



# DISTRIBUTION CONSTRUCTION STANDARDS

*Date Published: 12 November 2021*

## PART 10 - SUBSTATIONS G3 DISTRIBUTION SUBSTATION LAYOUTS

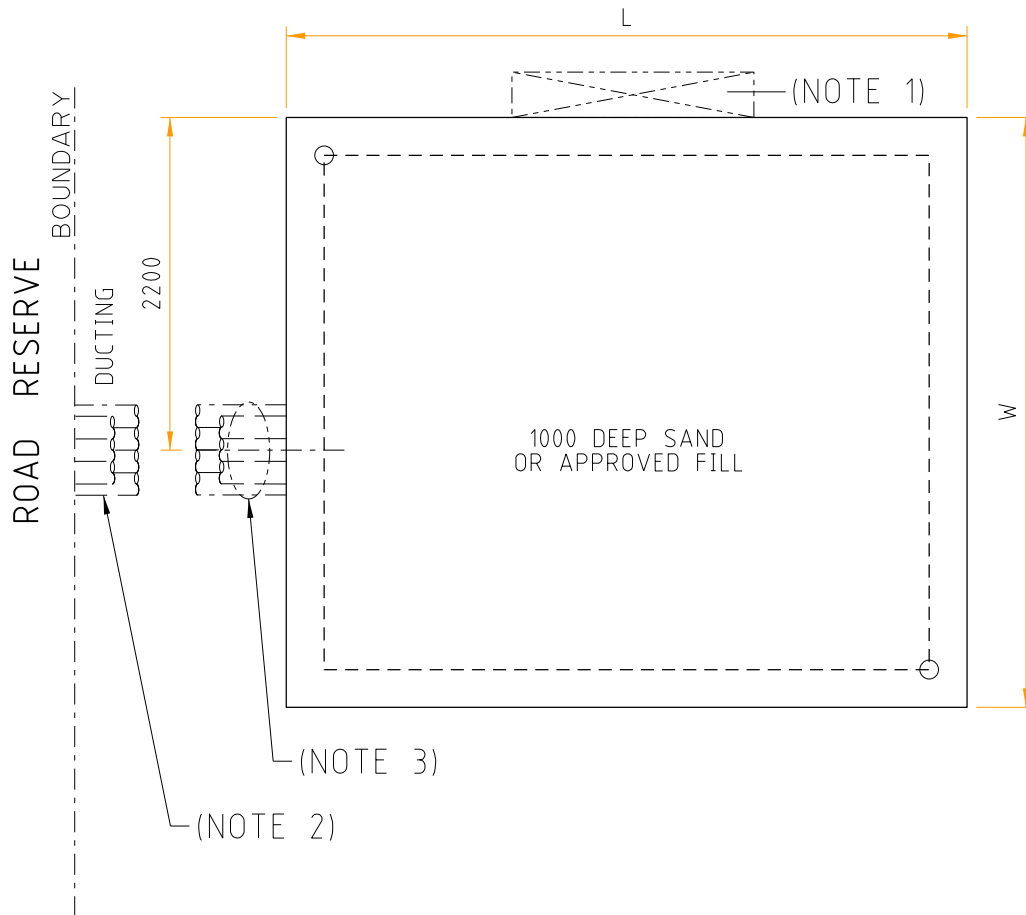
For application to  
Horizon Power  
Electricity Distribution Networks

## G3 District Substation Layout

Number	Description
<a href="#">G3-01</a>	District Substation Up to 630kVA (MPS) Non Fire Rated – Without MV Switchgear
<a href="#">G3-02</a>	District Substation Up to 630kVA (MPS) Non Fire Rated – With MV Switchgear
<a href="#">G3-03</a>	District Substation Up To 1000kVA (NON MPS) Non Fire Rated – Without MV Switchgear
<a href="#">G3-04</a>	District Substation Up to 1000kVA (NON MPS) Non Fire Rated – With MV Switchgear
<a href="#">G3-05</a>	District Substation Up to 2000kVA (NON MPS) Non Fire Rated – Without MV Switchgear
<a href="#">G3-06</a>	District Substation Up to 2000kVA (NON MPS) Non Fire Rated – With MV Switchgear
<a href="#">G3-07</a>	District Substation Up to 1000kVA (NON MPS) Fire Rated – Without MV Switchgear
<a href="#">G3-08</a>	District Substation Up to 1000kVA (NON MPS) Fire Rated – With MV Switchgear
<a href="#">G3-09</a>	District Substation Up to 2000kVA (NON MPS) Fire Rated – Without MV Switchgear
<a href="#">G3-10</a>	District Substation Up to 2000kVA (NON MPS) Fire Rated – With MV Switchgear
<a href="#">G3-13</a>	Sole Use Substation Up to 1000kVA (NON MPS) Non Fire Rated – Without MV Switchgear
<a href="#">G3-14</a>	Sole Use Substation Up to 1000kVA (NON MPS) Non Fire Rated – With MV Switchgear
<a href="#">G3-15</a>	Sole Use Substation Up to 2000kVA (NON MPS) Non Fire Rated – Without MV Switchgear
<a href="#">G3-16</a>	Sole Use Substation Up to 2000kVA (NON MPS) Non Fire Rated – With MV Switchgear
<a href="#">G3-17</a>	Sole Use Substation Up to 1000kVA (NON MPS) Fire Rated – Without MV Switchgear
<a href="#">G3-18</a>	Sole Use Substation Up to 1000kVA (NON MPS) Fire Rated – With MV Switchgear
<a href="#">G3-19</a>	Sole Use Substation Up to 2000kVA (NON MPS) Fire Rated – Without MV Switchgear
<a href="#">G3-20</a>	Sole Use Substation Up to 2000kVA (NON MPS) Fire Rated – With MV Switchgear
<a href="#">G3-21</a>	Sole Use Substation Up to 4000kVA (NON MPS) Fire Rated – With MV Switchgear
<a href="#">G3-22A</a>	Withdrawn - Consumer Owned Substation MV Indoor Ground Mounted Switchgear - Direct Bus Connection (HP, Schneider MV Switchgear)
<a href="#">G3-22B</a>	Consumer Owned Substation MV Indoor Ground Mounted Switchgear - Cable Connection (HP, Schneider MV Switchgear)

Number	Description
<a href="#">G3-23</a>	Consumer Owned Substation MV Outdoor Ground Mounted Switchgear
<a href="#">G3-24</a>	Consumer Owned Substation MV Outdoor Overhead Switchgear MV Installation
<a href="#">G3-25</a>	District Substation 50kVA (NON MPS) Non Fire Rated – Without MV Switchgear
<a href="#">G3-26</a>	District Substation 63kVA (NON MPS) Non Fire Rated – Without MV Switchgear
<a href="#">G3-27</a>	MV Switchgear Substation MV Outdoor Ground Mounted Switchgear Schneider Switchgear

MINIMUM LAND REQUIREMENTS (RECOMMENDED SHOWN)			
TX	6.6 & 11kV	22kV	33kV
	L X W	L X W	L X W
HU61/315	4400 X 3600	4400 X 3600	4500 X 3900
HU61/630	4500 X 3800	4500 X 3800	4600 X 3900



NOTES:

1. SITE FOR CONSUMERS MAIN DISTRIBUTION BOARD (IF REQUIRED).
2. DUCTING REQUIRED IF LAND REQUIREMENT IS SET BACK FROM ROAD RESERVE BOUNDARY. 7 - 150 ID HEAVY DUTY DUCTS.
3. REFER TO G6-01 (4) FOR DETAILED INFORMATION FOR INSTALLATION OF DUCTING.

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

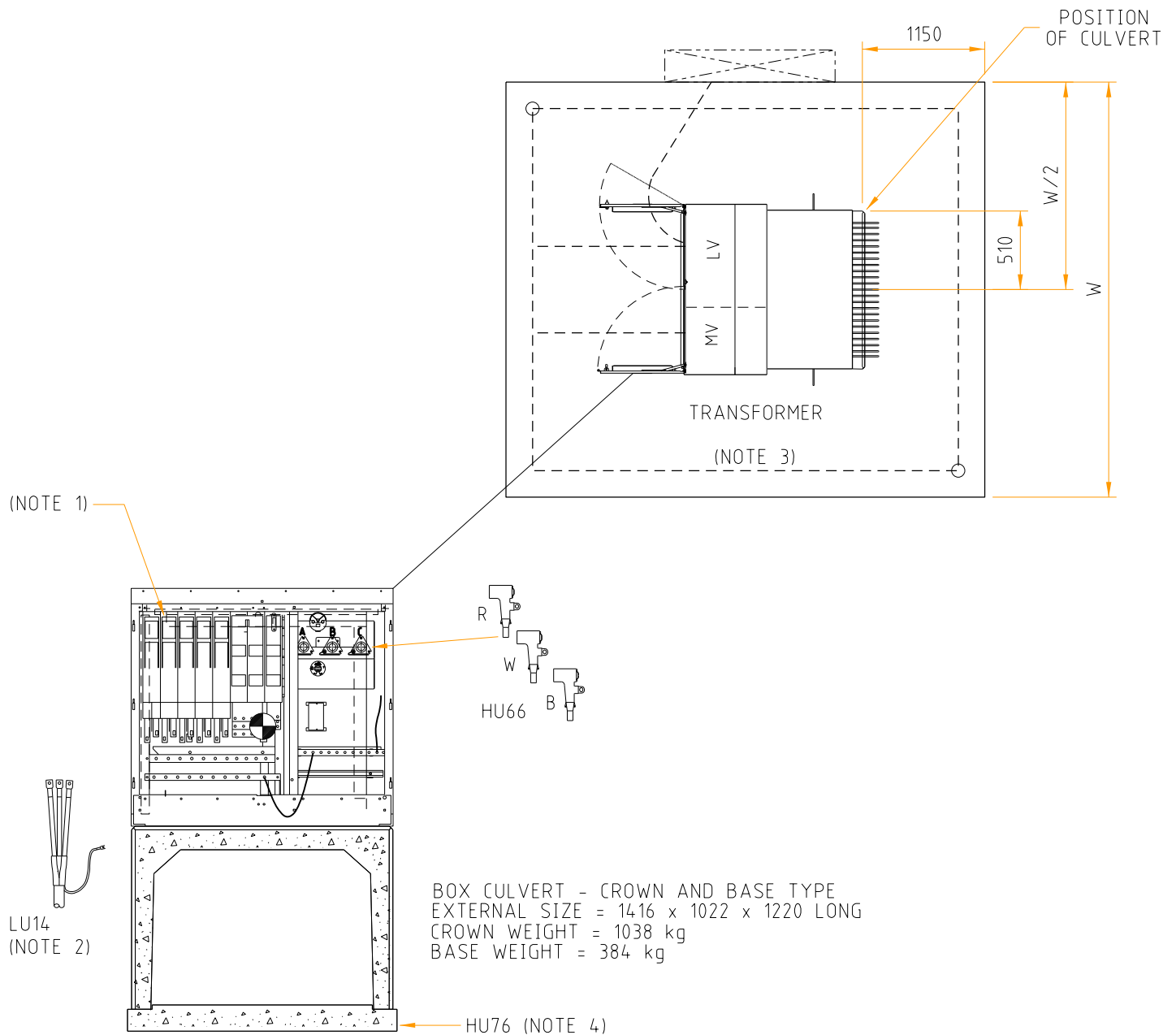


DISTRIBUTION CONSTRUCTION  
STANDARDS

DISTRICT SUBSTATION  
UP TO 630kVA (MPS)  
NON FIRE RATED-WITHOUT MV SWGR  
CIVIL & LAND REQUIREMENTS

REVISION A	DATE 17/08/21
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DRAWING No.  
G3-01/1



NOTES:

1. HU61 COMES WITH 1 x LV SWITCHGEAR ASSEMBLY, 1 x GENERATOR FUSES SWITCH AND 5 x LV FUSES SWITCH INSTALLED. REFER TO G1-02 FOR FUSE RATINGS.
2. 1 x LU14 NEEDED WITH EACH STREET FEED ONLY.
3. REFER TO G6-11 FOR DETAILED INFORMATION FOR INSTALLATION OF EARTHING.
4. BOX CULVERT - CROWN AND BASE TYPE, REFER TO G4-02 SHT 2 OF 2 FOR INSTALLATION DETAILS.

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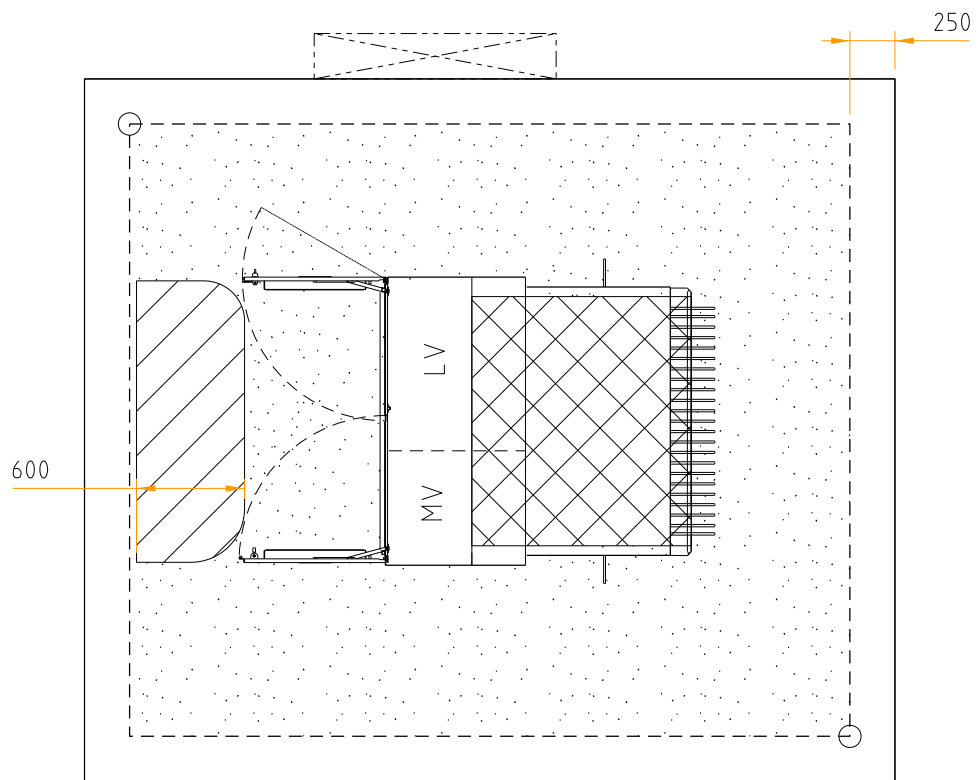


DISTRIBUTION CONSTRUCTION STANDARDS

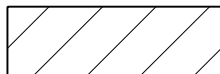
DISTRICT SUBSTATION  
 UP TO 630kVA (MPS)  
 NON FIRE RATED-WITHOUT MV SWGR  
 EQUIPMENT & INSTALLATION DETAILS

REVISION	DATE
A	11/10/21

DRAWING No.  
 G3-01/2



MINIMUM CLEARANCE REQUIRED FOR EARTHING PURPOSES.  
(STEP AND TOUCH POTENTIAL)



MINIMUM CLEARANCE REQUIRED FOR OPERATIONAL/SAFETY PURPOSES



BOX CULVERT

NOTES:

1. REFER TO G6-11 FOR EARTHING
2. REFER TO G6-13 FOR SCREENING
3. REFER TO G9 FOR ENVIRONMENTAL REQUIREMENTS

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



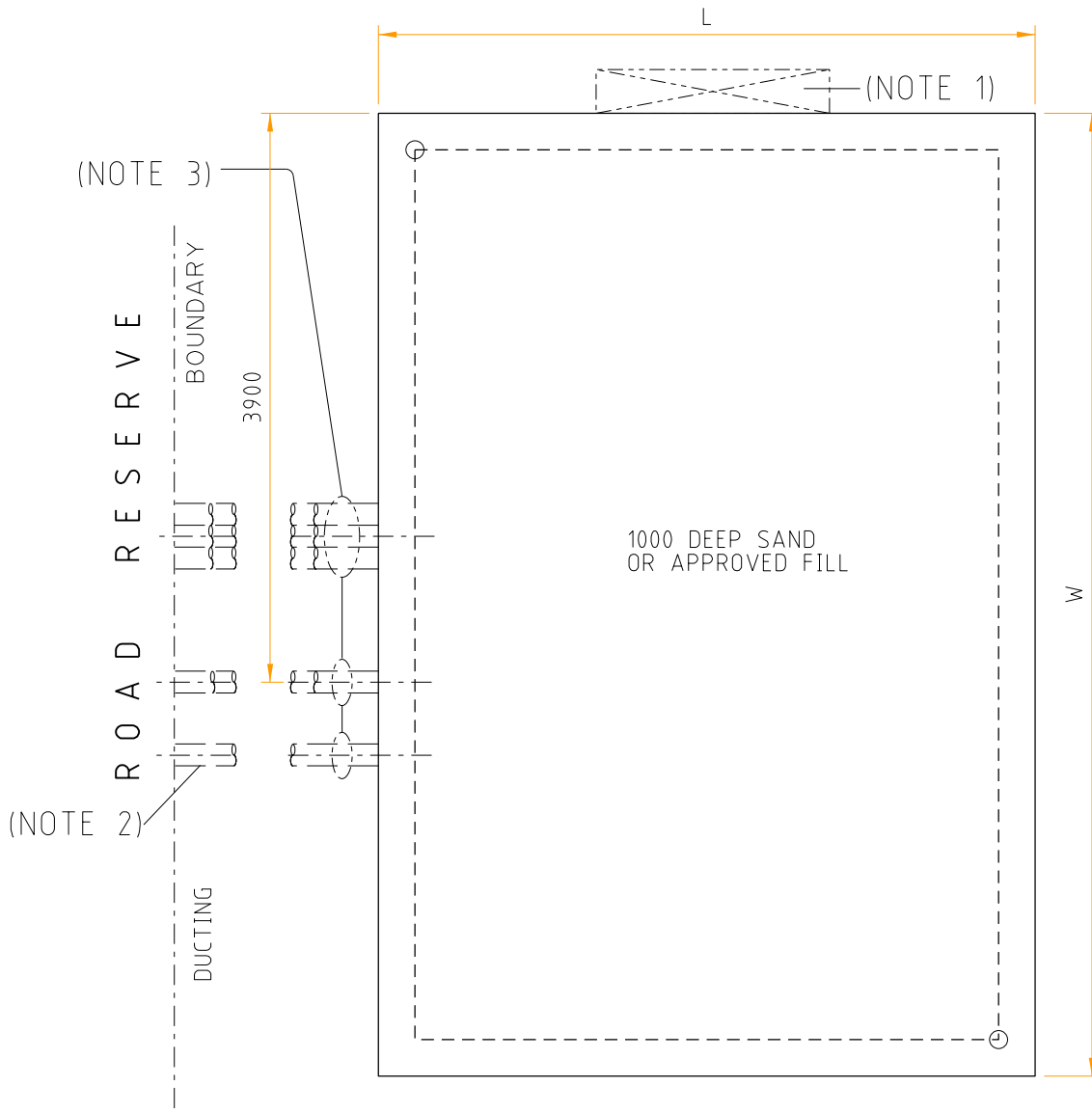
DISTRIBUTION CONSTRUCTION  
STANDARDS

DISTRICT SUBSTATION  
UP TP 630kVA (MPS)  
NON FIRE RATED-WITHOUT MV SWGR  
OPERATIONAL CLEARANCES

REVISION A	DATE 12/10/21
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DRAWING No.  
G3-01/3

MINIMUM LAND REQUIREMENTS (RECOMMENDED SHOWN)			
TX	6.6 & 11kV	22kV	33kV
	L X W	L X W	L X W
HU61/315	4400 X 6600	4400 X 6600	4400 X 6700
HU61/630	4500 X 6600	4500 X 6600	4500 X 6700



NOTES:

1. SITE FOR CONSUMERS MAIN DISTRIBUTION BOARD (IF REQUIRED).
2. DUCTING REQUIRED IF LAND REQUIREMENT IS SET BACK FROM ROAD RESERVE BOUNDARY. 9 - 150 ID HEAVY DUTY DUCTS.
3. REFER TO G6-01 (13) FOR DETAILED INFORMATION FOR INSTALLATION OF DUCTING.

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



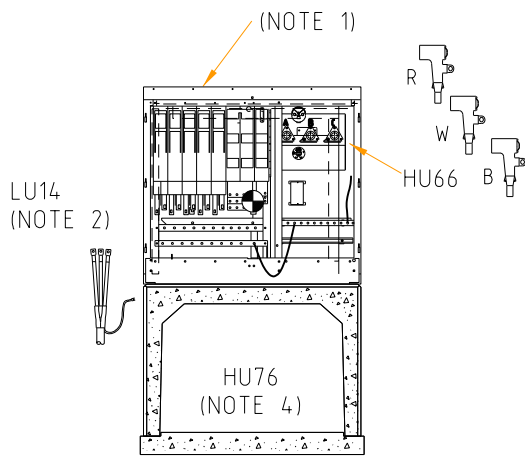
DISTRIBUTION CONSTRUCTION  
STANDARDS

DISTRICT SUBSTATION  
UP TO 630kVA (MPS)  
NON FIRE RATED-WITH MV SWGR  
CIVIL & LAND REQUIREMENTS

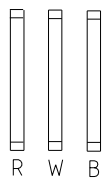
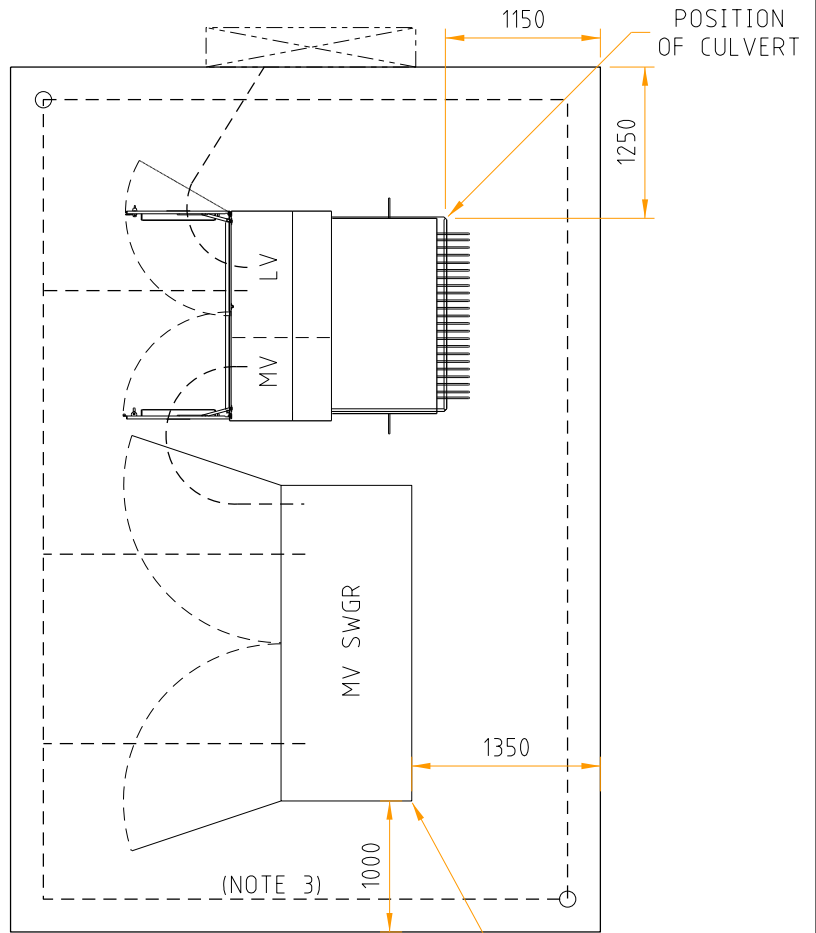
REVISION A	DATE 17/08/21
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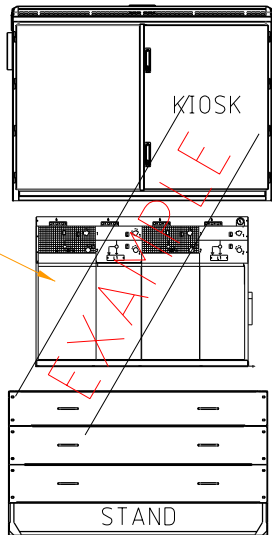
G3-02-1



BOX CULVERT - CROWN AND BASE TYPE  
 EXTERNAL SIZE = 1416 x 1022 x 1220 LONG  
 CROWN WEIGHT = 1038 kg  
 BASE WEIGHT = 384 kg



HU55  
 MV FUSES  
 (NOTE 5)



MV SWGR

POSITION OF  
 MV SWGR KIOSK

**NOTES:**

1. HU61 COMES WITH 1 x LV SWITCHGEAR ASSEMBLY, 1 x GENERATOR FUSESWITCH AND 5 x LV FUSESWITCH INSTALLED. REFER TO G1-02 FOR FUSE RATINGS.
2. 1 x LU14 NEEDED WITH EACH STREET FEED ONLY.
3. REFER TO G6-11 FOR DETAILED INFORMATION FOR INSTALLATION OF EARTHING.
4. BOX CULVERT - CROWN AND BASE TYPE, REFER TO G4-02 SHT 2 OF 2 FOR INSTALLATION DETAILS.
5. REFER TO G1-02 FOR FUSE RATINGS.

