

DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA

MINISTRY OF HEALTH AND MASS MEDIA

**IMPROVEMENT OF MEDICAL GAS SYSTEM FOR WARDS  
TEACHING HOSPITAL - PERADENIYA**

**BIDDING DOCUMENT**

Volume I

Section 01 – Instructions to Bidders

Section 02 – Standard Forms (Contract)

Section 03 – Conditions of Contract

Volume II – (For the use as “Original” document)

Invitation for Bid

Section 04 – Form of Bid and Qualification Information

Section 05 – Bidding Data and Contract Data

Section 06 – Specifications

Section 07 – Bill of Quantities

Section 09 – Standard Forms (Bid)

Volume III – (For the use as “Copy” of document)

Invitation for Bid

Section 04 – Form of Bid and Qualification Information

Section 07 – Bill of Quantities

**CONSULTANT**

CENTRAL ENGINEERING CONSULTANCY BUREAU  
NO.415,  
BAUDDHALOKA MAWATHA,  
COLOMBO 07.

**CLIENT**

DIRECTOR,  
TEACHING HOSPITAL  
PERADENIYA.

AUGUST 2025

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# **INVITATION FOR BIDS**

**INVITATION FOR BIDS (IFB)**  
**MINISTRY OF HEALTH AND MASS MEDIA**

**IMPROVEMENT OF MEDICAL GAS SYSTEM FOR WARDS – TEACHING HOSPITAL,  
PERADENIYA.**

CONTRACT NO THP/AD/10/2025

1. The Chairman, Regional Procurement Committee, Teaching Hospital, Peradeniya, on behalf of the Ministry of Health and Mass Media, “Suwasiripaya”, 385, Rev Baddegama Wimalawansa Thero Mawatha, Colombo 10, invites sealed bids from eligible and qualified bidders for the **“Improvement of medical gas system for wards – Teaching Hospital, Peradeniya”**, Contract No: **THP/AD/10/2025** as described in document and estimated to basic cost of Rs. **24 million (Excluding VAT)**. **Construction period is 91 Days.**

The Site is Located at the premises of Teaching Hospital, Peradeniya. Under this contract, extension of medical gas system with necessary ancillary works should be done. For more information, please refer Specifications and Bill of Quantities. Bidders are advised to visit the site prior to price the bid. Work should be carried out without disturbing the day-to-day activities of the hospital.

2. Bidding will be conducted through **National Competitive Bidding Procedure.**
3. To be eligible for contract award, the successful bidder shall not have been blacklisted and shall meet the following requirements.
  - Grade – EM 3 or above
  - Specialty – Medical Gas Systems (MG)
  - Average annual volume of construction work performed in the last five years shall be at least **Rs. 36 M.**
  - Experience in the construction of at least one contract of a similar nature and complexity equivalent to the Works over 05 years. **Attach as an annex.**
  - The minimum amount of liquid assets and/or credit facilities as exclusive of any advance payments which may be not less than **Rs. 24 M.** Credit facility should be addressed to Director, Teaching Hospital, Peradeniya and should be exclusive of this particular project.

Since the Cost Estimate of this procurement is above 5 million, the provisions of Public Contracts Act No:(03) of 1987 shall be applied.

**Managerial / Technical**

Engineer Assistant (Mechanical) (Full time) – NDT, NDES, HNDE (Mechanical) Engineering or equivalent qualification with minimum 5 years’ Experience.

4. Interested bidders may obtain further information from **Director, Teaching Hospital, Peradeniya. Telephone No. 081-2388001** and inspect the Bidding Document at the address given below from **09.00 hrs to 15.00 hrs**
5. A complete set of Bidding Documents in English language may be purchased by interested bidders on the submission of a written application to the **Director, Teaching Hospital, Peradeniya. Telephone No. 081-2388001**, from 22<sup>nd</sup> August 2025 until 11<sup>th</sup> September 2025 from **09.00 hrs to 15.00 hrs**. upon payment of a non-refundable fee of Rupees Five Thousand only (**Rs.5,000.00**). The method of payment shall be in cash.

6. Bids shall be delivered to the address below, on or before **12<sup>th</sup> September 2025** until **10.30 hrs.** Late bids will be rejected. Bids will be opened soon after closing in the presence of the Bidders or Bidder's representatives who choose to attend.
7. Bid shall be valid up to **91 days** from Bid closing date .....to ..... (date) or any extended period requested by client.
8. All bids shall be accompanied by a "Bid security" of **Rupees Three Hundred Sixty Thousand Only (Rs. 360,000.00).** Bid Security shall be valid up to **119 days** from Bid closing date ..... to ..... (date)

The address referred to above is,

**The Director,  
Teaching Hospital,  
Peradeniya.  
Telephone No. 081-2388001**

## **Section - 4**

# **FORM OF BID AND QUALIFICATION INFORMATION**

## FORM OF BID

### IMPROVEMENT OF MEDICAL GAS SYSTEM FOR WARDS, TEACHING HOSPITAL, PERADENIYA

CONTRACT NO THP/AD/10/2025

To: **Director,  
Teaching Hospital,  
Peradeniya.**

Gentleman,

1. Having examined the Standard Bidding Document - Procurement of Works (ICTAD/SBD/01-Second edition, January 2007 and Addendum 01 issued in October 2009 & Addendum 02 issued in February 2011) , Schedule for Conditions of Contract, Specifications, Drawings and Bill of Quantities and Addenda for the execution of the above-named Works, we the undersigned, offer to execute and complete such Works and remedy any defect therein in conformity with the aforesaid Conditions of Contract, Specifications, Drawings, Bill of Quantities and Addenda for the sum of Sri Lankan Rupees  
.....  
(LKR Rs. ....) or such other sums as may be ascertained in accordance with the said Conditions.
2. We acknowledge that the Contract Data forms part of our Bid.
3. We undertake, if our Bid is accepted, to commence the Works as stipulated in the Contract Data, and to complete the whole of the Works comprised in the Contract within the time stated in the Contract Data.
4. We agree to abide by this Bid for the period of 91 days from the date fixed for receiving or any extended period and it shall remain binding upon us and may be accepted at any time before the expiration of that period.
5. Unless and until a formal Agreement is prepared and executed this Bid, together with your written acceptance thereof, shall constitute a binding contract between us.
6. We understand that you are not bound to accept the lowest of any Bid you may receive.

Dated this..... Day of ..... 2025 in the capacity of..... Duly  
authorized to sign bids for and on behalf of .....

.....  
(IN BLOCK CAPITAL)

Signature : .....

Address : .....

Witness : .....  
.....

## QUALIFICATION INFORMATION

*(To be completed and submitted by the Bidder with the Bid)*

<b>ICTAD Registration</b>	
Registration number	<i>(Attach copies of relevant pages from the registration book) (if available)</i>
Grade	EM 3 or above
Specialty	Medical Gas Systems (MG)
Expiry Date	
<b>Blacklisted Contractors</b>	
Have you been declared as a defaulted contractor by NPA or any other agency? (Yes/No)	
If yes provide details	
<b>VAT Registration Number</b>	
<b>Legal status</b>	<i>( Attach relevant status copies, as annex)</i>
<b>Value of Construction works Performed in last 5 years</b>	<i>(Attach certified copies of certificate of completion, etc. and other documents such as profit-loss and income expenditure statement)</i>
Year 2024	
Year 2023	
Year 2022	
Year 2021	
Year 2020	
<b>Value of similar works completed in last 5 years (indicate only the three largest projects)</b>	<div style="margin-bottom: 10px;">1. Value   Rs.....                      Year .....</div> <div style="margin-bottom: 10px;">2. Value   Rs.....                      Year .....</div> <div style="margin-bottom: 10px;">3. Value   Rs.....                      Year .....</div> <p>(Attach certified copies of Letter of award &amp; certificate of completion)</p>



<b>Credit Facility</b>			
<b>PCA3 Form</b>			
<b>Qualification and experience of Key staff - Site &amp; Head Office (Permanent, Contract Basis &amp; Consultants )</b>	Category, Experience and Qualifications	Required Nos.	Proposed by bidder (Name, experience and Qualifications)
	1. Engineer Assistant (Mechanical) (Full time) – NDT, NDES, HNDE (Mechanical) Engineering or equivalent qualification with minimum 5 years Experience.	<b>01</b>	(Attach certified copies of key staff attached to the project)

## **Section - 5**

### **BIDDING DATA AND CONTRACT DATA**

## G. BIDDING DATA

<b>Instructions to Bidders</b>	The Employer is Name & Address: <b>Director, Teaching Hospital Peradeniya.</b>
<b>Clause Reference</b>	
<b>(1.1)</b>	<p>This work consist of improvement of medical gas system with necessary ancillary works for Teaching Hospital, Peradeniya.</p> <p>a. For more information, please refer the Bill of Quantities.</p>
<b>(1.2)</b>	Intended Completion Date is <b>91</b> Days from the Start Date.
<b>(1.3)</b>	<p>The office for collection of bid form is, <b>Director, Teaching Hospital, Peradeniya.</b></p> <p>The non-refundable Bid fee is <b>Rupees 5,000.00</b></p> <p>The Bid forms will be issued until 12<sup>th</sup> Spetember 2025 up to 10.30 hrs.</p>
<b>(2.1)</b>	The source of funds is <b>Government of Sri Lanka</b>
<b>(4.3)</b>	<p>The Following information shall be provided in Section 4 for the bidder (if available)</p> <ul style="list-style-type: none"><li>* CIDA Registration<ul style="list-style-type: none"><li>Registration number:</li><li>Grade</li><li>Specialty</li><li>Expiry Date</li></ul></li><li>* Valid Certificate issued by the Registration of Public Contracts as per Section 08 of Public Contracts Act No. 03 of 1987.</li><li>* VAT Registration number</li><li>* Construction program</li><li>* Legal status (Sole proprietor, partnership, company etc.)</li><li>* Total monetary value of construction work performed for each of the last five years;</li><li>* Experience in works of a similar nature and size for each of last five years;</li><li>* Major items of construction equipment proposed to carryout the contract; (if specified equipment be needed)</li><li>* Qualifications and experience of key site management and technical personnel proposed for the contract</li><li>* Any other</li></ul>
<b>(4.4)</b>	<p>Post qualification criteria:</p> <p>The following minimum qualification criteria shall be met by the bidder to qualify</p>

for the award of contract.

- Average annual volume of construction work performed in the last five years shall be at least **Rs. 36 M.**
- Experience in the construction of at least one contract of a similar nature and complexity equivalent to the Works over 05 years. **Attach as an annex.**
- The minimum amount of liquid assets and/or credit facilities as exclusive of any advance payments which may be not less than **Rs. 24 M.** Credit facility should be addressed to Director, Teaching Hospital, Peradeniya. and should be exclusive of this particular project.
- Minimum persons with qualifications and experience

### **Managerial / Technical**

1. Engineer Assistant (Mechanical) (Full time) – NDT, NDES, HNDE (Mechanical) Engineering or equivalent qualification with minimum 5 years Experience.

**(8.1)**

#### **Content of Bidding Document**

Content of the bidding document changed as follows to fulfill bidders requirement in submission of Bid.

The Bidding document consists of three volumes (Volume 1, Volume 2 & Volume 3) and comprise the documents listed below.

#### **Volume I**

- Section 1 – Instruction to Bidders
- Section 2 - Standard Forms (Contract)
- Section 3 - Condition of Contract

#### **Volume II**

- Invitation for Bids
- Section 4 - Form of Bid and Qualification Information
- Section 5 - Bidding Data and Contract Data
- Section 6 - Specifications
- Section 7 - Bills of Quantities and Technical Schedules
- Section 9 - Standard Forms (Bid)

#### **Volume III**

- Invitation for Bids
- Section 4 - Form of Bid and Qualification Information
- Section 7 - Bills of Quantities and Technical Schedules

**(9.1)**

Employer's address for the purpose of clarification is;

Name : **Director,**

Address : **Teaching Hospital, Peradeniya.**

Tel : **081-2388001**

- (11.1) The language of the bidding document shall be English.
- (12.1) The Bid submitted by the bidder shall comprise the following:  
 (A) enclosed in the envelope marked as “ORIGINAL”;  
     (a) Volume II  
     (b) Bid security or Bid-Securing Declaration as specified  
 (B) enclosed in the envelope marked as “COPY”  
     (a) Volume III
- (13.3) **Only VAT will be paid.**  
 VAT component shall not be included in the rates. The amount written in the Form of Bid shall be without VAT. However, VAT component shall be shown separately at the end of the BOQ.
- (15.1) The Bid shall be valid up to 91 Days from closing date of Bid.
- (16.1) Bid shall include a Bid Security using the form included in Section 9.
- (16.2) Bid Security shall be;  
     • For an amount **Rs. 360,000.00.**  
     • Valid until 119 days from closing date of Bid.  
 Securities and guarantees issued by an agency acceptable to employer using the forms for bid security (unconditional guarantee) included in section 09 standard forms in favor of the Secretary, Ministry of Health. The agencies acceptable to the Employer are:  
     • Commercial Bank operated in Sri Lanka approved by the Central Bank of Sri Lanka.  
 Alternatively, the Bidder can pay cash to Shroff of **Teaching Hospital, Peradeniya.**  
 No interests will be paid on cash deposits.
- (17.0) Pre Bid meeting will be held at Teaching Hospital, Peradeniya at 14.00 hrs on 02./09/2025
- (19.2) a The Employer’s address for the purpose of Bid submission is:  
**Teaching Hospital, Peradeniya.**
- (19.2) b Contract Name: **Improvement of Medical Gas System for Wards, Teaching Hospital, Peradeniya.**  
 Contract No. : **THP/AD/10/2025**
- (20.1) The deadline for submission of Bids shall be 10.30 hrs on 12<sup>th</sup> September 2025.
- (29.6) The amount quoted for servicing and maintenance (Page no. 41) shall be considered for bid evaluation to arrive at a final evaluated bid price discounting to present value at the rate of 10% per annum.

**(34.0)** The amount of **Performance security is 5% of the Initial Contract Price.**

The form acceptable is sample format which is in volume I – Section 2, Standard Forms.

Securities and Guarantees issued by an agency acceptable to employer using the forms for Performance Bond (Unconditional Guarantee) included in Volume I- Section 2, standard forms. The agencies acceptable to the Employer are

- Commercial Bank operated in Sri Lanka approved by the Central Bank of Sri Lanka.

