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དབང་འདུས་ལོ་བྱང་། བཟོ་རིག་སྡེ་ཆེན་

ROYAL GOVERNMENT OF BHUTAN
WANGDUE PHODRANG DZONGKHAG

"Towards a Quality Infrastructure"



DAW/DES-10/2022-2023/3145

Date: 29/11/2022

Invitation for Bids (IFB)

The Dzongkhag Administration, Wangdue invites sealed items rate Bids from the eligible and qualified Bidders registered with CDB for the execution of following works

Sl.No.	Name of work	Estimated Cost (Nu. in millions)	Contractor Category	EMD in Nu.	Contract Duration	Remarks
1	Maintenance of Dialysis Unit and Re-modeling of Mortuary to Histopathology Lab at Wangdue Hosipital.	2.213	W3 (Small)	0	5 months	Open Bidding

- Bidding will be conducted through the open Competitive Bidding procedures specified in the World Bank Procurement Manual, and are open to all the small category Bidders registered with CDB as defined in Section III of the Bidding Documents.
- A complete set of Bidding Documents can be downloaded by the interested bidders from the Dzongkhag website www.wangduephodrang.gov.bt w.e.f **30th Nov, 2022**.
- Bids must be delivered to the office of the Dzongkhag Health Officer on or **before 11:00 AM on 15th Dec, 2022**. Electronic bidding "shall not" be permitted. Late bids will be rejected. Bids will be opened physically in the presence of the intending bidders' representatives who wishes to attend in person at Dzongkhag *Conferences Hall* on **15/12/2022 at 11.30 AM**
- All the Bidding Documents should be properly seal and signed by the bidders.
- The decision of the Dzongkhag tender committee is final and binding


(Sonam Jamtsho)

DZONGDAG

Copy to:

- Dasho Dzongrab, DAW for kind information
- DHO, DAW for information

PROCUREMENT OF SMALL WORKS

Request for Quotations

**For Procurement under COVID-19 Emergency Response
Operations**

Procurement of: Construction of Dialysis unit and Re-modelling of existing Mortuary into Histopathology Lab at Wangdue Phodrang Hospital

Ref No: *MOH-PPD/WB-WORKS/2022-2023/12*

Project: *Bhutan: COVID-19 Emergency Response and Health Systems
Preparedness Project*

Employer: *Ministry of Health*

Country: *Bhutan*

Issued on: *30/11/2022*

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Request for Quotations

**RFQ Ref No.: MoH-PPD/WB-
WORKS/2022-2023/12**

RFQ Date: 30/11/2022

To: All

Dear: *All*

Request for Quotation (RFQ)

1. The *Royal Government of Bhutan* has received financing from the World Bank (Bank) toward the cost of the *COVID-19 Emergency Response and Health Systems Preparedness Project* and intends to apply part of the proceeds toward payments under the contract for *Construction of Dialysis unit and Re-modelling of existing mortuary into histopathology lab at Wangdiphodrang Hospital*.
2. The *Ministry of Health* now invites quotations from contractors for the Works described in Annex 1: Works Requirements, attached to this RFQ.

Fraud and Corruption

3. The Bank requires compliance with the Bank's Anti-Corruption Guidelines and its prevailing sanctions policies and procedures as set forth in the WBG's Sanctions Framework, as set forth in Appendix A to the Contract Conditions.
4. In further pursuance of this policy, Contractors shall permit and shall cause their agents (where declared or not), subcontractors, subconsultants, service providers, suppliers, and personnel, to permit the Bank to inspect all accounts, records and other documents relating to the RFQ and Contract performance (in the case of award), and to have them audited by auditors appointed by the Bank.

Eligible Materials, Equipment and Services

5. The materials, equipment and services to be supplied under the Contract and financed by the Bank may have their origin in any country subject to Para. 9. At the Employer's request, Contractors may be required to provide evidence of the origin of materials, equipment and services.

Eligible Contractors

6. In case the Contractor is a joint venture (JV), all members shall be jointly and severally liable for the execution of the entire Contract in accordance with the Contract terms. The JV shall nominate a representative who shall have the authority to conduct all business for and on behalf of any and all the members of the JV during the Request for Quotations process and, in the event the JV is awarded the Contract, during contract execution.

7. A Contractor may have the nationality of any country, subject to the restrictions pursuant to paras. 8 and 9 hereinafter. A Contractor shall be deemed to have the nationality of a country if the Contractor is constituted, incorporated or registered in, and operates in conformity with, the provisions of the laws of that country, as evidenced by its articles of incorporation (or equivalent documents of constitution or association) and its registration documents, as the case may be. This criterion also shall apply to the determination of the nationality of proposed subcontractors or subconsultants for any part of the Contract including Related Services.
8. Firms and individuals may be ineligible if so indicated in para.9 below and:
 - (a) as a matter of law or official regulations, the Borrower's country prohibits commercial relations with that country, provided that the Bank is satisfied that such exclusion does not preclude effective competition for the supply of goods or the contracting of works or services required; or
 - (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower's country prohibits any import of goods or contracting of works or services from that country, or any payments to any country, person, or entity in that country.
9. In reference to paras. 5 and 7, for the information of Contractors, at the present time firms, goods and services from the following countries are excluded from this procurement process:
 - (a) Under para. 5 and 8 (a): *none*
 - (b) Under para. 5 and 8 (b): *none*
10. A Contractor that has been sanctioned by the Bank, pursuant to the Bank's Anti-Corruption Guidelines, in accordance with its prevailing sanctions policies and procedures as set forth in the WBG's Sanctions Framework as described in the appendix to the Contract Conditions (Appendix A) paragraph 2.2 d., shall be ineligible to submit Quotations or be awarded or otherwise benefit from a Bank-financed contract, financially or otherwise, during such period of time as the Bank shall have determined. A list of debarred firms and individuals is available on the Bank's external website: <http://www.worldbank.org/debarr>.
11. Contractors that are state-owned enterprises or institutions in the Employer's country may be eligible to compete and be awarded a Contract(s) only if they can establish, in a manner acceptable to the Bank, that they:
 - (a) are legally and financially autonomous;
 - (b) operate under commercial law; and
 - (c) are not under supervision of the Employer.
12. A Contractor shall not have a conflict of interest. Any Contractor found to have a conflict of interest shall be disqualified. A Contractor may be considered to have a conflict of interest for the purpose of this Request for Quotations process, if the Contractor:
 - (a) directly or indirectly controls, is controlled by or is under common control with another Contractor that submitted a Quotation;

- (b) receives or has received any direct or indirect subsidy from another Contractor that submitted a Quotation;
- (c) has the same legal representative as another Contractor that submitted a Quotation;
- (d) has a relationship with another Contractor that submitted a Quotation, directly or through common third parties, that puts it in a position to influence the Quotation of another Contractor, or influence the decisions of the Employer regarding this Request for Quotations process; or
- (e) or any of its affiliates participated as a consultant in the preparation of the design or technical specifications of the works that are the subject of the Request for Quotations process; or
- (f) or any of its affiliates has been hired (or is proposed to be hired) by the Employer or Borrower for implementing the Contract; or
- (g) would be providing goods, works, or non-consulting services resulting from, or directly related to consulting services for the preparation or implementation of the project specified in this Request for Quotations, that it provided or were provided by any affiliate that directly or indirectly controls, is controlled by, or is under common control with that firm; or
- (h) has a close business or family relationship with a professional staff of the Borrower (or of the project implementing agency, or of a recipient of a part of the loan) who:
 - (i) are directly or indirectly involved in the preparation of the Request for Quotations or specifications and/or the evaluation of Quotations, of the subject Contract; or
 - (ii) would be involved in the implementation or supervision of such Contract unless the conflict stemming from such relationship has been resolved in a manner acceptable to the Bank throughout the Request for Quotations process and execution of the Contract.

Performance Security

13. The successful Contractor shall submit a Performance Security in accordance with the Contract Conditions.

Validity of Quotations

14. The quotations shall be valid until 30 *days from the deadline for submission of Quotations*.

Price

15. The Contractor shall quote its total price in the Contractor's Quotation Form.

Admeasurement contracts

16. *The Contractor shall also fill in its rates and prices for all items of the Works described in the attached Bill of Quantities. Items against which no rate or price is entered by the Contractor will not be paid for by the Employer when executed and shall be deemed covered by the rates for other items and prices in the Bill of Quantities.*

The rates and prices shall include all duties, taxes, and other levies payable by the Contractor under the Contract, as of the date 7 (seven) days prior to the deadline for submission of quotations

16. A Contractor expecting to incur expenditures in other currencies for inputs to the Works supplied from outside the Employer's Country and wishing to be paid accordingly, shall indicate a foreign currency of its choice in addition to the local currency in: Ngultrum
17. The currency(ies) of the Quotation and the currency(ies) of payments shall be the same.

Technical proposal

18. The Contractor shall furnish a technical proposal including a statement of work methods, equipment, personnel, schedule and any other relevant information, in sufficient detail to demonstrate the adequacy of its proposal to meet the work's requirements and the completion time.

Clarifications

19. Any clarification request regarding this RFQ may be sent in writing to **Phub Gyem, Site Engineer** (phubgyem@wangduephodrang.gov.bt) before **15/12/2022 on or before 11:00AM**. The Employer will forward copies of its response to all Contractors including a description of the inquiry but without identifying its source.

Submission of Quotations

20. Quotations shall be submitted in the form attached at Annex 2 and **one original and duplicate copy**.
21. The deadline for submission of Quotations is **15/12/2022 on or before 11:00 AM**
22. The address for submission of Quotations is:

Attention: **Rinchen Dorji, ADHO, Wangdue Phodrang**

E-mail address: rdorji@wangduephodrang.gov.bt

Opening of Quotations

23. Quotations will be opened by the Employer's representatives immediately after the deadline for the submission of Quotations.

Evaluation of Quotations

24. The quotations will be evaluated to determine substantial responsiveness of the technical proposal.
25. For evaluation and comparison purposes, the currency(ies) of the Quotations shall be converted into a single currency. The currency that shall be used for comparison purposes to convert at the selling exchange rate offered prices expressed in various currencies into a single currency is: *Ngultrum*. The source of exchange rate shall be: Royal Monetary Authority The date for the exchange rate shall be: *15/12/2022*
26. For technically compliant quotations, the total evaluated prices, excluding provisional sums and any provision for contingencies but including day works where priced competitively, will be compared to determine the lowest evaluated price/s.

Contract Award

27. The Contract will be awarded to the Contractor who meets the eligibility requirements in accordance with the RFQ, offers the lowest evaluated price/s, offers a technically compliant quotation, and guarantees completion of the Works by the specified date.
28. The Employer shall invite by the quickest means the successful Contractor/s for any discussion that may be needed to conclude the contract or otherwise for contract signature.
29. The Employer shall communicate by the quickest means with the other Contractors on its contract award decision. An unsuccessful Contractor may request clarifications as to why its quotation was not determined to be successful. The Employer will address this request within a reasonable time.
30. The Employer shall publish a contract award notice on its website with free access, if available, or in a newspaper of national circulation or UNDB online, within 15 (fifteen) days after award of contract. The information shall include the name of the successful Contractor, the Contract Price, the Contract duration, summary of its scope and the names of the Contractors and their quoted and evaluated prices.

On behalf of the Employer:

Signature:

Name: Rinchen Dorji

Title/position: Dzongkhag Health Officer, Wangdue Phodrang, MoH

Attachments:

Annex 1: Works Requirements

Annex 2: Quotation Form

Annex 3: Contract Forms

ANNEX 1: Works Requirements Specifications

The Contractor must submit the following documents:

- *Valid Trade License*
- *Valid CDB certificate*
- *Valid Tax Clearance certificate.*

1. Key Personnel : *Minimum qualifications of key staff*

No.	Position	Qualification	Number of years of relevant experience
1	Site Supervisor	Class X and above	2 years and above

- 2. Labor Management Plan:** *The winning bidder shall prepare the LMP based on the labors to be engaged and with the guidance of the ESMF.*
- 3. List of Drawings attached:**
- *Architectural Drawing*
 - *Structural Drawing*
 - *Electrical Drawing*
- 4. Documents attached:**
- *ESMP*
 - *Screening form for potential environmental and social issues*

#Note: *Failure to submit any of the above documents shall be considered unresponsive to the bid (rejection of bid).*

ANNEX 2: Quotation Forms

Contractor Quotation Form

From:	
Contractor's Representative:	
Title/Position:	
Address:	
Email:	

To:	<i>MoH</i>
Employer's Representative:	<i>Rinchen Dorji</i>
Title/Position:	<i>ADHO</i>
Address:	<i>Wangduphodrang, rdorji@wangduephodrang.gov.bt</i>
RFQ Ref No.:	<i>MOH-PPD/WB-WORKS/2022-2023/12</i>
Date of Quotation:	<i>(15/12/2022 on or before 11:00AM)</i>

Dear *Madam/Sir*,

SUBMISSION OF QUOTATION

1. Conformity and No Reservations

In response to the above named RFQ, we offer to execute the Works as per this Quotation and in conformity with the RFQ, Delivery and Completion Schedules and Technical Specifications. We confirm that we have examined and have no reservations to the RFQ, including the Contract.

2. Eligibility

We meet the eligibility requirements and have no conflict of interest, in accordance with the Request for Quotations.

3. Suspension and Debarment

We, along with any of our subcontractors, suppliers, consultants, manufacturers, or service providers for any part of the contract, are not subject to, and not controlled by any entity or individual that is subject to, a temporary suspension or a debarment imposed by the World Bank Group or a debarment imposed by the World Bank Group in accordance with the Agreement for Mutual Enforcement of Debarment Decisions between the World Bank and other development banks. Further, we are not ineligible under the Employer's Country

laws or official regulations or pursuant to a decision of the United Nations Security Council.

4. Quotation Price

The total price of our offer is _____

Total price is: _____
[insert the total quoted price in words and figures, indicating the various amounts and the respective currencies];

5. Quotation Validity

Our Quotation shall be valid until the date specified in the RFQ, and it shall remain binding upon us and may be accepted at any time before it expires.

6. Performance Security

If we are awarded the Contract, we commit to obtain a Performance Security in accordance with the RFQ.

7. Commissions, gratuities, fees

We have paid, or will pay the following commissions, gratuities, or fees with respect to this Quotation

[If none has been paid or is to be paid, indicate "none."]

Name of Recipient	Address	Reason	Amount

8. Not Bound to Accept

We understand that you reserve the right to:

- a. accept or reject any Quotation and are not bound to accept the lowest evaluated cost Quotation, or any other Quotation that you may receive, and
- b. annul the RFQ process at any time prior to the award of the Contract without incurring any liability to Contractors.

9. Fraud and Corruption

We hereby certify that we have taken steps to ensure that no person acting for us, or on our behalf, engages in any type of Fraud and Corruption.

On behalf of the Contractor:

Name of the person duly authorized to sign the Quotation on behalf of the Contractor:

[insert complete name of person duly authorized to sign the Quotation]*

Title of the person signing the Quotation:

[insert complete title of the person signing the Quotation]

Signature of the person named above:

[insert signature of person whose name and capacity are shown above]

Date signed ***[insert date of signing]*** day of ***[insert month], [insert year]***

*The power of attorney shall be attached to the Quotation.

Schedules

Bill of Quantities

<i>Item no.</i>	<i>Description</i>	<i>Unit</i>	<i>Quantity</i>	<i>Rate</i>	<i>Amount</i>
A	Civil BoQ Dialysis Unit				
1	Demolishing brick work including stacking useful materials & disposal of rubbish within 50m lead:In cement mortar	Cum	0.59		
2	Dismantling marble flooring laid in cement mortar including stacking useful materials & disposal of rubbish within 50m lead	Sqm	56.95		
3	Dismantling Aluminum doors, windows and clerestory windows >3sq.m (steel\wood) including architrave, hold fasts, and stacking within 50m lead	Sqm	3.6		
	RO Room and Dialysis Toilet				
4	Providing & laying Concrete Solid Block Masonry (115 mm) in superstructure below floor 2 level;in cement mortar 1:4	Cum	51.76		
5	Providing & laying 20mm cement plaster;C.M 1:4	Sqm	91.13		
6	Providing & applying one coat of primers	Sqm	91.13		
7	Acrylic washable distemper, two coats on new work,including cement primer coat	Sqm	91.13		
8	P&f white/ coloured glazed non-skid tiles in flooring, treads of steps and	Sqm	6.19		

	landings laid on bed of 25 to 75 mm thick cement mortar 1:3 finished with flush pointing in white cement: 600x600mm. Rate shall be inclusive of an extra for the cut tiles area.				
9	P&f white/coloured Glazed tiles,150x150mm in skirting, step risers,dado,finished with flush- pointing in white cement	Sqm	11.63		
10	Providing and applying Dr. Fixit Fastflex or equivalent in toilets, shower, drain and other wet areas (if any) as per the standard procedures to completely make waterproof. 1) Surface preparation: The substrate must be sound , clean and free from dirt, oil and loose materials. The floor and masonry surface should be fully cured prior to applications. All surface cracks, undulations and voids must be repaired before the application of waterproof materials.The substrate must be surface dry prior to application.2) Mixing:By using a slow speed mechanical mixer and clean suitable mixing vessel, slowly add the powder component to the liquid ploymer and stir until a smooth and homogeneous slurry is achieved. Then allow it to stand for 5-10 minutes before use. Do not dilute with water. 3) Application: Apply by brush, roller or trowel. Allow the first coat to dry for 6-8 hrs before applying the second coat. Apply the second coat at right angles to the first coat. Sprinkle sand coat to provide key for subsequent works. Then protect it with screed of 5mm and finally finishing works.	Sqm	10.8		
11	Providing & laying cement plaster, finished with floating coat of neat cement; 20mm plaster in C.M 1:3 on drain.	Sqm	11.86		
12	P&f centering and shuttering (formwork), including strutting, propping etc. and removal	Sqm	3.94		

	of formwork up to floor two level				
13	P&L in position PCC excluding the cost of centering and shuttering - All work upto floor two level.1:2:4 (1 cement : 2 sand : 4 graded crushed rock 20 mm nominal size)	Cum	5.68		
14	Providing and fixing hinged/sliding doors of aluminium section specification same as above with adjustable floor mounted door closer, including providing and fixing 6mm thick glass sheet with same specification of aluminium beading sealed with approved sealing compound and 8 mm thick particle board with 1.5mm thick laminate in lower panel complete, all doors complete with necessary fixtures and fittings such as handles, tower bolts, locks, etc. (aluminium sections from approved manufacturer as approved by the architect as per drawings).	Sqm	18.95		
15	Providing and fixing partition of ASTM 6063 aluminium alloy sections, 20 micron electrophoretic coating of approved shade for fixed windows' frames of specified sections including providing and fixing 6mm thick clear glass sheet, 8 mm thick particle board with 1.5mm thick laminate in lower panel, rubber gasket and glazing clip for fixing sheet glass, weather strips/weather seals etc. all windows complete with necessary fixtures and fittings etc. (aluminium sections from approved manufacturer as approved by the architect).	Sqm	32.73		
16	Providing and supplying frosted sticker for window glass	Sqm	1.68		
17	P&f in position dressed wood work in frames of doors, windows, clerestory windows and other frames, wrought and framed, with Class	Cum	1.18		

	A conifer.				
18	Providing & fixing Pre-laminated Particle Board Lining on both sides with necessary nails etc. complete - 18 mm thick	Sqm	2.94		
19	Providing & fixing shutter with Pre-laminated Particle Board Lining on both sides with necessary nails etc. complete - 12 mm thick	Sqm	1.05		
20	Providing & fixing S.S. handle with necessary screws etc. complete - 125 mm	Each	4		
21	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge. Internal work; 15 mm nominal outer dia Pipes.	m	17.8		
22	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge. Internal work; 20 mm nominal outer dia Pipes.	m	58.2		
23	Providing & laying uPVC soil waste Pipes including fittings pressure class 4 kg/sq.cm complete - 75mm	m	41.05		
24	P&f floor Trap in toilet 110 mm dia	Each	1		

25	P&f toilet paper holder C.P. brass	Each	1		
26	Providing & fixing soap dish including brackets, wooden cleats, c.p. brass screws	Each	1		
27	Providing & fixing cp brass bib cock	Each	3		
28	P&f c. p brass stop cock of 15mm	Each	5		
29	Providing & fixing c.p. brass mixers, 15mm	Each	2		
30	P&f C.P. Brass shower fittings - Shower with revolving joint, 15mm,	Each	1		
31	Providing & fixing plastic tank including all accessories complete;1000 litre capacity	Each	1		
32	P&F European-type vitreous china w.c pedestal including seat and lid with c.p brass hinges,15lit white vitreous china low level cistern, fittings, brackets, repair walls	Each	1		
33	Providing & fixing Electric water heater including necessary fittings -25 litres	Each	1		
34	Providing & laying uPVC soil waste Pipes including fittings pressure class 4 kg/sq.cm complete - 110mm	m	16		
Total for Dialysis Unit civil (A)					
B	<i>Electrical works Dialysis Unit</i>				
35	Wiring for light, fans, call bell and 2 pin light socket outlet with 1.5 sq.mm 1.1kV grade, PVC insulated copper conductor cable in PVC casing and capping including connections, painting, testing & commissioning etc., as required. <i>(Lighting Connection with looping for the second luminary will be calculated in running metre)</i>				
	Medium Point	Each	3		

	Long Point	Each	8		
36	Wiring for 3-pin, 6 ampere plug point with 2.5 sq.mm 1.1KV grade, PVC insulated copper conductor cable in PVC casing & capping with providing and fixing 3/5 pin, 6 ampere socket outlet and switch including earthing the third pin, connections, painting, testing and commissioning etc. as required				
	Medium Point	Each	2		
37	Wiring for points in excess length above long points with 1.1kV grade, PVC insulated copper conductor cable in PVC casing and capping including connections, painting, testing and commissioning etc. as required at site: 2x1.5 sq.mm	m	10		
38	Wiring for lighting circuit with 1.1kV grade, PVC insulated copper conductor cable in PVC casing & capping including connections, painting, testing & commissioning etc. as required: 2x2.5 sq.mm	m	60		
39	Wiring for power circuit with 1.1kV grade, PVC insulated copper conductor cable in PVC casing & capping including connections, painting, testing & commissioning etc. as required: 2x4 sq.mm	m	300		
40	Wiring for earth wiring for 16A power point with 1.1kV grade, PVC insulated copper conductor cable in existing casing capping along with other wires including connections, painting, testing and commissioning etc. as required. (Include connection from earthing station to bus bar and from bus bar to DB) : 1x2.5 sq.mm for 16A Power circuit	m	350		

41	Supplying & fixing of 1 way 16A switch and socket outlet with 3 MODULE PVC surface box, including necessary cutting, connection testing etc. as required. <i>(With a brand approved switch/socket by the site engineer)</i>	Each	19		
INDOOR LUMINIARIES AND EXHAUST FAN					
42	Supplying & fixing of LED Tube light fitting suitable for 18 watts LED, 80< Luminous Efficiency, Cool White Light lamps complete with all accessories including lamp and fixation on wall as required at site for a brand approved by the site engineer.: Tube Light 1x18W	Each	9		
43	Supplying and fixing of LED ceiling light, surface type suitable for 18watts, round type, cool white light complete will all accessories including converter complete in all respect as required at site for a brand approved by the site engineer. : LED Surface Light 1x18W	Each	1		
44	Supplying, installation, testing & commissioning of exhaust fan 240 volt A.C 900 rpm with all accessories such as frame with arm 3 Nos., sweep 3 Nos., condenser and fan body etc. complete as required: 300mm Sweep 900RPM	Each	2		
Control Gear					
45	Supplying, installation, testing and commissioning of miniature circuit breaker (MCB) single pole, 230 volt A.C complete with all accessories suitable to fix on a dinbar etc. as required.				

	6A, SP MCB	Each	6		
	16A, SP MCB	Each	19		
46	Supply, installation, testing and commissioning of miniature circuit breaker (MCB) triple pole & neutral, 415 volt A.C complete with all accessories suitable to to fix on a din-bar etc. as required at site. : 25A MCB TPN for DB	Each	1		
47	Supplying and installation, testing and commissioning of panel moulded case circuit breaker (MCCB) with electronic release, breaking capacity 16KA, 4 pole 415 volt A.C complete with all accessories one each as main switch for incomer at the RO from busbar and one at the main busbar outgoing etc. as required at site.				
	100A MCCB	Each	1		
	125A MCCB	Each	1		
48	Supply & Installation, testing & commissioning of residual current circuit breaker (RCCB) 4 pole, sensitivity 100mA, 415 volt A.C complete with all accessories suitable to to fix on a din-bar etc. as required: 25A RCCB	Each	1		
49	Supply and fixing of TPN distribution board (DIN type, horizontal) with acrylic door, 415 volt A.C complete with all accessories without MCB/isolator/RCCB out going or incoming etc. as required: 8 way, TPN DB	Each	1		
50	Supplying, installation, testing and commissioning of pre-fabricated MS busbar chamber with copper busbar	Each	1		

	complete with all accessories etc. as required: 4 Strips,300mm bar,200A				
<i>Power Cable</i>					
51	Supplying of 4- Core 1.1KV grade PVC insulated and sheathed Aluminium conductor armoured power cables including thimble as required at site. <i>(The length to be verified as per site requirement)</i>				
	4core x 95sq.mm (from floor panel to busbar)	m	80		
	4core x 10sq.mm (from Main Busbar to DB)	m	5		
<i>Laying of Power Cable</i>					
52	Laying of one number PVC insulated and sheathed power cable copper/aluminium, armoured/un-armoured 1.1KV single core to four core in the exisiting building/masonry open duct as required at site				
	Above 6sq.mm to 25sp.mm	m	5		
	Above 70sq.mm to 150sq.mm	m	80		
<i>Telephone and Internet Cable/ Socket</i>					
53	Provide and draw high density polythene insulated & sheathed copper conductor 0.5mm dia telephone wire in Casing and Caping wiring system complete as required: 1 Pair	m	100		
54	Suppling and installation of telephone socket including, face plate of 2 Module and back box, complete as required as site. Two module for telephone socket and internet socket : RJ 11 telephone socket	Each	1		
55	Provide and draw CAT 6 cable/Ethernet				

	cable from floor switch box with casing caping, angle, sleeve complete as required at site				
	Cat 6 Ethernet cable	m	140		
	RJ 45 computer socket	Each	1		
Total for Dialysis Unit Electrical (B)					

C Remodeling of Mortuary to Histopathology Lab (C)

56	Demolishing brick work including stacking useful materials & disposal of rubbish within 50m lead	Cum	0.98		
57	Demolishing cement concrete 1:3:6 & richer, including disposal of materials within 50m lead	Cum	0.11		
58	Dismantling doors, windows, and clerestory windows<3sq.m (steel, wood) including architrave, hold fasts, stacking within 50m lead	Each	2		
59	Taking out doors, windows and clerestory window shutters >3sq.m (steel or wood) including stacking within 50m lead	Each	1		
60	Dismantling of marble flooring laid in cement mortar including stacking useful materials & disposal of rubbish within 50m lead	Sqm	0.7		
61	Demolishing cement concrete 1:4:8 & leaner, including disposal of materials within 50m lead	Cum	0.27		
62	Providing & laying in position reinforced cement concrete 1:2:4, 20mm crushed aggregate excluding the cost of centering, shuttering and reinforcement - in beams, lintels bands etc all work above plinth.	Cum	0.7		
63	Providing & fixing Thermo-Mechanically Treated reinforcement bar (Yield Strength 500 MPa) for R.C.C	Kg	68.04		

	work including cutting, bending, binding and placing in position complete				
64	Providing & fixing centering and shuttering (formwork) for slab including strutting, propping etc. and removal of formwork	Sqm	11.9		
65	Providing & laying Second-Class Brick work in half brick wall in cement mortar 1:4 below floor 2 level + extra lift.	Sqm	16		
66	Providing & laying 15-20mm thick cement plaster on brick walls in C.M 1:4	Sqm	34		
67	Providing and applying finishing coats- Acrylic washable distemper, two coats on new work, including cement primer coat	Sqm	34		
68	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply, including all CPVC plain & brass threaded fittings, including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge. Internal work - Exposed on wall - Size 20mm	m	50		
69	Providing & fixing Stainless steel, 580 x 480 x 175 mm, single bowl including all connections and fittings.	Each	5		
70	Providing & fixing c.p. brass mixers, 15mm For basin, elbow action, surgical with shower	Each	5		
71	Providing & fixing 600x450mm bevelled edge mirror (superior glass) incl.4mm A.C sheet base fixed to wooden cleats	Each	1		
72	Providing and fixing 32mm dia pvc waste pipe	Each	6		

73	Providing & fixing P.V.C soil waste and vent pipes, single or double socketed, including pipe clip complete (excluding the cost of PVC fittings)-75mm dia	m	10		
74	Providing & fixing P.V.C plain bend , 75mm	Each	12		
75	Providing & fixing P.V.C door bend , 75mm	Each	12		
76	Providing & fixing P.V.C Nahani Trap- 110mm inlet & 75mm outlet	Each	6		
77	Providing & fixing white vitreous china wash basin, including C.I brackets, 15mm C.P. brass pillar taps, c.p. chain & rubber plug, 32mm pvc waste, 32mm dia. trap & union, repair walls-Flat back wash basin 550x400mm with single 15mm c.p. brass pillar tap	Each	1		
78	Providing & fixing anodised Aluminium section for doors, windows, ventilators, partitions framing, false ceiling framing of specified sections including all accessories such as U-rubber gasket for fixing glass panes, weather strips or weather seals, roller, springs, handle,tower bolt etc complete (excluding the cost of glass panes or boards in case of partitions/doors/windows and ceiling boards in case of ceiling)	Kg	380.87		
79	Providing & fixing to frames Pre laminated Particle Board with necessary nails etc. complete as per drawing(excluding cost of frames) 10mm thick.	Sqm	22.78		
80	Providing and fixing plain glass/tampered on aluminium section complete (excluding the cost of aluminium frame & accessories) - 5.5mm thick, plain glass/6mm tampered glass complete as per drawing.	Sqm	48.57		
81	Providing & fixing bright finish brass 100 mm mortise latch with necessary	Each	7		

	screws etc. complete.				
82	Providing and laying Pre-Polished/ Polished Granite of approved quality and source in flooring using necessary cement bedding in C.M. 1:4 upto 20 mm thick average cement slurry for fixing the tiles with required slopes, curing, cleaning, filling the joints with pigments of similar colour and at all levels with all leads and lifts etc. complete as per directions of site in-charge and as per pattern required 18mm Thick granite stone flooring over 18mm thick base of cement mortar 1:4.	Sqm	14		
83	Providing and laying Pre-Polished/ Polished Granite of approved quality and source in flooring using necessary cement bedding in C.M. 1:4 upto 20 mm thick average cement slurry for fixing the tiles with required slopes, curing, cleaning, filling the joints with pigments of similar colour and at all levels with all leads and lifts etc. complete as per directions of site in-charge and as per pattern required	m	10		
84	Providing & laying marble stone flooring over 20mm thick base of cement mortar 1:4, jointed with grey cement slurry mixed with pigment where necessary, rubbing & polishing complete	Sqm	1.75		
85	Providing and laying Plinth Protection and grouted with fine sand mix including well rammed, finishing the top smooth, With 50mm thick cement concrete 1:3:6, 20mm aggregates, laid over 75mm thick layer of compacted gravel (40mm)	Sqm	0.9		
86	Providing & fixing Electric water heater including necessary fittings: 15 litre	Each	5		

