



भारतीय विज्ञान शिक्षा एवं अनुसंधान संस्थान पुणे

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH (IISER), PUNE

Main Building, IISER Pune Campus Dr. Homi Bhabha Road, Pune : 411 008

Tender for " Construction of Hall of Residence for Women Research Scholar at IISER ,Pune."

NIT Number: 21/IISER/PUNE/2016-17

Date of Issue : 8.3. 2017

### MINUTES OF PRE-BID MEETING

Pre bid Meeting Held at Office of IISER-Pune on 7 March, 2017 at 11.00hrs

IISER PUNE	M/S CRN	Representatives of bidders
1. Er. Y. S. Rajput, SE IISER PUNE	1. Arch. Manjusha	As per attendance sheet.
2. Er. C. B. Bhoyar, EE IISER PUNE	2. Er Yadav	

Pre bid Meeting for the above work was held at 11 00 hrs on 7 3 2017 at 11 00 at IISER Pune in the presence of above said members and representative of the bidders. The original tender document, terms and conditions uploaded on website shall stands modified to the extent of modifications defined in this MOM including attached Annexures & this MOM shall form part of tender document. Bidders are requested to take note of modifications & work out their market rates considering the modifications listed in the MOM and terms and other terms and conditions in the bid documented. Accordingly bidders should work out % above or below the estimated/modified gross cost put to tender and quote accordingly. Soft copies of MOM are uploaded on <https://eprocure.gov.in/eprocure/app> & IISER Pune website. The following points raised by the intending bidders were discussed and clarified to the bidders by IISER Pune.

Sr No	Ref. to NIT / BOQ	Points Discussed	IISER Clarification
1	BOQ/ Page 2 / Item No 5	The Item involves cutting of existing trees which needs permission from the Tree Authority. It is assured that IISER shall obtain all necessary permission for the same.	There are no grownup trees. In case any permission is required, it shall be obtained by IISER Pune.
2	BOQ/ Page 2 / Item No 6	The Item for excavation is for depth not exceeding 30 cms. However, the same item mentions about lift of 1.5 m. Kindly clarify.	It is standard item as per DSR, 2016. Pl refer to CPWD specifications 2009 Vol -I for details.
3	BOQ/ Page 4 / Item No 11	Kindly clarify the significance of lead up to 50 m and lift up to 1.5 m for supplying, spreading and compacting of Murrum.	Lift and leads are for manual leads and lifts at site of work.
4	BOQ/ Page 6 / Item No 17.2	Kindly provide the thickness of concrete to estimate the cost of vacuum dewatering process and groove etc on cum basis.	Pavement thickness shall be 15mm to 200mm depending upon the location of the pavement at site.
5	BOQ/ Page 14 / Item No 35.5	Kindly provide detail size of SS handle.	DormaTG 9355 SS 300 mm long.
6	BOQ/ Page 14 / Item No 36	Kindly clarify where all these door fittings located.	These fitting may be used for the doors shutters for offices etc at GF.
7	BOQ/ Page 21 / Item No 39.2	The item for a door of 1500 mm height, four hinges have been specified, kindly checked.	These are shaft door shutters with double shutters. Hence four hinges are required.
8	BOQ/ Page 24 / All Items of flooring	(i) Kindly provide basic rates of all these items considering the tremendous price variation. (ii) The readily available Granite in market is about 15-16 mm thick and not 18mm as described in various granite items. Kindly consider.	Quality of tiles have been specified in the item. Bidders are requested to quote accordingly. No change in BOQ item. For permissible variations please refer to CPWD specifications 2009 Vol-I.
9	BOQ/ Page 32 / Item No 78.1 & 79.1	Kindly allow rough Shahabad stone in lieu of rough kota stone as Shahabad is widely available in this part of the country.	Green shade Tandoor stone can used in place of Kota stones. Bidders should quote their rates accordingly.
10	BOQ/ Page 38 / Item No 95	Width of the expansion joint may please be kept unique. Rate vary considerably on the exact width.	Width of expansion joint is 110mm.
11	BOQ/ Page 60/ Item No 125	The item is for 20mm to 110mm nominal dia CPVC pipes. However, the item reads "(Internal Work- Exposed on walls (Vertical pipes). Kindly let's know the internal location of these pipes.	These pipes shall be laid on toilets shafts.
12	BOQ/ Page 61 & 62 Item No 130-132	The title for both the items is identical i.e. for brass diaphragm PR valves but the rate for 32 dia and 40 dia valves are considerably different in the two items. Kindly clarify.	BOQ Item No 132 page 62 shall stands deleted. Total cost of work put to tender shall stand modified to extent of total estimated amount of item No 62 i.e. (-) Rs.80884/- and gross estimated cost put to tender shall stand modified to Rs. 43,54,87,272/-