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



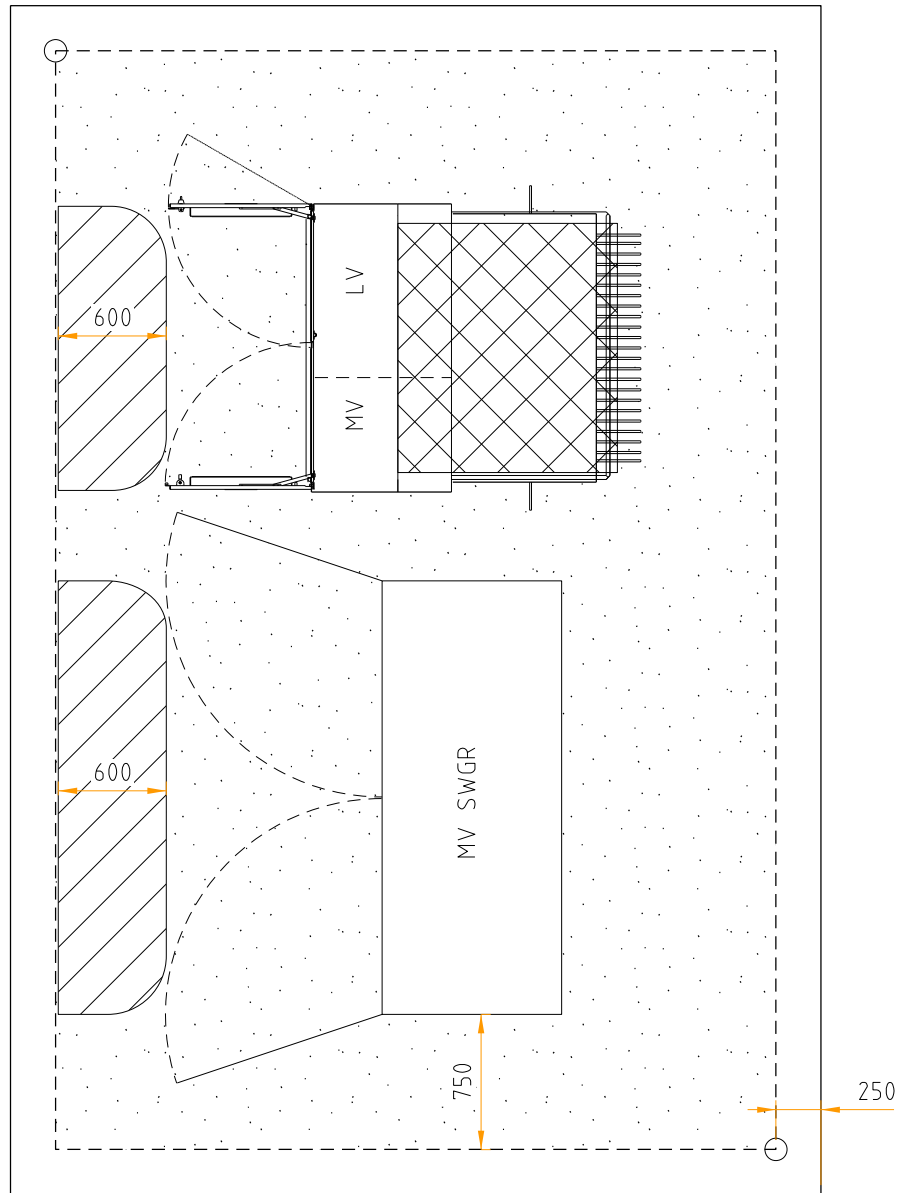
DISTRIBUTION CONSTRUCTION  
 STANDARDS

DISTRICT SUBSTATION  
 UP TO 630kVA (MPS)  
 NON FIRE RATED-WITH MV SWGR  
 EQUIPMENT & INSTALLATION DETAILS

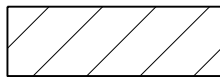
REVISION A	DATE 22/10/21
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DRAWING No.  
 G3-02/2





MINIMUM CLEARANCE REQUIRED FOR EARTHING PURPOSES.  
(STEP AND TOUCH POTENTIAL)



MINIMUM CLEARANCE REQUIRED FOR OPERATIONAL/SAFETY PURPOSES



BOX CULVERT

NOTES:

1. REFER TO G6-11 FOR EARTHING
2. REFER TO G6-13 FOR SCREENING
3. REFER TO G9 FOR ENVIRONMENTAL REQUIREMENTS

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



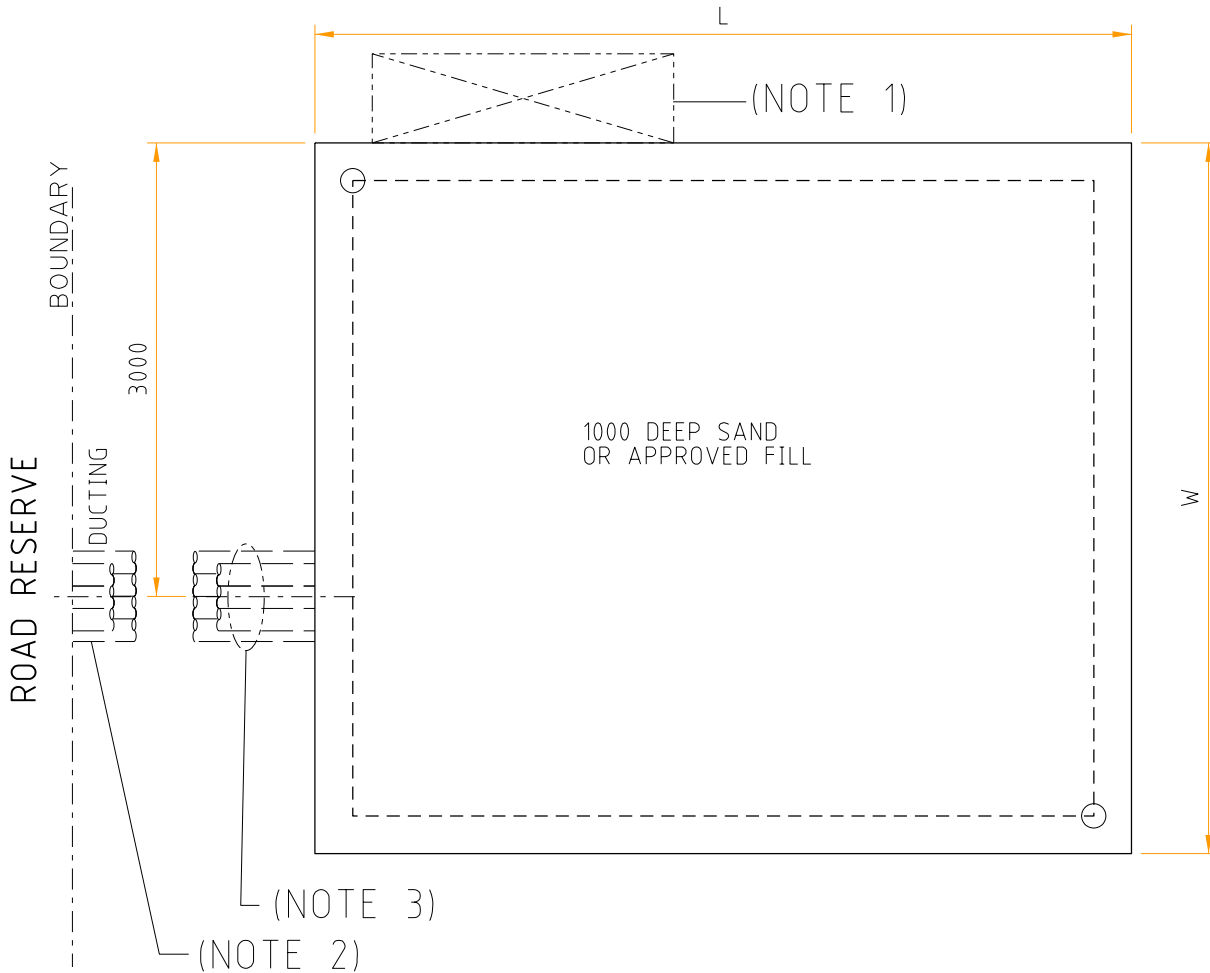
DISTRIBUTION CONSTRUCTION  
STANDARDS

DISTRICT SUBSTATION  
UP TO 630kVA (MPS)  
NON FIRE RATED-WITH MV SWGR  
OPERATIONAL CLEARANCES

REVISION A	DATE 12/10/21
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DRAWING No.  
G3-02/3

MINIMUM LAND REQUIREMENTS (RECOMMENDED SHOWN)			
TX	6.6 & 11kV	22kV	33kV
	L X W	L X W	L X W
HU59_0/315	4900 X 4400	4900 X 4400	5200 X 4500
HU59_0/630	5100 X 4500	5100 X 4500	5200 X 4600
HU59_0/1000	5100 X 4500	5100 X 4500	5400 X 4700



NOTES:

1. SITE FOR CONSUMERS MAIN DISTRIBUTION BOARD (IF REQUIRED).
2. DUCTING REQUIRED IF LAND REQUIREMENT IS SET BACK FROM ROAD RESERVE BOUNDARY. 7 - 150 ID HEAVY DUTY DUCTS.
3. REFER TO DSM-6-01 (4) FOR DETAILED INFORMATION FOR INSTALLATION OF DUCTING.

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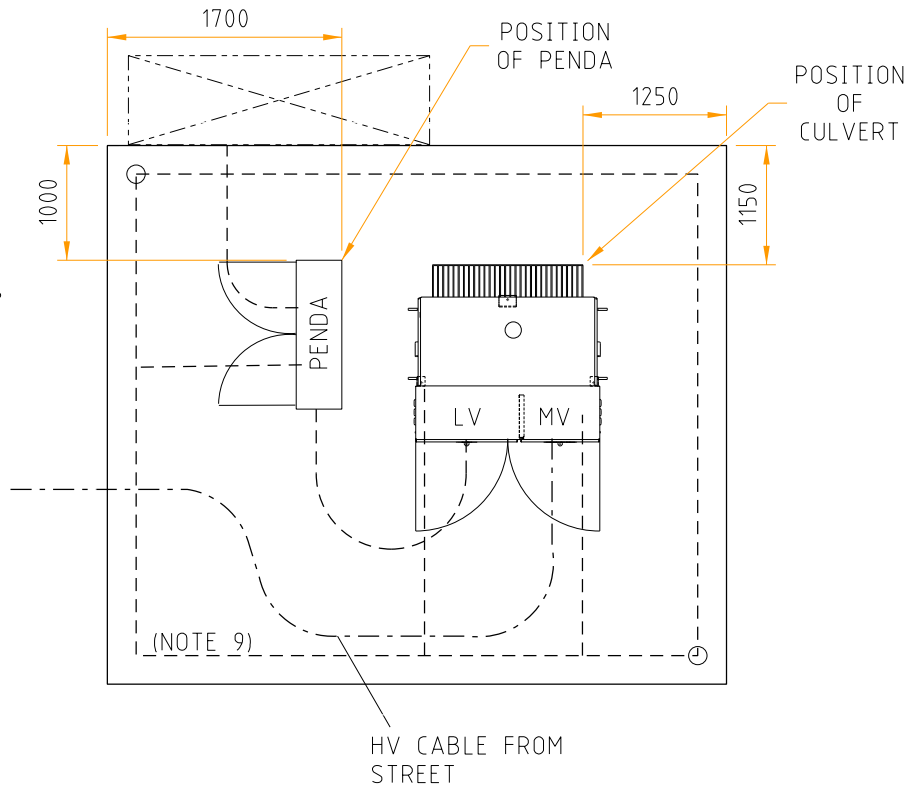
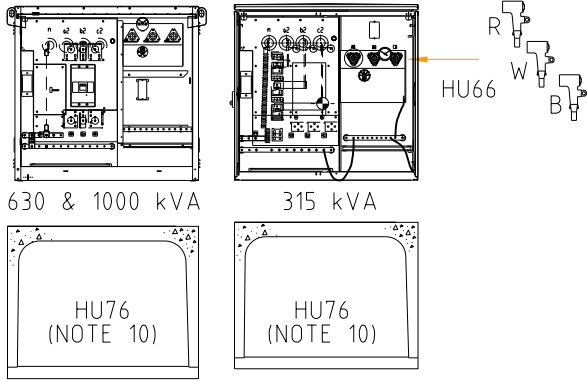


DISTRIBUTION CONSTRUCTION STANDARDS

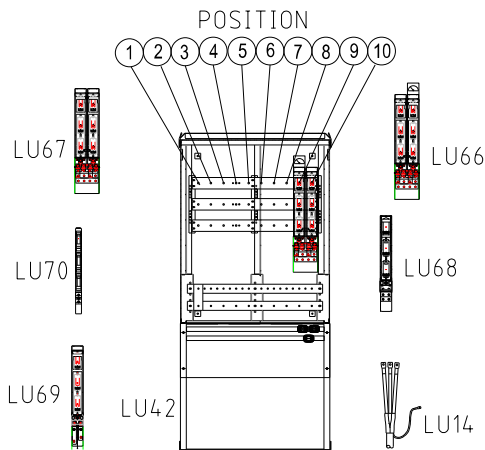
DISTRICT SUBSTATION  
UP TO 1000kVA (NON MPS)  
NON FIRE RATED-WITHOUT MV SWGR  
CIVIL & LAND REQUIREMENTS

REVISION A	DATE 17/08/21
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DRAWING No.  
G3-03/1



BOX CULVERT - CROWN AND BASE TYPE  
 EXTERNAL SIZE = 1416 x 1022 x 1220 LONG  
 CROWN WEIGHT = 1038 kg  
 BASE WEIGHT = 384 kg



TYPE 2.1 PENDA LAYOUT AND MATERIALS (QTY)

SWG	MAX FUSE	CU	1	2	3	4	5	6	7	8	9	10
		LU64										
		LU42										
160A FSD	1 X 63A DIN 00	LU70				LL						
630 FSD	1 X 400A NH2	LU69	C/S	C/S	C/S	C/S	C/S	C/S	C/S			
910A FSD	1 X 630A NH3	LU68								E		
1260A FSD	2 X 400A NH2	LU67		C		C						
2000A SWD	LINKS SUPPLIED	LU66		C1								T1
FSD CABLE TERM	FUSES SUPPLIED	LU14	S	S	S	L/S	S	S	S			
TX CABLE TERM	TX MCCB	LU16										T1

T = TRANSFORMER L = LIGHTING CIRCUIT E = EMERGENCY RESPONSE GENERATOR  
 C = CONSUMER S = STREET CIRCUIT

NOTES:

1. LU66 CAN BE USED FOR THE TRANSFORMER AND CONTIGUOUS CONSUMER.
2. EVERY INSTALLATION SHALL INCLUDE AN EMERGENCY GENERATOR CONNECTION LU68.
3. 2 x LU70 OR 1 X LU69 CAN BE USED IN POSTITION 4.
4. 1 x LU14 NEEDED WITH EACH LU69 STREET FEEDER OR LU70 LIGHTING CIRCUIT.
5. 1 x LU16 NEEDED WITH EACH LU66\_TX IN PENDA AND 1 x LU16 FOR HU59 (NON-MPS).
6. LU66\_TX WILL DEFAULT TO POSITION 9 & 10 UNLESS POSITION 1 & 2 IS SPECIFIED BY THE DESIGNER.
7. STANDARD PENDA 2.1 LAYOUT SHOWN. DESIGNER MAY DESIGN AN ALTERNATIVE PENDA LAYOUT.
8. NO GANGED FSD OR SWD PERMITTED SPANING POSITIONS 5 & 6 OR 6 & 7.
9. REFER TO G6-11 FOR DETAILED INFORMATION FOR INSTALLATION OF EARTHING.
10. BOX CULVERT - CROWN AND BASE TYPE, REFER TO G4-02 SHT 2 OF 2 FOR INSTALLATION DETAILS.
11. REFER TO G1-02 FOR FUSE RATINGS.

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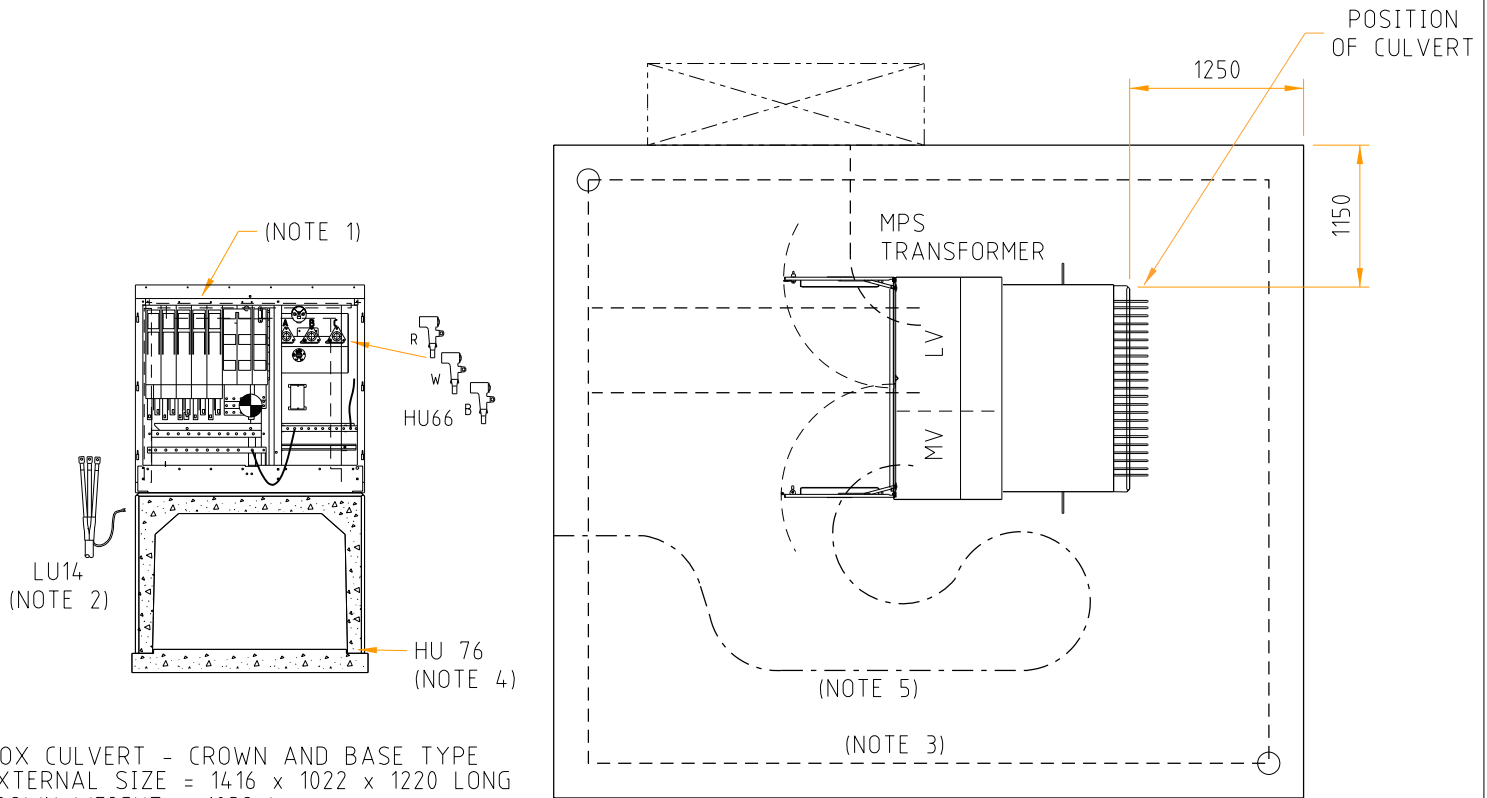


DISTRIBUTION CONSTRUCTION STANDARDS

DISTRICT SUBSTATION  
 UP TO 1000kVA (NON MPS)  
 NON FIRE RATED-WITHOUT MV SWGR  
 EQUIPMENT & INSTALLATION DETAILS

REVISION A DATE 22/10/21

DRAWING No. G3-03/2



BOX CULVERT - CROWN AND BASE TYPE  
 EXTERNAL SIZE = 1416 x 1022 x 1220 LONG  
 CROWN WEIGHT = 1038 kg  
 BASE WEIGHT = 384 kg

NOTES:

1. HU61 COMES WITH 1 x LV SWITCHGEAR ASSEMBLY, 1 x GENERATOR FUSESWITCH AND 5 x LV FUSESWITCH INSTALLED. REFER TO G1-02 FOR FUSE RATINGS.
2. 1 x LU14 NEEDED WITH EACH STREET FEED ONLY.
3. REFER TO G6-11 FOR DETAILED INFORMATION FOR INSTALLATION OF EARTHING.
4. BOX CULVERT - CROWN AND BASE TYPE, REFER TO G4-02 SHT 2 OF 2 FOR INSTALLATION DETAILS.
5. INSTALL MV CABLE FROM STREET IN THIS ALIGNMENT TO ALLOW FOR FUTURE INSTALLATION OF LV KIOSK. ALSO ALLOW LOOP IN CABLE FOR FUTURE TERMINATION TO NON MPS TRANSFORMER.
6. REFER TO G3-01/3 FOR OPERATIONAL CLEARANCES FOR MPS TRANSFORMER.

