block AB -2 including future buildings within the land parcel of existing workshops with all other existing structures and services. ". Kindly provide the masterplan extent with the proposed development / departments / user /functions. This will also help us establish the requisite setbacks for AB1 & AB2.	The area will cover sheds from N1, N2, N3, N4, S1, S2 and S3. The Architect is required to develop this area into Academic Blocks. We have tentatively shown AB-1 and AB-2 in the area of S1 and N1 sheds, for which action is being taken for demolition.
14	Page No.25	RFP document pg. 25 states 'the part master plan shall also include the location of UG tank, substation, food stalls/ canteen facility'. Kindly clarify if these are part of the POR. If yes, indicate the extent of master plan to accommodate these	Yes, at present in the area earmarked for AB-1 and AB-2.
15	Page No.32	As per pg No. 32 – the area allocated for 'AB1 is 1300m2 per floor' & 'AB2 is 1350m2 per floor'.	The area marked or shown are tentative, Architect can decide about the maximum area

		However, area demarcated on pg 36 – Layout Map is Block A - 52.31 x 26 mts (1360 m2) & Block B –44.59 x 26 mts (approx. 1160 m2). Kindly provide the correct area outline for the building footprint.	that can be used based on the setbacks to be provided and as per statutory requirement.
16		Kindly confirm if a basement can be proposed for services.	Yes, Architect can propose basement.
17		Kindly confirm is parking is to be provided. If yes, kindly share identified location for the same.	Over all parking area requirement based on the total built up area is being met. However, Architect can propose a meagre parking area.
18		Kindly confirm if the buildings AB1 & AB2 are proposed to undergo Phase wise Construction.	No, in one phase only.
19		Do AB1 & AB2 need to have independent cores, or the cores can be combined to increase floor plate efficiency?	At Ground floor, they are separated by a corridor of 4.0 Mtr, upper floors both are combined.
20		Do AB1 & AB2 need to be connected on all floor levels?	Refer reply to above.
21		Can AB1 & AB2 have a single floor plate on levels other than the ground floor?	Yes.
22		Will sheds N2 & S2 be demolished along with N1 & S1 or will we have to plan considering the requisite setbacks if they are not demolished.	No, at present only S1 and N1 sheds are proposed to be demolished. For demolition of other sheds, it may take time.
23		Are both the buildings AB1 & AB2 to be fully air conditioned? Please confirm.	Yes, except corridors, common areas.
24		Is a gas bank provision needed for any of the laboratories / functions?	Some basic provision for one or two chemistry and metallurgy lab can have.
25		As observed on site, there is an existing drain channel running across the outline demarcated for Block B. Kindly confirm if the drain channel can be rerouted.	Yes, the drain channel is to be diverted.

26		As observed on site, there are several existing large trees in the area demarcated for AB1 & AB2. Kindly review since these may impact statutory permissions.	Architect can use his expertise to locate the buildings in such a way that maximum trees are saved.
27	Page No.5	Page 5 mentions Concept design, Technical and Financial design proposals to be submitted in separate envelopes 1,2 and 3 respectively. The deliverables mentioned on pages 4, 5 & 6 for Concept design submission overlaps with the technical design submission mentioned on pages 25 & 26. Please clarify and provide the updated list of documents to be submitted for both the packages.	The Architect is expected to cater to both the requirement, on page 25-26 it is only mentioned about technical requirement. The important aspect is to provide as per deliverables mentioned in pages 4,5 and 6.
28	Page No.26	Point ii, iv, vi and vii are generally project management consultancy related scope. Please clarify.	No, it is the scope of Architect.
29	Page No.26	Point v mentions details to be submitted as per Data sheet. Data sheet is not provided in the RFP. Please clarify.	It is given on page 27,28 and 29.
30	Page No.6	Point II requires clarity on the number of A0 panels to be submitted. Please confirm.	Maximum of 3 A0 size drawings/panels.
31	Page No.8	Point 2.7 mentions actual location of the proposed building may change as per IITB requirements. Please clarify if any change is anticipated in the site location as the proposed built forms are designed in context with the site adjacencies and constraints.	It is very unlikely; it would be within the workshop shed area.
32	Page No.21	Stage 4A mentions 15 nos. of Hardcopies to be submitted for Tender drawings. Can these be reduced to 5nos.	Yes, 5 set of hardcopies accepted.
33	Page No.22	Point 2 mentions ‘All drawings / documents specified are included in the cost of Fees payable	Only major change after tender stage attributable to IITB will be paid on mutual