Sr No	Ref. to NIT / BOQ	Points Discussed	IISER Clarification
13	BOQ/ Page 63 Item No 138	There is wide rate difference in the cost of SFRC covers and C.I. covers. Kindly specify any one of them. If SFRC covers are required, kindly provide whether Heavy Duty, Medium Duty or Light Duty covers. In case of C.I. covers, kindly specify weight of frame and lid.	SFRC covers medium duty shall be used. C.I Cover stands deleted from BOQ item nomenclature.
14	BOQ/ Page 65 Item No 144.1	Pressure gauge has been mentioned in the main description of the item but the rate is asked for temperature gauges. Kindly clarify.	Temperature gauge shall stands substituted with Pressure gauge.
15	BOQ/ Page 66 to 92 Electrical, fire fighting, fire Alarm.	Kindly provide the drawings and the single line diagrams (SLD) for these items.	Soft copies of the SLD attached with MOM.
16	BOQ/ Page 88 to 92 Fire Alarm system.	Kindly specify the few approved makes.	Approved makes specified as per Annexure A- attached with MOM.
17	Volume-I / Page no 8 / NIT	It is assumed that hard copies except for EMD documents are not required. Kindly clarify when hard copy of EMD is to be submitted in the required format.	Hard copies of eligibility documents, EMD details as per NIT shall be submitted to IISER within a week time after the last date of submission of bid documents.
18	Volume-I / Page no 12 / Cl. No. 10.1	Kindly allow part of EMD (Rs 20 Lacs) in the form of FD also in lieu of NEFT	Hard copies of the EMD and BG may be submitted with a week time after submission of the bids.
19	Volume-I / Page no 13 / Cl. No. 12.3	The time provided to prepare for the pre- tender meeting is too short. Kindly allow one more week to raise queries after pre-tender meeting.	No change in the tender conditions.
20	Volume-I / Page no 28 / Integrity pact	Kindly clarify whether the Integrity Pact is to be submitted on plain paper or stamp paper. If on stamp paper, the denomination may please be specified.	As a special case, Query if any may be raised till one day before the start of bid submission date & time as specified in the NIT.
21	Volume-I / Page no 40 & 41 and Page no. 215,216 / List of machinery	The list contains many items which cannot be hired for the required period for time to time. Also, RMC as per required specifications can be obtained from RMC suppliers along with pumping system. Hence it is requested not to insist upon such machines. Also the list provided for 5 bar cutting and bending machines, which are not required at all. The quantum of machinery may please be reduced to actual requirement.	Integrity Pact signed on Plain paper will suffice. L-I bidder to submit the Integrity pact on stamp paper as per NIT.
22	Volume-I / Page no 42 to 44 / List of Lab equipment	Same as above.	Provision of boom placer stands deleted from the list of minimum machinery required to be deployed at site. Bar cutting machine quantity shall be reduced from 5 Nos to 2 Nos.
23	Volume-I / Page no 45 / List of documents to be uploaded/ Sr. No. 13	Kindly clarify whether Vol. I, II & III are needed to be scanned and uploaded?	
24	Volume-I / Page no 147 / Milestones	The provision of 60 days for entire pile foundation appears to be totally inadequate. Kindly consider.	They needs to be uploaded as it is i.e. without scanning. Only eligibility documents and Performa as per NIT along with EMD etc. should be scanned and uploaded on e-tender portal.
25	Volume-I / Page no 165 / Cl. 28.1 Cb parameter for M-30 grade concrete.	The relevant item(Page 7), Item No. 18) note provides specially for OPC, 43 grade cement and 20% fly Ash while these parameter says OPC 43 grade or higher and fly Ash 20% or more. Kindly clarify.	Work requires to be executed without any time overrun and hence there is no change in these milestones.
26	Volume-I / Page no 173 / Cl. 30.1	The last para of the clause denies any compensation against statutory rise in duties / taxes such as quarry fees, Royalties, Excise duties and other duties / levies on material brought by the contractor. Such totally unfair provisions may please be reconsidered.	Minimum OPC cement quantity is 345 kg and fly ash 20% or more as per mix design.
27	Volume-I / Page no 173 / Cl. 30.2 & 30.3/ S.T. & VAT	It is sincerely felt that some provisions needs to be made for possible introduction of GST by the Union Govt. Also, the Service Tax is applicable to all works including government projects w.e.f. 01.03.2015. Hence kindly provide the service tax extra on quoted rates.	Statutory Changes in Taxes by the Central Govt. than the present tax structure shall be suitable accounted for.

Sr No	Ref. to NIT / BOQ	Points Discussed	IISER Clarification
28	Volume-I / Page no 194 / Bore details table	It is assumed that the bores in block letters i.e. BH-10, BH-11, BH-12, BH-13 and BH-15 for Hostel block 2 and 3 are the specified bores representing the proposed work in this tender. Kindly provide the bores on plan write the proposed building.	Service tax is not to be included in the quoted rates and shall be dealt as per tender provisions.
29	Volume-I / Page no 201 / Net safe bearing capacity table	If the above assumptions is true, it is felt that open foundation is feasible as per bore log data. Kindly clarify.	Bore hole details specific to the site of Hall of residence are attached herewith for reference. Bidder has to work out cost according to the BOQ items.
30	Volume-I / Page no 203 to 213 / List of approved makes	Kindly add the following agencies 1) Fire Doors – Navair International, Anjali Enterprises, Radiant Doors, Abaq 2) Flush Doors – Anand Wood Craft, Shreeji Doors, 3) Door Fittings – Shalimar, Magnum 4) Lifts – ThyssenKrupp, Johnson.	No Change in the bOQ items and tender conditions.
31	Date of submission	Kindly extend the date of submission at least 10 days after receipt of clarifications.	Since the work is time bound, Competent authority did not agree for the change in the bid submission date.