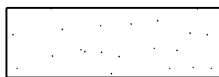
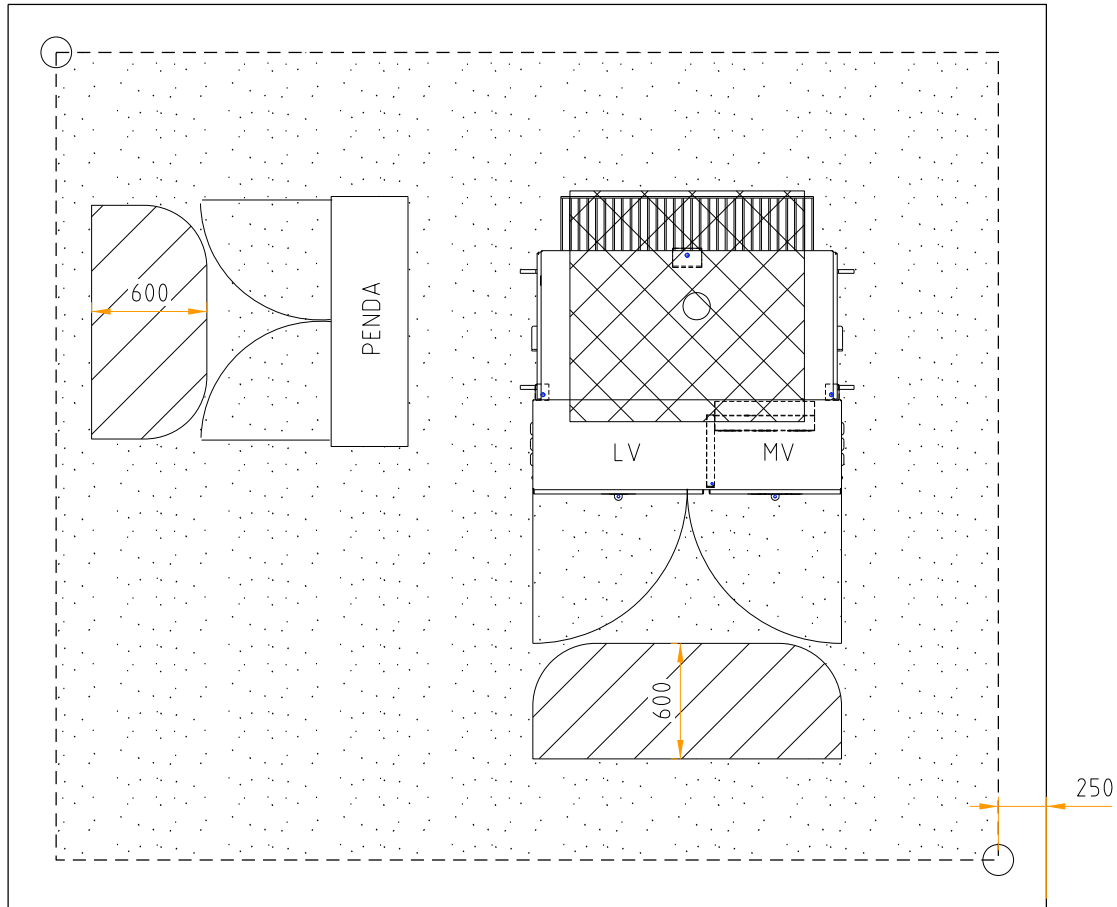
*THIS DRAWING TO BE READ IN CONJUNCTION WITH THE DISTRIBUTION DESIGN RULES - HPC-9DJ-01-0002-2015.*



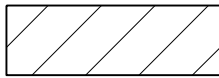
DISTRIBUTION CONSTRUCTION  
 STANDARDS

DISTRICT SUBSTATION  
 UP TO 630kVA (MPS/NON MPS READY)  
 NON FIRE RATED-WITHOUT MV SWGR  
 SET UP FOR FUTURE CONVERSION TO NON MPS  
 EQUIPMENT & INSTALLATION DETAILS

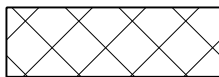
REVISION A	DATE 12/10/21
DRAWING No. G3-03/3	



MINIMUM CLEARANCE REQUIRED FOR EARTHING PURPOSES.  
(STEP AND TOUCH POTENTIAL)



MINIMUM CLEARANCE REQUIRED FOR OPERATIONAL/SAFETY PURPOSES



BOX CULVERT

NOTES:

1. REFER TO G6-11 FOR EARTHING
2. REFER TO G6-13 FOR SCREENING
3. REFER TO G9 FOR ENVIRONMENTAL REQUIREMENTS

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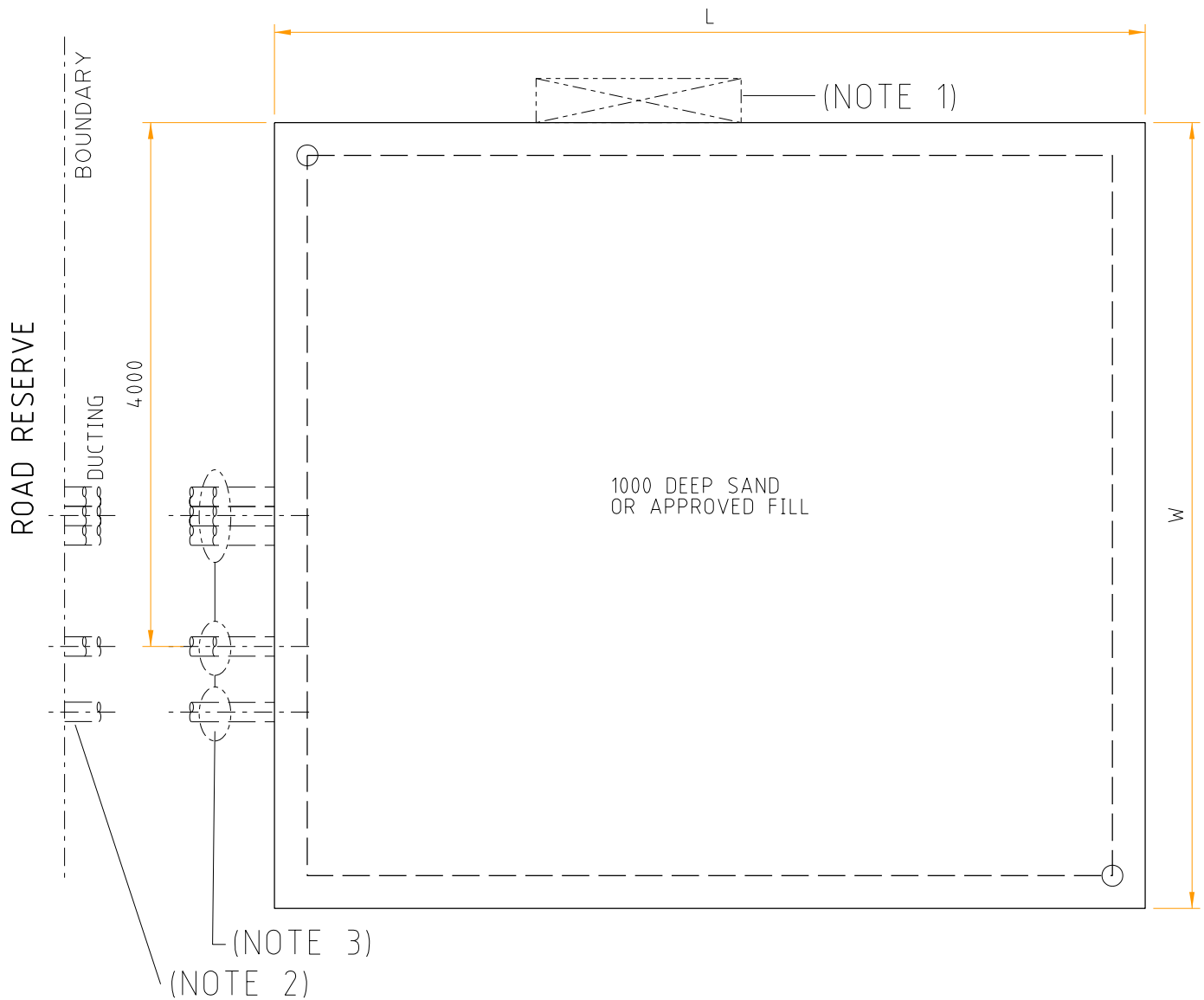
DISTRIBUTION CONSTRUCTION  
STANDARDS

DISTRICT SUBSTATION  
UP TO 1000kVA (NON MPS)  
NON FIRE RATED-WITHOUT MV SWGR  
OPERATIONAL CLEARANCES

REVISION A	DATE 12/10/21
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DRAWING No.  
G3-03/4

MINIMUM LAND REQUIREMENTS (RECOMMENDED SHOWN)			
TX	6.6 & 11kV	22kV	33kV
	L X W	L X W	L X W
HU59_0/315	6150 X 6000	6150 X 6000	6450 X 6000
HU59_0/630	6350 X 6000	6350 X 6000	6450 X 6000
HU59_0/1000	6350 X 6000	6350 X 6000	6650 X 6000



NOTES:

1. SITE FOR CONSUMER MAIN DISTRIBUTION BOARD (IF REQUIRED).
2. DUCTING REQUIRED IF LAND REQUIREMENT IS SET BACK FROM ROAD RESERVE BOUNDARY. 9 - 150 ID HEAVY DUTY DUCTS.
3. REFER TO G6-01 (13) FOR DETAILED INFORMATION FOR INSTALLATION OF DUCTING.

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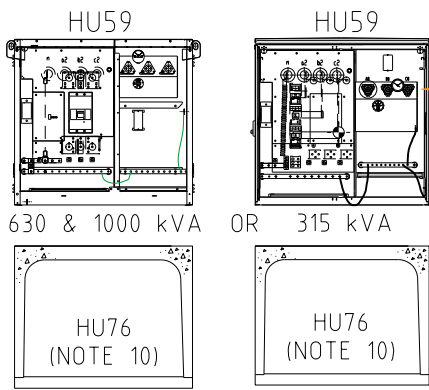


DISTRIBUTION CONSTRUCTION STANDARDS

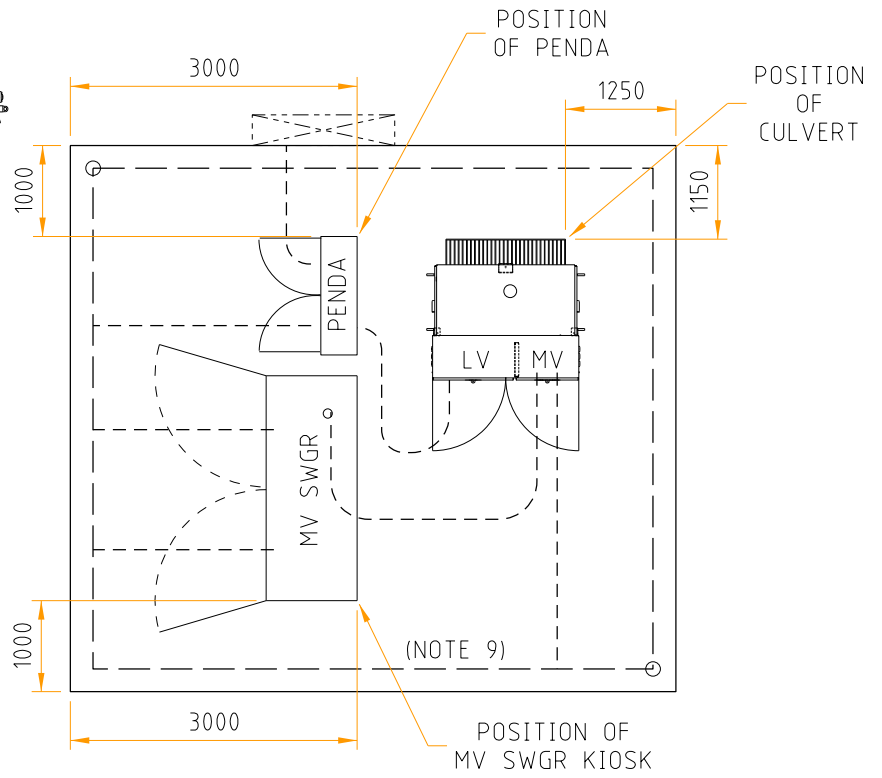
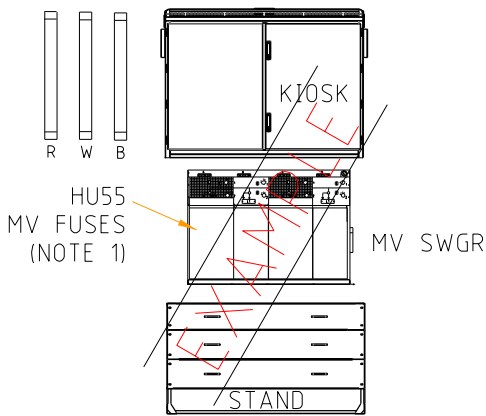
DISTRICT SUBSTATION  
UP TO 1000kVA (NON MPS)  
NON FIRE RATED-WITH MV SWGR  
CIVIL & LAND REQUIREMENTS

REVISION A	DATE 17/08/21
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DRAWING No.  
G3-04/1



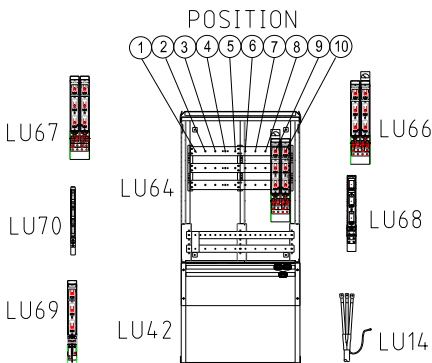
BOX CULVERT - CROWN AND BASE TYPE  
 EXTERNAL SIZE = 1416 x 1022 x 1220 LONG  
 CROWN WEIGHT = 1038 kg  
 BASE WEIGHT = 384 kg



TYPE 2.1 PENDA LAYOUT AND MATERIALS (QTY)

SWG	MAX FUSE	CU	1	2	3	4	5	6	7	8	9	10
TYPE 2.1 PENDA		LU64										
PENDA BASE		LU42										
160A FSD	1 X 63A DIN 00	LU70				LL						
630 FSD	1 X 400A NH2	LU69	C/S	C/S	C/S	C/S	C/S	C/S	C/S			
910A FSD	1 X 630A NH3	LU68									E	
1260A FSD	2 X 400A NH2	LU67		C		C						
2000A SWD	LINKS SUPPLIED	LU66										T1
FSD CABLE TERM	FUSES SUPPLIED	LU14	S	S	S	L/S	S	S	S			
TX CABLE TERM	TX MCCB	LU16										T1

T = TRANSFORMER L = LIGHTING CIRCUIT E = EMERGENCY RESPONSE GENERATOR  
 C = CONSUMER S = STREET CIRCUIT



NOTES:

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2. EVERY INSTALLATION SHALL INCLUDE AN EMERGENCY GENERATOR CONNECTION LU68.
3. 2 x LU70 OR 1 X LU69 CAN BE USED IN POSTITION 4.
4. 1 x LU14 NEEDED WITH EACH LU69 STREET FEEDER OR LU70 LIGHTING CIRCUIT.
5. 1 x LU16 NEEDED WITH EACH LU66\_TX IN PENDA AND 1 x LU16 FOR HU59 (NON-MPS).
6. LU66\_TX WILL DEFAULT TO POSITION 9 & 10 UNLESS POSITION 1 & 2 IS SPECIFIED BY THE DESIGNER.
7. STANDARD PENDA 2.1 LAYOUT SHOWN. DESIGNER MAY DESIGN AN ALTERNATIVE PENDA LAYOUT.
8. NO GANGED FSD OR SWD PERMITTED SPANING POSITIONS 5 & 6 OR 6 & 7.
9. REFER TO G6-11 FOR DETAILED INFORMATION FOR INSTALLATION OF EARTHING.
10. BOX CULVERT - CROWN AND BASE TYPE, REFER TO G4-02 SHT 2 OF 2 FOR INSTALLATION DETAILS.
11. REFER TO G1-02 FOR FUSE RATINGS.

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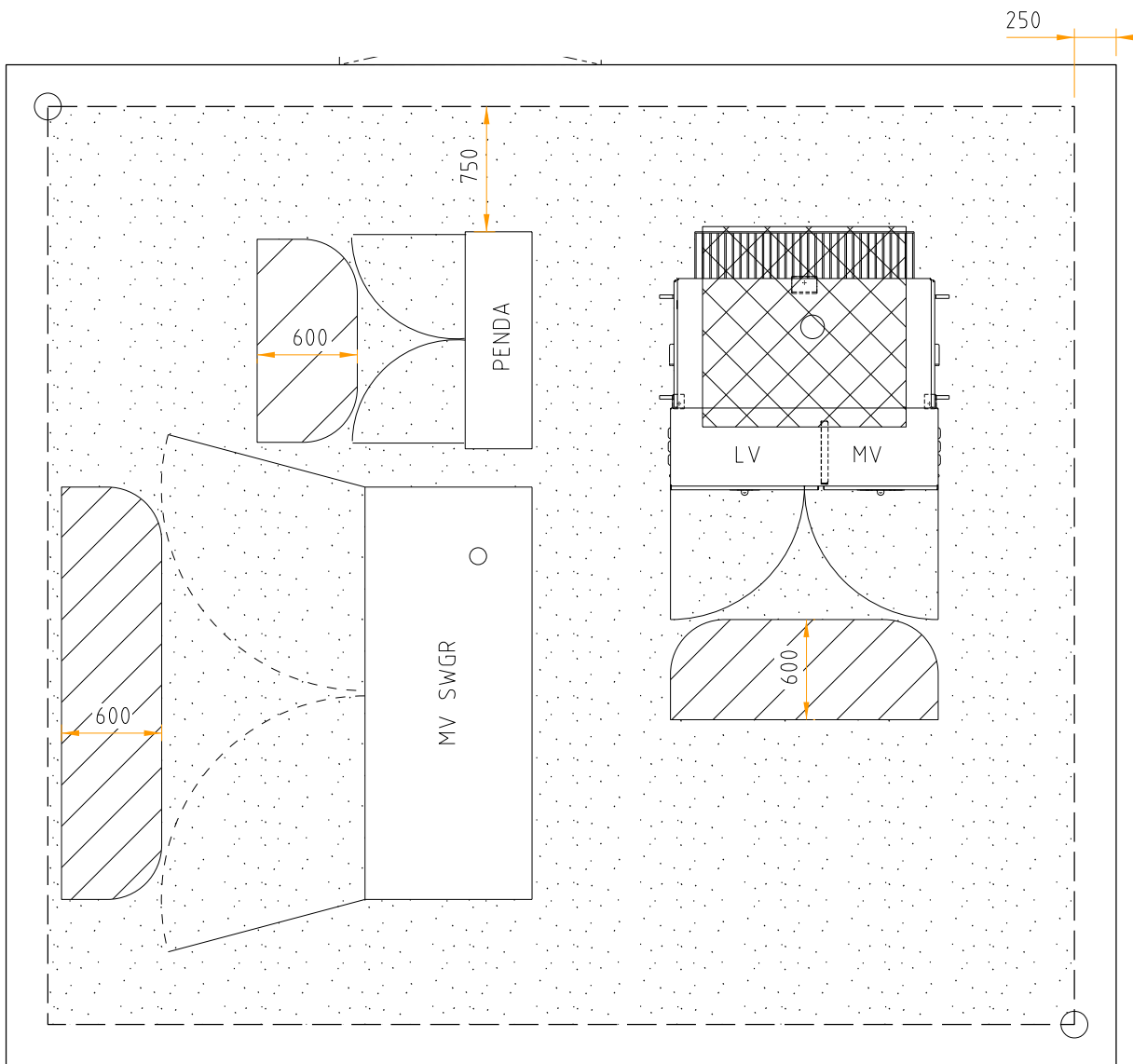


DISTRIBUTION CONSTRUCTION STANDARDS

DISTRICT SUBSTATION  
 UP TO 1000kVA (NON MPS)  
 NON FIRE RATED-WITH MV SWGR  
 EQUIPMENT & INSTALLATION DETAILS

REVISION A DATE 22/10/21

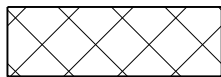
DRAWING No. G3-04/2



MINIMUM CLEARANCE REQUIRED FOR EARTHING PURPOSES.  
(STEP AND TOUCH POTENTIAL)



MINIMUM CLEARANCE REQUIRED FOR OPERATIONAL/SAFETY PURPOSES



BOX CULVERT

NOTES:

1. REFER TO G6-11 FOR EARTHING
2. REFER TO G6-13 FOR SCREENING
3. REFER TO G9 FOR ENVIRONMENTAL REQUIREMENTS

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



DISTRIBUTION CONSTRUCTION  
STANDARDS

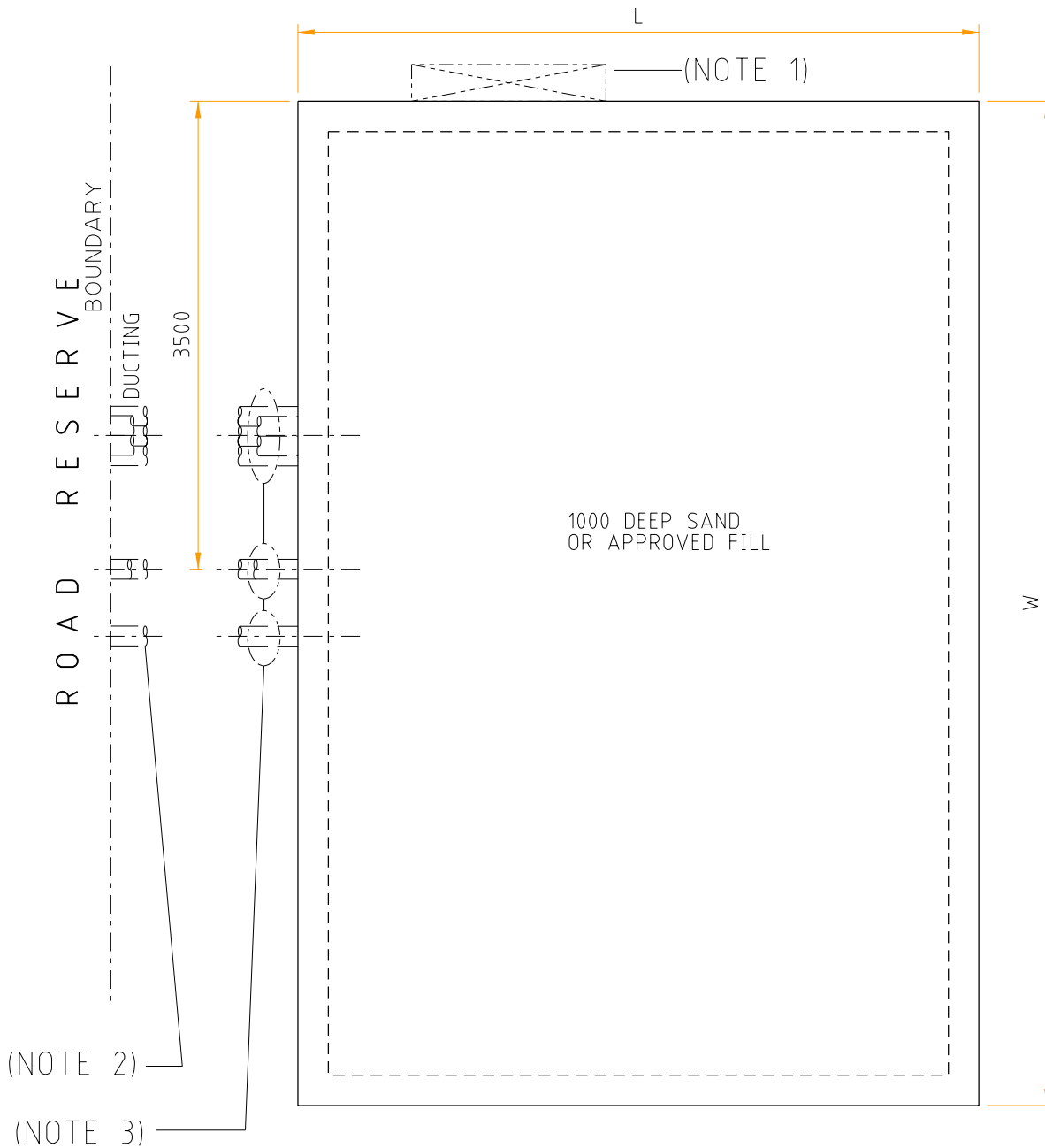
DISTRICT SUBSTATION  
UP TO 1000kVA (NON MPS)  
NON FIRE RATED-WITH MV SWGR  
OPERATIONAL CLEARANCES

REVISION A	DATE 12/10/21
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DRAWING No.  
G3-04/3



MINIMUM LAND REQUIREMENTS (RECOMMENDED SHOWN)			
TX	6.6 & 11kV	22kV	33kV
	L X W	L X W	L X W
HU59_0/630	5300 X 8150	5300 X 8150	5500 X 8150
HU59_0/1000	5300 X 8100	5300 X 8100	5600 X 8250



NOTES:

1. SITE FOR CONSUMERS MAIN DISTRIBUTION BOARD (IF REQUIRED).
2. DUCTING REQUIRED IF LAND REQUIREMENT IS SET BACK FROM ROAD RESERVE BOUNDARY. 8 - 150 ID HEAVY DUTY DUCTS.
3. REFER TO G6-01 (14) FOR DETAILED INFORMATION FOR INSTALLATION OF DUCTING.