Alternatively, the Bidder can pay cash to shroff of **Teaching Hospital, Peradeniya.** No interest will be paid on cash deposits.

**(35.1)** The **advance payment security is 20%** of the initial Contract price excluding provisional sum.

Securities and Guarantees issued by an agency acceptable to employer using the forms for Advance Payment Bond (Unconditional Guarantee) included in volume I – Section 2, Standard Forms. The agencies acceptable to the Employer are

- Commercial Bank operated in Sri Lanka approved by the Central Bank of Sri Lanka.

**(36.0)** CIDA is the authorized agent for appointing an adjudicator.

## CONTRACT DATA

*(Please note that the Clause nos. given hereunder is that of Conditions of Contract)*

(1.1) The Employer is

Name : **Director,**

Address : **Teaching Hospital, Peradeniya.**

(1.1) The Engineer is

Name : **The General Manager**

Address : **Central Engineering Consultancy Bureau  
: No.415, Bauddhaloka Mawatha,  
: Colombo 07.**

Name of Engineer's Representative: **Additional General Manager  
(Special Project-1)**

(1.1) The Works mainly consists of

Works mainly consists of improvement of medical gas system with necessary ancillary works at Teaching Hospital, Peradeniya.

- a. For more information, please refer the Specifications and Bill of Quantities.

(1.1) Site is located at **Teaching Hospital, Peradeniya.**

The Start Date shall be **fourteen (14) Days** from the Letter of Acceptance.

(8.1) Schedule of other contractors : None

(9.1) Schedule of Key Personnel:

Minimum persons with qualifications and experience to be defined,  
**Managerial / Technical**

1. Engineer Assistant (Mechanical) (Full time) – NDT, NDES, HNDE (Mechanical) Engineering or equivalent qualification with minimum 5 years Experience.

**(13.1)**

(a) The minimum insurance cover shall be:

The minimum cover for insurance of the Works and of Plant and Material is **110% of the Initial Contract price.**

- The maximum deductible for insurance of Works and of Plant and Material is **5% of initial Contract price.**

(b)

- The minimum cover for loss or damage to Equipment is “**Cost of equipment**”
- The maximum deductible for insurance of Equipment is **5% of the minimum cover for equipments**

(c)

The minimum cover for personal injury or death:

- For third party and employees of the Employer and other persons engaged by the Employer in the Works is **Rupees Five Hundred Thousand** per event. Number of events unlimited.

(d)

The minimum cover for insurance of other property (other than the site):

- Five Hundred Thousand

**(13.2)**

(a) The minimum cover for personnel injury or death,

- For the Contractor’s workmen is Rs. **500,000.00** per event. Number of events unlimited.
- Contractor’s employee’s other than workmen is Rs. **500,000.00** per event. Number of events unlimited.

**(17.1)**

The Intended Completion Date for the whole of Works shall be **119 Days from the Start Date.**

**(21.1)**

The Site Possession Date shall be **Fourteen (14) Days** from Letter of Acceptance.

**(27)**

The Contractor shall submit a realistic Construction Programme made out from MS Project software for the Works within **Seven Days** of delivery of the Letter of Acceptance. Critical path/paths must be clearly shown in the programme. Soft copy must be submitted to the Engineer at the time of submission of hard copy of construction programme.

The period between Programme update is **30 Days**. But Contractor shall submit a revised programme whenever the previous programme is inconsistent with actual progress.

The amount to be withheld for late submission of an updated Programme is **2% of the Initial Contract Price.**

**(35.1)**

The Defects Liability Period is **365 Days.**

During the Defect Liability Period Contractor shall carry out all the required preventive and corrective maintenance works of the works free of charge.



- (39.2) Engineer may order variations up to a total cumulative bill value including variation not exceeding 110% of initial contract sum
- (40.2) In fixing the appropriate new rates, mark up for overheads & profits shall be limited to maximum of 16% of the “Basic Cost” of such items. The Basic cost means cost of materials, labour and equipments.  
In fixing such “Basic cost” the Engineer shall use the rates for labour as given below and prices for materials and equipments shall be used the prevailing market prices.”

Category	Rate (Rs)
Skill Labour	4,000.00
Labour	3,500.00

- (47.1) Price adjustments not applicable.
- (48.1) The retention from each payment shall be **Ten percent** of the certified work done. The limit of retention shall be **Five percent** of the Initial Contract Price.
- (48.3) Not applicable.
- (49.1) The liquidated damages for the whole of the Works shall be **0.05% of the Initial Contract Price per Day**. The maximum amount of liquidated damages for the whole of the Works shall be **Ten percent** of the Initial Contract Price.
- (52.1) The **Performance Security shall be** provided to the Employer no later than the date specified in the letter of Acceptance and shall be issued to an amount to **Five percent** of the Initial Contract Price in the form of an unconditional guarantee acceptable to the Employer. The Performance Security shall be valid unit a date **28 Days** beyond the issuance of final certificate under sub **clause 55**.  
A **Performance Security** equivalent to the **remaining value** of the total maintenance cost shall be maintained by the Contactor during the full maintenance period.
- (55.2) Contractor shall enter in to the maintenance agreement with the Employer as per the Contract before the expiring of Defect Liability Period and failure shall be considered of a breach of contract. Also, the Contractor shall enter in to the service & maintenance process with the employer before expiring of Defect Liability Period. The Contractor should be submitted the service & maintenance draft agreement with the Final Certificate.
- (58.1) Schedule of Operating and Maintenance Manuals. – As built drawings and operation manuals shall be submitted within 14 days after completion of each activity
- (60.1) The percentage to apply to the value of the work not completed, representing the Employer’s additional cost for completing the Works, is **Twenty Five percent** of Balance work according to the Initial Contract Price.
- (63.7) The attendance fee payable to the contractor on nominated/specialized sub contract work shall not exceed 8%

## **SECTION 6**

### **SPECIFICATIONS**

- General Specifications
- Specifications for Medical Gas System

## **SPECIFICATIONS FOR MEDICAL GAS SYSTEM**

### **GENERAL TECHNICAL SPECIFICATION**

#### **1.0 GENERAL**

##### **1.1 INTRODUCTION**

This section consists of the general rules that apply to the design, manufacture, shop testing, delivery to site, erecting, commissioning, site testing, maintaining and handing over the material, equipment plant and services required for Extension of Medical Gas system to be installed at Teaching Hospital, Peradeniya.

**The contractor for Piped Medical Gas system shall be a reputed local company having experience in planning, engineering, supplying, installing, testing, commissioning and maintenance of similar type of piped medical gas system at least for last five (05) years.**

**The manufacturer of the Piped Medical Gas equipment shall have at least ten (10) years' experience in the design and manufacture of similar type equipment.**

**The make of Piped Medical Gas system offered shall have satisfactory service record in Sri Lanka at least for last five (5) years.**

**The Bidder shall attach documentary evidence of the above and completed technical schedule for consideration. Failure to complete the technical schedule and attachment may be considered as incomplete offer during evaluation.**

##### **1.2 Applicable Standards**

The products and work shall comply with the Health Technical Memorandum 02-01 and British Standards for Medical Gas System.

##### **1.3 Guarantees**

- (a) All equipment, materials and workmanship shall be guaranteed for a period of one year, beginning with the date of acceptance of the works in writing.
- (b) The contractor's warranty shall include at least 4 preventive maintenance inspections of the system to repair and replace any items found to be defective during this one-year period.

#### **1.4 Required Submittals along with the Offer**

- (a) Data on products offered for the installation
- (b) Lists of recommended spares & consumable for one year period.

#### **1.5 Engineer's Drawings**

- (a) The Engineer's Drawings, plans are intended to be diagrammatic. They are not intended to show every item in its exact location, the exact dimensions or all the details of the equipment proposed to ensure that the equipment would fit in the available space.
- (b) Installations shall be within the limitations imposed by the architectural, structural, electrical and plumbing requirements with adequate space for maintenance.

### **2.0 PRODUCTS**

#### **2.1 General**

- (a) All products shall be first-line quality of grade and type shown on the drawings and specifications or equivalents accepted by the Engineer in writing.
- (b) All products shall be in current production with no notice having been given that this product is to be drastically changed, modified or discontinued from production.
- (c) The Contractor, by submitting, certifies that equipment being proposed is proper for the application intended and that it has the capacity called for.

#### **2.2 Complete System**

All products, materials and accessories shall be furnished and installed as required for a complete system ready for Employers beneficial use.

### **3.0 EXECUTION**

#### **3.1 Workmanship**

- (a) All work shall be performed by competent mechanics using proper tools and equipment to produce first-quality work. All work shall be neatly installed, accessible for maintenance and complete with all accessories required.

## **PARTICULAR SPECIFICATION**

### **1.0 SCOPE OF WORK**

#### **1.1 General**

This contract is for the improvement of Medical Gas System for Wards, Teaching Hospital, Peradeniya.

#### **1.2 Location of Site**

The site is located in Teaching Hospital, Peradeniya.

#### **1.3 Scope of Contract**

Supply and installation of the following equipment accordance with the requirement of HTM 02-01 & British Standards for Medical Gas System.

- (i) Distribution piping – Distributing pipes connecting to the existing pipe system at each requested wards.
- (ii) Area Service Valve Units with alarm and lockable line valves
- (iii) Terminal Units

140 Nos. Wall mounted type terminal units for Oxygen

54 Nos. Wall mounted type terminal units for Medical Air 4 bar.

53 Nos. Wall mounted type terminal units for Medical Vaccume.

#### **1.4 Tests on Completion**

All equipment shall be carefully inspected and tested at the site after erection to show that they operate satisfactorily and meet the requirements of HTM 02-01. These tests shall be carried out in the presence of the Engineer and shall be to his satisfaction.

## **2.0 TECHNICAL SPECIFICATION**

### **2.1 Terminal Units**

#### **a) General**

The medical gas terminal unit shall be designed, manufactured and tested to comply with the requirements of BS 5682 and HTM 2022. Each terminal unit shall be gas specific and shall only accept the correct medical gas probe.

Gas specific components within a terminal unit shall be pin indexed to ensure that a correct gas specific assembly is achieved and each gas specific component shall be identified to the requirements of BS 5682.

#### **Wall Mounted Terminal Units**

Wall mounted Terminal units at the required locations for the respective gases shall be supplied and installed. The mounting height of the terminal unit is 1.3 m.

<b>Area</b>	<b>O2</b>	<b>VAC</b>	<b>MA4</b>
Ward 01	22	05	-
Ward 02	11	05	-
Ward 03	09	06	-
Ward 04	06	06	-
Ward 05	03	03	02
Ward 06	-	-	02
Ward 07	32	16	02
Ward 08	28	12	02
Ward 15	06	06	02
Ward 16	06	-	-
A & E	16	16	22

### **2.2 Fixed Pipe Lines**

#### **a) Pipes**

Pipes used for internal installations and any installations carried in protective pipes, shall be of copper to BS 2871 Part 1 Table X or equivalent to above standard. Pipe fittings and valves for Oxygen, Vacuum, and Medical air should be degreased. Pipes of diameter up to and including 54 mm internal diameter shall be steam cleaned internally, dried, shot blasted and blown through with medical quality air and individually capped at both ends after passing a visual internal inspection. Bundle pipes should be sealed with an adhesive tape marked "medical gas pipes".

The selection of pipe diameter shall meet the requirement of the relevant BS standard. The pipes shall be designed for a pressure drop of 5% for Oxygen and medical air from the manifold to the remote terminal unit.

The minimum outside diameter of the pipe used shall be not less than 15 mm.

b) Joints

Joints shall normally be made on site by silver copper phosphate brazing using British Standard 1845 type AG 14 alloy. Brass brazing should not be employed. Where screwed joints are permitted they may be made with unsintered. (de - greased) P.T.F.E. tape.

All brazed joints shall be completed by fluxless brazing technique in inert CO<sub>2</sub> or N<sub>2</sub> atmosphere.

## 2.3 Fittings and Valves

(a) General

Fittings and valves shall be supplied already cleaned and degreased and in sealed plastic bags identifying them as medical gas fittings. Fittings should be of the "high duty" type suitable for steam services gauge pressures up to 17 bars.

(b) Area valve service unit and Line Isolation Valve

Area valve service unit and lockable line valve of acceptable quality and reputed make shall be installed as indicated in the drawings.

(c) Valves

Valves of the lever operated ball type shall be provided, with a clear indication of the 'ON' and 'OFF' position. Valves on the distribution system shall be of the non-lubricated type and constructed of non-ferrous materials. They shall preferably be designed for capillary joint connections to the pipelines by silver brazing. Where screwed connections are provided for pipe line connections they should have threads in accordance with BS 3648 or pipe threads to BS 21 but this does not exclude valves having integral union joints with other threads. Non-ferrous material should be used for plant room valves for those components, which may come into contact with the gases.

(d) Valve Accessibility

Valves shall be readily accessible in an emergency from the area served by the sections of pipe work and they should be mounted at a height of 1.22 m from floor level in positions, which are unlikely to be obstructed by other equipment or apparatus. They should be clearly marked to indicate their functions in simple language describing the areas affected by the operation of each valve.

Each valve outside the plant area shall be mounted in a standard box irrespective of their function. Any valve larger than those for 28 mm O.D. pipe which are not required to be operated in an emergency may be accommodated in readily accessible parts of the duct, or in ventilated cupboards, provided the valves are lockable in the open and closed positions. Every valve shall be fitted with an identity number plate for operations purposes.

(e) Valves Boxes

Each box should be lockable and each emergency valve box shall be fitted with a suitable breakable cover. The box shall be provided with vents at the top and bottom and be large enough to allow adequate access for maintenance and for the fitting of the identification label. The keys for the boxes shall be non-interchangeable. If this involves an impossible range of keys, then at least the non-interchangeability feature may be limited either to valve boxes within one building or to those in adjacent departments within the building. The cover must be non-interchangeable with other covers, if it is marked with the name of a gas.

**2.4 Shop Drawings**

The contractor should supply a complete set of shop drawings covering all necessary aspects to extinguish the required details mentioned in specification as well any other detail not mentioned, but necessary for proper operation of the system.