Sr No	Ref. to NIT / BOQ	Points Discussed	IISER Clarification
1		Use of M- Sand for Concrete Work and Brick Work	Crush sand with required grading shall be used for brick work. Plaster work shall be with river sand only.
2		Addition of Jindal Steel TMT Bars in list of approved makes for Steel reinforcement works.	JSW steel shall be approved make for TMT bars.
3		Extension of due date of submission by 2 weeks as Holi Festival is approaching therefore not able to get the require quote from vendors.	Since the work is time bound, Competent authority did not agree for the change in the bid submission date.
4		Space availability for batching plant and labour hutment besides the location of building.	RMC plant shall be installed within the site plan showing the barricading marking. Labour camps shall be outside the campus and bidder shall make his own arrangements for the same and quote their rates accordingly.
5		As per Government Notification GST will be applicable from 1 <sup>st</sup> July 2017 therefore difference of tax structure if any should be payable	Statutory Changes in Taxes by the Central Govt. than the present tax structure shall be suitable accounted for.
6	DETAILS OF CONSTRUCTION PLANT AND EQUIPMENT LIST OF APPROVED MAKES – Page No-205. Point No.3- Ready Mix concrete a. ACC b. Ultra tech c. Lafarge	1) We have approved contractor and listed manufacturer & supplier for “READY MIX CONCRETE (RMC)” Batching Plant by Military Engineering Services. (Enclosed herewith Approved letter for your ready reference) 2) Also we have owned Automatic Concrete batching plants with silo electrically operated with DG Backup, Automatic Load Cell Weigh batching system (Minimum Capacity 30 Cu. M. per hour). Please allow us our RMC Plant	RMC plant is required to be installed inside the IISER campus.
7	Period of Completion 20 Month	20 Months construction period is not sufficient please allow at least 30 months for construction period.	This project is time bound and No change in time period is allowed.
8	Page No 40 / Plants and Machineries	About plant and machinery Page no 40, Annexure II of tender documents says that minimum required batching plant of capacity 30 Cum/Hr whereas, in same document page no 217 is saying batching plant capacity of 60cum/Hr. :- Considering the concrete quantity @ 8000 cum. If we plan to complete this within 12 months, we need only 666 cum of concrete per month and if we consider working days of month as 20 days, we need only 33 cum of concrete per day, so batching plant of capacity 20 cum will also be sufficient as it will run only for 2 hrs in day which is an underutilization considering the cost of machinery and its setup cost. Also the 60 cum batching plant along with two transit mixer shall need about one Acre of land to have proper setup and movement of transit mixers. So we request to please relieve this condition.	RMC plant with minimum 30 cum/hr capacity or more shall be allowed to be installed inside the campus. However IISER Pune reserve the right to allow RMC concrete from outside IISER Pune campus only from reputed RMC plants to be approved by Engineer in charge.
9	Page No 40 / Plants and Machineries	About plant and machinery page no 40, Annexure II of tender documents says that requirement of boom placer and concrete pumps 2 nos:- As said earlier considering the quantity of concrete, the concrete pump of 30 cum/Hr is sufficient for the purpose. So we request you that to relieve the requirement of boom placer.	Minimum capacity shall be 30 cum/hr. No change
10	BOQ Sr. No. 17 / Concreting	For concreting, BOQ item says that providing and laying Ready Mixed Concrete and as per condition of Annexure II says requirement of batching plant:- please guide us on this which has to be used or both are permissible.	Ready mix concrete shall be used from RMC plant installed inside the IISER campus by the bidder.
11	BOQ Sr. No. 26 / Masonry work	For masonry work we want to explore the possibility of use of AAC blocks instead of Fly-Ash bricks which helps in speedy construction almost at similar cost as well as if fixed with chemical mortar needs very less curing help in saving water which is now a days the important. This also carries points under Griha norms.	No change in the BOQ item.