Total for Remodeling of Mortuary to Histopathology Lab (C)

Electrical for Histopathology Lab (D)

WIRING-Casing Capping

87	Wiring for light, fans, call bell and 2 pin light socket outlet with 1.5 sq.mm 1.1kV grade, PVC insulated copper conductor cable in PVC casing and capping including connections, painting, testing & commissioning etc., as required.				
	Short point	Each	2		
	Medium point	Each	1		
88	Wiring for lighting circuit with 1.1kV grade, PVC insulated copper conductor cable in PVC casing & capping including connections, painting, testing & commissioning etc. as required : 2x2.5 sq.mm	m	70		
89	Wiring for power circuit with 1.1kV grade, PVC insulated copper conductor cable in PVC casing & capping including connections, painting, testing & commissioning etc. as required: 2x4 sq.mm	m	370		
90	Wiring for earth wiring for 16A power point with 1.1kV grade, PVC insulated copper conductor cable in existing casing capping along with other wires including connections, painting, testing and commissioning etc. as required.: 1x2.5 sq.mm for 16A Power circuit	m	370		
91	Supplying & fixing of concealed PVC boxes for switch/socket outlet/switch socket combined/ gang switches & frame on surface including cutting, painting etc. complete as required.				
	1 module	Each	3		
	3 module(including PVC boxes for power sockets)	Each	24		
92	Supplying& fixing of plates & frame for switch/socket outlet/ switch socket combined/gang switches,etc as required.				
	Plate 1-module with frame	Each	3		
	Plate 3-module with frame	Each	24		

93	Supplying & fixing of 1 way 16A switch and socket outlet on existing PVC surface box, including necessary cutting, connection testing etc. as required. <i>(With a brand approved switch/socket by the site engineer)</i> : 5/6 pin, 16A Modular socket outlet with 16A switch	Each	24		
Control Gear					
94	Supplying of miniature circuit breaker (MCB) single pole, 230 volt A.C complete with all accessories suitable to fix on a dinbar etc. as required.				
	10A, SP MCB	Each	3		
	16A, SP MCB	Each	24		
95	Supply of miniature circuit breaker (MCB) triple pole & neutral, 415 volt A.C complete with all accessories suitable to to fix on a din-bar etc. as required at site.				
	63A TPN MCB for SDB-2	Each	1		
96	Supply of TPN distribution board (DIN type, horizontal) with arcylic door, 415 volt A.C complete with all accessories without MCB/isolator/RCCB out going or incoming etc. as required				
	12 way, TPN DB	Each	1		
Power Cable					
97	Supplying of 4- Core 1.1KV grade PVC insulated and sheathed Aluminium conductor armoured power cables including thimble as required at site.				
	4core x 25sq.mm (from Busbar to SDB-2)	m	60		
Laying of Power Cable					

98	Laying of one number PVC insulated and sheathed power cable copper/aluminium, armoured/un-armoured 1.1KV single core to four core in the existing building/masonry open duct including drilling holes and fastening with saddle on the walls as required at site				
	Above 6sq.mm to 25sq.mm	m	60		
<i>Fans and AC</i>					
99	Providing & fixing Split Type Air Conditioners				
	1 tonne, split type	Each	2		
	1.5 tonne, split type	Each	1		
<i>Telecommunication</i>					
100	Providing & draw high density PVC insulated & sheathed copper conductor 0.5mm dia telephone wire in existing surface/recessed PVC conduit including termination at end point.: 2pair	m	40		
101	Providing and draw CAT-6 4pair cable in existing conduit with end terminations.: CAT-6 Cable	m	40		
102	Providing & fixing of RJ 11 telephone socket outlet with PVC box and gang plate including connection testing etc. complete in all respect.: RJ 11	Each	3		
103	Providing & fixing of RJ 45 socket outlet PVC box and gang plate including connection testing etc. complete in all respect: RJ45	Each	4		

104	Providing, fixing, testing & commissioning of 8 port Gigabit unmanaged network switch including termination complete in all respect.	Each	1		
105	Providing & Installation, testing & commissioning of Gigabit Media converter, Single mode.	Each	1		
Total Electrical for Histopathology(D)					
106	<p>Incorporation of OHS measures at construction sites as per the attached requirements list. The standards and specifications for insurance, OH materials and (or) equipments shall be in compliance with the Labour and employment Act-2007, Regulations on occupational health. Safety and Welfare-2012 and other relevant national documents. All OSH items will remain as the property of the bidder upon completion of project. (The payment shall be made based on the items issued to the workers at site:-</p> <ol style="list-style-type: none"> 1. Safety Helmet 2. Safety Boots 3. Hand gloves <p>The bill/cash memo submitted by the contractor will be verified by site enginner/ relevant officials for payment purposes)</p>	L /sum	1		
GRANT TOTAL(A+B+C+D+OHS)					

Technical Proposal

The Contractor shall provide:

- the names and details of the suitably qualified key personnel to perform the Contract
- adequate information to demonstrate clearly that it has the capability to meet the requirements for the key equipment for the Contract
- Work Schedule
- its method statement on the execution of the works
- mobilization and construction schedule
- A summary of other information, if any, that the Contractor considers relevant

ANNEX 3: Contract Forms

Contract Agreement

THIS AGREEMENT made the day of , between *[name of the Employer]*. (hereinafter “the Employer”), of the one part, and *[name of the Contractor]*. (hereinafter “the Contractor”), of the other part:

WHEREAS the Employer invited a Quotation for the execution of Works, *Construction of Dialysis unit and Re-modelling of existing mortuary into histopathology lab at Wangdiphodrang Hospital* and has accepted the Quotation by the Contractor for the Works:

The Employer and the Contractor agree as follows:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Contract documents referred to.
2. The following documents shall be deemed to form and be read and construed as part of this Agreement. This Agreement shall prevail over all other Contract documents.
 - (a) the Letter of Award of Contract
 - (b) the Contractor’s Quotation
 - (c) the Conditions of Contract, including Appendices
 - (d) the Specifications
 - (e) the Drawings
 - (f) Bill of Quantities;
 - (g) any other document listed in the CC as forming part of the Contract.
3. In consideration of the payments to be made by the Employer to the Contractor as specified in this Agreement, the Contractor hereby covenants with the Employer to execute the Works and to remedy defects therein in conformity in all respects with the provisions of the Contract.
4. The Employer hereby covenants to pay the Contractor in consideration of the execution and completion of the Works and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

IN WITNESS whereof the parties hereto have caused this Agreement to be executed in accordance with the laws of *Royal Government of Bhutan* on the day, month and year specified above.

Signed by: _____
for and on behalf of the Employer

in the
presence
of: _____
Witness, Name, Signature, Address, Date

Signed by: _____
for and on behalf the Contractor

in the
presence
of: _____
Witness, Name, Signature, Address, Date

Conditions of Contract

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Conditions of Contract

[Note: All italicized text is for use in completing the contract and shall be deleted from the final Conditions of Contract]

A. General

1. Definitions

- 1.1 The following words and expressions shall have the meanings hereby assigned to them. Boldface type is used to identify defined terms.
- (a) The **Accepted Contract Amount** means the amount accepted in the Letter of Award of Contract for the execution and completion of the Works and the remedying of any defects.
 - (b) The **Activity Schedule** is a schedule of the activities comprising the construction, installation, testing, and commissioning of the Works in a lump-sum contract. It includes a lump-sum price for each activity, which is used for valuations and for assessing the effects of Variations and Compensation Events.
 - (c) The **Adjudicator** is the person appointed jointly by the Employer and the Contractor to resolve disputes in the first instance, as provided for in **CC 21**.
 - (d) **“Bank”** means the World Bank and refers to the International Bank for Reconstruction and Development (IBRD) or the International Development Association (IDA).
 - (e) **Bill of Quantities** means the priced and completed Bill of Quantities forming part of the Contractor’s Quotation.
 - (f) **Compensation Events** are those defined in **CC 40**.
 - (g) The **Completion Date** is the date of completion of the Works as certified by the Project Manager, in accordance with **CC 49.1**.
 - (h) The **Contract** is the Contract between the Employer and the Contractor to execute, complete, and maintain the Works. It consists of the documents listed in **CC 3.3** below.
 - (i) The **Contractor** is the party whose Quotation to carry out the Works has been accepted by the Employer.
 - (j) The **Contractor’s Quotation** is the completed quotation document submitted by the Contractor to the Employer.

- (k) The **Contract Price** is the Accepted Contract Amount stated in the Letter of Award of Contract and thereafter as adjusted in accordance with the Contract.
- (l) **Days** are calendar days; months are calendar months.
- (m) **Dayworks** are varied work inputs subject to payment on a time basis for the Contractor's employees and Equipment, in addition to payments for associated Materials and Plant.
- (n) A **Defect** is any part of the Works not completed in accordance with the Contract.
- (o) The **Defects Liability Certificate** is the certificate issued by Project Manager upon correction of defects by the Contractor.
- (p) The **Defects Liability Period** is the period specified in **CC 2.12** and calculated from the Completion Date.
- (q) **Drawings** means the drawings of the Works, as included in the Contract, and any additional and modified drawings issued by (or on behalf of) the Employer in accordance with the Contract, include calculations and other information provided or approved by the Project Manager for the execution of the Contract.
- (r) The **Employer** is the party who employs the Contractor to carry out the Works, **as specified in CC 2.1.**
- (s) **Equipment** is the Contractor's machinery and vehicles brought temporarily to the Site to construct the Works.
- (t) "**In writing**" or "**written**" means hand-written, type-written, printed or electronically made, and resulting in a permanent record.
- (u) The **Intended Completion Date** is the date on which it is intended that the Contractor shall complete the Works as specified in **CC 2.1.**
- (v) **Materials** are all supplies, including consumables, used by the Contractor for incorporation in the Works.
- (w) **Plant** is any integral part of the Works that shall have a mechanical, electrical, chemical, or biological function.
- (x) The **Project Manager** is the person named in **CC 2.1** (or any other competent person appointed by the Employer and notified to the Contractor, to act in replacement of the Project Manager) who is responsible for supervising

the execution of the Works and administering the Contract.

- (y) The **Site** is the area defined as such in the **CC 2.1**.
- (z) **Site Investigation Reports** are those, if any, that were included in the request for quotations documents and are factual and interpretative reports about the surface and subsurface conditions at the Site.
- (aa) **Specifications** means the Specifications of the Works included in the Contract and any modification or addition made or approved by the Project Manager.
- (bb) The **Start Date** is given in **CC 2.1**. It is the latest date when the Contractor shall commence execution of the Works.
- (cc) A **Subcontractor** is a person or corporate body who has a Contract with the Contractor to carry out a part of the work in the Contract, which includes work on the Site.
- (dd) **Temporary Works** are works designed, constructed, installed, and removed by the Contractor that are needed for construction or installation of the Works.
- (ee) A **Variation** is an instruction given by the Project Manager which varies the Works.
- (ff) The **Works** are what the Contract requires the Contractor to construct, install, and turn over to the Employer, as defined in the **CC 2.1**.
- (gg) “**Contractor’s Personnel**” refers to all personnel whom the Contractor utilizes on the Site or other places where the Works are carried out, including the staff, labor and other employees of each Subcontractor.
- (hh) “**Key Personnel**” means the positions (if any) of the Contractor’s personnel that are included in the contract.
- (ii) “**Sexual Exploitation and Abuse**” “(SEA)” means the following:

Sexual Exploitation is defined as any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another;

Sexual Abuse is defined as the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions;

- (jj) **“Sexual Harassment” “(SH)”** is defined as unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature by the Contractor’s Personnel with other Contractor’s or Employer’s Personnel; and
- (kk) **“Employer’s Personnel”** refers to the Project Manager and all other staff, labor and other employees (if any) of the Project Manager and of the Employer engaged in fulfilling the Employer’s obligations under the Contract; and any other personnel identified as Employer’s Personnel, by a notice from the Employer or the Project Manager to the Contractor.

2. Contract Specific Information

2.1 General

- (a) The **Employer** is: **Ministry of Health**
- (b) The **Intended Completion Date** for the whole of the Works shall be: 15/07/2023
- (c) The **Project Manager** is: **Phub Gyem, Wangdue Phodrang, DES**
- (d) The **Site** is located at **Jashokha Hospital, Rinchengang, Wangdue Phodrang** and is defined in drawings No. **refer drawing**
- (e) The **Start Date** shall be: **15/01/2023**
- (f) The Works consist of: **brick work, steel work, woodwork, aluminum fabrication work, painting work etc.**

- 2.2 Any notice given by one Party to the other pursuant to the Contract shall be in writing to the address hereafter using the quickest available method such as electronic mail with proof of receipt.

Address for notices to the Employer:

Rinchen Dorji

ADHO, Wangdue Phodrang MoH,

rdorji@wangduephodrang.gov.bt

Address for notices to the Contractor:

Name of officer authorized to receive notices:

title/position:

department/work unit:

address:

Electronic mail address:

2.3 The **language** of the contract is *English*.

2.4 The Contract shall be governed by the **law** of *Royal Government of Bhutan*

The contract specific information for the listed Conditions of Contract (CC) clauses follows:

2.5 **CC 12:** The minimum **insurance** amounts and deductibles shall be:

- (a) for loss or damage to the Works, Plant and Materials: *Works on pro rata and Plans & Materials on actual costs*
- (b) For loss or damage to Equipment: *Compensation Act in force, Royal Government of Bhutan.*
- (c) for loss or damage to property (except the Works, Plant, Materials, and Equipment) in connection with Contract *as per the insurance policies and related laws in force of the Royal Government of Bhutan*
- (d) for personal injury or death: of the Contractor's employees: *none* of other people: *none*

2.6 **CC 13:** Site Data are Nil

2.7 **CC 18:** Site Possession Date(s) shall be: *Jashokha Hospital, Rinchengang, Wangdue Phodrang, 15/01/2023*

2.8 **CC 21:** Appointing Authority of Adjudicator: *Construction Development Board*

2.9 **CC 25.1:** A **Program** for the Works shall be submitted within: *30* days from the date of the Letter of Award of Contract.

2.10 **CC 25.2:** The period for submission of **progress reports** is: *Monthly*

2.11 **CC 33:** The **Defects Liability Period** shall be: *180* days from the date of Completion.

- 2.12 **CC 43:** The **retention** amount shall not be deducted however the performance guarantee shall be valid till the end of defect liability period and additional 28 however, if the Final amount increased during final bill settlement performance guarantee should be renewed according to the actual amount.
- 2.13 **CC 44.1:** The **liquidated damages** for the whole of the Works shall be: **0.5%** of the final Contract Price per day..
- 2.14 **CC 44.1:** The **maximum amount of liquidated damages** for the whole of the Works is: **10%** of the final Contract Price.
- 2.15 **CC 45:** The **Advance Payment** shall be: **10%** of the Accepted Contract Amount and shall be paid to the Contractor no later than **30 days** after the Contractor submits an acceptable Bank Guarantee.
- 2.16 **CC 46:** The Performance Security amount shall be for an amount of: **10%** of the Accepted Contract Amount.
- 2.17 **CC 52.1:** The date by which operating and maintenance manuals are required is **not applicable** . In accordance with **CC 52.1**, the date by which “as built” drawings are required is **not applicable**
- 2.18 **CC 52.2:** The amount to be withheld: **none**
- 2.19 **CC 54.1:** The percentage to apply to the value of the work not completed is: 20% of the value of work not completed up

3. Interpretation

- 3.1 In interpreting these CC, words indicating one gender include all genders. Words indicating the singular also include the plural and words indicating the plural also include the singular. Headings have no significance. Words have their normal meaning under the language of the Contract unless specifically defined. The Project Manager shall provide instructions clarifying queries about these CC.
- 3.2 If sectional completion is specified in **CC 2.3**, references in the CC to the Works, the Completion Date, and the Intended Completion Date apply to any Section of the Works (other than references to the Completion Date and Intended Completion Date for the whole of the Works).
- 3.3 The documents forming the Contract shall be interpreted in the following order of priority:
- (a) the Contract Agreement,
 - (b) The Letter of Award of Contract
 - (c) The Contractor's Quotation,
 - (d) the Conditions of Contract, including Appendices

- (e) the Specifications,
- (f) the Drawings,
- (g) the Bill of Quantities, and
- (h) any other document

4. Prohibitions

- 4.1 Throughout the execution of the Contract, the Contractor shall comply with the import of goods and services prohibitions in the Employer's country when
- (a) as a matter of law or official regulations, the Borrower's country prohibits commercial relations with that country; or
 - (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of the Charter of the United Nations, the Borrower's Country prohibits any import of goods from that country or any payments to any country, person, or entity in that country.

5. Project Manager's Decisions

- 5.1 Except where otherwise specifically stated, the Project Manager shall decide contractual matters between the Employer and the Contractor in the role representing the Employer.

6. Subcontracting

- 6.1 The Contractor may subcontract with the approval of the Project Manager but may not assign the Contract without the approval of the Employer in writing. Subcontracting shall not alter the Contractor's obligations.

7. Cooperation

- 7.1 The Contractor shall cooperate with and allow appropriate opportunities for other contractors, public authorities, utilities, and the Employer, to carry out on or near the Site work, if any, not included in the Contract.

8. Personnel and Equipment

- 8.1 The Contractor shall employ the Key Personnel and use the Equipment identified in its quotation, to carry out the Works or other personnel and Equipment approved by the Project Manager. The Project Manager shall approve any proposed replacement of Key Personnel and Equipment only if their relevant qualifications or characteristics are substantially equal to or better than those proposed in the quotation.
- 8.2 The Project Manager may require the Contractor to remove (or cause to be removed) any person employed on the Site or Works, including the Key Personnel (if any), who:
- (a) persists in any misconduct or lack of care;
 - (b) carries out duties incompetently or negligently;
 - (c) fails to comply with any provision of the Contract;
 - (d) persists in any conduct which is prejudicial to safety, health, or the protection of the environment;
 - (e) engages in Sexual Harassment, Sexual Exploitation, Sexual Abuse or in any form of sexual activity with individuals under the age of 18 except in case of pre-existing marriage;
 - (f) based on reasonable evidence, is determined to have engaged in Fraud and Corruption during the execution of the Works; or
 - (g) has been recruited from the Employer's Personnel.

As appropriate, the Contractor shall then promptly appoint (or cause to be appointed) a suitable replacement with equivalent skills and experience.

8.3 Labor

8.3.1 *Engagement of Staff and Labor.* The Contractor shall provide and employ on the Site for the execution of the Works such skilled, semi-skilled and unskilled labor as is necessary for the proper and timely execution of the Contract. The Contractor is encouraged, to the extent practicable and reasonable, to employ staff and labor with appropriate qualifications and experience from sources within the Country.

8.3.2 *Labor Laws.* The Contractor shall comply with all the relevant labor laws applicable to the Contractor's Personnel, including laws relating to their employment, health, safety, welfare, immigration and emigration, and shall allow them all their legal rights.:

8.3.3 *Facilities for Staff and Labor.* The Contractor shall provide and maintain all necessary accommodation and welfare facilities for the Contractor's Personnel.

8.3.4 *Supply of Foodstuffs.* The Contractor shall arrange for the provision of a sufficient supply of suitable food at reasonable prices for the Contractor's Personnel for the purposes of or in connection with the Contract.

8.3.5 *Supply of Water.* The Contractor shall, having regard to local conditions, provide on the Site an adequate supply of drinking and other water for the use of the Contractor's Personnel.

8.3.6 *Forced Labor.* The Contractor, including its Subcontractors, shall not employ or engage forced labor. Forced labor *consists* of any work or service, not voluntarily performed, that is exacted from an individual under threat of force or penalty, and includes any kind of involuntary or compulsory labor, such as indentured labor, bonded labor or similar labor-contracting arrangements.

No persons shall be employed or engaged who have been subject to trafficking. Trafficking in persons is defined as the recruitment, transportation, transfer, harboring or receipt of persons by means of the threat or use of force or other forms of coercion, abduction, fraud, deception, abuse of power, or of a position of vulnerability, or of the giving or receiving of payments or benefits to achieve the consent of a person having control over another person, for the purposes of exploitation.

8.3.7 *Child Labor.* The Contractor, including its Subcontractors, shall *not* employ or engage a child under the age of 14 unless the national law specifies a higher age (the minimum age).

The Contractor, including its Subcontractors, shall not employ or engage a child between the minimum age and the age of 18 in a manner that is likely to be hazardous, or to interfere with, the child's education, or to be harmful to the child's health or physical, mental, spiritual, moral, or social development.

The Contractor including its Subcontractors, shall only employ or engage children between the minimum age and the age of 18 after an appropriate risk assessment has been conducted by the Contractor with the Project Manager's approval. The Contractor shall be subject to regular monitoring by the Project Manager that includes monitoring of health, working conditions and hours of work.

Work considered hazardous for children is work that, by its nature or the circumstances in which it is carried out, is likely

to jeopardize the health, safety, or morals of children. Such work activities prohibited for children include work:

- (a) with exposure to physical, psychological or sexual abuse;
- (b) underground, underwater, working at heights or in confined spaces;
- (c) with dangerous machinery, equipment or tools, or involving handling or
- (d) transport of heavy loads;
- (e) in unhealthy environments exposing children to hazardous substances, agents, or processes, or to temperatures, noise or vibration damaging to health; or
- (f) under difficult conditions such as work for long hours, during the night or in confinement on the premises of the employer.

8.3.8 *Employment Records of Workers.* The Contractor shall keep complete and accurate records of the employment of labor at the Site.

8.3.9 *Non-Discrimination and Equal Opportunity.* The Contractor shall not make decisions relating to the employment or treatment of Contractor's Personnel on the basis of personal characteristics unrelated to inherent job requirements. The Contractor shall base the employment of Contractor's Personnel on the principle of equal opportunity and fair treatment, and shall not discriminate with respect to any aspects of the employment relationship.

8.3.10 *Contractor's Personnel Grievance Mechanism.* The Contractor shall have a proportionate grievance mechanism for Contractor's Personnel.

8.3.11 *Awareness of Contractor's Personnel.* The Contractor shall provide appropriate awareness to relevant Contractor's Personnel on any applicable environmental and social aspects of the Contract, including on health, safety and prohibition of SEA and SH.

9. Employer's and Contractor's Risks

9.1 The Employer carries the risks which this Contract states are Employer's risks, and the Contractor carries the risks which this Contract states are Contractor's risks.

10. Employer's Risks

10.1 From the Start Date until the Defects Liability Certificate has been issued, the following are Employer's risks:

- (a) The risk of personal injury, death, or loss of or damage to property (excluding the Works, Plant, Materials, and Equipment), which are due to
 - (i) use or occupation of the Site by the Works or for the purpose of the Works, which is the unavoidable result of the Works or
 - (ii) negligence, breach of statutory duty, or interference with any legal right by the Employer or by any person employed by or contracted to him except the Contractor.
- (b) The risk of damage to the Works, Plant, Materials, and Equipment to the extent that it is due to a fault of the Employer or in the Employer's design, or due to war or radioactive contamination directly affecting the country where the Works are to be executed.

10.2 From the Completion Date until the Defects Liability Certificate has been issued, the risk of loss of or damage to the Works, Plant, and Materials is an Employer's risk except loss or damage due to

- (a) a Defect which existed on the Completion Date,
- (b) an event occurring before the Completion Date, which was not itself an Employer's risk, or
- (c) the activities of the Contractor on the Site after the Completion Date.

11. Contractor's Risks

11.1 From the Starting Date until the Defects Liability Certificate has been issued, the risks of personal injury, death, and loss of or damage to property (including, without limitation, the Works, Plant, Materials, and Equipment) which are not Employer's risks are Contractor's risks.

12. Insurance

12.1 The Contractor shall provide, in the joint names of the Employer and the Contractor, insurance cover from the Start Date to the end of the Defects Liability Period, in the amounts and deductibles specified in **CC 2.6**, for listed events which are due to the Contractor's risks:

12.2 Policies and certificates for insurance shall be delivered by the Contractor to the Project Manager for the Project Manager's approval before the Start Date. All such insurance shall provide for compensation to be payable in the types and proportions of currencies required to rectify the loss or damage incurred.

12.3 If the Contractor does not provide any of the policies and certificates required, the Employer may effect the insurance

which the Contractor should have provided and recover the premiums the Employer 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.

12.4 Alterations to the terms of an insurance shall not be made without the approval of the Project Manager.

12.5 Both parties shall comply with any conditions of the insurance policies.

13. Site Data

13.1 The Contractor shall be deemed to have examined any Site Data referred to in **CC 2.7**, supplemented by any information available to the Contractor.

14. Contractor to Construct the Works

14.1 The Contractor shall construct and install the Works in accordance with the Specifications and Drawings.

15. Approval by the Project Manager

15.1 The Contractor shall submit Specifications and Drawings showing the proposed Temporary Works to the Project Manager, for his approval.

15.2 The Contractor shall be responsible for design of Temporary Works.

15.3 The Project Manager's approval shall not alter the Contractor's responsibility for design of the Temporary Works.

15.4 The Contractor shall obtain approval of third parties to the design of the Temporary Works, where required.

15.5 All Drawings prepared by the Contractor for the execution of the temporary or permanent Works, are subject to prior approval by the Project Manager before this use.

16. Health, Safety and Protection of the Environment

16.1 The Contractor shall be responsible for the safety of all activities on the Site, and for taking care of the health and safety of all persons entitled to be on the Site and any other place where the Works are being executed.

16.2 The Contractor shall comply with all applicable health and safety regulations and laws.

16.3 Protection of the environment

(a) The Contractor shall take all necessary measures to: protect the environment (both on and off the Site); and

(b) limit damage and nuisance to people and property resulting from pollution, noise and other results of the Contractor's operations and/ or activities.

In the event of damage to the environment, property and/or nuisance to people, on or off Site as a result of the Contractor's operations, the Contractor shall agree with the Project Manager the appropriate actions and time scale to remedy, as practicable, the damaged environment to its former condition. The Contractor shall implement such remedies at its cost to the satisfaction of the Project Manager.

17. Archaeological and Geological Findings

17.1 All fossils, coins, articles of value or antiquity, structures, groups of structures, and other remains or items of geological, archaeological, paleontological, historical, architectural or religious interest found on the Site shall be placed under the care and custody of the Employer.

18. Possession of the Site

18.1 If possession of a part is not given by the date stated in **CC 2.8**, the Employer shall be deemed to have delayed the start of the relevant activities, and this shall be a Compensation Event.

19. Access to the Site

19.1 The Contractor shall allow the Project Manager and any person authorized by the Project Manager access to the Site and to any place where work in connection with the Contract is being carried out or is intended to be carried out.

20. Instructions, Inspections and Audits

20.1 The Contractor shall carry out all instructions of the Project Manager which comply with the applicable laws where the Site is located.

20.2 The Contractor shall keep and shall make all reasonable efforts to cause its Subcontractors and subconsultants to keep, accurate and systematic accounts and records in respect of the Works in such form and details as will clearly identify relevant time changes and costs.

20.3 Inspections & Audit by the Bank

Pursuant to paragraph 2.2 e. of Appendix A to the CC- Fraud and Corruption, the Contractor shall permit and shall cause its agents (where declared or not), subcontractors, subconsultants, service providers, suppliers, and personnel, to permit, the Bank and/or persons appointed by the Bank to inspect the site and/or the accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have such accounts, records and other documents audited by auditors appointed by the Bank. The Contractor's and its Subcontractors' and subconsultants' attention is drawn to **CC 23.1** (Fraud and Corruption) which provides, inter alia, that acts intended to materially impede the exercise of the Bank's inspection and audit rights constitute a prohibited practice

subject to contract termination (as well as to a determination of ineligibility pursuant to the Bank's prevailing sanctions procedures).

21. Appointment of the Adjudicator

- 21.1 The Employer and the Contractor shall jointly appoint an adjudicator with relevant experience, within 7 (seven) days of contract signature. In case of disagreement between the Employer and the Contractor on the appointment of the Adjudicator within this period, either party will request the Appointing authority stated in **CC 2.9**, to appoint the Adjudicator within 7 (seven) days of receipt of such request.
- 21.2 Should the Adjudicator resign or die, or should the Employer and the Contractor agree that the Adjudicator is not functioning in accordance with the provisions of the Contract, a new Adjudicator shall be jointly appointed by the Employer and the Contractor. In case of disagreement between the Employer and the Contractor, within 14 (fourteen) days, the Adjudicator shall be designated by the Appointing Authority stated in **CC 2.9**, at the request of either party, within 7 (seven) days of receipt of such request.

22. Procedure for Disputes

- 22.1 If the Contractor believes that a decision taken by the Project Manager was either outside the authority given to the Project Manager by the Contract or that the decision was wrongly taken, the decision shall be referred to the Adjudicator within 14 (fourteen) days of the notification of the Project Manager's decision.
- 22.2 The Adjudicator shall give a decision in writing within 14 (fourteen) days of receipt of a notification of a dispute. The adjudicator's cost (hourly fee and reimbursable expenses) shall be divided equally between the Employer and the Contractor, whatever decision is reached by the Adjudicator.
- 22.3 Both parties shall attempt to settle the dispute amicably before commencement of arbitration. If the dispute is not settled amicably within 14 (fourteen) days of the Adjudicator's written decision, either party may refer a decision of the Adjudicator to an Arbitrator. If neither party refers the dispute to arbitration within 28 (twenty eight) days of the Adjudicator's written decision, the Adjudicator's decision shall be final and binding. The arbitration shall be conducted in accordance with the following arbitration procedures.

