



DISTRIBUTION CONSTRUCTION STANDARDS

Date Published: 14 May 2020

PART 10 - SUBSTATIONS

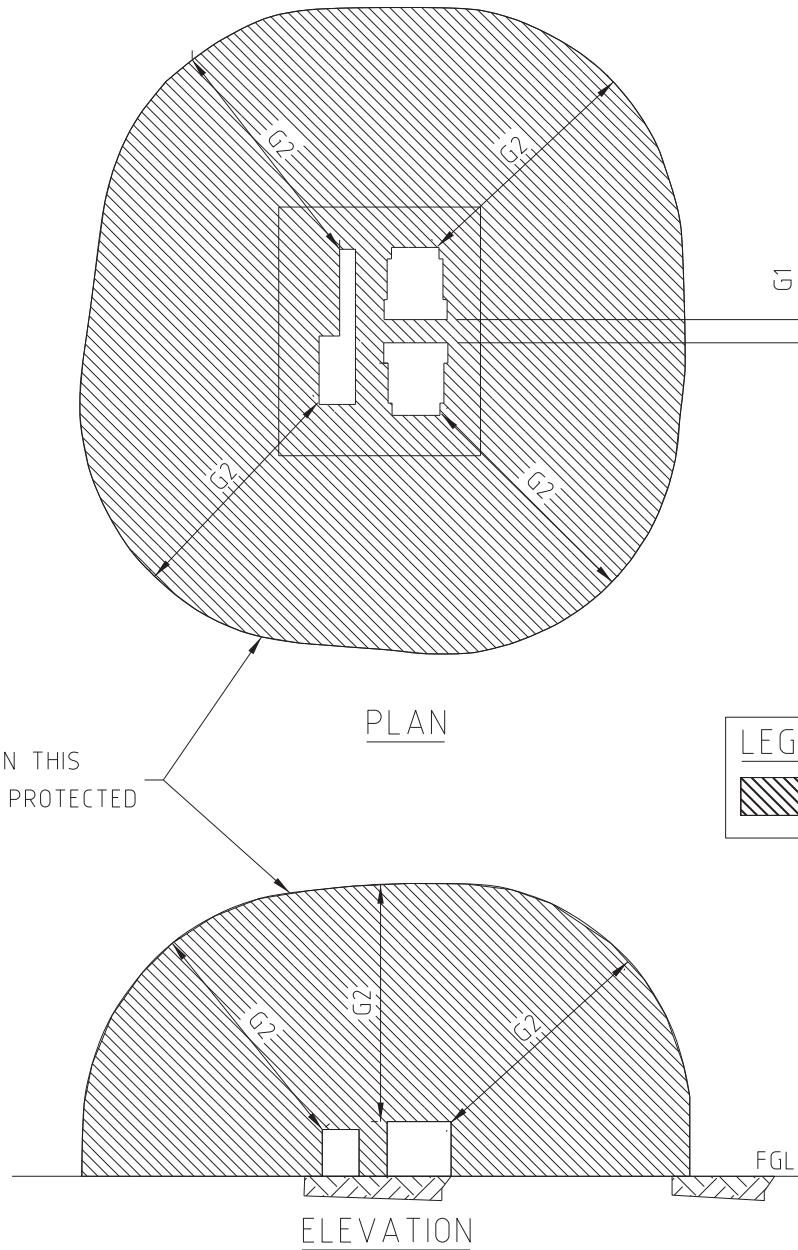
G5 – SUBSTATION FIRE PROTECTION REQUIREMENT

For application to
Horizon Power
Electricity Distribution Networks

G5 - DISTRIBUTION SUBSTATION FIRE PROTECTION REQUIREMENT – Drawing Register

Number	Description
G5-1	Case 1 – Isolated Substation – Totally Non Fire Rated Industrial and Commercial Areas
G5-2	Case 2 – Isolated Substation – Open Top, Non Fire Rated Doors – 2 Hr Fire Rated Walls – Industrial and Commercial Areas
G5-3	Case 3 – Adjacent Substation – Totally Non Fire Rated – Industrial and Commercial Areas
G5-4	Case 4 – Attached or Adjacent Substation Non Fire Rated Doors and Vents 2 Hr Fire Rated Walls and Roof – Industrial and Commercial Areas
G5-5	Case 5 – Indoor Substation with Public Access Over – Industrial and Commercial Areas
G5-6	Case 6 – Isolated Substation Totally Non Fire Rated (Up to 1000kVA) – Residential Areas