		and if revisions are carried out revised GFC to be issued without extra cost'. Kindly consider any major revisions attributed to IITB beyond tender stage to be paid additionally at mutually agreeable terms.	agreed terms.
34		Kindly share with us the AutoCAD file for the plot including detail site survey showing the exact site boundary, topography, location of trees and other features on site and levels.	Yes, the same is attached.
35		Kindly highlight existing structures, utilities to be retained	Only the utilities serving to S1 and N1 will be cut and diverted, the utilities serving to other sheds will remain
36		Kindly clarify the mentioned Composite Built-up Area of 18,550sq.m includes circulation, amenities & utility spaces	Yes, the area furnished includes circulation, amenities and utility spaces.
37		Kindly confirm requirement of wider corridors	If at all its is required the same is mentioned in the user's requirement.
38		Kindly confirm requirement of structurally strengthened slabs, Mention load & floor	If at all it is required the same is mentioned in the user's requirement
39		While Appendix A: Description of the Services & Appendix B: Deliverables by the Design Consultant mentions different LOD requirement for BIM model, the B. Milestones Payment of Consultancy Charges does not capture the same - Please clarify/update	Architects are required to submit BIM models as per the part III attached herewith the document. BIM is part of RFP document hence bidders are requested to quote accordingly. No extra amount shall be paid other than specifically mentioned in the document exclusively.
40		Can BIM services be a Reimbursable expense?	The quoted fee should include BIM services.
41		Will CPWD /PMC agency review and comment on BIM platform	PMC agency will review and comment on BIM platform
42		Will BIM capability be a qualifier for selection of General Contractor	Yes, however, the agency can outsource BIM, being a specialized work.

43		Demolition of the existing sheds S1 & N1 shall be carried out by IITB. Please confirm	Yes, or it can be in the scope of construction agency.
44		Change in Design Requirement from IITB after Stage completion by Architect will qualify for additional fees for manhours spent across team. Please confirm	Only major change after tender stage attributable to IITB will be paid on mutual agreed terms
45		Kindly confirm whether the scope is for Core & Shell including Detailed Interior works	It is for complete design.
46		Kindly provide Full forms for abbreviations used for the various User Departments	Furnished in a separate sheet enclosed
47		If detailed Interiors are required to be included, kindly share the desired furniture requirement	It is to be decided by Architect.
48		What is the minimum typical floor height required for this building? If higher ceiling heights are required, do mention the same	At ground floor, it is 5.0 Mtr, other floor height can be 4.00 Mtr.
49		Kindly mention the HVAC requirements for the proposed buildings?	Mostly all facility needs air-conditioning, Architect should design central air condition system or VRV system.
50		Kindly mention the Utilities to be considered for design	If, required, the same is furnished in the user's requirement.
51		Kindly mention the Structural loadings required for the grade slab, floors & terrace	The same is to be decided by the Architect in consultation with users.
52		Date mentioned for Receipt of RFP Proposals is October 28, 2022, which is the week of Diwali - Kindly consider an extension of 8 working days viz. November 9th, 2022	Not accepted.

