United Nations
Educational, Scientific and
Cultural Organization

REGIONAL CENTRE FOR BIOTECHNOLOGY
an institution of education, training and research
Established by the Dept. of Biotechnology, Govt. of India
Under the Auspices of UNESCO
NCR Biotech Science Cluster, 3rd Milestone, Gurgaon-Faridabad Expressway, Village- Bhankri, Faridabad. (Haryana) Pin -121001.

TENDER DOCUMENT NO. **RCB/BSC/F.152/SAF/2015-16/02**
(Two Bid system)

TENDER FOR

Design, Supply, Installation, Testing, Commissioning (DSITC) and Validation of IDRF in the small animal facility (SAF) building at the NCR Biotech Science Cluster, Faridabad its Day to-day operations and comprehensive Maintenance.

CLIENT:

EXECUTIVE DIRECTOR, RCB
FLOATING TENDER ON BEHALF OF RCB & THSTI

COST OF TENDER DOCUMENT: - Rs. 1,500/-

INDEX

(TO BE SUBMITTED ALONG WITH TECHNICAL BID)

TENDER DOCUMENT NO. **RCB/BSC/F.152/SAF/2015-16/02**

U N D E R T A K I N G

The Executive Director,
Regional Centre for Biotechnology,
NCR-Biotech Science Cluster,
3rd milestone (towards Gurgaon)
Gurgaon-Faridabad Expressway
Village- Bhankri, Faridabad-121004
(Haryana)

We the undersigned (herein after called as Contractor/Vendors/Suppliers) hereby offer to execute supply of items as per specification against which we have quoted our rates and for which this tender may be accepted at the rates stated there in and subject to the terms & conditions set forth for such items as may be ordered by the Executive Director, RCB or officer acting on his behalf.

Date this _____ Day of_____

Signature of Contractor _____

Address _____

_____

_____

Seal of the tender_____

TENDER NOTICE

TENDER DOCUMENT NO. RCB/BSC/F.152/SAF/2015-16/02

Sealed tenders under Two bid system (Technical & Financial) are invited for the **Design, Supply, Installation, Testing, Commissioning (DSITC) and Validation of IDRF in the small animal facility (SAF) building at the NCR Biotech Science Cluster situated** at 3rd Mile Stone on Gurgaon-Faridabad Expressway, Village-Bhankri, Faridabad (Haryana).

Period of issue of Tender Document :	**24th Aug 2015 to 14th Sep 2015** during working days and office hours only during 11.00 a.m. to 3.00. p.m.
Cost of Tender Document :	Rs. 1500 /-(Rupees One thousand Five hundred only) in the form of a demand draft/ pay order in favour of "**Executive Director, Regional Centre for Biotechnology"**, payable at Gurgaon, from nationalized bank only. Which is non-refundable. The tender document can be downloaded from RCB/THSTI website (www.rcb.res.in & www.thsti.res.in). In such case the tenderer shall enclose cost of tender document by separate D.D. along with tender in a separate envelop super-scribed "Cost of Bid Document"
Pre Bid meeting	**1st Sep, 2015 at 14.00 Hrs at THSTI, 3rd milestone Gurgaon-Faridabad expressway, Faridabad.**
Estimated Cost :	**Rs. 260 Lakhs**.
Earnest Money Deposit :	Rs. 5.20 Lacs by D.D./ F.D./ B.G in favour of **Executive director, Regional Centre for Biotechnology** payable at **Gurgaon** from any Nationalized bank.
Period of Completion :	Nine months.
Last Date of Submission :	**14th Sep 2015 at 15:00 Hrs.** at Meeting Room
Date of Opening :	Technical Bid - Cover 1 on **14th Sep 2015 at 15:30 Hrs.** & Financial Bid – Cover 2 of the successful bidders will be opened later. The dates and Venue of opening bid documents will be informed subsequently.
Contact No:	Sh. Biju Mathew (Sr. Manager) - 9868461124 Sh. S.S Budhwar (Engineer In-charge) - 9999971043 Sh. V M S Gandhi (Administrative Officer)- 9873426498

The **Executive Director, Regional Centre for Biotechnology Faridabad** reserves the right to accept / reject any or all the tenders without assigning any reason therefore.

Sr. Manager (A&F) RCB

DETAILED TENDER NOTICE

NAME OF WORK: Design, Supply, Installation, Testing, Commissioning (DSITC) and Validation of IDRF in the Small Animal Facility (SAF) building at the NCR Biotech Science Cluster in Faridabad.

A facility for conducting experiments on small animals has been created at the NCR Biotech Science Cluster in Faridabad. A dedicated Infectious Disease Research Facility (IDRF) for handling animals carrying experimental infections and conducting experiments with infectious agents needs to be created inside the existing small animal facility (SAF) building in the designated space. Sealed tenders are invited under TWO BID System for the **Design, Supply, Installation, Testing, Commissioning (DSITC) and Validation of IDRF in the small animal facility (SAF) building at the NCR Biotech Science Cluster in Faridabad.**

1. Technical Bid ------ Envelope 1

2. Financial Bid ------- Envelope 2

1.0 ELIGIBILITY CRITERIA

The firm should have successfully completed at least one such facility or an equivalent bio-containment facility and must have in-house personnel having experience of setting up such facility in India. The firm should have proven track record of successful operation and maintenance services of three such high containment lab facilities over the **last three years**. The firm should have an average annual turnover of at least Rs. 150 lacs in the last two years. Relevant document satisfying the above eligibility conditions on original client/company letter head must be submitted along with the tender document. Experience pertaining to Commissioning and Installation of either clean room or bio-safety level 2 and modular bio-containment lab facility will not be considered.

2.0 CRITERIA FOR EVALUATION OF THE TECHNICAL AND FINACIAL BID

This is a turn-key project that includes Design, Supply, Installation, Testing, Commissioning (DSITC) and Validation of IDRF in the small animal facility (SAF) building at the NCR Biotech Science Cluster in Faridabad. All offers should be submitted in two sealed parts: Technical and Price Bids, separately. The proposal should include details of the technical design based on the proposed layout and bill of quantities (BOQ). Interested contractors should visit the site for physical check and status of the site condition. All eligible vendors will be called for a twenty minute presentation. The presentation should include a brief introduction, plan for project execution, timeline and new suggestions that might include a better alternate layout plan/BOQ for a better utilization of the limited space. If needed, the revised layout and/or BOQ would be circulated for submission of amendment to financial bids. The bids shall be ranked on the basis of combined weighted score for technical and financial bids. The technical and financial bids shall enjoy weightage in the proportion of 60:40 i.e. 60% for the technical bid and 40% for the financial bid.

3.0. (i) **Criteria for evaluation** of the technical bid: The technical bid marked as envelope 1 will be opened first and will be evaluated on the following parameters;

	Attributes	Evaluation
1.	Financial strength (i) Average annual (last two years) turnover 150 lacs/year 15 marks (ii) Solvency Certificate 150 lacs 05 marks	**(20 marks)** (i) 60% marks for minimum eligibility criteria (ii) 100% marks for twice the minimum eligibility criteria or more In between (i) & (ii) – on pro-rata basis for similar works.
2. i ii iii	Experience in similar class of work One similar works contract of Rs. 120.0 lacs or more or Two similar works contract of Rs. 75.0 lacs or more or Three similar works contract of Rs.60.0 lacs or more	**(10 marks)** (i) 60% marks for minimum eligibility criteria of works (ii) 100% marks for twice the minimum eligibility criteria or more In between (i) & (ii) – on pro-rata basis For similar works
3.	Performance on timely attending completion. Please attach completion certificate of timely/satisfactory commissioning from minimum two clients. One of which should be from a PSU/Govt. organization.	**(10 marks)** (i) 60% marks for minimum eligibility criteria of works (ii) 100% marks for twice or more the eligibility (iii) In between pro-rata
4	Local office/service centre in NCR with minimum two Service Engineers	**(10 marks)**

	if not	nil -
7.	Performance of works (Quality) Based on report/visit/ presentation	**(50 marks)**
	(i) Excellent (ii) Very Good	50 30
	(iii) Good	20
	(iv) Fair	10
	(v) Poor	0

Total = 100 marks

The financial bids of only those successful bidders who obtain minimum 70/100 in Technical evaluation will be opened for further consideration.

(ii) Financial bid evaluation:- The bidder quoting lowest rate will be awarded full points out of 30. Other will be awarded pro-rata.

Combined scores of respective bidders shall be obtained by sum of their respective technical bid scores (out of 60) and their respective Price (financial) bid scores (out of 40). The Tenderer who obtains the highest combined score will be awarded the contract.

4.0 General Conditions:

4.1 The bid of any bidder who has not complied with one or more of the conditions will be summarily rejected.

4.2 Conditional bids will also be summarily rejected.

4.3 The technical bids will be evaluated by the expert technical committee of the Institutes on the basis of technical bid and technical specifications. The authority for the acceptance of the tender rests with the INSTITUTE.

4.4 Financial bids of only technically qualified bidders will be opened for evaluation in the presence of qualified bidders.

However, INSTITUTE shall not be bound to accept the lowest or any other tender or to assign any reason for non-acceptance or rejection of a tender. INSTITUTE reserves the right to accept any tender in respect of the whole or any portion of the work specified in the tender paper.

Even though any bidder may satisfy the above requirements, he/she would be liable to disqualification if he/she has:

a) made misleading or false representation or deliberately withheld information in the forms, statements and enclosures required in the eligibility criteria document
b) Record of poor performance such as abandoning work, not properly completing the contract, or financial failures/ weaknesses etc.

SCOPE OF WORK

The scope of work includes design, supply, installation, testing, commissioning (DSITC) and validation-documentation of the IDRF on a turnkey basis and its day-to-day on-site operation and comprehensive maintenance. The total area available for setting up the facility is about 135 sq m. The award of the project shall be on a turnkey basis with the selected vendors responsible for dismantling of any existing set-up (including civil work if any required to carry out the tendered work), cleaning, establishing, validation and comprehensive maintenance of the facility for 3 three years after warranty period is over. Once commissioned, the scope of work includes operation and comprehensive maintenance of all the equipment as mentioned in the BOQ including the HVAC system for maintaining the lab environment as per the bio-safety guidelines prescribed by WHO, all related internal clean room finish, UPS / non-UPS, air-leak proof power points, leak proof lighting system and power/control cabling work with suitable UPS (connected to specified instruments) for smooth and safe operation of the IDRF. For safe operations as per the guidelines and monitoring of the facility, the system must have necessary control through a PLC based IBMS system with requisite controllers / field-sensors. An addressable multi-zone fire detection system, Access Control System and CCTV surveillance system should also be provided. Any other work related to uninterrupted working of the IDRF shall be treated as a part of scope of the bidder. The entire lab shall be validated in coordination with authorized users as per the WHO guidelines and necessary documentation and validation report duly stamped and signed by the authorized users and contractor should be submitted at the time of completion and handing over.