LITRES	G1	G2
≤ 1000	1000	6000
> 1000 ≤ 2000	3000	7500
> 2000 ≤ 20000	5000	10000



NO OTHER STRUCTURES IN THIS ZONE UNLESS 2 HR FIRE PROTECTED

LEGEND

 FIRE RISK ZONE

NOTE :

1. THIS DRAWING IS INDICATIVE ONLY. FOR SPECIFIC EQUIPMENT REQUIREMENTS REFER TO APPROPRIATE SECTION OF DISTRIBUTION CONSTRUCTION STANDARD. FIRE RISK ZONE SHALL BE CALCULATED FROM THE OUTER POINT OF ALL ELECTRICAL EQUIPMENT WITH SUBSTATION AREA.
2. VALUES FOR FIRE RISK ZONES OBTAINED FROM AS2067.

THIS DRAWING TO BE READ IN CONJUNCTION WITH THE DISTRIBUTION DESIGN RULES - HPC-9DJ-01-0002-2015.



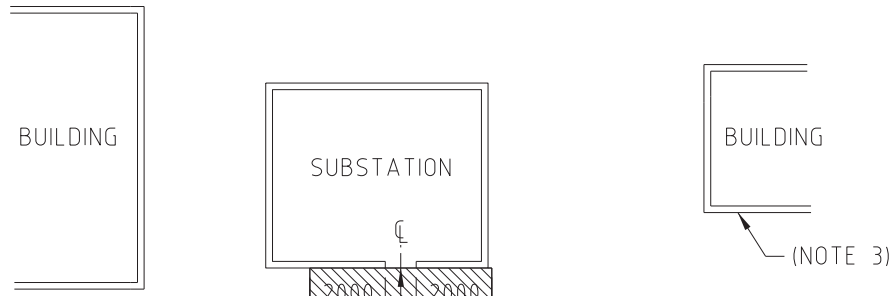
DISTRIBUTION CONSTRUCTION STANDARDS

**CASE 1 - ISOLATED SUBSTATION
TOTALLY NON FIRE RATED
INDUSTRIAL AND COMMERCIAL AREAS**

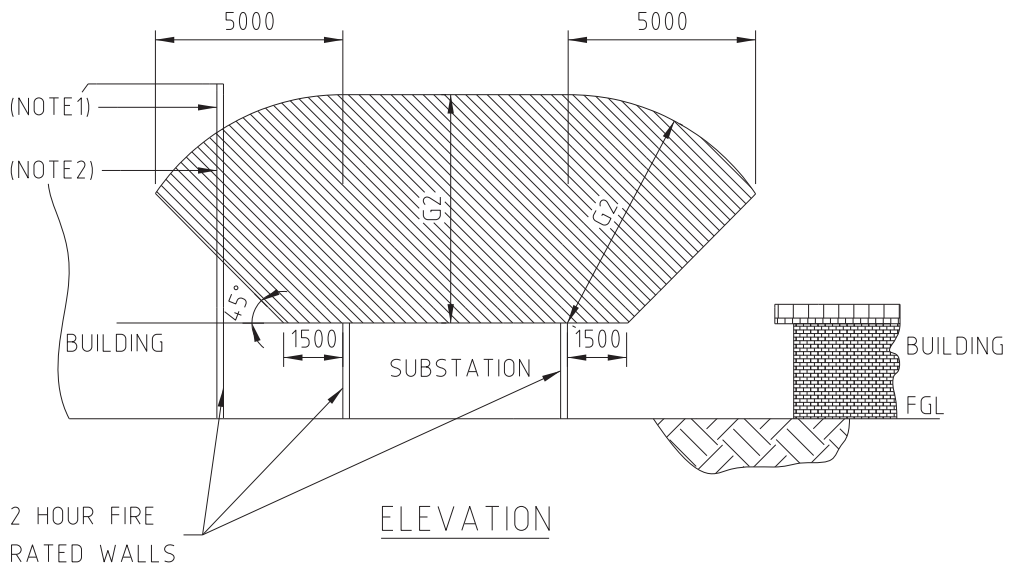
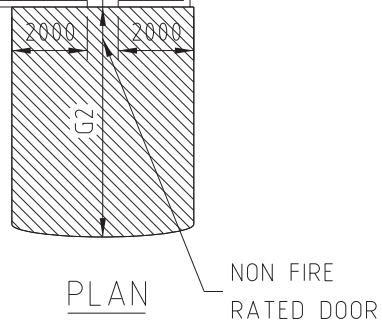
REVISION A	DATE JULY 18
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DRAWING No.