Sr No	Ref. to NIT / BOQ	Points Discussed	IISER Clarification
12	BOQ Sr. No. 64 / Plaster Work	In finishing work plastering the item says that use of fine sand since as stated earlier about the scarcity of natural river sand, we request you to consider to use of ready mixed plaster like green building product or gypsum plaster which requires no pre or post curing and carries points under Griha norms.	Not agreed. River sand is required to be used for plastering and waterproofing items works.
13	<a href="https://eprocure.gov.in/eprocure/app">https://eprocure.gov.in/eprocure/app</a>	Under which organization tender is uploaded on e-procure website.	<a href="#">CPPP portal.</a> <a href="https://eprocure.gov.in/eprocure/app">https://eprocure.gov.in/eprocure/app</a>
14	A part of earnest money is acceptable in the form of bank guarantee also. In such case, 50% of earnest money or Rs. 20 lakh, whichever is less, will have to be deposited in shape prescribed above and balance in shape of irrevocable Bank Guarantee from a Scheduled Bank and shall be valid 90 days after the validity of the offer (as per standard proforma attached).	We request you to accept the 100% EMD amount in the form of BG	No change in tender conditions.
15	Annexure-II: Plant and equipment required to be owned /taken on lease by the contractor and required to be deployed at site for speedy construction within given time frame	Can we deploy plant and machinery as per our requirement and duration. We will ensure the speedy and quality of work please confirm.	No change in the tender conditions.
16	CLAUSE 31 Departmental Water Supply, if Available : - The water charges @ 1% shall be recovered on gross amount of the work done.	We request you to water charges 0.25% of CV	No change in tender conditions.
17	Make List	We request you to add the following make also 1) Cement – Vasavdatta 2) Steel – Arcelor Mittal	Additional make of cement -Vasavdatta is approved. No change in makes of steel.
18	Site Infra	Please confirm the space for batching plant, labor hutment, office, material storage will be provided at free of cost.	No space for labour hutments. Optimal open Space for RMC plant and storage of materials shall be provided free of cost.
19		We request you to provide the BOQ and drawing in soft copy.	BOQ and drg are already loaded on e-procure portal. You can download the same.
20		Please provide the schematic drawing for electrical, fire and plumbing.	Schematic drawings are attached with this MOM.
21		Please provide the site plan for the logistic plan & barricading measurement.	Logistic plan and hard barricading with pre-coated G I sheets and M S pipe framework for supporting hard barricading shall be provided by the bidder before taking up the work at site. Suitable approach roads from the IISER Pune periphery road shall also be built by the bidder for proper entry of vehicular traffic. Bidder need to deploy Security officer at IISER entry gate to regulate and authorise the entry of his men and materials as per directions of the Chief Security officer IISER Pune. Bidder shall quote his rates after considering the cost of the above overheads. Nothing extra shall be payable over his quoted rates.
22	Estimated Rate.	Please confirm the estimated rate is as per DSR 2016 of DSR 2017	Estimated rates put to tender are as per DSR / estimated market rates as applicable and should not be taken as prevailing market rates of the items. Bidders are requested to workout their current prevailing market rates for each BOQ item and after working out the total bid amount based on their market rates shall workout the overall % above or below the estimated/modified gross cost put to tender. Gross estimated cost put to tender is just approximate cost and should not be considered as actual market cost of construction. Bidders are requested to workout their total cost of construction after working out prevailing market rates of each item and then quote for the tender accordingly. No claims whatsoever shall be entertained by IISER Pune about the reasonableness/correctness of the estimated rates of any item put to the tender by IISER Pune.

Sr No	Ref. to NIT / BOQ	Points Discussed	IISER Clarification
23		We have to quote the price excluding the Service Tax, VAT & cess please confirm the same.	No change in tender conditions. Quoted rates shall be inclusive of all taxes VAT but excluding service tax as already defined in the bid documents.
24	New Tax	In case the changes or additions in Govt. Taxes, duties, levies etc.. Same shall be reimbursed at us actual please confirm.	Statutory Changes in Taxes by the Central Govt. than the present tax structure shall be suitable accounted for.
25	<b>Sec. I, 2© Nie-T, Tender Documents :</b> Should not have incurred any loss (profit after tax should be positive) during the immediate last two years consecutive balance sheets ending 31st March,2016 duly certified and audited by the Chartered Accountant.	<b>Relaxation Request</b> The financial soundness is judge on the basis of Net worth and Turn over and not on the basis of profitability. The balance sheet reflects all expenditure including for BOT project executed. This shows impact on financial ratios. As we are in the process of selling our BOT assets, this impact is bound to be changed. <b>Relaxation request on Turnover and Net worth.</b>	This project is a time bound project being financed by non Govt. Sources and your request for relaxation of tender conditions can not be considered.
26	BOQ Item No. 17.1	<b>Description as per BOQ :</b> M-10 grade cement concrete by using minimum <b>220 kg</b> of OPC cement ( 43 Grade) per cum of concrete as per IS standard plus fly ash up to 20 % confirming to Grade I of IS 3812 (Part-I) with uniform blending with cement in accordance with clauses 5.2 and 5.2.1 of IS 456:2000. ( Quote rate shall be inclusive of cost of all the materials, labour, machinery, all taxes, royalty and octroi etc.)	BOQ item No 17.1 stands corrected as : M-10 grade cement concrete by using minimum <b>180 kg</b> of OPC cement ( 43 Grade) per cum of concrete as per IS standard plus fly ash up to 20 % confirming to Grade I of IS 3812 (Part-I) with uniform blending with cement in accordance with clauses 5.2 and 5.2.1 of IS 456:2000. ( Quote rate shall be inclusive of cost of all the materials, labour, machinery, all taxes, royalty and octroi etc.)
27	BOQ Item No. 27:	<b>Description as per BOQ :</b> Super structure above plinth level up to floor five level with Cement mortar 1:6 (1 cement : 6 coarse sand) with PPC 43 grade cement having Fly ash content not less than 30%.	BOQ item No 27 stands modified as: "" Brick work with non modular fly ash lime bricks (FALG Bricks) conforming to IS:12894-2002, class designation 60 average compressive strength brick size 225mmX150 mmx height 80 mm to 100 mm high for brick wall thickness 150 mm in Super structure above plinth level up to floor five level with Cement mortar 1:6 (1 cement : 6 coarse sand) with PPC 43 grade cement having Fly ash content not less than 30%.
28	Vol. I/ Technical Bid / Submission of Bid	<b>Extension for the submission of bid</b> Bid Submission Close Date : - 17.03.2017 up to 15:00 Hrs. Opening of Technical bids : 20.03.2017 at 15:30 Hrs	No change in the bid submission dates.
<b>"MOM Note:</b> The original tender document, terms and conditions already uploaded on website shall stands modified to the extent of modifications defined in the MOM including attached Annexures & the MOM shall form part of tender document. Bidders are requested to take note of above modifications & work out their rates and accordingly work out % above or below the estimated/modified gross cost put to tender. Soft copies of MOM are already uploaded on <a href="https://eprocure.gov.in/eprocure/app">https://eprocure.gov.in/eprocure/app</a> .			