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

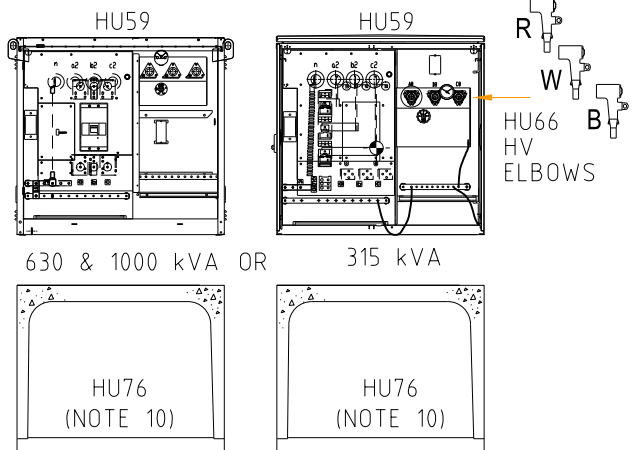


DISTRIBUTION CONSTRUCTION STANDARDS

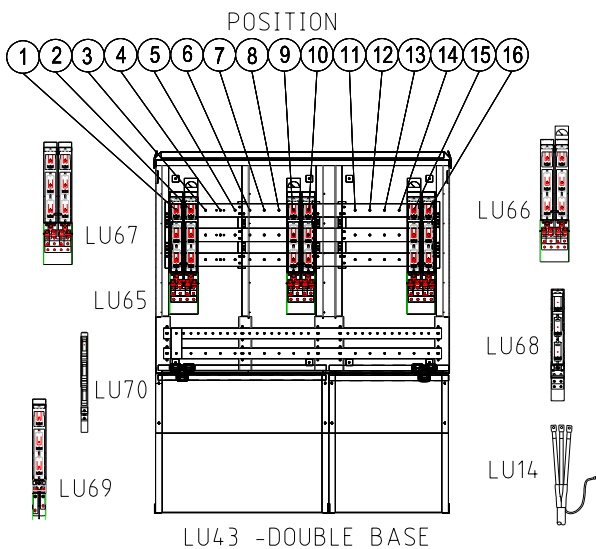
DISTRICT SUBSTATION  
UP TO 2000kVA (NON MPS)  
NON FIRE RATED-WITHOUT MV SWGR  
CIVIL & LAND REQUIREMENTS

REVISION A	DATE 18/08/21
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DRAWING No.  
G3-05/1



BOX CULVERT - CROWN AND BASE TYPE  
 EXTERNAL SIZE = 1416 x 1022 x 1220 LONG  
 CROWN WEIGHT = 1038 kg  
 BASE WEIGHT = 384 kg



TYPE 3.1 PENDA LAYOUT AND MATERIALS QTY

SWG	MAX FUSE	CU	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
TYPE 3.1 PENDA		LU65																
PENDA BASE		LU43																
160A FSD	1 X 63A DIN 00	LU70				LL												
630 FSD	1 X 400A NH2	LU69				C/S	C/S	C/S	C/S	C/S	C/S	C/S	C/S	C/S	C/S	C/S	C/S	
910A FSD	1 X 630A NH3	LU68				E											E	
1260A FSD	2 X 400A NH2	LU67				C			C	C	C	C	C	C				
2000A SWD	LINKS SUPPLIED	LU66	T2								C1							T1
FSD CABLE TERM	FUSES SUPPLIED	LU14				L/S	S	S	S	S	S	S	S	S	S	S	S	
TX CABLE TERM	TX MCCB	LU16	T2															T1

T = TRANSFORMER L = LIGHTING CIRCUIT E = EMERGENCY RESPONSE GENERATOR  
 C = CONSUMER S = STREET CIRCUIT

NOTES:

1. LU66 CAN BE USED FOR THE TRANSFORMER AND CONTIGUOUS CONSUMER.
2. EVERY INSTALLATION SHALL INCLUDE AN EMERGENCY GENERATOR CONNECTION 2 x LU68.
3. 2 x LU70 OR 1 x LU69 CAN BE USED IN POSITION 4.
4. 1 x LU14 NEEDED WITH EACH LU69 STREET FEEDER OR LU70 LIGHTING CIRCUIT.
5. 1 x LU16 NEEDED WITH EACH LU66\_TX IN PENDA AND 1 x LU16 FOR EACH HU59 (NON-MPS).
6. LARGE CONSUMER CONNECTED VIA A 2000A SWITCH (LU66) MUST ALWAYS BE IN POSITIONS 7 & 8 OR 9 & 10.
7. STANDARD PENDA 3.1 LAYOUT SHOWN. DESIGNER MAY DESIGN AN ALTERNATIVE PENDA LAYOUT.
8. NO GANGED FSD OR SWD PERMITTED SPANNING POSITIONS 5 & 6, 6 & 7 OR 10 & 11.
9. REFER TO G6-11 FOR DETAILED INFORMATION FOR INSTALLATION OF EARTHING.
10. BOX CULVERT - CROWN AND BASE TYPE, REFER TO G4-02 SHT 2 OF 2 FOR INSTALLATION DETAILS.
11. REFER TO G1-02 FOR FUSE RATINGS.

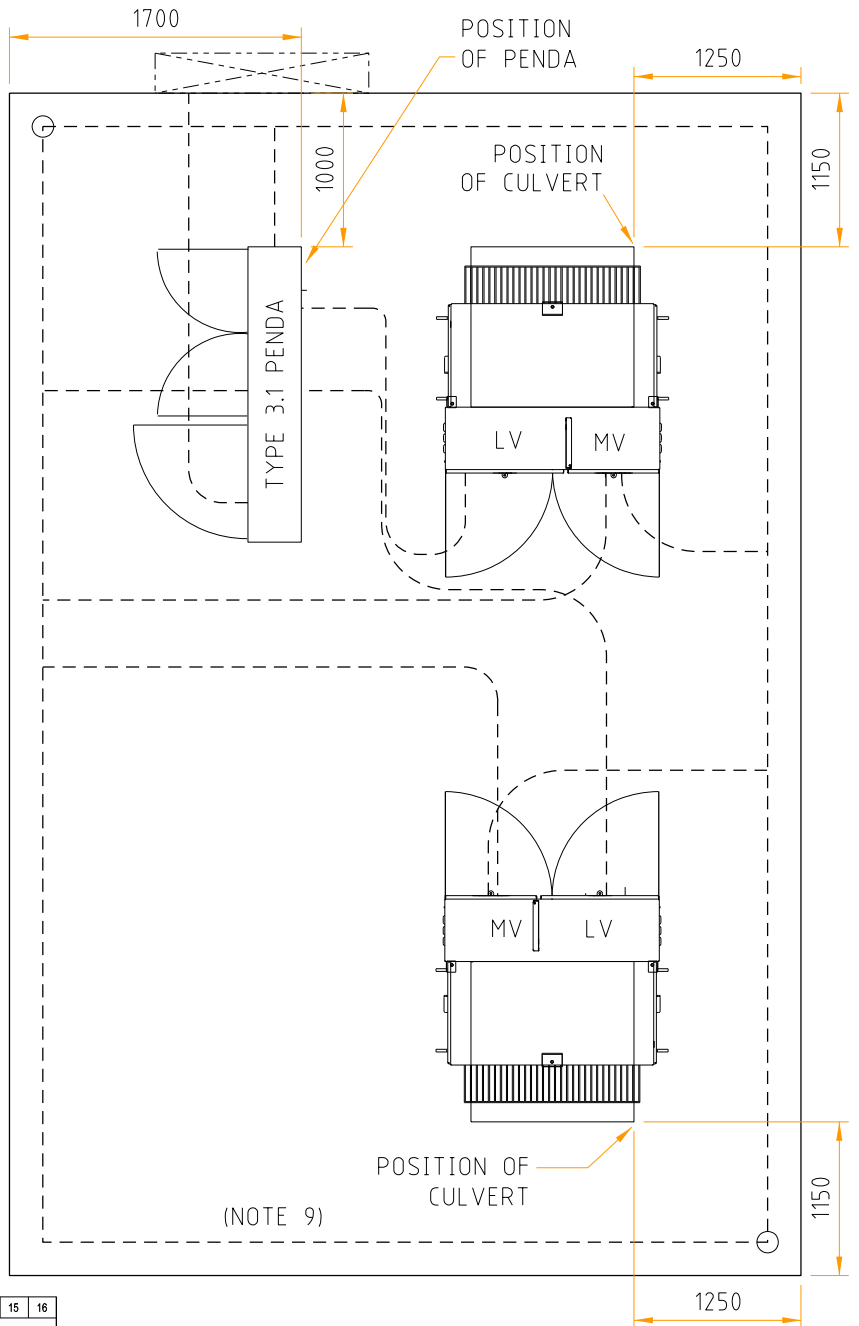
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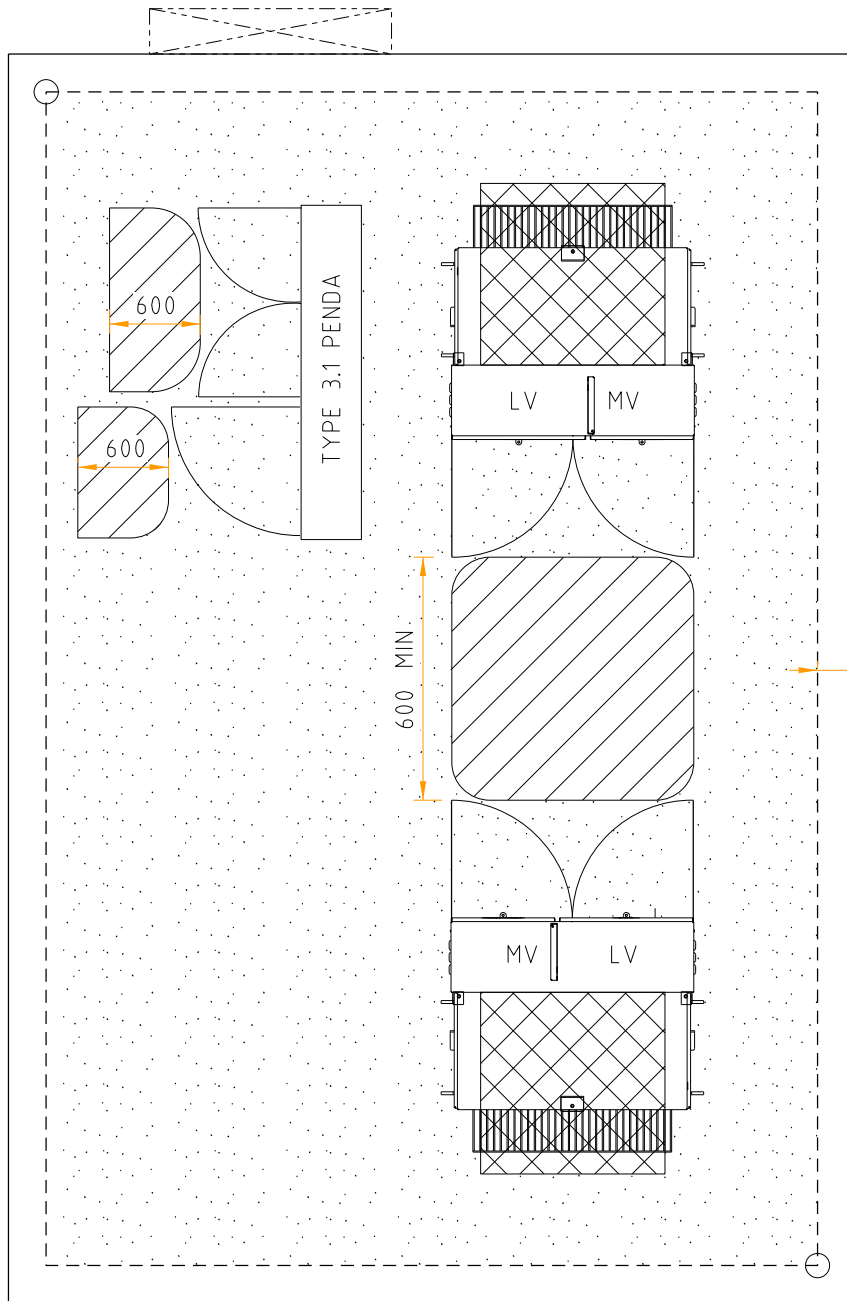
DISTRICT SUBSTATION  
 UP TO 2000kVA (NON MPS)  
 NON FIRE RATED-WITHOUT MV SWGR  
 EQUIPMENT & INSTALLATION DETAILS



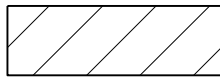
DISTRIBUTION CONSTRUCTION  
 STANDARDS

REVISION A	DATE 22/10/21
DRAWING No. G3-05/2	

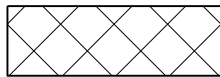




MINIMUM CLEARANCE REQUIRED FOR EARTHING PURPOSES.  
(STEP AND TOUCH POTENTIAL)



MINIMUM CLEARANCE REQUIRED FOR OPERATIONAL/SAFETY PURPOSES



BOX CULVERT

NOTES:

1. REFER TO G6-11 FOR EARTHING
2. REFER TO G6-13 FOR SCREENING
3. REFER TO G9 FOR ENVIRONMENTAL REQUIREMENTS

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



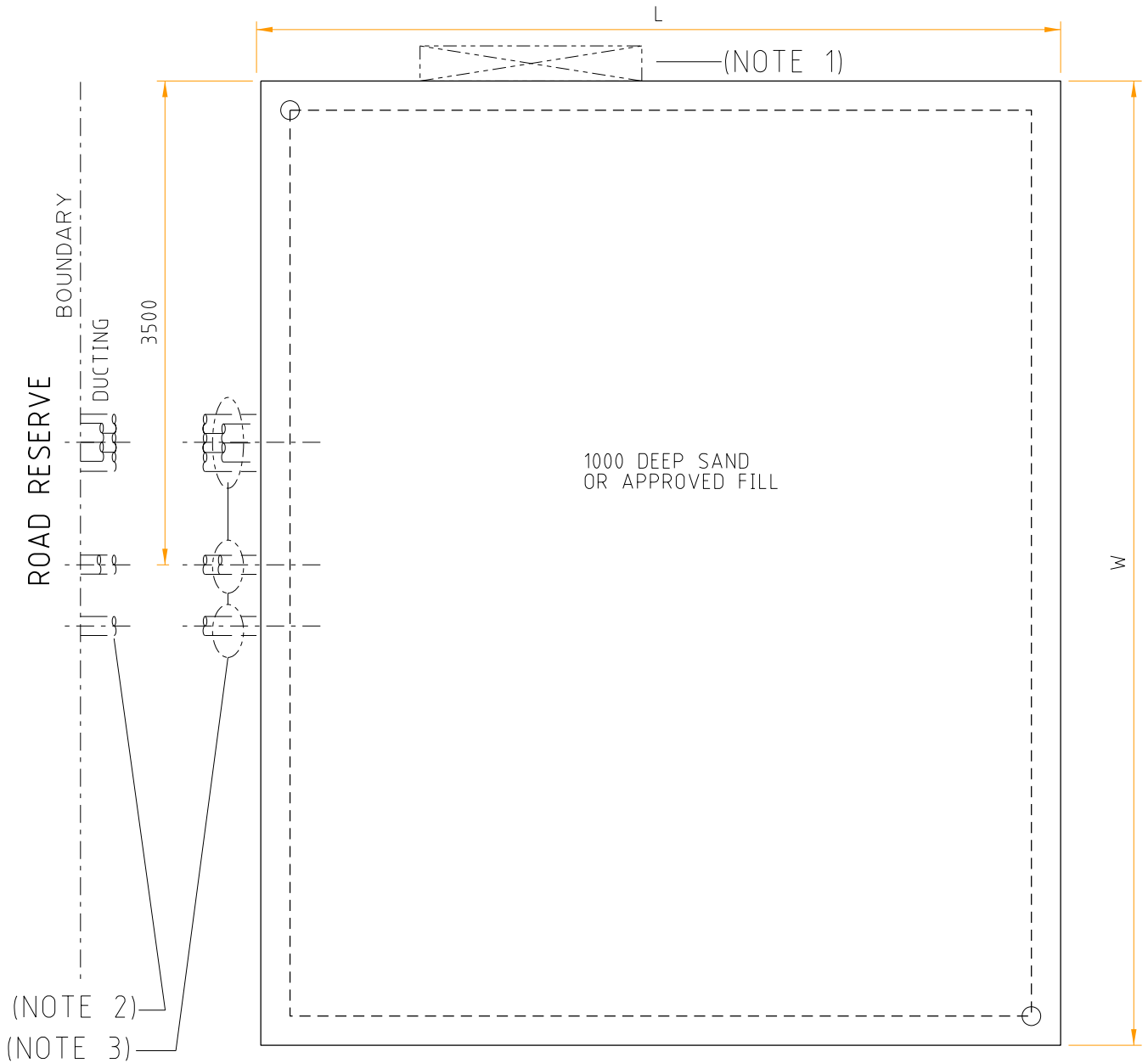
DISTRIBUTION CONSTRUCTION  
STANDARDS

DISTRICT SUBSTATION  
UP TO 2000kVA (NON MPS)  
NON FIRE RATED-WITHOUT MV SWGR  
OPERATIONAL CLEARANCES

REVISION A	DATE 12/10/21
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DRAWING No.  
G3-05/3

MINIMUM LAND REQUIREMENTS (RECOMMENDED SHOWN)			
TX	6.6 & 11kV	22kV	33kV
	L X W	L X W	L X W
HU59_0/630	6550 X 8150	6550 X 8150	6750 X 8150
HU59_0/1000	6550 X 8100	6550 X 8100	6850 X 8250



(NOTE 2)  
(NOTE 3)

NOTES:

1. SITE FOR CONSUMERS MAIN DISTRIBUTION BOARD (IF REQUIRED).
2. DUCTING REQUIRED IF LAND REQUIREMENT IS SET BACK FROM ROAD RESERVE BOUNDARY. 8 - 150 ID HEAVY DUTY DUCTS.
3. REFER TO G6-01 (14) FOR DETAILED INFORMATION FOR INSTALLATION OF DUCTING.

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

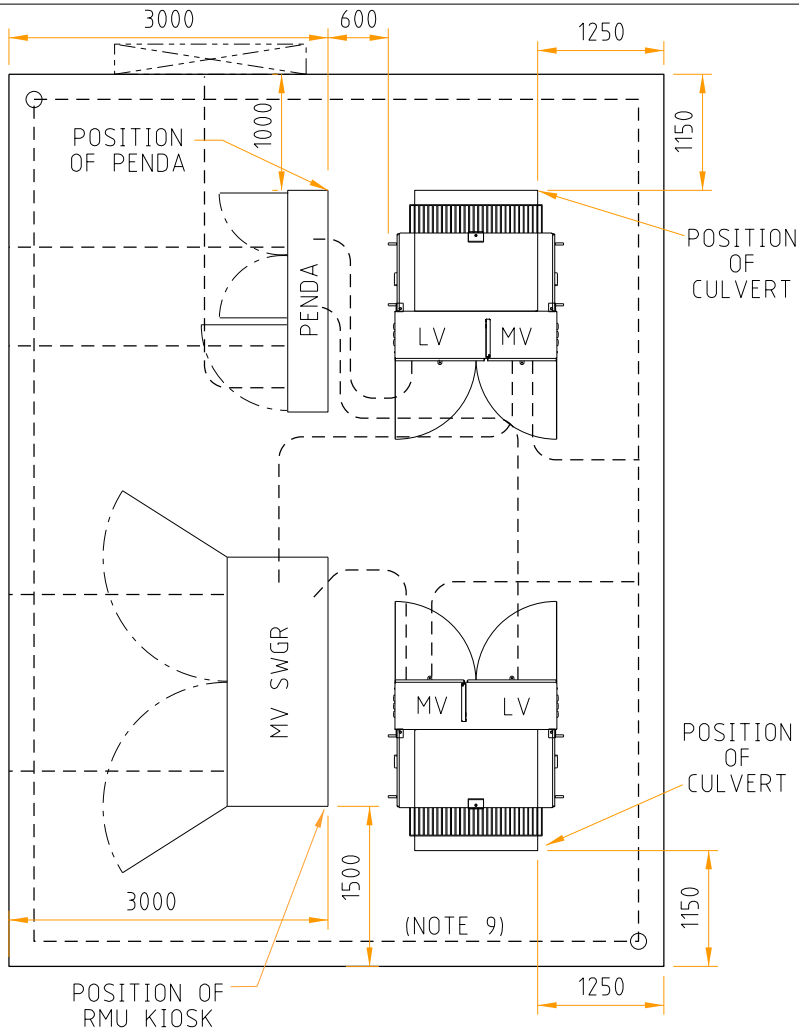
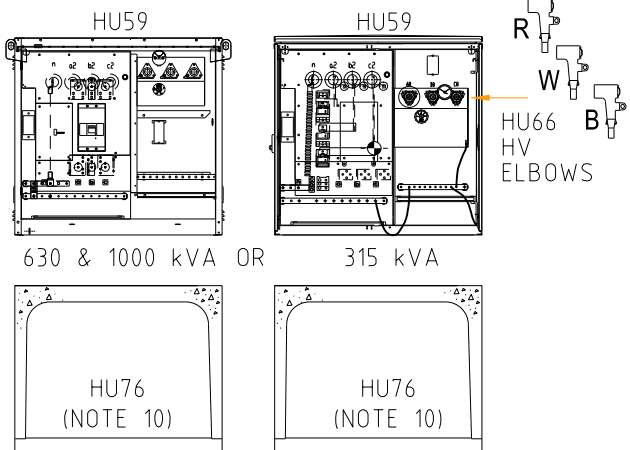


DISTRIBUTION CONSTRUCTION STANDARDS

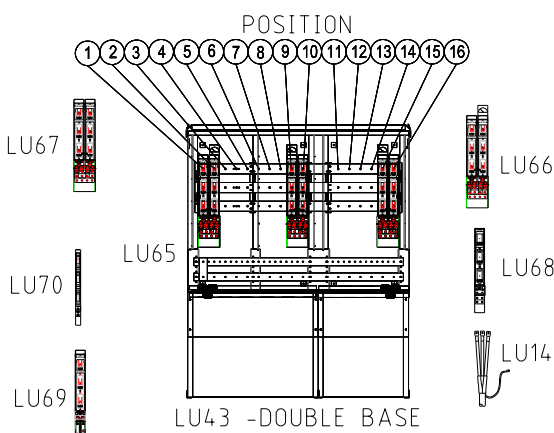
DISTRICT SUBSTATION  
UP TO 2000kVA (NON MPS)  
NON FIRE RATED-WITH MV SWGR  
CIVIL & LAND REQUIREMENTS

REVISION A	DATE 18/08/21
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DRAWING No.  
G3-06/1



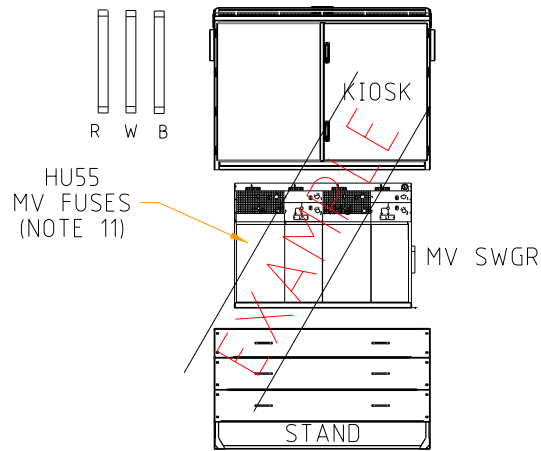
BOX CULVERT - CROWN AND BASE TYPE  
 EXTERNAL SIZE = 1416 x 1022 x 1220 LONG  
 CROWN WEIGHT = 1038 kg  
 BASE WEIGHT = 384 kg



TYPE 3.1 PENDA LAYOUT AND MATERIALS QTY

SWG	MAX FUSE	CU	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
TYPE 3.1 PENDA		LU65																
PENDA BASE		LU43																
160A FSD	1 X 63A DIN 00	LU70				LL												
630 FSD	1 X 400A NH2	LU69				C/S	C/S	C/S	C/S	C/S	C/S	C/S	C/S	C/S	C/S	C/S	C/S	C/S
910A FSD	1 X 630A NH3	LU68				E											E	
1260A FSD	2 X 400A NH2	LU67				C				C	C	C	C					
2000A SWD	LINKS SUPPLIED	LU66				T2												T1
FSD CABLE TERM	FUSES SUPPLIED	LU14				L/S	S	S	S	S	S	S	S	S	S	S	S	S
TX CABLE TERM	TX MCCB	LU16				T2												T1

T = TRANSFORMER      L = LIGHTING CIRCUIT      E = EMERGENCY RESPONSE GENERATOR  
 C = CONSUMER          S = STREET CIRCUIT



- NOTES:
1. LU66 CAN BE USED FOR THE TRANSFORMER AND CONTIGUOUS CONSUMER.
  2. EVERY INSTALLATION SHALL INCLUDE AN EMERGENCY GENERATOR CONNECTION 2 x LU68.
  3. 2 x LU70 OR 1 x LU69 CAN BE USED IN POSITION 4.
  4. 1 x LU14 NEEDED WITH EACH LU69 STREET FEEDER OR LU70 LIGHTING CIRCUIT.
  5. 1 x LU16 NEEDED WITH EACH LU66\_TX IN PENDA AND 1 x LU16 FOR EACH HU59 (NON-MPS).
  6. LARGE CONSUMER CONNECTED VIA A 2000A SWITCH (LU66) MUST ALWAYS BE IN POSITIONS 7 & 8 OR 9 & 10.
  7. STANDARD PENDA 3.1 LAYOUT SHOWN. DESIGNER MAY DESIGN AN ALTERNATIVE PENDA LAYOUT.
  8. NO GANGED FSD OR SWD PERMITTED SPANNING POSITIONS 5 & 6, 6 & 7 OR 10 & 11.
  9. REFER TO G6-11 FOR DETAILED INFORMATION FOR INSTALLATION OF EARTHING.
  10. BOX CULVERT - CROWN AND BASE TYPE, REFER TO G4-02 SHT 2 OF 2 FOR INSTALLATION DETAILS.
  11. REFER TO G1-02 FOR FUSE RATINGS.

