WORK PERFORMANCE STATEMENT
CONTRACTOR FOR FIT OUT AND MODERNIZATION WORKS OF THE KAZAKHSTAN RESIDENT MISSION OFFICE IN ALMATY

I. Scope of Works

1. The CONTRACTOR shall provide all the necessary architectural and engineering design, supervision, skilled personnel, tools, equipment, materials, transportation, and personal protective equipment (PPE) to implement the data room and video conferencing room upgrade works of the Kazakhstan Resident Mission Mission (KARM) Almaty Office, 20A Kazybek Bi Street, 2nd Floor, Arai Building, 050010 Almaty, Kazakhstan (hereinafter referred to as the "Works"). The Works includes design details and implementation of architectural, civil, electrical, mechanical, and Information Technology works needed to upgrade KARM data room to ADB standard. The CONTRACTOR shall be responsible in securing all certificates, clearances, and permits required by the building owner and local or national regulating bodies. The CONTRACTOR shall provide all the construction materials and consumables and bear the cost of permits from local or national regulating bodies.
2. Project manage the implementation of all the Works in close coordination with the responsible ADB designated Project Manager. by developing, monitoring, and controlling the project implementation schedule. Establish the project schedule and manage the critical path, so that the project is implemented within the agreed timeframe.
3. The CONTRACTOR is to provide all design services, procurement of materials and equipment, and installation and commissioning works. Project management and other overhead activities shall be maximized across both sub-projects.
4. The Works comprises of the following components:
   Project A: Data Room
   Project B: Video Conferencing Room

II. Definitions and Terms

The following acronyms and descriptions are applied throughout this document.

ACU	-	Air Conditioner Unit
ATS	-	Automatic Transfer Switch
‘C’	-	By the CONTRACTOR
CCTV	-	Closed Circuit Television
CONTRACTOR	-	Organization engaged to complete the works.
ICT	-	Information and Communication Technology
LED	-	Light Emitting Diode
MEP and FP	-	Mechanical, Electrical, Plumbing, and Fire Protection
NA	-	Not Applicable
Shall	-	Must or is mandatory.
Should	-	Optional or is not mandatory.
UPS	-	Uninterrupted Power Supply
VCR	-	Video Conferencing Room

III. The Works

Project A: Data Room

A. DESCRIPTION

The objective of the Data Room modernization project is to achieve the following requirements:

i. Better redundancy of data rooms,
ii. More cost-efficient internet links for FOs,
iii. Faster system connectivity,
iv. More efficient troubleshooting in case a component needs repair, and
v. Standardize and retrofit data rooms with dual uninterruptible power supplies,
vi. proper grounding, proper air conditioning and physical security controls.

B. BATTERY LIMITS (DATA ROOM)

The CONTRACTOR shall complete all scope items within the Data Room battery limits shown below.

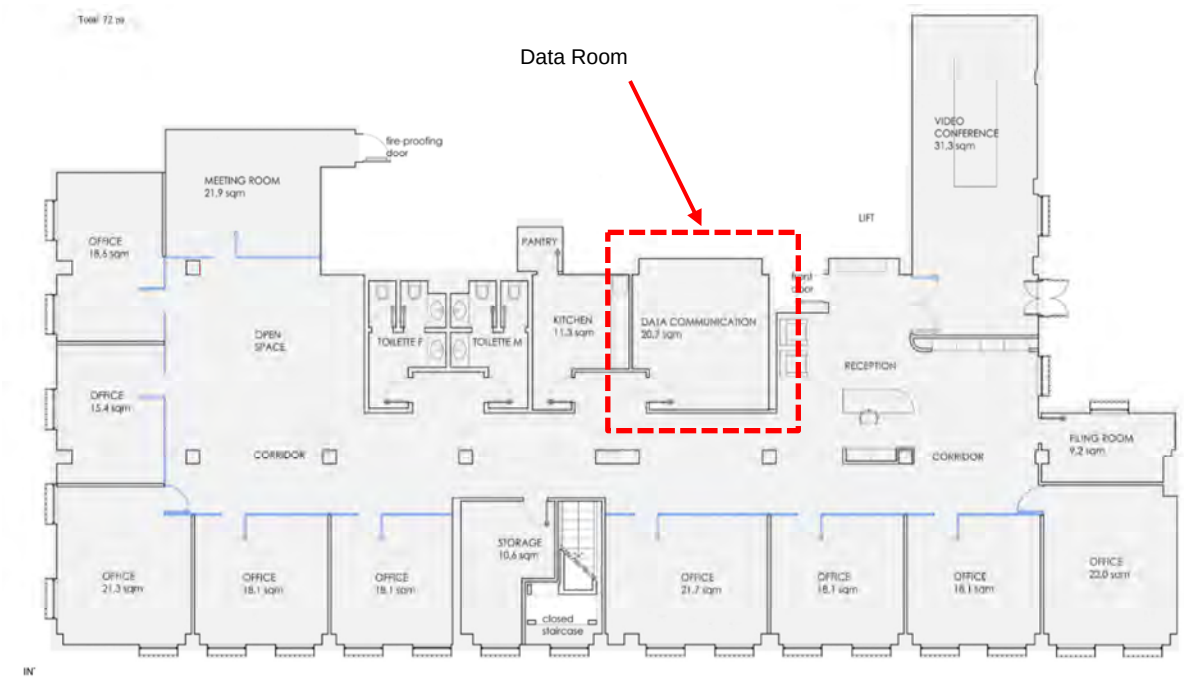


Figure 1 Almaty office layout

C. ARCHITECTURAL & CIVIL WORKS (DATA ROOM)

The CONTRACTOR shall complete all scope items described below:

i. Walls
Paint all walls with white (Pantone 11-0601 TCX or equivalent).

ii. Floor
Nil works are required in the data room.

The CONTRACTOR may complete the following optional scope item:

i. Fire requirements
Verify and establish the minimum fire protection requirements for the data room based on national fire and building codes and NFPA 75 (Standard for the Fire Protection of Information Technology Equipment). In the absence of fire protection requirements under the local fire and building codes, then NFPA 75 shall set the standard for minimum fire protection in the data room. Supply and install fire protection components in compliance with all established minimum requirements.

D. ELECTRICAL WORKS (DATA ROOM)

i. Electrical Works Schedule
The CONTRACTOR shall deliver and complete all items in accordance with the following works schedule.

Item	Description	Quantity	Decommission	Disposal	Design	Supply	Install	Test	Commission	Demonstrate
SECTION 1.0: Uninterrupted Power Supply (UPS)										
1.1	Existing 2 units of 5 KVA Tower type UPS and all associated conduits and cables.	1 lot	C	C	NA	NA	NA	NA	NA	NA
1.2	5 KVA rack mounted UPS system	2 off	NA	NA	NA	C	C	C	C	C
1.3	Reposition the existing 10KVA Tower Type UPS including the installation of a terminal/splice box	1 lot	NA	NA	C	C	C	C	C	C
1.4	Conduits, cables, and circuit protection for UPS units (2 off) on different power supplies or circuits.	1 lot	NA	NA	C	C	C	C	C	C
SECTOIN 2.0: Automatic Transfer Switch (ATS)										
2.1	Automatic Transfer Switch to match item 1.3	1 lot	NA	NA	NA	C	C	C	C	C
SECTOIN 3.0: Power Distribution Unit (PDU)										
3.1	Power Distribution Units to match item 1.2	1 lot	NA	NA	C	C	C	C	C	C
3.2	Wire management for the power distribution system (redundant items).	1 lot	C	C	NA	NA	NA	NA	NA	NA

Item	Description	Quantity	Decommission	Disposal	Design	Supply	Install	Test	Commission	Demonstrate
3.3	Wire management for the power distribution system.	1 lot	NA	NA	NA	C	C	C	C	NA
SECTOIN 4.0: Lighting										
4.1	*Nil works are required*	-	-	-	-	-	-	-	-	-
SECTOIN 5.0: Miscellaneous Items										
5.1	Removal and disposal of any unused conduits and PVC pipe moldings and cables within the data room	1 lot	C	C	NA	NA	NA	NA	NA	NA

Table 1 Electrical Works Data Room (Almaty)

ii. Electrical Specification
The data room electrical works shall be supplied, installed, tested, and commissioned in accordance with Appendix XI: Electrical Specification.