CC 22.3(a)

- (a) Contracts with Contractor national of the Employer's Country:

In the case of a dispute between the Employer and a Contractor who is a national of the Employer's Country, the dispute shall be referred to adjudication or arbitration in accordance with the laws of the Employer's Country.]

23. Fraud and Corruption

23.1 The Bank requires compliance with the Bank's Anti-Corruption Guidelines and its prevailing sanctions policies and procedures as set forth in the WBG's Sanctions Framework, as set forth in Appendix A to the CC.

23.2 The Employer requires the Contractor to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the request for quotations or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee.

24. Security of the Site

24.1 The Contractor shall be responsible for the security of the Site, and:

- (a) for keeping unauthorized persons off the Site;
- (b) authorized persons shall be limited to the Contractor's Personnel, the Employer's Personnel, and to any other personnel identified as authorized personnel (including the Employer's other contractors on the Site), by a notice from the Employer or the Project Manager to the Contractor.

The Contractor shall require the security personnel to act within the applicable Laws.

B. Time Control

25. Program and Progress Reports

25.1 The Contractor shall submit for approval a Program for the Works, within the period stated in **CC 2.10**. The Contractor may revise the Program and submit it to the Project Manager again at any time. A revised Program shall show any effect of Variations and Compensation Events.

25.2 The Contractor shall monitor progress of the Works and submit progress reports to the Project manager at intervals no longer than the period stated in **CC 2.11**.

25.3 In addition to the progress reports stated in **CC 2.11**, the Contractor shall inform the Project Manager immediately of any allegation, incident or accident in the Site, which has or is likely to have a significant adverse effect including, but is not limited to, any incident or accident causing fatality or serious

injury; significant adverse effects or damage to private property; or any allegation of SEA and/or SH.

The Contractor shall provide full details of such incidents or accidents to the Project Manager within the timeframe agreed with the Project Manager.

26. Extension of the Completion Date

26.1 The Project Manager shall extend the Intended Completion Date if a Compensation Event occurs or a Variation is issued which makes it impossible for Completion to be achieved by the Intended Completion Date without the Contractor taking steps to accelerate the remaining work, which would cause the Contractor to incur additional cost.

26.2 If the Contractor has failed to give early warning of a delay or has failed to cooperate in dealing with a delay, the delay by this failure shall not be considered in assessing the new Intended Completion Date.

27. Acceleration

27.1 When the Employer wants the Contractor to finish before the Intended Completion Date, the Project Manager shall obtain priced proposals for achieving the necessary acceleration from the Contractor. If the Employer accepts these proposals, the Intended Completion Date shall be adjusted accordingly and confirmed by both the Employer and the Contractor.

27.2 If the Contractor's priced proposals for an acceleration are accepted by the Employer, they are incorporated in the Contract Price and treated as a Variation.

28. Delays Ordered by the Project Manager

28.1 The Project Manager may instruct the Contractor to delay the start or progress of any activity within the Works.

29. Management Meetings

29.1 Either the Project Manager or the Contractor may require the other to attend a management meeting. The business of a management meeting shall be to review the plans for remaining work and to deal with matters raised in accordance with the early warning procedure.

30. Early Warning

30.1 The Contractor shall warn the Project Manager at the earliest opportunity of specific likely future events or circumstances that may adversely affect the quality of the work, increase the Contract Price, or delay the execution of the Works.

30.2 The Contractor shall cooperate with the Project Manager in making and considering proposals for how the effect of such an event or circumstance can be avoided or reduced by anyone

involved in the work and in carrying out any resulting instruction of the Project Manager.

C. Quality Control

31. Identifying Defects

31.1 The Project Manager shall check the Contractor's work and notify the Contractor of any Defects that are found. Such checking shall not affect the Contractor's responsibilities. The Project Manager may instruct the Contractor to search for a Defect and to uncover and test any work that the Project Manager considers may have a Defect.

32. Tests

32.1 If the Project Manager instructs the Contractor to carry out a test not specified in the Specifications to check whether any work has a Defect and the test shows that it does, the Contractor shall pay for the test and any samples. If there is no Defect, the test shall be a Compensation Event.

33. Correction of Defects

33.1 The Project Manager shall give notice to the Contractor of any Defects before the end of the Defects Liability specified in **CC 2.12**. The Defects Liability Period shall be extended for as long as Defects remain to be corrected.

33.2 Every time notice of a Defect is given, the Contractor shall correct the notified Defect within the length of time specified by the Project Manager's notice.

34. Uncorrected Defects

34.1 If the Contractor has not corrected a Defect within the time specified in the Project Manager's notice, the Project Manager shall assess the cost of having the Defect corrected, and the Contractor shall pay this amount.

D. Cost Control

35. Contract Price

35.1 The Bill of Quantities shall contain priced items for the Works to be performed by the Contractor. The Bill of Quantities is used to calculate the Contract Price. The Contractor will be paid for the quantity of the work accomplished at the rate in the Bill of Quantities for each item.

36. Changes in the Contract Price

36.1 If the final quantity of the work done differs from the quantity in the Bill of Quantities for the particular item by more than 25 percent, provided the change exceeds 1 percent of the Accepted Contract Amount, the Project Manager shall adjust the rate to allow for the change. The Project Manager shall not adjust rates from changes in quantities if thereby the Accepted Contract Amount is exceeded by more than 15 percent, except with the prior approval of the Employer.

- 36.2 If requested by the Project Manager, the Contractor shall provide the Project Manager with a detailed cost breakdown of any rate in the Bill of Quantities.

37. Variations

- 37.1 All Variations shall be included in updated Programs produced by the Contractor.
- 37.2 The Contractor shall provide the Project Manager with a quotation for carrying out the Variation when requested to do so by the Project Manager. The Project Manager shall assess the quotation, which shall be given within 7 (seven) days of the request or within any longer period stated by the Project Manager and before the Variation is ordered.
- 37.3 If the Contractor's quotation is unreasonable, the Project Manager may order the Variation and make a change to the Contract Price, which shall be based on the Project Manager's own forecast of the effects of the Variation on the Contractor's costs.
- 37.4 If the Project Manager decides that the urgency of varying the work would prevent a quotation being given and considered without delaying the work, no quotation shall be given and the Variation shall be treated as a Compensation Event.
- 37.5 The Contractor shall not be entitled to additional payment for costs that could have been avoided by giving early warning.
- 37.6 If the work in the Variation corresponds to an item description in the Bill of Quantities and if, in the opinion of the Project Manager, the quantity of work above the limit stated in **CC 36.1** or the timing of its execution do not cause the cost per unit of quantity to change, the rate in the Bill of Quantities shall be used to calculate the value of the Variation. If the cost per unit of quantity changes, or if the nature or timing of the work in the Variation does not correspond with items in the Bill of Quantities, the quotation by the Contractor shall be in the form of new rates for the relevant items of work.

38. Payment Certificates

- 38.1 The Contractor shall submit to the Project Manager monthly statements of the estimated value of the work executed less the cumulative amount certified previously.
- 38.2 The Project Manager shall check the Contractor's monthly statement and certify the amount to be paid to the Contractor.
- 38.3 The value of work executed shall be determined by the Project Manager.

- 38.4 The value of work executed shall comprise the value of the quantities of work in the Bill of Quantities that have been completed.
- 38.5 The value of work executed shall include the valuation of Variations and Compensation Events.
- 38.6 The Project Manager may exclude any item certified in a previous certificate or reduce the proportion of any item previously certified in any certificate in the light of later information.

39. Payments

- 39.1 Payments shall be adjusted for deductions for advance payments and retention. The Employer shall pay the Contractor the amounts certified by the Project Manager within 28 (twenty eight) days of the date of each certificate. If the Employer makes a late payment, the Contractor shall be paid interest on the late payment in the next payment. The interest rate shall be at the prevailing rate of interest for commercial borrowing for each of the currencies in which payments are made.
- 39.2 Items of the Works for which no rate or price has been entered in shall not be paid for by the Employer and shall be deemed covered by other rates and prices in the Contract.

40. Compensation Events

- 40.1 The following shall be Compensation Events:
- (a) The Employer does not give access to a part of the Site by the Site Possession Date pursuant to **CC 2.8**.
 - (b) The Project Manager orders a delay or does not issue Drawings, Specifications, or instructions required for execution of the Works on time.
 - (c) The Project Manager instructs the Contractor to uncover or to carry out additional tests upon work, which is then found to have no Defects.
 - (d) The Project Manager unreasonably does not approve a subcontract to be let.
 - (e) Ground conditions are substantially more adverse than could reasonably have been assumed before issuance of the Letter of Award of Contract from the information issued to Contractors (including the Site Investigation Reports), from information available publicly and from a visual inspection of the Site.
 - (f) The Project Manager gives an instruction for dealing with an unforeseen condition, caused by the Employer, or additional work required for safety or other reasons.

- (g) Other contractors, public authorities, utilities, or the Employer does not work within the dates and other constraints stated in the Contract, and they cause delay or extra cost to the Contractor.
- (h) The advance payment is delayed.
- (i) The effects on the Contractor of any of the Employer's Risks.
- (j) The Project Manager unreasonably delays issuing a Certificate of Completion.

40.2 If a Compensation Event would cause additional cost or would prevent the work being completed before the Intended Completion Date, the Contract Price shall be increased and/or the Intended Completion Date shall be extended. The Project Manager shall decide whether and by how much the Contract Price shall be increased and whether and by how much the Intended Completion Date shall be extended.

40.3 As soon as information demonstrating the effect of each Compensation Event upon the Contractor's forecast cost has been provided by the Contractor, it shall be assessed by the Project Manager, and the Contract Price shall be adjusted accordingly. If the Contractor's forecast is deemed unreasonable, the Project Manager shall adjust the Contract Price based on the Project Manager's own forecast. The Project Manager shall assume that the Contractor shall react competently and promptly to the event.

40.4 The Contractor shall not be entitled to compensation to the extent that the Employer's interests are adversely affected by the Contractor's not having given early warning or not having cooperated with the Project Manager.

41. Tax

41.1 The Project Manager shall adjust the Contract Price if taxes, duties, and other levies are changed between the date of submission of quotations for the Contract and the date of the last Completion certificate. The adjustment shall be the change in the amount of tax payable by the Contractor.

42. Price Adjustment

42.1 **Prices shall not be adjusted for any fluctuations in the cost of inputs.**

43. Retention

43.1 The Employer shall retain from each payment due to the Contractor the proportion stated in **CC 2.13** until Completion of the whole of the Works.

43.2 Upon the issue of a Certificate of Completion of the Works by the Project Manager, in accordance with **CC 49.1**, half the total

amount retained shall be repaid to the Contractor and half when the Defects Liability Period has passed and the Project Manager has certified that all Defects notified by the Project Manager to the Contractor before the end of this period have been corrected. The Contractor may substitute retention money with an “on demand” Bank guarantee.

44. Liquidated Damages and Bonuses

- 44.1 The Contractor shall pay liquidated damages to the Employer at the rate per day stated in **CC 2.14** for each day that the Completion Date is later than the Intended Completion Date. The total amount of liquidated damages shall not exceed the amount defined in **CC 2.15**. The Employer may deduct liquidated damages from payments due to the Contractor. Payment of liquidated damages shall not affect the Contractor’s liabilities.
- 44.2 If the Intended Completion Date is extended after liquidated damages have been paid, the Project Manager shall correct any overpayment of liquidated damages by the Contractor by adjusting the next payment certificate. The Contractor shall be paid interest on the overpayment, calculated from the date of payment to the date of repayment, at the rates specified in **CC 39.1**.
- 44.3 The Contractor shall be paid a Bonus calculated at the rate per calendar day stated in **CC 2.16** for each day (less any days for which the Contractor is paid for acceleration) that the Completion is earlier than the Intended Completion Date. The Project Manager shall certify that the Works are complete, although they may not be due to be complete

45. Advance Payment

- 45.1 The Employer shall make advance payment to the Contractor in the amount specified in **CC 2.17**, against provision by the Contractor, if required in **CC 2.17**, of an Unconditional Bank Guarantee in a form and by a bank acceptable to the Employer in amounts and currencies equal to the advance payment. The Guarantee shall remain effective until the advance payment has been repaid, but the amount of the Guarantee shall be progressively reduced by the amounts repaid by the Contractor.
- 45.2 The Contractor is to use the advance payment only to pay for Equipment, Plant, Materials, and mobilization expenses required specifically for execution of the Contract. The Contractor shall demonstrate that advance payment has been used in this way by supplying copies of invoices or other documents to the Project Manager.
- 45.3 The advance payment shall be repaid by deducting proportionate amounts from payments otherwise due to the

Contractor, following the schedule of completed percentages of the Works on a payment basis. No account shall be taken of the advance payment or its repayment in assessing valuations of work done, Variations, price adjustments, Compensation Events, Bonuses, or Liquidated Damages.

46. Performance Security

46.1 The Performance Security, if required in **CC 2.18**, shall be provided to the Employer no later than the date specified in the Letter of Acceptance and shall be issued in an amount specified in **CC 2.18**, by a bank or surety acceptable to the Employer, and denominated in the types and proportions of the currencies in which the Contract Price is payable. The Performance Security shall be valid until a date 28 days from the date of issue of the Certificate of Completion in the case of a Bank Guarantee, and until one year from the date of issue of the Certificate of Completion in the case of a Performance Bond.

47. Dayworks

47.1 If applicable, the Dayworks rates in the Contractor's Quotations shall be used only when the Project Manager has given written instructions in advance for additional work to be paid for in that way.

47.2 All work to be paid for as Dayworks shall be recorded by the Contractor on forms approved by the Project Manager. Each completed form shall be verified and signed by the Project Manager within two days of the work being done.

47.3 The Contractor shall be paid for Dayworks subject to obtaining signed Dayworks forms.

48. Cost of Repairs

48.1 Loss or damage to the Works or Materials to be incorporated in the Works between the Start Date and the end of the Defects Correction periods shall be remedied by the Contractor at the Contractor's cost if the loss or damage arises from the Contractor's acts or omissions.

E. Finishing the Contract

49. Completion

49.1 The Contractor shall request the Project Manager to issue a Certificate of Completion of the Works, and the Project Manager shall do so upon deciding that the whole of the Works is completed.

50. Taking Over

50.1 The Employer shall take over the Site and the Works within 7 (seven) days of the Project Manager's issuing a Certificate of Completion.

51. Final Account

51.1 The Contractor shall supply the Project Manager with a detailed account of the total amount that the Contractor considers

payable under the Contract before the end of the Defects Liability Period. The Project Manager shall issue a Defects Liability Certificate and certify any final payment that is due to the Contractor within 56 (fifty six) days of receiving the Contractor's account if it is correct and complete. If it is not, the Project Manager shall issue within 56 (fifty six) days a schedule that states the scope of the corrections or additions that are necessary. If the Final Account is still unsatisfactory after it has been resubmitted, the Project Manager shall decide on the amount payable to the Contractor and issue a payment certificate.

52. Operating and Maintenance Manuals

52.1 If "as built" Drawings and/or operating and maintenance manuals are required, the Contractor shall supply them by the dates stated in **CC 2.19**.

52.2 If the Contractor does not supply the Drawings and/or manuals by the dates stated in **CC 2.19**, or they do not receive the Project Manager's approval, the Project Manager shall withhold the amount stated in **CC 2.20** from payments due to the Contractor.

53. Termination

53.1 The Employer or the Contractor may terminate the Contract if the other party causes a fundamental breach of the Contract.

53.2 Fundamental breaches of Contract shall include, but shall not be limited to, the following:

- (a) the Contractor stops work for 28 (twenty eight) days when no stoppage of work is shown on the current Program and the stoppage has not been authorized by the Project Manager;
- (b) the Project Manager instructs the Contractor to delay the progress of the Works, and the instruction is not withdrawn within 28 (twenty eight) days;
- (c) the Employer or the Contractor is made bankrupt or goes into liquidation other than for a reconstruction or amalgamation;
- (d) a payment certified by the Project Manager is not paid by the Employer to the Contractor within 84 (eighty four) days of the date of the Project Manager's certificate;
- (e) the Project Manager gives Notice that failure to correct a particular Defect is a fundamental breach of Contract and the Contractor fails to correct it within a reasonable period of time determined by the Project Manager;

- (f) the Contractor does not maintain a Security, which is required;
- (g) the Contractor has delayed the completion of the Works for which the maximum amount of liquidated damages can be paid, as specified in **CC 2.15**; or
- (h) if the Contractor, in the judgment of the Employer has engaged in Fraud and Corruption, as defined in paragraph 2.2 a of the Appendix A to the CC, in competing for or in executing the Contract, then the Employer may, after giving 14 (fourteen) days written notice to the Contractor, terminate the Contract and expel him from the Site.

53.3 Notwithstanding the above, the Employer may terminate the Contract for convenience.

53.4 If the Contract is terminated, the Contractor shall stop work immediately, make the Site safe and secure, and leave the Site as soon as reasonably possible.

53.5 When either party to the Contract gives notice of a breach of Contract to the Project Manager for a cause other than those listed under **CC 53.2** above, the Project Manager shall decide whether the breach is fundamental or not.

54. Payment upon Termination

54.1 If the Contract is terminated because of a fundamental breach of Contract by the Contractor, the Project Manager shall issue a certificate for the value of the work done and Materials ordered less advance payments received up to the date of the issue of the certificate and less the percentage specified in **CC 2.21** to apply to the value of the work not completed. Additional Liquidated Damages shall not apply. If the total amount due to the Employer exceeds any payment due to the Contractor, the difference shall be a debt payable to the Employer.

54.2 If the Contract is terminated for the Employer's convenience or because of a fundamental breach of Contract by the Employer, the Project Manager shall issue a certificate for the value of the work done, Materials ordered, the reasonable cost of removal of Equipment, repatriation of the Contractor's personnel employed solely on the Works, and the Contractor's costs of protecting and securing the Works, and less advance payments received up to the date of the certificate.

55. Property

55.1 All Materials on the Site, Plant, Equipment, Temporary Works, and Works shall be deemed to be the property of the Employer if the Contract is terminated because of the Contractor's default.

56. Release from Performance

56.1 If the Contract is frustrated by the outbreak of war or by any other event entirely outside the control of either the Employer or the Contractor, the Project Manager shall certify that the Contract has been frustrated. The Contractor shall make the Site safe and stop work as quickly as possible after receiving this certificate and shall be paid for all work carried out before receiving it and for any work carried out afterwards to which a commitment was made.

57. Suspension of Bank Loan or Credit

57.1 In the event that the Bank suspends the Loan or Credit to the Employer, from which part of the payments to the Contractor are being made:

- (a) The Employer is obligated to notify the Contractor of such suspension within 7 (seven) days of having received the Bank's suspension notice.
- (b) If the Contractor has not received sums due to it within the 28 (twenty eight) days for payment provided for in **CC 39.1**, the Contractor may immediately issue a 14 (fourteen)-day termination notice.

APPENDIX A TO CONTRACT CONDITIONS

Fraud and Corruption

(Text in this Appendix shall not be modified)

1. Purpose

- 1.1 The Bank's Anti-Corruption Guidelines and this annex apply with respect to procurement under Bank Investment Project Financing operations.

2. Requirements

- 2.1 The Bank requires that Borrowers (including beneficiaries of Bank financing); bidders (applicants/proposers), consultants, contractors and suppliers; any sub-contractors, sub-consultants, service providers or suppliers; any agents (whether declared or not); and any of their personnel, observe the highest standard of ethics during the procurement process, selection and contract execution of Bank-financed contracts, and refrain from Fraud and Corruption.

- 2.2 To this end, the Bank:

- a. Defines, for the purposes of this provision, the terms set forth below as follows:

- i. "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
- ii. "fraudulent practice" is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;
- iii. "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
- iv. "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
- v. "obstructive practice" is:
 - (a) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or

- (b) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 2.2 e. below.
- b. Rejects a proposal for award if the Bank determines that the firm or individual recommended for award, any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/ or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
- c. In addition to the legal remedies set out in the relevant Legal Agreement, may take other appropriate actions, including declaring misprocurement, if the Bank determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement process, selection and/or execution of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
- d. Pursuant to the Bank's Anti- Corruption Guidelines and in accordance with the Bank's prevailing sanctions policies and procedures, may sanction a firm or individual, either indefinitely or for a stated period of time, including by publicly declaring such firm or individual ineligible (i) to be awarded or otherwise benefit from a Bank-financed contract, financially or in any other manner;¹ (ii) to be a nominated² sub-contractor, consultant, manufacturer or supplier, or service provider of an otherwise eligible firm being awarded a Bank-financed contract; and (iii) to receive the proceeds of any loan made by the Bank or otherwise to participate further in the preparation or implementation of any Bank-financed project;
- e. Requires that a clause be included in bidding/request for proposals documents and in contracts financed by a Bank loan, requiring (i) bidders(applicants/proposers), consultants, contractors, and suppliers, and their sub-contractors, sub-consultants, service providers, suppliers, agents personnel, permit the Bank to inspect³ all accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have them audited by auditors appointed by the Bank.

¹ For the avoidance of doubt, a sanctioned party's ineligibility to be awarded a contract shall include, without limitation, (i) applying for pre-qualification, expressing interest in a consultancy, and bidding, either directly or as a nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider, in respect of such contract, and (ii) entering into an addendum or amendment introducing a material modification to any existing contract.

² A nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider (different names are used depending on the particular bidding document) is one which has been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

³ Inspections in this context usually are investigative (i.e., forensic) in nature. They involve fact-finding activities undertaken by the Bank or persons appointed by the Bank to address specific matters related to investigations/audits, such as evaluating the veracity of an allegation of possible Fraud and Corruption, through the appropriate mechanisms. Such activity includes but is not limited to: accessing and examining a firm's or individual's financial records and information, and making copies thereof as relevant; accessing and examining any other documents, data and information (whether in hard copy or electronic format) deemed relevant for the investigation/audit, and making copies thereof as relevant; interviewing staff and other relevant individuals; performing physical inspections and site visits; and obtaining third party verification of information.

Sample Letter of Award of Contract

[modify as appropriate]

[use letterhead paper of the Employer]

[date].

To: *[name and address of the Contractor]*

Subject: *[Notification of Award Contract No]*.

This is to notify you that your Quotation dated *[insert date]* for execution of the *[insert name of the contract and identification number, as given in the CC]* for the Accepted Contract Amount of *[insert amount in numbers and words and name of currency]*, as corrected and modified in accordance with the Request for Quotations is hereby accepted by our Agency.

Please find enclosed herewith the Contract. You are requested to sign the contract within *[insert no of days]*.

[Insert the following only if Performance Security is required:] “You are also requested to furnish a Performance Security within *[insert no of days]* in accordance with the Conditions of the Contract, using for that purpose one of the Performance Security Forms attached to the Contract.

Authorized Signature: _____

Name and Title of Signatory: _____

Name of Agency: _____

Attachment: Contract

Performance Security - Bank Guarantee

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: *[insert name and Address of Employer]*

Date: *_ [Insert date of issue]*

PERFORMANCE GUARANTEE No.: *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that *_ [insert name of Contractor, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Applicant") has entered into Contract No. *[insert reference number of the contract]* dated *[insert date]* with the Beneficiary, for the execution of *_ [insert name of contract and brief description of Works]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, a performance guarantee is required.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]* (_____) *[insert amount in words]*,¹ such sum being payable in the types and proportions of currencies in which the Contract Price is payable, upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Applicant is in breach of its obligation(s) under the Contract, without the Beneficiary needing to prove or to show grounds for your demand or the sum specified therein.

This guarantee shall expire, no later than the Day of, 2...², and any demand for payment under it must be received by us at this office indicated above on or before that date.

¹ The Guarantor shall insert an amount representing the percentage of the Accepted Contract Amount specified in the Letter of Award of Contract less provisional sums, if any, and denominated either in the currency(ies) of the Contract or a freely convertible currency acceptable to the Beneficiary.

² Insert the date twenty-eight days after the expected completion date as described in CC 49.1. The Employer should note that in the event of an extension of this date for completion of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

[signature(s)]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

[six months][one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."

Performance Security - Performance Bond

By this Bond *[insert name of Principal]* as Principal (hereinafter called “the Contractor”) and *[insert name of Surety]* as Surety (hereinafter called “the Surety”), are held and firmly bound unto *[insert name of Employer]* as Obligee (hereinafter called “the Employer”) in the amount of *[insert amount in words and figures]*, for the payment of which sum well and truly to be made in the types and proportions of currencies in which the Contract Price is payable, the Contractor and the Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS the Contractor has entered into a written Agreement with the Employer dated the _____ day of _____, 20 ____, for *[name of contract and brief description of Works]* in accordance with the documents, plans, specifications, and amendments thereto, which to the extent herein provided for, are by reference made part hereof and are hereinafter referred to as the Contract.

NOW, THEREFORE, the Condition of this Obligation is such that, if the Contractor shall promptly and faithfully perform the said Contract (including any amendments thereto), then this obligation shall be null and void; otherwise, it shall remain in full force and effect. Whenever the Contractor shall be, and declared by the Employer to be, in default under the Contract, the Employer having performed the Employer’s obligations thereunder, the Surety may promptly remedy the default, or shall promptly:

- (1) complete the Contract in accordance with its terms and conditions; or
- (2) obtain a Bid or Bids from qualified Bidders for submission to the Employer for completing the Contract in accordance with its terms and conditions, and upon determination by the Employer and the Surety of the lowest responsive Bidder, arrange for a Contract between such Bidder and Employer and make available as work progresses (even though there should be a default or a succession of defaults under the Contract or Contracts of completion arranged under this paragraph) sufficient funds to pay the cost of completion less the Balance of the Contract Price; but not exceeding, including other costs and damages for which the Surety may be liable hereunder, the amount set forth in the first paragraph hereof. The term “Balance of the Contract Price,” as used in this paragraph, shall mean the total amount payable by Employer to Contractor under the Contract, less the amount properly paid by Employer to Contractor; or
- (3) pay the Employer the amount required by Employer to complete the Contract in accordance with its terms and conditions up to a total not exceeding the amount of this Bond.

The Surety shall not be liable for a greater sum than the specified penalty of this Bond.

Any suit under this Bond must be instituted before the expiration of one year from the date of issue of the Certificate of Completion.

No right of action shall accrue on this Bond to or for the use of any person or corporation other than the Employer named herein or the heirs, executors, administrators, successors, and assigns of the Employer.

In testimony whereof, the Contractor has hereunto set his hand and affixed his seal, and the Surety has caused these presents to be sealed with his corporate seal duly attested by the signature of his legal representative, this _____ day of _____ 20_____
_____.

SIGNED ON _____ on behalf of _____

By _____ in the capacity of _____

In the presence of _____

SIGNED ON _____ on behalf of _____

By _____ in the capacity of _____

In the presence of _____

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

Advance Payment Security

Demand Guarantee

[Guarantor letterhead or SWIFT identifier code]

Beneficiary: *[Insert name and Address of Employer]*

Date: *[Insert date of issue]*

ADVANCE PAYMENT GUARANTEE No.: *[Insert guarantee reference number]*

Guarantor: *[Insert name and address of place of issue, unless indicated in the letterhead]*

We have been informed that *[insert name of Contractor, which in the case of a joint venture shall be the name of the joint venture]* (hereinafter called "the Applicant") has entered into Contract No. *[insert reference number of the contract]* dated *[insert date]* with the Beneficiary, for the execution of *[insert name of contract and brief description of Works]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum *[insert amount in figures]* () *[insert amount in words]* is to be made against an advance payment guarantee.

At the request of the Applicant, we as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of *[insert amount in figures]* (_____) *[insert amount in words]*¹ upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating either that the Applicant:

- (a) has used the advance payment for purposes other than the costs of mobilization in respect of the Works; or
- (b) has failed to repay the advance payment in accordance with the Contract conditions, specifying the amount which the Applicant has failed to repay.

A demand under this guarantee may be presented as from the presentation to the Guarantor of a certificate from the Beneficiary's bank stating that the advance payment referred to above has been credited to the Applicant on its account number *[insert number]* at *[insert name and address of Applicant's bank]*..

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Applicant as specified in copies of interim statements or

¹ *The Guarantor shall insert an amount representing the amount of the advance payment and denominated either in the currency(ies) of the advance payment as specified in the Contract, or in a freely convertible currency acceptable to the Employer.*

payment certificates which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of a copy of the interim payment certificate indicating that ninety (90) percent of the Accepted Contract Amount, less provisional sums, has been certified for payment, or on the *[insert day]* day of *[insert month]*, 2 *[insert year]*,² whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 Revision, ICC Publication No. 758, except that the supporting statement under Article 15(a) is hereby excluded.

[signature(s)]

Note: All italicized text (including footnotes) is for use in preparing this form and shall be deleted from the final product.

