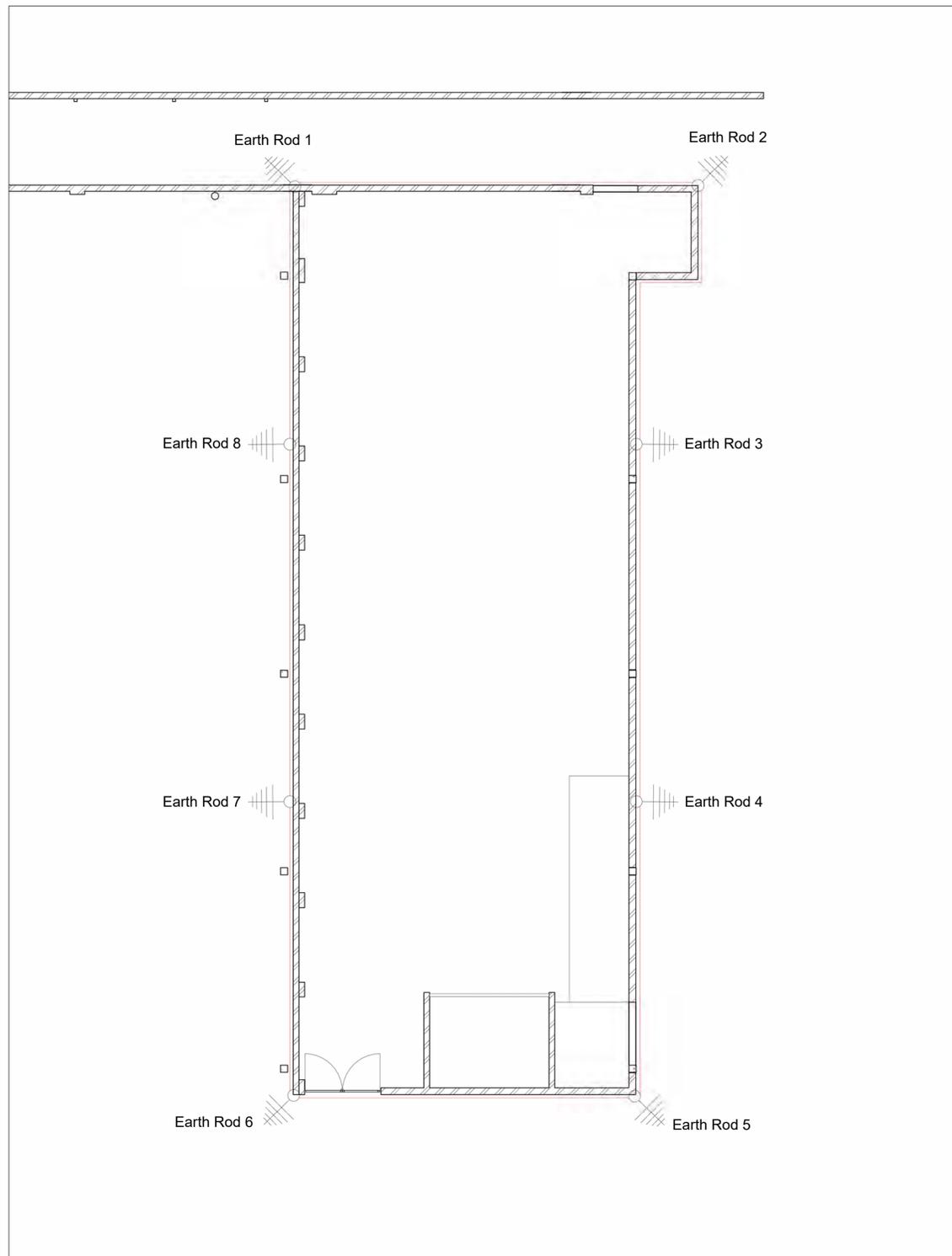


GENERAL NOTES:



Scale 1: 160

Figure 2: Laundry Lightning Protection Layout

GENERAL NOTES:

1. ROOF SHEETING AND ASSOCIATED STRUCTURES SHALL GENERALLY BE USED AS THE AIR TERMINATION SYSTEM, EXCEPT AS SPECIFICALLY NOTED ON THE DRAWING. DISCRETE AIR TERMINATION CONDUCTORS TO BE SOFT ANNEALED ALUMINIUM (1350 ALLOY) $\geq 70\text{mm}^2$ UNLESS SPECIFICALLY INDICATED OTHERWISE ON DRAWING. ALL DISCRETE AIR TERMINATION CONDUCTORS TO BE INSTALLED $< 100\text{mm}$ FROM ROOF/PARAPET OUTER EDGE.
2. ROOF MOUNTED CABLE TRAYS, METALLIC COMPONENTS AND OTHER INFRASTRUCTURE TO BE BONDED TO THE IMMEDIATELY ADJACENT AIR TERMINATION SYSTEM USING SOFT ANNEALED ALUMINIUM (1350 ALLOY) $\geq 70\text{mm}^2$ UNLESS SPECIFICALLY INDICATED OTHERWISE ON DRAWING.
3. DISCRETE DOWN CONDUCTORS TO BE SOFT ANNEALED ALUMINIUM (1350 ALLOY) $\geq 25\text{mm}^2$ (USE $70\text{mm}^2/8\text{mm} \varnothing$) UNLESS SPECIFICALLY INDICATED OTHERWISE ON DRAWING.
4. ALL MOUNTING SADDLES AND INSTALLATION METHODOLOGY FOR DISCRETE AIR TERMINATION, DOWN CONDUCTOR AND OTHER BONDING CONDUCTORS TO BE APPROVED BY THE ENGINEER.
5. ALL ROD EARTH ELECTRODES TO BE IN ACCORDANCE WITH SANS 1063, LENGTH AS SPECIFIED ON DRAWING (DEFAULT LENGTH 6000mm UNLESS OTHERWISE SPECIFIED). TOP OF EARTH ROD TO BE $\geq 500\text{mm}$ BELOW FINISHED GROUND LEVEL IF INSTALLED IN SOIL.
6. ALL TRENCH EARTH ELECTRODES TO BE 70mm^2 GALVANISED STEEL STRANDED CONDUCTOR INSTALLED $\geq 500\text{mm}$ BELOW FINISHED GROUND LEVEL UNLESS OTHERWISE SPECIFIED.
7. SUITABLE MARKERS TO BE APPROVED BY THE ENGINEER TO BE INSTALLED AT ALL DISCRETE EARTH ELECTRODES.
8. ALL METAL STRUCTURES AND PLANT INFRASTRUCTURE TO BE MADE GALVANICALLY CONTINUOUS AND BONDED TO THE EARTH ELECTRODE SYSTEM. ALL EQUIPMENT TO BE BONDED TO METAL STRUCTURES/EARTHING SYSTEM. NOTE THAT NOT ALL REQUIRED DISCRETE BONDS ARE SHOWN ON THE DRAWING, DUE TO THE DRAWING RESOLUTION/SCALE.