E. MECHANICAL WORKS (DATA ROOM)

i. Works Schedule
The CONTRACTOR shall deliver and complete all items in accordance with the following works schedule.

Item	Description	Quantity	Decommission	Disposal	Design	Supply	Install	Test	Commission	Demonstrate
SECTION 1.0: Air Conditioner Unit (ACU)										
1.1	Existing LG ACU and associated piping and drain lines	1 lot	C	C	NA	NA	NA	NA	NA	NA
1.2	New 5kW ACU units including the following but not limited to: tubing, insulations, drains, support mounting brackets, power supply, conduits, power cables, communication cables among other to ensure that the unit runs.	1 lot	NA	NA	C	C	C	C	C	C
1.3	Central controller device (As per Mechanical Specifications)	1 lot	NA	NA	C	C	C	C	C	C

Table 2 Mechanical Works Data Room (Almaty)

ii. ACU Layout

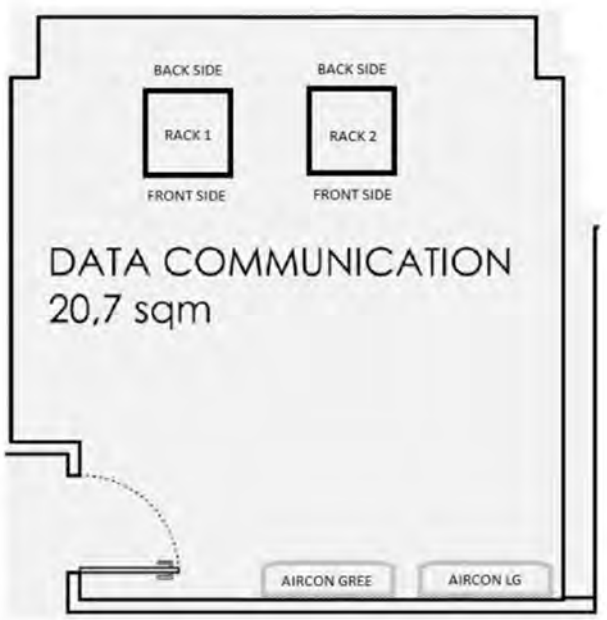


Figure 2 Almaty Data Room showing position of ACUs

iii. Mechanical Specification
The data room mechanical works shall be supplied, installed, tested, and commissioned in accordance with Appendix XIII: Mechanical Specification.

F. IT WORKS (DATA ROOM)

i. Works Schedule
The CONTRACTOR shall deliver and complete all items in accordance with the following works schedule.

Item	Description	Quantity	Decommission	Disposal	Design	Supply	Install	Test	Commission	Demonstrate
SECTION 1.0: Uninterrupted Power Supply (UPS) and Automatic Transfer Switch (ATS)										
1.1	*Nil works are required*	-	-	-	-	-	-	-	-	-
SECTION 2.0: Data Cable Management										
2.1	Repositioning of Rack and UPS associated cables	1 lot	NA	NA	NA	NA	C	NA	NA	NA
2.2	Re-arrangement of IT equipment	1 lot	NA	NA	NA	NA	C	C & ADB	NA	NA
2.3	Additional Cable Manager and rack tray	1 lot	NA	NA	NA	C	C	NA	NA	NA

Table 3 IT Works Data Room (Almaty)

i. IT layout drawing

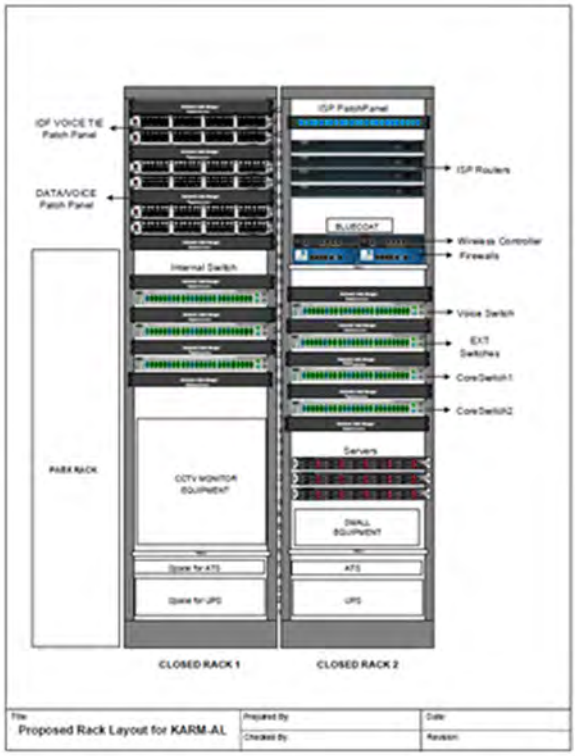


Figure 3 IT Layout Drawing (Almaty)

ii. IT Specification
The data room IT works shall be supplied, installed, tested, and commissioned in accordance with Appendix XII: IT Specification.

G. SAFETY & SECURITY WORKS (DATA ROOM)

Nil works are required.

Project B: Video Conferencing Room

A. BATTERY LIMITS (VCR)

The CONTRACTOR shall complete all scope items within the Almaty office video conferencing room battery limits shown below.