**2.5 Installation Procedure**

The medical gas pipe risers shall be concealed in the riser ducts while the lateral runs and down drops to terminal units shall be exposed. Pipelines shall be suitably protected where there is a possibility of physical damage eg. from the passage of trolleys. Clearance of 150 mm shall be maintained between the fixed pipelines and all other services. A minimum clearance of 6 mm shall be preserved where services cross.

Care shall be taken to prevent the pipes coming into contact with electric cables and wiring to minimize the risk of electric shock in the event of a fault on the adjacent cables.

No joints in pipe work other than the silver copper phosphate brazed capillary joint to a terminal unit tail pipe or a connection to a valve in a box should be buried within the thickness of walls, partition or floors. Where this is unavoidable the pipe shall be carried in a copper sleeve. Where pipe work has to be buried within a partition, terminal units and boxed valves with tail pipes extending into the ceiling void or duct shall be used.

Further protection to the pipelines shall be provided in the following circumstances.

- i. Where pipes pass through walls, partitions or floors they should be fitted with sleeves of copper pipes to BS 2871 and provided with appropriate wall or ceiling plates.
- ii. Where the pipes come into contact with timber treated with fire-resistant or flame-retardant compounds, contact shall be avoided by the use of impermeable, non-metallic materials such as PVC spacers or adhesive PVC tape. If spacers are used they shall not be liable to drop out due to subsequent movement of the pipe or timber or due to shrinkage. Such precautions are not required where untreated timber is used or where the timber is effectively sealed with paint or varnish before the pipes are fixed to it.



Valves for oxygen and nitrous oxide shall be carefully located and positioned so that any leakage from the valves cannot result in a build up of gas in an unventilated space eg. ceiling void, unventilated roof space. Valves shall not be inserted in the middle of main distribution runs but on the branches at points as close as possible to the main run. A main shut off valve shall however be inserted in a ready accessible position at the bottom of each rising main on the distribution system.

Valve boxes shall as far as practicable be located so that the covers are flush with the surface of the building structure.

The pipeline shall be adequately supported at sufficient intervals in accordance with the table given below to prevent sagging or distortion. Supports for surface mounted pipe work shall provide clearance to permit painting of the surface. Where it is essential for pipes to cross electric cables or conduits, they shall be supported on both sides of the crossing and prevented from touching the cables or conduit. Supports should be of suitable material or suitably treated to minimize corrosion and to prevent electrolytic action between pipes and supports.

Metric sizes outside dia. mm	Maximum intervals for vertical runs (meters)	Maximum intervals for horizontal runs (meters)
12	1.2	1.0
15	1.8	1.2
22	2.4	1.8
28	2.4	1.8
35	3.0	2.4
42	3.0	2.4
54	3.0	2.7
76	3.6	3.0

A full way drain cock shall be provided at the bottom of each vertical run on the compressed air system. These shall be of the same high quality as the other valves on the distribution system and shall be sited carefully so that no damage could occur to them.

Pipelines should be identified in accordance with BS 1710 and color banding of the pipelines shall be provided outside the plant room. Color band identification shall be provided near to valves, junctions, walls etc. Each gas pipe should be identified in 6 mm letters. Self-adhesive, adhesive plastic or clip-on labels of approved manufacture may be used for this purpose. A band 150 mm wide is usually adequate. All color-coded tapes applied by the manufacturers should be removed before a pipeline is identified in accordance with this paragraph. Care should be taken to maintain pipeline identification during painting.

## **2.6 Electricity Supply to Medical Gas Installation**

All electrical works required in connection with the medical gases system shall be carried out under this section of the works and shall be allowed for in the quoted rates. The wiring shall be in PVC insulated copper cable enclosed in rigid PVC conduit. The conduit shall be concealed in ceiling voids & ducts where available and in the building fabric except in the plant rooms where they shall be exposed. In other areas (operating theatre etc.) all surface wiring shall be carried out in surface PVC casing.

**All electrical works shall be carried out in accordance with the IEE Wiring Regulations. All electrical drawings shall be approved by the Engineer.**

## **2.7 Earthing**

Pipe lines should be bonded to the consumer's earth terminal as required by Regulation D10 of the IEE Regulations. This bonding should be made as near as possible to the point at which the pipe line enters building from the plant. The size of the bonding conductor should be in accordance with Table D.2M of the Regulations. The pipe lines should not themselves be used for earthing the electrical equipment.

Flexible connections in the fixed pipelines should not normally be used but if they are specially approved, they should be similarly bonded.

## **2.8 Spares and Tools**

The Contractor shall also supply a set of recommended spares required for the trouble-free operation of the system for a period of 2 years from completion of the maintenance period of one year. Five sets of required tools shall also be supplied at the time of handing over of the system.

## **3.0 TESTING AND COMMISSIONING**

Before the installation is formally handed over, the following checks and tests shall be carried out.

1. Pressure test for leakage in pipe lines only
2. Check valve tightness and correct valve zoning
3. Pressure test for leakage on complete installations
4. Check for satisfactory mechanical operation and non-interchangeability of each terminal by means of test probes
5. Check for cross connections
6. Check flow rates and pressure at each terminal unit
7. Check total flow rate and delivery pressure
8. Check performance of alarm signaling system
9. Purge the completed installation with medical air and check the internal cleanliness of the system
10. Purge the complete installation with the working gas.

The formal commissioning procedure should be completed in accordance with the Hospital Technical Memorandum No. 17 - Commissioning of Engineering Services.

Tests and checks shall be carried out in the presence of the Engineer at times to be agreed with the Engineer.

After completion of work the following checks shall also be carried out.

- i) Tests on the identity of gas supplied at each terminal unit
- ii) Test on the quality and purity of gas at each terminal unit.

Procedures (1), (2), (3) stated above shall be completed in sequence for one gas at a time. After completion of procedure (4) (separately for each gas) and (5) arrangements shall be made for tests (6) and (7) to be completed for the whole installation in one session. The remainder of the procedures shall then be completed in the order given for each gas.

### **3.1 Pressure Tests for leakage in Pipe Lines**

The completed pipe lines with all ends sealed (but terminal units not fitted) and all valves on the distribution system open, but with control panels and theatre fittings disconnected shall be tested to twice the working pressure or 10.5 bar whichever is greater and shall be held for 24 hours and no leak should occur during this period.

### **3.2 Valve Tightness Test**

On completion of the pressure on the pipeline all isolating valves shall be tested for 15 minutes at a gauge pressure of 6.9 bar for tightness by closing them in sequence and releasing the pressure on the downstream side. No leak shall occur during these valve tests.

### **3.3 Tests for providing correct connections on the piped medical gas systems**

Each system (oxygen, Nitrous Oxide, medical air, Vacuum and AGSS) shall be tested in turn, preferably at the same session. The test shall not commence until all work on the installation is complete. Should any alteration to the system be made, the test shall be repeated.

### **3.4 Total Flow Rate and Delivery Pressure Test**

This test shall be carried out to simulate working conditions by providing an appropriate number of small metered leaks while further typical flow rate and pressure tests are taken at vulnerable and representative points in the installation. The total leak rate shall be approximately equal to the total design flow.

The test may be made with the bobbin type flow meters or plug-in type metering equipment as designed to pass the quantities specified. The calibrated jets shall conform to BS 720.

Jet metering devices shall be stamped to show,

- 1) Jet size
- 2) Air equivalent of "medical gas" for which it is calibrated
- 3) Rate of flow and pressure for which it is calibrated.

The test shall be carried out with medical quality compressed air at a gauge pressure of 4.1 bar and not with the oxygen or nitrous oxide as the case may be.

Test jet units for medical gases shall be calibrated to pass 40 liters, 20 liters and 15 liters per minute at a gauge pressure 3.9 bar. Units for compressed air shall be calibrated to pass 250 liters per minute and 50 liters per minute at a gauge pressure of 6.9 bar.

#### **4.0 MAINTENANCE MANUALS AND TRAINING**

The Contractor shall be required to provide complete as-fitted drawings, circuit diagrams valve charts and maintenance instructions. Further, necessary training shall be provided to related hospital staff.

Complete maintenance manuals shall be supplied and handed over at the time of satisfactory testing and taking over of the installation.

## **SECTION - 07**

### **BILL OF QUANTITIES AND TECHNICAL DATA**

## **PREAMBLE TO THE BILL OF QUANTITIES**

1. The Conditions of Contract, the Specifications are to be read in conjunction with the Bill of Quantities.
2. The cost of complying with all conditions, obligations and liabilities described in the Conditions of Contract and the Specifications and the Bill of Quantities **including all overhead charges (excluding VAT), profit and Preliminaries** and carrying out the work as described shall be deemed to be spread over and included in the prices or sums stated by the Bidder in the Bill of Quantities. VAT should be separately added.
3. If the Bidder failed to price any Items in the Bill of Quantities, then the cost of the work under such Item shall be held to be spread over and included in the prices given against other Items of work.
4. When trade names, brand and/or catalogue numbers are referred to, sole preference to any material or equipment is not intended. Any other material or equipment may be used, provided that the characteristics of type, quality, appearance, finish, method of construction and/or performance is equal to or superior to specify.
5. Whenever the method of measurement is not clear from documents available, the principles as given in the Sri Lanka Standard 573, 1999, Method of Measurement of Building Work shall be applicable.
6. All items of work shall comply exactly with the Contract unless otherwise approved by the Engineer and the rates and sums inserted in the Bill of Quantities shall be deemed to apply to the work as specified. If, for his convenience or reasons of availability, the Contractor proposes and the Engineer approves the use or provision of alternative items, materials or method of working, or equivalent or superior quality to those specified in the Contract, the rates and sums inserted in the Bill of Quantities shall not in any case be increased as a result.
7. The quantities set out in the Bill of Quantities are provisional and cover the approximate scope of the work which is anticipated to be performed by the Contractor. The actual quantities used for final measurement purposes will be determined by the Engineer by measurement of the work completed by the Contractor.
8. Where, for his own purposes or due to his own default, the Contractor carries out the Works in such a manner that the quantity of any Item of work in particular component to be measured for payment purposes differs from that directed by the Engineer, then payment shall be made according to the lesser of the actual quantity and that directed. An excess quantity in one part of the component shall not, however, be allowed to offset a deficit elsewhere in the same component for measurement purposes.
9. Where the determination for payment purposes of the quantity of any Item of work depends upon the measurement of existing features or ground levels and the like, then prior to carrying out any operations which might affect such measurement, the Contractor shall first take such levels and measurements as the Engineer may direct and, after the Engineer has had the opportunity to check the same, they shall be certified as agreed by both the Engineer and the Contractor.
10. In the event that the Contractor fails to observe the above procedure, the Engineer shall determine the quantity to be assumed for payment purposes using the best information available to him, and his decision in the matter shall be final.

11. Selected Bidder shall comply with the arrangement of work in the buildings and be ready to work part by part as required by the Authorities of Teaching Hospital, Peradeniya.
12. Rates in Bill of Quantities shall include all necessary material for extension of medical gas system.
13. Except where specifically stated, all costs associated with provision of all holes, openings, chases and wall finishing in other builders' work required for installation and make them good, shall be included in the rates.
14. Bidder should pay special attention to the work to be carried out, causing minimum disturbance or hindrance to the normal functions and activities of the users of the Teaching Hospital, Peradeniya.
15. The Bills of Quantities should therefore, be priced to reflect all factors that would affect the bid and the progress of the works.
16. Screens should be provided to prevent dust escaping from working areas.
17. Metric units are used throughout the Bill of Quantities for measurement purposes unless otherwise indicated. Abbreviations used in the Contract are as follows: -

mm	-	Millimeter
m	-	Linear meter
kg	-	Kilogram
m <sup>2</sup>	-	Square meter
m <sup>3</sup>	-	Cubic meter
nr	-	Number
Rs.	-	Sri Lankan Rupees
Cts.	-	Cents
Pro Sum	-	Provisional sum
L. S.	-	Lump Sum

**IMPROVEMENT OF MEDICAL GAS SYSTEM FOR WARDS  
TEACHING HOSPITAL - PERADENIYA**

**ENGINEER'S ESTIMATE**

ITEM	DESCRIPTION	QTY	UNIT	RATE	AMOUNT
				Rs. Cts.	Rs. Cts.
	<b><u>MECHANICAL WORKS</u></b>				
	<i>The manufacturer of the equipment shall have at least ten (10) years experience in the design and manufacture of same type of equipments</i>	Note			
	<i>The make of equipments offered shall have satisfactory proven service record in Sri Lanka at least for last five (5) years</i>	Note			
	<i>Rate shall for all cost of supply including CIF, CID, PAL, clearing charges, transport charges, erection, factory testing, site testing, commissioning as per specification and drawings and profits etc.</i>	Note			
	<i>Rate shall for cost of providing security bonds, guaranties, insurance of personnel, property, material against accidents, damage, trespass or theft.</i>	Note			
	<i>Rate shall for the cost of all temporary works such as scaffolding etc. associated civil and electrical works related to the installation of all mechanical systems such as drilling of suitable holes in walls, breaking of any parts of walls and finishing works of the same such as plastering, painting, etc. electrical power / control wiring, services connections, etc.</i>	Note			
	<b>MEDICAL GAS SYSTEM</b>				
	<b>The products and work shall comply with the Health Technical Memorandum 2022 / 02-01 Part A and Part B and British Standards for Medical Gas System.</b>				
	<b><u>Ward No 1</u></b>				
	<b>Supply and installation Wall mounted Terminal units</b>				
1	Oxygen (O2) 4 bar	22	nr	.....	.....
2	Medical Vacuum(MVAC)	5	nr	.....	.....
	<b>PVC Bed Head trunking</b>				
3	Supply and installation of PVC minimum (160 x 50 mm) two compartment Bed Head Trunkings having terminal units and Socket outlets.	20	m	.....	.....
4	Supply and installation of PVC ( 170 * 50 mm ) Vertical trunking for medical gas pipelines.	15	m	.....	.....
	<b>Piping</b>				
	<b>Pipes used for installations shall be phosphorus de-oxidised, non-arsenical copper complied to BS6017 and dimensions shall be in accordance with BS 2871, Part 1, Table X,Y or equivalent to above standard. Supports shall be Cast brass munson rings.</b>				
5	15mm dia. Pipes with fittings	15	m	.....	.....
6	22mm dia. Pipes with fittings	100	m	.....	.....
	<b>Supply and installation of Lockable line Valves and Fittings</b>				
7	15mm	7	nr	.....	.....
8	22mm	7	nr	.....	.....
	<b>Supply and installation of Area Valve Service Units with Alarm</b>				