² *Insert the expected completion date as described in CC 49.1. The Employer should note that in the event of an extension of the expected completion date of the Contract, the Employer would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Employer might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months][one year], in response to the Beneficiary's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."*

Table 2 - Environmental and Social Risks and Mitigation Measures during Construction Stage

Activities	Potential ES Risks and Impacts	Proposed Mitigation Measures	Responsibility	Timeline	Budget
Through the project life-cycle	- Non integration of Environmental requirements into the project “life- cycle”	- Training of Project staff and Health officials on Environmental safeguards and the World Bank’s requirements, EMP implementation and environmental monitoring	PMU/Project Manager		
General construction activities Foundation excavation;	- Impacts on soils - Increase in dust from excavation work or dust may blow from construction work or from open piles of materials stored such as sand	-Stockpile and reuse excavated material, -Remove all excess excavated soil within 2 weeks of excavation at pre-approved site. -Use dust control methods, such as sprinkling water on newly excavated area. -Use of water suppression for control of loose materials on paved or unpaved road surfaces*. -Cordon off work area, especially excavated area to reduce dust from being carried by wind, -Cover stockpiles of sand or other loose material* to prevent it being carried off on windy days.	Contractor		
General construction activities	- Resource efficiency issues, including raw materials, water and energy use; - Materials supply				
General construction activities – general pollution management	- Construction solid waste; - Construction wastewater; - Noise; - Vibration; - Air emissions from construction equipment	Construction solid waste; -Remove all waste daily to minimize pile up of fuel for fires. Solid waste will be disposed of when the municipal vehicle comes to collect waste as per the schedule. Construction wastewater; -Prohibit disposal of solid and liquid waste into nearby streams or water bodies	Implement by Contractor, monitored by Project Manger		

		<p>-Store all chemicals, fuel, paint and corrosives in a designated area in leak proof containers with lids or under roof away from rainwater, -Construct and connect site drains to the nearest public storm water drain, prevent surface runoff and contamination from worksites</p> <p>Noise and Vibration; -Ensure that Noise impacts do not exceed the levels 55dB during daytime and 45 dB at night* through the following; -Carrying out excavation work only during daytime*, -Select equipment with lower sound power levels. -Notify the school, early daycare center and community of work scheduling.</p> <p>Air emissions from construction equipment; -Emissions from on-road and off-road vehicles should comply with national or RSTA regulations</p>			
General construction activities – hazardous waste management	- Fuel, oils, lubricant	<p>-Store all chemicals, fuel, paint and corrosives in a designated area in leak proof containers with lids or under roof away from rainwater, -Minimize work area when dealing with corrosives.</p>	Contractor		
General construction activities – Labor issues	<ul style="list-style-type: none"> - Workers coming from infected areas - Co-workers becoming infected - Workers introducing infection into community/general public 	<ul style="list-style-type: none"> - Consider ways to minimize/control movement in and out of construction areas/site. - If workers are accommodated on site require them to minimize contact with people outside the construction area/site or prohibit them from leaving the area/site for the duration of their 	Implement by Contractor, monitored by Project Manger		

		<p>contract</p> <ul style="list-style-type: none"> - Implement procedures to confirm workers are fit for work before they start work, paying special to workers with underlying health issues or who may be otherwise at risk - Check and record temperatures of workers and other people entering the construction area/site or require self-reporting prior to or on entering - Provide daily briefings to workers prior to commencing work, focusing on COVID-19 specific considerations including cough etiquette, hand hygiene and distancing measures. - Require workers to self-monitor for possible symptoms (fever, cough) and to report to their supervisor if they have symptoms or are feeling unwell - Prevent a worker from an affected area or who has been in contact with an infected person from entering the construction area/site for 14 days - Preventing a sick worker from entering the construction area/site, referring them to local health facilities if necessary or requiring them to isolate at home for 14 day. - Supply face masks and other relevant PPE to all project workers at the entrance to the project sites. - Any persons with signs of respiratory illness that is not accompanied by fever should be mandated to wear a face mask. - Provide hand wash facilities, hand soap, alcohol-based hand sanitizer and mandate their use on entry and exit of the project site and during breaks, via 			
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		<p>the use of simple signs with images in local languages.</p> <ul style="list-style-type: none"> - Maintain labour record - Child labour shall not be engaged in any work as a labourer - No discrimination in employment and non-payment of wages. 			
General construction activities – Occupational Health and Safety (OHS)	<ul style="list-style-type: none"> -Environmental impacts from improper siting of worker camps -Environmental impacts from worker camps --Risk to workers from natural disasters 	<ul style="list-style-type: none"> - Locate labor camps in pre-approved sites only -Provide workers with adequate housing facilities with <ul style="list-style-type: none"> a. Drinking water b. Electricity c. Sanitation facilities with soak pits/septic tanks -Implement a health and safety plan that includes -Provision of PPE to all workers - Maintain a first aid kit on sites - Display emergency contact numbers on site - Conduct orientation/awareness meeting for new recruits - Provide transportation facilities for workers in case of medical emergency - Designate a focal person on site to prepare and ensure procedures are in place in case of accidents, disaster or any other emergency - Document all accidents, the cause and measures taken -Emergency procedures should be clearly posted at appropriate locations 	Contractor		
General construction activities – traffic and road safety	<ul style="list-style-type: none"> - Impeded access along access roads and footpaths - Trucks bringing materials may impeded access or create congestion to the neighboring school and community 	<ul style="list-style-type: none"> - Avoid storing or spillage of any construction material or waste along access roads or footpaths. - Reduce project traffic* during early morning school drop off or pick up times (7.30-8AM and 2.30-4PM). -Unloading of construction materials should be carried in a manner and time so as to 	Contractor		

		avoid blockage of roads/paths/access -Install signage and notices boards -Comply with guidance on COVID-19 compliance specific to construction.			
General construction activities	GBV/SEA issues	<ul style="list-style-type: none"> - The GBV/SEA issues has to be addressed through grievances system and actions to be taken seriously. - Provide briefings and trainings to workers prior to commencing work on GBV/SEA issues and educate on the consequences. 	Contractor		
General construction activities – emergency preparedness and response	-Fire hazards and natural emergencies.	Use only licensed/qualified or experienced electricians for wiring, installation of electrical equipment, <ul style="list-style-type: none"> - Provide and keep at least one fire extinguisher, water hose, torch light on site for emergencies - Ensure that workers/staff are aware of emergency numbers for Police, Fire and Ambulance - Conduct mock drill for emergencies. 	Contractor		
General construction activities- Public Health Safety	Disturbance and risk to public health safety	<ul style="list-style-type: none"> - Implement a public health and safety plan that includes - Provide information to the public and neighboring schools/institutions about the construction work and schedule via meetings or notification. - Post signboards to notify passers-by of ongoing work - Cordon off all work sites to exclude public from the workplace - Instruct workers in advance on required behavior especially in the districts - Record and document all accidents to public and measures undertaken - Develop and follow standard procedures to record and respond to complaints* within 7 days 	Contractor		

SCREENING FORM FOR POTENTIAL ENVIRONMENTAL AND SOCIAL ISSUES

This form is to be used by the Project Implementation Unit (PIU) to screen for the potential environmental and social risks and impacts of a proposed subproject. It will help the PIU in identifying the relevant Environmental and Social Standards (ESS), establishing an appropriate ES risk rating for these subprojects and specifying the type of environmental and social assessment required, including specific instruments/plans. Use of this form will allow the PIU to form an initial view of the potential risks and impacts of a subproject. ***It is not a substitute for project-specific ES assessments or specific mitigation plans.***

A note on *Considerations and Tools for ES Screening and Risk Rating* is included in this Annex to assist the process.

Subproject Name	Construction of Dialysis unit at Wangdiphodrang Hospital
Subproject Location	Wangdiphodrang
Subproject Proponent	MoH/ Wangdiphodrang Dzongkhag
Estimated Investment	
Start/Completion Date	


Questions	Answer		ESS relevance	Due diligence / Actions
	Yes	No		
Does the subproject involve civil works including new construction, expansion, upgrading or rehabilitation of healthcare facilities and/or waste management facilities?	✓		ESS1	ESIA/ESMP, SEP
Does the subproject involve land acquisition and/or restrictions on land use?		✓	ESS5	RAP/ARAP, SEP
Does the subproject involve acquisition of assets for quarantine, isolation or medical treatment purposes?		✓	ESS5	
Is the subproject associated with any external waste management facilities such as a sanitary landfill, incinerator, or wastewater treatment plant for healthcare waste disposal?		✓	ESS3	ESIA/ESMP, SEP
Is there a sound regulatory framework and institutional capacity in place for healthcare facility infection control and healthcare waste management?		✓	ESS1	ESIA/ESMP, SEP

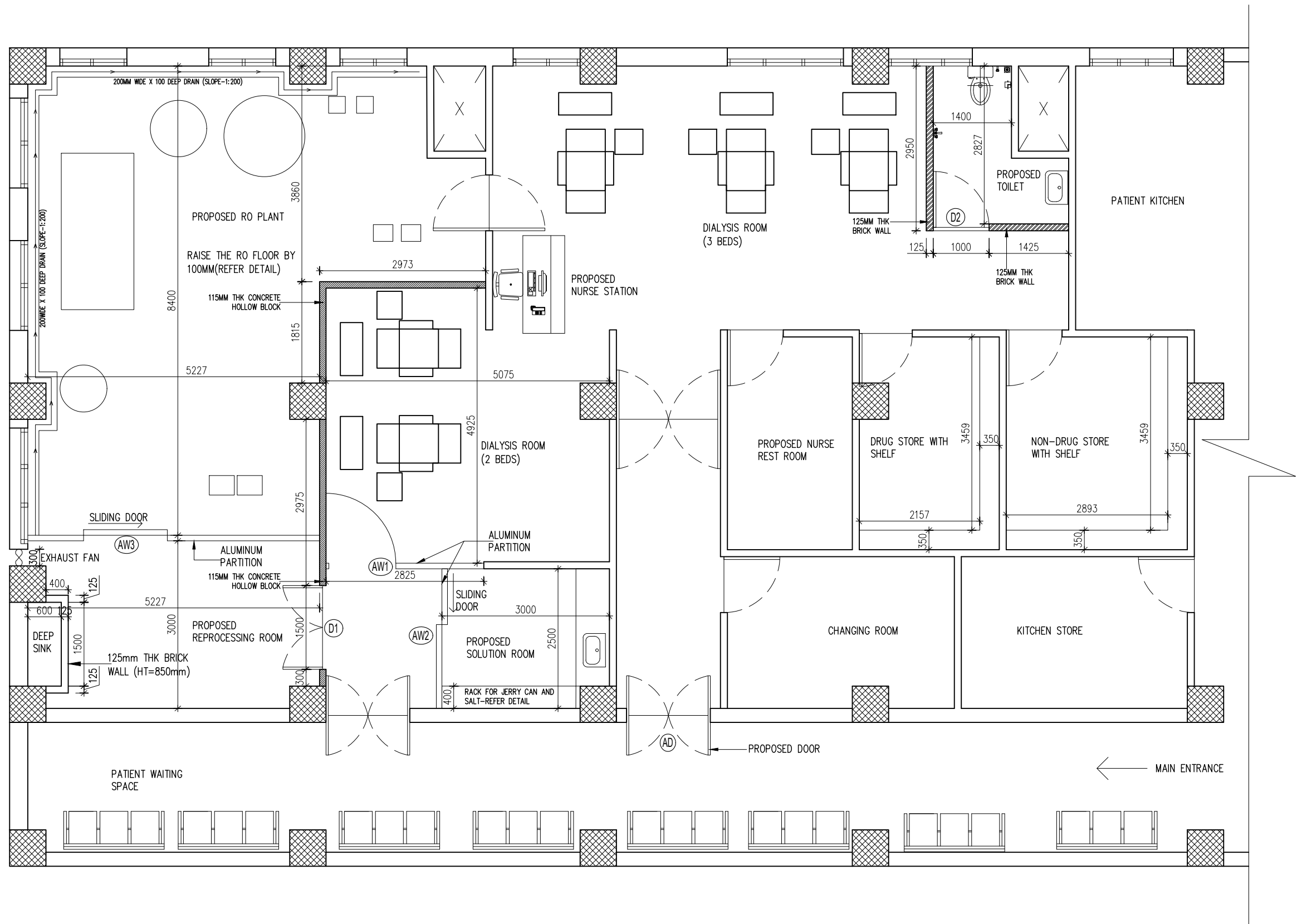
Does the subproject have an adequate system in place (capacity, processes and management) to address waste?	✓			
Does the subproject involve recruitment of workers including direct, contracted, primary supply, and/or community workers?	✓		ESS2	HORMP, SEP
Does the subproject have appropriate OHS procedures in place, and an adequate supply of PPE (where necessary)?	✓			
Does the subproject have a GRM in place, to which all workers have access, designed to respond quickly and effectively?	✓			
Does the subproject involve use of security or military personnel during construction and/or operation of healthcare facilities and related activities?		✓	ESS4	ESIA/ESMP, SEP
Is the subproject located within or in the vicinity of any ecologically sensitive areas?		✓	ESS6	ESIA/ESMP, SEP
Are there any indigenous groups (meeting specified ESS7 criteria) present in the subproject area and are they likely to be affected by the proposed subproject negatively or positively?		✓	ESS7	Indigenous Peoples Plan/other plan reflecting agreed terminology
Is the subproject located within or in the vicinity of any known cultural heritage sites?		✓	ESS8	ESIA/ESMP, SEP
Does the project area present considerable Gender-Based Violence (GBV) and Sexual Exploitation and Abuse (SEA) risk?	✓		ESS1	ESIA/ESMP, SEP

Conclusion: Low Risk Rating

DIALYSIS UNIT AND RO PLANT IN
WANGDUE HOSPITAL

ARCHITECTURAL DRAWING

Project title: <div>DIALYSIS UNIT & RO PLANT</div> <div>LOCATION- WANGDUE HOSPITAL, BHUTAN</div>		ROYAL GOVERNMENT OF BHUTAN		REVISION	DATE	DESCRIPTION	Drawing title: COVER PAGE				
		Ministry of Health, Department of Medical Supplies and Health Infrastructure Health Infrastructure Development Division		0			Designed by: (Jigme Wangmo) <u>Architect BA-285 (P)</u>	Drawn by: (Jigme Wangmo) <u>Architect BA-285 (P)</u>	Checked by: (Ugyen Tenzin) <u>Civil Engineer</u>	Scale: NTS	
		NOTE- ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM	DATE: 24.05.2022	A							
				B			Approved by: (Jampel Dorji) <u>Offg. Chief Engineer</u>		Drawing No. DIA&RO/ARCH/00		
				C							
				D							



Project title:

DIALYSIS UNIT & RO PLANT

LOCATION- WANGDUE HOSPITAL, BHUTAN



ROYAL GOVERNMENT OF BHUTAN

Ministry of Health, Department of Medical Supplies and Health Infrastructure
Health Infrastructure Development Division

NOTE-

ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM

DATE:

24.05.2022

REVISION

DATE

DESCRIPTION

O

A

B

C

D

Drawing title:

FLOOR PLAN

Designed by:

(Jigme Wangmo)
Architect BA-285 (P)

Drawn by:

(Jigme Wangmo)
Architect BA-285 (P)

Checked by:

(Ugyen Tenzin)
Civil Engineer

Scale:

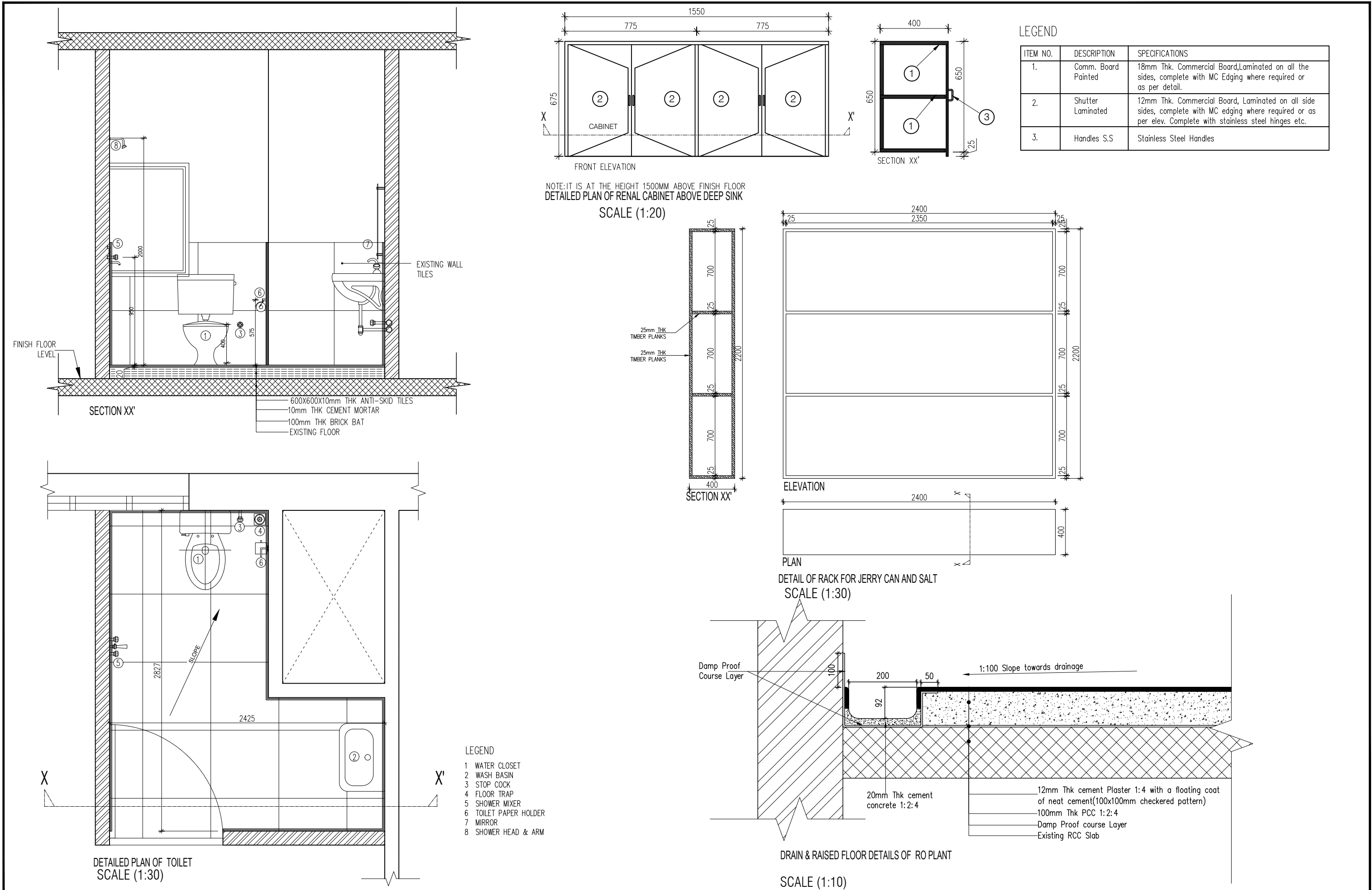
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Approved by:

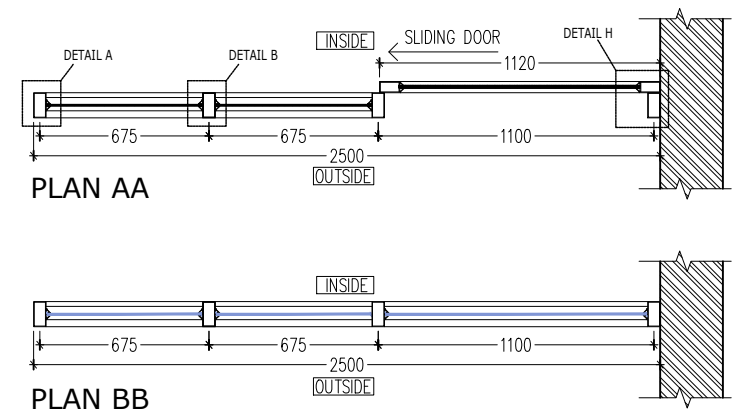
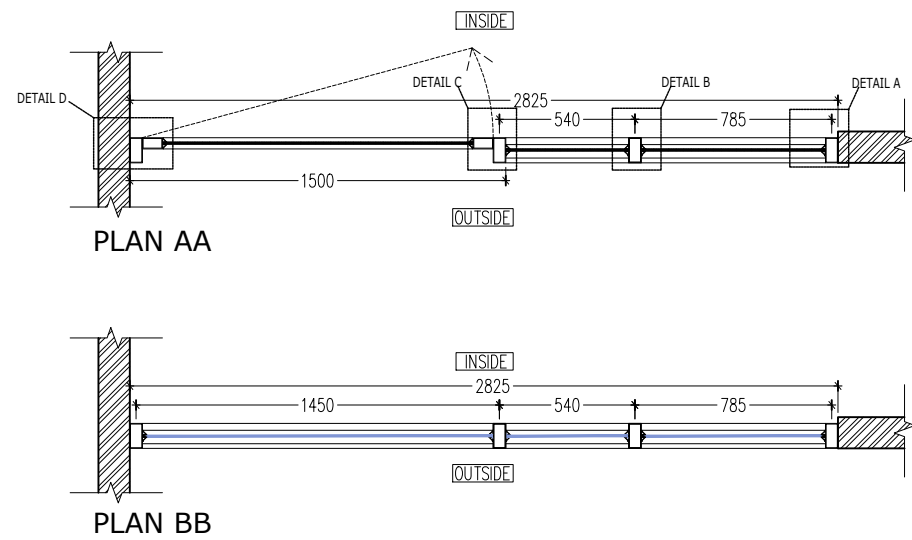
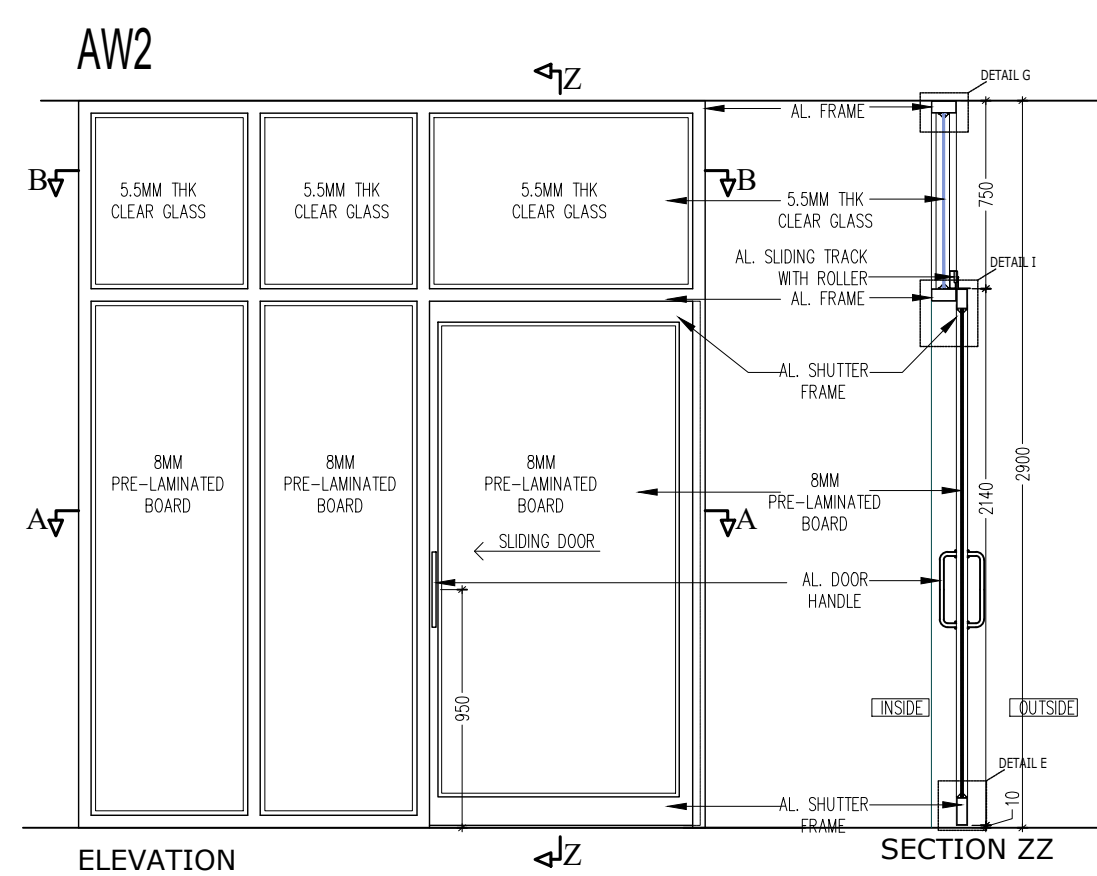
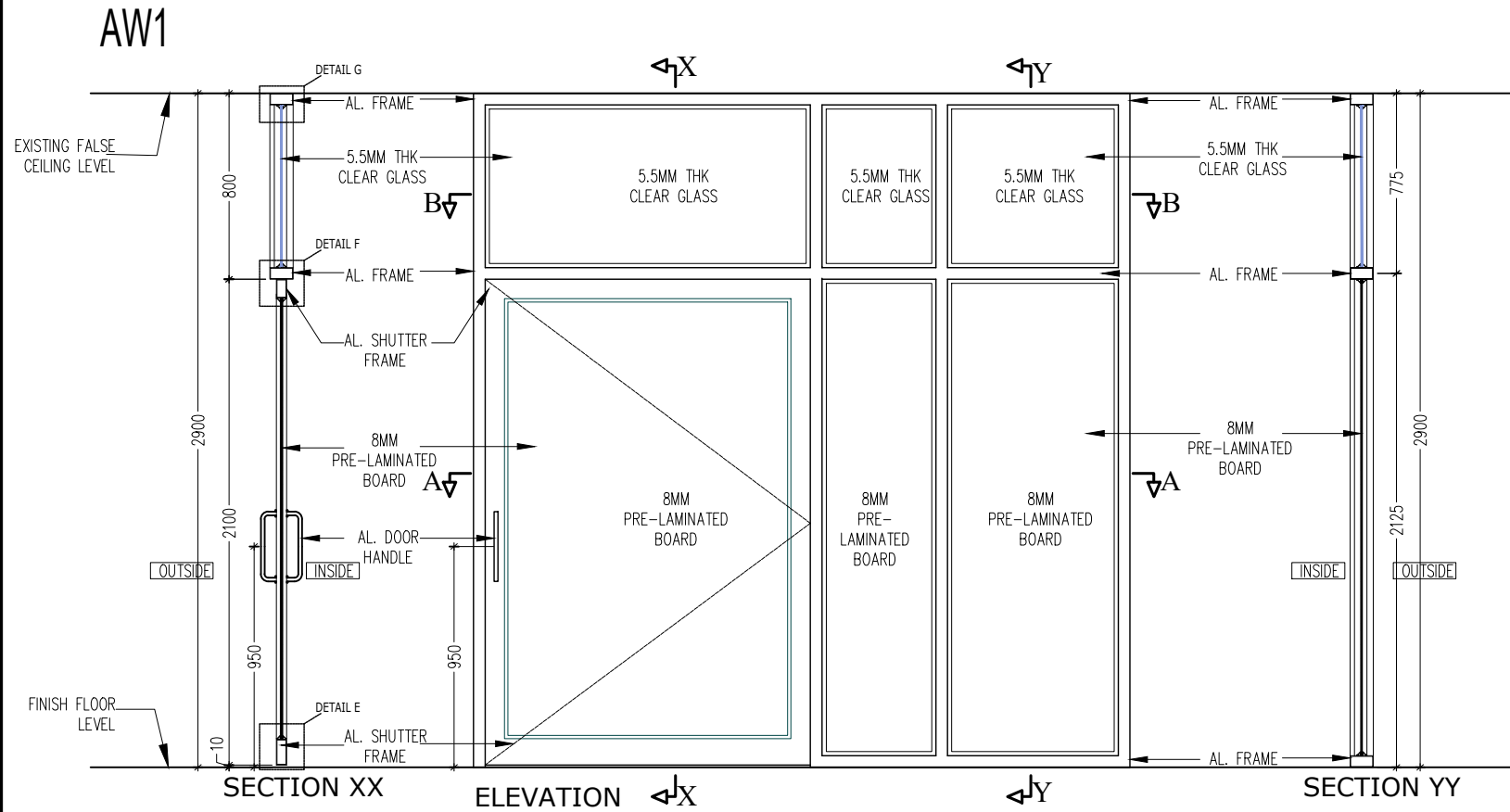
(Jampel Dorji)
Offg. Chief Engineer


Drawing No.