G5-01



LITRES	G1	G2
≤ 1000	1000	6000
> 1000 ≤ 2000	3000	7500
≤ 1000	5000	10000



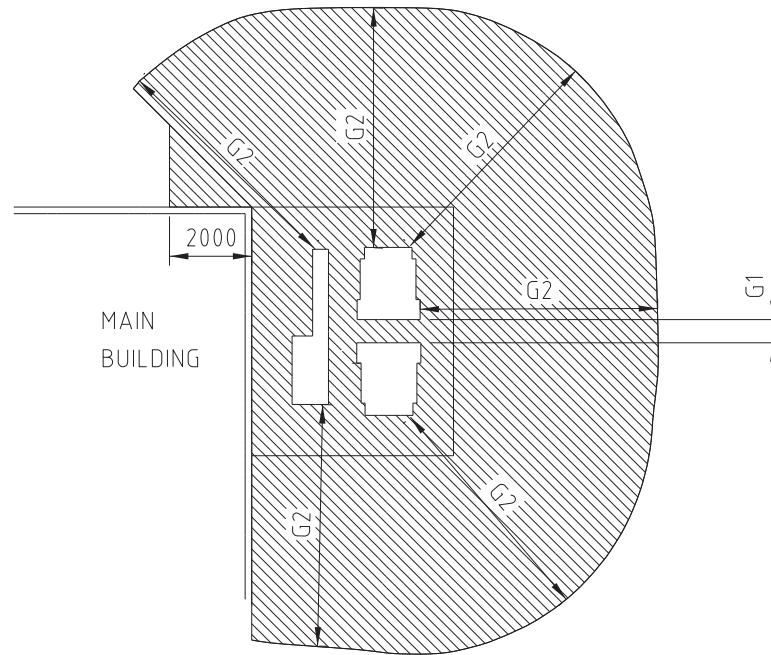
LEGEND	
	FIRE RISK ZONE

- NOTE :
1. WINDOWS etc, ONLY PERMITTED OUTSIDE OF FIRE RISK ZONE.
 2. WALLS, ROOF etc, WITHIN FIRE RISK ZONE MUST BE 2 HOUR FIRE RATED.
 3. NO SPECIAL TREATMENT REQUIRED AS OUTSIDE FIRE RISK ZONE.
 4. THIS DRAWING IS INDICATIVE ONLY, FOR SPECIFIC EQUIPMENT REQUIREMENTS REFER TO APPROPRIATE SECTION OF DISTRIBUTION CONSTRUCTION STANDARD.
 5. VALUES FOR FIRE RISK ZONES OBTAINED FROM AS2067.

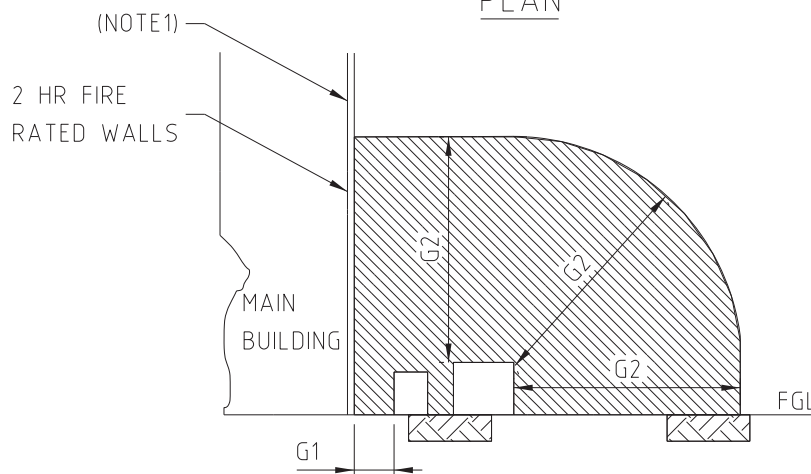
THIS DRAWING TO BE READ IN CONJUNCTION WITH THE DISTRIBUTION DESIGN RULES - HPC-9DJ-01-0002-2015.