9. APPROVED CONDUCTOR TYPES, MATERIAL AND DIMENSIONS TO BE AS SPECIFIED ON THE DRAWING, OR IF NOT SPECIFIED IN ACCORDANCE WITH THE CONDUCTOR DEFINITIONS IN THE GENERAL NOTES AND SPECIFICATIONS DRAWING. ANY DEVIATION TO BE SPECIFICALLY APPROVED BY THE ENGINEER.
10. LIGHTNING PROTECTION SYSTEM TO BE COMPLIANT WITH THE REQUIREMENTS OF SANS 10313:2008 AND THIS DRAWING/DOCUMENT. IN THE EVENT OF A CONFLICT, SPECIFIC REQUIREMENTS OF THIS DRAWING SHALL BE SUPERCEDING.
11. EQUIPOTENTIALISATION IS A KEY PRINCIPLE BEHIND THE LIGHTNING PROTECTION STRATEGY AND DESIGN FOR THE SITE. EQUIPOTENTIALISATION AT GROUND LEVEL CAN BE ACHIEVED THROUGH THE USE OF NATURAL COMPONENTS SUPPLEMENTED WITH THE USE OF DISCRETE CONDUCTORS AS REQUIRED (E.G. AT GALVANIC DISCONTINUITIES AND BETWEEN STRUCTURES).
12. LIGHTNING PROTECTION ZONES SHALL BE ESTABLISHED AND MANAGED AS PER THE PRINCIPLES SET OUT IN THIS DRAWING/DOCUMENT AND THE GENERAL NOTES AND SPECIFICATIONS DRAWING. IT IS IMPORTANT TO MANAGE THE ZONE BOUNDARIES, FOR EXAMPLE IN RESPECT OF GROUNDING OF GROUNDABLE CONDUCTORS (INCLUDING ARMOURING), INSTALLATION OF SURGE PROTECTIVE DEVICES SPDs, ETC AT OR AS CLOSE AS POSSIBLE TO THE ZONE BOUNDARIES.
13. UNLESS OTHERWISE SPECIFIED, THE FOLLOWING BONDING METHODS ARE ACCEPTABLE (IN ORDER OF DECREASING PREFERENCE):
 - EXOTHERMIC WELDING (OR ARC OR OTHER WELDING WHERE SPECIFICALLY SPECIFIED)
 - CRIMPING
 - BOLTING OR CLAMPING
 EXOTHERMIC WELDING IS GENERALLY PREFERRED DUE TO THE SOUND ELECTRICAL CONNECTION ACHIEVED, AND THE RESISTANCE TO CORROSION. IT SHALL THEREFORE BE USED IN PREFERENCE TO ALL OTHER METHODS, AND MUST BE USED FOR BURIED BONDS. WELDING OF ANY NATURE TO REBAR IS NOT PERMITTED.
14. FIXED EARTHING TERMINAL AS PER SITE WIDE DRAWING. EXACT SIZE AND DETAIL DESIGN OF FIXED EARTHING TERMINAL TO ALLOW FOR PRACTICAL CONNECTION ON SITE AND TO BE APPROVED BY ENGINEER PRIOR TO MANUFACTURE/PROCUREMENT AND INSTALLATION.