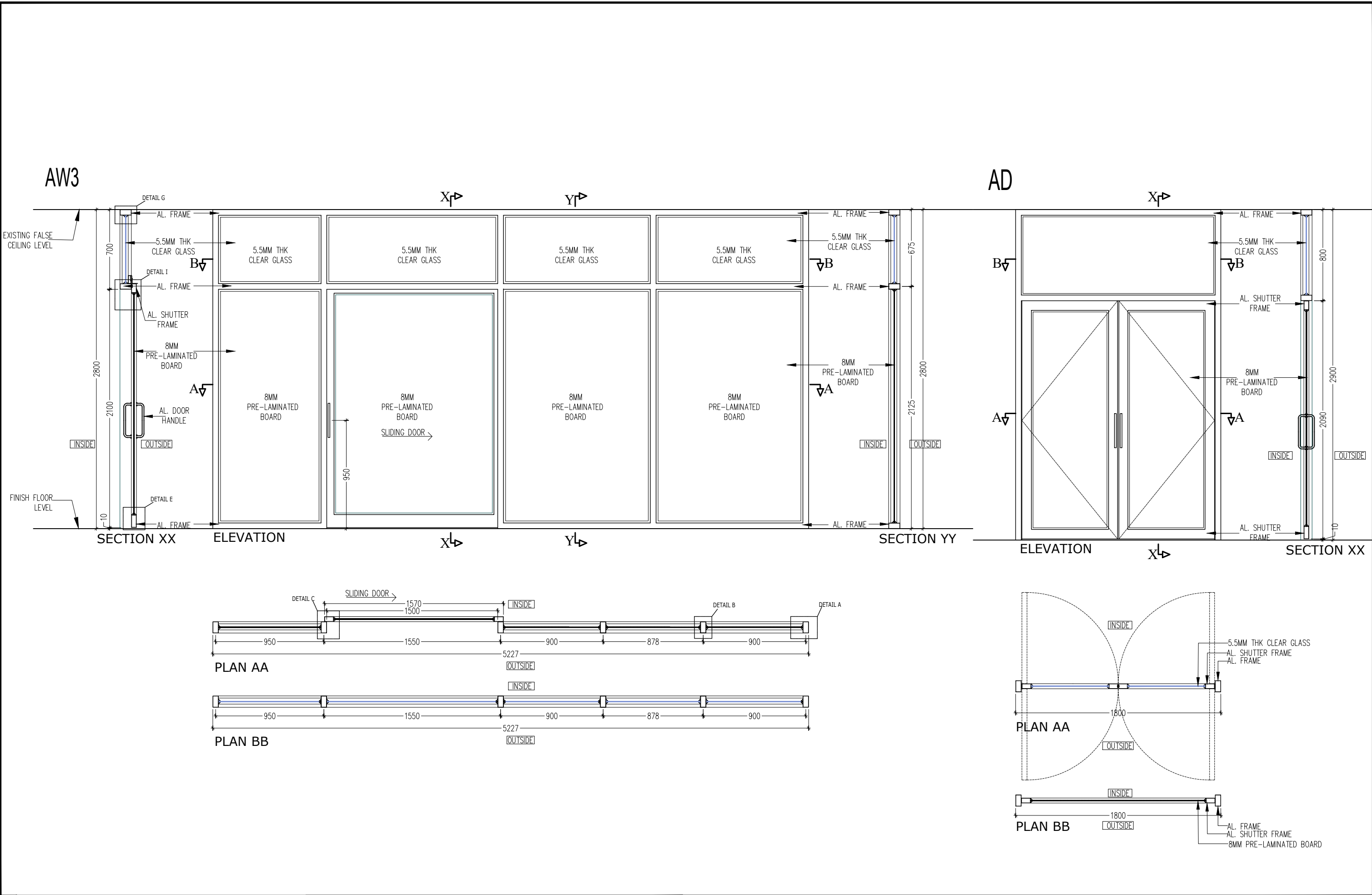
DIA&RO/ARCH/01

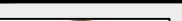


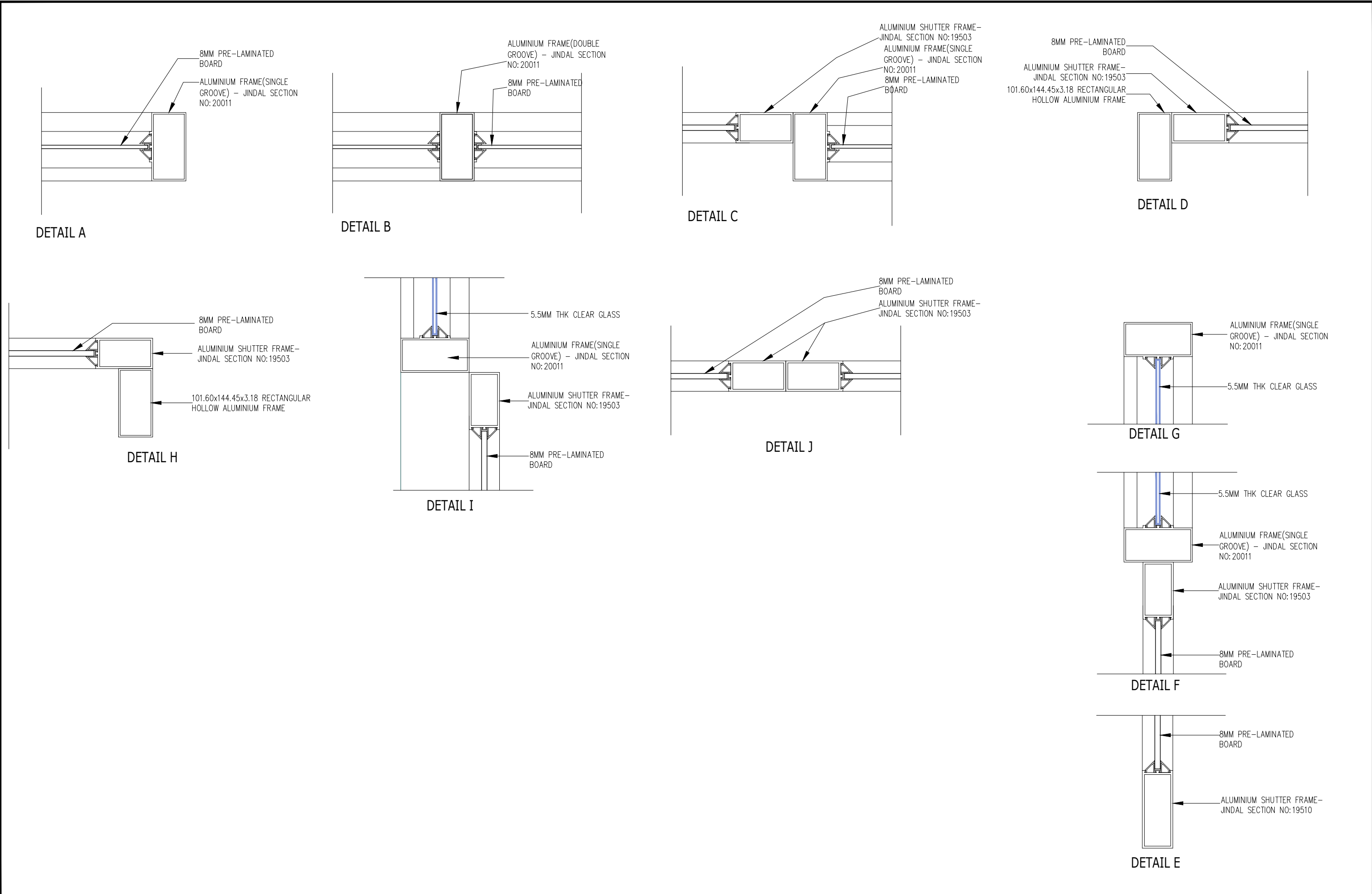
<div>Project title:</div> <div>DIALYSIS UNIT & RO PLANT</div> <div>LOCATION- WANGDUE HOSPITAL, BHUTAN</div>		ROYAL GOVERNMENT OF BHUTAN		REVISION	DATE	DESCRIPTION	Drawing title: DETAILS					
		Ministry of Health, Department of Medical Supplies and Health Infrastructure Health Infrastructure Development Division		0			Designed by:		Drawn by:		Checked by:	Scale:
				A			(Jigme Wangmo) Architect BA-285 (P)		(Jigme Wangmo) Architect BA-285 (P)		(Ugyen Tenzin) Civil Engineer	As specified
				B								
		NOTE- ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM		C			Approved by:				Drawing No.	
				D			(Jampel Dorji) Offg. Chief Engineer				DIA&RO/ARCH/02	
		DATE:	24.05.2022									




Project title: <div>DIALYSIS UNIT & RO PLANT</div> <div>LOCATION- WANGDUE HOSPITAL, BHUTAN</div>			ROYAL GOVERNMENT OF BHUTAN		REVISION	DATE	DESCRIPTION	Drawing title: ALUMINIUM PARTITION DETAILS			
Ministry of Health, Department of Medical Supplies and Health Infrastructure Health Infrastructure Development Division			0			Designed by: (Jigme Wangmo) Architect BA-285 (P)					
NOTE- ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM			A			Drawn by: (Jigme Wangmo) Architect BA-285 (P)					
			B			Checked by: (Ugyen Tenzin) Civil Engineer					
			C			Scale: 1:30					
		DATE: 24.05.2022		D			Approved by: (Jampel Dorji) Offg. Chief Engineer		Drawing No. DIA&RO/ARCH/03		

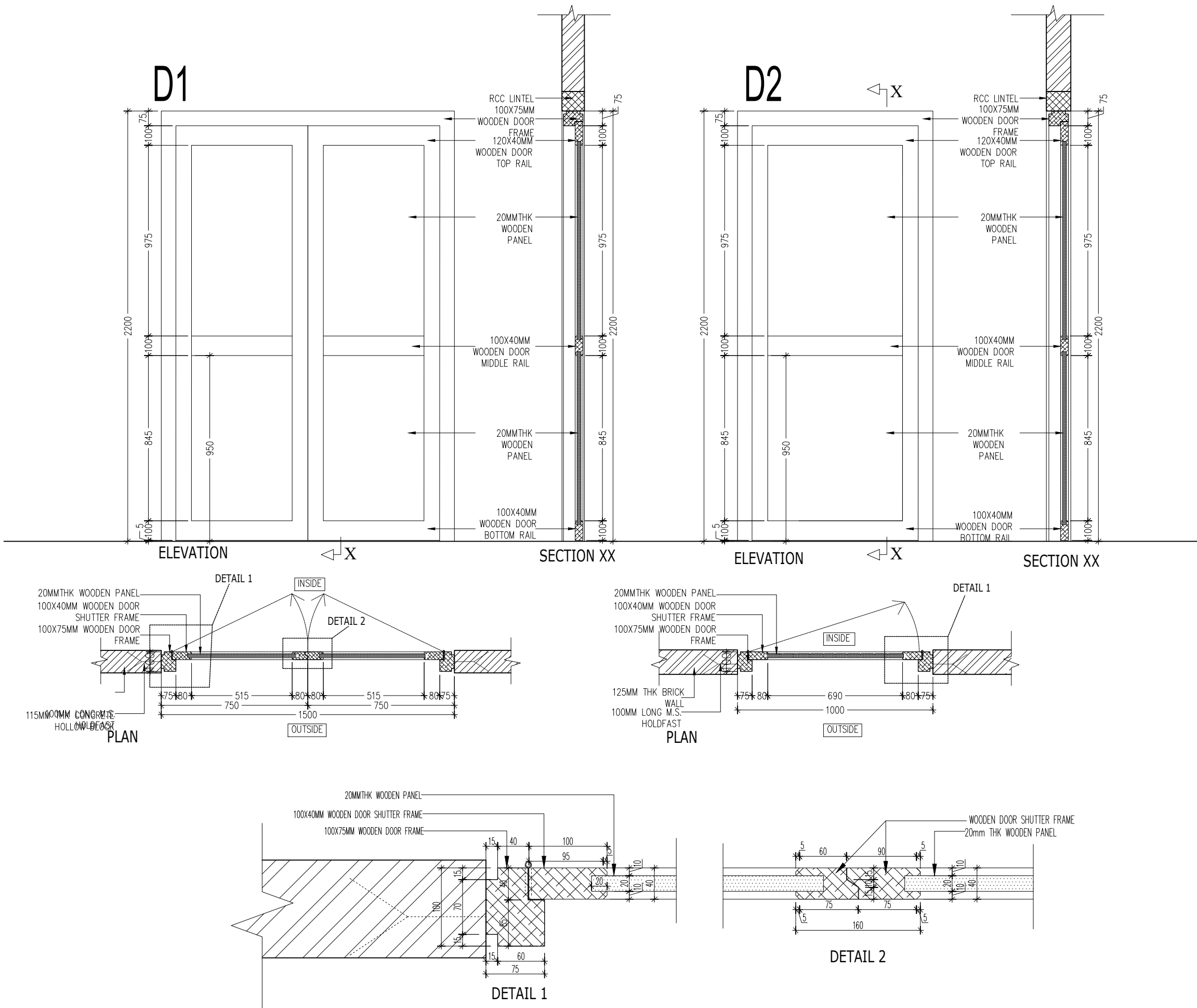


<div>Project title:</div> <div>DIALYSIS UNIT & RO PLANT</div> <div>LOCATION- WANGDUE HOSPITAL, BHUTAN</div>		ROYAL GOVERNMENT OF BHUTAN		REVISION	DATE	DESCRIPTION	Drawing title: ALUMINIUM PARTITION AND ALUMINIUM DOOR DETAILS				
		Ministry of Health, Department of Medical Supplies and Health Infrastructure Health Infrastructure Development Division		0			Designed by: (Jigme Wangmo) <u>Architect BA-285 (P)</u>	Drawn by: (Jigme Wangmo) <u>Architect BA-285 (P)</u>	Checked by: (Ugyen Tenzin) <u>Civil Engineer</u>	Scale: 1:30	
		NOTE- ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM		A							
		DATE: 24.05.2022		B			Approved by: (Jampel Dorji) <u>Offg. Chief Engineer</u>		Drawing No. DIA&RO/ARCH/04		
											C
				D							



<div>Project title:</div> <div>DIALYSIS UNIT & RO PLANT</div> <div>LOCATION- WANGDUE HOSPITAL, BHUTAN</div>		ROYAL GOVERNMENT OF BHUTAN		REVISION	DATE	DESCRIPTION	Drawing title: ALUMINIUM DETAILS			
		Ministry of Health, Department of Medical Supplies and Health Infrastructure		O						
		Health Infrastructure Development Division		A			Designed by:		Drawn by:	
		NOTE- ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM	DATE: 24.05.2022	B			(Jigme Wangmo) Architect BA-285 (P)		(Jigme Wangmo) Architect BA-285 (P)	
				C			Approved by:		Checked by:	

(Jampel Dorji) Offg. Chief Engineer		(Ugyen Tenzin) Civil Engineer		Scale: 1:5
Drawing No.		DIA&RO/ARCH/05		



Project title:

DIALYSIS UNIT & RO PLANT
LOCATION- WANGDUE HOSPITAL, BHUTAN



ROYAL GOVERNMENT OF BHUTAN

Ministry of Health, Department of Medical Supplies and Health Infrastructure
Health Infrastructure Development Division

NOTE-

ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM

DATE:

24.05.2022

REVISION

DATE

DESCRIPTION

0

A

B

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D

Drawing title:

WOODEN DOOR DETAILS

Designed by:

(Jigme Wangmo)
Architect BA-285 (P)

Drawn by:

(Jigme Wangmo)
Architect BA-285 (P)

Checked by:

(Ugyen Tenzin)
Civil Engineer

Scale:

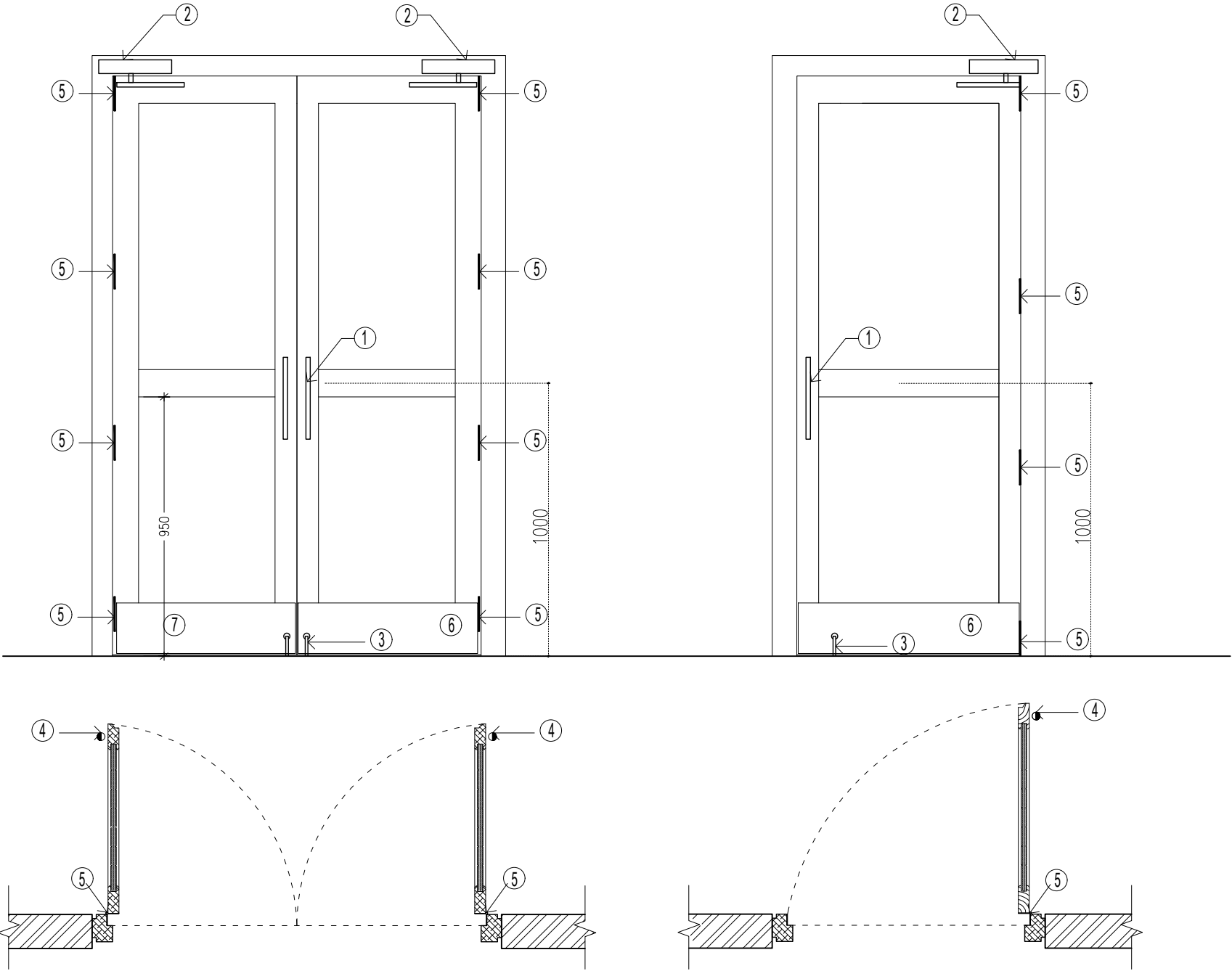
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Approved by:

(Jampel Dorji)
Offg. Chief Engineer

Drawing No.


DIA&RO/ARCH/06

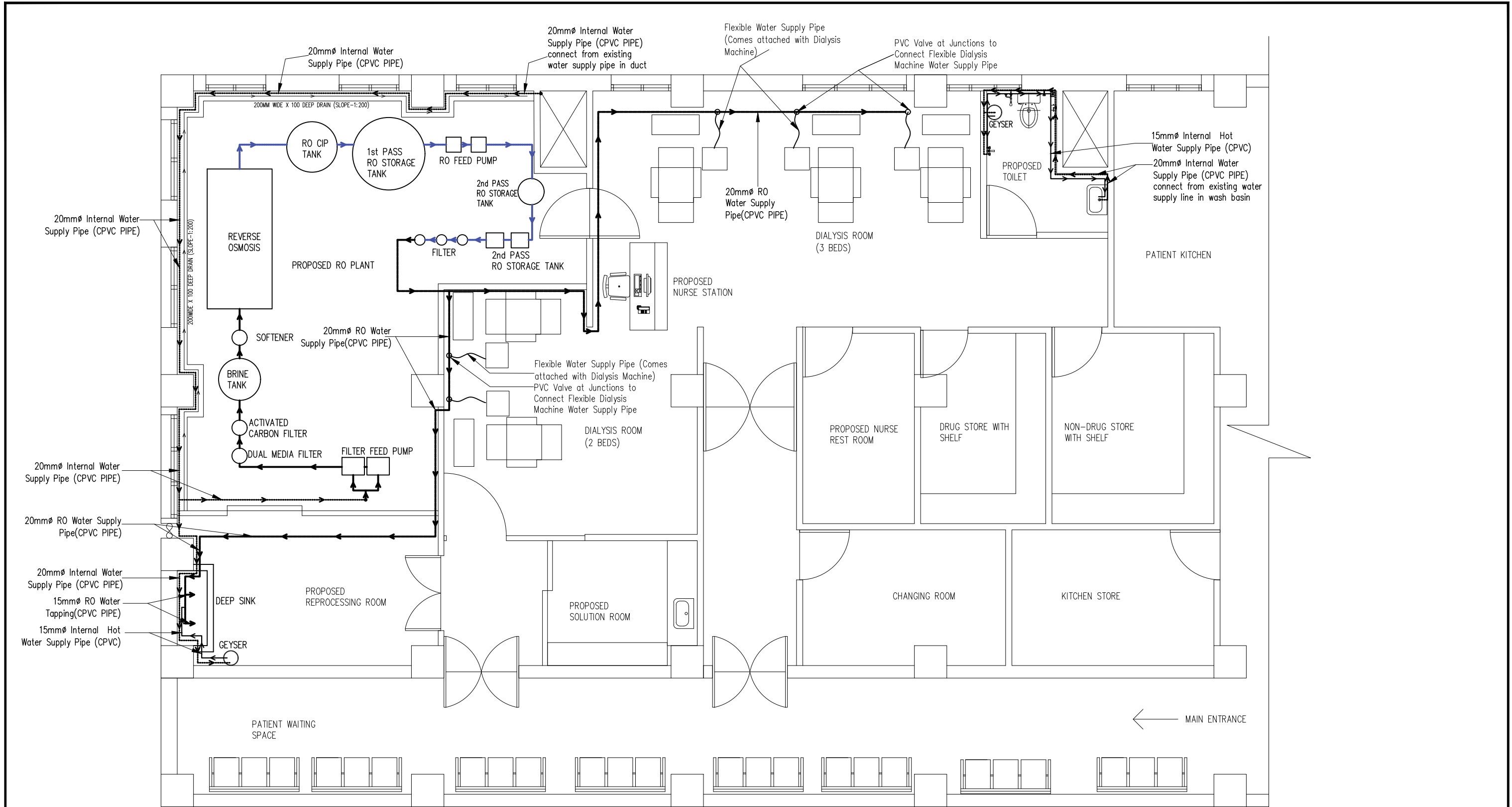


- LEGEND-
- 1.HANDEL
 - 2. DOOR CLOSER
 - 3. DOOR STOPPER (ON PANEL)
 - 4. DOOR STOPPER (FLOOR)
 - 5. HINGES
 - 6. KICKING PLATE


DIALYSIS UNIT AND RO PLANT IN
WANGDUE HOSPITAL

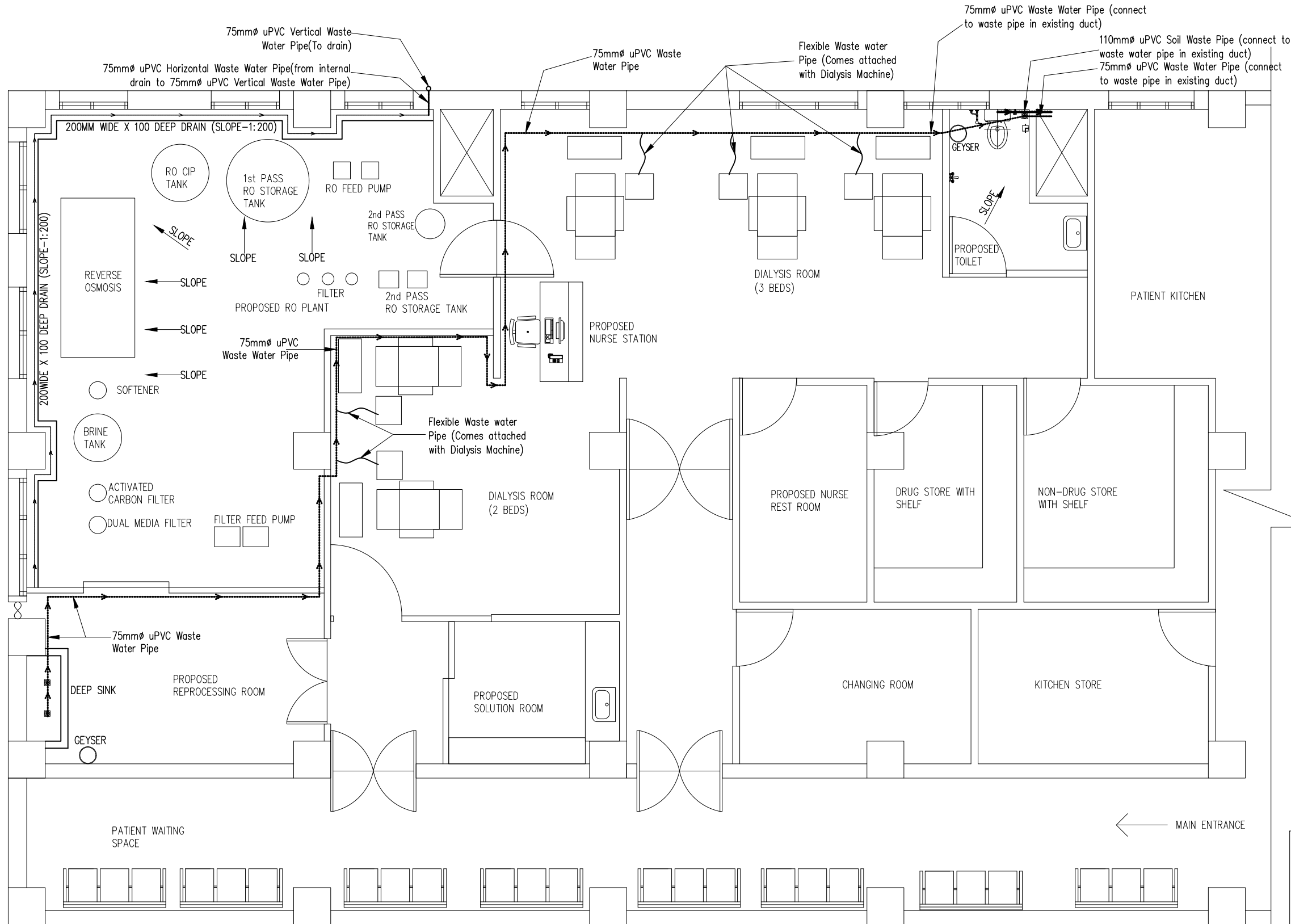
PLUMBING AND SANITATION
DRAWING

Project title: <div>DIALYSIS UNIT & RO PLANT</div> <div>LOCATION- WANGDUE HOSPITAL, BHUTAN</div>		ROYAL GOVERNMENT OF BHUTAN		REVISION	DATE	DESCRIPTION	Drawing title: COVER PAGE				
		Ministry of Health, Department of Medical Supplies and Health Infrastructure Health Infrastructure Development Division		0			Designed by: (Jigme Wangmo) <u>Architect BA-285 (P)</u>	Drawn by: (Jigme Wangmo) <u>Architect BA-285 (P)</u>	Checked by: (Ugyen Tenzin) <u>Civil Engineer</u>	Scale: NTS	
		NOTE- ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM	DATE: 24.05.2022	A							
				B			Approved by: (Jampel Dorji) <u>Offg. Chief Engineer</u>		Drawing No. DIA&RO/ARCH/00		
				C							
				D							



LEGEND			
①	-----	Internal Cold Water Distribution CPVC, (20mm Ø)	
②	————	R.O. Distribution CPVC Pipe (20mm Ø)	
③	————	R.O. Water Tapping CPVC Pipe (15mm Ø)	
④	————	Internal Hot Water Distribution CPVC Pipe (15mm Ø)	
⑤	●———	uPVC Waste Pipe (75mm Ø)	
⑥	●———	uPVC SOIL PIPE (110mm Ø)	

<div>Project title:</div> <div>DIALYSIS UNIT & RO PLANT</div> <div>LOCATION- WANGDUE HOSPITAL, BHUTAN</div>		ROYAL GOVERNMENT OF BHUTAN		REVISION	DATE	DESCRIPTION	Drawing title: WATER SUPPLY LAYOUT			
		Ministry of Health, Department of Medical Supplies and Health Infrastructure Health Infrastructure Development Division		0			Designed by: (Jigme Wangmo) <u>Architect BA-285 (P)</u>	Drawn by: (Jigme Wangmo) <u>Architect BA-285 (P)</u>	Checked by: (Ugyen Tenzin) <u>Civil Engineer</u>	Scale: 1:75
				A						
				NOTE- ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM	DATE: 24.05.2022	B			Approved by: (Jampel Dorji) <u>Offg. Chief Engineer</u>	
		C								
		D								



LEGEND

- ① Internal Cold Water Distribution CPVC, (20mm Ø)
- ② R.O. Distribution CPVC Pipe (20mm Ø)
- ③ R.O. Water Tapping CPVC Pipe (15mm Ø)
- ④ Internal Hot Water Distribution CPVC Pipe (15mm Ø)
- ⑤ uPVC Waste Pipe (75mm Ø)
- ⑥ uPVC SOIL PIPE (110mm Ø)

Project title:

DIALYSIS UNIT & RO PLANT
LOCATION- WANGDUE HOSPITAL, BHUTAN



ROYAL GOVERNMENT OF BHUTAN

Ministry of Health, Department of Medical Supplies and Health Infrastructure
Health Infrastructure Development Division

NOTE-

ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM

DATE:

24.05.2022

REVISION

DATE

DESCRIPTION

0

A

B

C

D

Drawing title:

WATER SUPPLY LAYOUT

Designed by:

(Jigme Wangmo)
Architect BA-285 (P)

Drawn by:

(Jigme Wangmo)
Architect BA-285 (P)

Checked by:

(Ugyen Tenzin)
Civil Engineer

Scale:

1:60


Approved by:

(Jampel Dorji)
Offg. Chief Engineer

Drawing No.

DIA&RO/P&S/02

ELECTRICAL DESIGN AND DRAWING FOR DIALYSIS AND RO PLANT AT WANGUDE HOSPITAL

Project title:		COVER PAGE	
DIALYSIS UNIT & RO PLANT		Drawing title:	
LOCATION - WANGDUEPHODRANG HOSPITAL, BHUTAN			
			
ROYAL GOVERNMENT OF BHUTAN		REVISION	DATE
Ministry of Health, Department of Medical Supplies and Health Infrastructure		0	
Health Infrastructure Development Division		A	
		B	
		C	
		D	
NOTE:-			
ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM			
24.05.2022			
Designed by		Drawn by	
DURGA PRASAD DHAKAL		DURGA PRASAD DHAKAL	
ELECTRICAL ENGINEER		ELECTRICAL ENGINEER	
Approved by		Checked by	
(Jampel Dorji)		Phurpa Dorji	
Chief Engineer		ENGINEER/ELECTRICAL	
		Drawing No.	
		ELE/00	
		Scale:	
		N/S	

LEGENDS

SYMBOL	DESCRIPTION
	Wall mounted LED tube light , 1x18 W
	RJ 11 television outlet
	Telephone outlet
	3 -ph TPN Distribution Box (DB)
	Data LAN outlet
	16 A switch socket combined power outlet, 2000W
	6 A switch socket, 800W
	6 A 1 way modular switch
	Recessed ceiling mounted round LED, 1x18 W
	Exhaust fan, 60W, 900RPM, 300 mm sweep

Project title:
DIALYSIS UNIT & RO PLANT
LOCATION- WANGDUEPHODRANG HOSPITAL, BHUTAN



ROYAL GOVERNMENT OF BHUTAN

Ministry of Health, Department of Medical Supplies and Health Infrastructure
Health Infrastructure Development Division

NOTE-
ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM

REVISION

DATE

DESCRIPTION

0		
A		
B		
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D		

DATE
24.05.2022

Drawing title:
LEGENDS

Designed by
DURGHA PRASAD DHAKAL
ELECTRICAL ENGINEER

Drawn by
DURGHA PRASAD DHAKAL
ELECTRICAL ENGINEER

Checked by
Phurpa Dorji
MECHANICAL ENGINEER

Scale
NTS

Approved by
(Jampel Dorji)
Chief Engineer

Drawing No.
ELE/01

General Description and Specification

NOTE:

1. Light Point wiring

: 2x1.5 sq.mm PVC insulated copper wire 1.1 kV grade

7. Type of Wiring

: PVC casing caving surface Wiring
2. Light Circuit wiring

: 2x2.5 sq.mm PVC insulated copper wire 1.1 kV grade

8. Loop earthing

: 2.5 Sq.mm PVC insulated copper wire of 1.1 kV grade
3. Power Circuit Wiring

: 2x4 sq.mm PVC insulated copper wire of 1.1 kV grade with earth wire of 2.5 Sq.mm PVC insulated copper conductor

9. Power point

: Considered 2000W
4. Switch board position

: 1200 mm above finished floor level and 300 mm away from door edges.