APPENDIX A: DESCRIPTION OF THE SERVICES

SCOPE OF WORK

The Detailed scope of work for Consultancy shall be as follows:

1. **THE DETAILED SCOPE OF WORK SHALL INCLUDE AND NOT BE LIMITED TO THE FOLLOWING.**

The complete design of the building includes a Detailed Survey, Geo Technical soil investigation, Master plan for the redevelopment of Academic Block-1 and Academic Block-2, Architectural design, Structural design, Sanitary, plumbing, drainage, water supply, and sewerage design, Electrical, electronic, communication systems and design, Heating, ventilation and air conditioning design (HVAC) and other mechanical systems, Elevators, escalators, and allied fields such as Landscape Architecture, Interior Architecture, Graphic Design, and Signage etc. It includes examining site constraints and potential and preparing a design brief for approval. A Master plan for the immediate surroundings shall be prepared showing all facilities like water supply, sewage, landscaping, drainage, roads, footpaths, power supply distribution, lighting, Air-conditioning, Acoustics, Interior architecture & landscaping, preparation of BIM models at desired detail, and preparation of preliminary and detailed working drawings, submission of BOQ, cost estimate which will conform to Schedule of Rate of either CPWD or State PWD and reference shall be furnished. In case of the market rate for a non-scheduled item, detailed specifications, etc., for the entire scope of work as a combined work or as individual items shall be submitted. All Rate Analysis shall be submitted along with a detailed estimate for these items. The scope of work includes the s preparation of tender documents and issue of tender drawings**.**

The stages of work are also mentioned herein as under

Concept Stage – Master plan, Conceptual Architectural drawings for civil works, including Landscaping and Interior Architecture, Preliminary Architectural Design Basis Report and preliminary cost estimate on area basis.

a) **Preliminary Design and drawings stage** – Modify and finalize the conceptual drawings incorporating the changes after discussions with the Client, detailed Site survey including tree demarcation, contours, existing features etc complete as required for Design & execution, Geo Technical soil investigation as required for Structural Design, submission of Design basis report for Structure, Services & landscape and revised preliminary cost estimate on an area basis. Develop LOD 200 BIM model incorporating the above said features to facilitate coordinated conceptual design.

b) **Statutory Approval stage / Design development** – Preparation and submission of Drawings for Statutory approval of State/Central/M.C.G.M, Chief Fire Officer, Tree Authority, as required for commencement, submission of revised Design basis report for Structure, services, and Landscape, submission of Proof checking drawings & documents of Structural and HVAC design to Proof checking Consultant and Registration for GRIHA.

c) **Working drawings up to Tender document stage, Tender document preparation & Process & obtaining statutory approvals -** Working drawings up to Tender document stage and obtaining statutory approvals – Detailed design & detailed estimates of Civil & Services supported with measurement sheets, cost estimated based on CPWD latest DSR for scheduled items and market rates for non-scheduled items with quotations and rate analysis. Development of LOD 350 coordinated clash-free BIM models to enable development of documents and drawings mentioned in this

section. Submission of revised Proof checking documents and drawings incorporating all the revisions as per Proof checking Consultants for Structure and HVAC**,** detailed coordinated design & detailed item-wise estimates of cost for civil & all services of each facility with rate analysis wherever necessary, preparation of Tender documents & drawings for tender purpose including conditions of contract, specification, schedule of quantities & rates, Tender processing from sale of tender document to finalization, preparing comparative statements for tender finalization, contract agreements, preparation and submission of all "Good for Construction" (GFC) drawings including Architectural & Structural drawings. Obtaining Statutory approval of State/Central/M.C.G.M, Chief Fire Officer, Tree Authority for commencement of work, notification to GRIHA for site inspection prior to construction.

d) **Contract Finalization and Construction stage –**

i. Issue good for construction drawings for Civil works and other associated services such as public health, Electrical, HVAC, site development, etc. with minor revisions, if any.
ii. Periodic Inspection of work during execution at intervals mutually agreed upon.
iii. Approve samples of various elements and components.
iv. Check and approve shop drawings submitted by the contractor/ vendors.
v. (*) Certification for Intermediate work done as per RA bills, Final bills of the Contractors in coordination with the Construction Supervision Agency to be appointed by the client separately.
vi. Monitor the estimated quantities for Variation and justification for additional expenses if any.