9	02 Gas Area Valve Service Unit with Alarm	1	nr	.....	.....
10	Connecting existing pipes to the plant pipes	1	Item	.....	.....
	<b>Ward No 2</b>				
	<b>Supply and installation Wall mounted Terminal units</b>				
11	Oxygen (O2) 4 bar	11	nr	.....	.....
12	Medical Vacuum(MVAC)	5	nr	.....	.....
	<b>PVC Bed Head trunking</b>				
13	Supply and installation of PVC minimum (160 x 50 mm) two compartment Bed Head Trunkings having terminal units and Socket outlets.	18	m	.....	.....
14	Supply and installation of PVC ( 170 * 50 mm ) Vertical trunking for medical gas pipelines.	9	m	.....	.....
	<b>Piping</b> Pipes used for installations shall be phosphorus de-oxidised, non-arsenical copper complied to BS6017 and dimensions shall be in accordance with BS 2871, Part 1, Table X,Y or equivalent to above standard. Supports shall be Cast brass munson rings.				
15	15mm dia. Pipes with fittings	10	m	.....	.....
16	22mm dia. Pipes with fittings	70	m	.....	.....
	<b>Supply and installation of Lockable line Valves and Fittings</b>				
17	15mm	2	nr	.....	.....
18	22mm	4	nr	.....	.....
	<b>Supply and installation of Area Valve Service Units with Alarm</b>				
19	02 Gas Area Valve Service Unit with Alarm	1	nr	.....	.....
20	Connecting existing pipes to the plant pipes	1	Item	.....	.....
	<b>Ward No 3</b>				
	<b>Supply and installation Wall mounted Terminal units</b>				
21	Oxygen (O2) 4 bar	9	nr	.....	.....
22	Medical Vacuum(MVAC)	6	nr	.....	.....
	<b>PVC Bed Head trunking</b>				
23	Supply and installation of PVC minimum (160 x 50 mm) two compartment Bed Head Trunkings having terminal units and Socket outlets.	12	m	.....	.....
24	Supply and installation of PVC ( 170 * 50 mm ) Vertical trunking for medical gas pipelines.	6	m	.....	.....
	<b>Piping</b> Pipes used for installations shall be phosphorus de-oxidised, non-arsenical copper complied to BS6017 and dimensions shall be in accordance with BS 2871, Part 1, Table X,Y or equivalent to above standard. Supports shall be Cast brass munson rings.				
25	15mm dia. Pipes with fittings	10	m	.....	.....
26	22mm dia. Pipes with fittings	60	m	.....	.....
	<b>Supply and installation of Lockable line Valves and Fittings</b>				
27	15mm	2	nr	.....	.....
28	22mm	2	nr	.....	.....

	<b>Supply and installation of Area Valve Service Units with Alarm</b>				
29	02 Gas Area Valve Service Unit with Alarm	1	nr	.....	.....
30	Connecting existing pipes to the plant pipes	1	Item	.....	.....
	<b>Ward No 4</b>				
	<b>Supply and installation Wall mounted Terminal units</b>				
31	Oxygen (O2) 4 bar	6	nr	.....	.....
32	Medical Vacuum(MVAC)	6	nr	.....	.....
	<b>PVC Bed Head trunking</b>				
33	Supply and installation of PVC minimum ( 160 x 50 mm) two compartment Bed Head Trunkings having terminal units and Socket outlets.	12	m	.....	.....
34	Supply and installation of PVC ( 170 * 50 mm ) Vertical trunking for medical gas pipelines.	6	m	.....	.....
	<b>Piping</b> Pipes used for installations shall be phosphorus de-oxidised, non-arsenical copper complied to BS6017 and dimensions shall be in accordance with BS 2871, Part 1, Table X,Y or equivalent to above standard. Supports shall be Cast brass munson rings.				
35	15mm dia. Pipes with fittings	20	m	.....	.....
36	22mm dia. Pipes with fittings	45	m	.....	.....
	<b>Supply and installation of Lockable line Valves and Fittings</b>				
37	15mm	2	nr	.....	.....
38	22mm	3	nr	.....	.....
	<b>Supply and installation of Area Valve Service Units with Alarm</b>				
39	02 Gas Area Valve Service Unit with Alarm	1	nr	.....	.....
40	Connecting existing pipes to the plant pipes	1	Item	.....	.....
	<b>Ward No 5</b>				
	<b>Supply and installation Wall mounted Terminal units</b>				
41	Oxygen (O2) 4 bar	3	nr	.....	.....
42	Medical Vacuum(MVAC)	3	nr	.....	.....
43	Medical Compressed Air (MA4) 4 bar	2	nr	.....	.....
	<b>PVC Bed Head trunking</b>				
44	Supply and installation of PVC minimum ( 160 x 50 mm) two compartment Bed Head Trunkings having terminal units and Socket outlets.	6	m	.....	.....
45	Supply and installation of PVC ( 170 * 50 mm ) Vertical trunking for medical gas pipelines.	3	m	.....	.....
	<b>Piping</b> Pipes used for installations shall be phosphorus de-oxidised, non-arsenical copper complied to BS6017 and dimensions shall be in accordance with BS 2871, Part 1, Table X,Y or equivalent to above standard. Supports shall be Cast brass munson rings.				
46	15mm dia. Pipes with fittings	20	m	.....	.....
47	22mm dia. Pipes with fittings	40	m	.....	.....
	<b>Supply and installation of Lockable line Valves and Fittings</b>				

48	15mm	1	nr	.....	.....
49	22mm	2	nr	.....	.....
	<b>Supply and installation of Area Valve Service Units with Alarm</b>				
50	03 Gas Area Valve Service Unit with Alarm	1	nr	.....	.....
51	Connecting existing pipes to the plant pipes	1	Item	.....	.....
	<b>Ward No 6</b>				
	<b>Supply and installation Wall mounted Terminal units</b>				
52	Medical Compressed Air (MA4) 4 bar	2	nr	.....	.....
	<b>PVC Bed Head trunking</b>				
53	Supply and installation of PVC minimum ( 160 x 50 mm) two compartment Bed Head Trunkings having terminal units and Socket outlets.	6	m	.....	.....
54	Supply and installation of PVC ( 170 * 50 mm ) Vertical trunking for medical gas pipelines.	3	m	.....	.....
	<b>Piping</b>				
	<b>Pipes used for installations shall be phosphorus de-oxidised, non-arsenical copper complied to BS6017 and dimensions shall be in accordance with BS 2871, Part 1, Table X,Y or equivalent to above standard. Supports shall be Cast brass munson rings.</b>				
55	15mm dia. Pipes with fittings	10	m	.....	.....
56	22mm dia. Pipes with fittings	20	m	.....	.....
	<b>Supply and installation of Lockable line Valves and Fittings</b>				
57	15mm	1	nr	.....	.....
58	22mm	1	nr	.....	.....
59	Connecting existing pipes to the plant pipes	1	Item	.....	.....
	<b>Ward No 7</b>				
	<b>Supply and installation Wall mounted Terminal units</b>				
60	Oxygen (O2) 4 bar	32	nr	.....	.....
61	Medical Vacuum(MVAC)	16	nr	.....	.....
62	Medical Compressed Air (MA4) 4 bar	2	nr	.....	.....
	<b>PVC Bed Head trunking</b>				
63	Supply and installation of PVC minimum ( 160 x 50 mm) two compartment Bed Head Trunkings having terminal units and Socket outlets.	40	m	.....	.....
64	Supply and installation of PVC ( 170 * 50 mm ) Vertical trunking for medical gas pipelines.	20	m	.....	.....
	<b>Piping</b>				
	<b>Pipes used for installations shall be phosphorus de-oxidised, non-arsenical copper complied to BS6017 and dimensions shall be in accordance with BS 2871, Part 1, Table X,Y or equivalent to above standard. Supports shall be Cast brass munson rings.</b>				
65	15mm dia. Pipes with fittings	30	m	.....	.....
66	22mm dia. Pipes with fittings	170	m	.....	.....
	<b>Supply and installation of Lockable line Valves and Fittings</b>				
67	15mm	3	nr	.....	.....
68	22mm	6	nr	.....	.....



	<b>Supply and installation of Area Valve Service Units with Alarm</b>				
69	03 Gas Area Valve Service Unit with Alarm	1	nr	.....	.....
70	Connecting existing pipes to the plant pipes	1	Item	.....	.....
	<b>Ward No 8</b>				
	<b>Supply and installation Wall mounted Terminal units</b>				
71	Oxygen (O2) 4 bar	28	nr	.....	.....
72	Medical Vacuum(MVAC)	12	nr	.....	.....
73	Medical Compressed Air (MA4) 4 bar	2	nr	.....	.....
	<b>PVC Bed Head trunking</b>				
74	Supply and installation of PVC minimum ( 160 x 50 mm) two compartment Bed Head Trunkings having terminal units and Socket outlets.	35	m	.....	.....
75	Supply and installation of PVC ( 170 * 50 mm ) Vertical trunking for medical gas pipelines.	21	m	.....	.....
	<b>Piping</b>				
	<b>Pipes used for installations shall be phosphorus de-oxidised, non-arsenical copper complied to BS6017 and dimensions shall be in accordance with BS 2871, Part 1, Table X,Y or equivalent to above standard. Supports shall be Cast brass munson rings.</b>				
76	15mm dia. Pipes with fittings	50	m	.....	.....
77	22mm dia. Pipes with fittings	100	m	.....	.....
	<b>Supply and installation of Lockable line Valves and Fittings</b>				
78	15mm	3	nr	.....	.....
79	22mm	6	nr	.....	.....
	<b>Supply and installation of Area Valve Service Units with Alarm</b>				
80	03 Gas Area Valve Service Unit with Alarm	1	nr	.....	.....
81	Connecting existing pipes to the plant pipes	1	Item	.....	.....
	<b>Ward No 15</b>				
	<b>Supply and installation Wall mounted Terminal units</b>				
82	Oxygen (O2) 4 bar	6	nr	.....	.....
83	Medical Vacuum(MVAC)	6	nr	.....	.....
84	Medical Compressed Air (MA4) 4 bar	2	nr	.....	.....
	<b>PVC Bed Head trunking</b>				
85	Supply and installation of PVC minimum ( 160 x 50 mm) two compartment Bed Head Trunkings having terminal units and Socket outlets.	18	m	.....	.....
86	Supply and installation of PVC ( 170 * 50 mm ) Vertical trunking for medical gas pipelines.	9	m	.....	.....
	<b>Piping</b>				
	<b>Pipes used for installations shall be phosphorus de-oxidised, non-arsenical copper complied to BS6017 and dimensions shall be in accordance with BS 2871, Part 1, Table X,Y or equivalent to above standard. Supports shall be Cast brass munson rings.</b>				
87	15mm dia. Pipes with fittings	12	m	.....	.....
88	22mm dia. Pipes with fittings	75	m	.....	.....
	<b>Supply and installation of Lockable line Valves and Fittings</b>				

89	15mm	3	nr	.....	.....
90	22mm	7	nr	.....	.....
	<b>Supply and installation of Area Valve Service Units with Alarm</b>				
91	03 Gas Area Valve Service Unit with Alarm	1	nr	.....	.....
92	Connecting existing pipes to the plant pipes	1	Item	.....	.....
	<b>Ward No 16</b>				
	<b>Supply and installation Wall mounted Terminal units</b>				
93	Oxygen (O2) 4 bar	6	nr	.....	.....
	<b>PVC Bed Head trunking</b>				
94	Supply and installation of PVC minimum ( 160 x 50 mm) two compartment Bed Head Trunkings having terminal units and Socket outlets.	12	m	.....	.....
95	Supply and installation of PVC ( 170 * 50 mm ) Vertical trunking for medical gas pipelines.	6	m	.....	.....
	<b>Piping</b> Pipes used for installations shall be phosphorus de-oxidised, non-arsenical copper complied to BS6017 and dimensions shall be in accordance with BS 2871, Part 1, Table X,Y or equivalent to above standard. Supports shall be Cast brass munson rings.				
96	15mm dia. Pipes with fittings	10	m	.....	.....
97	22mm dia. Pipes with fittings	20	m	.....	.....
	<b>Supply and installation of Lockable line Valves and Fittings</b>				
98	15mm	2	nr	.....	.....
99	22mm	2	nr	.....	.....
100	Connecting existing pipes to the plant pipes	1	Item	.....	.....
	<b>A &amp; E</b>				
	<b>Supply and installation Wall mounted Terminal units</b>				
101	Oxygen (O2) 4 bar	16	nr	.....	.....
102	Medical Vacuum(MVAC)	16	nr	.....	.....
103	Medical Compressed Air (MA4) 4 bar	22	nr	.....	.....
	<b>PVC Bed Head trunking</b>				
104	Supply and installation of PVC minimum ( 160 x 50 mm) two compartment Bed Head Trunkings having terminal units and Socket outlets.	20	m	.....	.....
105	Supply and installation of PVC ( 170 * 50 mm ) Vertical trunking for medical gas pipelines.	15	m	.....	.....
	<b>Piping</b> Pipes used for installations shall be phosphorus de-oxidised, non-arsenical copper complied to BS6017 and dimensions shall be in accordance with BS 2871, Part 1, Table X,Y or equivalent to above standard. Supports shall be Cast brass munson rings.				
106	15mm dia. Pipes with fittings	30	m	.....	.....
107	22mm dia. Pipes with fittings	50	m	.....	.....
	<b>Supply and installation of Lockable line Valves and Fittings</b>				
108	15mm	10	nr	.....	.....
109	22mm	10	nr	.....	.....

	<b>Supply and installation of Area Valve Service Units with Alarm</b>				
110	03 Gas Area Valve Service Unit with Alarm	1	nr	.....	.....
111	Connecting existing pipes to the plant pipes	1	Item	.....	.....
112	Micellenious works		Pro Sum		1,000,000.00
113	Testing and commissioning	1	Item	.....	.....
<b>Total Cost for Extension of Medical Gas System</b>					.....