10. All the wall mounted fixture should be placed at 2.5M above from the finished floor Level.
5. Power Point Position

: 1000 mm above finished floor level for power point assign to dialysis bed other are at 300 mm from finished floor level and 300mm away from window, wall and door edges whichever come,

11. Power point wiring should not have looping. ONE Power Point should be controlled by single 16 A MCB.
6. Position of Distribution Board

: It should be 1800 mm above from the finished floor level

12. 6 A Socket for television (TVS1-TV S2) SHOULD BE PLACED AT 1.8 M ABOVE FINISHED FLOOR LEVEL. (ONLY FOR TELEVISION SUPPLY)
13. Supply to RO plant is just installed with MCCB at Bus bar cable can determined as per the RO plant load needed at site.
14. Earthing should be taped from floor panel
15. Power point which is not NUMBERED are existing power point at site
16. Bus bar is located near DB.

Project title:

DIALYSIS UNIT & RO PLANT

LOCATION- WANGDUEPHODRANG HOSPITAL, BHUTAN



ROYAL GOVERNMENT OF BHUTAN

Ministry of Health, Department of Medical Supplies and Health Infrastructure

Health Infrastructure Development Division

NOTE- ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM

DATE: 24.05.2022

REVISION

DATE

DESCRIPTION

0

A

B

C

D

Designing title:

LEGENDS

Designed by:

DURGA PRASAD DHAKAL

ELECTRICAL ENGINEER

Drawn by:

DURGA PRASAD DHAKAL

ELECTRICAL ENGINEER

Checked by:

Phurpa Dorji

ENGINEER/ELECTRICAL

Approved by:

(Lampel Dorji)

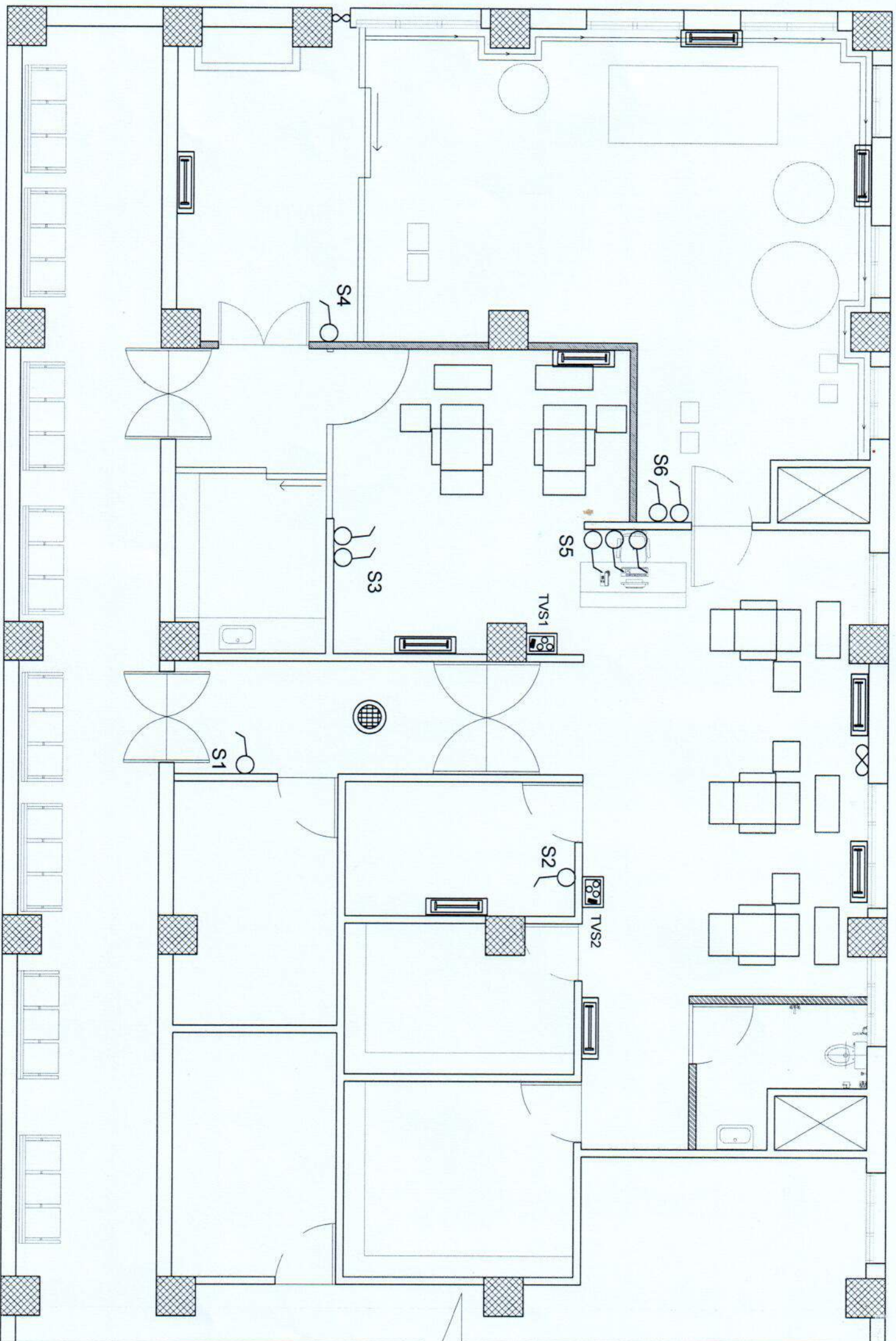
SRM, Civil Engineer

Scale:

N/T

Drawing No:

ELE/02



LIGHTINGS POINTS AND SWITCH BOARD LAYOUT

Project title:

DIALYSIS UNIT & RO PLANT

LOCATION- WANGDUEPHODRANG HOSPITAL, BHUTAN



ROYAL GOVERNMENT OF BHUTAN

Ministry of Health, Department of Medical Supplies and Health Infrastructure
Health Infrastructure Development Division

NOTE-

ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM

DATE

24.05.2022

REVISION

DATE

DESCRIPTION

Drawing No.

LIGHTING POINTS AND SWITCH BOARD LAYOUT

Designed by

DURGA PRASAD DHAKAL
ELECTRICAL ENGINEER

Drawn by

DURGA PRASAD DHAKAL
ELECTRICAL ENGINEER

Checked by

Phurpa Dorji
ENGINEER/ELECTRICAL

Scale

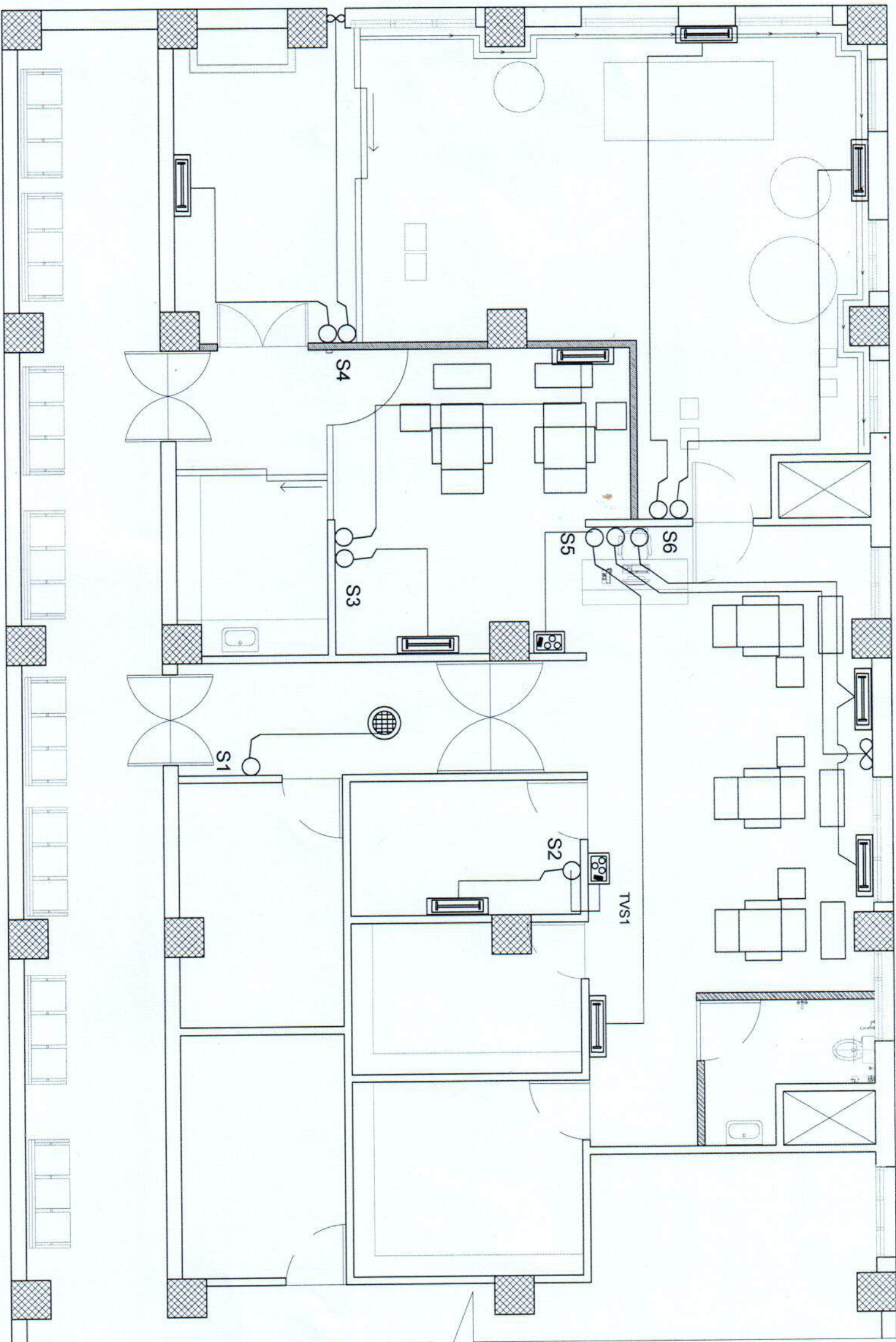
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Approved by


(Jampel Dorji)
Civil, Chief Engineer

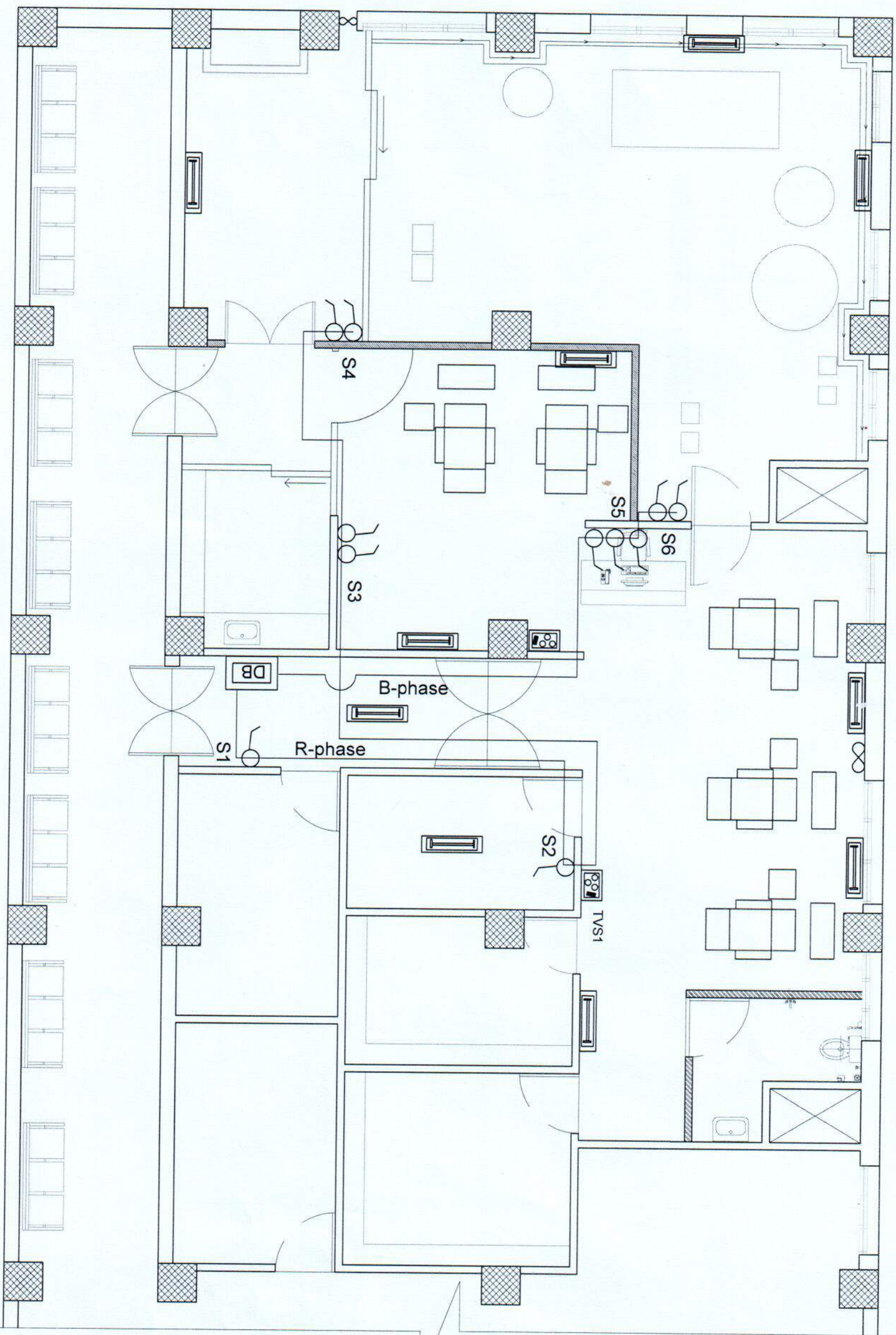
Drawing No.

ELE/03



LIGHTING WIRING LAYOUT

Project title: DIALYSIS UNIT & RO PLANT LOCATION- WANGDUEPHODRANG HOSPITAL, BHUTAN				
ROYAL GOVERNMENT OF BHUTAN Ministry of Health, Department of Medical Supplies and Health Infrastructure Health Infrastructure Development Division		REVISION	DATE	DESCRIPTION
NOTE:- ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM		0		
DATE: 24.05.2022		A		
		B		
		C		
		D		
Drawing title: LIGHTING WIRING LAYOUT		Designed by: DURGAPRASAD DHAKAL ELECTRICAL ENGINEER		Checked by: Purnpa Dorji ENGINEER/ELECTRICAL
		Approved by: (Lampel Dorji) Offn. Chief Engineer		Scale: NTS
				Drawing No. ELE/04



LIGHTINGS CIRCUIT LAYOUT

Project title:

DIALYSIS UNIT & RO PLANT

LOCATION- WANGDUEPHODRANG HOSPITAL, BHUTAN



ROYAL GOVERNMENT OF BHUTAN

Ministry of Health, Department of Medical Supplies and Health Infrastructure
Health Infrastructure Development Division

NOTE-
ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM

DATE
24.05.2022

REVISION

DATE

DESCRIPTION

0

A

B

C

D

Drawing title

LIGHTING CIRCUIT LAYOUT (DB TO SWITCH BOX)

Designed by

DURGGA PRASAD DHAKAL
ELECTRICAL ENGINEER

Drawn by

DURGGA PRASAD DHAKAL
ELECTRICAL ENGINEER

Checked by

Phurpa Dorji
ENGINEER/ELECTRICIAN

Scale

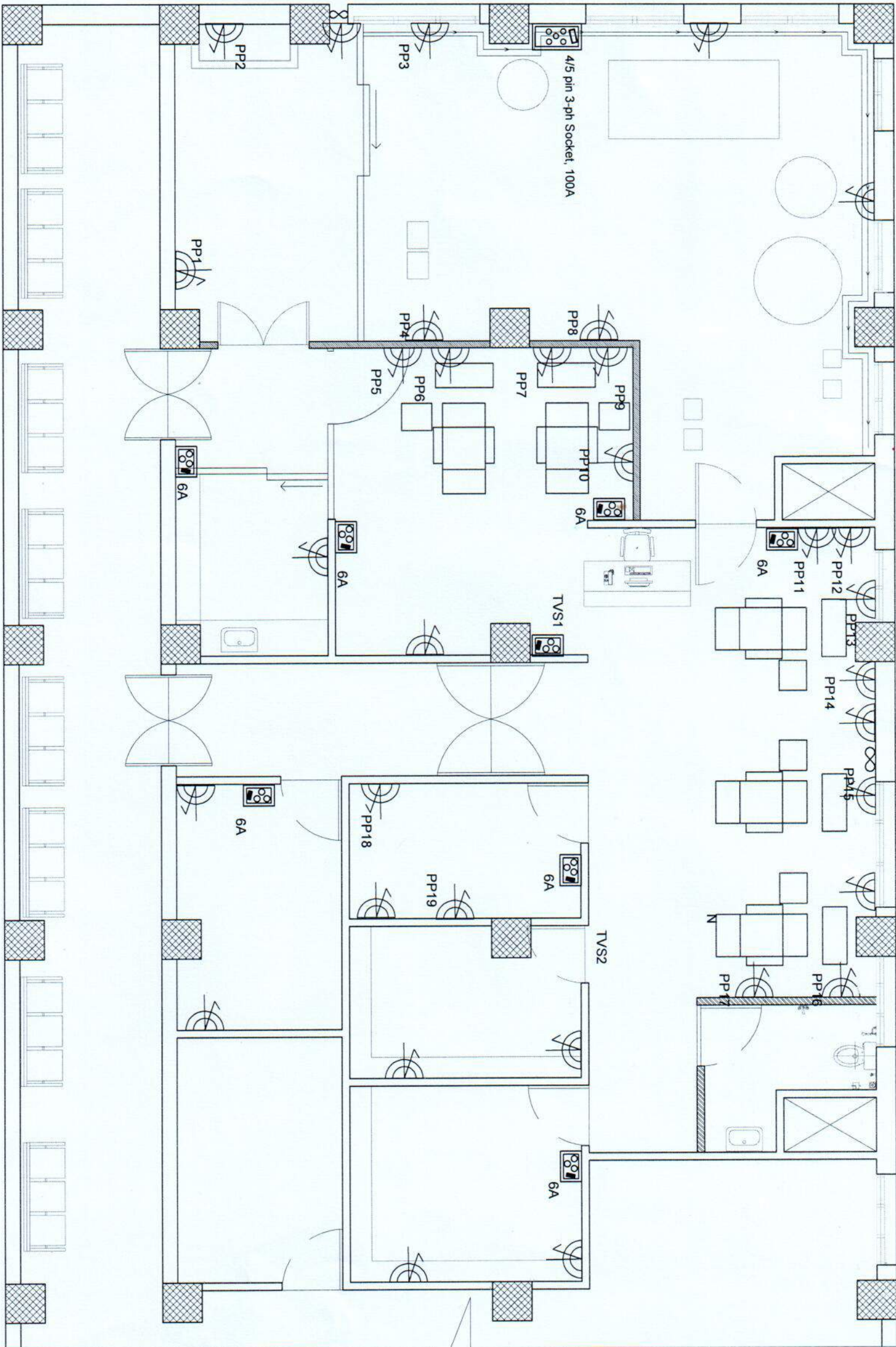
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Approved by

(Lampel Dorji)
Offn. Chief Engineer

Drawing No.

ELE/05



POWER POINT LAYOUT

Project title:

DIALYSIS UNIT & RO PLANT
LOCATION- WANGDUEPHODRANG HOSPITAL, BHUTAN



ROYAL GOVERNMENT OF BHUTAN

Ministry of Health, Department of Medical Supplies and Health Infrastructure
Health Infrastructure Development Division

NOTE:-

ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM.

DATE

24.05.2022

Drawing title:

POWER POINT LAYOUT

Designed by

DUNGA PRASAD DHAKAL

ELECTRICAL ENGINEER

Drawn by

DUNGA PRASAD DHAKAL

ELECTRICAL ENGINEER

Checked by

Purnima Dorji

ENGINEER/ELECTRICAL

Scale

NTS

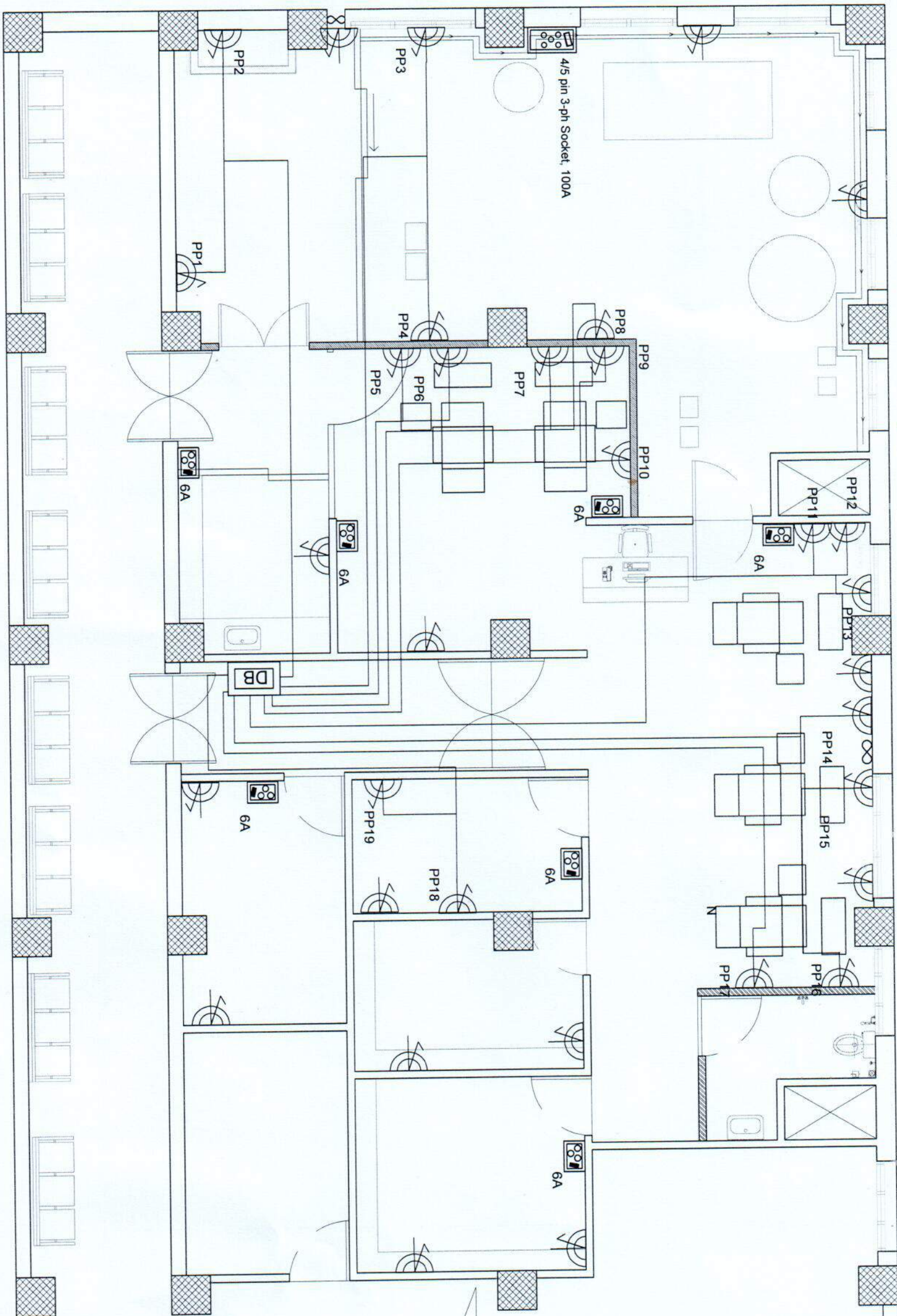
Drawing No.

ELE/06

Approved by

(Jampel Dorji)

CHIEF ENGINEER



POWER POINT CONDUCTING LAYOUT

Project title:

DIALYSIS UNIT & RO PLANT

LOCATION- WANGDUEPHODRANG HOSPITAL, BHUTAN



ROYAL GOVERNMENT OF BHUTAN

Ministry of Health, Department of Medical Supplies and Health Infrastructure
Health Infrastructure Development Division

NOTE:
ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM

DATE:
24.05.2022

POWER POINT CONDUCTING LAYOUT

Drawing title:

Designed by
DURGGA PRASAD DHAKAL
ELECTRICAL ENGINEER

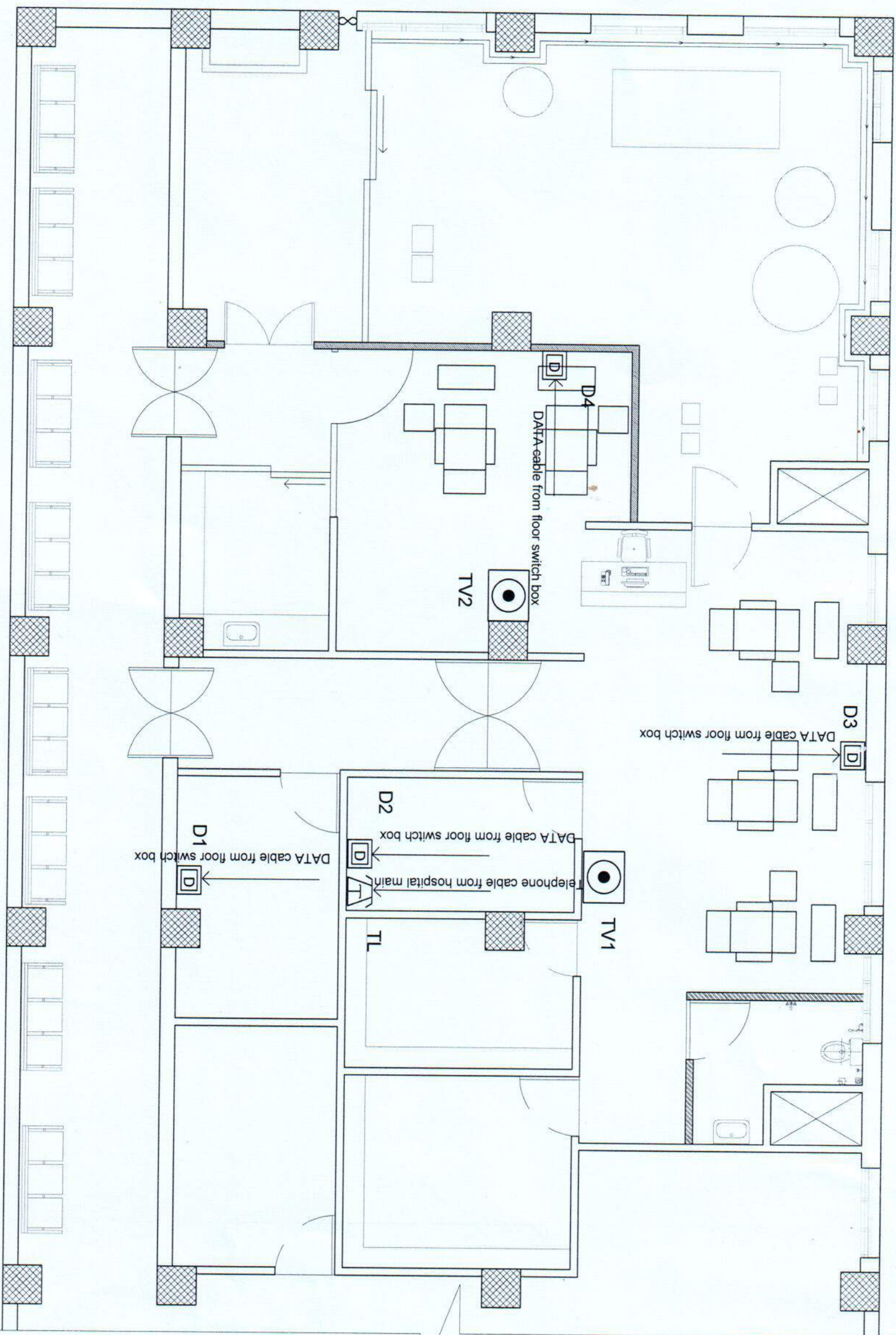
Drawn by
DURGGA PRASAD DHAKAL
ELECTRICAL ENGINEER

Checked by
Purna Dorji
ENGINEER/ELECTRICAL

Scale
N.T.S

Approved by
(Jampel Dorji)
Offg. Chief Engineer

Drawing No.
ELE/07



DATA. TELEPHONE AND TELEVISION LINE LAYOUT

Project title:		
DIALYSIS UNIT & RO PLANT		
LOCATION- WANGDUEPHODRANG HOSPITAL, BHUTAN		
ROYAL GOVERNMENT OF BHUTAN		
Ministry of Health, Department of Medical Supplies and Health Infrastructure		
Health Infrastructure Development Division		
NOTE:	DATE:	
ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM	24.05.2022	
REVISION	DATE	DESCRIPTION
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A		
B		
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D		
Drawing title: DATA, TELEPHONE AND TELEVISION LINE LAYOUT		
Designed by: DURGA PRASAD DHAKAL, ELECTRICAL ENGINEER		
Drawn by: DURGA PRASAD DHAKAL, ELECTRICAL ENGINEER		
Checked by: Phurpa Dorji, ENGINEER/ELECTRICAL		
Approved by: (Jampel Dorji), Jem, Chief Engineer		
Drawing No: ELE/08		
Scale: NTS		