 DISTRIBUTION CONSTRUCTION STANDARDS	CASE 2 - ISOLATED SUBSTATION OPEN TOP, NON -FIRE RATED DOORS 2 HR FIRE RATED WALLS INDUSTRIAL & COMMERCIAL AREAS	REVISION	DATE
		A	JULY 18
		DRAWING No.	
		G5-02	

LITRES	G1	G2
≤ 1000	1000	6000
> 1000 ≤ 2000	3000	7500
> 2000 ≤ 20000	5000	10000



PLAN



ELEVATION

LEGEND

 FIRE RISK ZONE

NOTE :

1. WINDOWS etc, ONLY PERMITTED OUTSIDE OF FIRE RISK ZONE.
2. THIS DRAWING IS INDICATIVE ONLY, FOR SPECIFIC EQUIPMENT REQUIREMENTS REFER TO APPROPRIATE SECTION OF DISTRIBUTION CONSTRUCTION STANDARD.
3. VALUES FOR FIRE RISK ZONES OBTAINED FROM AS2067.

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DISTRIBUTION CONSTRUCTION STANDARDS

CASE 3 - ADJACENT SUBSTATION
TOTALLY NON FIRE RATED
INDUSTRIAL AND COMMERCIAL AREAS

REVISION A	DATE JULY 18
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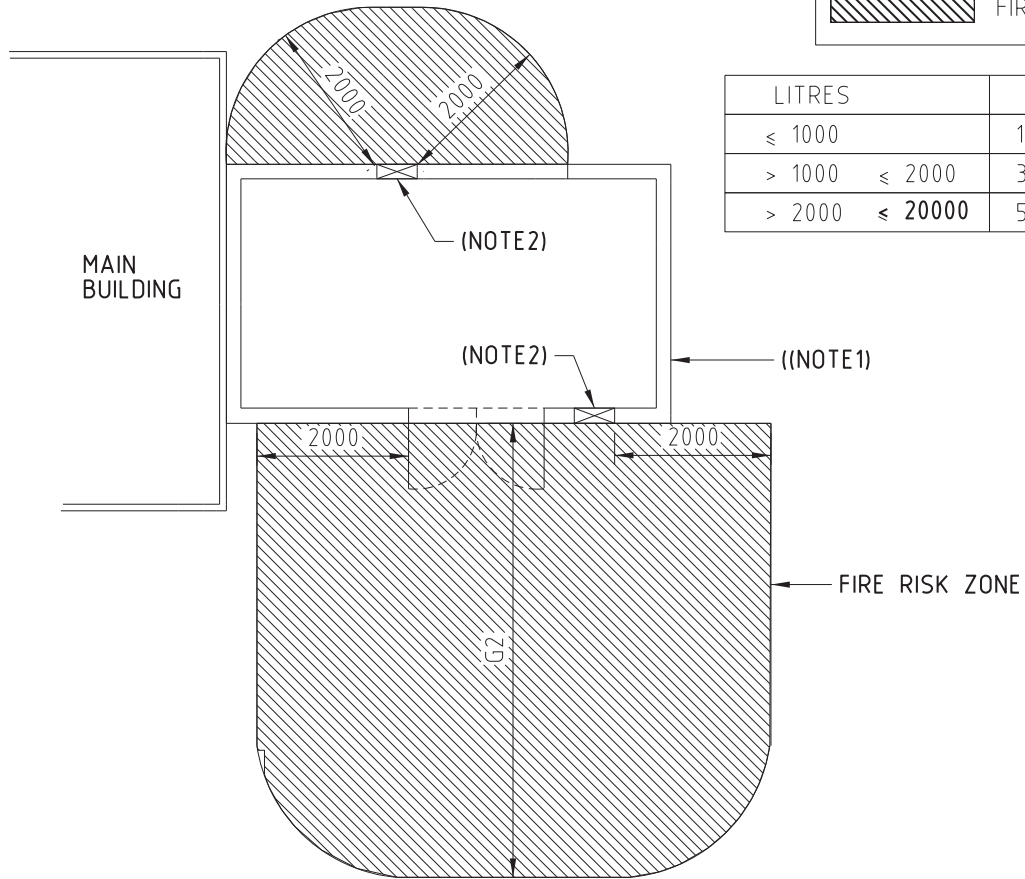
DRAWING No.