BROAD TECHNICAL SPECIFICATIONS OF THE IDRF

LABORATORY CONTROLLED AREA

The proposed laboratory layout design is enclosed which consists of tissue culture labs and the animal holding area, one set of entry/exit airlock, wash /sterilization room, Integrated Building Management System (IBMS) room for controlling-monitoring, and preparation and procedure area. The proposal for any amendment to layout for better utilization of the available space to improve the laboratory functioning should be discussed during technical presentation. The following pressure gradient condition shall be maintained in various areas of the laboratory.

1) Tissue culture lab rooms : Operating pressure: -25 Pa.
2) Animal holding room : Operating pressure : -35 Pa.
3) Procedure room : Operating pressure: -45 Pa.
4) Air-lock I : Operating pressure : +5 Pa.

5) Air-lock II : Operating pressure : -10 Pa.
6) Wash & sterilization room: Operating pressure : 0 Pa.

The following conditions in the IDRF should be maintained:
These parameters to be duly documented for validation.

- Lab Temperature: 23 ± 2^0 C,
- Relative Humidity: 60±5 %,
- ACPH: Min. 20 ACPH,
- Cleanliness as class 100,000

UTILITY SYSTEM INCLUDING PIPING MANIFOLD

Necessary utility connections including, SS piping and manifold for CO_2 incubator, Bio-safety Cabinets, IVCs, Autoclaves etc. shall be in the scope of the turnkey contractor. However, these equipment of appropriate recommended make shall be procured and commissioned by the IDRF vendor and integrated with the services and utilities.

IDRF INTERIOR WALL & CEILING PANELS

Wall panel system should be self supported, double skin sand-witch type GSS/CRCA powder-coated metallic wall panels of 0.6 mm thickness on both sides with 80 mm (min.) thickness PUF in-filled with 40±2 Kg/m3 (min.) density insulation. It should be complete with in-built (25 mm / 32 mm dia) conduit including service panel, Aluminium / GI floor track system, factory fitted cut-outs for necessary doors, windows, hatch openings for lab or process equipment, power/communication sockets etc. The ceiling system: Walkable double skin sandwich type GSS/CRCA powder-coated metallic ceiling panels of 0.6 mm thickness on both sides, 80 mm (min.) thick PUF in-filled with 40±Kg/m3 density insulation. It should be complete with extruded aluminium powder-coated supports and hanging arrangement, with aluminium profiles that create uniform seams. The partition seams must be sealed by RTV silicone with a perfectly flush finishing. PUF insulation material is sandwiched between the two skin layers and sealed from the exterior by the GI framework including all cut-outs factory fitted, for Air terminals/Diffusers and lighting, Pass Box etc.

THE RADIUS COVING

Smooth radius powder-coated / PVC coving should be installed at all wall-to-wall and wall-to-ceiling joints. All seams should be carefully sealed with RTV sealant. Corners at floor must be coved from PVC floor sheet to the wall.

THE DOORS AND WINDOWS

Double skin PUF insulated clean room compatible doors should be designed to fit flush into the 100 mm thick wall panel system on both sides in different dimensions as per drawing. Doors are to be fabricated from CRCA duly powder coated sheet. Shutter will have sheet thickness of 0.8 mm and the frame of 1.2 mm. Standard 50 mm panel will have frame width of 50 mm and shutter width of 46 mm. The following accessories are a part of the door: SS ironmongery, DORMA make Model TS

68 door closers, SS 304 D type handles of 300 mm size on one side and push plate fixed with D/A tape on other side, SS 304 butt hinges, side seal & automatic drop seal and other accessories. Sizes mentioned herein are total sizes including the door frame. Emergency exit and the main door shall have bottom sil as well. All doors directly opening to atmosphere should be air leak proof type with cam arrangement and to be tested with soap- solution during validation and testing. All windows should be double glass (toughened type) min. 6 mm thick. They should be flush with wall panel. All doors/windows should be 100% leak-proof type with factory fitted powder coated metallic wall frame.

THE FLOORING

The floor should be made of 2 mm sheet of polyvinyl flooring, non-skidding, anti-static, abrasion resistant and chemical resistant with 50 mm wall to floor coving. All joints should be thermal welded. All coved corner wall joints should be carefully cut, formed and sealed. Floor to wall coving must be provided for easy cleaning. Flooring material should be installed after making floor surface clean and dirt free and no uneven surface should be allowed during and after installation.

THE HVAC SYSTEM

Chiller: Air-cooled water chilling unit of nominal capacity 48 TR comprising of multiple scroll compressors (each of 12 TR nominal capacity in tandem operation), automatic low pressure and high pressure cut outs with microprocessor controlled system, electronic regulation, acoustic isolation, gas charge should be integrated with PLC system of the main lab. It should also have electronic thermostats for tripping the compressors after reaching set temperature with suitable insulation of the suction line.

Air Handling Unit (AHU): Modular Double skin outdoor type AHU complete in single/double tier construction with thermal break profile having various sections like aluminium fresh air louver section with louver along with pre-filter, filter section, fan section, coil section and supply air plenum etc. AHU should have pre filter (10 mic.), fine filter (5 microns), micro filter (EU9), HEPA filter (EU13), DIDW fan, TWIN TEFC motor with VFD, 8 row deep cooling coil, Heating section with tubular heaters in multi- stage operation sequence. AHU should be designed for maximum 2.5 m/s face velocity on filters & coils and sections having filters should be provided with necessary port for measuring pressure differential with the help of magnehelic gauge mounted over the AHU itself for regular monitoring / maintenance of filters. All bypass dampers should be of "TROX" make so that pressure drop across coil & damper should be equal for controlling the flow of air through them. AHU should be provided service windows of suitable width for maintenance of various sections and inspection windows should be provided glass panels for viewing inside the AHU. AHU panel thickness should be 43±2 mm injected with PUF and sheet thickness should be 22/24 gauge GI. Drain pan of all the AHUs should be dully insulated and material of construction should be 1 mm SS304. Additional safety accessories like cushy foot mountings, limit switches for access doors, inspection lamp, fire proof double canvass connections (Fungal resistant and Lint free) should also be provided along with AHU. Quoted price should be inclusive of necessary civil and structural cost for foundation in all respect as required.

The Supply and Exhaust Duct: Pre-fabricated ducting for supply / exhaust GI (as per IS 277 with zinc deposition 120 gms/sq mtr) including duct supports (epoxy painted). Thickness of GI sheet for various sizes shall be as per IS 655. Ducting shall be sealed with silicon sealant at all G.S.S. Ducting as per specification complete with supports, nut-bolts, MS angle flanges, neoprene gaskets duly installed. Leak testing of ducts at site shall be carried out as per SMACNA standards. Duct insulation with Trocellen/Armaflex make Class "O" type, closed cell- XLPE insulation for shaded area. All other exposed ducting should be provided with exposed duct treatment which includes covering the insulated duct surface with closed cell nitrile rubber - armaflex /vidoflex factory fitted aluminium foil faced 25 mm thick thermal insulation material. SR-909 adhesive to be used for fixing of insulation material on finished duct surface after testing. Extruded aluminium supply/exhaust/return air double deflection 4 way diffusers duly powder coated with black matt finish aluminium volume control damper (front operated type). GI fire damper (UL 90 Rated) with fusible links must be provided. Damper should have a limit switch and indicator to show the open/close position as per specifications. Fire damper limit switch have to be interlocked with fan motor.

BMS & SECURITY SYSTEM

Building Management System (BMS) should be envisaged to configure, monitor and control the HVAC System, Life Safety System (LSS) which consists of Surveillance System (CCTV), Fire Address System for the IDRF and Access Control System. Following are the sub-systems that shall be monitored and controlled from BMS system:

- The BMS consist of work station, Network control module, DDC panel and field primary sensing devices.
- BACK-Talk Programmable Logic Controller - VLC HVAC / AHUs.
- If temp is less than temp set point (or) humidity is more than set point then BMS system logic will switch on the heater of that particular running AHU.
- BACK Talk View port operator Terminal Heating Ventilation and Air Conditioning (HVAC) Monitoring & Control.
- Exhaust / Supply air system interlocking for minimal chance of cross air-flow
- PLC based negative pressure gradient control/monitoring system
- Desired temp and RH control/monitoring system
- Addressable fire detection system with zone demarcation
- Access Control Management
- None of the features of the BMS terminal accessible without the user first being required to log on by entering a password.
- It should be possible to manually override the state or value of point or return it to its automatic state directly from the schematic diagram. This may be accomplished by the use of a mouse by pointing at a plant symbol and clicking. This produces a menu from which the desired function may be selected.
- Digital/Mechanical Differential Pressure Display unit at Entry door
- Access control & 3 - Door Interlock system with Electromagnetic Strike lock unit + Egress Button and 15 nos. Access Proximity cards

THE AIRFLOW

No recirculation, one pass design, Unidirectional air flow, Dedicated Exhaust air fan with requisite static pressure should be installed for individual biosafety cabinet's exhaust air flow and the same should be interlocked with the operational sequence of the cabinets.

ELECTRICAL SYSTEM POWER AND UPS

The entire IDRF, equipment, system and power points shall be fully wired and complete with required switchgears, wires, cables, switches, sockets and light fittings and fixtures complete in all respect. The electrical light switches, sockets and lights fixtures shall be sealed type and in chemical resistant finish suitable to withstand laboratory fumigation. On-line UPS of appropriate rating (minimum 20 minute full backup) shall be provided by the vendor to power up the essential lab instruments, BMS control, emergency lighting systems inside lab, Access Control system, biological safety cabinets, and Pass boxes of the HVAC system in case of power failure.

WATER SUPPLY AND DRAINAGE

Treated water (to be provided by the institute) connection should be connected to Wash/Autoclave room only, for use of water inside critical lab area only portable water arrangement will be provided. Insect resistant SS drain trap should be installed in washing area and should be connected to central drainage pipeline network.

COMMUNICATION SYSTEM

Telephone and internet receptacles should be installed in Control station, Animal Room and the labs.

UTILITY PIPING

Separate provision should be made for CO2 gas for incubators. All utility piping shall be fitted with backflow prevention device/Non-return valve.