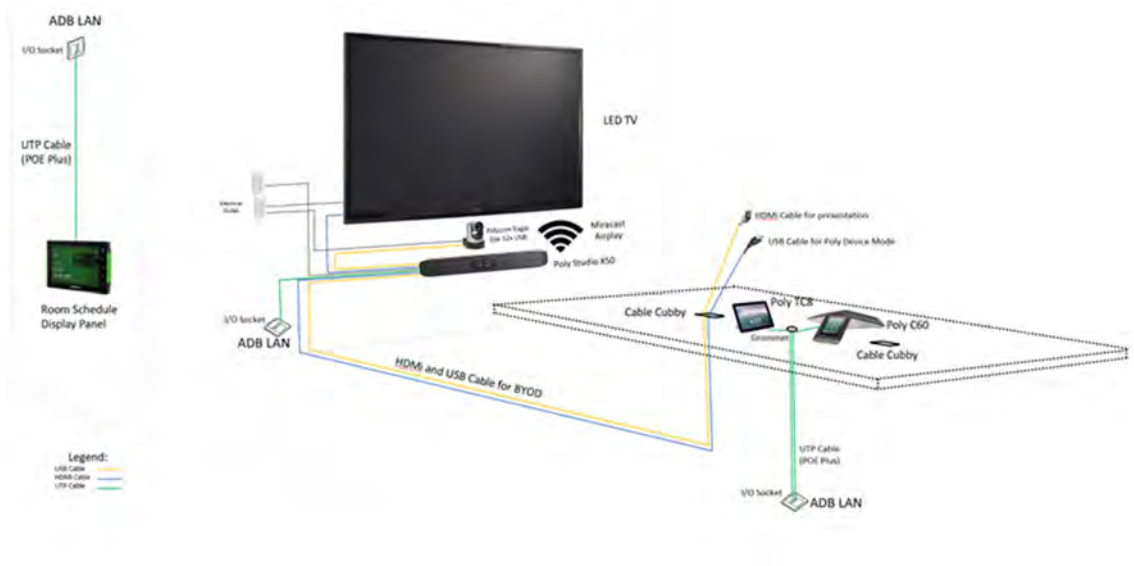


Figure 4 VCR (Almaty) equipment layout

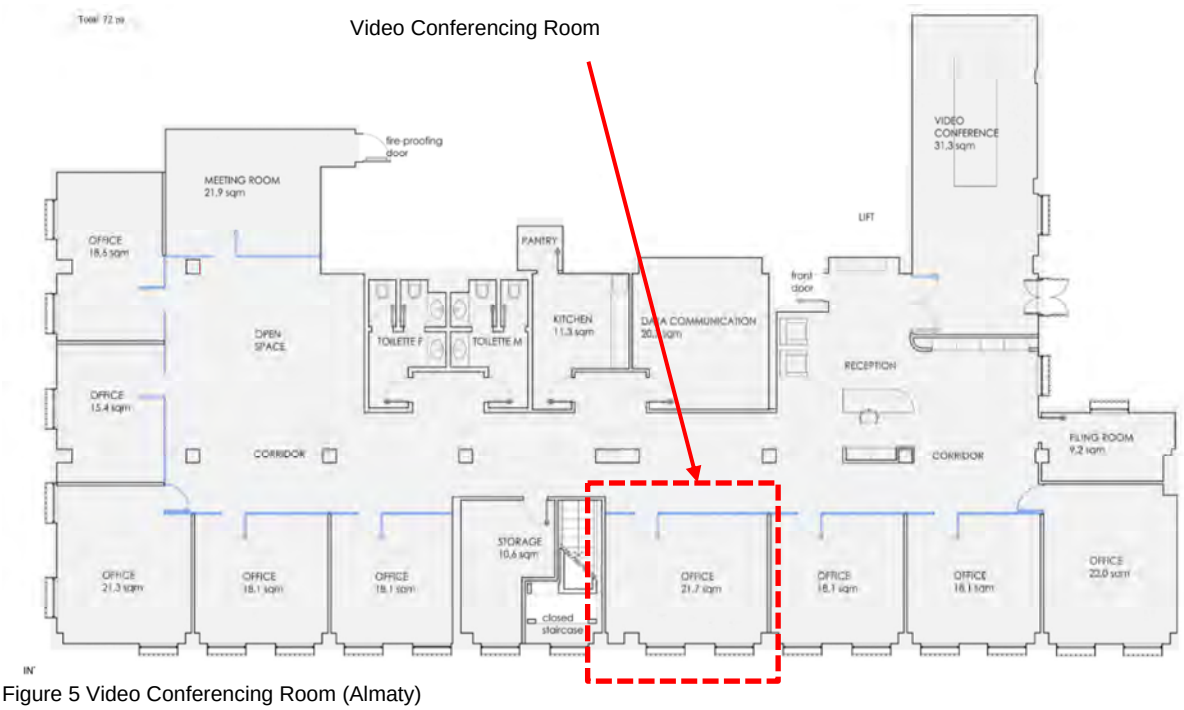


Figure 5 Video Conferencing Room (Almaty)

B. ARCHITECTURAL & CIVIL WORKS (VCR)

The CONTRACTOR shall complete the following scope items:

i. Pre-Works
Removal and disposal of all existing flooring, wall panelling, room fixtures, and lighting as necessary to complete the modernisation works.

ii. Floor
Supply and install new flooring to cover the entire room. Refer to Appendix XIV: Video Conferencing Room Conceptual Drawings for the general layout of the flooring.

iii. Walls
Supply and install all materials and features including acoustic panels, baseboards, writable glass, painting, and wood laminate as described in Appendix XIV: Video Conferencing Room Conceptual Drawings.

iv. Ceiling
Supply and install all materials including acoustic panels and painting as described in Appendix XIV: Video Conferencing Room Conceptual Drawings.

v. Interior Design Elements
Supply and install all materials including shelving, plant box, side benches, cabinets, and credenza cabinet for television as described in Appendix XIV: Video Conferencing Room Conceptual Drawings.

vi. Furniture
The CONTRACTOR shall supply and assemble a new meeting room table as per Appendix XIV: Video Conferencing Room Conceptual Drawings. ADB will supply new chairs for the meeting room.

C. ELECTRICAL WORKS (VCR)

The CONTRACTOR shall complete the following scope items:

i. Lighting
Prepare a comprehensive electrical plan including all engineering design and equipment selection for all pinlights, linear, and LED strip lighting in Appendix XIV: Video Conferencing Room Conceptual Drawings. The CONTRACTOR shall supply and install all the necessary lights and fixtures. All lights shall have a minimum brightness of 500 lux. pinlights and downlights shall be in 4000K colour, and linear and LED strip lighting shall be in 3000K colour. All cables shall be hidden using proper cable management.

ii. Accessories and Devices

Supply and install the following electrical devices as per the bill of quantities below.

Item	Description	Quantity
1.0	Duplex Universal convenience outlets. Retain all existing outlets.	5 sets
2.0	UPS outlet for LED TV	1 set
3.0	Universal convenience outlets for conference table	4 sets

Table 4 Electrical BOQ Video Conferencing Room (Almaty)

D. MECHANICAL WORKS (VCR)

Nil works are required.

E. IT WORKS (VCR)

The CONTRACTOR shall complete the following scope items:

i. Retain all existing data, voice, and power sockets in the room;
ii. Perform service checks and maintenance of all sockets;
iii. Reinforcing the wall where the TV will be installed or coordinate with building owner;
iv. Fabrication of the video conferencing camera holder;
v. Installation of the television wall mount and television;
vi. Installation of video conferencing equipment including Codec and camera;
vii. Cutting of hole on the meeting room table for the cable cubby. The position of these holes shall be coordinated with the furniture;
viii. Installation of the cable cubby in the meeting room table;
ix. Layout the USBC cable and HDMI cable from the codec to the table cable cubby;
x. Installation of the UTP on the video conferencing room entry for the room display panel;
xi. Installation of room display panel on the entry door of the meeting room; and
xii. Testing the video conferencing system together with ADB.

F. AUDIO VISUAL EQUIPMENT (VCR)

The CONTRACTOR may supply, assemble, and install the following optional video conferencing room audio visual equipment.

Item	Item	Description	Quantity
SECTION 1.0 Polycom Trio 8800 and Camera			
1.1	Eagle Eye	EagleEye IV USB Camera, 12x zoom with USB2.0 interface, 1 remote, 1 USB 2.0 5m cable, power supply & Euro power cord. Compatible with MSR Skype Room System and Trio 8800 Collaboration Kit. (7230-60896-101)	1 lot
		Partner Premier, One Year, EagleEye IV USB Camera, 12x zoom with USB 2.0 interface (4870-60896-160)	1 lot
1.2	Poly X50 wit TC8	POLY STUDIO X50 & TC8; 4K Video Conf/Collab/Wireless Pres Sys:Touch Cntrl,4K 5x EPTZ auto-track Cam,Codec,Stereo Spkrphone,Wall Mount Kit;Cables:2 HDMI 1.83m,1 CAT5E LAN 4.57m;NTSC/PAL;Pwr:UK-Type G, BS 1363. (2200-86270-102)	1 lot
		Polycom Advantage, One Year,Poly Studio X50,Poly TC8 (4877-86270-513)	1 lot
1.3	Poly C60	Poly Trio C60 IP conference phone for Microsoft Teams/SfB with built-in Wi-Fi, Bluetooth and DECT (for future use) for EEA and ANZ. PoE. Includes 7.6m/25ft Ethernet cable and Setup Sheet. POWER KIT NOT INCLUDED. (2200-86590-019)	1 lot
		Advantage, One Year, Poly Trio C60 (4877-86240-513)	1 lot
SECTION 2.0 Crestron Schedule Display Panel			
2.1	Scheduler Display	Crestron 10.1" Touch Screen Display, Black Smooth, PN TSW-1060-B-S (ADB Coupa Item code CI15042)	1 lot