e) **Completion stage** –

i. Certification of final Contractor's bills in coordination with the Construction Supervision Agency, Submission of `As built` drawings for completion, and obtaining Final Statutory Clearance from M.C.GM, Chief Fire Officer, Tree Authority including documents for occupation and Certification from GRIHA.
ii. Providing adequate periodic supervision to all the works such as Architectural, Structural, Public health, Electrical, HVAC, Landscaping, etc., and the degree of such supervision commensurate with the nature and magnitude of works.
iii. Advising the IITB on any other technical matter connected with the Construction of the said building or the installation of fitting, which may be entrusted to the Consultant, as may be required by the Institute from time to time.
iv. Issuance of certificate of virtual completion of works after getting the entire work approved by the Institute. Updated As-Built LOD 350 BIM model along with as-built drawings in appropriate digital format to be submitted to IIT.
v. Indicating the defects in the work, if any, for prompt rectification by the Contractor during the construction and defect liability periods.
vi. Rendering generally, as such, by the Consultant all technical services as specified in the Contract of the said building or the said installation of the fitting entrusted to the Consultant by the IIT
vii. The Consultant shall appoint the Services Consultant, within his scope for the services like Public Health works, Sanitary and Plumbing works, Electrical works, HVAC, Site development, and Landscaping, besides other services as specified in the Contract.
viii. The Consultant agrees to perform his duties as Architect under these Presents promptly and diligently and to do everything in his power and authority to

coordinate with the Construction Supervision Agency to ensure that the Contractor/Contractors complete the construction of the building and of installation of such fitting as may be entrusted to them according to the proper quality, specification and schedule of time given to them and that no unnecessary delay is caused by reason of the Consultant's not furnishing decisions, details in regard to designs etc. to the Contractor, provided that such delay is not caused by the IITB.

ix. Preparation of As-built drawings for entire work.

Note:

I. *Prior to approval of BOQ, Cost of work and its scope shall be obtained before engaging the agency for Detail survey and Geo-Technical soil investigation. The contract cost involved shall be reimbursed by on submission of reports, drgs and original documents of payment, etc*

II. *Proof checking of structural design to be carried out with directly contacting the concerned Dept Authorities. Fees paid to proof checking shall be reimbursed by IITB on submission of original documents of clearance and fees paid.*

III. *Obtaining "GRIHA certification will be the scope of Architects work inclusive of all expenditure towards obtaining certification. However, fees payable to GRIHA shall be reimbursed on submission of original documents & the fees paid.*

2. THE DESIGN CONSULTANT IS REQUIRED TO PROVIDE SERVICES IN RESPECT OF THE FOLLOWING:

a) ARCHITECTURAL SYSTEM

i. Master plan for the development of Academic Block -1 and Academic Block-2 building areas, Preparation of preliminary conceptual drawings which includes preparation of various floor plans, sections, elevations, perspectives etc. &Preliminary cost Estimates based on areas including Landscape& Interior Architecture Services.

ii. Incorporation of revisions, and comments offered by IITB

iii. Preparation of Municipal drawings for obtaining Clearance /No Objection from State/Central Statutory Authorities for commencement of work including of liaison works.

iv. Registration with GRIHA and obtaining GRIHA rating (inclusive of all expenses. Fees paid for registration paid shall be reimbursed)

b) DETAILED SURVEY & GEO-TECHNICAL SOIL INVESTIGATION

i. Detailed site survey including tree demarcation, existing features, contours etc complete required for Design & Execution.

ii. Geo Technical Soil investigation as required for structural design

Note. Prior approval for the investigation parameters Cost of work and its scope shall be obtained before engaging the agency for Detail site survey and Geo-Technicaloil investigation. The contract cost involved shall be reimbursed by on submission of reports, drawings and original documents of payment, etc.

c) STRUCTURAL SYSTEM

i. Preparation of DBRs (Design Basis Report), detailed structural analysis of the total building, detailed design as per relevant Indian codes of practice of recent revisions,

and submission for review and approval. On approval of the design details, detailed construction drawings shall be prepared and submitted.

ii. Proof checking of structural design to be carried out with directly contacting the concerned Dept Authorities of IITB or prior approval should be taken from IITB for engagement of the experts outside IITB for carrying out proof checking.