**Extension of Medical Gas System for Wards, Teaching Hospital, Peradeniya**  
**BILL OF QUANTITIES**

**MAIN SUMMARY**

Bill No	DESCRIPTION	AMOUNT	
		Rs	Cts
<b>A</b>	<b>Extension of Medical Gas System for Wards (MG)</b>	.....	
(a)	<b>Basic Cost Estimate (BCE) (Sub Total 1)</b>	.....	
(b)	Less: Provisional Sum	<b>1,000,000.00</b>	
(c)	Sub Total II (a-b)	.....	
(d)	Less: Discount if any (.....%)	.....	
(e)	Sub Total III (c-d)	.....	
(f)	Add : Provisional Sum (b)	<b>1,000,000.00</b>	
	<b>TOTAL BID SUM WITHOUT VAT</b>	.....	

Total Bid Sum to be taken in to Form of Bid ( Page No. 05) in words Rupees: .....  
 .....  
 ..... only.

Amount of V.A.T.(Prevailing VAT) for the Total Bid Sum :- Rs. ....  
 Bidder's VAT Registration No: .....

.....  
 Signature of Bidder

Name and Address of Bidder:  
 .....  
 .....  
 .....

Date.....

.....  
 Signature of Witness (1)

Name and Address of Witness (1)  
 .....  
 .....  
 .....

Date.....

.....  
 Signature of Witness (2)

Name and Address of Witness (2)  
 .....  
 .....  
 .....

Date.....



## **TECHNICAL SCHEDULE**

**IMPROVEMENT OF MEDICAL GAS SYSTEM FOR WARDS****TECHNICAL SCHEDULE**

Bidder shall fully complete the Technical Schedules. Manufacturer's technical brochures identifying the proposed items shall be submitted. Submission of bid without completion of technical schedules and supporting document may be liable for rejection of bid.

	Description	As Specified	As Offered	Remarks
1.0	<b>Wall Mounted Terminal Units</b>			
	<b>Oxygen</b>			
	Make			
	Model			
	Type			
	Country of Manufacture			
	Rated Pressure	4bar		
	Flow Rate	10l/mm – 100l/mm		
2.0	<b>Compressed Medical Air (4 bar)</b>			
	Make			
	Model			
	Type			
	Country of Manufacture			
	Rated Pressure	4bar		
	Flow Rate	10l/mm – 100l/mm		
3.0	<b>Medical Vaccume</b>			
	Make			
	Model			
	Type			
	Country of Manufacture			
	Rated Pressure	0.4 (300mmHg below atmosphere pressure)		
	Flow Rate	40 l/mm		
4.0	<b>Piping</b>			
	<b>Oxygen, MA4 &amp; Vacuum</b>			
	Make			
	Country of Manufacture			
	Material	Medical Grade Degreased Copper		
	Diameter	15mm – 35mm		
	Length			
5.0	<b>Lockable Line Valves</b>			
	Make			
	Model			
	Type			
	Size	15mm – 35mm		
	Country of Manufacture			
	Material	Copper & Brass		
6.	<b>Area Valve Service Unit</b>			
	Make			
	Model			
	Type			
	Country of Manufacture			

## **MAINTENANCE AGREEMENT**

**SERVICE AND MAINTENANCE AFTER FREE MAINTENANCE PERIOD FOR  
IMPROVEMENT OF MEDICAL GAS SYSTEM**

Annual fee for providing **comprehensive maintenance service**.

The work shall include the sending of Contractor's personnel **once every four months during normal working hours of a normal working day** to inspect, clean, oil, grease and replacement of spares where necessary, adjust the machinery and equipment and attending to emergency call back service immediately the owner notifies the contractor.

The amount quoted for servicing and maintenance shall include the cost of supply of all replacement spares, necessary oil, grease and cleaning materials. **These prices will be considered for bid evaluation to arrive at a final evaluated bid price discounting to present value at the rate of 10% per annum.**

Total per annum (excluding VAT)  
(After free maintenance period)

1 <sup>st</sup> year	Rs. ....
2 <sup>nd</sup> year	Rs. ....
3 <sup>rd</sup> year	Rs. ....
4 <sup>th</sup> year	Rs. ....
5 <sup>th</sup> year	Rs. ....

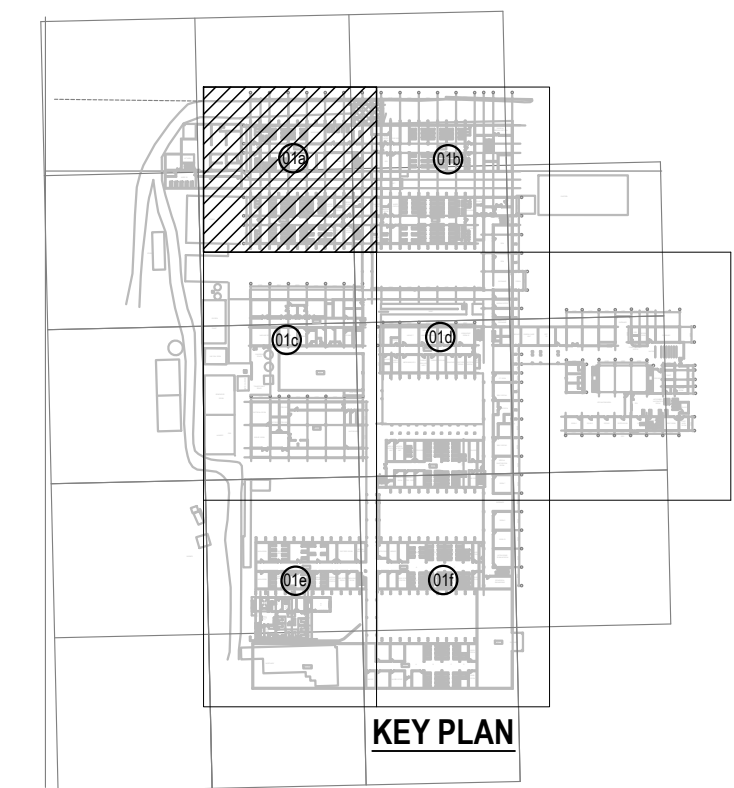
The bidder shall supply a sample of his proposed service and maintenance contract document.

(Signature) ..... (Signature).....


(Name) ..... (Name) .....

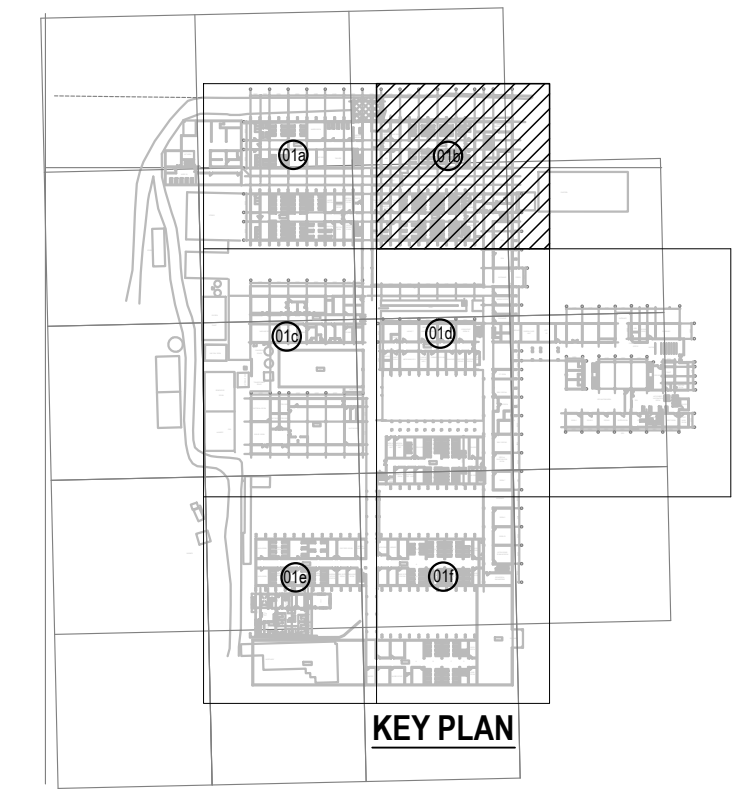
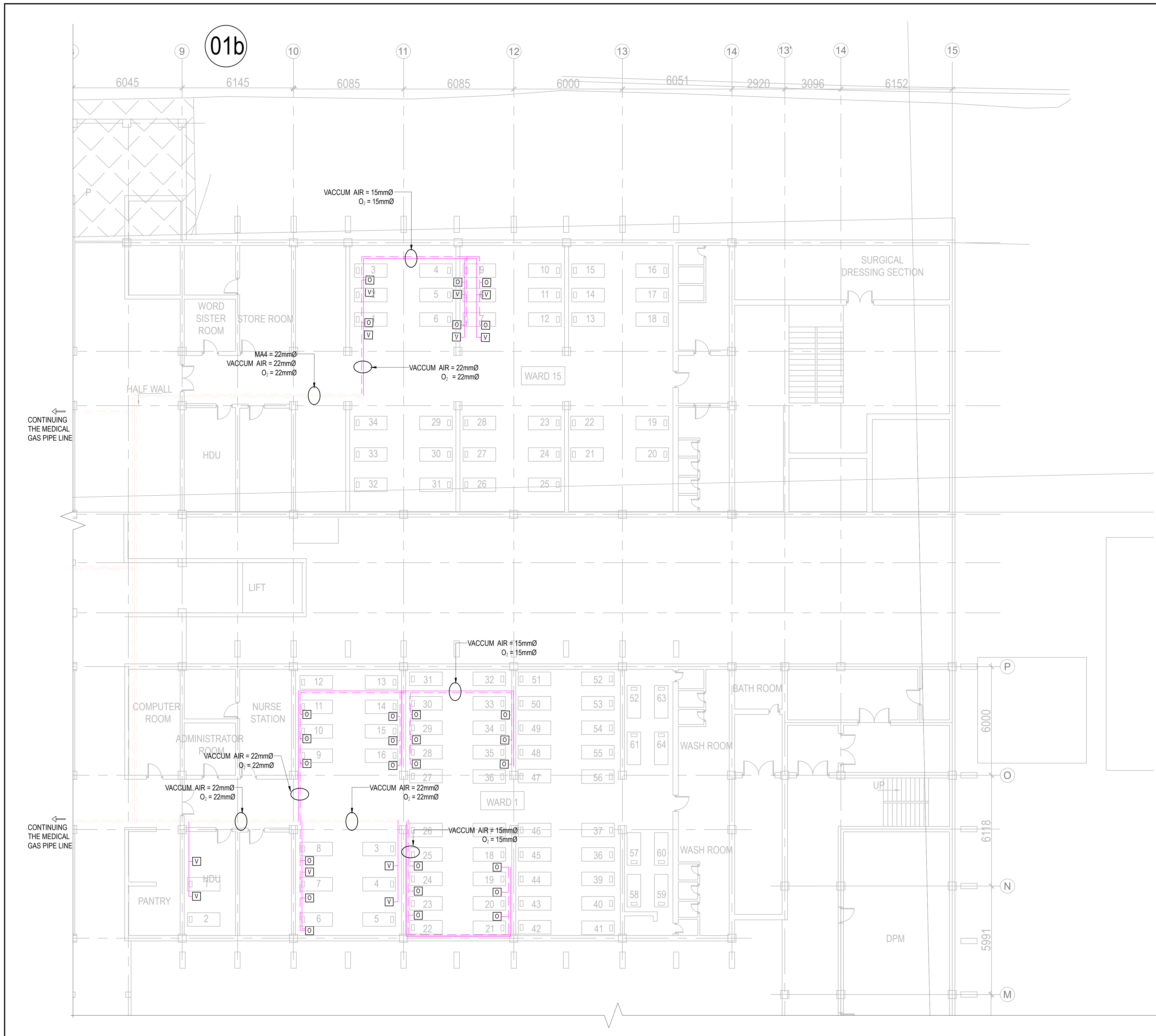
## **Section - 8**

# **DRAWINGS**



- LEGEND**
- OXYGEN TERMINAL UNIT (O<sub>2</sub>)
  - COMPRESSED MEDICAL AIR TERMINAL UNIT (MA<sub>4</sub>)
  - MEDICAL VACUUM TERMINAL UNIT
  - EXISTING OXYGEN LINE
  - EXISTING VACUUM LINE
  - EXISTING MA<sub>4</sub> LINE
  - PROPOSED OXYGEN LINE
  - PROPOSED VACUUM LINE
  - PROPOSED MA<sub>4</sub> LINE

Rev.	Date	Disd.	Description	Chkd	App'd
THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA MINISTRY OF HEALTH					
Project TEACHING HOSPITAL PERADENIYA PROPOSED PIPED MEDICAL GAS SYSTEM					
Title IMPROVEMENT OF MEDICAL GAS SYSTEM FOR WARDS GROUND FLOOR (SHEET 1 OF 6)					
<div><div></div><div><b>CENTRAL ENGINEERING CONSULTANCY BUREAU</b> <b>HOSPITAL WORKS</b></div></div>					
Head Office 415, Baddalawa Mawatha, Colombo-07, Sri Lanka. Tel. 0094-11-2668800, Fax. 0094-11-2668369 E-Mail cecb@sl.lk			Project Office UNIT -Hospital works Tel. -0094-11-2668808 Fax. -0094-11-2668954 E-Mail -hw@cecb.lk		
Designed	M.V.K.N.		Recommended - Senior Consultant(Mechanical)		
Checked	M.V.K.N.		Approved - DGM/AGM(SP1)		
Drawn	S.S.V.		Scale	1:100	Date: 01/08/2025
Checked	S.M.P.R.J.		CAD File	D/Hospital Works/Mech	Status TEN
Submitted	S.M.P.R.J.				
Sheet Size	Drawing No.				
A1	CB/AGM/(SP1)/HW/C802.54/2025/MECH/Sl-01a				
					Rev. No.
					-