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

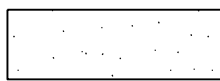
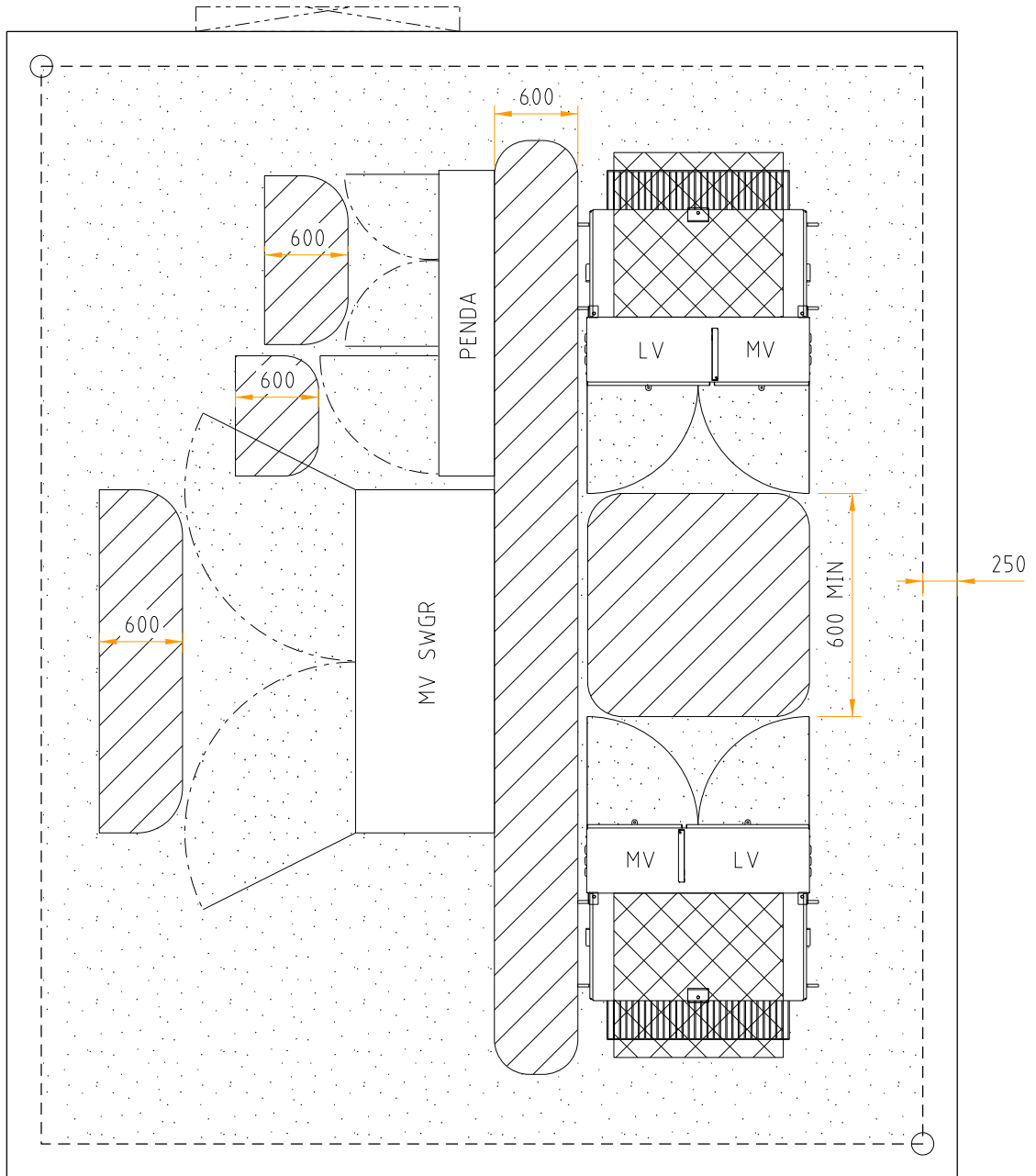


DISTRIBUTION CONSTRUCTION STANDARDS

DISTRICT SUBSTATION  
 UP TO 2000kVA (NON MPS)  
 NON FIRE RATED-WITH MV SWGR  
 EQUIPMENT & INSTALLATION DETAILS

REVISION A      DATE 22/10/21

DRAWING No. G3-06/2



MINIMUM CLEARANCE REQUIRED FOR EARTHING PURPOSES.  
(STEP AND TOUCH POTENTIAL)



MINIMUM CLEARANCE REQUIRED FOR OPERATIONAL/SAFETY PURPOSES



BOX CULVERT

NOTES:

1. REFER TO G6-11 FOR EARTHING
2. REFER TO G6-13 FOR SCREENING
3. REFER TO G9 FOR ENVIRONMENTAL REQUIREMENTS

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

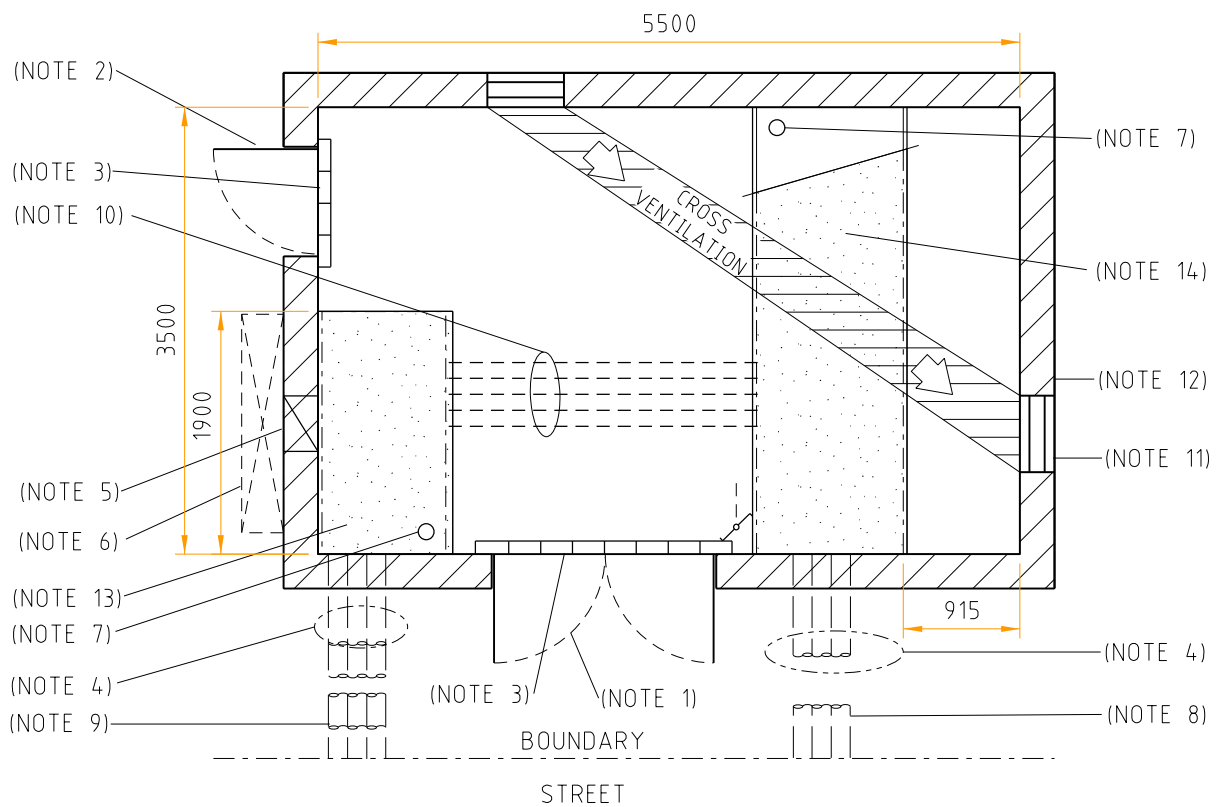


DISTRIBUTION CONSTRUCTION  
STANDARDS

DISTRICT SUBSTATION  
UP TO 2000kVA (NON MPS)  
NON FIRE RATED-WITH MV SWGR  
OPERATIONAL CLEARANCES

REVISION A	DATE 12/10/21
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DRAWING No.  
G3-06/3



NOTES:

1. DOUBLE DOORS 2340 x 1720 CLEAR, EXIT.
2. DOOR 2040 x 820 CLEAR, EXIT.
3. 75 HIGH BRICK BUND LAID AFTER EQUIPMENT INSTALLED.
4. REFER TO G6-01 (6) FOR DETAILED INFORMATION FOR INSTALLATION OF DUCTING.
5. CONSUMERS DUCT(S) AT FLOOR OF TRENCH.
6. CONSUMERS MAIN DISTRIBUTION BOARD.
7. 75 DIA PENETRATION THROUGH SLAB FOR EARTHING.
8. 3 - 150 ID HEAVY DUTY DUCTS 750 COVER AT BOUNDARY.
9. 6 - 150 ID HEAVY DUTY DUCTS 750 COVER AT BOUNDARY.
10. 4 - 150 ID HEAVY DUTY DUCTS INSTALLED AT FLOOR OF TRENCH.
11. 600 x 600 WIDE FIRE DAMPERED VENT AT HIGH & LOW LEVELS.
12. WALLS TO BE 2HR FIRE RATED, CEILING HEIGHT TO BE MIN. 2500.
13. 1200 DEEP TRENCH WITH GALVANISED STEEL FLOOR GRATING (WEBFORGE C253MPG OR EQUIV.) WALLS & FLOOR OF TRENCH TO BE PAINTED WITH "CEMENTAID" SILICON GLAZE S50 REFER TO G6-10 SHEET 1 FOR DETAILS.
14. REFER TO G6-10 SHEET 2 FOR TRENCH AND GRATING DETAILS.

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

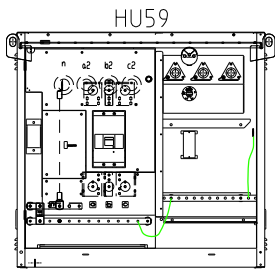


DISTRIBUTION CONSTRUCTION  
STANDARDS

DISTRICT SUBSTATION  
UP TO 1000kVA (NON MPS)  
FIRE RATED - WITHOUT MV SWGR  
CIVIL & LAND REQUIREMENTS

REVISION A	DATE 22/10/21
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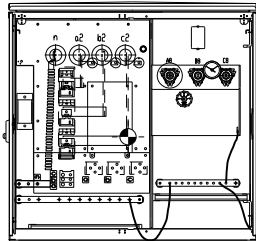
DRAWING No.  
G3-07/1



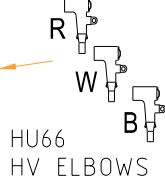
630 AND 1000kVA

OR

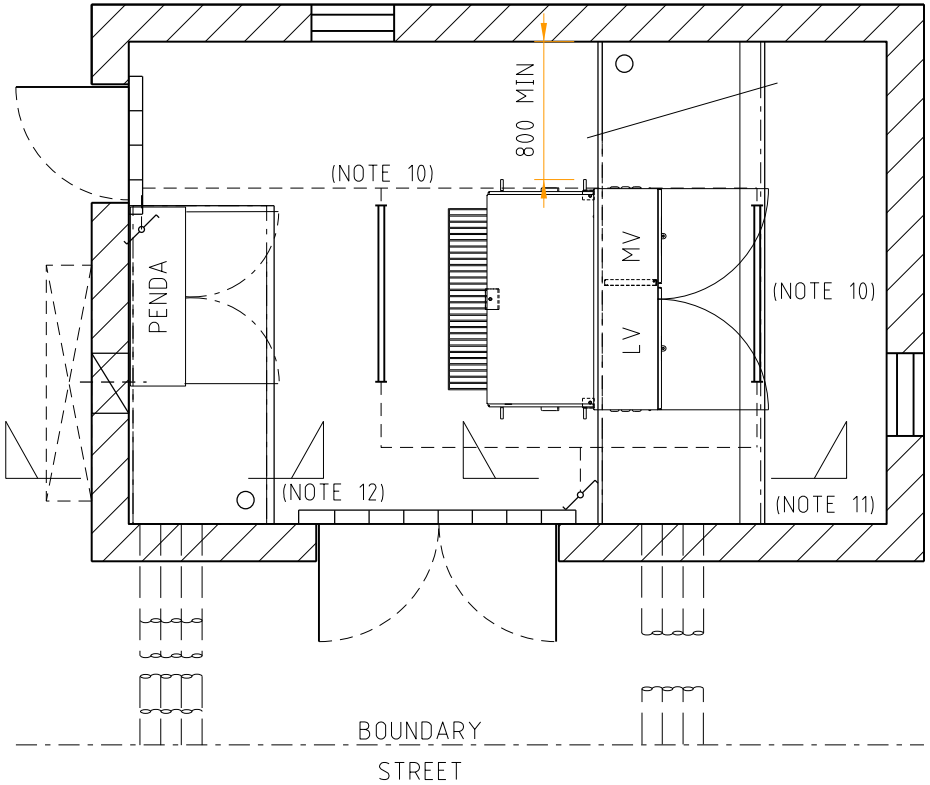
HU59



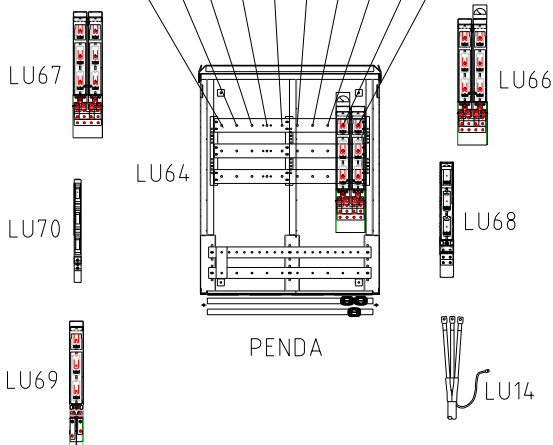
315 kVA



HU66 HV ELBOWS



POSITION



TYPE 2.1 PENDA LAYOUT AND MATERIALS (QTY)

SWG	MAX FUSE	CU	1	2	3	4	5	6	7	8	9	10
TYPE 2.1 PENDA		LU64										
160A FSD	1 X 63A DIN 00	LU70				LL						
630 FSD	1 X 400A NH2	LU69	C/S	C/S	C/S	C/S	C/S	C/S	C/S			
910A FSD	1 X 630A NH3	LU68								E		
1260A FSD	2 X 400A NH2	LU67		C		C						
2000A SWD	LINKS SUPPLIED	LU66		C1								T1
FSD CABLE TERM	FUSES SUPPLIED	LU14	S	S	S	L/S	S	S	S			
TX CABLE TERM	TX MCCB	LU16										T1

T = TRANSFORMER L = LIGHTING CIRCUIT E = EMERGENCY RESPONSE GENERATOR  
C = CONSUMER S = STREET CIRCUIT

NOTES:

1. LU66 CAN BE USED FOR THE TRANSFORMER AND CONTIGUOUS CONSUMER.
2. EVERY INSTALLATION SHALL INCLUDE AN EMERGENCY GENERATOR CONNECTION LU68.
3. 2 x LU70 OR 1 x LU69 CAN BE USED IN POSITION 4.
4. 1 x LU14 NEEDED WITH EACH LU69 STREET FEEDER OR LU70 LIGHTING CIRCUIT.
5. 1 x LU16 NEEDED WITH EACH LU66\_TX IN PENDA AND 1 x LU16 FOR HU59 (NON-MPS).
6. LU66\_TX WILL DEFAULT TO POSITIONS 9 & 10 UNLESS POSITION 1 & 2 IS SPECIFIED BY THE DESIGNER.
7. STANDARD PENDA 2.1 LAYOUT SHOWN. DESIGNER MAY DESIGN AN ALTERNATIVE PENDA LAYOUT.
8. NO GANGED FSD OR SWD PERMITTED SPANING POSITIONS 5 & 6 OR 6 & 7.
9. REFER TO G6-12 FOR DETAILED INFORMATION FOR INSTALLATION OF EARTHING.
10. 2 x 38W FLUORESCENT BATTEN FITTING.
11. REFER TO G6-10 SHEET 3 TO 6 AND 10 FOR TRANSFORMER CANTILEVER SUPPORT AND GRATING DETAILS.
12. REFER TO G6-10 SHEET 10 FOR GRATING DETAILS.
13. REFER TO G1-02 FOR FUSE RATINGS.

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



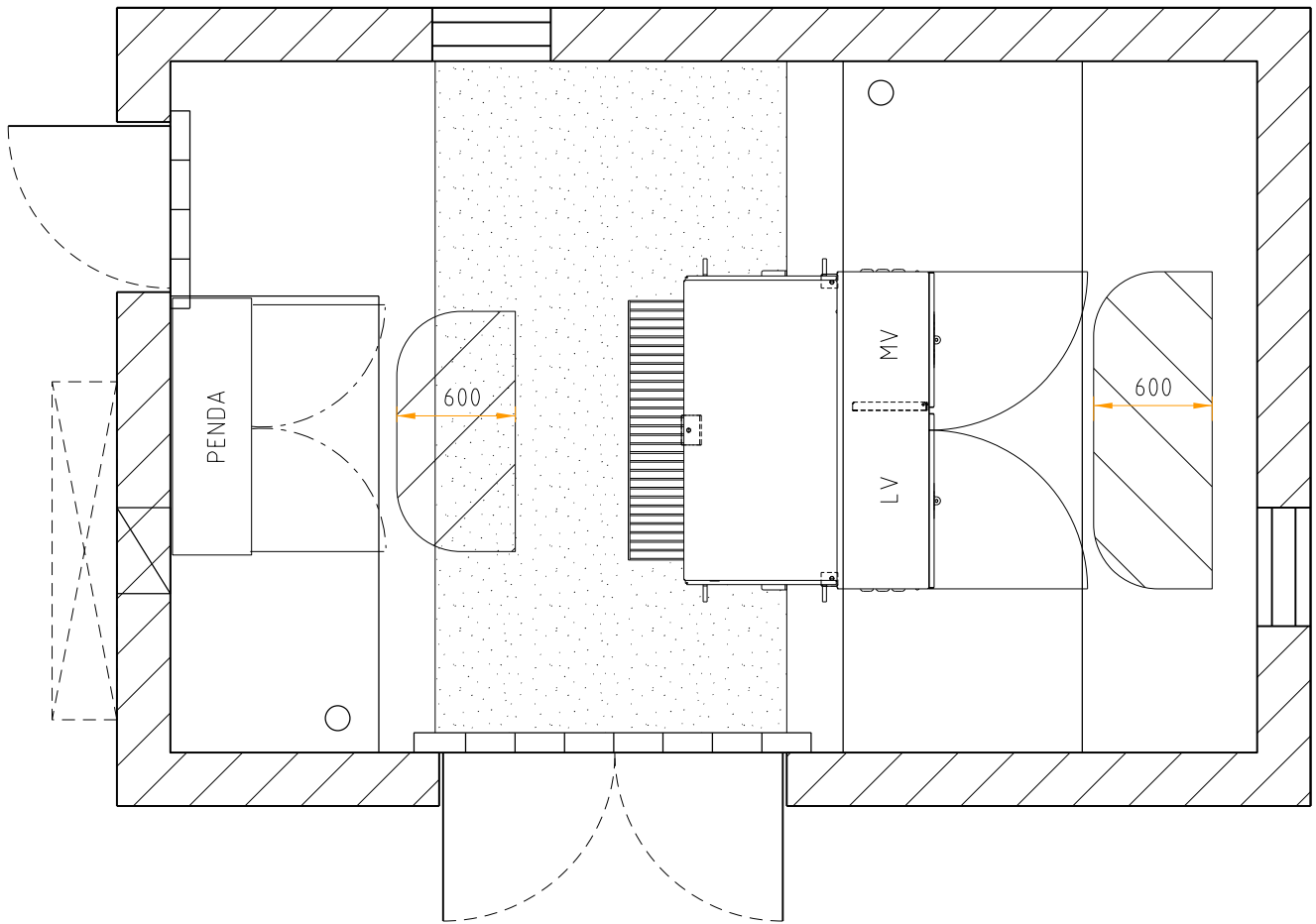
DISTRIBUTION CONSTRUCTION STANDARDS

DISTRICT SUBSTATION  
UP TO 1000kVA (NON MPS)  
FIRE RATED-WITHOUT MV SWGR  
EQUIPMENT & INSTALLATION DETAILS

REVISION A DATE 22/10/21

DRAWING No. G3-07/2





CLEARANCE REQUIRED FOR TRANSFORMER INSTALLATION PURPOSES



MINIMUM CLEARANCE REQUIRED FOR OPERATIONAL/SAFETY PURPOSES

NOTES:

1. REFER TO G6-12 FOR EARTHING
2. REFER TO G6-10 FOR TRENCHING

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

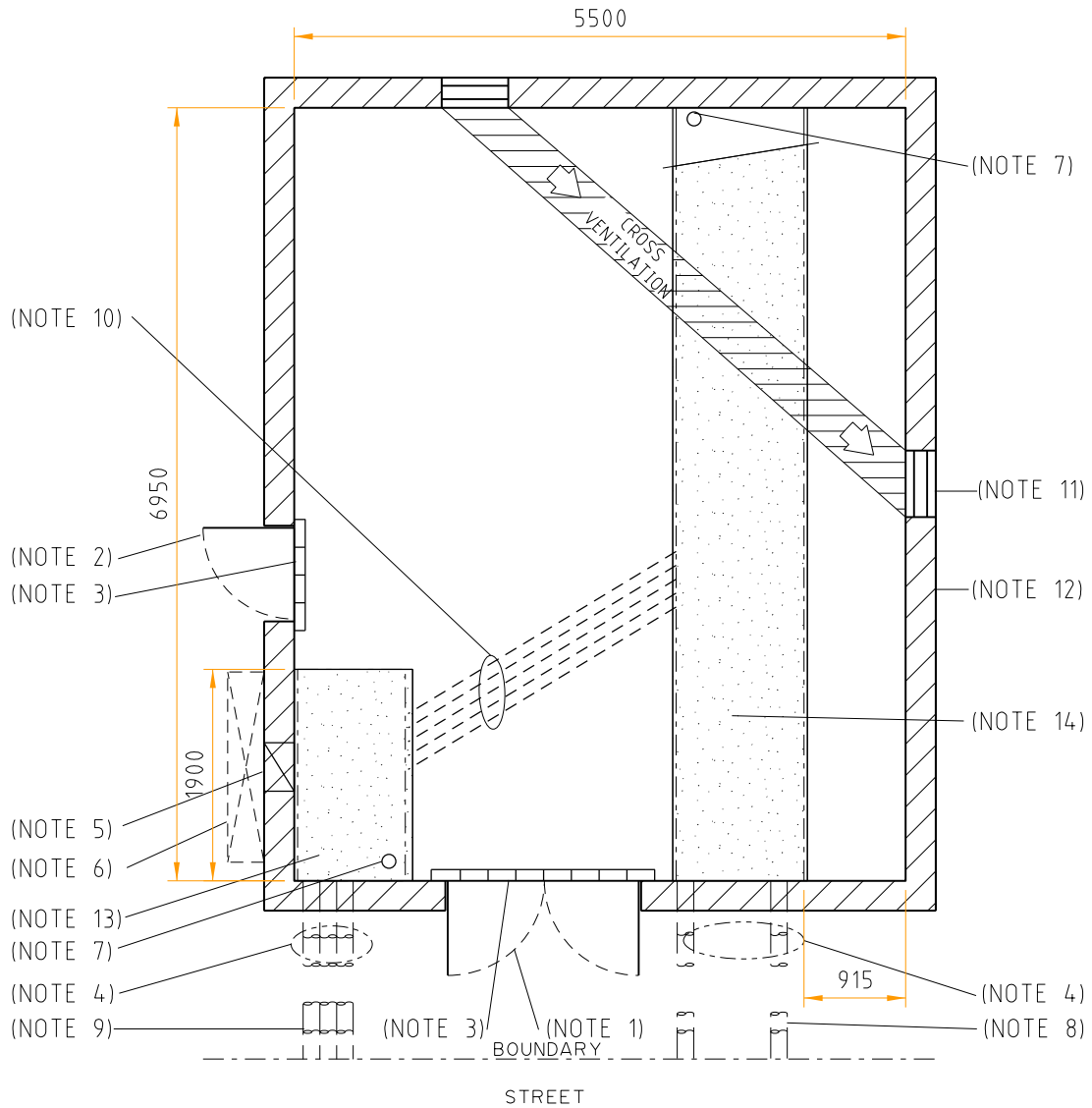


DISTRIBUTION CONSTRUCTION STANDARDS

DISTRICT SUBSTATION  
UP TO 1000kVA (NON MPS)  
FIRE RATED - WITHOUT MV SWGR  
OPERATIONAL CLEARANCES

REVISION	DATE
A	14/10/21

DRAWING No.  
G3-07/3



NOTES:

1. DOUBLE DOORS 2340 x 1720 CLEAR, EXIT
2. DOOR 2040 x 820 CLEAR, EXIT
3. 75 HIGH BRICK BUND LAID AFTER EQUIPMENT INSTALLED
4. REFER TO G6-01 (15) FOR DETAILED INFORMATION FOR INSTALLATION OF DUCTING.
5. CONSUMERS DUCT(S) AT FLOOR OF TRENCH
6. CONSUMERS MAIN DISTRIBUTION BOARD
7. 75 DIA PENETRATION THROUGH SLAB FOR EARTHING
8. 4 - 150 ID HEAVY DUTY DUCTS 750 COVER AT BOUNDARY
9. 6 - 150 ID HEAVY DUTY DUCTS 750 COVER AT BOUNDARY
10. 4 - 150 ID HEAVY DUTY DUCTS INSTALLED AT FLOOR OF TRENCH
11. 600 x 600 WIDE FIRE DAMPERED VENT AT HIGH & LOW LEVELS
12. WALLS TO BE 2HR FIRE RATED, CEILING HEIGHT TO BE MIN. 2500.
13. 1200 DEEP TRENCH WITH GALVANISED STEEL FLOOR GRATING (WEBFORGE C253MPG OR EQUIV.) WALLS & FLOOR OF TRENCH TO BE PAINTED WITH "CEMENTAID" SILICON GLAZE S50 REFER TO G6-10 SHEET 1 FOR DETAILS
14. REFER TO G6-10 SHEET 2 FOR TRENCH AND GRATING DETAILS

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

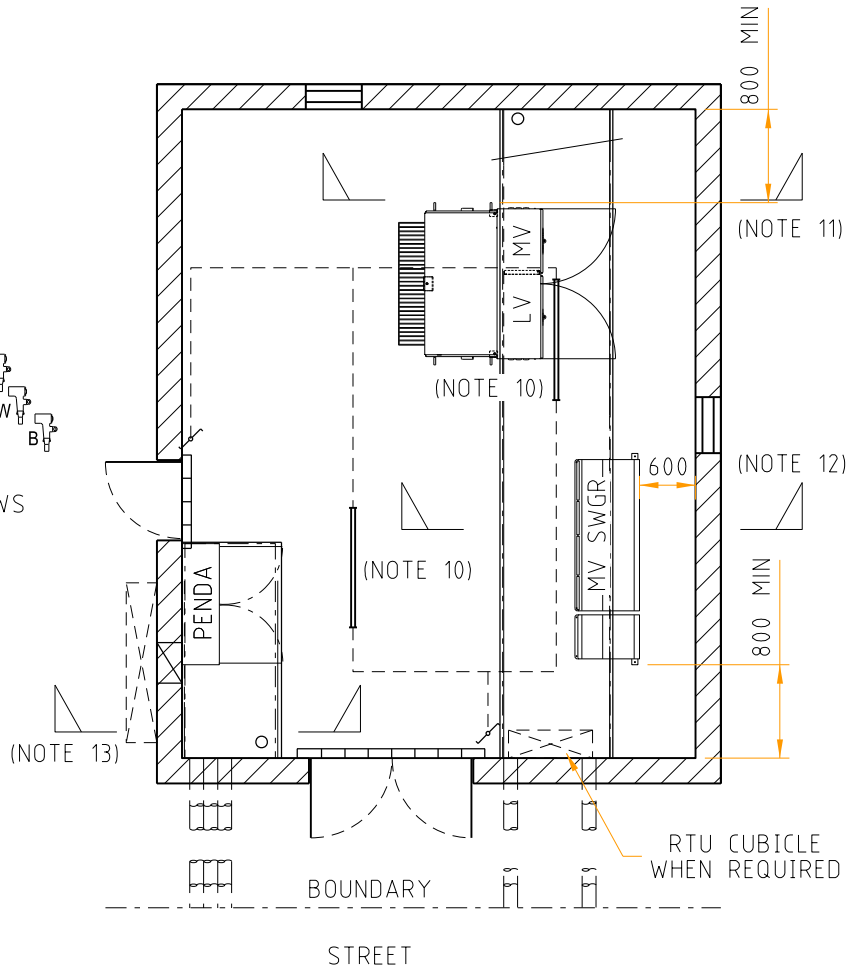
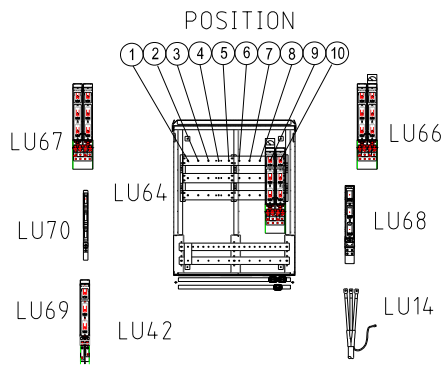
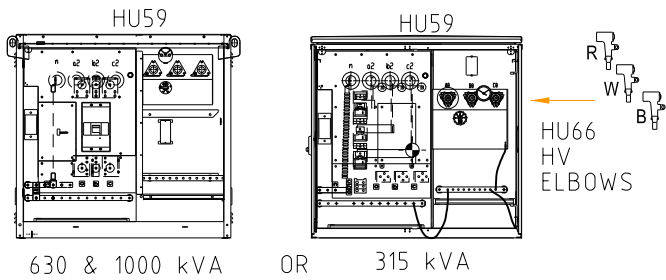
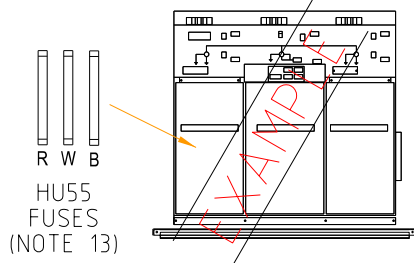


DISTRIBUTION CONSTRUCTION  
STANDARDS

DISTRICT SUBSTATION  
UP TO 1000kVA (NON MPS)  
FIRE RATED - WITH MV SWGR  
CIVIL & LAND REQUIREMENTS

REVISION A	DATE 14/10/21
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DRAWING No.  
G3-08/1



TYPE 2.1 PENDA LAYOUT AND MATERIALS (QTY)

SWG	MAX FUSE	CU	1	2	3	4	5	6	7	8	9	10
TYPE 2.1 PENDA		LU64										
160A FSD	1 X 63A DIN 00	LU70				LL						
630 FSD	1 X 400A NH2	LU69	C/S	C/S	C/S	C/S	C/S	C/S	C/S			
910A FSD	1 X 630A NH3	LU68								E		
1260A FSD	2 X 400A NH2	LU67	C		C							
2000A SWD	LINKS SUPPLIED	LU66	C1									T1
FSD CABLE TERM	FUSES SUPPLIED	LU14	S	S	S	L/S	S	S	S			
TX CABLE TERM	TX MCCB	LU16										T1

T = TRANSFORMER L = LIGHTING CIRCUIT E = EMERGENCY RESPONSE GENERATOR  
 C = CONSUMER S = STREET CIRCUIT

NOTES

1. LU66 CAN BE USED FOR THE TRANSFORMER AND CONTIGUOUS CONSUMER.
2. EVERY INSTALLATION SHALL INCLUDE AN EMERGENCY GENERATOR CONNECTION LU68.
3. 2 x LU70 OR 1 x LU69 CAN BE USED IN POSITION 4.
4. 1 x LU14 NEEDED WITH EACH LU69 STREET FEEDER OR LU70 LIGHTING CIRCUIT.
5. 1 x LU16 NEEDED WITH EACH LU66\_TX IN PENDA AND 1 x LU16 FOR HU59 (NON-MPS).
6. LU66\_TX WILL DEFAULT TO POSITIONS 9 & 10 UNLESS POSITION 1 & 2 IS SPECIFIED BY THE DESIGNER.
7. STANDARD PENDA 2.1 LAYOUT SHOWN. DESIGNER MAY DESIGN AN ALTERNATIVE PENDA LAYOUT.
8. NO GANGED FSD OR SWD PERMITTED SPANING POSITIONS 5 & 6 OR 6 & 7.
9. REFER TO G6-12 FOR DETAILED INFORMATION FOR INSTALLATION OF EARTHING.
10. 2 x 38W FLUORESCENT BATTEN FITTING.
11. REFER TO G6-10 SHEET 3 TO 6 AND 10 FOR TRANSFORMER CANTILEVER SUPPORT AND GRATING DETAILS.
12. REFER TO G6-7 FOR MV SWITCHGEAR SUPPORT AND G6-10 SHEET 10 FOR GRATING DETAILS.
13. REFER TO G6-10 SHEET 10 FOR GRATING DETAILS.
14. REFER TO G1-02 FOR FUSE RATINGS.

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

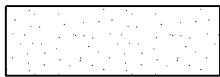
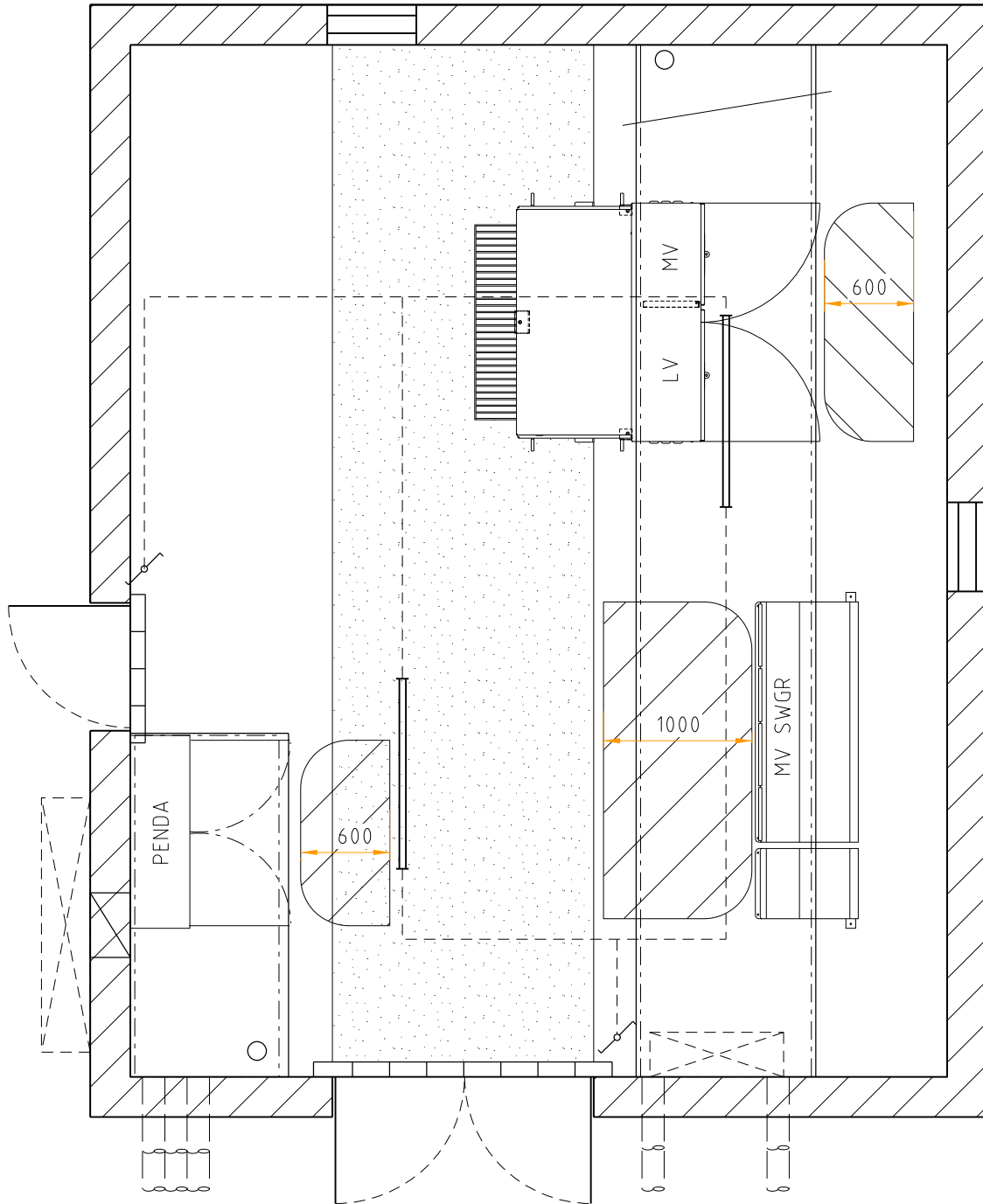


DISTRIBUTION CONSTRUCTION STANDARDS

DISTRICT SUBSTATION  
 UP TO 1000kVA (NON MPS)  
 FIRE RATED - WITH MV SWGR  
 EQUIPMENT & INSTALLATION DETAILS

REVISION A DATE 22/10/21

DRAWING No. G3-08/2



CLEARANCE REQUIRED FOR TRANSFORMER INSTALLATION PURPOSES



MINIMUM CLEARANCE REQUIRED FOR OPERATIONAL/SAFETY PURPOSES

NOTES:

1. REFER TO G6-12 FOR EARTHING
2. REFER TO G6-10 FOR TRENCHING

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

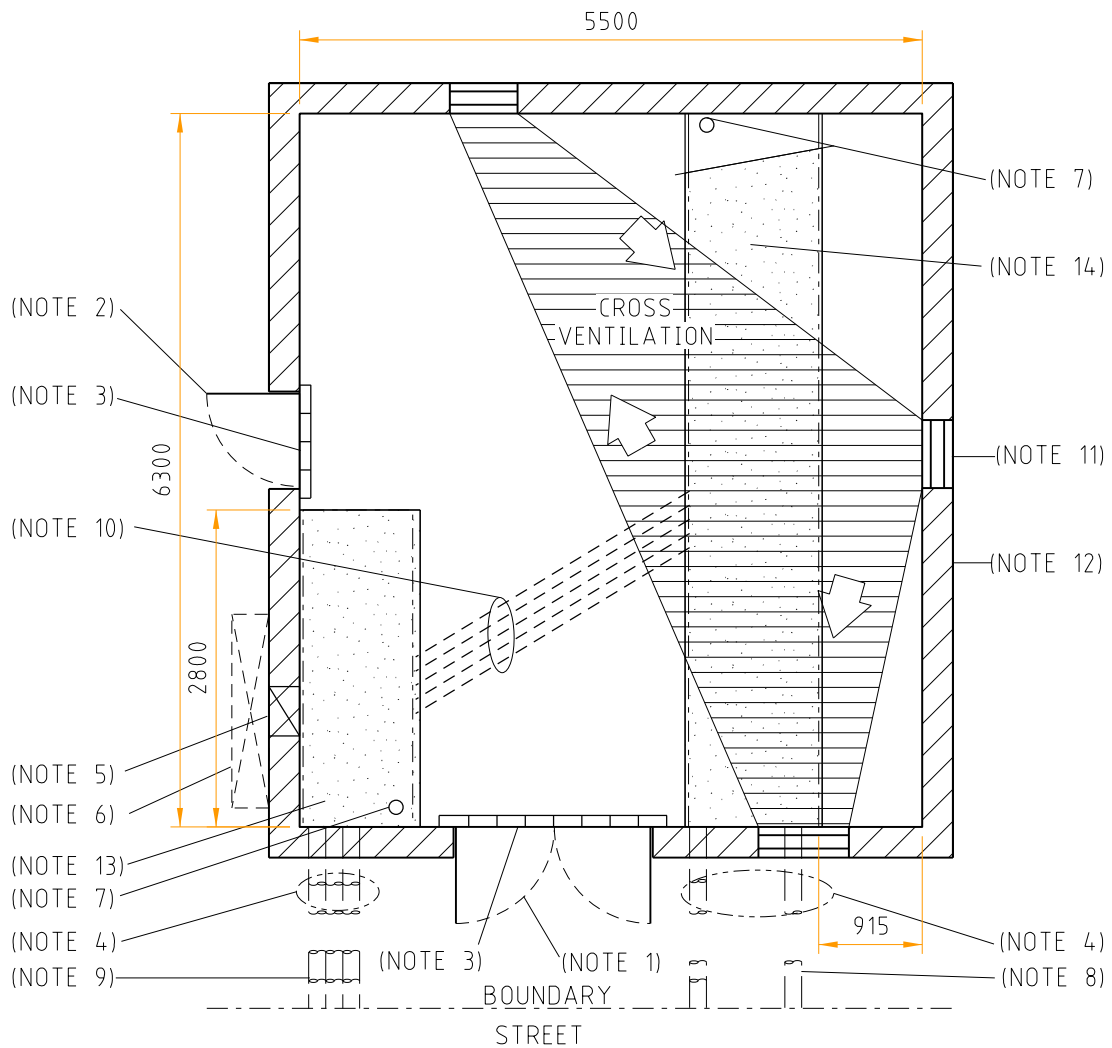


DISTRIBUTION CONSTRUCTION STANDARDS

DISTRICT SUBSTATION  
UP TO 1000kVA (NON MPS)  
FIRE RATED - WITH MV SWGR  
OPERATIONAL CLEARANCES

REVISION A	DATE 14/10/21
---------------	------------------

DRAWING No.  
G3-08/3



NOTES:

1. DOUBLE DOORS 2340 x 1720 CLEAR, EXIT
2. DOOR 2040 x 820 CLEAR, EXIT
3. 75 HIGH BRICK BUND LAID AFTER EQUIPMENT INSTALLED
4. REFER TO G6-01 (16) FOR DETAILED INFORMATION FOR INSTALLATION OF DUCTING.
5. CONSUMERS DUCT(S) AT FLOOR OF TRENCH
6. CONSUMERS MAIN DISTRIBUTION BOARD
7. 75 DIA PENETRATION THROUGH SLAB FOR EARTHING
8. 3 - 150 ID HEAVY DUTY DUCTS 750 COVER AT BOUNDARY
9. 6 - 150 ID HEAVY DUTY DUCTS 750 COVER AT BOUNDARY
10. 4 - 150 ID HEAVY DUTY DUCTS INSTALLED AT FLOOR OF TRENCH
11. 600 x 600 WIDE FIRE DAMPERED VENT AT HIGH & LOW LEVELS
12. WALLS TO BE 2HR FIRE RATED, CEILING HEIGHT TO BE MIN. 2500.
13. 1200 DEEP TRENCH WITH GALVANISED STEEL FLOOR GRATING (WEBFORGE C253MPG OR EQUIV.) WALLS & FLOOR OF TRENCH TO BE PAINTED WITH "CEMENTAID" SILICON GLAZE S50 REFER TO G6-10 SHEET 1 FOR DETAILS
14. REFER TO G6-10 SHEET 2 FOR TRENCH AND GRATING DETAILS