LIGHTING LOAD DETAILS

CIRCUIT	RED	YELLOW	BLUE	LOAD
R1-SB1				
SB1 = 18X1	18	0	0	450
SB2= 18X1	18	0	0	
SB3 = 18X2	36	0	0	
SB4 = 60X1	60	0	0	
SB4 = 18X1	18	0	0	
TVS1 = 300X1	300	0	0	
B1-SB5				450
SB5 = 18X3	0	0	54	
SB5 = 60X1	0	0	60	
SB6 = 18X2	0	0	36	
TVS1 = 300X1	0	0	300	

POWER LOAD DETAILS

CIRCUIT	RED	YELLOW	BLUE
PP1	2000	0	0
PP2	2000	0	0
PP3	2000	0	0
PP4	2000	0	0
PP5	2000	0	0
PP6	2000	0	0
PP7	0	2000	0
PP8	0	2000	0
PP9	0	2000	0
PP10	0	2000	0
PP11	0	2000	0
PP12	0	2000	0
PP13	0	2000	0

CIRCUIT	RED	YELLOW	BLUE
PP14	0	0	2000
PP15	0	0	2000
PP16	0	0	2000
PP17	0	0	2000
PP18	0	0	2000
PP19	0	0	2000

Project title:

DIALYSIS UNIT & RO PLANT

LOCATION- WANGDUEPHODRANG HOSPITAL, BHUTAN



ROYAL GOVERNMENT OF BHUTAN

Ministry of Health, Department of Medical Supplies and Health Infrastructure
Health Infrastructure Development Division

NOTE:
ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM

DATE:
24.06.2022

REVISION	DATE	DESCRIPTION
0		
A		
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D		

LOAD DETAILS

Designed by DURGAPRASAD DHAKAL ELECTRICAL ENGINEER	Drawn by DURGAPRASAD DHAKAL ELECTRICAL ENGINEER	Checked by Phurpa Dorji ENGINEER/ELECTRICIAN	Scale: NTS
Approved by (Jampel Dorji) Offg. Chief Engineer		Drawing No. ELE/9	

PHASE	RED	YELLOW	BLUE
LIGHTING LOAD (W)	450	0	450
POWER LOAD (W)	6000	7000	6000
TOTAL CONNECTED LOAD	19900 W		
DEMAND FACTOR	60%		
DEMAND LOAD	11940 W/ 11.940kW		
RO PLANT LOAD	50 kW		
TOTAL LOAD	61.940 kW		
POWER FACTOR	0.8		
VOLTAGE	415		
CURRENT	107.71 A		
Cable size	95 SQ MM		

PHASE	RED	YELLOW	BLUE
LIGHTING LOAD (W)	450	0	450
POWER LOAD (W)	6000	7000	6000
TOTAL CONNECTED LOAD	19900 W		
DEMAND FACTOR	60%		
DEMAND LOAD	11940 W/ 11.940kW		
RO PLANT LOAD	50 kW		
TOTAL LOAD	61.940 kW		
POWER FACTOR	0.8		
VOLTAGE	415		
CURRENT	107.71 A		
Cable size	95 SQ MM		

DIALYSIS UNIT & RO PLANT

LOCATION- WANGDUEPHODRANG HOSPITAL, BHUTAN



Ministry of Health, Department of Medical Supplies and Health Infrastructure
Health Infrastructure Development Division

ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM

24.05.2022

Designed by
DURGAPRASAD DHAKAL
ELECTRICAL ENGINEER

Drawn by:
DURGAPRASAD DHAKAL
ELECTRICAL ENGINEER

Checked by:
Phurpa Dorji
ENGINEER/ELECTRICAL

Scale:
NTS

Approved by:
(Jampel Dorji)

July

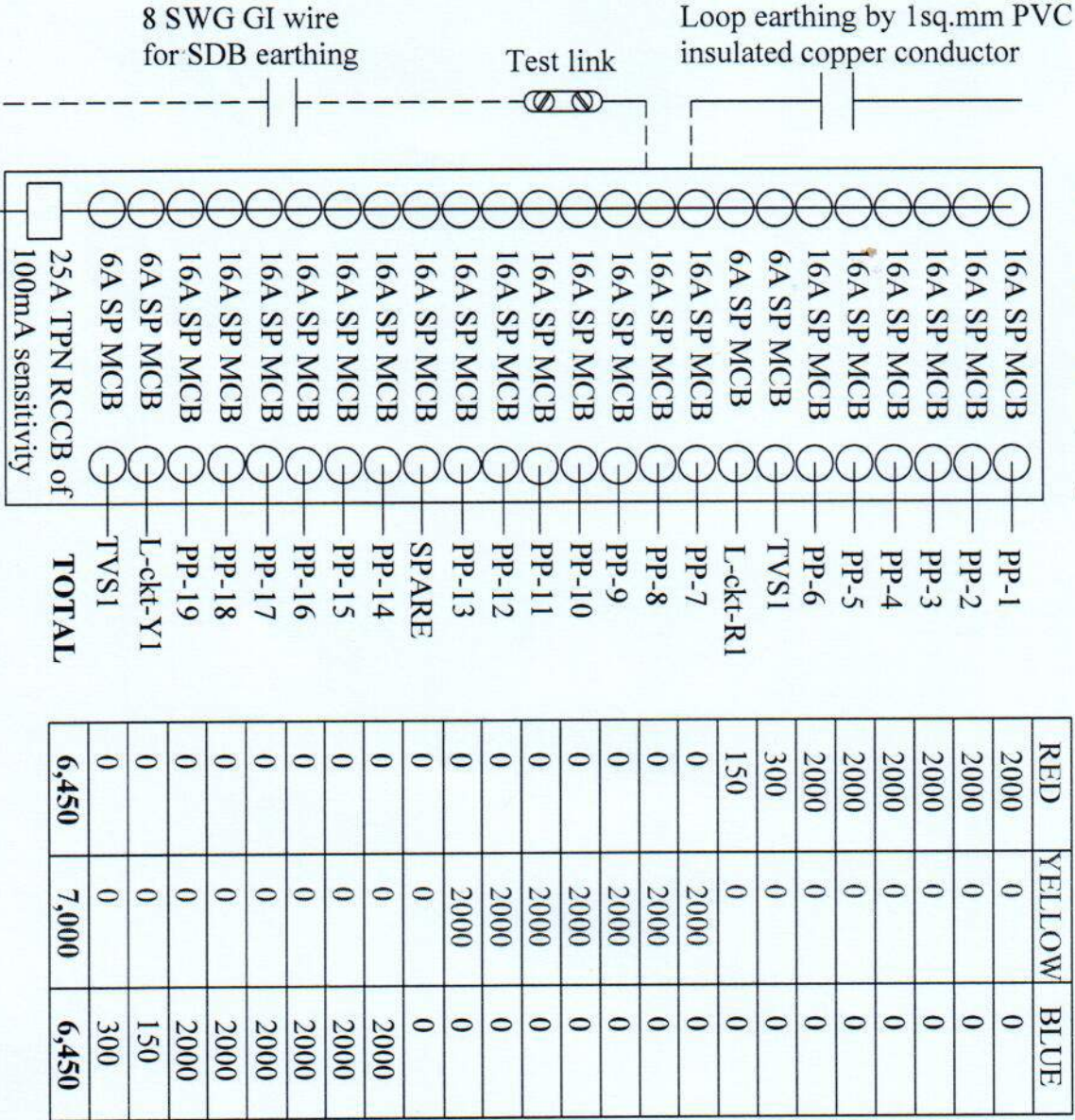
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Drawing No.
ELE/10

ELE/10

DB DETAILS

DB1: 8 Way TPN DB mounted with 19 nos. of 16A SP MCB and 4 no. of 6A SP MCB with 1 no. of 25 A RCCB of 100mA sensitivity



Project title:
DIALYSIS UNIT & RO PLANT
LOCATION- WANGUEPHODRANG HOSPITAL, BHUTAN

ROYAL GOVERNMENT OF BHUTAN

Ministry of Health, Department of Medical Supplies and Health Infrastructure

Health Infrastructure Development Division

NOTE- ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM!

DATE: 24.05.2022

REVISION

DATE

DESCRIPTION

0

A

B

C

D

Drawing title:
LOAD DETAILS

Designed by
DURGAPRASAD DHAKAL
ELECTRICAL ENGINEER

Drawn by
DURGAPRASAD DHAKAL
ELECTRICAL ENGINEER

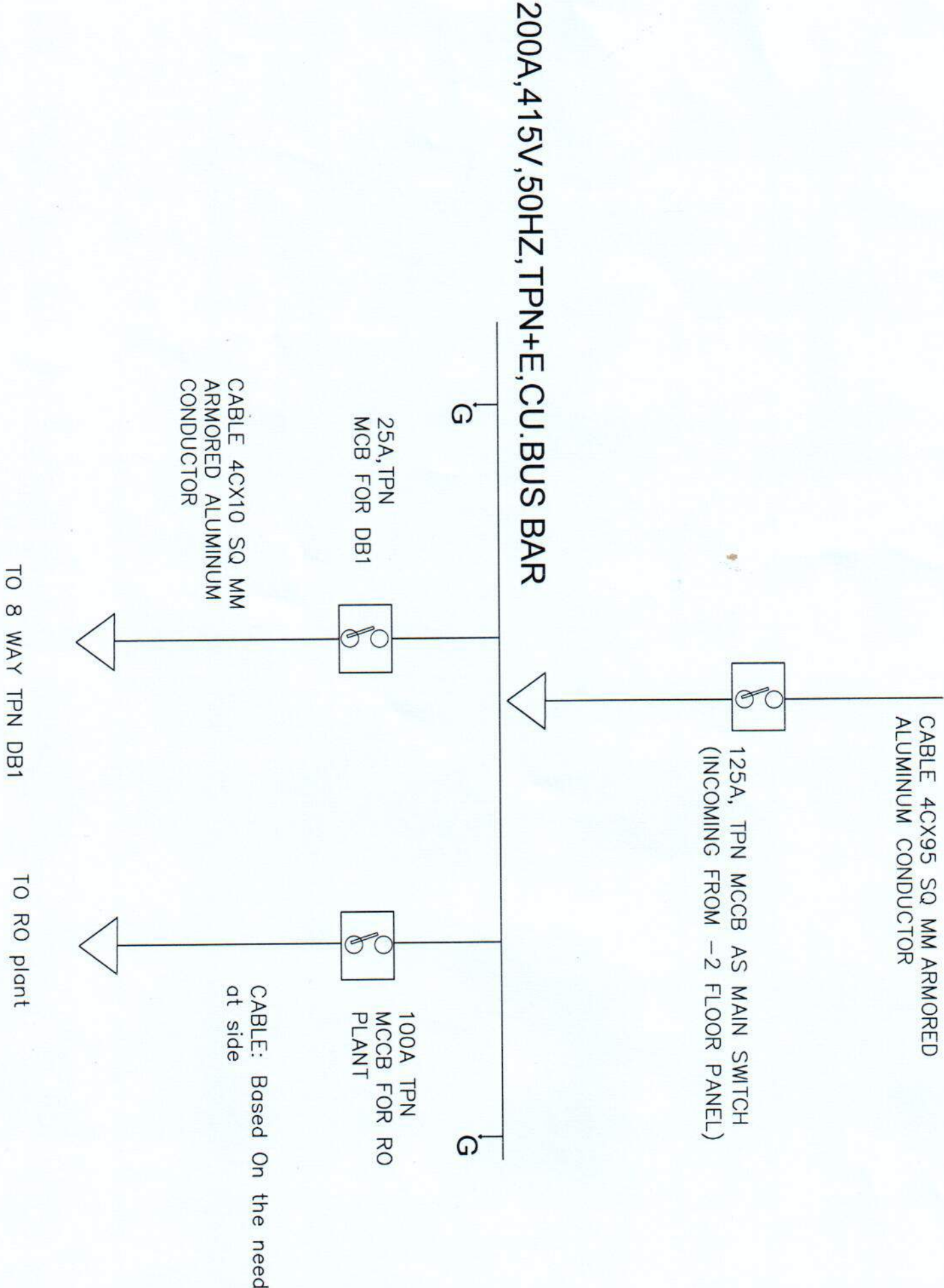
Checked by
Phurpa Dorji
ENGINEER/ELECTRICAL

Scale:
NTS

Approved by
(Jampel Dorji)
Jrnl. Chief Engineer

Drawing No.
ELE/11

SINGLE LINE DIAGRAM (SLD)



Project title:
DIALYSIS UNIT & RO PLANT
LOCATION- WANGDUEPHODRANG HOSPITAL, BHUTAN

ROYAL GOVERNMENT OF BHUTAN

Ministry of Health, Department of Medical Supplies and Health Infrastructure Development Division

NOTE: ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM

DATE: 24.05.2022

REVISION: 0
A
B
C
D

DATE:

DESCRIPTION:

Designed by: DURGAPRASAD DHAKAL
ELECTRICAL ENGINEER

Drawn by: DURGAPRASAD DHAKAL
ELECTRICAL ENGINEER

Approved by: (Jampel Dorji)
CHIEF ELECTRICAL ENGINEER

Checked by: Phurpa Dorji
ENGINEERING ELECTRICIAN

Drawing No: ELE/12

Scale: NTS

SINGLE LINE DIAGRAM

Drawing 306



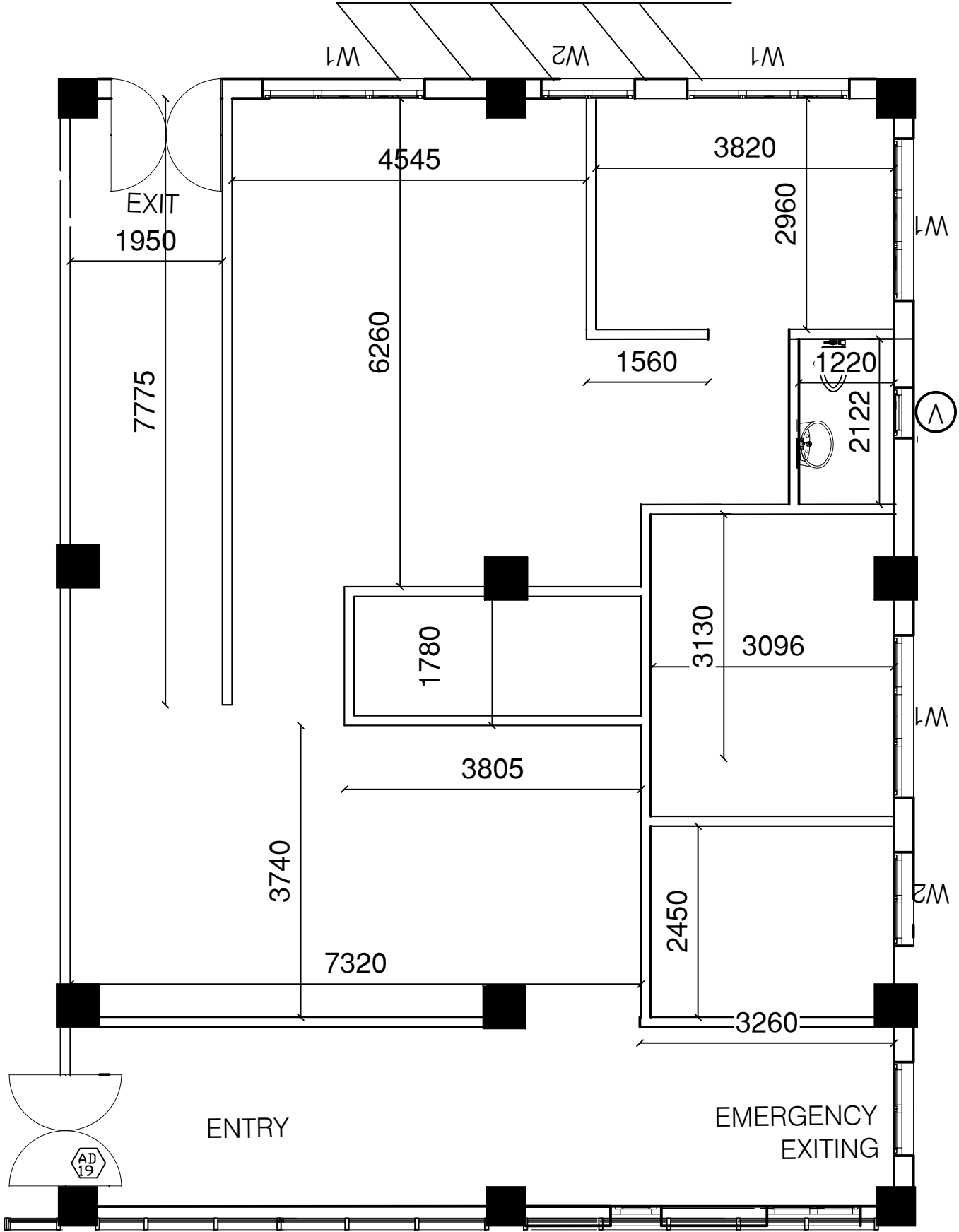
ROYAL GOVERNMENT OF BHUTAN

Ministry of Health, Department of Medical Supplies and Health Infrastructure

Health Infrastructure Development Division

**NAME OF WORK: REMODELING MORTUARY FOR SETTING UP
HISTOPATHOLOGY UNIT**

LOCATION: WANGDUE HOSPITAL



Project title:
Remodeling mortuary for setting up Histopathology unit

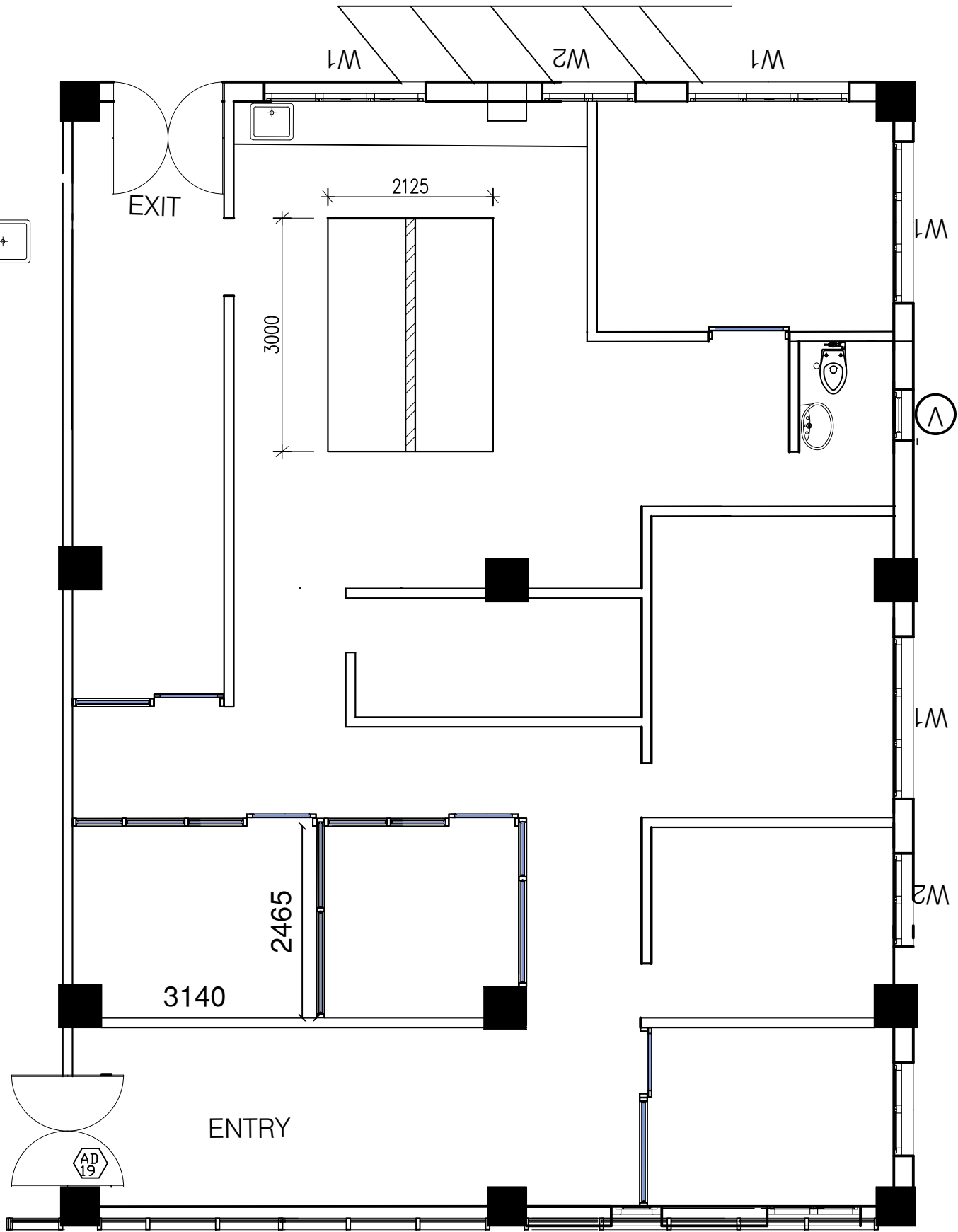
LOCATION- Wangdue Hospital



ROYAL GOVERNMENT OF BHUTAN	
Ministry of Health, Department of Medical Supplies and Health Infrastructure Health Infrastructure Development Division	
BLOCK NAME:	DATE: MAY 2022

REVISION	DATE	DESCRIPTION
1		
2		
3		
4		
5		

Drawing title: EXISTING FLOOR PLAN			
Designed by: (Peldon) EE	Drawn by: (Peldon) EE	Checked by: (Yangchen Wangmo) EE	Scale: NTS
Reviewed and Approved by: (Jampel Dorji) Offg. Chief Engineer		Drawing No. WANGDUE/ARCH-DWG/ 2	



Project title:

Remodeling mortuary for setting up Histopathology unit

LOCATION- Wangdue Hospital



ROYAL GOVERNMENT OF BHUTAN

Ministry of Health, Department of Medical Supplies and Health Infrastructure
Health Infrastructure Development Division

BLOCK NAME:

DATE:

MAY 2022

REVISION

DATE

DESCRIPTION

1

2

3

4

5

Drawing title:

FLOOR PLAN

Designed by:

(Peldon)

EE

Drawn by:

(Peldon)

EE

Checked by:

(Yangchen Wangmo)

EE

Scale:

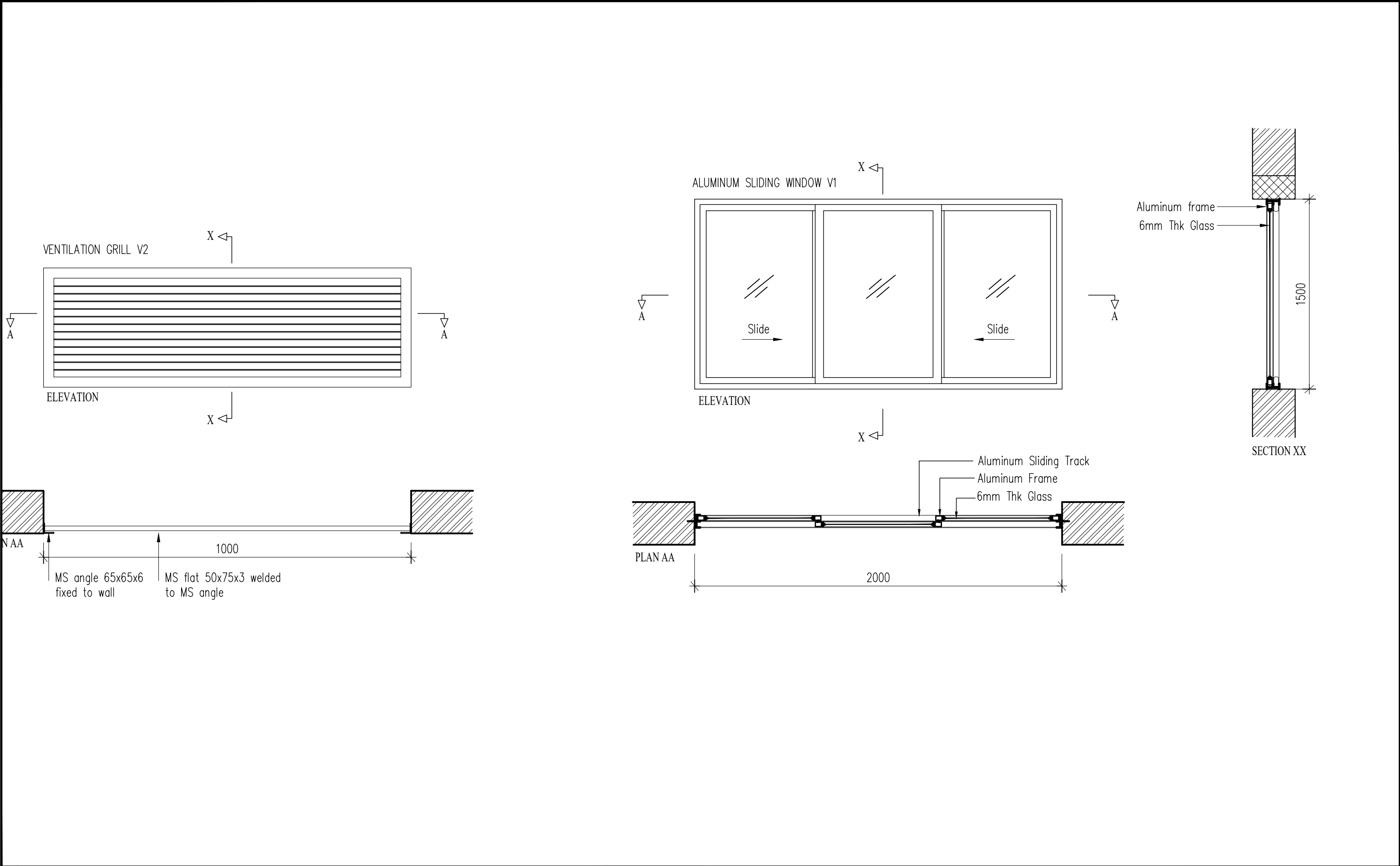
NTS


Reviewed and Approved by:

(Jampel Dorji)
Offg. Chief Engineer

Drawing No.