## Annexure- A

## ADDITIONAL APPROVED MAKE OF MATERIALS

## IBMS

S.No.	Material	Make
1	Fire Alarm System and related components(UL)	a.Notifier, b.Edwards (EST), c. Siemens d.Honeywell
2	Database server to be supported	a.Microsoft SQL, b.Oracle latest version
3	Operating system to be supported	Windows@ latest version Server
4	Access Control System controllers and software	a. Honeywell b. Siemens c. GE d. HID e. DDS
5	Card Readers	a. HID
6	Smart card	a. HID
7	Electro Magnetic Lock & Magnetic Contact	a. Faraday, b. Insyn, c. Trimec, d. Bell
8	Emergency Break Glass	a.KAC, b. Sentrol, c. Europlex, d.Honeywell
9	Door Contact	a.Ademco b.Sentrol c.Bell
	<b>CCTV SYSTEM</b>	
	Cameras, & DVR	a.Pelco,

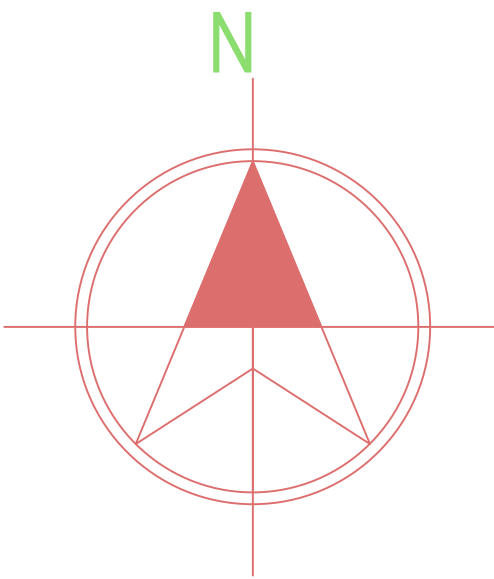
Sr No	Ref. to NIT / BOQ	Points Discussed	IISER Clarification
	11		b.Bosch c.,GE d.Honeywell, e.Siemens
	12	LCD Television (CCTV)	a.Samsung, b.Phillips, c.Hitachi, d. sony
		<b>PUBLIC ADDRESS SYSTEM</b>	
	13	Ceiling, Wall Mount, Column Mount	a.Bosch, b.Ahuja, c.Onkyo
	14	DVD Player	a.Phillips, b.Sony, c.Panasonic
	15	Speech Processor (Voice Recorder)	a.Visionic b.Bosch, c.Ahuja
	16	Emergency Voice Communication System	a.Bosch, b. HEI , c.Ahuja
	17	Cables	Teleflex/Versha/Finecore/Nicco/Finolex