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

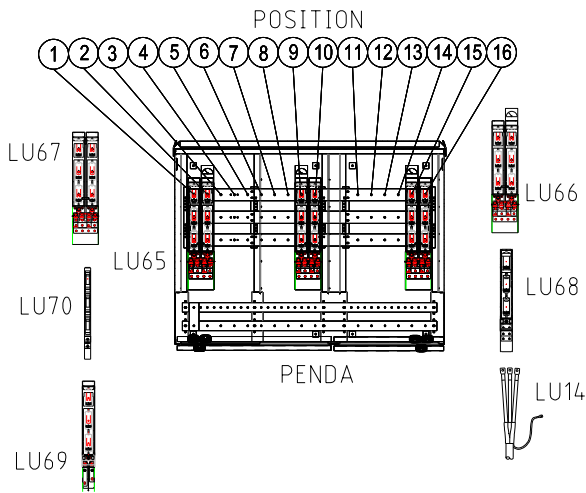
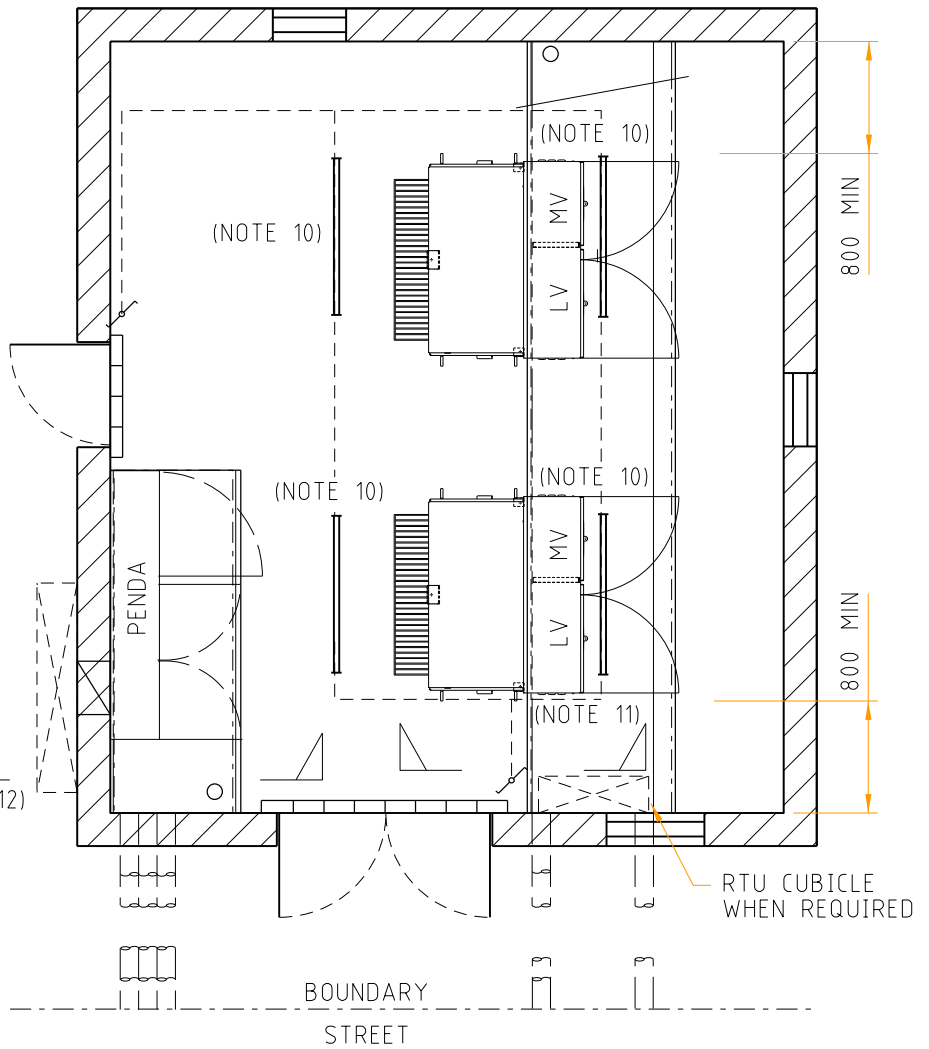
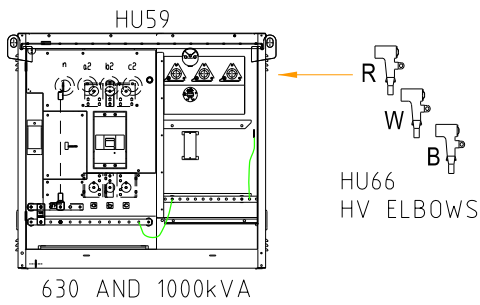


DISTRIBUTION CONSTRUCTION  
STANDARDS

DISTRICT SUBSTATION  
UP TO 2000kVA (NON MPS)  
FIRE RATED - WITHOUT MV SWGR  
CIVIL & LAND REQUIREMENTS

REVISION A	DATE 14/10/21
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DRAWING No.  
G3-09/1



TYPE 3.1 PENDA LAYOUT AND MATERIALS (QTY)

SWG	MAX FUSE	CU	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
TYPE 3.1 PENDA		LU65					LL											
160A FSD	1 X 63A DIN 00	LU70																
630 FSD	1 X 400A NH2	LU69				C/S	C/S	C/S	C/S	C/S	C/S	C/S	C/S	C/S	C/S			
910A FSD	1 X 630A NH3	LU68			E												E	
1260A FSD	2 X 400A NH2	LU67				C			C		C		C					
2000A SWD	LINKS SUPPLIED	LU66	T2								C1							T1
FSD CABLE TERM	FUSES SUPPLIED	LU14				L/S	S	S	S	S	S	S	S	S	S			
TX CABLE TERM	TX MCCB	LU16	T2															T1

T = TRANSFORMER  
C = CONSUMER  
L = LIGHTING CIRCUIT  
S = STREET CIRCUIT  
E = EMERGENCY RESPONSE GENERATOR

NOTES:

1. LU66 CAN BE USED FOR THE TRANSFORMER AND CONTIGUOUS CONSUMER.
2. EVERY INSTALLATION SHALL INCLUDE AN EMERGENCY GENERATOR CONNECTION LU68.
3. 2 x LU70 OR 1 x LU69 CAN BE USED IN POSITION 4.
4. 1 x LU14 NEEDED WITH EACH LU69 STREET FEEDER OR LU70 LIGHTING CIRCUIT.
5. 1 x LU16 NEEDED WITH EACH LU66\_TX IN PENDA AND 1 x LU16 FOR HU59 (NON-MPS).
6. LU66\_TX WILL DEFAULT TO POSITIONS 9 & 10 UNLESS POSITION 1 & 2 IS SPECIFIED BY THE DESIGNER.
7. STANDARD PENDA 3.1 LAYOUT SHOWN. DESIGNER MAY DESIGN AN ALTERNATIVE PENDA LAYOUT.
8. NO GANGED FSD OR SWD PERMITTED SPANING POSITIONS 5 & 6 OR 6 & 7.
9. REFER TO G6-12 FOR DETAILED INFORMATION FOR INSTALLATION OF EARTHING.
10. 4 x 38W FLUORESCENT BATTEN FITTING.
11. REFER TO G6-10 SHEET 3 TO 6 AND 10 FOR TRANSFORMER CANTILEVER SUPPORT AND GRATING DETAILS.
12. REFER TO G6-10 SHEET 10 FOR GRATING DETAILS.
13. REFER TO G1-02 FOR FUSE RATINGS.

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

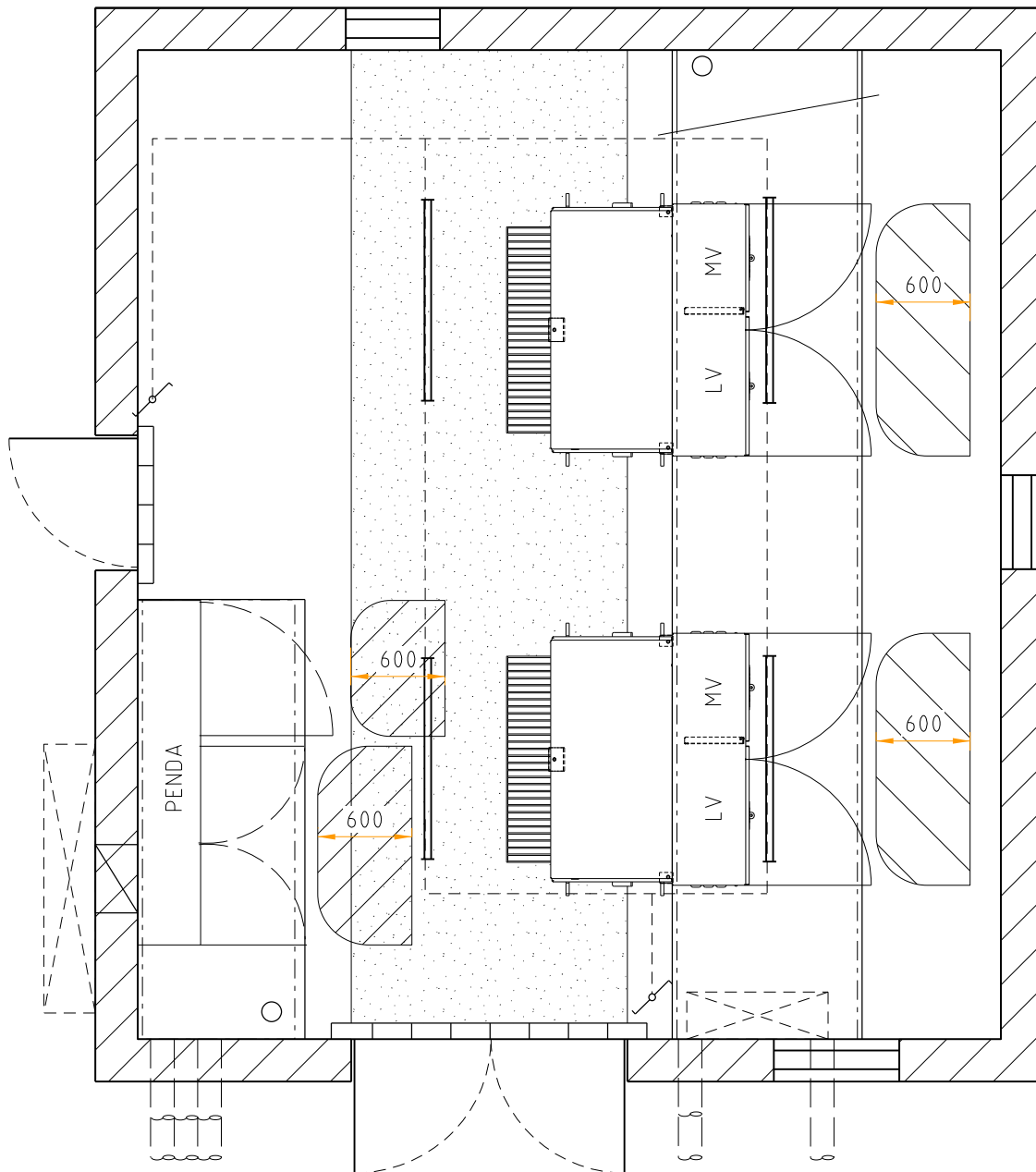


DISTRIBUTION CONSTRUCTION STANDARDS

DISTRICT SUBSTATION  
UP TO 2000kVA (NON MPS)  
FIRE RATED - WITHOUT MV SWGR  
EQUIPMENT & INSTALLATION DETAILS

REVISION A DATE 22/10/21

DRAWING No. G3-09/2



CLEARANCE REQUIRED FOR TRANSFORMER INSTALLATION PURPOSES



MINIMUM CLEARANCE REQUIRED FOR OPERATIONAL/SAFETY PURPOSES

NOTES:

1. REFER TO G6-12 FOR EARTHING
2. REFER TO G6-10 FOR TRENCHING

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

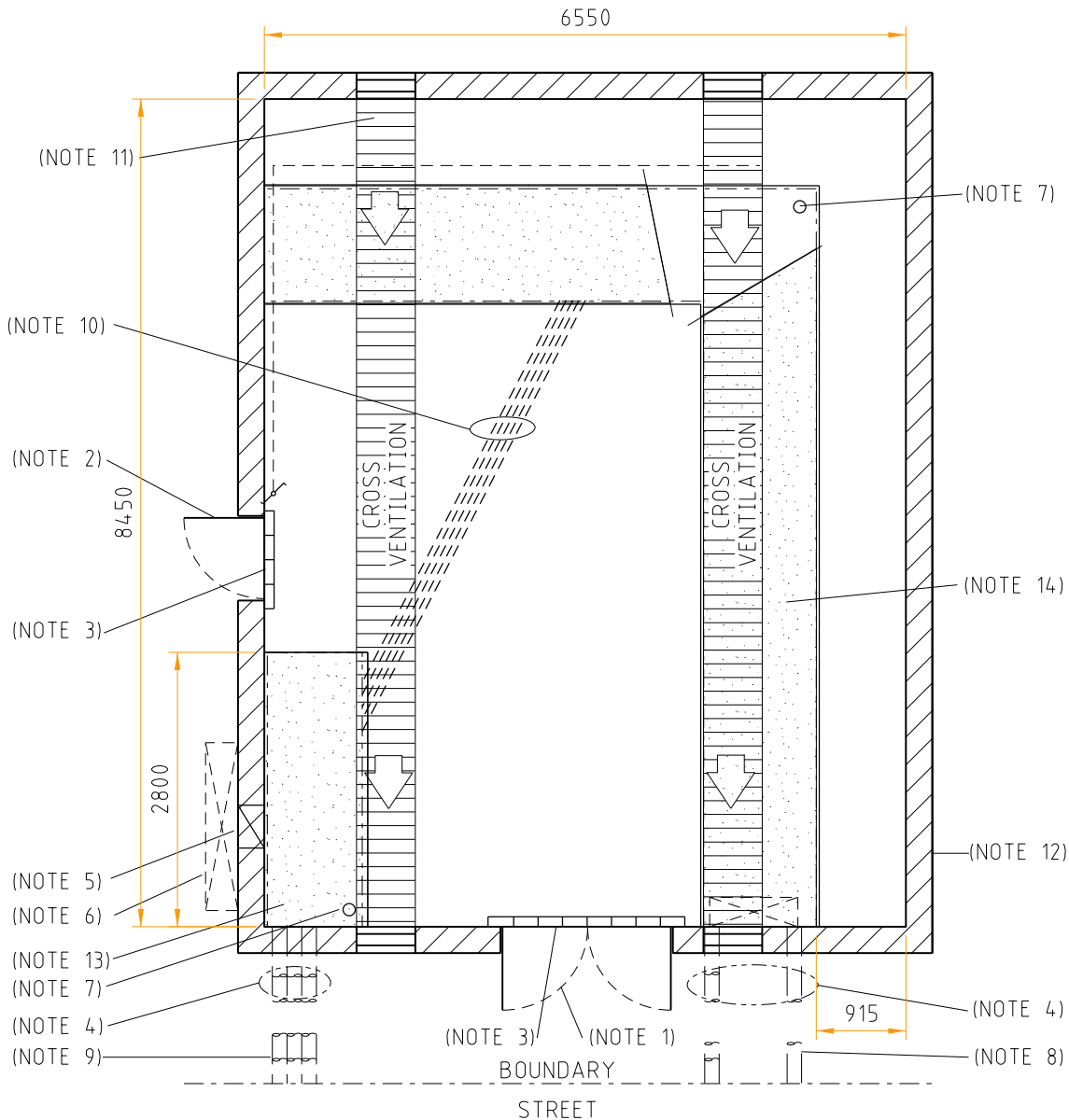


DISTRIBUTION CONSTRUCTION STANDARDS

DISTRICT SUBSTATION  
UP TO 2000kVA (NON MPS)  
FIRE RATED - WITHOUT MV SWGR  
OPERATIONAL CLEARANCES

REVISION A	DATE 14/10/21
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DRAWING No.  
G3-09/3



NOTES:

1. DOUBLE DOORS 2340 x 1720 CLEAR, EXIT
2. DOOR 2040 x 820 CLEAR, EXIT
3. 75 HIGH BRICK BUND LAID AFTER EQUIPMENT INSTALLED
4. REFER TO G6-01 (16) FOR DETAILED INFORMATION FOR INSTALLATION OF DUCTING.
5. CONSUMERS DUCT(S) AT FLOOR OF TRENCH
6. CONSUMERS MAIN DISTRIBUTION BOARD
7. 75 DIA PENETRATION THROUGH SLAB FOR EARTHING
8. 3 - 150 ID HEAVY DUTY DUCTS 750 COVER AT BOUNDARY
9. 6 - 150 ID HEAVY DUTY DUCTS 750 COVER AT BOUNDARY
10. 4 - 150 ID HEAVY DUTY DUCTS INSTALLED AT FLOOR OF TRENCH
11. 600 x 600 WIDE FIRE DAMPERED VENT AT HIGH & LOW LEVELS
12. WALLS TO BE 2HR FIRE RATED, CEILING HEIGHT TO BE MIN. 2500
13. 1200 DEEP TRENCH WITH GALVANISED STEEL FLOOR GRATING (WEBFORGE C253MPG OR EQUIV.) WALLS & FLOOR OF TRENCH TO BE PAINTED WITH "CEMENTAID" SILICON GLAZE S50 REFER TO G6-10 SHEET 1 FOR DETAILS
14. REFER TO G6-10 SHEET 2 FOR TRENCH AND GRATING DETAILS

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



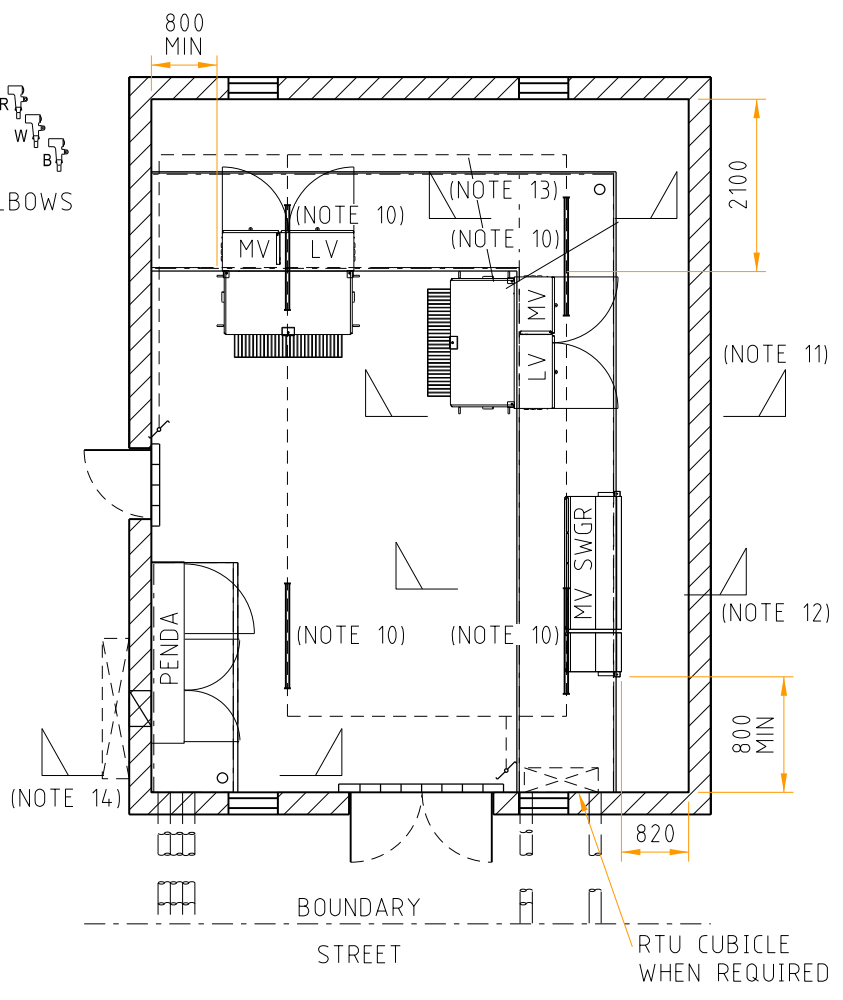
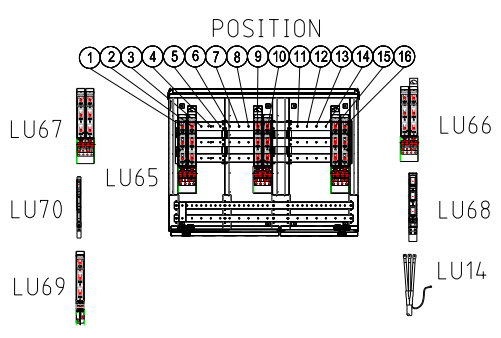
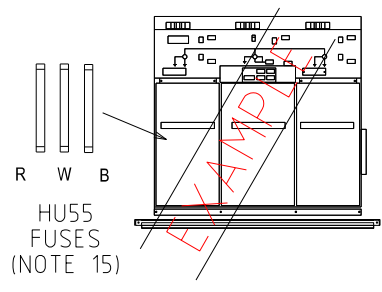
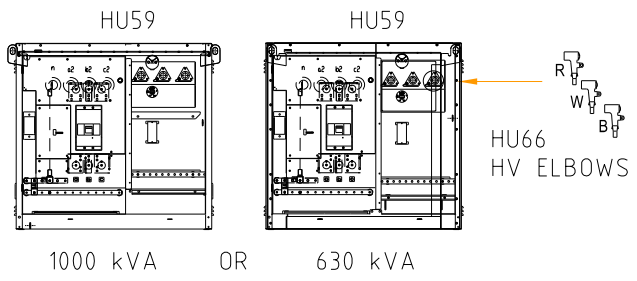
DISTRIBUTION CONSTRUCTION  
STANDARDS

DISTRICT SUBSTATION  
UP TO 2000kVA (NON MPS)  
FIRE RATED - WITH MV SWGR  
CIVIL & LAND REQUIREMENTS

REVISION A	DATE 15/10/21
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DRAWING No.  
G3-10/1





TYPE 3.1 PENDA LAYOUT AND MATERIALS (QTY)

SWG	MAX FUSE	CU	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
TYPE 3.1 PENDA		LU65																
160A FSD	1 X 63A DIN 00	LU70				LL												
630 FSD	1 X 400A NH2	LU69				C/S	C/S	C/S	C/S	C/S	C/S	C/S	C/S	C/S	C/S			
910A FSD	1 X 630A NH3	LU68			E												E	
1260A FSD	2 X 400A NH2	LU67				C			C	C	C	C						
2000A SWD	LINKS SUPPLIED	LU66		T2						C1								T1
FSD CABLE TERM	FUSES SUPPLIED	LU14				L/S	S	S	S	S	S	S	S	S	S			
TX CABLE TERM	TX MCCB	LU16		T2														T1

T = TRANSFORMER L = LIGHTING CIRCUIT E = EMERGENCY RESPONSE GENERATOR  
 C = CONSUMER S = STREET CIRCUIT

NOTES:

1. LU66 CAN BE USED FOR THE TRANSFORMER AND CONTIGUOUS CONSUMER.
2. EVERY INSTALLATION SHALL INCLUDE AN ERG CONNECTION 2 x LU68.
3. 2 x LU70 OR 1 x LU69 CAN BE USED IN POSITION 4.
4. 1 x LU14 NEEDED WITH EACH LU69 STREET FEEDER OR LU70 LIGHTING CIRCUIT.
5. 1 x LU16 NEEDED WITH EACH LU66\_TX IN PENDA AND 1 x LU16 FOR EACH HU59 (NON-MPS).
6. LARGE CONSUMER CONNECTED VIA A 2000A SWITCH (LU66) MUST ALWAYS BE IN POSITIONS 7 & 8 OR 9 & 10.
7. STANDARD PENDA LAYOUT SHOWN. DESIGNER MAY DESIGN AN ALTERNATIVE PENDA LAYOUT.
8. NO GANGED FSD OR SWD PERMITTED SPANNING POSITIONS 5 & 6, 6 & 7 OR 10 & 11.
9. REFER TO G6-12 FOR DETAILED INFORMATION FOR INSTALLATION OF EARTHING.
10. 4 x 38W FLUORESCENT BATTEN FITTING.
11. REFER TO G6-10 SHEET 3 TO 6 AND 10 FOR TRANSFORMER CANTILEVER SUPPORT AND GRATING DETAILS.
12. REFER TO G6-7 FOR MV SWITCHGEAR SUPPORT AND G6-10 SHEET 10 FOR GRATING DETAILS.
13. REFER TO G6-10 SHEET 7 AND 8 FOR GRATING SUPPORT.
14. REFR TO G6-10 SHEET 10 FOR GRATING DETAILS.
15. REFER TO G1-02 FOR FUSE RATINGS.