PERFORMANCE TESTING FOR THE IDRF AND 3RD PARTY VALIDATION

1. Bio-safety cabinet integrity check
2. HEPA filter leak test – according to the US Federal Standard 209E
3. Ducting leak test - (light leak test)
4. Room differential pressure test verification (as per specification)
6. Particle test for cleanliness; according to US Federal Standard 209E
7. Light intensity (as per specification)
8. Noise level test (as per specification)
9. Test of Air Change rate (as per specification)

ROUND THE CLOCK OPERATION AND COMPREHENSIVE MAINTENANCE

After the DSITC, the vendor must provide round the clock operation and comprehensive maintenance of IDRF for 1 year from the date of handing over the facility. The comprehensive operation and maintenance services provided by the

contractor shall include providing trained manpower, accessories, tools, tackles, all spares and consumables, replacement of defective parts, carrying out routine and preventive maintenance and servicing of the equipment's and systems etc. complete in all respect (excluding only power and water which shall be provided by institute). The charges for providing 1 year comprehensive operation and maintenance services shall be included in the quoted rates and nothing over and extra shall be paid to the contractor on this account. After completion of one year comprehensive operation and maintenance services, the contractor may be required to provide comprehensive operation and maintenance services for the complete Laboratory systems of the IDRF covered under this contract for a further period of up to 3 (three) years. However, availing of comprehensive annual operation and maintenance services shall be at the sole discretion of institute. The unit rates quotes for comprehensive annual operation and maintenance services (after completion of 1 year already covered in the scope of works) for 1st year, 2nd year and 3rd year shall be binding on the contractor. The rates quoted for comprehensive annual operation and maintenance services shall be inclusive of all accessories, manpower, tools and tackles, spares and consumables, replacement of parts, routine servicing and maintenance of equipment's and systems etc. (excluding only power and water which shall be provided by the employer) complete in all respect. Periodical Operation and Maintenance test report duly signed by authorized user scientist of the institute should be submitted in pre-approved format at the end of every third month. Yearly facility validation should be conducted by the vendor in coordination with user scientists.

The CMC activities include:

- High Side comprising of Chiller, CHW Pumps, with all accessories
- Low Side comprising of AHUs, EXUs, Air distribution system (ducting with insulation), Air control devices like VCD, Registers, Grilles, Louvres, Terminals with filters, coils, heaters etc.
- Water distribution system comprising of CHW Piping system - (MS and GI), all flow control devices like valves, fittings, water flow balancing and Insulation
- Total Electrical System comprising of MCC and connected components, Cabling with all associates and Protection devices
- Building management system including controllers, field devices and sensors checking and monitoring including calibration, replacement if needed
- Complete security System including access control and door interlock arrangement, Fire.
- Observations & readings to be recorded and Reporting done periodically
- Periodic Lab Fumigation & Performance qualification/validation in coordination with users.

SCHEDULE OF APPROVED MAKES

S NO.	ITEM DESCRIPTIOPN	MANUFACTURER / SUPPLIER
1	Air-Cooled Water Chiller	Carrier / Bluestar / Voltas
2	Cooling Tower	Paharpur / Mihir / Advance
3	CHW Water Pump – Split Casing	CGL/Kirloskar/Grundfos
4	Tubular Heating element	Rapidcool / Dasspass / Spirax marshall
4	TEFC Motor	ABB/Siemens/Crompton/GEC
5	Double skin Air handling units	ZECO/Flaktwoods/Citizen
6	CHW / HW Coil	ZECO/Citizen/Flaktwoods
7	Centrifugal Fan	Kruger/Nicotra/Comefri
8	Pre-fabricated Ducting	Rolastar/Zeco/Carrier-Flakt
9	GI sheet	SAIL/TATA/Bhusan
10	Duct / Pipe Insulation : Closed Cell Nitrile Rubber Insulation Aluminium faced – Class "O"	Armacell / Armaflex/Vidoflex
11	BMS & Automation	Honeywell/Siemens/Johnson Controls
12	3-way modulating valve + actuator	Honeywell/Siemens/Johnson Controls
13	Air filters (Pre, Micro & HEPA)	Thermadyne/AAF/Dyna
14	MS Pipe "Class-C"	TATA/Jindal-Hissar
15	MCC Panel	Tricolite/Khokar/Radiant
16	Power Cable	Polycab/CCE/Finolex/Skytone
17	Control Cable	Polycab/Finolex/Kalinga
18	Capacitor & Relays	EPCOS/ABB/Siemens
19	Cable Tray	Indiana/Profab/PTC
20	Telephone & Communication Cable	Grandlay/Deltron/ITD/Finolex
21	Clean room light fixture/fittings	Optico/Superlite
22	General light fittings	Wipro/Phillips/Havells
23	Switch Sockets with SS cover Plate	North west/Crabtree
24	MCCB / MCB	Siemens/Schneider/L&T/GE
25	Clean Room Wall / Ceiling system	Fabtech /GMP/iClean
26	Clean room interiors – Doors / Windows	Fabtech /GMP/iClean
27	Grilles/Diffuser	Caryair/Continental/Ravistar
28	Dampers/Louvers	Caryair/Continental/Ravistar

29	Thermometer	H.Guru/Taylor/Emerald
30	Fire & Security System	Agni/Honeywell/Siemens/JCI
31	CCTV Camera	Sony //LG/Samsung
32	Pressure Guage	H.Guru/Taylor/Emerald
33	Magnahelic Gauge	Dwyer
34	PLC based Double Door with in-built steam sterilizer	Nat Steel / Staris / Tutener
35	Dynamic Pass Box	Fabtech /GMP / iClean
36	Valves for water line	Advance/Castle/Audco
37	Fire system	Agni / Johnson Controls/ Honeywell
38	On-line UPS system	APC/3 EM / E.T.N Powerware / Delta
39	Class II, Type B2 Biosafety cabinet for the various labs as per specification appended below of size 4' & 6':	Esco/ Labconco/
40	Double door vertical steam sterilizer with bio-seal in SS construction - Capacity 185 Ltrs, complete with	Nattsteel/Steris
41	Individually Ventilated system (IVC) Cages for mice and guinea pigs	
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GENERAL TERMS AND CONDITIONS OF THE CONTRACT

The award of the contract shall be governed by the general terms and conditions of civil, electrical, air-conditioning and other work contracts of CPWD as may be in force at the time. Other terms and conditions of the award are provided below.

PAYMENT TERMS

The payment shall be made to contractor on quarterly basis as per the payment schedule given below:

Quarter	Maximum Cumulative Payment Limit (% of Contract	Remarks
0	Upto 15	Advance against BG of equal amount issued by any Scheduled bank (recovered 20% from each running bill)
1	Upto 50	Equated amount against Five progressive RA bills.
2	Upto 80	Completion of works and start of defect liability period
3 to 11	Balance Amount	20 % of the contract value is reserved for the cumulative operation and maintenance during the defect liability period of two years. This amount shall be released in equal quarterly installment during the defect liability period.

The payment shall be released to the contractor as per the above payment schedule subject to satisfactory completion of work as per the work plan, submission of all quarterly statement along with all necessary documents and issue of Interim Payment Certificate by the Engineer. The payment will be released after making necessary deductions as per the provisions of the tender document. The quarterly payment to be released to the contractor shall be subject to the maximum cumulative payment limit or Interim payment certificate, whichever is lowest. Payments to the contractor shall be made by the institute in Indian Rupees into a bank account or accounts nominated by the Contractor or by Account Payee Cheque/Demand Draft.

Quarterly Statements

The Contractor shall submit a statement in 3 copies to the Engineer by the 7th day following each completed quarter for the work executed during that quarter in a tabulated form approved by the Engineer, showing the amounts to which the Contractor considers himself to be entitled. The statement shall include the following items, as applicable, which shall be taken into account in the sequence listed:

a) The estimated contract value of the Fabrication/Civil Works executed up to the end of the quarter in question, at base unit rates and prices.
b) The actual value certified for payment for the Fabrication/civil Works executed up to the end of the previous quarter, at base unit rates and prices.

c) The estimated contract value at base unit rates and prices of the Permanent Works for the quarter in question, obtained by deducting (b) from (a);
d) The value of any variations executed up to the end of the quarter in question, less the amount certified in the previous Interim Payment Certificate;
e) Retention money @ 10% would be withheld from each running bill.
f) The amount to be deducted towards the advance income tax and the advance works contract tax as per the statutory requirements in this regard.

Documents to be submitted along with Quarterly Statement

The contractor is required to submit following details/documents along with every quarterly statement/running/final bill without which bills will not be processed.

a) Bills of every section of work as provided in BOQ to be prepared separately and submitted all together. In case there is no billable amount of any section of work, the same should be clearly indicated zero value during the period of bill.
b) Complete measurement details along with location of each measurement should be clearly indicated.
c) Authorized representative of contractor with name & seal to sign on each page of bill submitted.
d) Carryover and brought forward for each & every quantity to be indicated in the bill.
e) The running bill should contain the measurement of items executed during the period of bill. Full measurement may be given in pre final/ final bill. The measurement of all concealed items should be made before covering them.
f) The computerised soft copy of the entire bill shall be submitted along with the bill.
g) Correction as made by Engineer representative should be incorporated by the contractor and corrected copy in three copy should be submitted for payment. Date of submission of bill will be reckoned from the date of submission of corrected bill.
h) Bill should be indexed properly and each page and correction if any should be signed and stamped by the authorised representative of the contractor and acceptance should be given.
i) Copy of Challan of submission of PF & ESI and any other relevant as required from time to time should be submitted.
j) Power of attorney of authorized person on behalf of contractor to be submitted. Contractor must ensure that all papers /Measurement book to be signed by authorized person with measurement date, date of start & date of completion etc.
k) All overwriting, alterations have been countersigned by the authorized person with date.
l) Approval of extra item if any conveyed to be enclosed.
m) Contractor must ensure, in case of time extension, confirmation of extended validity of insurance, performance BG upto Defect liability period as per contract and a copy of approved time extension to be submitted.
n) Contractor must authorise their representatives competent for verification of measurement at site and these person should be available at site.

o) Contractor is required to submit all test certificates of items claimed in bill for payment or for secured advance payment. Any item not meeting the test criteria's will not be considered for payment.
p) All the pages and enclosures of bills to be stamped with name and designation of the person with full signature of contractor's and institute's site in-charge before submission to the engineer.

COMPENSATION FOR DELAY

Time allowed for the work shall be strictly followed otherwise the tenderer shall be liable to compensation at the rate of 0.2% of the ordered value of the work per day of delay on the part of the tenderer subject to a maximum of 5% of the total ordered value. The decision of engineer-in-charge about the delay shall be final and binding.

TERMINATION

Notwithstanding anything elsewhere provided herein and in addition to any other right or remedy of INSTITUTE under the contract or otherwise including right of INSTITUTE for compensation for delay, the Engineer-in-charge may, without prejudice to his right against Tenderer in respect of any delay, bad workmanship or otherwise or to any claims for damage in respect of any breach of contract and without prejudice to any rights or remedies under any of the provisions of this contract or otherwise and whether the date of completion has or has not elapsed, by intimation in writing can absolutely terminate the Contract. Default or failure by the Tenderer in any of the under mentioned cases, including but not limited to the following shall be the basis of taking action under this clause of the contract.

1) Failure to provide at the job site, sufficient labour, material, equipment, machinery, and / or facilities, required for the proper and / or due execution of the work or any part thereof:
2) Failure to execute the works or any of them in accordance with the contract.
3) Disobedience of any order or instruction of the Site Engineer / Engineer-in-charge.
4) Negligence in carrying out the work or carrying out of work found to be unsatisfactory by the Engineer-in-charge.
5) Abandonment of the works or any part thereof.
6) Failure to execute the contract in terms of the form of Contract forming part of the Tender Documents within Ten days of notice in this behalf from INSTITUTE.
7) If the Tenderer is incapable of carrying out the work.
8) If the Tenderer misconducts in any manner.
9) If there is any change in the constitution of the Tenderer (of a firm) or in the circumstances or organization of the Tenderer, which is detrimental to the interests of INSTITUTE.
10) Dissolution of the Tenderer (If a firm or commencement of liquidation) or winding up (whether voluntary or compulsory or if a company or appointment of a receiver or Manager of any of the Tenderer's assets and / or insolvency or if a sole proprietorship) or of any partner of the Tenderer (if a firm).
11) Delay in execution of work, which in opinion of the Engineer-in-charge shall delay the completion of work beyond the stipulated date of completion.
12) Distress, execution, or other legal process being levied on or upon any of the Tenderers goods and /or assets.