Note: Fees paid to proof checking shall be reimbursed by on submission of Original documents of clearance and fees paid.

d) PUBLIC HEALTH ENGINEERING SYSTEM

Scope includes Preparation of DBR's for providing both internal and external water supply and sewage system for the said buildings. Detailed DBR's shall be submitted for review and approval. Entire design shall be as per latest IS codal provisions.

e) ELECTRICAL SYSTEM

Scheme for Preparation of DBR's, providing internal and external electrification system with necessary electrical rooms, cablings, power supply network including sub-station, street lighting etc., scope of work also includes preparation of conduit layouts for provision of telephone, computer cable, LAN, TV etc. Detailed DBR's shall be submitted for review and approval. Entire design shall be as per latest IS codal provisions and recommended Manufacturers.

f) FIRE FIGHTING SYSTEM

Scheme for fire-fighting system shall be as per relevant Indian Standards and as per the statutory authorities' requirements. Detailed DBR's shall be submitted for review and approval by the IITB

g) HVAC & OTHER MECHANICAL WORKS

Scheme for the HVAC shall be as per Client's requirement and as per relevant IS including HVAC proof checking. This has to be carried out by directly contacting the concerned Dept. Authorities of IITB or prior approval should be taken from IITB for engagement of the experts outside IITB for carrying out proof checking.

Note: Fees paid to proof checking shall be reimbursed by on submission of Original documents of clearance and fees paid.

h) INTERIOR ARCHITECTURE

Scheme for Design of fixed & loose furniture & interior related civil works shall be as per the Client's requirements. Detailed DBR's shall be submitted for review and approval by IITB.

i) LANDSCAPE ARCHITECTURE

Scheme for open space Design, hard and soft areas and Planting design to be provided.

Detailed DBR's shall be submitted for review and approval by IITB.

APPENDIX B: DELIVERABLES BY THE DESIGN CONSULTANT

For all disciplines of Engineering, the Consultant shall submit a Design Basis Report (DBR) and preliminary drawings for review and approval from the authority of IITB, incorporate the comments provided by the authority of IITB, provide detailed drawings, Bill of Quantities (BOQ), cost estimates, Rate Analysis, Technical specifications etc. The detailed construction drawings shall be issued for all the disciplines (Civil & E&M). Following table indicates the number of prints of drawings in hard copy and tracings/ dialers reports/design calculations required at each stage for Comprehensive Architecture and Design.

DELIVERABLES	**Timeline**
STAGE 1-Concept stage: Master plan, Conceptual Architectural drawings, preliminary Architectural design basis report, Preliminary cost estimate on area basis, LOD 200 BIM digital model for 3D visualization of General arrangement drawings (***Submissions***: 3 hard copy and soft copy of the source along with pdf)	Within **Two** Month From the date of issue of work order
STAGE 2-Preliminary Design & drawings Revised drawings incorporating revisions, Detailed site survey, Geo technical soil investigation, Preliminary design basis report for Structure, services & landscape (***Submissions***: 3 hard copy and soft copy of the source along with pdf)	Within **two** Month of approval of Stage 1
STAGE 3-Statutory approval / design development Submission of drawings for Statutory Approval, submission of revised design basis report for Structure, Services & landscape, Submission of Proof checking Drawings & documents to Proof Checking Consultant for Structure & HVAC, Registration of project with GRIHA, (***Submissions***: 3 hard copy and soft copy of the source along with pdf)	Within **two** months of approval of Stage 2
STAGE 4A -Working drawings up to Tender document stage & Obtaining Statutory approvals (***Submissions***: 2 hard copy and soft copy of the source along with pdf) i. Submission of revised Proof checking drawings & documents incorporating revisions as per Proof Checking Consultant ii. Detailed coordinated design drawings iii. Detailed Cost Estimate with Rate Analysis iv. Tender drawings & draft tender documents including specifications, Schedule of quantities, conditions of contract v. Issue of tender drawings (15 hard copy) vi. Obtaining Statutory approvals from MCGM, Tree authority, CFO etc. for work commencement. vii. Notification to GRIHA for site inspection prior to execution for work commencement. iii. Good for construction (GFC) drawings package to be made ready before drafting of work order by IITB for issuing to the contractor. Coordinated Clash-free LOD 350 BIM Model	Within **Six** months of Stage 3
STAGE 4(B) -Tender document preparation & process i. Final Tender documents for invitation of bids including specifications, schedule of quantities, conditions of contract (***Submissions***: 5 hard copy and soft copy of the source along with pdf) ii. Tender processing consisting of Invitation of tenders, pre-bid meeting and its clarifications, finalization of tenders & award of work & contract agreements including preparation of comparative statements,	