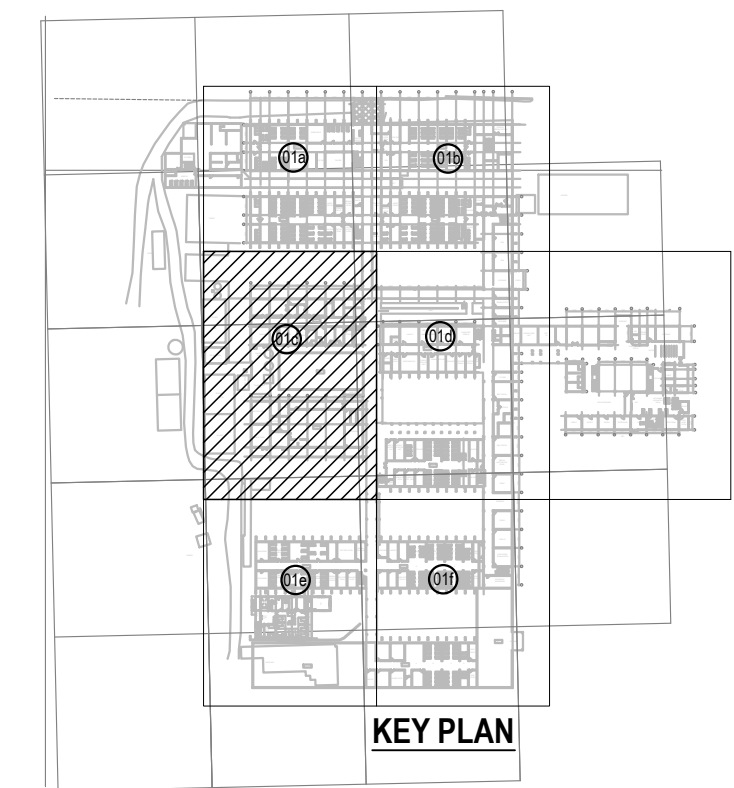
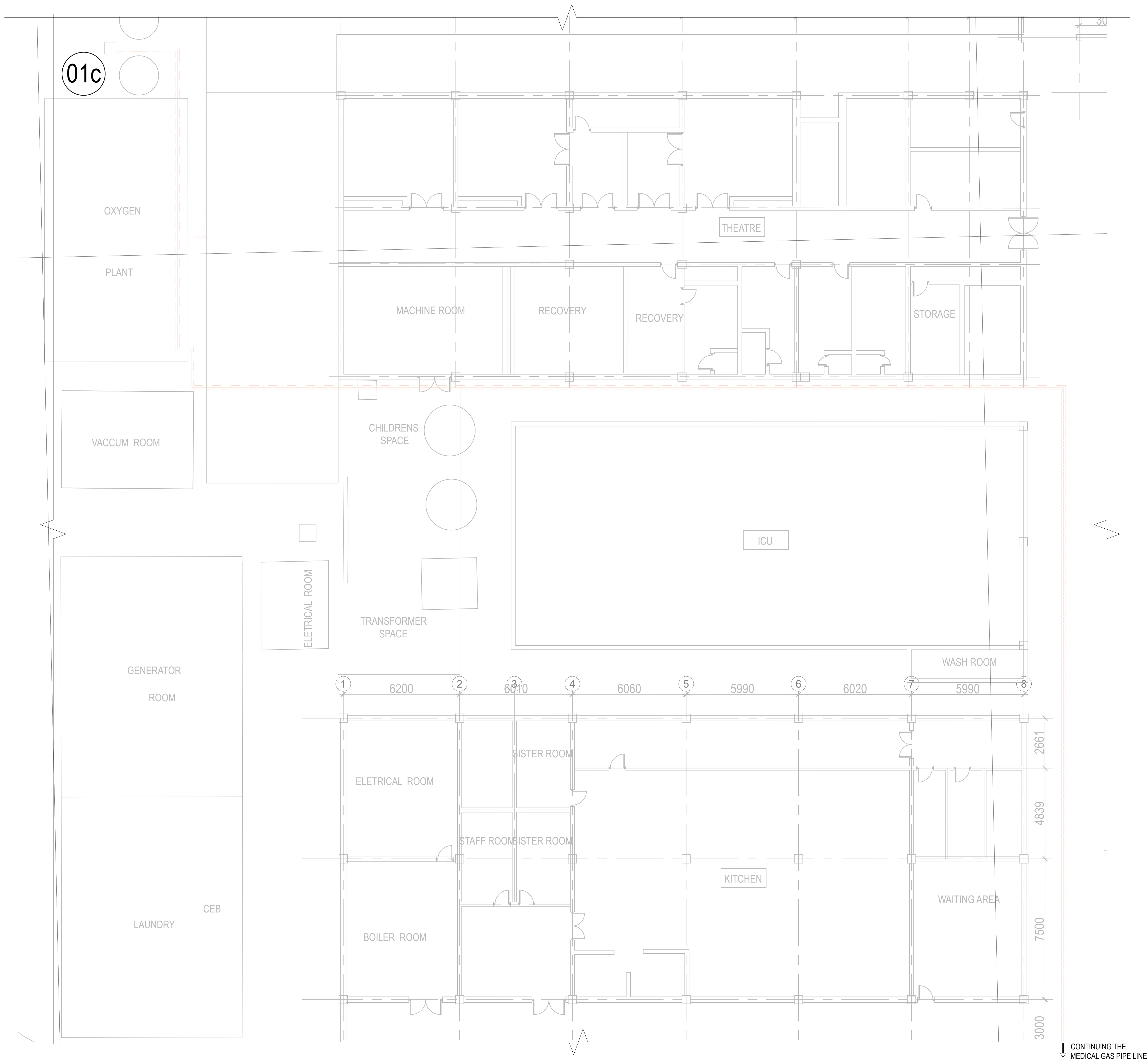


#### LEGEND

- O — OXYGEN TERMINAL UNIT (O<sub>2</sub>)
- M — COMPRESSED MEDICAL AIR TERMINAL UNIT (MA4)
- V — MEDICAL VACUUM TERMINAL UNIT
- EXISTING OXYGEN LINE
- EXISTING VACUUM LINE
- EXISTING MA<sub>4</sub> LINE
- PROPOSED OXYGEN LINE
- PROPOSED VACUUM LINE
- PROPOSED MA<sub>4</sub> LINE

Rev.	Date	Disd.	Description	On/Id	App'd
THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA					
MINISTRY OF HEALTH					
Project					
TEACHING HOSPITAL PERADENIYA					
PROPOSED PIPED MEDICAL GAS SYSTEM					
Title					
IMPROVEMENT OF MEDICAL GAS SYSTEM FOR WARDS					
GROUND FLOOR					
(SHEET 2 OF 6)					
<div style="display: flex; align-items: center;"> <div> <b>CENTRAL ENGINEERING CONSULTANCY BUREAU</b>  <b>HOSPITAL WORKS</b> </div> </div>					
Head Office 415, Baudhaloka Mawatha, Colombo-07, Sri Lanka. Tel. 0094-11-2668800, Fax. 0094-11-2687369 E-Mail cecb@sl.lk			Project Office UNIT -Hospital works Tel. -0094-11-2668808 Fax. -0094-11-2668954 E-Mail -hw@cecb.lk		
Designed	M.V.K.N.		Recommended - Senior Consultant(Mechanical)		
Checked	M.V.K.N.		Approved - DGM/AGM(SP1)		
Drawn	S.S.V.		Scale	1:100	Date: 01/08/2025
Checked	S.M.P.R.J.		CAD File	D/Hospital Works/Mech	Status
Submitted	S.M.P.R.J.				TEN
Sheet Size	Drawing No.				
A1	CB/AGM/(SP1)/HW/C802.54/2025/MECH/Sl-01b				
					Rev. No.
					-

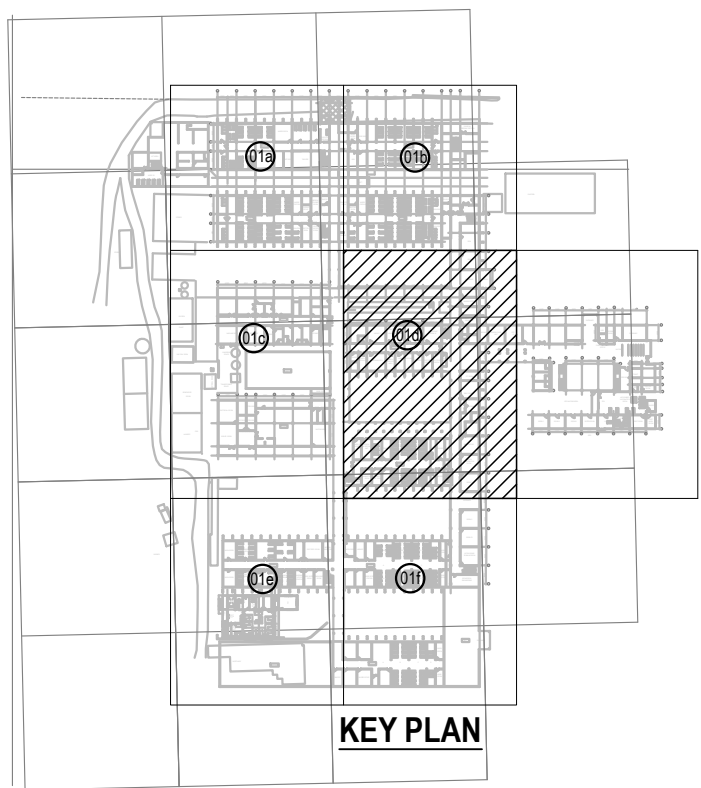
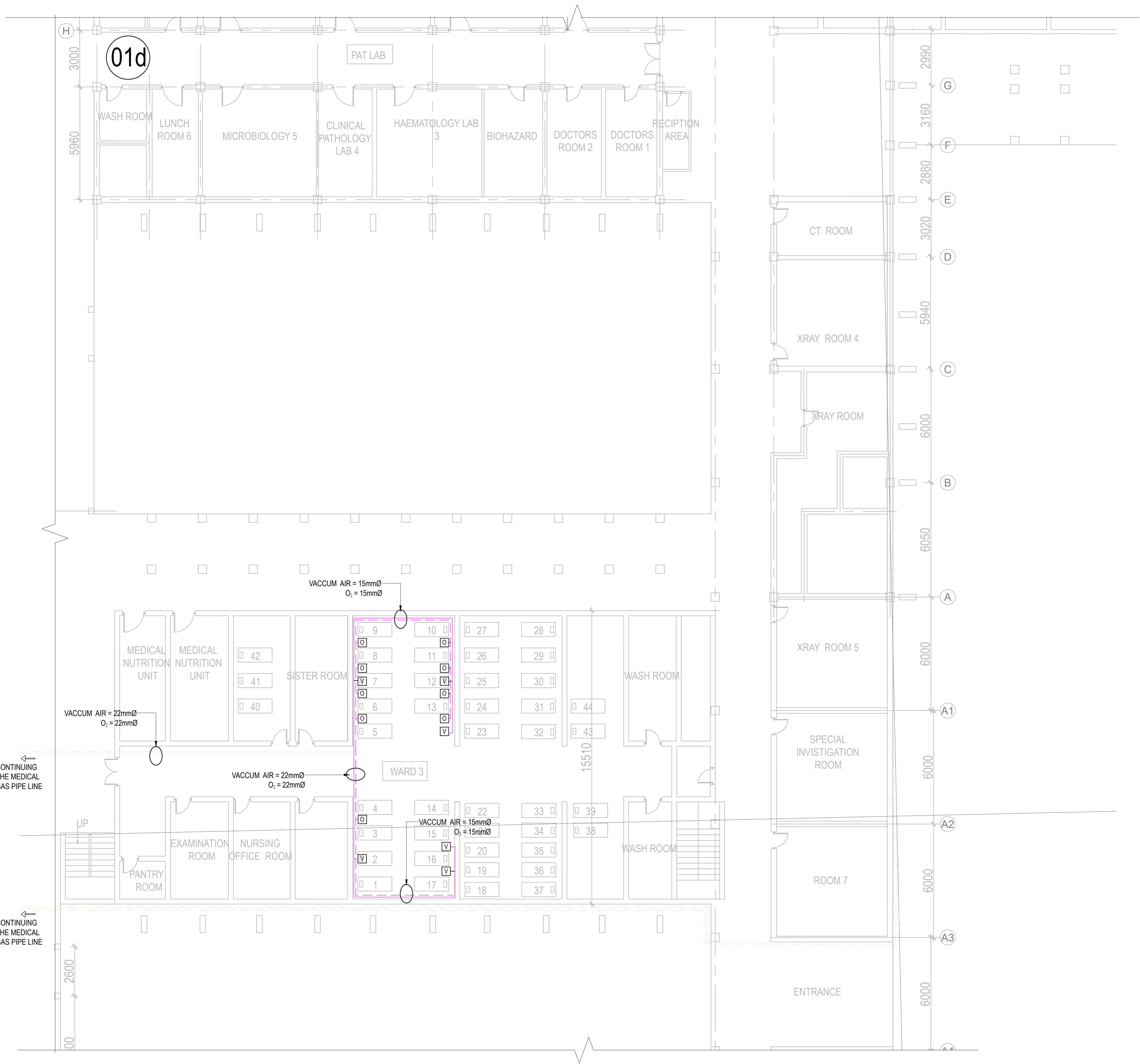




- LEGEND**
- OXYGEN TERMINAL UNIT (O<sub>2</sub>)
  - COMPRESSED MEDICAL AIR TERMINAL UNIT (MA<sub>4</sub>)
  - MEDICAL VACUUM TERMINAL UNIT
  - EXISTING OXYGEN LINE
  - EXISTING VACUUM LINE
  - EXISTING MA<sub>4</sub> LINE
  - PROPOSED OXYGEN LINE
  - PROPOSED VACUUM LINE
  - PROPOSED MA<sub>4</sub> LINE

Rev.	Date	Disd.	Description	On/Id	App'd
THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA					
MINISTRY OF HEALTH					
Project					
TEACHING HOSPITAL PERADENIYA					
PROPOSED PIPED MEDICAL GAS SYSTEM					
Title					
IMPROVEMENT OF MEDICAL GAS SYSTEM FOR WARDS					
GROUND FLOOR (SHEET 3 OF 6)					
<b>CENTRAL ENGINEERING CONSULTANCY BUREAU</b> <b>HOSPITAL WORKS</b>					
Head Office 415, Baudhaloka Mawatha, Colombo-07, Sri Lanka. Tel. 0094-11-2668800, Fax. 0094-11-2687369 E-Mail cecb@stl.lk			Project Office UNIT Tel. -0094-11-2668808 Fax. -0094-11-2668954 E-Mail -hw@cecbst.com		
Designed	M.V.K.N.		Recommended - Senior Consultant(Mechanical)		
Checked	M.V.K.N.		Approved - DGM/AGM(SP1)		
Drawn	S.S.V.		Scale	1:100	Date: 01/08/2025
Checked	S.M.P.R.J.		CAD File	D/Hospitl Works/Mech	Status
Submitted	S.M.P.R.J.				TEN
Sheet Size	Drawing No.				Rev. No.
A1	CB/AGM/(SP1)/HW/C802.54/2025/MECH/SI-01c				-