WANGDUE/ARCH-DWG/ 1

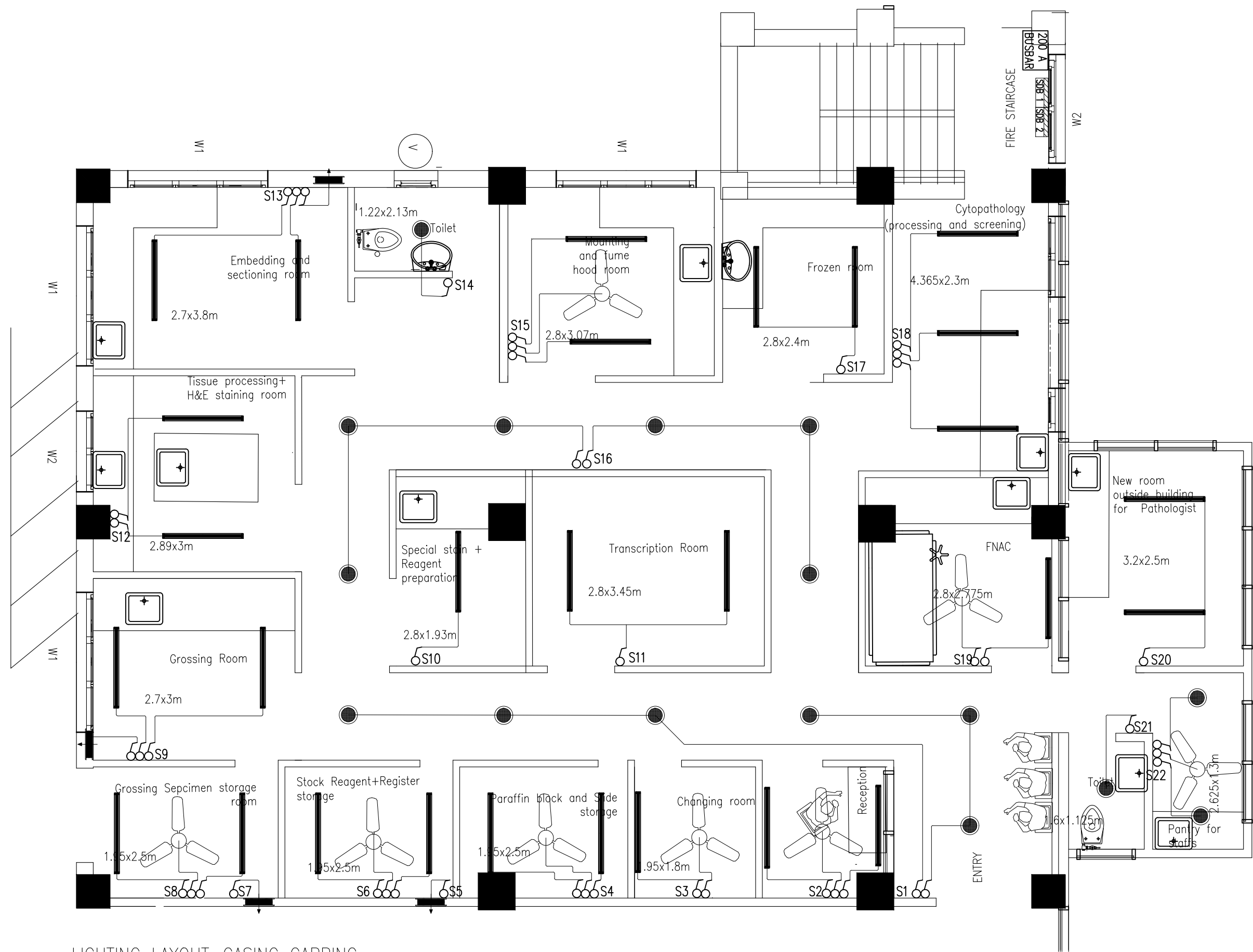


<div>Project title:</div> <div>Remodeling mortuary for setting up Histopathology unit</div> <div>LOCATION- Wangdue Hospital</div>		ROYAL GOVERNMENT OF BHUTAN		REVISION	DATE	DESCRIPTION	Drawing title: WINDOW & VENTILATION			
		Ministry of Health, Department of Medical Supplies and Health Infrastructure Health Infrastructure Development Division		1			Designed by:	Drawn by:	Checked by:	Scale:
				2			(Peldon)	(Peldon)	(Yangchen Wangmo)	NTS
				3			EE	EE	EE	
		BLOCK NAME: DATE: MAY 2022		4			Reviewed and Approved by:	Drawing No.		
				5			(Jampel Dorji) <i>Offg. Chief Engineer</i>	WANGDUE/ARCH-DWG/ 4		


HISTOPATHOLOGY LAB
WANGDUEPHODRANG
HOSPITAL

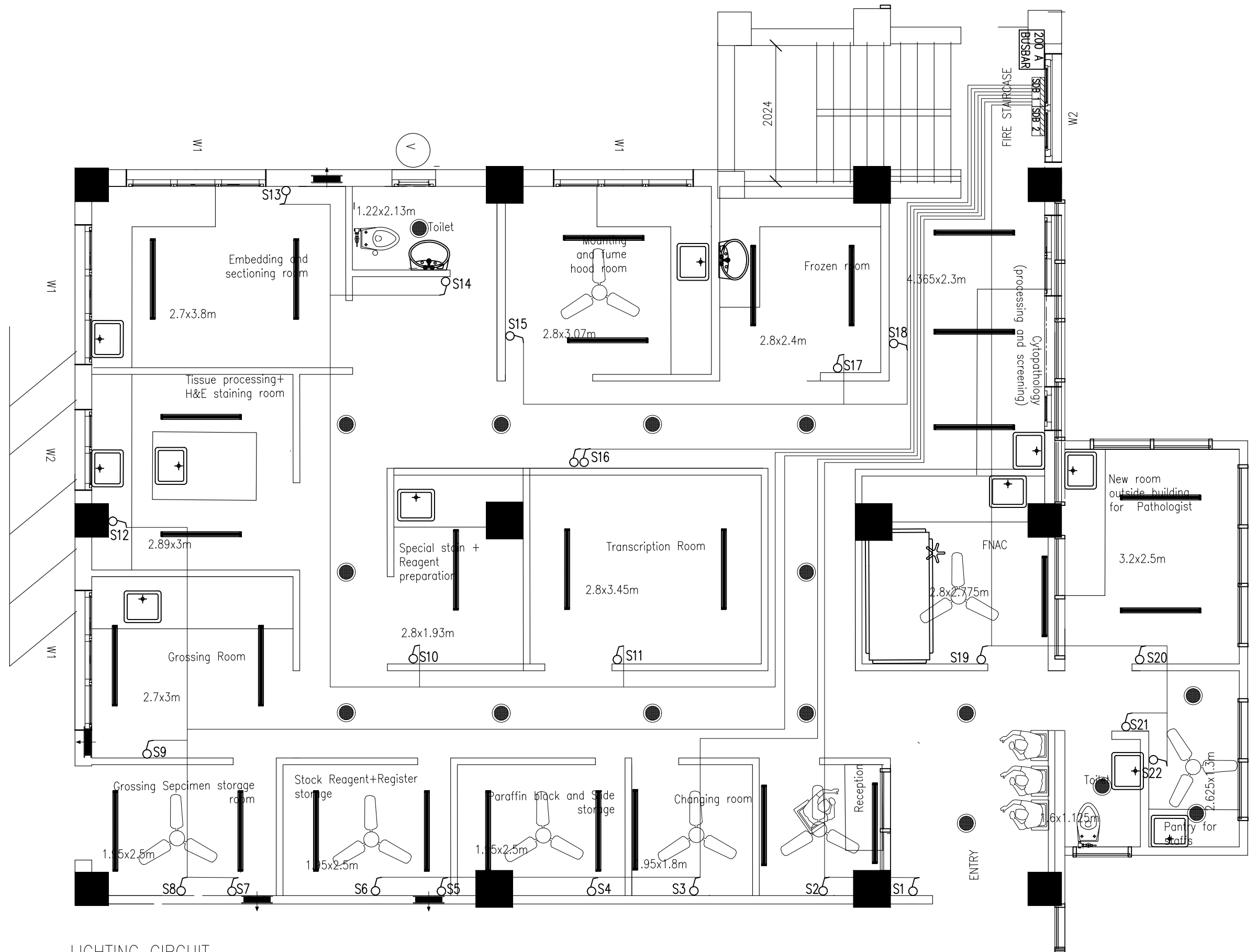
ELECTRICAL DRAWINGS

<div>Project title:</div> <div>HISTOPATHOLOGY LAB</div> <div>LOCATION- WANGFUE HOSPITAL, BHUTAN</div>		ROYAL GOVERNMENT OF BHUTAN		REVISION	DATE	DESCRIPTION	Drawing title: COVER PAGE				
		Ministry of Health, Department of Medical Supplies and Health Infrastructure Health Infrastructure Development Division		0			Designed by:		Drawn by:	Checked by:	Scale:
				A			PHURPA DORJI		PHURPA DORJI	JIGME TENZIN	NTS
				B			ELECTRICAL ENGINEER		ELECTRICAL ENGINEER	EXECUTIVE ENGINEER (ELECTRICAL)	
NOTE- ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM		DATE: 16.04.2022	C			Approved by:			Drawing No.		
			D			(Jampel Dorji) Offg. Chief Engineer			ELE/00		



LIGHTING LAYOUT-CASING CAPPING

<div>Project title:</div> <div>HISTOPATHOLOGY LAB</div> <div>LOCATION- WANGDUE HOSPITAL, BHUTAN</div>		ROYAL GOVERNMENT OF BHUTAN		REVISION	DATE	DESCRIPTION	Drawing title: LIGHTING LAYOUT			
		Ministry of Health, Department of Medical Supplies and Health Infrastructure Health Infrastructure Development Division		0			Designed by: PHURPA DORJI ELECTRICAL ENGINEER	Drawn by: PHURPA DORJI ELECTRICAL ENGINEER	Checked by: JIGME TENZIN EXECUTIVE ENGINEER (ELECTRICAL)	Scale: NTS
		NOTE- ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM		A			Approved by: (Jampel Dorji) Offg. Chief Engineer		Drawing No. ELE/01	
		DATE: 16.04.2022		B						
				C						
				D						



LIGHTING CIRCUIT

Project title:

HISTOPATHOLOGY LAB
LOCATION- WANGDUE HOSPITAL, BHUTAN



ROYAL GOVERNMENT OF BHUTAN

Ministry of Health, Department of Medical Supplies and Health Infrastructure
Health Infrastructure Development Division

NOTE-

ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM

DATE:

16.04.2022

REVISION

DATE

DESCRIPTION

0

A

B

C

D

Drawing title:

LIGHTING CIRCUIT

Designed by:

PHURPA DORJI
ELECTRICAL ENGINEER

Drawn by:

PHURPA DORJI
ELECTRICAL ENGINEER

Checked by:

JIGME TENZIN
EXECUTIVE ENGINEER (ELECTRICAL)

Scale:

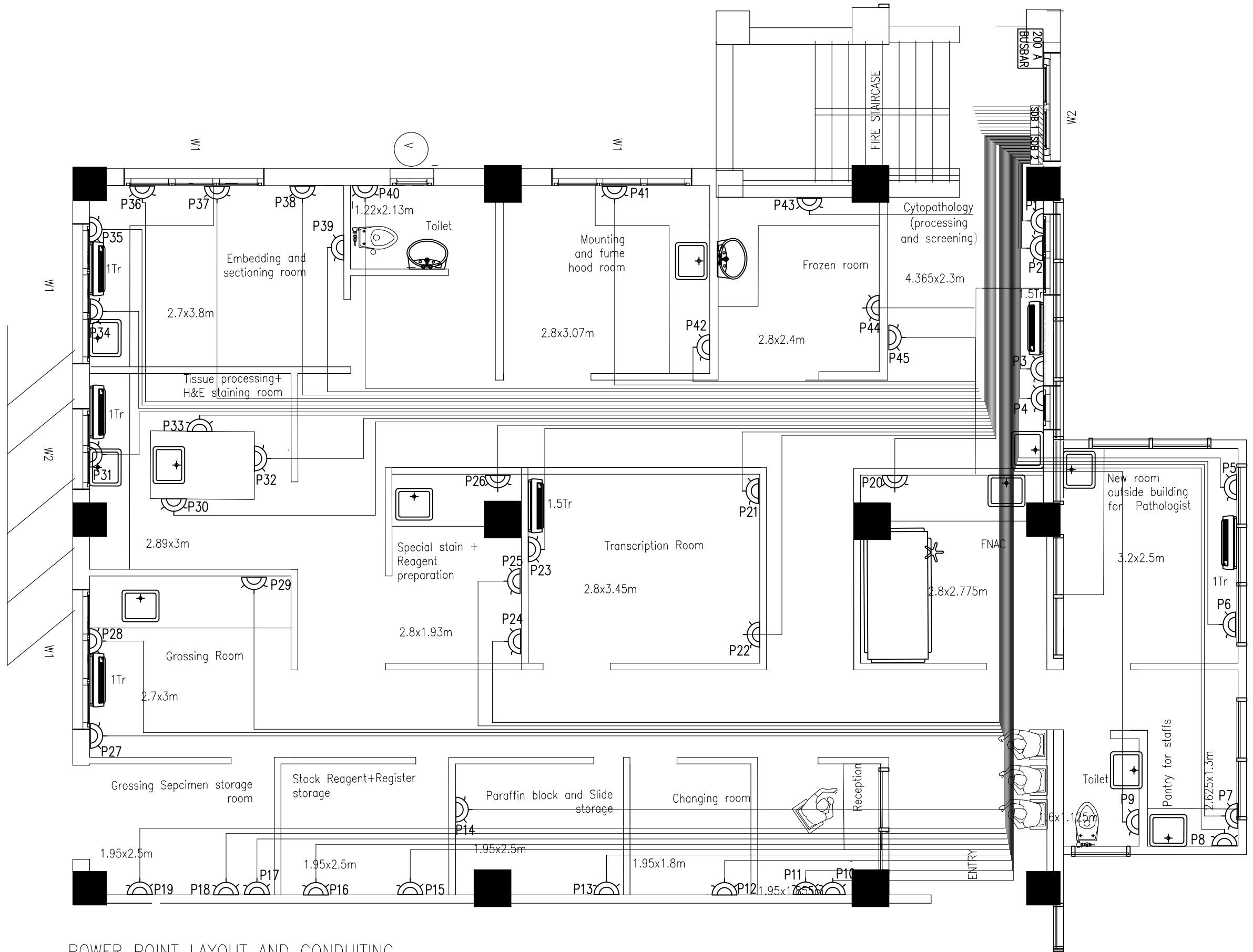
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Approved by:




(Jampel Dorji)
Offg. Chief Engineer

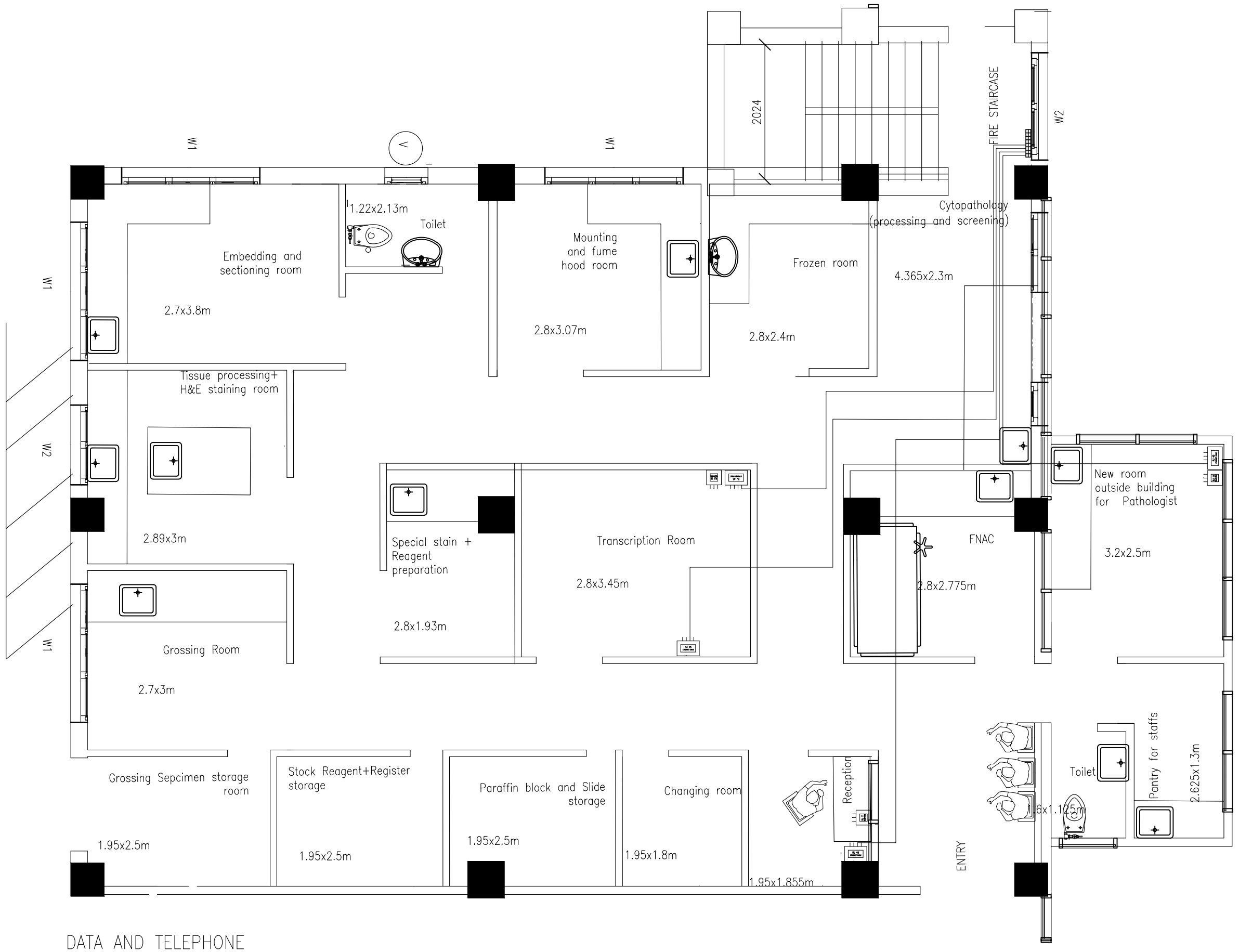
Drawing No.

ELE/02




POWER POINT LAYOUT AND CONDUITING

<div>Project title:</div> <div>HISTOPATHOLOGY LAB</div> <div>LOCATION- WANGDUE HOSPITAL, BHUTAN</div>		<div>ROYAL GOVERNMENT OF BHUTAN</div> <div>Ministry of Health, Department of Medical Supplies and Health Infrastructure Health Infrastructure Development Division</div>		REVISION	DATE	DESCRIPTION	Drawing title: POWERPOINT LAYOUT AND WIRING							
				0			Designed by:	<div>PHURPA DORJI</div> <div>ELECTRICAL ENGINEER</div> 	Drawn by:	<div>PHURPA DORJI</div> <div>ELECTRICAL ENGINEER</div> 	Checked by:	<div>JIGME TENZIN</div> <div>EXECUTIVE ENGINEER (ELECTRICAL)</div>	Scale:	NTS
				A										
		NOTE- ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM	DATE: 16.04.2022	B			Approved by:	<div>(Jampel Dorji)</div> <div>Offg. Chief Engineer</div>		Drawing No.	ELE/03			
				C										
		D												



DATA AND TELEPHONE

<div>Project title:</div> <div>HISTOPATHOLOGY LAB</div> <div>LOCATION- WANGDUE HOSPITAL, BHUTAN</div>		ROYAL GOVERNMENT OF BHUTAN		REVISION	DATE	DESCRIPTION	Drawing title: DATA AND TELEPHONE			
		Ministry of Health, Department of Medical Supplies and Health Infrastructure		0			Designed by: PHURPA DORJI ELECTRICAL ENGINEER	Drawn by: PHURPA DORJI ELECTRICAL ENGINEER	Checked by: JIGME TENZIN EXECUTIVE ENGINEER (ELECTRICAL)	Scale: NTS
		Health Infrastructure Development Division		A						
		NOTE- ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM	DATE: 16.04.2022	B			Approved by: (Jampel Dorji) Offg. Chief Engineer			Drawing No. ELE/04
				C						

LOAD DETAILS

LIGHTING LOAD DETAILS-SDB 1

CIRCUIT DETAILS	R	Y	B
S01-R1 -6X18	108		
S02-R1- 2X18	36		
-R1- 1X60	60		
S03-R1- 2X18	36		
-R1- 1X60	60		
S04-R2- 2X18	36		
-R2- 1X60	60		
S05-R2- 1X60	60		
S06-R2- 2X18	36		
-R2- 1X60	60		
S07-Y1- 1X60		60	
S08-Y1- 2X18		36	
-Y1- 1X60		60	
S09-Y1- 2X18		36	
-Y1- 1X60		60	
S10-Y1- 1X18		18	
S11-Y2- 2X18		36	

CIRCUIT DETAILS	R	Y	B
S12-Y2- 2X18		36	
S13-Y2 -2X18		36	
-Y2- 1X60		60	
S14-Y2 -1X18		18	
S15-B2- 2X18			36
-B2- 1X60			60
S16-B2- 6X18			108
S17-B2- 2X18			36
S18-B1- 3X18			54
S19-B1- 1X18			18
-B1- 1X60			60
S20-B1- 2X18			36
S21-B1- 1X18			18
S22-B1- 2X18			36
SUB TOTAL (W)	552	456	462
TOTAL (W)		1470	

POWER LOAD DETAILS SDB-1

CIRCUIT DETAILS	R	Y	B
P37-	2000		
P38-	2000		
P39-	1000		
P40-		1000	
P41-		2000	
P42-		2000	
P43-			2000
P44-			2000
P45-			1000
SUB TOTAL (W)	5000	5000	5000
TOTAL (W)		15000	
TOTAL LOAD ON SDB 1 (W)		16470	

POWER LOAD DETAILS SDB-2

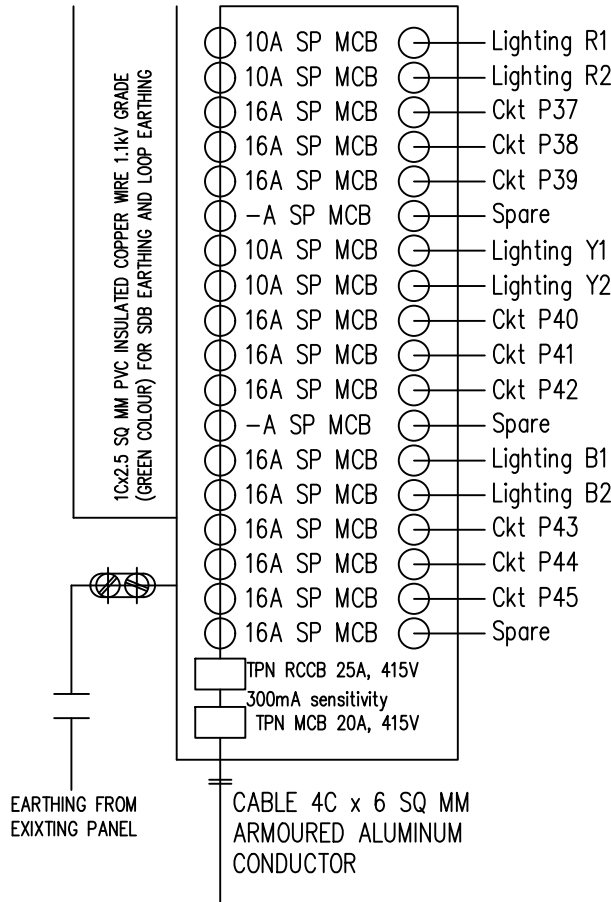
CIRCUIT DETAILS	R	CIRCUIT DETAILS	Y	CIRCUIT DETAILS	B
P01-	2000	P13-	2000	P25-	1000
P02-	2000	P14-	1000	P26-	1000
P03-	2000	P15-	2000	P27-	2000
P04-	1000	P16-	1000	P28-	1000
P05-	2000	P17-	2000	P29-	2000
P06-	2000	P18-	1000	P30-	2000
P07-	1000	P19-	2000	P31-	2000
P08-	1000	P20-	2000	P32-	1000
P09-	2000	P21-	2000	P33-	1000
P10-	1000	P22-	1000	P34-	2000
P11-	2000	P23-	2000	P35-	2000
P12-	1000	P24-	1000	P36-	2000
SUB TOTAL (W)	19000	SUB TOTAL (W)	19000	SUB TOTAL (W)	19000
TOTAL (W)			57000		

TOTAL LOAD DETAILS

Phase	Red	Yellow	Blue
Lighting Load (w)	552	456	462
Power Load (w)	24000	24000	24000
Total Connected load	73470		
Load Factor	60%		
Voltage	415 V 3-ph		
Power Factor	0.8		
Demand load	44.10 kW		
Current	76.66 Amperes		
Cable Size	4-Core 35 SQ.MM		

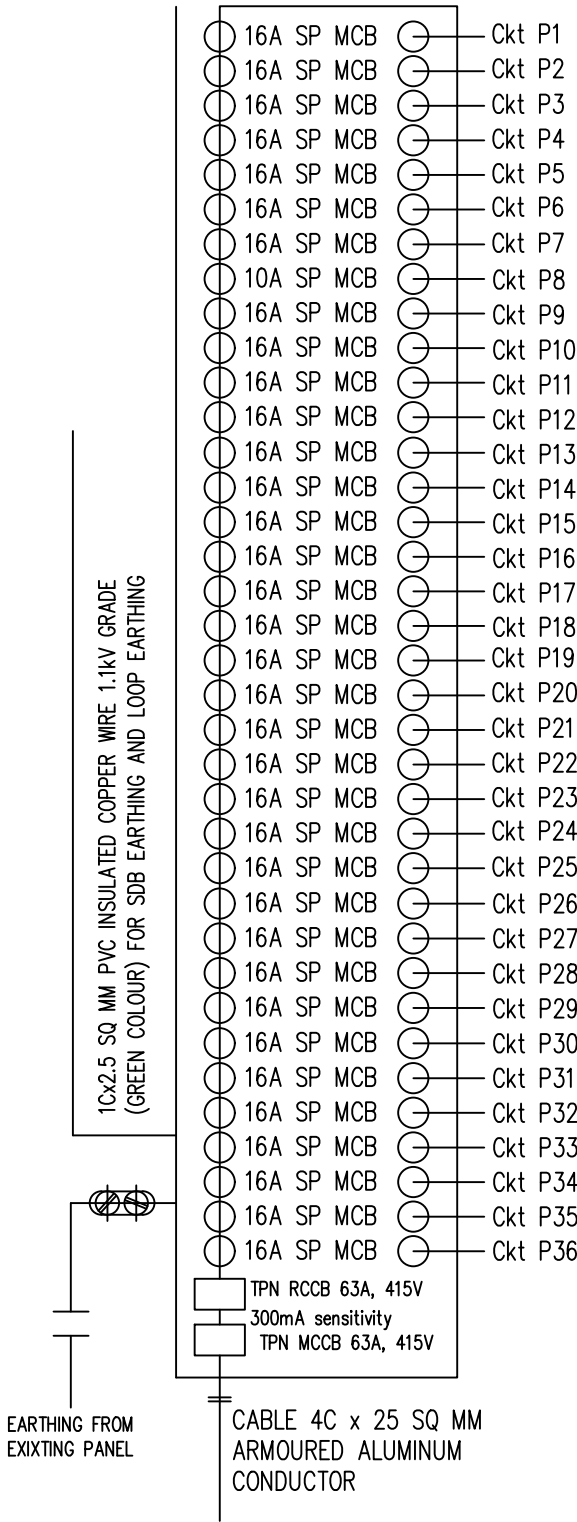
DB DETAILS

SDB 1 – 6 way TPN MCB DB mounted
with 6 nos 10A SP MCB, 9 nos 16A SP
MCB and 1 no 20A TPN MCB AND 20A
RCCB



DB DETAILS

SDB 2 – 12 way TPN MCB DB mounted
36 nos 16A SP MCB and 1 no 40A TPN
MCB



Project title:

HISTOPATHOLOGY LAB
LOCATION- WANGDUE HOSPITAL, BHUTAN



ROYAL GOVERNMENT OF BHUTAN

Ministry of Health, Department of Medical Supplies and Health Infrastructure
Health Infrastructure Development Division

NOTE-

ALL DIMENSIONS IN THE DRAWINGS ARE TO BE MEASURED IN MM

DATE:

16.04.2022

REVISION

DATE

DESCRIPTION

0

A

B

C

D

Drawing title:

SDB DETAILS

Designed by:

PHURPA DORJI
ELECTRICAL ENGINEER

Drawn by:

PHURPA DORJI
ELECTRICAL ENGINEER

Checked by:

JIGME TENZIN
EXECUTIVE ENGINEER (ELECTRICAL)

Scale:

NTS

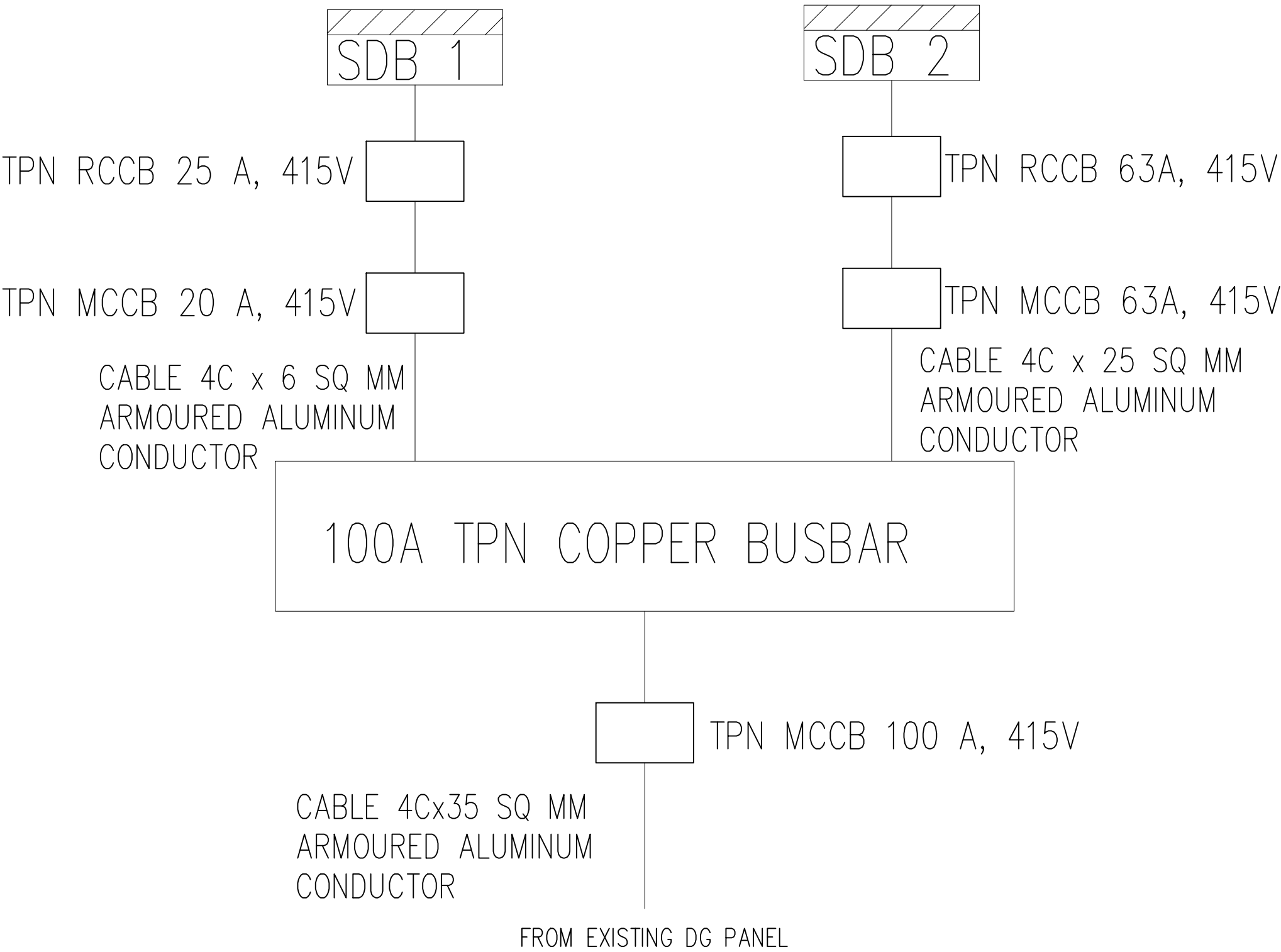
Approved by:

(Jampel Dorji)
Offg. Chief Engineer

Drawing No.




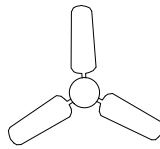
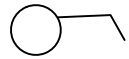

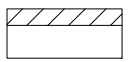

ELE/06

SINGLE LINE DIAGRAM



LEGEND & SPECIFICATION

NOTE A:

	16A SWITCH SOCKET COMBINED (1X2000W)
	LED CEILING LIGHT (SURFACE) 1X18W
	EXHAUST FAN 1X60 WATT, 900MM
	CEILING FAN 1400 RPM 1400MM 1X60W
	6A 1 WAY MODULAR SWITCH
	LED TUBE LIGHT 1X18W
	DISTRIBUTION BOX
	AIR-CONDITIONER

EARTHING TO BE CONNECTED FROM EXISTING PANNEL

1. Light Point wiring

: 2x1.5 sq.mm PVC insulated copper wire 1.1 kV grade
2. Light Circuit wiring

: 2x2.5 sq.mm PVC insulated copper wire 1.1 kV grade
3. Power Circuit Wiring

: 2x4 sq.mm PVC insulated copper wire of 1.1 kV grade
4. Switch board position

: 1200 mm above finished floor level
5. SDB Mounting Position

: Normally 1800mm above finished floor level. In this case 1500mm above finished floor level/wherever suitable
6. Power Point Position

: 300mm above finished floor level
For AC 2000mm above finished floor level
7. Type of Wiring

: PVC (25mm PVC COnduit)
Surface Wiring
8. Loop earthing

: 2.5 Sq.mm PVC insulated copper wire of 1.1 kV grade
9. Power point

: COnsidered 2000W