Recommendations to client for approval. (***Submissions***: 2 hard copy and soft copy of the source along with pdf)	
STAGE 5-Contract Finalization and Construction stage (***Submissions***: 5 hard copy and soft copy of the source along with pdf) i. Issue of Good for construction (GFC) drawings package for Civil works and other associated services such as Public Health, Electrical, HVAC, Site development etc. ii. Issue revised construction drawings with minor revisions, if necessary for all works (including Architectural & Structural drawings) and other associated services such as Public Health, Electrical, HVAC, Site Development etc. iii. Periodic site/IITB office visit for general quality assurance, weekly progress review meetings etc. iv. Visits of structural designer for RCC pour clearances. v. Periodic inspection of work during execution at regular intervals mutually agreed upon. vi. Approve samples of various elements & components vii. Check & approve shop drawings submitted by the contractor/vendors. viii. Certification for intermediate work done as per RA & Final bills of the contractors in co-ordination with the construction supervision agency to be appointed by the client separately ix. Monitor the estimated quantities for variation and justification for additional expenditure, if any.	For issue along with work order Note: During the execution any revisions mutually agreed upon within 7 days
STAGE 6-Completion stage (***Submissions***: 3 original hard copy and soft copy of the source along with pdf) i. Certification of final contactor's bills in co-ordination with the supervising agency ii. Submission of As-built drawings on completion of work, Updated As-Built LOD 350 BIM model iii. Obtaining Final Statutory clearances / completion certificates from MCGM, Chief Fire Officer, Tree authority etc. including documents for occupation. iv. Certification from GRIHA (As per statutory and GRIHA norms)	Within one month of stage 5

Note:

1. Persons to receive them & review requirements: Dean (IPS) or his authorized persons.
2. All drawings /documents specified are included in the cost of Fees payable and if revisions are carried out revised GFC to be issued without extra cost.
3. **Technical Sanction**: The detailed estimate for Technical Sanction shall be based on the detailed drawings. The item descriptions shall be generally in line with the provisions of CPWD schedule of Rates enhancing w.r.t Cost Index and its latest specifications. In case of non-scheduled/special works the item description shall be framed as per good engineering practice supported with specifications and rate analysis as per reasonable market rates. Financial implications of quantity of variations/deviations of individual items exceeding beyond the Deviation limit as specified in works contract shall not be considered for working out Design Consultant's fees unless change attributed to the IITB.
4. Periodic visit by consultant: The consultant or identified Principal Architect shall periodically visit project site for inspection of works and also attend Project Review Meetings held at Dean (IPS) Office, IITB on regular basis as decided by IITB.
5. All materials to be incorporated shall be recommended & approved by the architect.

DATASHEET -A
(Information to Consultants)

Name of Employer: Director, Indian Institute of Technology Bombay, 1st Floor, Main Building, Powai, Mumbai 400076

Name of Assignment: COMPREHENSIVE ARCHITECTURAL CONSULTANCY FOR THE PROPOSED ACADEMIC BLOCK- 1 & ACADEMIC BLOCK-2 AT IIT BOMBAY, POWAI, MUMBAI-400076''.

Area: Total area to be developed is about 18550 sqm. For AB-1 and AB-2 buildings as per the attached layout plan

Estimated cost of construction of proposed AB-1 and AB-2 Building: Rs.103.00 Cr. (Civil +MEP +land scape works)

The Assignment to be completed within **48 Months** or as may be necessary to complete the assignment in all respects.