**LEGEND**

- OXYGEN TERMINAL UNIT (O<sub>2</sub>)
- COMPRESSED MEDICAL AIR TERMINAL UNIT (MA<sub>4</sub>)
- MEDICAL VACUUM TERMINAL UNIT
- EXISTING OXYGEN LINE
- EXISTING VACUUM LINE
- EXISTING MA<sub>4</sub> LINE
- PROPOSED OXYGEN LINE
- PROPOSED VACUUM LINE
- PROPOSED MA<sub>4</sub> LINE

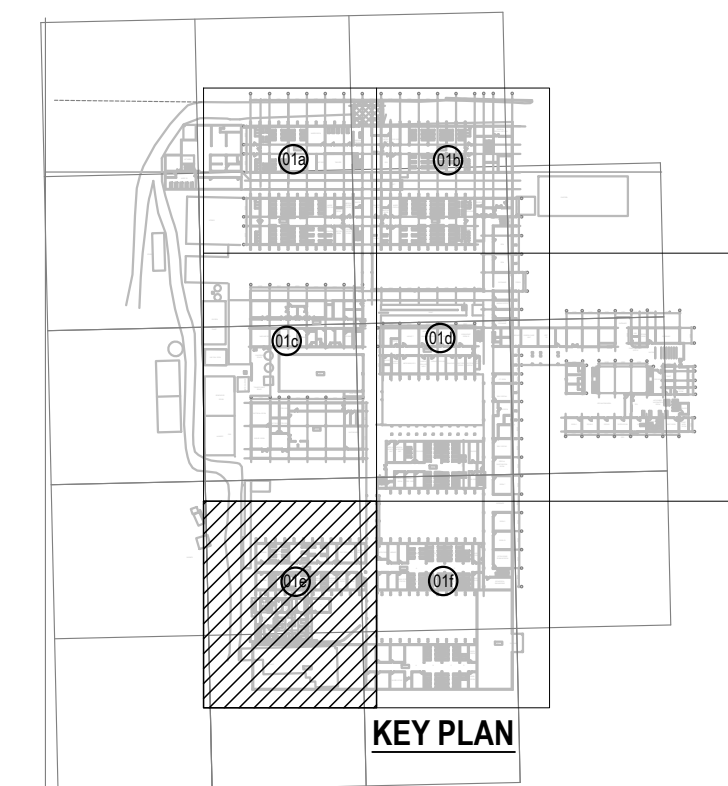
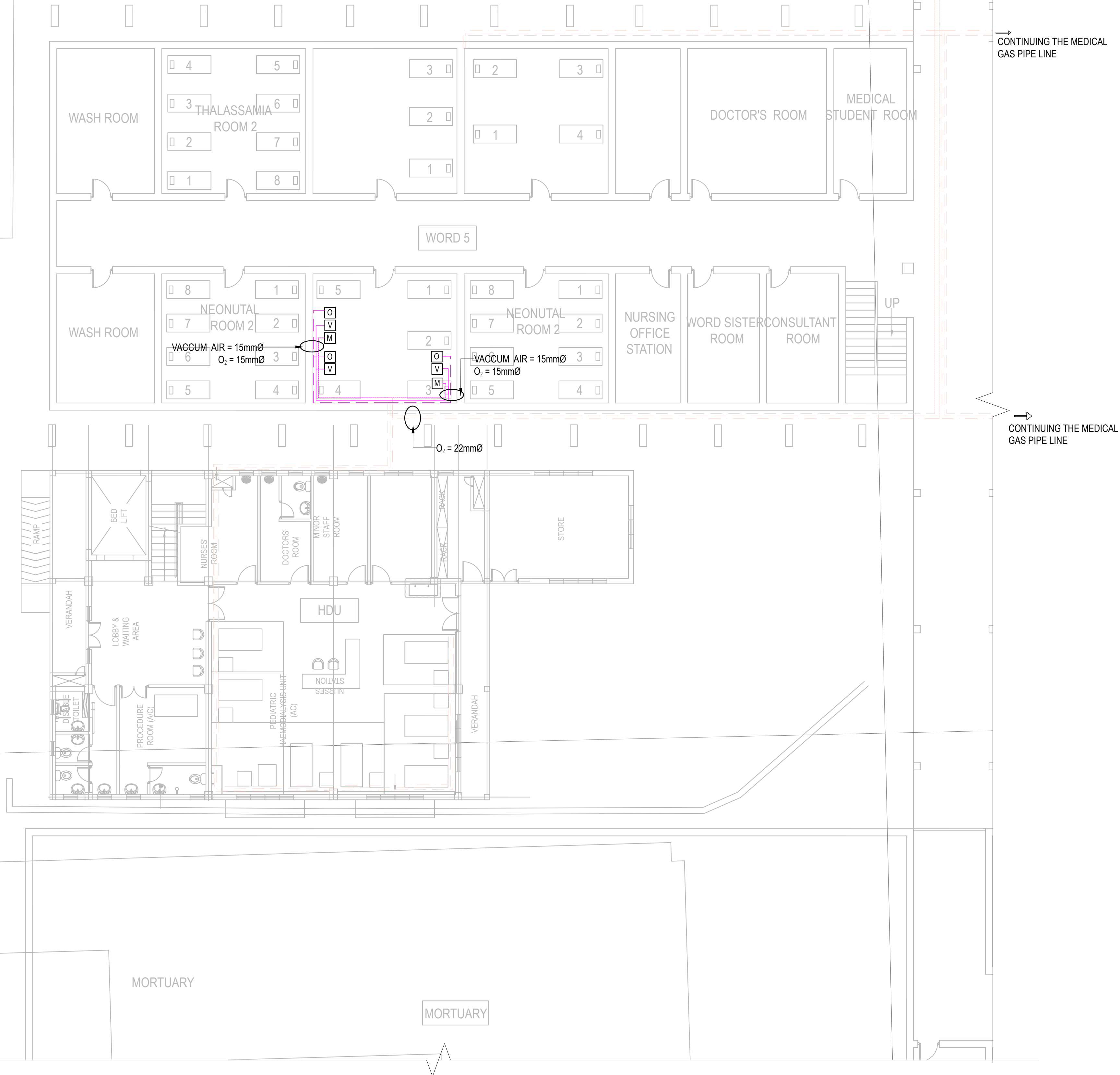
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THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA					
MINISTRY OF HEALTH					
Project					
TEACHING HOSPITAL PERADENIYA					
PROPOSED PIPED MEDICAL GAS SYSTEM					
Title					
IMPROVEMENT OF MEDICAL GAS SYSTEM FOR WARDS					
GROUND FLOOR (SHEET 4 OF 6)					

		<b>CENTRAL ENGINEERING CONSULTANCY BUREAU</b>			
<b>HOSPITAL WORKS</b>					
Head Office		Project Office			
415, Baudhaloka Mawatha,		UNIT			
Colombo-07, Sri Lanka.		-Hospital works			
Tel. 0094-11-2668800, Fax. 0094-11-2687369		Tel. -0094-11-2668808			
E-Mail cecb@sl.lk		Fax. -0094-11-2668954			
		E-Mail -hw@cecb.lk			

Designed	M.V.K.N.	Recommended - Senior Consultant(Mechanical)			
Checked	M.V.K.N.	Approved - DGM/AGM(SP1)			
Drawn	S.S.V.	Scale 1:100 Date: 01/08/2025 Status			
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Submitted	S.M.P.R.J.	CAD File D/Hospital Works/Mech			
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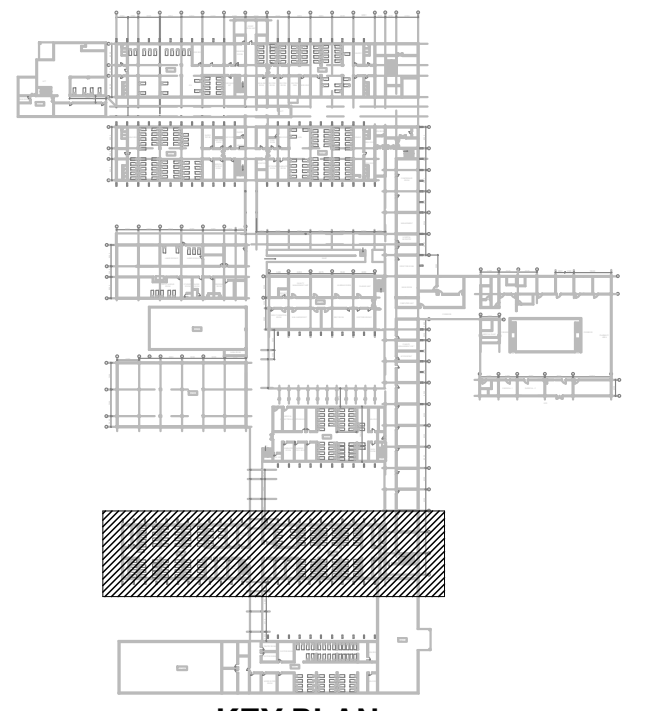
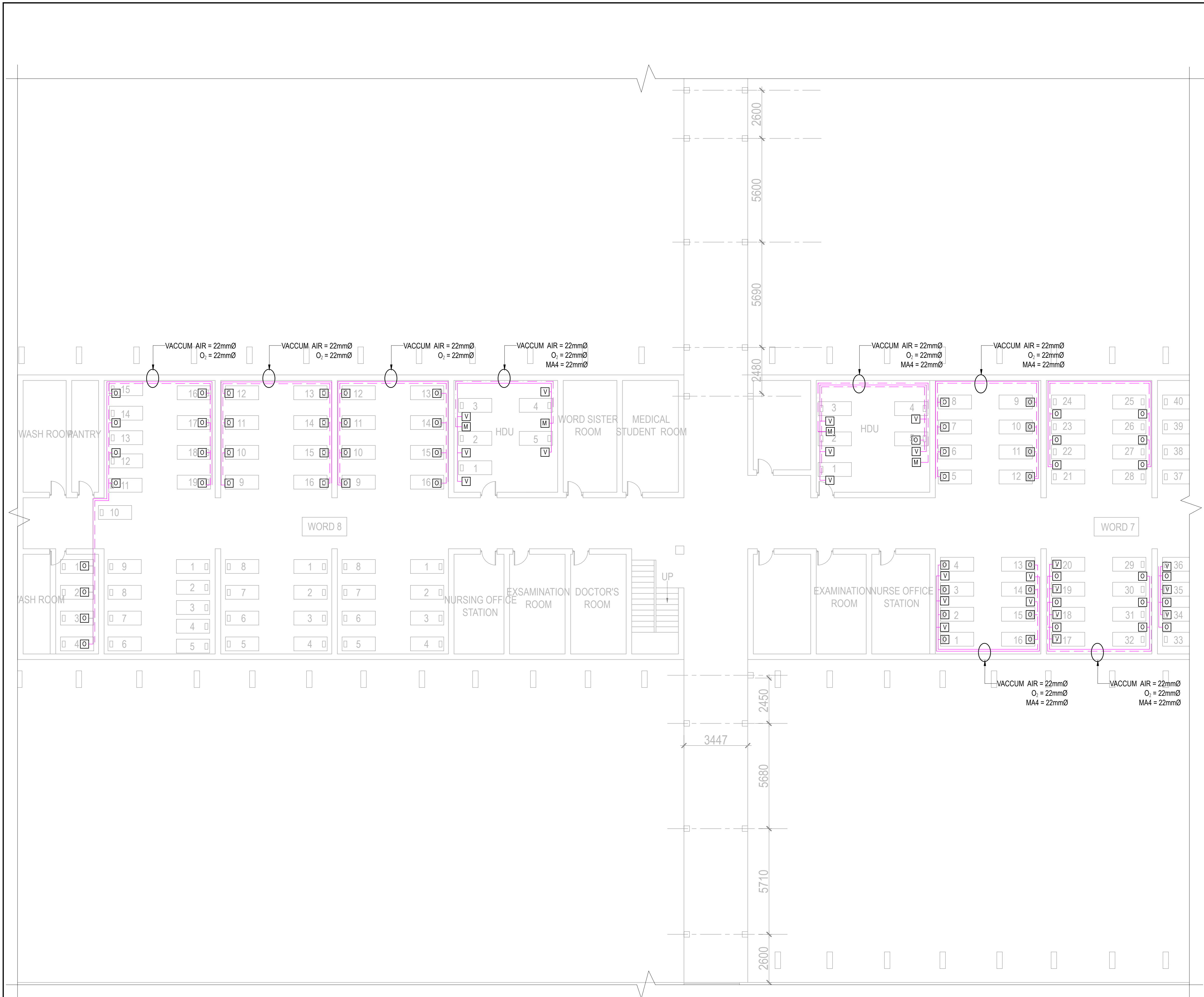
### LEGEND

- OXYGEN TERMINAL UNIT (O<sub>2</sub>)
- COMPRESSED MEDICAL AIR TERMINAL UNIT (MA<sub>4</sub>)
- MEDICAL VACUUM TERMINAL UNIT
- EXISTING OXYGEN LINE
- EXISTING VACUUM LINE
- EXISTING MA<sub>4</sub> LINE
- PROPOSED OXYGEN LINE
- PROPOSED VACUUM LINE
- PROPOSED MA<sub>4</sub> LINE

Rev.	Date	Dist.	Description	Chk'd	App'd
THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA					
MINISTRY OF HEALTH					
Project					
TEACHING HOSPITAL PERADENIYA					
PROPOSED PIPED MEDICAL GAS SYSTEM					
Title					
IMPROVEMENT OF MEDICAL GAS SYSTEM FOR WARDS					
GROUND FLOOR					
(SHEET 5 OF 6)					
<b>CENTRAL ENGINEERING CONSULTANCY BUREAU</b>					
<b>HOSPITAL WORKS</b>					
Head Office			Project Office		
415, Baudhaloka Mawatha,			UNIT		
Colombo-07, Sri Lanka.			-Hospital works		
Tel. 0094-11-2668800, Fax. 0094-11-2687369			Tel. -0094-11-2668808		
E-Mail cecb@stl.lk			Fax. -0094-11-2668954		
			E-Mail -hw@cecbstl.com		
Designed	M.V.K.N.		Recommended - Senior Consultant(Mechanical)		
Checked	M.V.K.N.				
Drawn	S.S.V.		Approved - DGM/AGM(SP1)		
Checked	S.M.P.R.J.		Scale	1:100	Date: 01/08/2025
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KEY PLAN