Item	Item	Description	Quantity
2.2	Scheduler Avaialbility Light	Crestron Room Availability Light Bar For TSW-1060, PN TSW-1060-LB-B (ADB Coupa Item code CI15205)	1 lot
2.3	Cable Cubby	Extron CABLE CUBBY 1202 RETRACTORS Small Room – VE Option	1 lot
SECTION 3.0 Accessories			
3.1	CABLE CUBBY 1202 (70-1184-08)	EXTRON - Cable Cubby 1202 Brushed Aluminum, AC Module Not Included	1 lot
3.2	CABLE CUBBY CABLE BRACKET KIT - QUAD (70-1040-03)	EXTRON - 4 Cable Bracket Kit for Cable Cubby 650 UT, 1202, 1252 MS, 1402, EBP 1200C, and TLP Pro 725C enclosures; pair	1 lot
3.3	CABLE CUBBY RETRACTOR BRACKET KIT - DOUBLE (70-1040-04)	EXTRON - 2 Retractor Bracket Kit for Cable Cubby 650 UT, Cable Cubby 1202, Cable Cubby 1252 MS, Cable Cubby 1402, EBP 1200C, NBP 1200C and TLP Pro 725C enclosures, pair	1 lot
3.4	AC+USB 311 MULTI (60-1782-10)	EXTRON - AC+USB-C+USB-A, MULTI	1 lot
3.5	Retractor HDMI (70-1065-04)	EXTRON - Cable Retraction System for Cable Cubby® Enclosures - HDMI Male to Male	1 lot
3.6	Retractor Filler Module (70-1065-35)	EXTRON - With Blank & Cable Pass-through Plates	1 lot
3.7	CABLECOVER - LARGE (70-1080-02)	EXTRON - Under-Table Cable Bag for AVEdge, Cable Cubby Series, and Select TouchLink Enclosures	1 lot
SECTION 4.0 Power			
4.1	SPRO Charge	Spro Charger with Power Adaptor	1 lot
4.2	USB Charger	Charger with Micro USB Type B, Lightning and Type C heads, Supports 15V and 3A	1 lot
4.3	Cable Ring	KRAMER AD–RING–4 - Included adapters: Mini DisplayPort (M) to HDMI (F); USB Type–C (M) to HDMI (F).	2 lots
4.4	USBC to USBC	USB C to USB C Cable 20ft, Baiwwa or Rujoi Long USB Type C to Type C Cable 60W PD Fast Charger Cord Braided Compatible with Samsung Galaxy S21 S21+ S20 FE S20 Ultra Note 20, Pixel, Pad Pro/Air, MacBook Pro/Air: Computers & Accessories	1 lot
4.5	HDMI	Unitek Y-C142M HDMI (10 meters) Cable	1 lot
SECTION 5.0 Television			
5.1	85"	85" LED TV (Samsung QB (16/7) or QM (24/7) , LG UH5F models or Sony Professional Displays FW)	1 lot
5.2	TV Wall Mount	Titan SGB891 or LPA49-486 (True Vision, Lumi or Installer Parts) Full Motion TV Wall Mount for 37″ to 90" WITH TILT AND SWIVEL Max Load: 75 kg / 165 lbs VESA: 200×200, 400×200, 300×300, 400×400, 600×400, 800×400	1 lot

Table 5 Audio Visual Equipment Bill of Quantities (Almaty)

IV. SCHEDULE AND ACCEPTANCE CRITERIA

The Works shall be delivered within a four (4) month period following the below general timeline. This timeline excludes long lead time items.

Item	Deliverable	Acceptance Criteria	Expected Duration
1.0	Supply of equipment and materials	Delivery receipt of equipment and materials to site.	1 Month
2.0	Mobilization	All personnel and equipment onsite and available to commence installation works.	1 Month
3.0	Data Room (Implementation)	Installation of all scope items.	1 Month (Concurrently with 4.0)
4.0	Video Conferencing Room (Implementation)	Installation of all scope items.	1 Month (Concurrently with 3.0)
5.0	Testing and Commissioning	Submission of completed and approved equipment certificates.	2 weeks

V. General

Without limiting the generality of the foregoing, the CONTRACTOR shall perform the following works:

i. The CONTRACTOR shall secure all the required necessary permits and or certificates from the Building Owner, local, city or national regulating bodies to perform the works. The CONTRACTOR shall bear the cost of all legal requirements, permits needed for these works under the Service.
ii. The CONTRACTOR shall identify and submit with their proposal for ADB approval all subcontractors (if any) and ensure that their subcontractor(s) fully abide by the requirements of this contract and are fully responsible for the quality of workmanship and compliance with the design requirements by its subcontractors.
iii. Shall accept work instructions only from the ADB designated Project Manager and/or their authorized representative.
iv. Shall submit a bill of materials and implement good material control and records.
v. Shall provide personnel with special skills, knowledge, and wide experience to undertake alteration and improvement works that requires engineering and architectural designs, cost estimate room partitioning and the re-alignment of equipment and devices such as sprinkler heads, lighting fixtures, convenience outlets, sensors and thermostats, installation of new facilities engineering equipment, if applicable and other similar works.
vi. Shall prepare design drawings and plans, material estimates, work schedules for the proper execution and completion of the required architectural, electrical, and mechanical works and the preparation of accomplishment reports. All plans and documents shall be signed and sealed by an authorised qualified person.
vii. Shall conduct daily housekeeping in the area where work is being performed.
viii. Shall clean all surface, remove stains, dry-out the new works, and leave the area clean and to the reasonable satisfaction of ADB.
ix. Shall keep records of transactions and decisions.
x. Shall provide a complete "as built" drawing package.
xi. Shall dispose/haul away all construction debris and garbage as they accumulate at the expense of the CONTRACTOR.
xii. Shall maintain permanent logs, records, and reports on the performance of the

services and shall make these available to ADB.

xiii. Shall prepare and submit a comprehensive weekly report. The report shall include among others all the works done during the previous week and classified according to the various trades, as part of a progress report against the contractually agreed schedule.

xiv. Shall prepare a turnover report of the completed project for acceptance of ADB. The report shall include the project objective, as-built drawing and plans, actual material and labour cost incurred, planned versus actual project schedule, testing and commissioning reports, operating manuals, and the acceptance inspection.

xv. Shall implement all works within principles of construction safety and COVID-19 restrictions.

VI. Commencement and Execution of Works

i. The CONTRACTOR shall commence the execution of the works upon the issuance of a “Notice to Proceed” by ADB designated Project Manager. The CONTRACTOR shall then proceed with the Works with due expedition and without delay, until completion and final turnover of the work to ADB.

ii. Pre-mobilization conference shall be held by the CONTRACTOR with ADB to clarify strategies for construction implementation.

iii. The CONTRACTOR shall do everything that is necessary and reasonably inferred as essential in the proper execution of the works, whether shown on the drawings, implied or not, or described in the Work Performance Statement.

iv. The CONTRACTOR shall submit to the ADB or his authorized representatives a proposed phasing, time of completion and turnover schedule.

v. The CONTRACTOR shall provide all necessary screens, exhaust/ventilation and other similar protective devices for the benefit and safety of workers and the neighbouring offices.

vi. The CONTRACTOR shall effectively implement the required works in accordance with the standards of ADB, building owner, local regulatory board, applicable government rules and regulations, local utility companies, manufacturer’s recommendations and standards, Occupational Safety and Health Act (OSHA) or an identified equivalent.

vii. The CONTRACTOR shall execute all works in the best thorough manner under the supervision and direction of a qualified registered engineer or architect who is familiar with the established local and national applicable codes and standards. All Services performed by the Contractor shall be free from defects of material and workmanship for a period of one year from the date of the final acceptance of the works as evidenced by the Certificate of Acceptance of the Works (corresponding to the whole of the Works, and each Section of the Works scheduled, if any) issued by ADB or his authorized representative. ADB has the right to reject any work done if in its evaluation, the work is unsatisfactory. The CONTRACTOR shall shoulder all the cost for labour, materials, and parts of any re-work due to poor workmanship or its mistake. Warranty shall commence upon the completion, turnover, and acceptance of the entire work by ADB and shall be valid for a minimum period of twelve (12) months.

viii. The CONTRACTOR shall take reasonable care of the building premises and of all new works and shall take necessary steps to reduce to a minimum level the interference to the neighbouring offices. The works done must ensure the safety of CONTRACTOR's personnel, ADB personnel, and visitors at all times. The CONTRACTOR shall be responsible for any damage arising from the carelessness of workmanship, loss, theft, or any other cause and shall make a good such damage or loss at its own expense.

ix. The CONTRACTOR shall ensure that ADB and building owner requirements in

terms of health, safety, security, and environment are all followed.

VII. Qualification of Personnel

The CONTRACTOR shall provide a project team with a minimum of the following personnel. For each personnel a resume showing qualifications and previous experience shall be submitted. The CONTRACTOR shall submit a project specific organisational chart.