Schedule for completion of Major activities:

Sr. No.	DESCRIPTION OF ACTIVTY	Period of Activity (In months)
1	**STAGE 1-Concept stage** Master plan, Conceptual Architectural drawings, preliminary Architectural design basis report, Preliminary cost estimate on area basis. Revising the master plan, conceptual drawings and resubmitting details, LOD 200 BIM model	**From 0 to 2** (Two month)
2	**STAGE 2-Preliminary Design & drawings** Revised drawings incorporating revisions, Detailed site survey, Geo technical soil investigation, Preliminary design basis report for Structure, services & landscape	**From 2 to 4** (Two months)
3	**STAGE 3-Statutory approval / design development** Submission of drawings for Statutory Approval, submission of revised design basis report for Structure, Services & landscape, Submission of Proof checking Drawings & documents to Proof Checking Consultant for Structure & HVAC, Registration of project with GRIHA.	**From 4 to 6** (Two month)
4	**STAGE 4A -Working drawings up to Tender document stage & Obtaining Statutory approvals** i) Submission of revised Proof checking drawings & documents incorporating revisions as per Proof Checking Consultant ii) Detailed coordinated design drawings	**From 4 to 10** (Six months)

	iii) Detailed Cost Estimate with Rate Analysis iv) Tender drawings & draft tender documents including specifications, Schedule of quantities, conditions of contract v) Obtaining Statutory approvals from MCGM, Tree authority, CFO etc. for work commencement. vi) Notification to GRIHA for site inspection prior to execution for work commencement. vii) Good for construction (GFC) drawings package to be made ready before drafting of work order by IITB for issuing to the contractor. Coordinated Clash Free LOD 350 BIM model	
	STAGE 4(B) -Tender document preparation & process i) Final Tender documents for invitation of bids including specifications, schedule of quantities, conditions of contract ii) Tender processing consisting of Invitation of tenders, pre-bid meeting and its clarifications, finalization of tenders & award of work & contract agreements including preparation of comparative statements, Recommendations to client for approval.	**From 10 to 14** (Four months)
5	**STAGE 5-Contract Finalization and Construction stage** i) Issue of Good for construction (GFC) drawings package for Civil works and other associated services such as Public Health, Electrical, HVAC, Site development etc. ii) Issue revised construction drawings with minor revisions, if necessary for all works (including Architectural & Structural drawings) and other associated services such as Public Health, Electrical, HVAC, Site Development etc. iii) Periodic site/IITB office visit for general quality assurance, weekly progress review meetings etc. Visits of structural designer for RCC pour clearances. iv) Periodic inspection of work during execution at regular intervals mutually agreed upon. v) Approve samples of various elements & components vi) Check & approve shop drawings submitted by the contractor/vendors. vii) Certification for intermediate work done as per RA & Final bills of the contractors in co-ordination with the construction supervision agency to be appointed by the client separately viii) Monitor the estimated quantities for variation and justification for additional expenditure, if any.	**From 14 to 47** (Thirty-three months)
6	**STAGE 6-Completion stage** i) Certification of final contactor's bills in co-ordination with the supervising agency ii) Submission of As-built drawings on completion of work, Updated As-Built LOD 350 BIM model	**From 47 to 48** (One month)

	iii) Obtaining Final Statutory clearances / completion certificates from MCGM, Chief Fire Officer, Tree authority etc. including documents for occupation. iv) Certification from GRIHA	

Tax Liability, Insurance – description or reference to documents:

i) The consultant and his personnel shall pay taxes and other impositions levied under existing, amended or enacted laws during life of assignment.

ii) The consultant shall cover employer's compensation insurance for his or his sub-Consultant (if applicable) personnel in accordance with the provisions of relevant applicable laws.

iii) GST shall be paid to the consultant as applicable along with the professional fee as per Financial Bid.