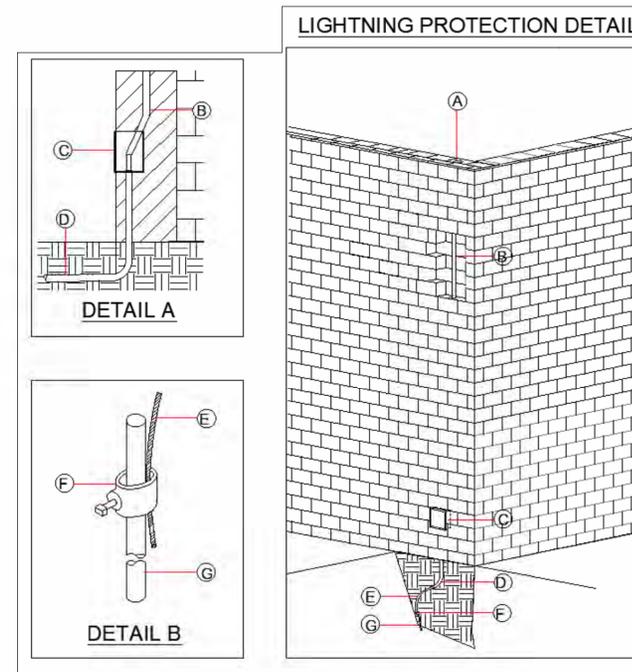
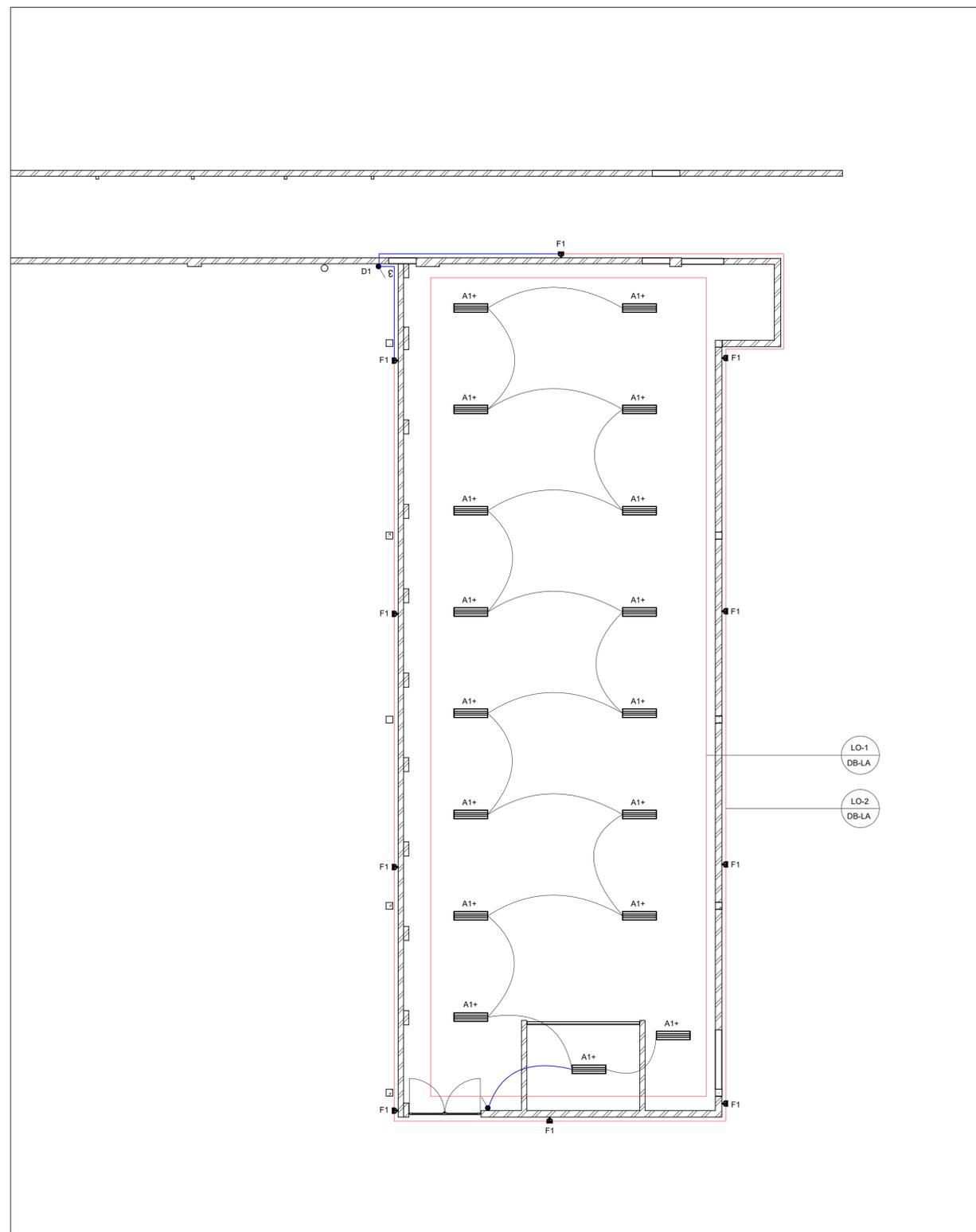