LEGEND

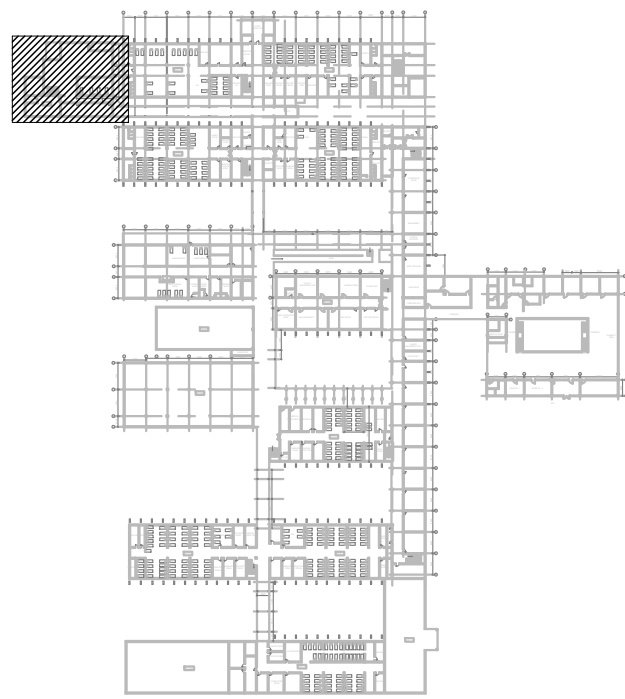
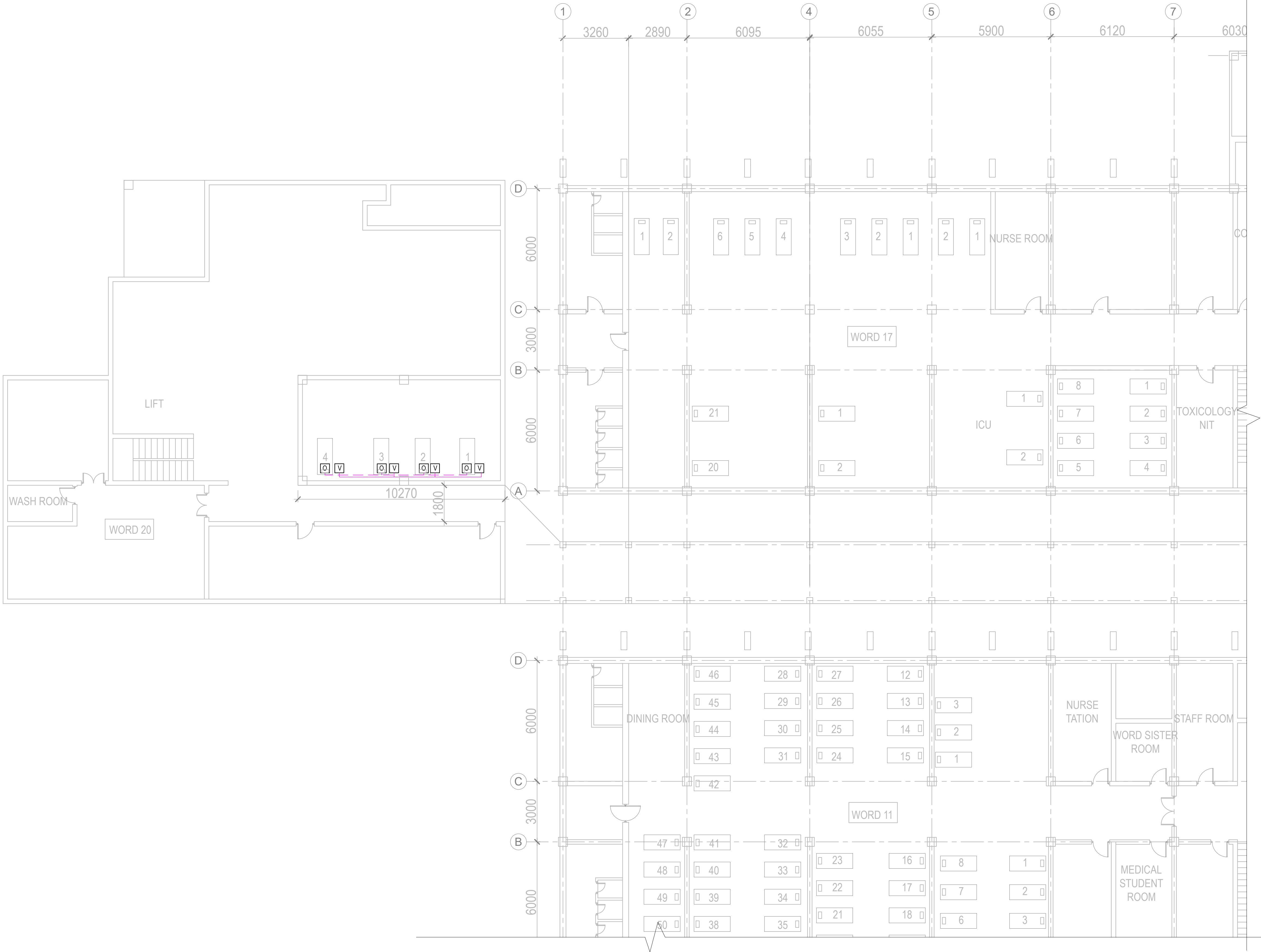
- OXYGEN TERMINAL UNIT (O<sub>2</sub>)
- COMPRESSED MEDICAL AIR TERMINAL UNIT (MA<sub>4</sub>)
- MEDICAL VACUUM TERMINAL UNIT
- EXISTING OXYGEN LINE
- EXISTING VACUUM LINE
- EXISTING MA<sub>4</sub> LINE
- PROPOSED OXYGEN LINE
- PROPOSED VACUUM LINE
- PROPOSED MA<sub>4</sub> LINE


Rev.	Date	Disd.	Description	Chk'd	App'd
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THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA					
MINISTRY OF HEALTH					
Project					
TEACHING HOSPITAL PERADENIYA					
PROPOSED PIPED MEDICAL GAS SYSTEM					
Title					
IMPROVEMENT OF MEDICAL GAS SYSTEM FOR WARDS					
FIRST FLOOR					
(SHEET 1 OF 2 )					

		<b>CENTRAL ENGINEERING CONSULTANCY BUREAU</b>			
<b>HOSPITAL WORKS</b>					
Head Office		Project Office			
415, Baudhaloka Mawatha,		UNIT		-Hospital works	
Colombo-07, Sri Lanka.		Tel.		-0094-11-2668808	
Tel. 0094-11-2668800, Fax. 0094-11-2687369		Fax.		-0094-11-2668954	
E-Mail cecb@stl.lk		E-Mail		-hw@cecbstl.com	

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Checked	M.V.K.N.	Approved - DGM/AGM(SP1)			
Drawn	S.S.V.	Scale	1:100	Date: 01/08/2025	Status
Checked	S.M.P.R.J.	CAD File			TEN
Submitted	S.M.P.R.J.	Di/Hospitals Works/Mech			
Sheet Size	Drawing No.				Rev. No.
A1	CB/AGM/(SP1)/HW/C802.54/2025/MECH/SI-02a				-




KEY PLAN

LEGEND

- OXYGEN TERMINAL UNIT (O<sub>2</sub>)
- COMPRESSED MEDICAL AIR TERMINAL UNIT (MA<sub>4</sub>)
- MEDICAL VACUUM TERMINAL UNIT
- EXISTING OXYGEN LINE
- EXISTING VACUUM LINE
- EXISTING MA<sub>4</sub> LINE
- PROPOSED OXYGEN LINE
- PROPOSED VACUUM LINE
- PROPOSED MA<sub>4</sub> LINE

Rev.	Date	Disd.	Description	Onk'd	App'd

THE DEMOCRATIC SOCIALIST REPUBLIC OF SRI LANKA					
MINISTRY OF HEALTH					
Project					
TEACHING HOSPITAL PERADENIYA					
PROPOSED PIPED MEDICAL GAS SYSTEM					
Title					
IMPROVEMENT OF MEDICAL GAS SYSTEM FOR WARDS					
FIRST FLOOR					
(SHEET 2 OF 2)					

**CENTRAL ENGINEERING CONSULTANCY BUREAU**  
HOSPITAL WORKS

Head Office  
415, Baudhaloka Mawatha,  
Colombo-07, Sri Lanka.  
Tel. 0094-11-2668800, Fax. 0094-11-2687369  
E-Mail cecb@sti.lk

Project Office  
UNIT  
Tel. -0094-11-2668808  
Fax. -0094-11-2668954  
E-Mail -hw@cecbstl.com

Designed	M.V.K.N.		Recommended - Senior Consultant(Mechanical)		
Checked	M.V.K.N.		Approved - DGM/AGM(SP1)		
Drawn	S.S.V.		Scale	1:100	Date: 01/08/2025
Checked	S.M.P.R.J.		CAD File	D/Hospitl Works/Mech	Status
Submitted	S.M.P.R.J.				TEN
Sheet Size	Drawing No.				Rev. No.
A1	CB/AGM/(SP1)/HW/C802.54/2025/MECH/SI-02b				-

## **Section - 9**

### **STANDARD FORMS (BID)**

- *Bidders shall submit the completed Form of Bid Security/Bid Securing Declaration as appropriate in compliance with the requirements of the bidding documents.*

## FORM OF BID SECURITY

.....  
[Insert issuing agency's name and address of issuing branch or office]

**Beneficiary: Director,  
Teaching Hospital,  
Peradeniya.**

**Date**.....[Insert (by issuing agency) date]

**BID GUARANTEE NO.**.....[Insert (by issuing agency) number] We have been informed that ..... [Insert (by issuing agency) name of the bidder](Hereinafter called "**the Bidder**") has submitted to you its bid dated..... [Insert (by issuing agency) date](Hereinafter called "**the Bid**") for execution of "**Improvement of Medical Gas System for Wards, District General Hospital, Peradeniya**", (**Contract No** ..... ) under Invitation for Bids No..... ("**The IFB**").

Furthermore, we understand that, according to your conditions, Bids must be supported by a Bid Guarantee.

At the request of the Bidder, we.....[Insert name of issuing agency] hereby irrevocably undertake to pay you any sum or sums not exceeding in total an amount of ..... [Insert amount on figures] ..... [insert amount in words] upon receipt by us of your first demand in writing accompanied by a written statement stating that the bidder is in breach of its obligation(s) under the bid conditions, because the Bidder:

- (a) has withdrawn its Bid during the period of bid validity specified; or
- (b) does not accept the correction of errors in accordance with the Instructions to Bidders (hereinafter "**the ITB**") or
- (c) having been notified of the acceptance of its Bid by the Employer during the period of bid validity, (i) fails to refuse to execute the Contract Form, if required, or (ii) fails to refuse to furnish a Performance Security, in accordance with the ITB.

This Guarantee shall expire:

- (a) if the Bidder is the successful bidder, upon our receipt of copies of the Contract signed by the bidder and the Performance Security issued to you by the Bidder; or
- (b) If the Bidder is not the successful bidder, upon the earlier of
- (c) Our receipt of a copy of your notification to the Bidder that the bidder was unsuccessful, otherwise it will remain in force up to 28 days beyond the validity of the bid. ( ..... )

Consequently, any demand for payment under this guarantee must be received by us at the office on or before that date.

.....  
[Signature of authorized representative(s)]

### Check List for Bidders

Bidders are advised to fill the following table:

ITEM	ITB Clause	Yes (tick)	REFERENCE
<b>Form of Bid</b>			
Addressed to the Employer?	<b>18</b>		
Completed?	<b>18</b>		
Signed?	<b>18</b>		
<b>Bid securing Declaration form (if required)</b>			
Properly filled and signed	<b>16</b>		
<b>Bid Security (if required)</b>			
Addressed to the Employer?	<b>16</b>		
Format as required?	<b>16</b>		
Issuing Agency as specified?	<b>16</b>		
Amount and currency as requested?	<b>16</b>		
Validity 28 days beyond the validity of Bid ?	<b>16</b>		
<b>Qualification Information</b>			
All relevant information completed?	<b>4</b>		
Signed?	<b>4</b>		
<b>Addendum</b>			
Contents of the addendum (if any) taken in to account?	<b>10</b>		
<b>BID package</b>			
All the documents given in ITB Clause 12 enclosed in the original and copy?	<b>12</b>		
ITB Clause 19 followed before Sealing the Bid Package?	<b>19</b>		



## **Manufacturer's Authorization**

### Manufacturer’s Authorization

[The Bidder shall require the Manufacturer to fill in this Form in accordance with the instructions indicated. This letter of authorization should be on the letterhead of the Manufacturer and should be signed by a person with the proper authority to sign documents that are binding on the Manufacturer. The Bidder shall include it in its Bid, if so indicated in the ITB.]

Date ..... [Date of Bid Submission]

No.: .....

To: **Director,**  
**Teaching Hospital**  
**Peradeniya.**

#### WHEREAS

We ..... [insert complete name of Manufacturer], who are official manufacturers of ..... [insert type of goods manufactured], having factories at ..... [insert full address of Manufacturer’s factories], do hereby authorize ..... [insert complete name of Tenderer] to submit a bid the purpose of which is to provide the following Goods, manufactured by us ..... [insert name and or brief description of the Goods], and to subsequently negotiate and sign the Contract.

Whereby extend our full guarantee and warranty in accordance with Content 6.3 in Specification, with respect to the Goods offered by the above firm.

Signed ..... [insert signature(s) of authorized representative(s) of the Manufacturer]

Name ..... [insert complete name(s) of authorized representative(s) of the Manufacturer]

Title ..... [insert title]

Duly authorized to sign this Authorization on behalf of: [insert complete name of Tenderer]

Dated on                      day of \_\_\_\_\_, \_\_\_\_\_ [insert date of signing]