A. PROJECT MANAGER
- i. Relevant experience in similar works.
- ii. Capable of preparing, implementing, and monitoring the scope of works.
- iii. Minimum intermediate level of English (both written and verbal) in accordance with Common European Framework of Reference for Languages: Learning, Teaching, Assessment (or equivalent standard).
- iv. Must be computer literate with knowledge of using basic software including Microsoft Word, Excel, PowerPoint, Teams, and Project.

B. ELECTRICAL ENGINEER
- i. Degree qualified Electrical Engineer or with sufficient qualifications to meet the electrical sign-off and authorisation requirements in Kazakhstan.
- ii. Relevant experience in similar works.

C. CONSTRUCTION FOREMAN
- i. Relevant experience implementing similar works.
- ii. Trade level qualifications suitable to implement the works.

VIII. Working Hours

The works shall be performed daily with a full complement of personnel, equipment, and materials. All onsite works shall be performed within normal KARM offices hours (Monday to Friday 08:30 to 18:00). The CONTRACTOR shall abide by standard KARM public holidays. The CONTRACTOR works plan shall be submitted to the ADB designated Project Manager for approval at least seven (7) days prior to commencement of onsite works.

IX. General Policies

The CONTRACTOR shall abide by the following general policies.

- i. CONTRACTOR personnel should report for work with correct Personal Protective Equipment and wearing suitable clothing.
- ii. CONTRACTOR personnel staff shall not be allowed to stay within the KARM facilities for more than 15 minutes after each working shift.
- iii. The CONTRACTOR personnel must strictly adhere to the rules and regulations of ADB and of the Building Owner.
- iv. Sleeping while on duty is not permitted.
- v. All works shall be coordinated with the ADB authorized representatives.
- vi. Safety shall not be compromised at any time.

X. Health and Safety Management

The CONTRACTOR shall comply with the following safety requirements:

i. The CONTRACTOR shall be required to submit to the ADB designated Project Manger a Safety Management Plan detailing the compliance of all safety requirements which shall be subject to audit and spot visits to check compliance.
ii. The monitoring and enforcement of these guidelines shall be done by the CONTRACTOR in conjunction with the PMT designated Project Manager. Additional guidelines maybe issued depending on the current risk levels.
iii. The CONTRACTOR shall provide disinfection at strategic locations to ensure the safety and welfare of all personnel.
iv. The CONTRACTOR must post signages for its employees to remind them to observe relevant health and safety protocols, such as social distancing, sanitizing, hand washing, and limited movement within the KARM office.
v. The CONTRACTOR shall ensure their workers are COVID-19 swab tested on a weekly basis and to enforce compliance.
vi. Only vaccinated workers will be allowed to enter KARM facilities.
vii. CONTRACTOR workers shall utilize building entry points separate to KARM staff. Pedestrian traffic shall be totally segregated from ADB staff.
viii. Project work sites shall be closed off to prevent any unauthorised entry and to limit KARM staff movement.
ix. CONTRACTOR's personnel, including delivery crew members, are required to wear appropriate personal protective equipment such as hard hat, gloves, safety shoes for bulk and heavy deliveries, gas masks, rubber gloves, protective clothing, goggles for handling of hazardous materials (including chemicals and bio-contaminated material such as sewage and waste water), while performing their duties and/or delivering equipment, supplies and materials within ADB premises. Likewise, wearing of sandos, shorts, slippers and sandals when delivering goods/services to ADB shall not be allowed.
x. Firearms, bladed weapons, deadly weapons, replica weapons, explosives, items of an offensive nature, flammables, prohibited drugs and hazardous materials of any type are not allowed within ADB premises.
xi. It is the CONTRACTOR's responsibility to ensure that its' personnel strictly observe ADB's safety and security rules and regulations. Further, it is the CONTRACTOR's responsibility to safeguard its personnel from any hazards in their respective areas and that any unsafe conditions or incidents, no matter how minor.
xii. CONTRACTOR's personnel should be adequately trained to operate industrial tools and machinery.
xiii. Coordination and permission from the ADB designated Project Manager shall be secured prior to commencing any hot work operations (e.g., welding, cutting, and grinding). The Contractor shall ensure that the site of the hot work is free from any flammables. In this case, it is the responsibility of the contractor to make arrangements for fire protection equipment. The CONTRACTOR, upon prior notification, shall deploy a fire watch to ensure that the work is performed safely.
xiv. If a fire is discovered, contractor's personnel are expected to:
(i) Try to contain or extinguish the fire if it is safe to do so; if not, leave the area as soon as possible; and
(ii) Stay calm and help others requiring assistance.

XI. Appendix 1: Electrical Specification

It is not the intent to specify completely here in all aspects of design and constructional features of equipment and details of the work to be carried out, nevertheless, the equipment and work shall conform in all respects to high standards of engineering, design and workmanship and shall be capable of performing in continuous commercial operation in a manner acceptable to the owner who will interpret the meaning of the specifications and drawings and shall have right to reject or accept any work or material which in his assessment is not complete to meet the requirement of these specifications and or applicable codes and standards mentioned elsewhere in these specifications.

A. CONDUITS

i. Rigid Steel Conduits (RSC) and Intermediate Metal Conduits (IMC) shall be galvanized rigid steel with enamel coating on exterior and interior surfaces. Rigid steel conduits and intermediate metal conduits shall be installed for outdoor installation, in concrete and in wet area.
ii. Electrical PVC pipe with a minimum size of 1/2' (20 mm diameter), shall be used for indoor installation, concealed within wall, finished floor, or in ceiling.
iii. Flexible metallic conduit shall be used in connecting all vibrating equipment and recessed lighting fixtures. Flexible conduit with stand fittings shall be installed in general area. For outdoor installation or wet locations liquid-tight type shall be used.
iv. Conduits shall be installed in accordance with requirements of NEC and recognized standards. At every sharp turn of conduits (90’ sharp turn) pull boxes shall be used.
v. Conduits shall be securely fastened to all boxes and cabinets. Treads on metallic conduits shall project through the box to allow the bushing to butt against the end of the conduit, after which the locknuts attach the conduit securely to the box.
vi. Hangers or supports of fastening shall be provided near the end of every straight run termination in a box or cabinet. At every length of 1 metre of conduit run, a conduit strap shall be installed.

B. CABLING

i. Cable installation in building for light- socket shall be PVC insulated, 750 V, 75-degree C. All cables connection must be easy and safe to access and open the box, will not be allowed connection in the boxes on the ceiling (without access). Ends of cables shall be properly sealed to prevent ingress of moisture.
ii. The rating of current carrying capacity of the cables shall comply with the allowable - ampacities of conductors.
iii. All cables shall be concealed in conduits and be installed in the walls and in the concrete floors. No splices shall be made in conductors except at outlets, devices, or junction boxes.
iv. Splicing of conductor not over 10 mm^2 shall be of insulated solder-less connector such as wire nut.

C. SWITCHES, RECEPTACLE OUTLETS, AND POWER SOCKET OUTLETS

i. Switches and receptacle outlets shall comply with NEMA standard or equivalent.
ii. Switches for lighting fixtures shall of the toggle quiet and flush-mounted type. The rating of switches shall be 10 A, 230V.
iii. Switches indicated on the drawings shall be installed at 1.20 metre above the finished floor level and adjacent to the door, at the strike side of the door, or as per Architect approval.
iv. The receptacles outlets shall be the flush-mounted, grounding duplex convenience outlets, 16 A, 250 V, 2-pole, 3-wire, connected to existing Distribution Board (DB). A matching power plug shall be supplied for each power socket outlet and power distribution unit.

v. All switches' and receptacles' outlets shall be installed in cast metal outlet boxes.
vi. The cover plates of switches and receptacle outlets can be installed by plastic cover or stainless steel anodized or brushed aluminum as per Architect Approval.