B. MILESTONES PAYMENT OF CONSULTANCY CHARGES

Sl. No	STAGES OF PAYMENT	ACTIVITY	FEES PAYABLE
1	STAGE 1 Concept stage	1. Prepare a conceptual Master plan for the development of AB-1 and AB-2 Blocks areas. 2. Prepare Conceptual Architectural drawings for civil works, including Landscaping and Interior Architecture 3. Prepare Preliminary Architectural Design Basis Report 4. Provide a preliminary cost estimate on area basis. 5. LOD 200 BIM digital model	10%(Ten) of total fees payable
2	STAGE 2 Preliminary Design And Drawings stage	1. Modify the conceptual designs incorporating the changes necessary and prepare the preliminary drawings & sketches. 2. Submit detailed site survey drawing 3. Submit Geo-technical soil investigation report 4. Submit Preliminary Design Basis Report for Structure, HVAC, & Landscape	20%(Twenty) of total fees payable less payment made at Stage 1
3	STAGE 3 Statutory Approval stage / Design Development	1. Prepare drawings necessary for Statutory approvals 2. Submission of revised design basis report for Structure, Services & landscape 3. submission of drawings and documents of structural & HVAC design to Proof checking Consultant 4. Registration of Project with GRIHA	30% (Thirty) of total fees payable less payment made up to Stage 2
4	STAGE 4 (A) Working Drawings up to Tender Documents and Obtaining statutory approval stage	i) Submission of revised Proof checking drawings & documents incorporating revisions as per Proof Checking Consultant ii) Detailed coordinated design drawings iii) Detailed Cost Estimate with Rate Analysis iv) Tender drawings & draft tender documents including specifications, Schedule of quantities, conditions of contract v) Issue of tender drawings vi) Obtaining Statutory approvals from MCGM, Tree authority, CFO etc. for work commencement. vii) Notification to GRIHA for site inspection prior to execution for work commencement. viii)Good for construction (GFC) drawings package to be made ready before drafting of work order by IITB for issuing to the contractor. Ix) Coordinated clash free LOD 350 BIM model.	48% (**) (Forty Eight) of total fees payable less payment made up to Stage 3
5	STAGE 4(B) - Tender document preparation & process	i) Final Tender documents for the invitation of bids including specifications, schedule of quantities, conditions of contract ii) Tender processing consisting of Invitation of tenders, pre-bid meeting and its clarifications, preparation of comparative statements, finalization of tenders & award of work & contract agreements. Recommendations to client for approval.	50% (**) (Fifty) of total fees payable less payment made up to Stage 4A

6	STAGE 5 Contract Finalization & Construction Stage	1. Issue of Good for construction (GFC) drawings package for Civil works and other associated services such as Public Health, Electrical, HVAC, Site development etc. 2. Issue revised construction drawings with minor revisions, if necessary for all works (including Architectural & Structural drawings) and other associated services such as Public Health, Electrical, HVAC, Site Development etc. 3. Periodic site/IITB office visit for general quality assurance, weekly progress review meetings etc. Visits of structural designer for RCC pour clearances. 4. Periodic inspection of work during execution at regular intervals mutually agreed upon. 5. Approve samples of various elements & components 6. Check & approve shop drawings submitted by the contractor/vendors. 7. (*) Certification for intermediate work done as per RA & Final bills of the contractors in co-ordination with the construction supervision agency to be appointed by the client separately 8. Monitor the estimated quantities for variation and justification for additional expenditure, if any.	95% (**) (Ninty Five) of total fees payable less payment made up to Stage 4. Fees will be paid in stages proportionate to the quantum work executed as per the Contractor's certified bill value.
7	STAGE 6 Completion Stage	1. (*) Certification of final contactor's bills in co-ordination with the supervising agency 2. Submission of As-built drawings on completion of work 3. Obtaining Final Statutory clearances / completion certificates from MCGM, Chief Fire Officer, Tree authority etc. including documents for occupation. 4. Certification from GRIHA 5. Updated As-Built LOD 350 BIM model along with as-built drawings in appropriate digital format to be submitted to IIT	100% (**) (One Hundred) of total fees payable less payment made at Stage 1 to 5

Note: If scope of work marked (*) is not assigned then reduction in Consultancy fee shall be applicable as per financial bid.

(**) The % Fee indicated in stages4(B), 5 & 6 shall be reduced by 2% (Two percent) of the Total fee payable, if the scope marked (*) is not assigned and accordingly fee payable shall be worked out.