Figure 1: Lightning Protection Legend



NGWELEZANA NEW ONCOLOGY UNIT
KZN-ONCO-19-LAUNDRY LIGHTNING PROTECTION LAYOUT





Scale 1: 160

Figure 2: Laundry Lighting Layout

GENERAL NOTES:

IMPORTANT INFORMATION

- A. This drawing is issued ONLY for the SERVICE INDICATED IN THE TITLE BLOCK.
- B. The electrical contractor shall be responsible for co-ordination of this installation.
- C. Installation shall be undertaken in strict accordance with the STANDARD SPECIFICATION: SECTION B.
- D. The information given hereunder has been abstracted from the above and is provided or ease of reference, but in non way does it replace the contents of Section B.

OUTLETS AND LUMINAIRE

- 1. OULET REFERENCE USED IN SCHEDULE OF OUTLETS AND DRAWINGS.**
Outlet & Circuit: The prefix combination of capital letters & numeral(s) of an outlet refers to the distribution boards (DB) from which it is fed. The next numeral(s) indicates the circuit number and subsequent ones. [eg: 2BE3.7=outlet 7 on circuit 3 fed from DB-2BE.]

CATAGORIES AND MOUNTING HIGHTS

- 2. LUMINAIRE REFERENCE USED IN SCHEDULE OF OUTLETS AND DRAWINGS**
 The lowercase letter indicated in the luminaire column of the schedule of outlets refers to the type of fitting specified on the luminaire schedule.

3. MOUNTING HEIGHTS-UNLESS SPEIFIED

All mounting heights shall be finished floor to bottom. Switches: 1400mm generally, Socket outlets: 300mm generally (1400mm factories, 1400mm kitchen/domestic/commercial). Distribution boards: generally door head height OR 2000mm where no surface reference exists.

ABBREVIATIONS

- 4. Abbreviations**
 SSO-Switched Socket Outlet; SO-Socket outlet(unswitched)
 DUO-double Switched Socket in one outlet box, AFFL-Above finished floor level, cct-circuit, DB- distribution board
 Tel-Telephone, A-Amp, V-Volt, SP-Single pole, DP-double pole
 TP-Tripole, ESS- Essential Supply ; dwg-drawing

WIRE SIZES

Type of Circuit	Conductor Size
Lighting	2.5mm ²
Socket outlet -16A	4mm ²
Heater/geyser to 4kW	4mm ²
Stoves up to 12kW	6mm ²
Isolators up to 40A	4mm ²

SANS 10400-XA:2021 Edition 2. Table 12

Occupancy Classification	Occupancy Description	Lighting Power density W/m ²
E2	Hospital	8
E3	Institutional Residences	8
E4	Health Care	8

- Indicates Switching ————
- Indicates Circuiting ————
- Circuit Naming 

Proposed DoH Lighting Legend No 2

Image	Circuit Symbol	Description
	C1.1	5w LED Dimmable Downlight Unit, 5 Year Warranty.
	T1	12 x 3w Treatment RM Examination Light, 5 Year Warranty.
	XR	X-ray in use light

Proposed DoH Lighting Legend No. 1

Image	Circuit Symbol	Description
	A1+	Fluorescent recessed cans with full plastic cover and secure fasteners. Fluorescent Fitting T8 2 x 58w with Prismatic Diffuser with emergency light. 5 year warranty.
	B1	1200x600 LED Backlit Panel, 3x36w, 5500lm, 4000K, Flicker Free, Non Dimmable. Includes 3m 5 amp Cordset. 5 Year Warranty.
	C1	12v High Performance Non-Dimmable Downlight, 4000K, 1320lm, 110lm/W, IP44, 5 Year Warranty.
	F1	100w Adjustable IP65 LED Floodlight, Salt Spray tested Coastal Quality, 130lm/W, 4000K, Black, 5 Year Warranty.
	3 D1	Daynight Switch.
		Light Switch & Rotary Dimmer

Figure 1: Lighting Legend



NGWELEZANA NEW ONCOLOGY UNIT

KZN-ONCO-20-LAUNDRY LIGHTING LAYOUT