13) Death of Tenderer (if an individual).

14) If the Tenderer of any person employed by him shall make or offer for any purpose connected with the contract any gift, gratuity, royalty, commission, gratification or other inducement (whether in money or in any other form) to any employee or agent of INSTITUTE.

15) If the Tenderer shall assign or attempt to assign his interest or any part thereof in the Contract. The decision of the Executive Director INSTITUTE as to whether any of the events/ contingencies mentioned in aforesaid clauses entitling INSTITUTE to terminate the contract has occurred shall be final and binding upon the Tenderer. The reason for the termination stated in the notice of termination shall be final and binding upon the Tenderer and shall be non arbitrable. However the jobs left by the Tenderer shall be got done at his risk and cost through the other agencies and the contract shall be determined accordingly.

PERFORMANCE BANK GUARANTEE

The tenderer is required to furnish performance guarantee for an amount equal to 5% of the contract value in the form of CDR/FDR/DD/bank guarantee (of nationalized/ Schedule Bank in a standard Format) within two weeks from the date of issue of award letter. The validity period of the performance security in form of performance guarantee shall be one year from the date of actual completion of work and contract period i.e. up to 4 years.

WORK OPEN TO INSPECTION

All work under or in course of execution or being executed in pursuance of the contract shall at all times be open to inspection and supervision of the Engineer-in-charge and his authorized subordinates, and the Tenderer shall at all times during the usual working hours, and at all other times at which reasonable notice of the intention of the Engineer-in-charge or his subordinate to visit the works shall have been given to the tenderer, either himself be present to receive order and instructions, or have a responsible agent duly accredited in writing, present for that purpose. Order given to the tenderer's agent shall be considered to have the same force as if the same had been given to the Tenderer himself.

INSTRUCTIONS TO BIDDERS

1. GENERAL INSTRUCTIONS:

The works referred here-in shall cover the entire scope of the proposal which includes supplying and installation of material including successful completion and tests which RCB desires to get carried out. The "Owner" where appearing in these documents shall mean Executive Director, RCB.

2. PROCEDURE FOR SUBMISSION OF TENDERS:

The following procedure shall be adopted for submission and opening of tenders. The sealed envelope SUPERSCRIBED Tender for: **Name of work:** Design, Supply, Installation, Testing, Commissioning (DSITC) and Validation of IDRF in the

small animal facility (SAF) building at the NCR Biotech Science Cluster situated at 3rd Mile Stone on Gurgaon-Faridabad Expressway, Village- Bhankri, Faridabad (Haryana).

ENVELOPE NO. - 1

This envelope shall contain only the earnest money deposit, cost of tender (if downloaded from website) & technical bid and will be opened first. Should be super-scribed as "**Technical bid**".

ENVELOPE NO. - 2

This sealed envelope shall contain the financial bid of the contractor as per bill of quantities. This envelope shall be opened only after the EMD contained in envelope No.1 & technical bid is found in order as per the requirements of RCB. The date of opening of price bid shall be intimated later on. This envelope should be super-scribed as "**Financial bid**".

The sealed cover containing envelope 1 & 2 shall be opened on the prescribed date and time in the presence of tenderers or their authorized representatives who may wish to be present.

3. TENDERERS TO STUDY ENTIRE TENDER DOCUMENT CAREFULLY:

Submission of a tender by a tenderer implies that he has read all the stipulations contained in this tender document and has acquainted himself of the nature, scope and specifications of the works to be followed.

4. TENDERER TO SUBMIT THE ENTIRE TENDER DOCUMENT:

The tenderer shall submit all documents issued to him for the purpose of this tender after duly filling the same in all respects. Tenders which are found to be vague or incomplete shall be rejected summarily. All the pages of tender documents to be duly signed & stamped by the tenderer. (Item-8)

5. TENDER SHALL BE WRITTEN IN ENGLISH LANGUAGE:

Every tender shall be written in English language. All information such as documents and drawings supplied by the tenderer will also be in the English language only. Drawings and designs shall be dimensioned according to the metric system of measurements. **Tenders shall be forwarded under cover along with a letter type written on the tenderer's letter-head and duly signed by the tenderer**. Signatures must be in long hand, executed in ink by a duly authorized principal of the tendering firm. No oral, telegraphic or telephonic tenders or subsequent modifications there-to shall be entertained; If a tender is submitted on behalf of the firm, then all the partners shall sign or may be signed by one in whose favour all the partners have given General Power of Attorney. In case of tender submitted by a company, it shall be signed by one who has been authorized by the Board of Executive Director s through a resolution. Copy of resolution and the authority letter in favour of the person signing must accompany the tender.

6. TENDERERS TO QUOTE FOR ALL ITEMS AND IN FIGURES & WORDS:

The tenderer shall quote his rates in words and figures with reference to each item and must enter for all the items shown in the attached Bill of quantities. Incomplete offer shall be liable for rejection. In case there is a discrepancy in "words" and "figures", the rate in words will be taken as correct for evaluation of tender. The total amount shall be written both in figures and in words.

7. VALIDITY PERIOD OF OFFERS:

The rates quoted in the tender shall hold good for 180 days from the date of opening of the tender. The validity period shall be extendable with the mutual consent of both the parties. No tenderer can withdraw/or modify his tender or revoke the same within the said period of 180 days. If a tenderer on his own withdraws or revokes the tender or revises or alters or modifies the tender for any item or condition within a period of aforesaid 180 days his earnest money deposit shall stand forfeited.

8. TENDERER TO SIGN ALL PAGES:

The tenderer shall stamp and sign at the bottom right hand corner of every page of the tender documents in token of acceptance of tender conditions and for the purpose of identification.

9. ERASURES AND ALTERATIONS:

Tenders containing erasures and alterations of the tender documents are liable to be rejected unless these are authenticated by the person signing the tender documents.

10. TENDERER TO SATISFY HIMSELF OF SITE CONDITIONS:

Tenderers are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their tender regarding nature of the site conditions, the means of access of the site, the accommodation they may require and in general obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender in any manner. A tenderer shall be deemed to have full knowledge of the site, whether he inspects it or not and no compensation or otherwise of any charges incurred or to be incurred consequent on any misunderstanding or otherwise shall be admissible.

11. EARNEST MONEY:

The tender shall be accompanied by earnest money of Rs 5.20 Lacs in the form of D.D/ F.D/B.G only drawn in favour of the "**Executive Director , Regional Centre for Biotechnology" payable at Gurgaon**. Earnest money of the unsuccessful bidder(s) shall be refunded after expiry of the validity period of the tenders/allotment of works whichever is earlier. In case of successful tenderer the earnest money shall be adjusted against performance security.

Submission of EMD is mandatory in the acceptable form, failing which their bid will be summarily rejected and no correspondence will be entertained in future in this regard. Any kind of exemptions giving MSME/NSIC in respect of EMD will not be acceptable.

12. TENDER LIABLE TO REJECTION:

Tenders which do not fulfill all or any of the conditions laid down in this notice, or contain conditions not covered and / or not contemplated by the Conditions of

contract and/or expressly prohibited therein or stipulate additional/alternative conditions shall be liable to be rejected and his earnest money will be forfeited.

Tenders shall also be liable for rejection on any of the following grounds:-

i) Tenders submitted late
ii) Tenders containing remarks uncalled for.
iii) Conditional tenders
iv) Tenders not submitted on prescribed Performa.
v) Telegraphic tenders.
vi) Tender submitted without E.M.D. / Cost of tender document

13. CORRESPONDENCE:

Tenderers must mention their postal address and telephone number(s) of the Chief Executive/authorized agent or attorney in the tender. The tender submitted by the tenderer will be rejected if he or his agent cannot be contacted on the last known address or on the intimated telephone number(s) after reasonable search in which event earnest money may be forfeited by the RCB.

14. RCB NOT TO ASSIGN ANY REASON FOR REJECTION OF TENDER:

RCB hold absolute discretion to accept or reject the lowest or any other tender without assigning any reason. No claim on this account shall be entertained.

15. AMENDMENT IN TENDER DOCUMENTS:

RCB reserves the right to revise or amend the Bid Documents upto the date prior to the date notified for opening of the tenders and also the right to postpone the date of submission and opening of tenders without assigning any reason, whatsoever.

16. REFERENCE IN TENDER DOCUMENTS:

Executive Director, RCB shall be referred as "Owner" in all the documents of Tender documents/contract agreement.

17. Sr. MANAGER

Where ever the word "Sr. Manager" occurs it shall mean the authorized Officer appointed by the RCB for the superintendence of the execution of works.

Sr. Manager (A&F)
RCB

GENERAL INFORMATION

1	Accepting Authority	Executive Director (RCB), Faridabad
2	Earnest money	Rs. 5.20 Lacs to be furnished with the tender in the form of the D.D/ F.D / B.G.
3	Security deposit	The security deposit will be collected by deductions from the running bills of the contractors at the rate mentioned below and the earnest money, if deposited at the time of tender, will be treated as part of security deposit. Performance security may be accepted as Bank Guarantee of Scheduled Banks and State Bank of India. A sum @ 10% of the gross amount of the bill shall be deducted from each running bill of the contractor till the sum along with the sum already deposited as earnest money, will reach to the extent of 5% of the tendered value of the work as security deposit. In addition, the contractor shall be required to deposit an amount equal to 5% of the tendered value of the contract as Performance Security within the period prescribed for commencement of work in the letter of award issued to him.
4	Authority competent to grant extension of time	Executive Director RCB or authorized person by Executive Director , RCB
5	Tools & plants	To be arranged by contractor
6	Schedule of Minimum wages	As per notification issued by CPWD.
7	Authority competent to reduce the compensation amount	Executive Director , RCB
8	Defect Liability Period	Twelve months from the date of acceptance of completion by the RCB.

9	Warranty certificate	All items supplied/Installed shall have a warranty of 5 yrs from the date of takeover by Institute for any manufacturing/ workmanship defects.
10	Release of Security	The performance security shall be Deposit refunded to the contractor on completion of the work and recording of completion certificate by Institute and the balance amount be released after defect liability period.
11	Authority Competent to Appoint Arbitrator	Executive Director, RCB.