PROPOSED VISITOR'S CAR PARKING

EXISTING PERIPHERAL ROAD

# PROPOSED HALL OF RESIDENCE FOR GIRL STUDENTS



IISER,PUNE



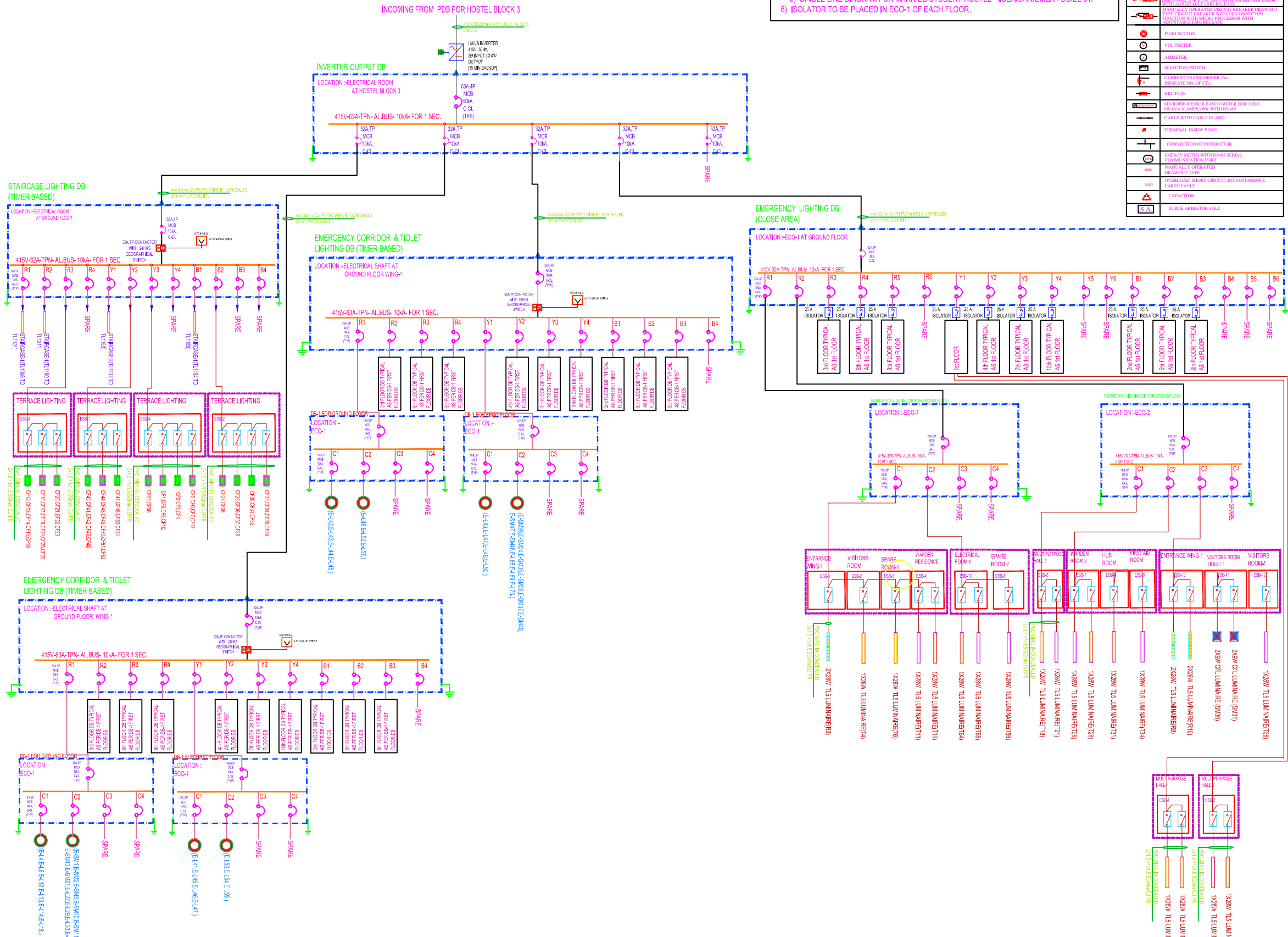











**\* NOTES \***

- 1) ALL MEDIUM VOLTAGE PANELS (433V, 3PH, 50HZ, 4 WIRE ) SHALL BE AS PER IS 8623/1993 OF FACTORY ASSEMBLED SWITCH BOARD.
- 2) IP DEGREE OF PDB OF HOSTEL BLOCK-3 SHALL BE IP52 AS PER IS 13947/CPWD SPECIFICATION.
- 3) DOOR MOUNTED ROTARY HANDLE SHALL BE PROVIDED FOR MAIN PDB.
- 4) REFER TENDER BOQ & CPWD TECHNICAL SPECIFICATION FOR ALL LT PANELS.
- 5) THIS DRAWING IS TO BE READ IN CONJUNCTION WITH FOLLOWING REFERENCE DRAWING.
  - a) LAYOUT FOR TYPICAL ROOM FOR HOSTEL BLOCK-3 - IISER /CRN/EMEA/EL/HB3/03.
  - b) LAYOUT FOR GROUND FLOOR FOR HOSTEL BLOCK-3 - IISER/CRN/EMEA/HB3/EL-04.
  - c) LAYOUT FOR TYPICAL FLOOR FOR HOSTEL BLOCK-3 - IISER/CRN/EMEA/HB3/EL-05.
  - d) LAYOUT FOR GROUND FLOOR FOR MARRIED STUDENT HOSTEL -IISER/CRN/EMEA/MSH/EL-03.
  - e) SINGLE LINE DIAGRAM FOR MARRIED STUDENT HOSTEL - IISER/CRN/EMEA/PDS/EL-01.
  - f) ISOLATOR TO BE PLACED IN ECO-1 OF EACH FLOOR.