G5-03

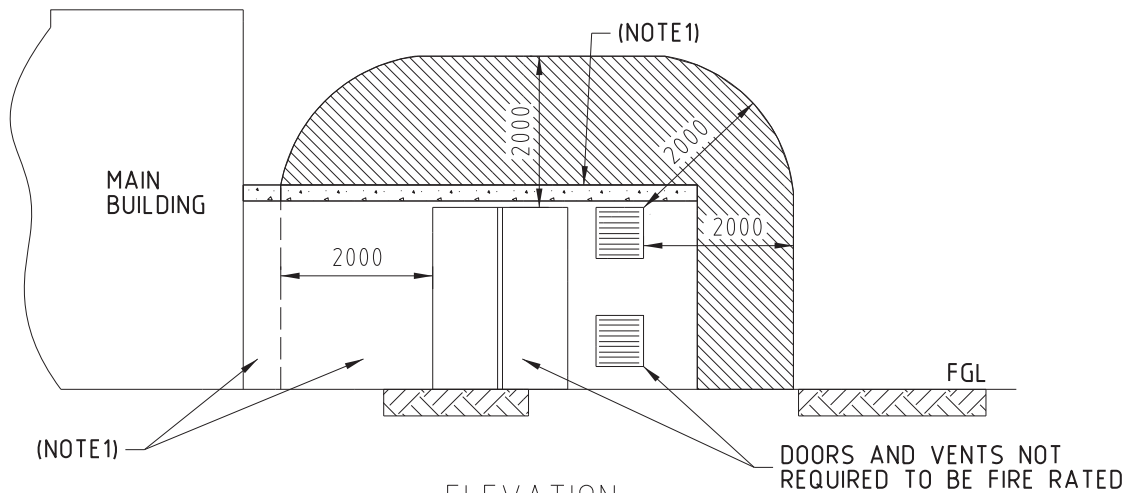
LEGEND



LITRES	G1	G2
≤ 1000	1000	6000
> 1000 ≤ 2000	3000	7500
> 2000 ≤ 20000	5000	10000



PLAN



ELEVATION

NOTE :

1. WALLS, ROOF etc, WITHIN FIRE RISK ZONE MUST BE 2 HOUR FIRE RATED.
2. 600 X 600 WIDE FIRE DAMPERED VENT AT HIGH AND LOW LEVELS.
3. THIS DRAWING IS INDICATIVE ONLY, FOR SPECIFIC EQUIPMENT REQUIREMENTS REFER TO APPROPRIATE SECTION OF DISTRIBUTION CONSTRUCTION STANDARD.
4. VALUES FOR FIRE RISK ZONES OBTAINED FROM AS2067.
5. AUTOMATIC FIRE SUPPRESSION SYSTEMS SHOULD BE CONSIDERED FOR TRANSFORMERS WITH > 1000 L OF OIL.

THIS DRAWING TO BE READ IN CONJUNCTION WITH THE DISTRIBUTION DESIGN RULES - HPC-9DJ-01-0002-2015.



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CASE 4 - ATTACHED OR ADJACENT SUBSTATION NON FIRE RATED DOORS AND VENTS 2 HR FIRE RATED WALLS AND ROOF INDUSTRIAL & COMMERCIAL AREAS