Sr. Manager (A&F)
RCB

GENERAL CONDITIONS OF CONTRCT AGREEMENT

1. SECURITY DEPOSIT

The person/persons whose tender may be accepted (herein after called the contractor) shall permit Sr. Manager (A&F) at the time of making any payment to him for works done under the contract to deduct such sum as will amount to 20 % of all moneys so payable to be held by the Sr. Manager (F&A), by way of security deposit. Earnest money shall also be adjustable towards this security deposit. All compensation or other sums of money payable by the contractor to Sr. Manager (A&F) under terms of this contract may be deducted from his security deposit or from any account what so ever, and in the event of his security deposit being reduced by reason of any such deduction, the contractor shall within 10 days thereafter make good in cash any sum or sums which may have been deducted from his security deposit or any part thereof.

2. COMPENSATION CLAUSE

2.1 The time allowed for carrying out the work as entered in the tender shall be strictly observed by the contractor, and shall be reckoned from the 10th day of the date on which the order to commence the work is given to the contractor. The contractor within ten days of award of work shall prepare and submit a schedule for work execution in the form of a bar chart/CPM network and submit the same for approval of the Sr. Manager (A&F), RCB. The work on the contract shall be executed according to the approved schedule as aforesaid and shall throughout the stipulated period of the contract be proceeded with all due diligence(time being deemed to be the essence of the contract on the part of the contractor) and the contractor shall pay as compensation an amount equal to one percent or such smaller amount, as Sr. Manager (A&F), RCB may decide on the value of work as per contract, for every week that the work remains uncommented or unfinished after the dates mutually agreed upon by the parties. Further to ensure good progress during the execution of the work, the contractor shall be bound in all cases in which the time allowed for any work exceeds one month to complete one fourth of the whole of the work before one fourth of the whole time allowed under the contract has elapsed, one half of work before one half of such time has elapsed and three fourth of the work before three fourth of such time has elapsed. In the event of the contractor failing to comply with this condition he shall be liable to pay as compensation an amount equal to one percent or such smaller amount as the Sr. Manager (A&F), RCB, may decide of the value of balance work for everyday that the due quantity of work remains incomplete. Provided always that the entire amount of compensation to be paid under the provisions of this clause shall not exceed ten percent of the awarded cost of work as shown in the tender. The Executive Director (RCB), on a representation from the Contractor, is however; empowered to reduce the amount of compensation and his decision in writing shall be final.

2.2 In any case under which any clause or clause of this contract the contractor shall have rendered himself liable to pay compensation Sr. Manager (A&F), RCB on behalf

of the RCB, shall have power to adopt any of the following courses as he may deem best suited in the interest of the RCB.

a) To rescind the contract (of which rescission notice in writing to the contractor under the hand of Sr. Manager (A&F), RCB shall be conclusive evidence), and in which case the security deposit of the contractor shall stand forfeited, and be absolutely at the disposal of Sr. Manager (A&F) RCB.

b) To employ labor to be paid by Sr. Manager (A&F), RCB and to supply materials to carry out the work or any part of the work debiting the contractor with the cost of the labor and the price of the materials(of the amount of which cost and price a certificate of Sr. Manager (A&F), RCB shall be final and conclusive against the contractor) and crediting him with the value of the work done, in all respect in the manner and at the same rates as if it had been carried out by the contractor under the terms of his contract. The certificate of Sr. Manager (A&F), RCB as to the value of the work done shall be final and conclusive against the contractor.

c) To measure up the work of the contractor, and to take such part thereof as shall be unexecuted out of his hands and to give to another contractor to complete, in which case any expenses which may incurred in excess of the sum which would have been paid to the original contractor if the whole work had been executed by him (of the amount of which excess the certificate in writing of Sr. Manager (A&F),

RCB shall be final and conclusive shall be borne and paid by the original contractor and may be deducted from any money due to him by the Sr. Manager (A&F), under this contract or otherwise from his security deposit or sale proceeds of the materials and tools and plants of the contractor lying at site.

In the event of any of the above courses being adopted by the Sr. Manager (A&F), RCB, the contractor shall have no claim to compensation for any loss sustained by him by reason of his having purchased or procured any material entered in to any agreement or made any advance on account thereof or with a view to the execution of the work of the performance of the contract and in case the contract is rescinded under the aforesaid provisions, the contractor shall not be entitled to recover or be paid any sum for any work thereof or actually performed under this contract unless and until Sr. Manager (A&F), RCB has certified in writing the performance of such work and the value payable in respect thereof, and the contractor shall only be entitled to be paid for the value so certified.

2.3 In any case in which any of the powers conferred upon the Sr. Manager (A&F), RCB by clause 3 thereof shall have become exercisable and the same shall not be exercised, the non-exercise thereof shall not constitute a waiver of any of the conditions thereof an such powers shall not withstanding be exercisable in the event of any future case of default by the contractor for which by any clause or clauses thereof he is declared liable to pay compensation amounting to the whole of his security deposit and the liability of the contractor for past and future compensation shall remain unaffected. In the event of Sr. Manager (A&F), RCB putting force either of the powers (a) or (c) vested to him under the preceding clause he may, if he so desire, take possession of all or any tools, plants, materials and stores in or upon the works, or the site thereof or belonging to the contractor or procured by him and

intended to be used for the execution of the work any part thereof, paying or allowing for the same in account at the contract rates, or in case of these not being applicable at current market rates to be certified by the Sr. Manager (A&F), RCB whose certificate hereof shall be final, otherwise Sr. Manager (A&F), RCB by notice in writing to the contractor or his authorized agent require him to remove such tools, plants, materials or stores from the premises within a time to be specified in such notice: and in the event of the contractor failing to comply with any such requisition, the Sr. Manager (A&F), RCB or his authorized representative may remove them at the contractor's expenses to sell them by auction or private sale on account of the contractor and at his risk in all respects and the certificate of Sr. Manager (A&F), RCB as to the expense or any such removal and the amount of the proceeds and expense of any such sale shall be final and conclusive against the contractor.

2.4 All sums payable by way of the compensation under any of these conditions shall be considered as reasonable compensation to be applied to the use of Sr. Manager (A&F), RCB without reference to the actual loss or damage sustained and whether or not any damage shall have been sustained.

3. TIME EXTENSION

3.1 If the contractor desires an extension of the time limit for completion of the work on the grounds of his having been unavoidably hindered in its execution or on any other ground he shall apply in writing to the Sr. Manager (A&F), RCB within 30 days of the date of the hindrance on account of which he desires such extensions as aforesaid but before the expiry of time limit and the Sr. Manager (A&F), if in his opinion (which shall be the final) reasonable grounds as shown thereof, authorized such extension of time if any, as may, in his opinion be necessary or proper.

4. COMPLETION OF WORK

4.1 Without prejudice to the rights of Sr. Manager (A&F) under any clause hereinafter contained on completion of the work, the contractor shall be furnished with a certificate by the Sr. Manager (A&F) or his representative of such completion, but no such certificate shall be given nor shall the work be considered to be complete until the contractor shall have removed from the premises on which the work has been executed, all scaffolding .surplus materials and rubbish, and cleaning off the dirt from all doors, walls, floors, or any other parts of buildings said to have been completed, and the measurements in the said certificate shall be binding and conclusive against the contractor, if the contractor shall fail to comply with the requirements of this clause as to the removal of scaffolding, surplus materials, and rubbish and cleaning off dirt on or before the date fixed for the completion of the work, Sr. Manager (A&F), RCB may at the expense of the contractor have removed such scaffolding .surplus materials and rubbish and dispose of the same as he thinks fit and clean off such dirt as aforesaid and the contractor shall forth with pay the amount of all expenses so incurred, and shall have no claim in respect of any such scaffolding or surplus materials as aforesaid except for any such sale proceeds actually realized by the sale thereof.

5. ADDITIONS/ALTERATIONS/ DEVIATIONS

5.1 The Sr. Manager (A&F), RCB shall have power to make any alterations or omissions or additions or substitutions in the original specifications, drawings, designs and instructions that may appear to him to be necessary or advisable during the progress of the work, and the contractor shall be bound to carry out the work in accordance with any instructions which may be given to him in writing signed by the Sr. Manager (A&F) and such alterations, additions or substitutions shall not invalidate the contract and any altered, additional or substituted work which the contractor may be directed to carry out in the manner above specified as part of the work shall be carried out by the contractor on same conditions in all respects on which he agreed to do the main work. The time for the completion of the work shall be extended in the proportion that the altered additional or substituted work has to the main work at the sole discretion of the Sr. Manager (A&F), RCB and his decision in this regard shall be final and binding on the contractor.

All tenderers are required to quote as per specifications stipulated hereunder. Rates for all items shall be quoted as specified hereunder. After the award of the contract, the work shall be carried out as per approved drawings and samples. For dimensional changes ± 5 mm, should they occur during approval stage, there shall not be any rate difference. If the dimensional changes are more than the above limit, modified rates shall be worked out derived from the quoted contract rates. Rates for extra/substituted items, should they became necessary during the execution of the work shall be settled on analysis of rate to be submitted by the contractor for such items.

Quantities in the B.O.Q. or estimated quantities which can vary up to ± 50% during the execution of the work. Payment hall be made as per actual quantum executed without any change in the contracted rate due to variation in quantity, if any.

6. ARBITRATION

Except where otherwise provided in the contract all questions and disputes relating to the meaning of the specifications, designs , drawings and instructions here in before mentioned and as to the quality of workmanship or materials used on the work or as to any other question, claim , right, matter or thing whatsoever, in any arising out of or relating to the contract, designs, drawings, specifications, estimates, instructions, orders or these conditions or otherwise concerning the works, or the execution or failure to execute the same whether arising during the progress of the work or after the completion or abandonment thereof shall be referred to the sole arbitration of the person selected from out of a panel of names to be supplied upon a request in writing by party invoking the arbitration by the Executive Director , (RCB) at the time of the dispute. It will be no objection to any such appointment that the arbitrator so appointed was associated with the work and that he had to deal with the matters to which the contract relates and that in the course of his duties in association with the Sr. Manager (A&F), RCB, he had expressed views on all or any of the matters in dispute or difference. The arbitrator to whom the matter is originally referred being unable to act for any reason, the Executive Director shall appoint another person to act as arbitrator in accordance with the terms of the contract. Such person shall be entitled to proceed with the reference from the stage at which it was left by his predecessor. It is also a term of this contract that no person other than a person appointed by the Executive

Director as aforesaid shall act as arbitrator. In all cases where the amount of the claim in dispute is Rs. 50,000/- (Rupees Fifty thousand only) or above, the arbitrator shall give reasons for the award. Subject as aforesaid the provisions of Arbitration and Cancellation Act 1996 or any statutory modifications or reenactment thereof and the rules framed there under and for the time being in force shall apply to the arbitration proceeding under this clause.

It is also a term of the contract that while invoking arbitration the party invoking arbitration shall specify the dispute or disputes to be referred to arbitration under this clause together with the amount or amounts claimed in respect of each such dispute.

It is also a term of the contract that if a party does not make any demand for arbitration in respect of any claim(s) in writing within 90 days of receiving the intimation from the Sr. Manager (A&F), RCB that the bill is ready for payment, the claim if any, shall be deemed to have been waived and absolutely barred and the owner shall be discharged and released of all liabilities under the contract in respect of these claims.