D. UNINTERRUPTED POWER SUPPLY

i. UPS Input Voltage Specification
   a. 220 - 240volts, single phase, 2 wires + ground, 50/60 Hz
   b. Input Voltage Range: ±15 percent without discharging the batteries.
   c. Maximum Frequency Range: 60 Hertz +/- 10% continuous.
   d. Input Current Distortion shall be less than 5 percent without the need of additional filters.

ii. UPS Output
   a. Nominal AC Output Voltage shall be 220 Volts (selectable), single phase + ground
   b. Frequency: 50/60Hz
   c. AC Output Voltage Distortion: Less than 2 percent at 100 percent linear load, less than 3 percent for SMPS load as defined by IEC 62040-3.
   d. AC Output Voltage Regulation: ±1 percent for 100 percent linear or non-linear load.
   e. Voltage Transient Response: ±5 percent maximum RMS change in a half cycle at load step 0 percent to 100 percent or 100 percent to 0 percent.
   f. Voltage Transient Recovery: Within less than 50 milliseconds.

iii. Acoustical noise
   a. Not exceeding 65 dB at full load measured at 1 metre height and 1 metre from the nearest UPS cabinet surface.

iv. Standard and Code References

The UPS shall be designed, manufactured, and tested in accordance with the applicable following codes and standards below (or equivalent):

UL 1778	Uninterruptible Power Supply Equipment.
NFPA 70	National Electrical Code
IEEE 446	Recommended Practice for Standby Power Systems.
IEEE C62.41	Recommended Practice for Surge withstand ability.
NEMA PE 1	Uninterruptible Power Systems.
OSHA	Occupational Safety and Health Administration.
ANSI/IEEE 519	Guide for harmonic Control and Reactive Compensation of Static Power
ISO14001	Environmental Management Systems Regulatory Requirements

v. UPS Operation
   a. Under normal condition, the inverter shall supply AC power continuously to the critical loads. The inverter output shall be synchronized with the static bypass AC power source provided that the bypass AC power source is within the specified frequency range. The rectifier/charger shall convert the normal AC input power to DC power for the inverter and for charging the batteries. The battery charger is connected to DC Link and shall provide energy to recharge the batteries.
   b. During loss of input AC Power, abnormalities or deviation from specified tolerances, the batteries shall supply DC power to the inverter so that there is no interruption of AC power to the critical loads. The batteries shall continue to supply power to the inverter for the specified protection time.

c. When the input AC power returns to normal condition, the rectifier/charger shall start and assume the DC load from the batteries. The rectifier/charger shall then simultaneously supply the inverter with DC power and recharge the batteries. This shall be an automatic function and shall cause no disturbance to the critical load.
d. Transfer of critical loads to Static Bypass AC supply shall be automatically affected if the control circuitry senses an overload, an inverter shutdown signal or degradation of the inverter output. The transfer from inverter to static by-pass shall be without interruption of power. If the bypass AC power source is above or below normal voltage limits, then the transfer shall be inhibited.
e. Retransfer to Inverter: The static bypass switch shall be capable of automatically retransferring the load back to the inverter after the inverter has returned to normal conditions. Retransfer shall not occur if the two sources are not synchronized.

E. SUMMARY OF UPS SPECIFICATIONS

OUTPUT	
Capacity	5 KVA
Max Config Power	4500 W to 5000 W
Output Voltage	220V, 230 V, 240V (selectable)
Output Voltage Distortion	Less than 2%
Output Freq. (sync to mains)	50/60Hz +/- 3 Hz
Crest Factor	3: 1
Crest Factor	Double Conversion On line
Waveform	Sine Wave
Output Connections	(2) IEC Jumpers, (4) IEC 320 C19, (6) IEC 320 C13 -all are Battery Backup
Bypass	Internal Bypass (Automatic and Manual)
Power Factor	0.9 to Unity p.f
INPUT	
Nominal input voltage	230 V
Input frequency	40-70 Hz (auto sensing)
Input connections	Hard Wire (1Ph + N+G)
Input Voltage range for mains operation	160-275 V
Input Voltage adjustable range for mains operation	100-275 (half load) V
Other input voltage	220, 240
BATTERIES AND RUN TIME	
Battery Type	Maintenance-free sealed Lead-Acid battery with suspended electrolyte : leakproof
Typical recharge time	1.5 hour
Replacement Battery	APCRBC140 or equivalent
RBC Quantity	1
Nominal Battery Voltage	192V
Full Load Runtime (min.)	4 minutes

Half Load Runtime (min.)	11 to 15 minutes
COMMUNICATIONS AND MANAGEMENT	
Interface Port(s)	RJ-45 10/100 Base-T, RJ-45 Serial, Smart-Slot, USB
Available SmartSlot Interface Quantity	1
Control panel	Multi-function LCD status and control console
Audible Alarm	Audible and visible alarms prioritized by severity
Emergency Power Off (EPO)	Yes
SURGE PROTECTION AND FILTERING	
Surge energy rating	480 Joules
Physical	Rack Mounted
ENVIRONMENTAL	
Operating Environment	0 - 40 °C
Operating Relative Humidity	0 - 95 (non-condensing) %
Operating Elevation	0 - 3000 meters
Storage Temperature	-15 to 45 °C
Storage Relative Humidity	0 - 95 (non-condensing) %
Storage Elevation	0 - 15000 metres
Audible noise at 1 meter from surface of unit	55.000 dB
Online Thermal Dissipation	931.000 BTU/hr
Protection Class	IP 20
CONFORMANCE	
Approvals	CE, CE Mark, EAC, EN/IEC 62040-1, EN/IEC 62040-2, IRAM, RCM, VDE.
Standard warranty	Minimum - 1 Year
Monitoring	With temperature/humidity sensor

F. AUTOMATIC TRANSFER SWITCH (ATS)

Rack Mounted ATS provides reliable, redundant power to single-corded equipment. The Rack Mounted ATS has dual input power cords supplying power to the connected load. If the primary source becomes unavailable, the Rack Mounted ATS will seamlessly source power from the secondary source without interrupting critical loads. Networked units have built-in network connectivity, which allows for remote management via Web, SNMP, or Telnet interfaces.

Nominal input voltage	208 or 230 Vac (software selectable)
Acceptable input voltage	±10% of nominal
Input frequency	50/60 Hz
Input connectors Two	(2) C20 inlets or equivalent
Output connectors	Eight (8) C13 outlets, One (1) C19 outlet, or equivalent
Maximum output current (outlet)	10 A–C13, 16 A–C19, or equivalent
Maximum output/input current	16 A
Overload protection Internal/External (recommended)	16 A

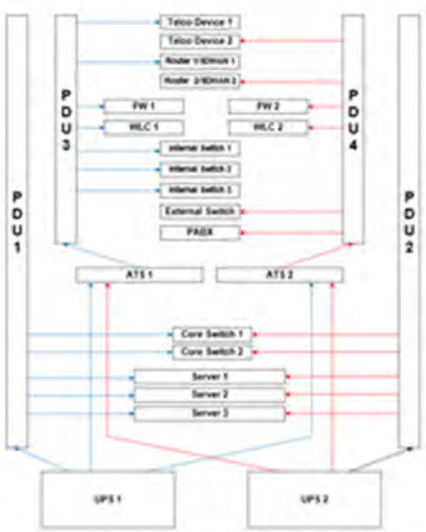
Transfer time	8–12 ms typical, 16 ms maximum 60 Hz, 18 ms maximum 50 Hz
Physical	Rack Mounted
ENVIRONMENTAL	
Maximum elevation (above MSL) Operating	0 to 3000 m (0 to 10,000 ft)
Temperature, Operating	–5 to 45°C (23 to 113°F)
Humidity, Operating	0 to 95%, non-condensing
COMPLIANCE	
EMC approvals	EN55022-Class A, FCC-Class A, VCCI, MIC, C-Tick, ICES-003 Class A, CE
Safety approvals	TUV, cTUVus, S-Mark (Argentina), GOST-R, CE

Table 6 Summary of ATS Specifications

XII. Appendix 2: IT Specification

A. Power Distribution to IT equipment:

a. Depending on the supplied model of UPS and ATS, the contractor is expected to supply and/or fabricate necessary power cords and Power Distribution Units to properly distribute electrical power to all IT equipment.
b. As much as possible, the contractor should follow the proposed Power Distribution to maintain balance loading to every UPS and ATS:
   i. Dual powered equipment such as servers and core switches should be connected to both UPS.
   ii. All single powered equipment should be connected to an ATS.