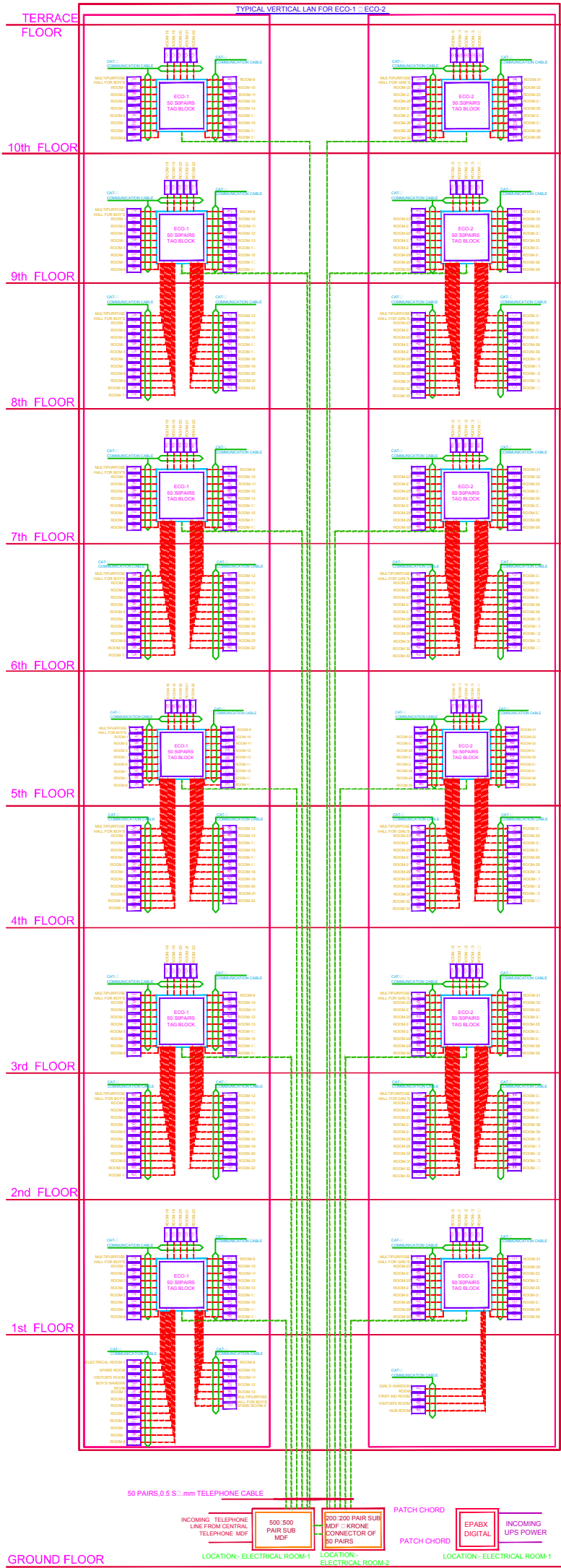
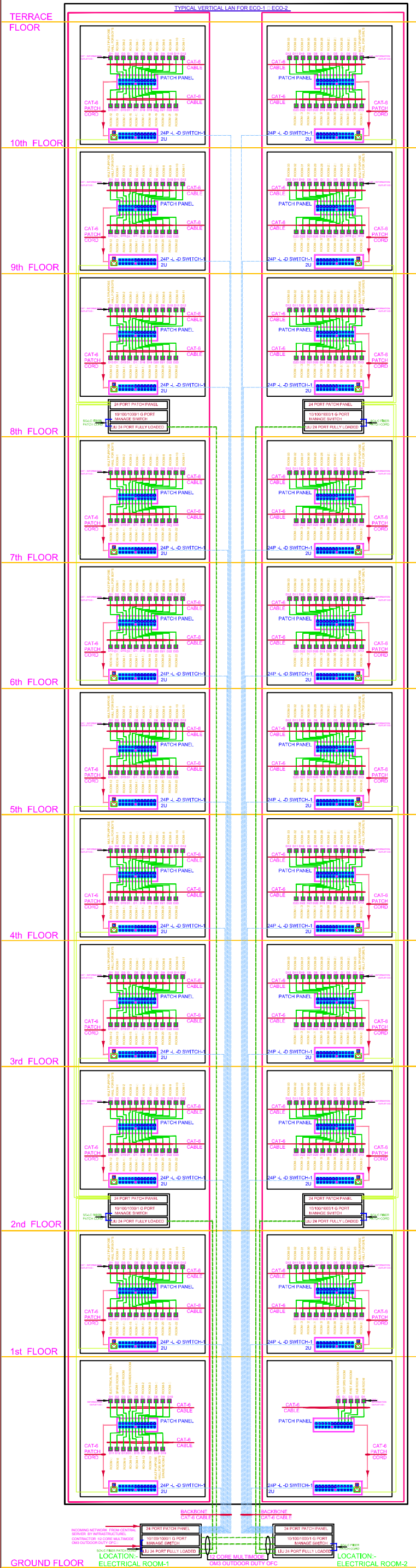
SYMBOL	DESCRIPTION
	1 - CIRCUIT BREAKER TRIPPED (AMBER)
	2 - CIRCUIT BREAKER ON (RED)
	3 - CIRCUIT BREAKER OFF (GREEN)
	4 - GAS PRESSURE HEALTHY (BLUE)
	5 - TEST
	6 - ACCEPT
	7 - RESET
	8 - RESET
	SIGNATURE CIRCUIT BREAKER
	MECHANICAL CONNECTION
	ELECTRICALLY OPERATED CIRCUIT BREAKER DRAWN BY TYPE ALTERNATE CIRCUIT BREAKER WITH DISCONNECTOR FUNCTION WITH MICRO PROCESSOR BASED METER FOR COORDINATION
	MANUALLY OPERATED CIRCUIT BREAKER DRAWN BY TYPE CIRCUIT BREAKER WITH DISCONNECTOR FUNCTION WITH MICRO PROCESSOR WITH COORDINATION BASED METER
	PUSH BUTTON
	VOLTMETER
	AMMETER
	SELECTOR SWITCH
	CURRENT TRANSFORMER (INDICATE NO. OF C.T.)
	HRC FUSE
	MICROPROCESSOR BASED METER FOR COORDINATION (V.A.M.P.S.A.M.S. METER)
	CABLE WITH CABLE GLANDS
	TERMINAL INSIDE PANEL
	CONNECTION OF CONDUCTOR
	ENERGY METER WITH SERIAL COMMUNICATION PORT
	MANUALLY OPERATED OVERLOAD SWITCH (CRCT. INSTANTANEOUS EARTH FAULT)
	CAPACITOR
	SURGE ARRESTOR (S.A.)