The Arbitrator should be of the rank of retired / working Chief Sr. Manager (CPWD) or (B & R) Delhi or equivalent post. The contractor will be entitled to file only those claims for arbitration which had already been raised before the Sr. Manager (A&F) and rejected by him time to time during the execution of work.

7. **CARRYING OUT OF WORK**

All the work shall be carried out in accordance strictly as per the specifications given in the tender to the total satisfaction of the RCB. In the case of an item for which specification are not available in the said specifications relevant BIS specifications/attached/SEFA specification applicable as on the date of tenders shall be followed.

8. **QUALITY CONTROL OF MATERIAL**

If it shall appear to the, Executive Director or the Sr. Manager (A&F), RCB that any work has been executed with unsound, imperfect, or unskillful workmanship or with materials or articles provided by him for the execution of the work are unsound, or of a quality inferior to that contracted for or otherwise not in accordance with contract, the contractor shall on demand in writing from the Sr. Manager (A&F), RCB specifying the work materials or articles complained of notwithstanding that the same may have been inadvertently passed, certified and paid for forthwith rectify, or remove & reconstruct the work so specified in whole or in part ,as the case may require, or as the case may remove the materials or articles so specified and provide other proper and suitable material or articles at his own charge and cost and in the event of his failing to do so within a period to be specified by Sr. Manager (A&F), RCB, in his demand as aforesaid then the contractor shall be liable to pay compensation at the rate of 1% on the contract agreement of work for everyday not Sr. Manager (A&F), RCB may rectify or remove, and re-execute the work or replace with other materials or articles complained of as the case may be at the risk and expense in all respects of the contractor.

9. **INSPECTION OF WORK**

9.1 All work under or in course of execution or executed in pursuance of the contract shall at all times be open to the inspection and supervision of Sr. Manager (A&F), RCB, or representative in-charge of the work and the contractor shall at all times, during the usual working hours and at all other times at which reasonable notice of the intention of the Sr. Manager (A&F), RCB to visit the works shall have been given to the contractor .either himself be present to receive order and instructions or have a responsible agent duly accredited in writing present for that purpose. Orders given to the contractor's agent shall be considered to have the same force as if they had been given to the contractor himself.

9.2 The contractor shall give not less than 5 days notice in writing to Sr. Manager (A&F), RCB, of the work before covering up or otherwise placing beyond the reach of measurement of any work in order that the same may be measured and correct dimensions thereof be taken before the same is so covered up or placed beyond the reach of measurement and any work without the consent in writing of Sr. Manager (A&F), RCB, or placed beyond the reach of measurement without such notice having been given to or consent obtained, the same shall be uncovered at the contractor's expense or in default thereof, no payment or allowance shall be made for such work of the materials with which the same was executed.

9.3 The work during its progress shall from time to time inspected by the Sr. Manager (A&F), RCB or their representative on behalf of Sr. Manager (A&F), RCB, and the contractor shall extend all co-operation to the representative inspecting the work.

CONTRACTOR'S RISKS

All risks of loss of a or damage to physical property and of personal injury and death which arise during and in consequence of the performance of the contract other than the excepted risks are the responsibility of the contractor.

1. ADDITIONAL WORK

The contractor shall make arrangements for and provide at no extra charges all temporary approaches, if required at site, after obtaining prior approval of the Executive Director , RCB of the layout of such approaches.

The contractor shall prepare shop drawings of each discipline & get it approved from the Sr. Manager (A&F), RCB before the commencement of work. The contractor shall submit fabrication drawing in triplicate for obtaining preliminary approval of the Sr. Manager (A&F), RCB for all design drawings of structural steel, electrical,. One copy of these drawings duly corrected and signed wherever necessary by Sr. Manager (A&F), RCB will be returned to the contractor for preparing and resubmitting drawings after incorporating the said corrections again in triplicate for final approval. Along with the completion and approval of fabrication drawing, the contractor shall also submit the materials, list, for checking and approval to the Sr. Manager (A&F), RCB. No drawing shall be approved finally without material list. Once the drawing is finally approved, no request for an alternative section will be entertained. The contractor shall also submit

to Sr. Manager (A&F), RCB 4 prints of all approved drawings. Approval of fabrication drawings however will not absolve the contractor of his responsibility for the safety and correctness of the fabrication.

2. <u>CONTRACTOR TO BE LIABLE FOR ALL TAXES ETC</u>.

The rates specified in the tender shall be inclusive of sales taxes or any taxes, toll customs, fees, octroi, royalty, etc. in respect of the contract and the rates shall be firm irrespective of any variation in the prevailing rates of taxes, levies, octroi, etc. and any fresh imposition of any of these by State/Central/Statuary bodies. The contractor shall indemnify the Executive Director against levy of any taxes etc., in regard to this contract and in the even of the Executive Director being assessed for any of the said imports, Executive Director shall have the right to recover the total amount so assessed from the contractor's dues and the contractor shall also be responsible for all costs or expenses that may be incurred by Executive Director in connection with any proceedings or limitation in respect of the same.

3. <u>INSURANCE</u>

3.1 The following insurance cover is to be provided by the contractor in the joint names of the employer and the contractor for the period from the start date to the end of the Defects liability period:

(a) Cover against damage to other people's property caused by the contractor's acts or omission;

(b) cover against death or injury caused by the contractor's acts or omission to:

i) Anyone authorized to be on the site;

ii) Third parties who are not on the site;

(c) Cover against damage to the Works and materials during construction.

i) Policies and certificates for insurance are to be produced by the contractor to the Sr. Manager (A&F), RCB for approval before he a start date given in the contract date and subsequently as the Sr. Manager (A&F) may require.

ii) If the contractor does not produce any of the policies and certificates required, the employer may effect the insurance for which the contractor should have produced the policies and certificates and recover the premiums it has paid from payments otherwise due to the contractor or, if no payment is due, the payment of the premiums shall be a debt due.

iii) Alterations to the terms of insurance may be made either with the approval of the Sr. Manager (A&F), RCB or as a result of general changes imposed by the insurance company with which the insurance policy is effected.

iv) Both parties are to comply with any conditions of the insurance policies.

3.2. No Escalation shall be paid.

3.3 Insurance clause: - The insurance shall be upto the end of the completion of the project. Cover against damage to others people property caused by the contractor's acts or omission to the extent of cost of work done.

Sr. Manager (A&F)
RCB

ANNEXURE – I

DETAILS OF EARNEST MONEY DEPOSIT

(Separately typed preferable computerized and on Tenderer Letter head)

Ref. No. NO. **RCB/BSC/F.152/SAF/2015-16/02** Date:

To,
The Executive Director,
Regional Centre for Biotechnology,
NCR-Biotech Science Cluster,
3rd milestone (towards Gurgaon)
Gurgaon-Faridabad Expressway
Village- Bhankri, Faridabad-121004
(Haryana)

Subject: Earnest Money Deposit (EMD) for the Tender No. NO. **RCB/BSC/F.152/SAF/2015-16/02**

Respected Sir,

I/ We _____ (hereinafter referred to as the Tenderer) being desirous of Biding for the work under the above mentioned Tender document and having fully understood the nature of the work and having carefully noted all the terms and conditions, specifications etc., as mentioned in the Tender document.

I / We feel an immense pleasure to quote our most competitive rates herewith duly signed by me / us. I / We have quoted separately for the systems and the Earnest Money Deposit / s has been submitted separately in Envelop 1;

EMD details

Amount (Rs.) : _____
Instrument Number : _____
Date of issuance : _____
Name of the Bank : _____

Place: (Signature of Tenderer)

Name :_____

Designation : _____

Date: Seal :

ANNEXURE – II

TENDERER'S GENERAL INFORMATION

(To be typed separately & submitted in Envelope No.1)

To,
The Executive Director,
Regional Centre for Biotechnology,
NCR-Biotech Science Cluster,
3rd milestone (towards Gurgaon)
Gurgaon-Faridabad Expressway
Village- Bhankri, Faridabad-121004
(Haryana)

Subject : Tender No.-**RCB/BSC/F.152/SAF/2015-16/02**

1.	Name of Tenderer	_____
2.	Status of Firm	_____
3.	Number of Years in Operation	_____
4.	Registered Address	_____
		_____
5.	Operating Address	_____
	(if different from above.)	_____
		_____
6.	Telephone Number	_____
		[Area Code] [Number]
7.	E-mail Address & Web Site	_____
8.	Tele-fax Number	_____
		[Area Code] [Number]
9.	PAN [Number]	_____
		[Enclosed Copy of 'PAN CARD']
10.	Service Tax Number	_____
		[Enclosed copy of 'Service Tax Registration Certificate]

(Signature of Tenderer)
Date Name : _____
Designation : _____
Place : Seal :

ANNEXURE - III

COMPANY PROFILE

(To be typed separately & submitted in Envelope No.1)

A} Information :	
Name of Company :	
Address of Head Office :	
Contact Person :	
Telephone :	
Telefax :	
E-Mail :	
No. of Branches (Dealers) and their address	
Address for Correspondence :	
Contact Person :	
Telephone :	
Telefax :	
E-mail :	
B} Business Organization : (Please tick wherever applicable & attach all supporting documents)	
Sole proprietorship	
Private Limited	
Public Sector Undertaking	

Limited Company	
Joint Venture	
Others (Please Specify Status)	
C} Business Management :	
Attach Corporate Organization Chart with Name	
D} Total Number of Employees Employed :	
1) At Head Office	
2) At Branch Office	
3) At Site	
E} Is Your Organization a Subsidiary of Another Company?	**Yes/No**
If Yes, of whom?	
F} Financial Capability :	
Annual Turnover Last 3 Years : Attach Balance sheets of last 3 years. Rs. In Lacs	
Projected this year	
Last year	
One year before last year	
Two year before last year	
Three year before last year	
Four year before last year	
Name and address of the bankers with Contact person and contact numbers.	
G} Whether your company hold following certificates:	**Yes/ No**
ISO 9001-2000	
ISO 14001-1996	
H} Are there any Litigations/ Court cases against your company?	**Yes/No**
If yes, give details :	
I} Any other information that you want to give (may attach separate pages)	

ANNEXURE – IV

STAFF DETAILS

Name of the Organization:
List of staff having relevant work experience

Sr. No.	Name	Qualification	Designation	Total Experience in years

ANNEXURE – V

WORK EXPERIENCE

Name of the Organization :

List of works Completed in Last 3 Years

Sr. No.	Name of the Project	Name & Address of the Client	Contact Telephone Numbers of the Client	Major Items of Work*	Value of Work in Rs.	Start Date	Due date of completion	Actual completion Date

Note : 1. If Actual completion date is beyond the Schedule completion Date, please give reasons for the delay.

Note : 2. Attach relevant completion certificates document for works in previous 3 years.