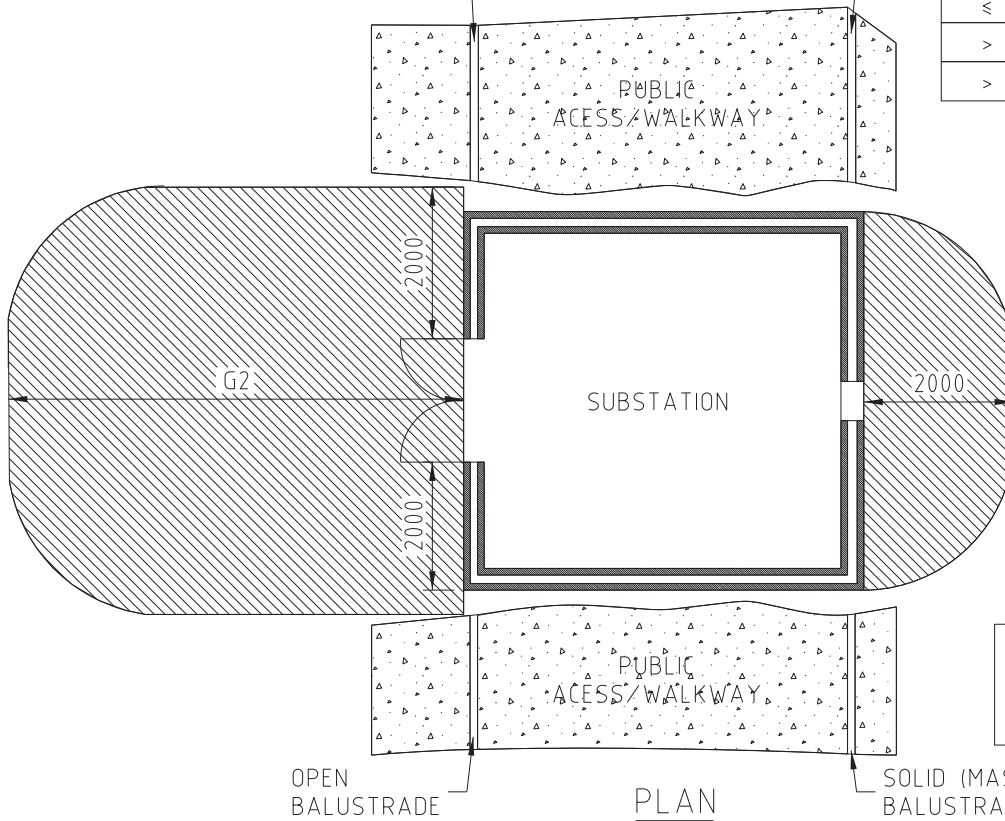
REVISION A DATE JULY 18

DRAWING No. G5-04

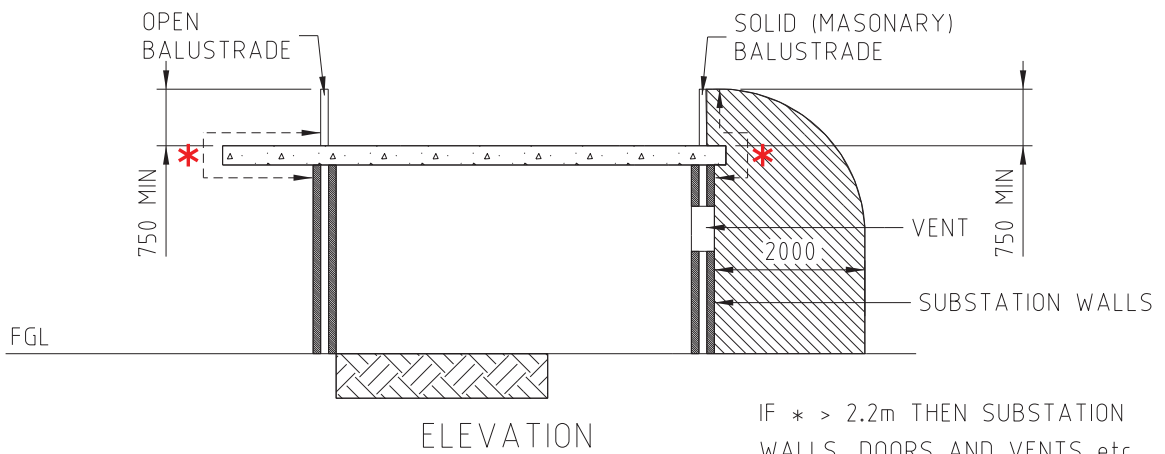
OPEN BALUSTRADE

SOLID (MASONRY) BALUSTRADE

LITRES	G1	G2
≤ 1000	1000	6000
> 1000 ≤ 2000	3000	7500
> 2000 ≤ 20000	5000	10000



LEGEND	
	FIRE RISK ZONE



IF * > 2.2m THEN SUBSTATION WALLS, DOORS AND VENTS etc DO NOT REQUIRE 2 HR FIRE RATING
 IF * < 2.2m THEN SUBSTATION WALLS MUST BE 2 HR FIRE RATED

NOTE :

1. THIS DRAWING IS INDICATIVE ONLY. FOR SPECIFIC EQUIPMENT REQUIREMENTS REFER TO APPROPRIATE SECTION OF DISTRIBUTION CONSTRUCTION STANDARD.
2. VALUES FOR FIRE RISK ZONES OBTAINED FROM AS2067.
3. AUTOMATIC FIRE SUPPRESSION SYSTEMS SHOULD BE CONSIDERED FOR TRANSFORMERS WITH > 1000 L OF OIL.

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DISTRIBUTION CONSTRUCTION STANDARDS

CASE 5 - INDOOR SUBSTATION WITH PUBLIC ACCESS OVER INDUSTRIAL AND COMMERCIAL AREAS

REVISION A	DATE JULY 18
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DRAWING No.

G5-05