RO	FOR APPROVAL		11.02.17	SVG	VPG
REV	DESCRIPTION		DATE	BY	CHD.
AMENDMENT					
GRAPHIC SCALE:					
CLIENT:					
					
INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH(IISER), PUNE.					
PROJECT:					
PROPOSED CAMPUS FOR IISER,PUNE [GIRLS HOSTEL]					
ASSOCIATES:					
HVAC & ELE CONSULTANT :		EMEA Designers and Consultants Kundan Classic, Office No. 4, Ground Floor, S. No. 46/D/1/A/1, Aurang-Spicer Road, Bhopal, Pune-411003, Maharashtra,India Telefac: 020-25813060 Email: emea@india.com			
LANDSCAPE CONSULTANT:		 LANDSCAPE ARCHITECTS # 4, First Floor, Sreema plaza D.V.G Road, Basavanagudi, Bangalore - 560004. ph: 080-26607954 (telefax) e-mail: dhruva_associates@yahoo.com visit us at: www.dhruvaassociates.com			
DRAWING TITLE:					
SINGLE LINE DIAGRAM FOR HOSTEL BLOCK-3 (INVERTER OUTPUT DB)					
SCALE : 1: 100	DRAWN : MAN			R0	
DATE : 11.02.2017	DESD : --				
CHKD : VPG					
CLIENT SIGNATURE :					
DRAWING NO:					
IISER/CRN/EMEA/HB3/EL-01 (SHEET NO.2 OF 2)					
ARCHITECTURE • INTERIOR DESIGN • ENGINEERING • PLANNING • CONSTRUCTION MANAGEMENT					
					
C B HARAYANA SAO					
10, KARPAGAMBAL NAGAR, MYPALORE, CHENNAI-600 002					
B.Tech. (Hons.), M.S., (It), Ph.D., M.Am.Soc. C.E., F.I.E., F.I.V., Chartered Engineer – Registered Architect.					

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REV	FOR APPROVAL	DATE	BY	CHKD
0	11.02.2017	SVG	VPK	

AMENDMENT	DESCRIPTION	DATE	BY	CHKD
0				

GRAPHIC SCALE:	0 0.5M 1M 2M 3M 4M 5M
CLIENT:	INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH(IISER), PUNE.
PROJECT:	PROPOSED CAMPUS FOR IISER,PUNE [GIRLS HOSTEL]

ASSOCIATES:	EMEA Design and Consultants Ground Floor, Office No. 4, Aundh Spicer Road, Bhopal, Pune-411005. Telephone: 020-26607954 (telefax) e-mail: dhruva.associates@yahoo.com Web site: www.dhruvaassociates.com
LANDSCAPE CONSULTANT:	LANDSCAPE ARCHITECTS # 4, 1st floor, Sircema plaza D V G Road, Kharavangadi, Bangalore - 560004. ph: 080-26607954 (telefax) e-mail: dhruva.associates@yahoo.com Web site: www.dhruvaassociates.com

DRAWING TITLE:	SYSTEM ARCHITECT FOR DATA VOICE FOR HOSTEL BLOCK-3
SCALE : 1: 100	DRAWN : NNN
DATE : 11.02.2017	DESIGN : ---
CHKD : VPK	
CLIENT SIGNATURE :	
DRAWING NO:	

IISER /CRN/EMEA/HB3/EL-02
ARCHITECTURE • INTERIOR DESIGN • ENGINEERING • PLANNING • CONSTRUCTION MANAGEMENT
CRN
C R KARATKHA BAO
110, KARPAGAMBAL NAGAR, MYLAPORE, CHENNAI - 600 03
B.Tech. (Hons), M.S., (B), Ph.D., M.Am.Soc. CE, F.I.E., F.I.V., Chartered Engineer - Registered Architect.

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