Authorized Signatory

Company Seal

Date :

Place :

ANNEXURE – VI

ITEM SCHEDULE B.O.Q

S.No	Description	Unit	Qty	Rate (Rs)	Amount (Rs)	Appd. Make List
1	**Air Conditioning System.**					
1	**Air-cooled water chilling m/c** complete with multiple scroll compressor and PLC based control unit - 48 TR	Set	2			Carrier /Bluestar / Voltas Eqvt.
1.1	**Inter connectiong piping with chiller water system** ; MS class-C, CHW piping with valves,strainer, fittings with 3 way contril valve actuator and insulation fromExisting Pipeline to Air Handling Units with all accessories					
1.1a	100 NB complete with 20mm Thk. Armacell Pipe sec.	Rmt	35			TATA/Jindal-Hissar
1.1a	80 NB complete with 20mm Thk. Armacell Pipe sec	Rmt	28			TATA/Jindal-Hissar
1.1b	65 NB complete with 20mm Thk. Armacell Pipe sec	Rmt	22			TATA/Jindal-Hissar
1.1c	50 NB complete with 20mm Thk. Armacell Pipe sec	Rmt	22			TATA/Jindal-Hissar
1.2	GI midium class 40 NB Drain pipe with Fitting and 9 mm Insulation	Rmt	35			TATA/Jindal-Hissar
1.2.1	40 NB Ball Valve	No	1			Sant / Castle / Advance
1.2.2	100 NB Butterfly Valve complete with Insulation	No	4			Advance/Castle/ Audco
1.2.2	80 NB Butterfly Valve complete with Insulation	No	6			Advance/Castle/ Audco
1.2.2	65 NB Butterfly Valve complete with Insulation	No	6			Advance/Castle/ Audco
1.2.3	50 NB Butterfly Valve complete with Insulation	No	2			Advance/Castle/ Audco
1.2.4	65 NB " Y" Strainer complete with Insulation	No	2			Sant
1.2.5	80 NB 3 Way Modulating Valve with Actuator including insulation	No	1			Honeywell/Siemens/ Johnson Controls
1.2.5	50 NB 3 Way Modulating Valve with Actuator including insulation	No	1			Honeywell/Siemens/ Johnson Controls
1.2.5	Balancing Valve complete with required thermal imsulation	No	2			Honeywell/Siemens/ Johnson Controls
1.2.6	Air-Flow Switch	No	4			Honeywell/Siemens/ Johnson Controls
1.2.6	Auto Air Vent + 15 NB with Ball Valve	No	4			Honeywell/Siemens/ Johnson Controls
1.2.7	4" Dial Type SS Pressure Gauge with Syphone and Pat-cock	No	4			H.Guru/Taylor/ Emerald
1.2.8	Stem type Temp. Gauge complete with Thermowell (oil filled)	No	4			H.Guru/Taylor/ Emerald
2	**Air Handling Units**					

	Modular Outdoor type Double skin Air Handling Units of 43+/-2 mm thick PUF injected panels with 24 gauge GI inner skin and pre-coated GI outer skin all as per specification including fan with TEFC motor. AHU shall have Air intake louver combined with pre filter (EU-3), Fine Filter section (EU-9), Fine Filter section (EU-9), coil section with CHW 8 Row coil, blower section with DIDW centrifugal fan having static pressure of 140 mm/Wg - With TWIN MOTOR ARRGT.					
2.1	**AHU - 1** : Once Thru AHU with supply air quantity 7500 cfm at 140 mmWG Static pressure - BSL 3 -**(TWIN MOTOR)**	No	1			ZECO/Flaktwoods/Citizen
2.2	**AHU - 2** : Once Thru AHU with supply air quantity 2500 cfm at 140 mmWG Static pressure - Virus Lab (TWIN MOTOR)	No	1			ZECO/Flaktwoods/Citizen
2.3	**AHU - 3** : Once Thru AHU with supply air quantity 5500 cfm at 140 mmWG Static pressure - Animal Holding (TWIN MOTOR)	No	1			ZECO/Flaktwoods/Citizen
3	**Exhaust Air Filtration System**					
3.1	Modular Double skin Exhaust air Filter Housing , with 43+/-2 mm thick PUF injected panels with 24 gauge GI inner skin and pre-coated GI outer skin all as per specification including fan with TEFC motor. EXU shall have extruded aluminium construction, gear operated volume control damper at Air Inlet and outlet, with Micro Vee filter (EU-9), HEPA filter section flange type with HEPA filters,with Bag in-Bag Out arrangement for AHU-1, 2 & 3 **(1W+1S)**	No	6			Thermadyne/AAF/Dyna
3.1	SISW centrifugal fan having static pressure of 140 mm/Wg . Unit shall have Required MS painted base frame and vibration isolator fixing arrangement and Inlet Damper for modulation **(1W+1S)**	No	6			Kruger/Nicotra/ Comefri
3.2	BSC Exhaust air On-line Centrifugal SISW Fan cap. 1500 cfm/80 mm static with direct driven motor and vibration isolation mounting	No	6			Kruger/Nicotra/ Comefri
4.0	**Air Distribution System**					
	GI Ducting complete with MS painted flanges, all joints sealed with RTD silicon sealant with MS painted supports as per IS-266 with Zinc deposition 120gms/sqm.					
4.1	GSS-24 Swg ducting including accessories and Support arrangement	Sqmt.	300			TATA/Jindal-Hissar
4.2	GSS-22 Swg ducting including accessories and Support arrangement	Sqmt.	200			TATA/Jindal-Hissar
4.3	Aluminium Gear Operated volume control dampers for AHU, ducting and exhaust fans	Sqmt.	5			Caryair/Continental/Ravistar
4.4	Duct Insulation with 22 mm thick aluminium foil faced ARMAFLEX and all joints shall be provided with 2" aluminium tape.	Sqmt.	560			Armacell / Armaflex/Vidoflex
4.5	Fuseable link type UL 99 rated Fire dampers at AHUs & EAUs (Supply air and Exhaust air unit)	No	6			Caryair/Continental/Ravistar
4.7	Extruded aluminium powder coated Supply/ Exhaust Air Diffusers with Black Matt Finish VCD	Sqmt.	5			Caryair/Continental/Ravistar

4.8	300 mm UPVC circular ducting, complete with insulation and flexible connections for exhaust air connection from BSC outlet to exhaust air ducting	Rmt	100			ISI Approved
5.0	**Electricals**					
5.1	Main Electrical LT Panel with 200 amps bus bar and sub panels for HVAC, Power System and BSL 3 Lab Equipment. Panels shall have aluminium bus bar and required breakers and necessary tripping arrangement. (Free floor mounted, indoor type, front operated, Top/Bottom cable entry, IP-55 Degree of Protection panels made out of powder coated sheet steel, PVC colour coded. With MCCB and VFD enclosure with ventilation fan. Suitable for AHUs and exhaust units and PDB / LDB, & control system)	Set	1			Radiant/Khokar/Tricolite
	Electrical power Cabling 1.1 KV grade PVC/ XLPE insulated aluminium/ copper conductor armoured/ Unarmoured cables on cable tray.(Copper / Aluminium armoured / Flexible cables), control cables (copper), (for plug points and Poewr Sockets)					
5.2	3.5C x 35 sq.mm Copper Armoured Cable for Incomer	mtr	90			Polycab/CCE/Finolex/ Skytone
5.3	4C x 16 sq.mm CU XLPE Armoured Cable for AHUs and EXU	mtr	60			Polycab/CCE/Finolex/ Skytone
5.4	4C x 6 sq.mm CU XLPE Armoured Cable	mtr	90			Polycab/CCE/Finolex/ Skytone
5.5	4C x 4 sq.mm CU XLPE Armoured Cable	mtr	70			Polycab/CCE/Finolex/ Skytone
5.6	3C x 1.5 sq.mm. Flexible CU Cable	mtr	200			Polycab/CCE/Finolex/ Skytone
5.7	Variable Frequency Drive **(VFD)** ACS 510 with IP 55 protection and enclosure - ABB	Set	12			ABB / Danfoss
5.8	Supplying all the fitting materials, cutting, peeling, terminating and connecting cable with cable gland and crimped aluminium lugs in respective Feeders, Equipment's	Job	1			
5.9	Supplying and fixing of GI cable trays including steel supports with GI nut and bolt, bend, TEE joint, reducer, coupler and all necessary accessories etc. in the following sizes.					
5.10	40x150x40x2mm	mtr	60			Indiana/Profab/ PTC
5.11	25x50x25 x 2mm	mtr	76			Indiana/Profab/ PTC
5.12	GI Earthing Strip 25 x 3 mm	mtr	60			Indiana/Profab/ PTC
5.13	PVC Conduit for cable laying above false ceiling	mtr	120			Indiana/Profab/ PTC
5.14	PVC insulated Copper earthing green wire 4 mm^2 Single Core	mtr	150			Finolex/Polycab/National
5.15	UPS-minimum 20 minute full backup	No.	1			APC
6.0	**BSL3 LAB PROCESS EQUIPMENT**					
6.1	**Class II, Type B2 Biosafety cabinet for the various labs as per specification appended below of size 4' & 6':**	Nos.	6ft hoods (4) and 4 ft hoods (2)			**Esco/ Labconco/**
a)	Nominal inflow & downflow velocity should be 105 & 55 FPM respectively with 0% air recirculation					
b)	Built in interval or elapsed timer for experiment monitoring with UV light control					
c)	Filter monitoring system consisting of ECM that					