Power Distribution to IT Equipment

B. Data Cabling Management:

Sample Cabling Management

XIII. Appendix 3: Mechanical Specification

A. Air Conditioner Unit (ACU)

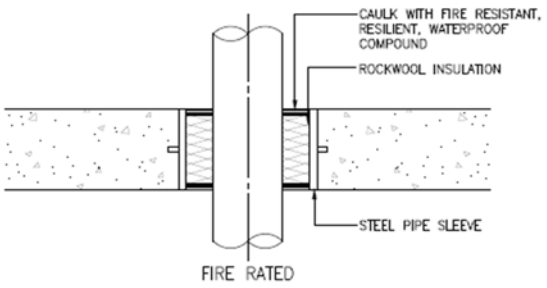
i. General Requirements
The CONTRACTOR shall comply with the ACU requirements outlined in the below document:

ii. MODE OF ACU OPERATION
a. Air-conditioning system shall operate on a continuous 12-hour cycle every day. A controller, either wall-mounted or remote, should be provided.
b. Temperature sensor with following specification:
i. Wi-Fi ready
ii. 24/7 monitoring and alerts
iii. Web-based and can be accessed remotely
iv. No fees and subscriptions needed
v. Provides info such as: Temperature, humidity and battery level
vi. No wirings needed. Powered by batteries.
vii. With apps either Android or IOS
viii. Either TEMP-STICK-TH-K-FBM, GOVEE, SENSOR PUSH HT1

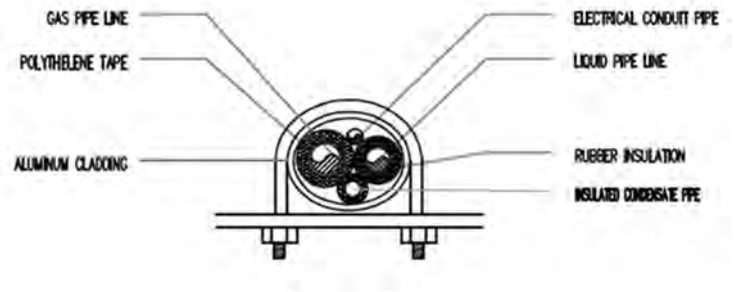
iii. INSTALLATION AND POSITIONING OF ACU
a. Ensure no wet pipes installed overhead of any IT and electrical equipment.
b. Ensure that the AC units are installed facing the front of the rack.
c. Condensate drainpipe shall be sloped 1:100 or 1% slope.
d. Ensure to comply with condensate drain size tabulation below.

Equipment Capacity	Minimum Condensate Pipe Diameter
Up to 20 tons of refrigeration	3/4 in diameter
Over 20 - 40 tons of refrigeration	1 in diameter
Over 40 - 90 tons of refrigeration	1 1/4 in diameter
Over 90 - 125 tons of refrigeration	1 1/2 in diameter
Over 125 - 250 tons of refrigeration	2 in diameter

e. Ensure that there is a clearance of at least 15 cm from the ceiling to the top of the indoor AC unit.
f. Ensure the indoor unit is slightly and correctly tilted to enable unrestricted condensate water to the drainpipe.
g. Ensure that the outdoor unit is levelled. There should not be any sloping.
h. Ensure that proper vibration isolators are installed at the base of the outdoor unit.
i. Ensure that there is a minimum of 4 feet distance between two outdoor units. This is to avoid short circuiting of air between the two units.
j. Ensure that there is a minimum of one-foot clearance around the outdoor unit. The perimeter of the outdoor unit should be free from any kind of obstruction.
k. Pipe sleeve detail should comply below.



l. Refrigerant pipe installation detail. Distance between pipe hangers should not exceed 6 feet.



iv. SUMMARY OF AC UNIT SPECIFICATIONS

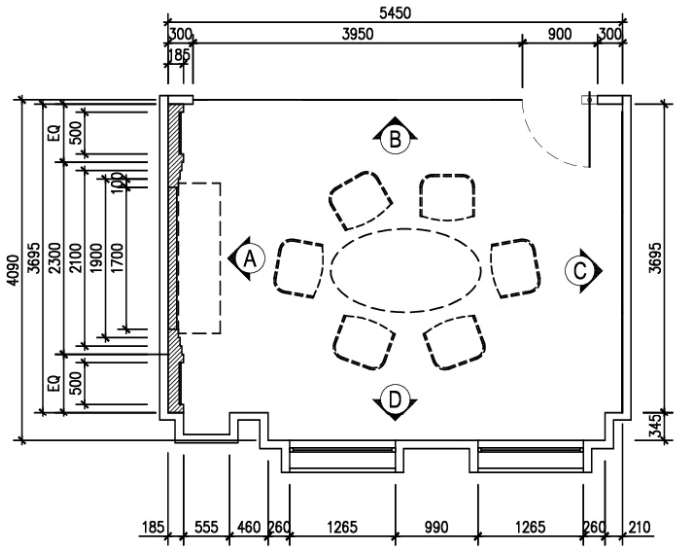
PERFORMANCE CHARACTERISTICS	
Inverter	Yes
Floor area	Not exceeded 50 m^2
Mode of Operation	cooling only
Minimum installed cooling capacity	5 400 W
Maximum air flow	948 m^3 / hour
Brand name	LG
Type of equipment	Split type
MODES OF OPERATION	
Automatic mode selection	Yes
Dehumidification (should maintain 45-55 % RH)	Yes
Night mode	Yes
Economy mode	Yes
AIR PURIFICATION	
Self-cleaning system of the evaporator from moisture	Yes
INDOOR UNIT CONTROL	
WiFi control	Yes
Remote control	Yes
On / off timer	Yes
Temperature sensor in the control panel (iFeel)	Yes
Multifunctional display on the control panel	Yes

Changing the position of the flaps	Yes
INDOOR UNIT SPECIFICATIONS	
Indoor unit weight (not exceeding)	10 Kg
Indoor unit colour	White
Air exchange during cooling	744 m^3 / hour
Air exchange during heating	744 m^3 / hour
FEATURES OF INDOOR UNIT	
Fan speed control	Yes
Self-diagnosis function	Yes
Detachable faceplate	Yes
Fast cooling / heating	Yes
Power boost mode	Yes
Auto-restart function	Yes
Continuous movement of dampers	Yes
Silent indoor unit	Yes
OUTDOOR UNIT SPECIFICATIONS	
Refrigerant type	R32
Anti-corrosion protection	Yes
REFRIGERANT PIPE SIZE	
Gas tube diameter	As per manufacturer requirements
Liquid tube diameter	As per manufacturer requirements
CONNECTION CHARATERISTICS	
Connecting electricity to an outdoor or indoor unit	to the outside
Connection	1 phase
Supply voltage	220 volts
Current frequency	50 Hz

XIV. Appendix 4: Video Conferencing Room Concept Drawings

KAZAKHSTAN RESIDENT MISSION

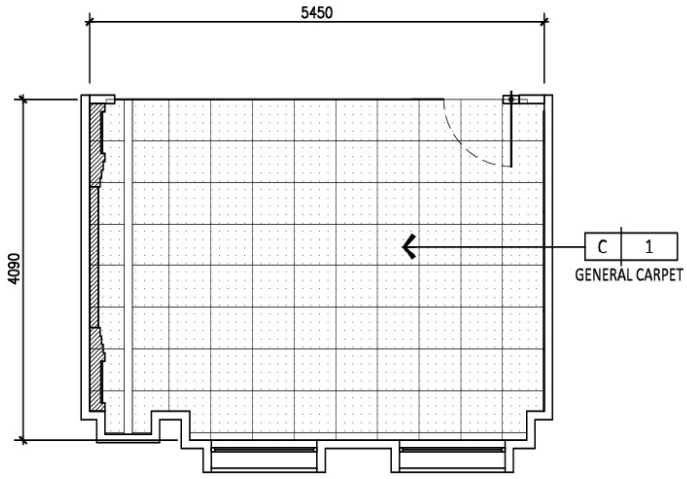
ALMATY SMALL MEETING ROOM - CONCEPT DRAWINGS



KAZAKHSTAN RESIDENT MISSION

PROPOSED VIDEOCONFERENCING ROOM LAYOUT

SCALE: 1:50 MTS. REF DATE: 06 APRIL 2021



KAZAKHSTAN RESIDENT MISSION

PROPOSED FLOOR FINISH PLAN

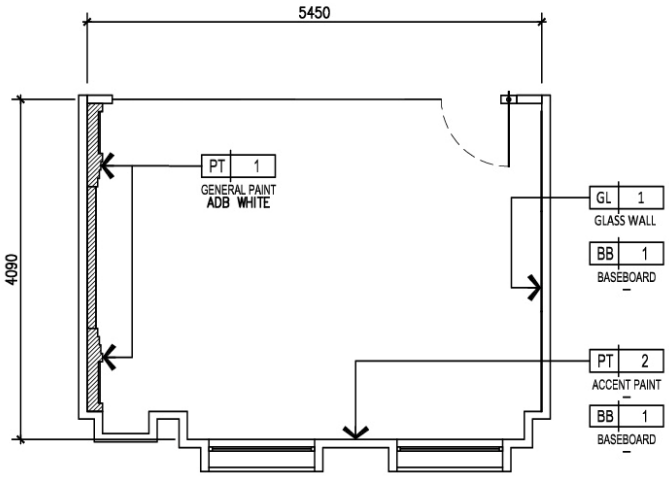
SCALE: 1:50 MTS. REF DATE: 06 APRIL 2021

LEGEND - FLOOR FINISHES		
CODE		DESCRIPTION
C-1		GENERAL CARPET TILES COLLECTION: - CODE: - SIZE: 500mm x 500mm

NOT FOR CONSTRUCTION

KAZAKHSTAN RESIDENT MISSION

ALMATY SMALL MEETING ROOM - CONCEPT DRAWINGS

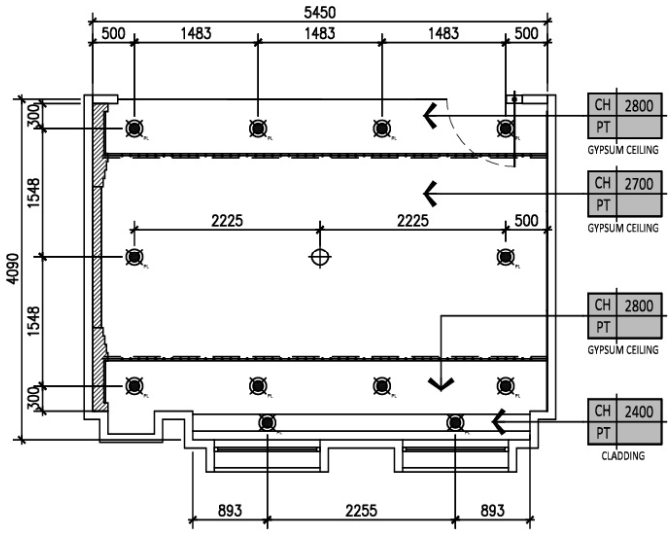


KAZAKHSTAN RESIDENT MISSION

PROPOSED WALL FINISH PLAN

SCALE: 1:50 MTS. REF DATE: 06 APRIL 2021

LEGEND - WALL FINISHES	
CODE	DESCRIPTION
BB-1	SOLID WOOD BASEBOARD 100mm ht. x 20mm THK
GL-1	WRITABLE GLASS WALL
PT-1	CONCRETE WALL / PARTITION IN PAINTED FINISH COLOR: ADB WHITE
PT-2	TEXTURED PAINT COLOR: BEIGE



KAZAKHSTAN RESIDENT MISSION

PROPOSED REFLECTED CEILING PLAN

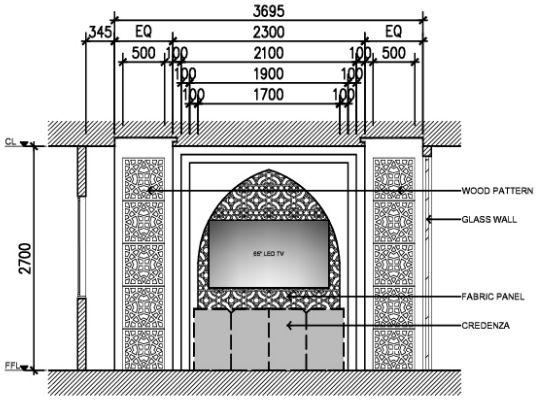
SCALE: 1:50 MTS. REF DATE: 06 APRIL 2021

LEGEND - RCP	
PL	PIN LIGHT
	PENDANT LIGHT
	LED STRIP LIGHT

NOT FOR CONSTRUCTION

KAZAKHSTAN RESIDENT MISSION

ALMATY SMALL MEETING ROOM - CONCEPT DRAWINGS



KAZAKHSTAN RESIDENT MISSION

ELEVATION "A"

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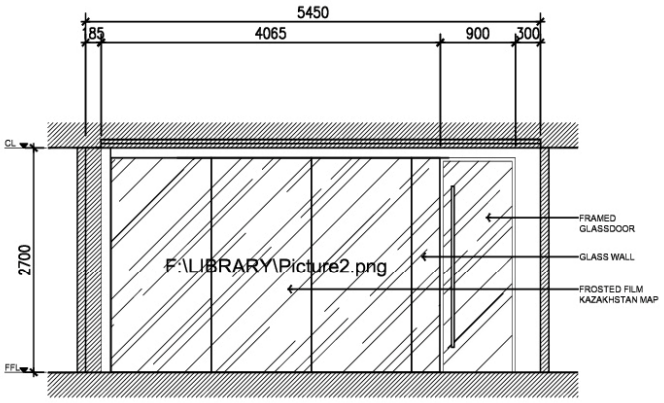

KAZAKHSTAN RESIDENT MISSION

ELEVATION "B"

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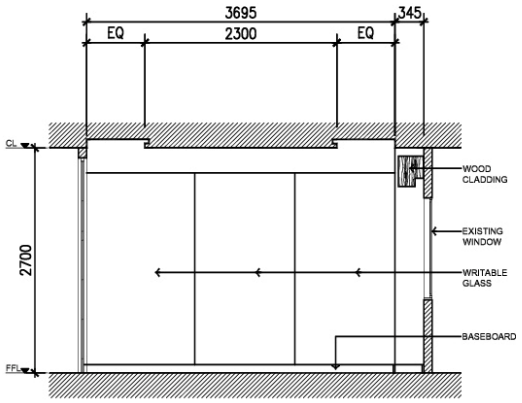
NOT FOR CONSTRUCTION

KAZAKHSTAN RESIDENT MISSION

ALMATY SMALL MEETING ROOM - CONCEPT DRAWINGS



KAZAKHSTAN RESIDENT MISSION

ELEVATION "C"

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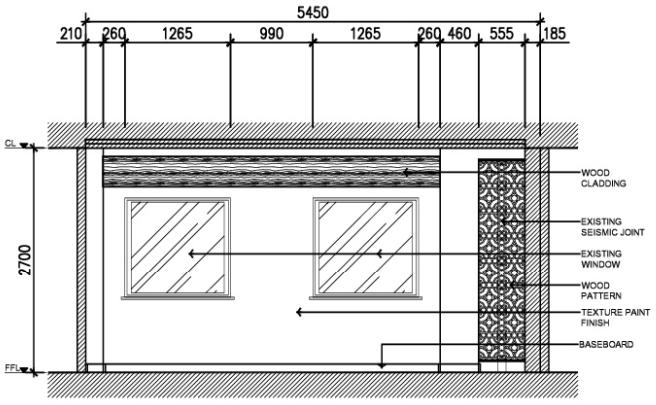

KAZAKHSTAN RESIDENT MISSION

ELEVATION D"

SCALE: 1:50 MTS.

NOT FOR CONSTRUCTION