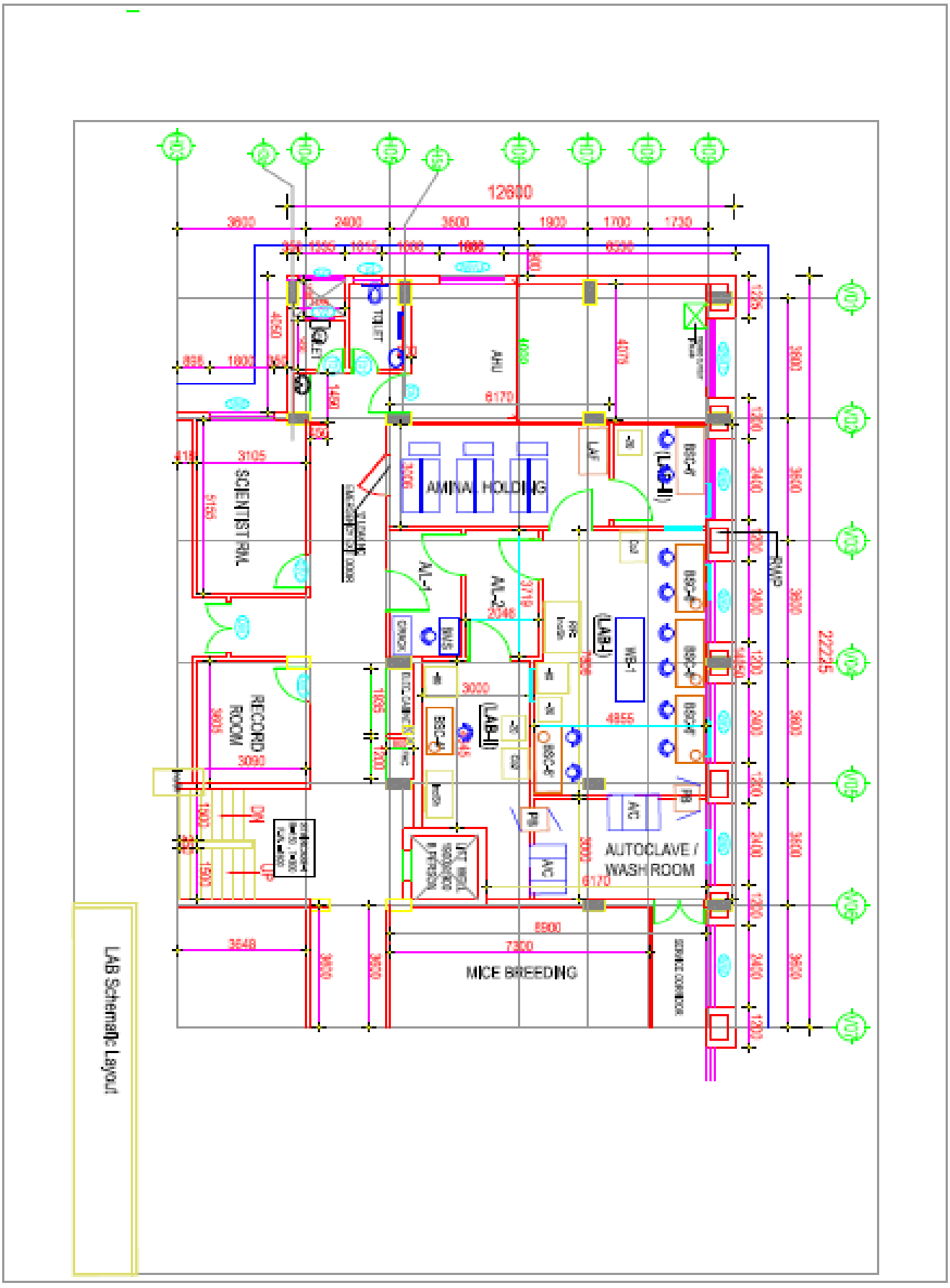
	delivers a precise volume of air as required and automatically adjusts as filter loads w/o relying on airflow sensors					
d)	Touchpad control for manual activation of accessories					
e)	Epoxy coated steel exterior and radiused type SS304 interior					
f)	Class 5 conditions as per ISO 14664-1 & 2 with supply & exhaust 99.99% efficient HEPA filters					
g)	Smart start system that allows user to program start up & shut down operation					
h)	Interior mounted, line of sight LCD information center with "Filter life remaining" bar graph, status line for alarm conditions and alerts to warn when filter life diminishes to 20%, 10% & 0%.					
i)	Curved SS inlet grille with reverse air secondary airflow slots					
j)	Bio safety cabinet should be instrinsically safe negative pressure design. Exhaust ducting with blower from each bio safety cabinet to outside the building and its connection with bio safety cabinet should be the responsibility of original equipment supplier and all joints should be properly sealed with RTV sealent to avoid leakages.					
6.2	**Double door vertical steam sterilizer with bio-seal in SS construction - Capacity 185 Ltrs, complete with**	Nos	2			**Nattsteel/Steris**
a)	High Pressure Horizontal Rectangular Sterilizer, with double vertical sliding doors, fully automatic					
b)	Chamber size 450mmx450mmx900mm					
c)	Normal working pressure 1.2 Kg/Cm2 corresponding to Temp. 121 Deg C and 2.1 Kg/Cm2 to Temp. 134 Deg C					
d)	Sterilizer operation should be PLC controlled with pre-selected programs, micro-processor based control for controlling entire cycle of sterilization, Digital display fromt panel should provide online information about; Chamber temp. / Cycle No. / Batch No, / Alamr with summery / Time & Date / Error code and low water indicator					
e)	Self sterizing vacuum drier with safety valve spring loaded with vacuum breaker					
f)	Chamber discharge line should be with steam trap and swing check valve					
g)	In-built Steam Generator in SS 316 quality and automatic water filling mechanism					
h)	Unit should be incorporated with ring vacuum pump to creat vacuum of 24"Hg. When the Temp. of cooling water is less than 30 Deg C.					
i)	In built computer system with 2 line display of pressure, temp, cycle etc. with graphic 6 channel recording device and pronter that will automatically and continusly monitor and record process data.					
j)	Accessories like SS loading and unloading trolley arrangement should be included					
6.3	**Individually Ventilated system (IVC) Cages for mice and guinea pigs**	Nos	3			

a)	Air handling unit should be independent and mounted on the rack					
b)	Provision to link two or more racks to air handling unit					
c)	Air handling unit should provide 60-80 Air change/hour					
d)	HEPA filters should be DOP tested. The efficiency level of the filter should be 99.999% to prevent 0.3 micron particles.					
e)	The system should have built-in safety devices/alarm indicating system failure. Filter chocking etc					
f)	Noise level generation by the equipment should be less than 65 decible					
g)	The total height of the rack not to exceed 7 feet					
h)	Racks should be stainless steel AISI304					
i)	Each rack should accommodate 48 cages in a single side and 96 cages in double side mode					
j)	Cages should be made of polysulphone or equivalent material and should be transparent enough to reveal the contents inside.					
k)	Ability to withstand autoclaving at 121 degree centigrade					
l)	Nozzle of water feeding bottles should be leak proof					
7	**BSL 3 lab interior & clean room**					
7.1a	Clean room **Wall Panel** system 80 mm thick as per specification complete with concealed conduits for power socket, data, telephone points and necessary cut-outs for double gazed view panels and doors	m2	220			Icleantech/GMP/Fabtech
7.2	Double skin, PUF infilled, Walkable Clean room **Ceiling** system 44 mm thick , including necessary utility cut-outs duly concealed, as per specification	m2	136			Icleantech/GMP/Fabtech
7.3	Polyvinyl-Antistatic Wonderfloor Vinyl flooring made from polyvinyl chloride (PVC or Vinyl) 2.5 mm Thk. All joints fusion welded (Roll sections should be used in-place of tile for lesser joints)	m2	145			Wonderfloor / RMG/Deco
7.4	R-45 PVC progressive floor to wall coving suitable for Vinyl floor finish	RMT	150			Wonderfloor / RMG/Deco
7.5	Wall to ceiling and Wall to wall coving with Extruded aluminium powder coated (R= 50) clutch-coving with silicon finish	RMT	280			Icleantech/GMP/Fabtech
7.6	Clean room compatible Single Leaf Doors 1000 (W) x 2100mm (H) as per specification with door closure, SS-'D' handle, Push plate and kick plate along with 480x750 double glazing view pane & Drop-seal	Nos	6			Icleantech/GMP/Fabtech
7.7	Clean room compatible double Leaf Doors 1200 (W) x 2100mm (H) as per specification with door closure, SS-'D' handle, Push plate and kick plate along with 480x750 double glazing view pane & Drop-seal	Nos	1			Icleantech/GMP/Fabtech
7.7a	Clean room compatible Single Leaf ***Emergency Doors*** 900 (W) x 2100mm (H) as per specification with door closure, SS-'D' handle, Push plate and Panic Bar & Drop-seal	Nos	1			Icleantech/GMP/Fabtech
7.8	Double glazing windows with 5 mm thk toughened glass fitted (900x1000), as per	Nos	8			Icleantech/GMP/Fabtech

	approved drawings.					
7.9	Double glazing windows with 5 mm thk toughened glass fitted (1000x1000), as per approved drawings.	Nos	1			Icleantech/GMP/Fabtech
8	**Power sockets & Lighting arrangement**					
8.1	Cleanroom Light fixtures : BSL lab compatible, 'O' leak, fitted with 5 mm Thk Toughened Glass, 2 x 36 watts CFL top opening type with electronic ballast with; Housing : CRCA powder coated frame-less Lens: To provide Toughened glass with 3 M adhesive tape (to be fixed inside the opening provided in 60 mm ceiling) Reflector : Preanodized imported aluminium Ballast : Philips electronic with pf>0.98 & THD < 10 %	Nos	40			Optico/Superlite
8.2	Light fixtures : 2 x 36 watts FTL for plant room & General area above False ceiling	Nos	12			Phillips/Wipro/Haveills
8.3	4 Module Box with inner plate and SS outer plate, suitable for 1 no 5/15 amp. Socket + 2 Nos. 15 amp. Switch (for power socket and light)	Nos	40			N W / Crabtree
8.4	Room communication port/socket with RJ 11 & RJ 45 and 2 core CAT 5 cabling for communication from BSL 3 lab	set	8			N W / Crabtree
8.5	Lighting DB/ Power DB with MCBs / MCCBs	Nos	4			Siemens/Schneider/L&T/GE
9	**Automation & Access Control system**	Set	1			
9.1	BACKTalk Programmable Logic Controller - VLC	Set	0			Alarton/Johnson control
9.2	BACKTalk View port operator Terminal	Set	0			Alarton/Johnson control
9.3	DDC panel Enclosure Powder coated wall type with Transformer, MCB & terminal block	Set	0			Alarton/Johnson control
9.4	Duct mounted Air velocity sensor	Set	0			Alarton/Johnson control
9.5	Exhaust duct Temperature sensors	Set	0			Alarton/Johnson control
9.7	Access control & 3 - Door Interlock system with Electromagnetic Strike lock unit + Egress Button and 10 nos Access Proximity cards	Set	2			Alarton/Johnson control
9.8	Digital Differential Pressure Display unit at Entry door	Set	2			Alarton/Johnson control
9.10	Control & Communication cabling with termination.	Job	1			Finolex/National/Polycab
10	**Construction & foundations**					
10.1	Dismantling and removal complete with cleaning of site, of existing installations, Related Civil work including RCC Foundations for HVAC & Electrical equipments on ROOF TOP, including, AHUs, EXUs, BSC EX Fans, MCC Panel, with Structural supporting structures AND HANGERS FOR DUCT INSTALLATION	Set	1			
11	**Bsl 3 lab Testing, Validation & SOP**					
11.1	Validation, Testing and Documentation of ABSL 3 Lab Facility	Lot	1			
11.2	Operation manual (SOP)	Set	1			

	Total:					
12	**OPERATION & COMPREHENSIVE MAINTENANCE -** EXCLUDING LAB INSTRUMENTS NOT IN VENDOR'S SCOPE AS SPECIFIED IN B.O.Q					
12.1	Operation & comprehensive maintenance of all services covered in this tender and installed in the BSL 3 facility, in-which minimum Two skilled technician for 2 Shift & One skilled technician for 1 Shift (during Night) with periodical supervision by experienced Senior Engineer. for the running of facility on 24hrs. x 7days x 365 days (3 Years from date of handing over to THSTI after successful validation)	Year	1			
12.2			2			
12.3			3			
	Total:					
	Gr. Total:					
NOTE: PRICE QUOTED SHOULD BE INCLUSIVE OF ALL 'TAXES & DUTIES'						

DRAWING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AL-2
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AUTOCLAVE / WASH ROOM
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LAB Schematic Layout