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

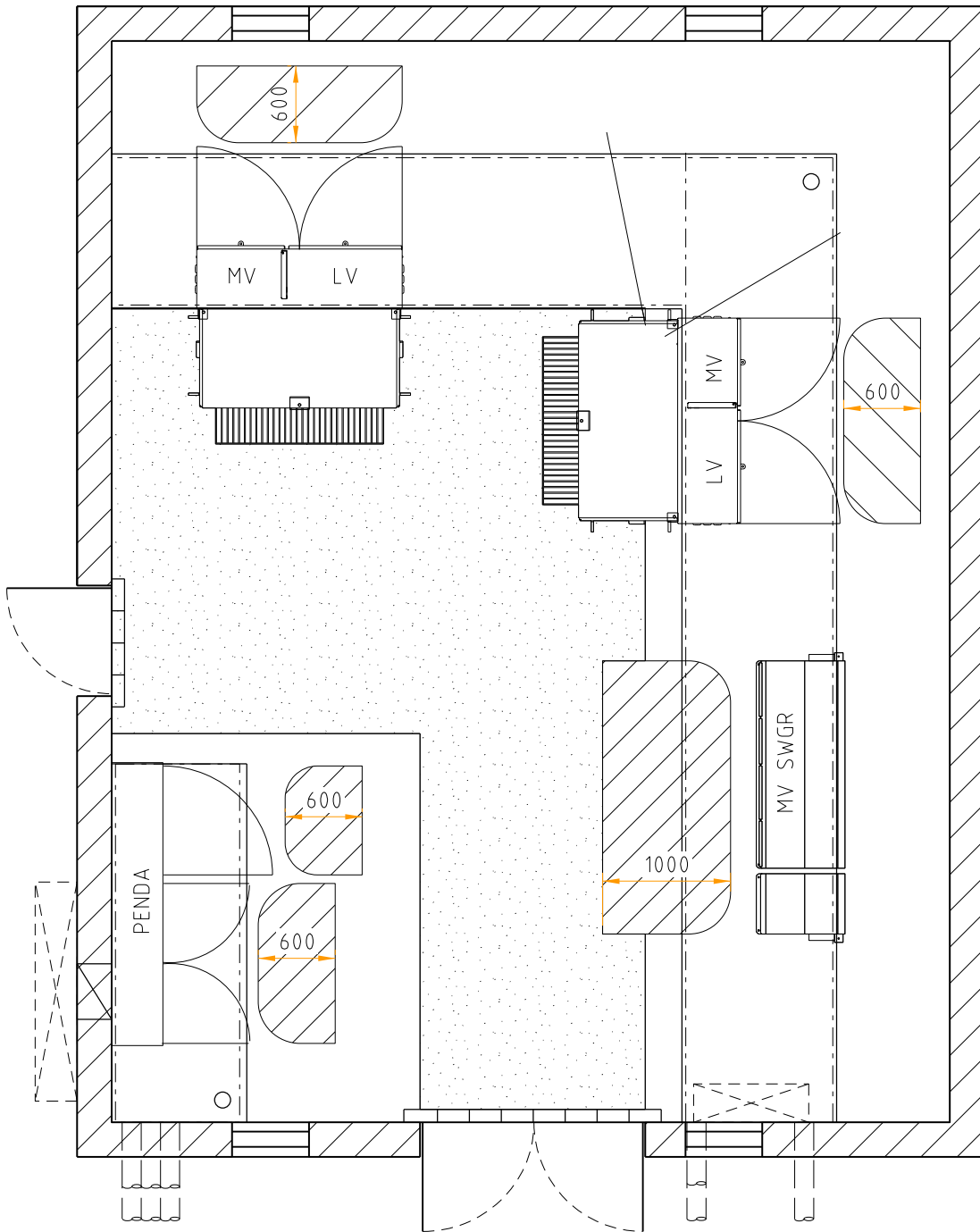


DISTRIBUTION CONSTRUCTION STANDARDS

DISTRICT SUBSTATION  
 UP TO 2000kVA (NON MPS)  
 FIRE RATED - WITH MV SWGR  
 EQUIPMENT & INSTALLATION DETAILS

REVISION	DATE
A	22/10/21

DRAWING No.  
 G3-10/2



CLEARANCE REQUIRED FOR TRANSFORMER INSTALLATION PURPOSES



MINIMUM CLEARANCE REQUIRED FOR OPERATIONAL/SAFETY PURPOSES

NOTES:

1. REFER TO G6-12 FOR EARTHING
2. REFER TO G6-10 FOR TRENCHING

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



DISTRIBUTION CONSTRUCTION  
STANDARDS

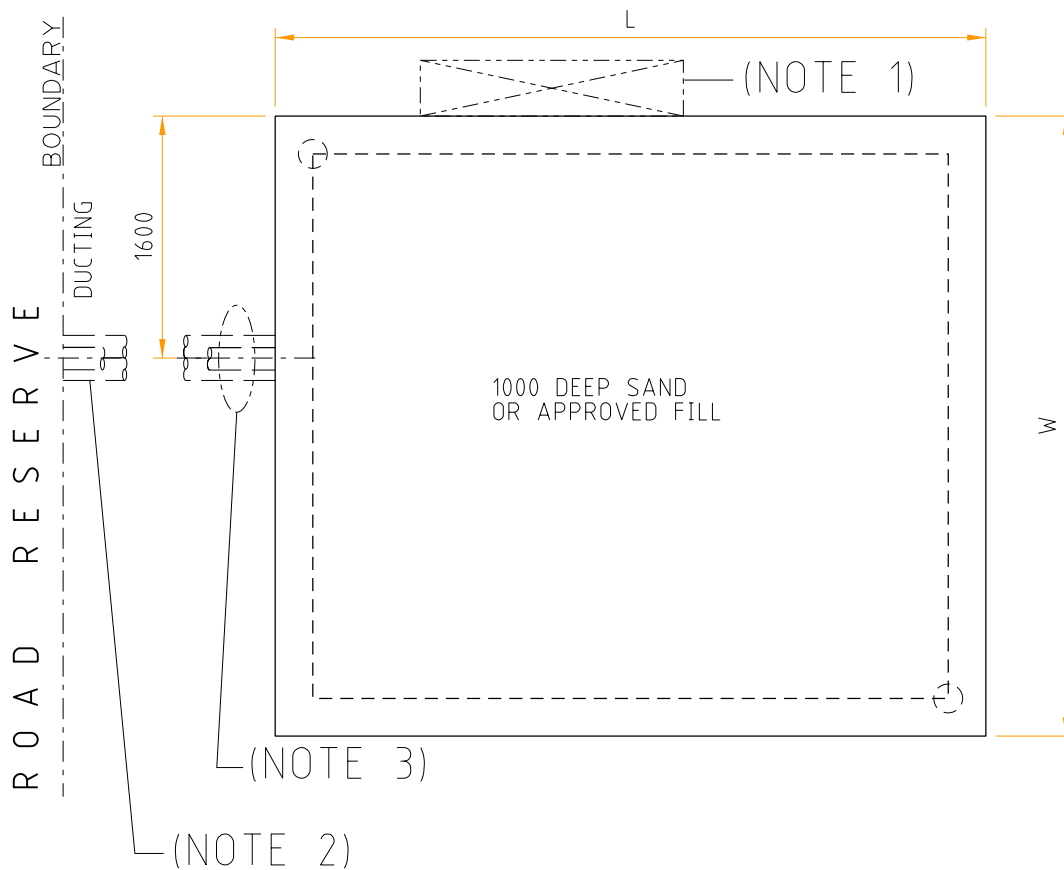
DISTRICT SUBSTATION  
UP TO 2000kVA (NON MPS)  
FIRE RATED - WITH MV SWGR  
OPERATIONAL CLEARANCES

REVISION A	DATE 15/10/21
---------------	------------------

DRAWING No.

G3-10/3

MINIMUM LAND REQUIREMENTS (RECOMMENDED SHOWN)			
TX	6.6 & 11kV	22kV	33kV
	L x W	L x W	L x W
HU60_0/315	4400 X 3600	4400 X 3600	4500 x 3900
HU60_0/630	4500 X 3800	4500 X 3800	4700 x 4100
HU60_0/1000	4500 X 3800	4500 X 3800	4700 x 4100



NOTES:

1. SITE FOR CONSUMERS MAIN DISTRIBUTION BOARD (IF REQUIRED).
2. DUCTING REQUIRED IF LAND REQUIREMENT IS SET BACK FROM ROAD RESERVE BOUNDARY. 3 - 150 ID HEAVY DUTY DUCTS.
3. REFER TO G6-01 (2) FOR DETAILED INFORMATION FOR INSTALLATION OF DUCTING.

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

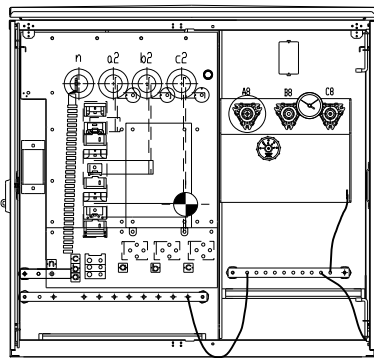
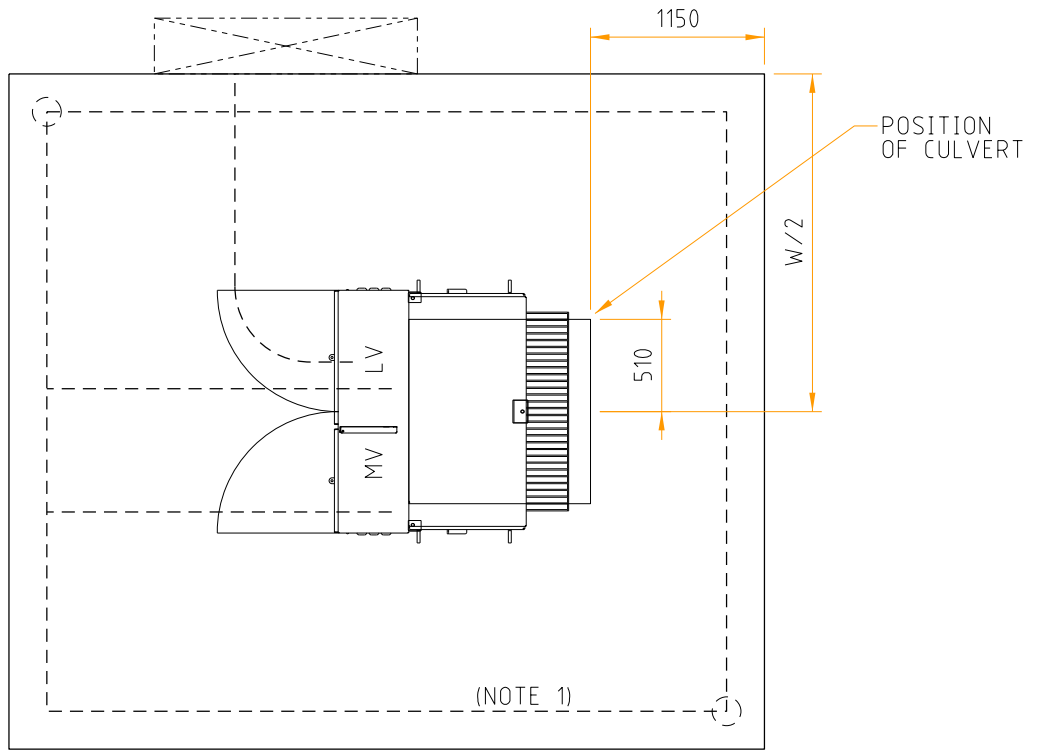


DISTRIBUTION CONSTRUCTION  
STANDARDS

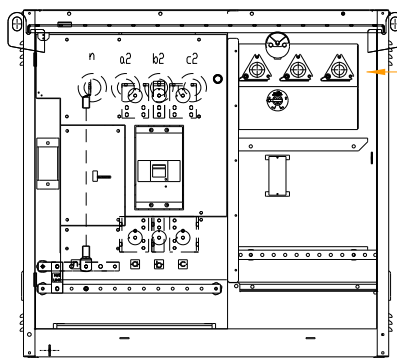
SOLE USE SUBSTATION  
UP TO 1000kVA (NON MPS)  
NON FIRE RATED-WITHOUT MV SWGR  
CIVIL & LAND REQUIREMENTS

REVISION A	DATE 19/08/21
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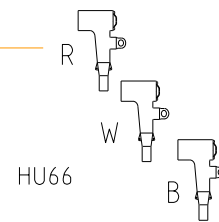
DRAWING No.  
G3-13/1



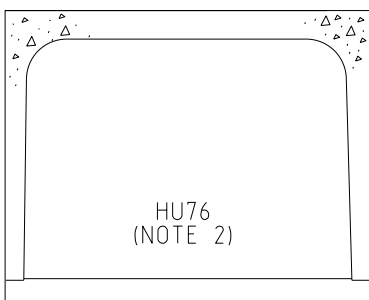
315 kVA



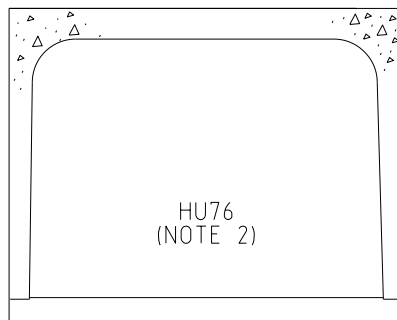
OR  
630 & 1000 kVA



HU66



HU76  
(NOTE 2)



HU76  
(NOTE 2)

BOX CULVERT - CROWN AND BASE TYPE  
EXTERNAL SIZE = 1416 x 1022 x 1220 LONG  
CROWN WEIGHT = 1038 kg  
BASE WEIGHT = 384 kg

NOTES:

1. REFER TO G6-11 FOR DETAILED INFORMATION FOR INSTALLATION OF EARTHING.
2. BOX CULVERT - CROWN AND BASE TYPE, REFER TO G4-02 SHT 2 OF 2 FOR INSTALLATION DETAILS.

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

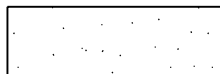
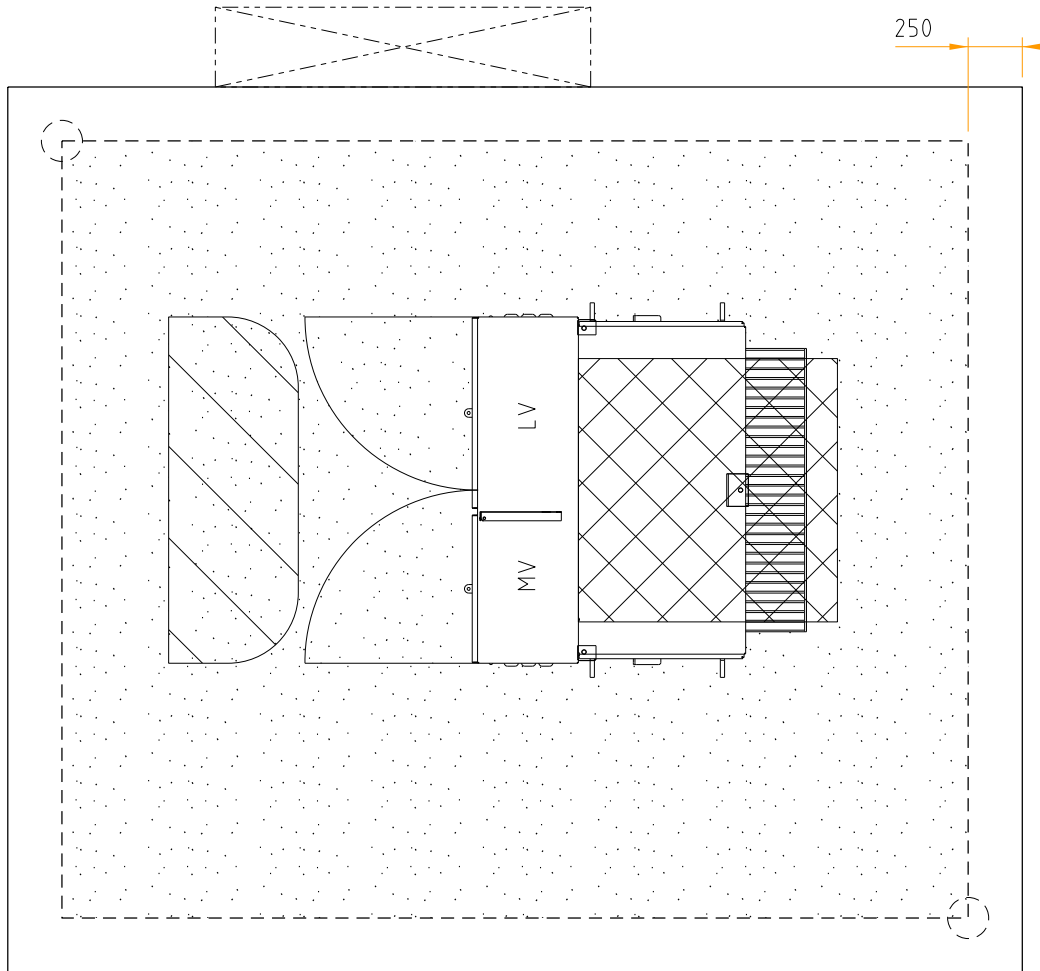


DISTRIBUTION CONSTRUCTION  
STANDARDS

SOLE USE SUBSTATION  
UP TO 1000kVA (NON MPS)  
NON FIRE RATED-WITHOUT MV SWGR  
EQUIPMENT & INSTALLATION DETAILS

REVISION A	DATE 11/11/21
---------------	------------------

DRAWING No.  
G3-13/2



MINIMUM CLEARANCE REQUIRED FOR EARTHING PURPOSES.  
(STEP AND TOUCH POTENTIAL)



MINIMUM CLEARANCE REQUIRED FOR OPERATIONAL/SAFETY PURPOSES



BOX CULVERT

NOTES:

1. REFER TO G6-11 FOR EARTHING
2. REFER TO G6-13 FOR SCREENING
3. REFER TO G9 FOR ENVIRONMENTAL REQUIREMENTS

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



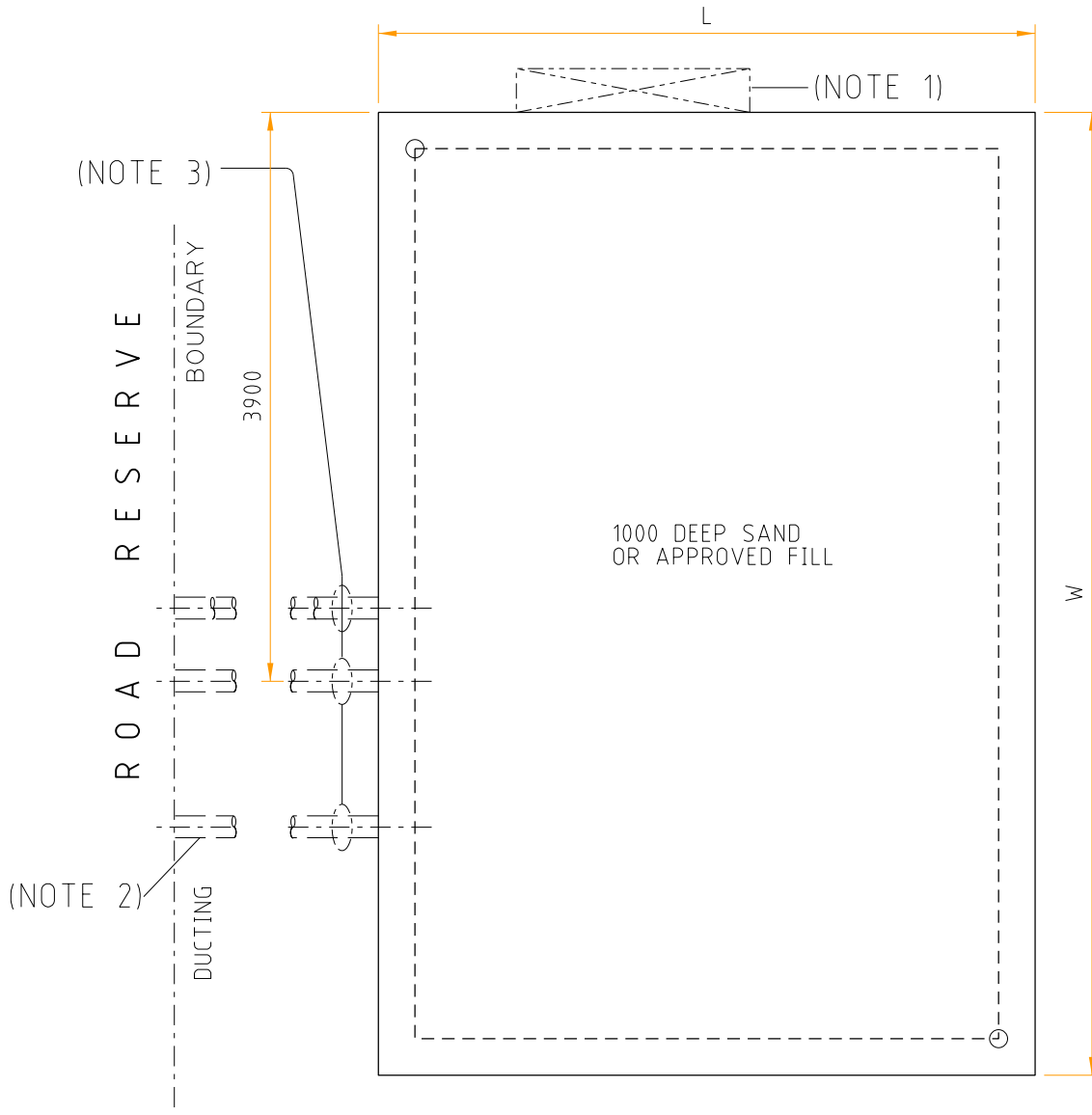
DISTRIBUTION CONSTRUCTION  
STANDARDS

SOLE USE SUBSTATION  
UP TO 1000kVA (NON MPS)  
NON FIRE RATED-WITHOUT MV SWGR  
OPERATIONAL CLEARANCES

REVISION A	DATE 15/10/21
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DRAWING No.  
G3-13/3

MINIMUM LAND REQUIREMENTS (RECOMMENDED SHOWN)			
TX	6.6 & 11kV	22kV	33kV
	L x W	L x W	L x W
HU60_0/315	4400 X 6600	4400 X 6600	4500 x 6700
HU60_0/630	4500 X 6600	4500 X 6600	4500 x 6700
HU60_0/1000	4500 X 6600	4500 X 6600	4600 x 6700



NOTES:

1. SITE FOR CONSUMERS MAIN DISTRIBUTION BOARD (IF REQUIRED).
2. DUCTING REQUIRED IF LAND REQUIREMENT IS SET BACK FROM ROAD RESERVE BOUNDARY. 4 - 150 ID HEAVY DUTY DUCTS.
3. REFER TO G6-01 (9) FOR DETAILED INFORMATION FOR INSTALLATION OF DUCTING.

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

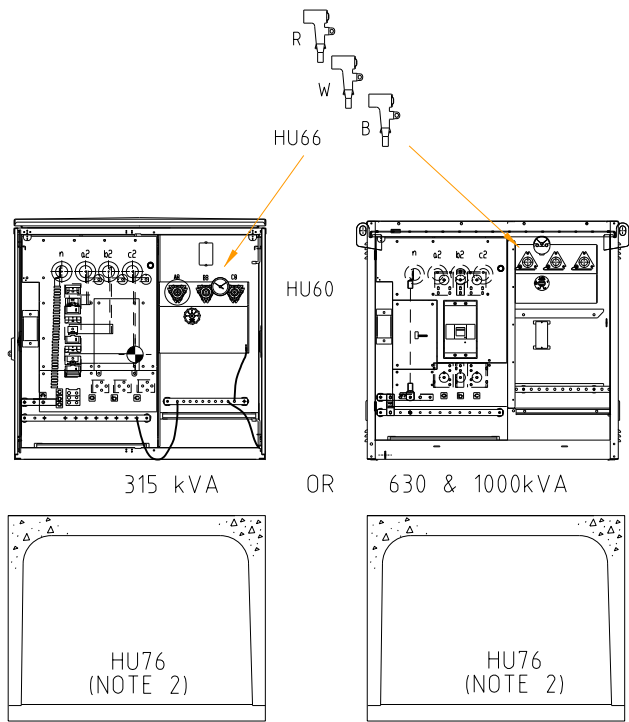


DISTRIBUTION CONSTRUCTION STANDARDS

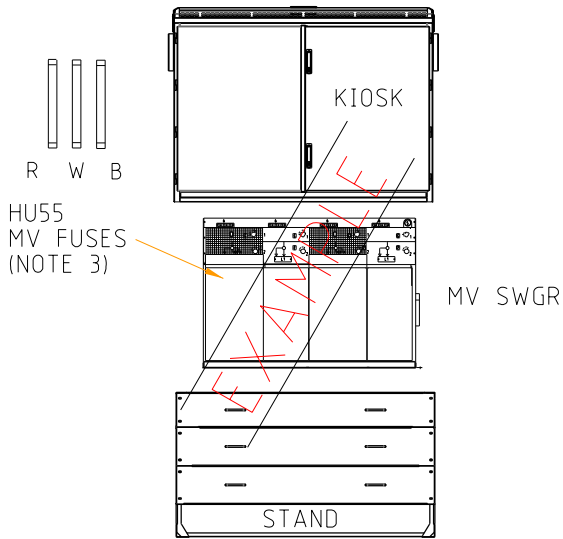
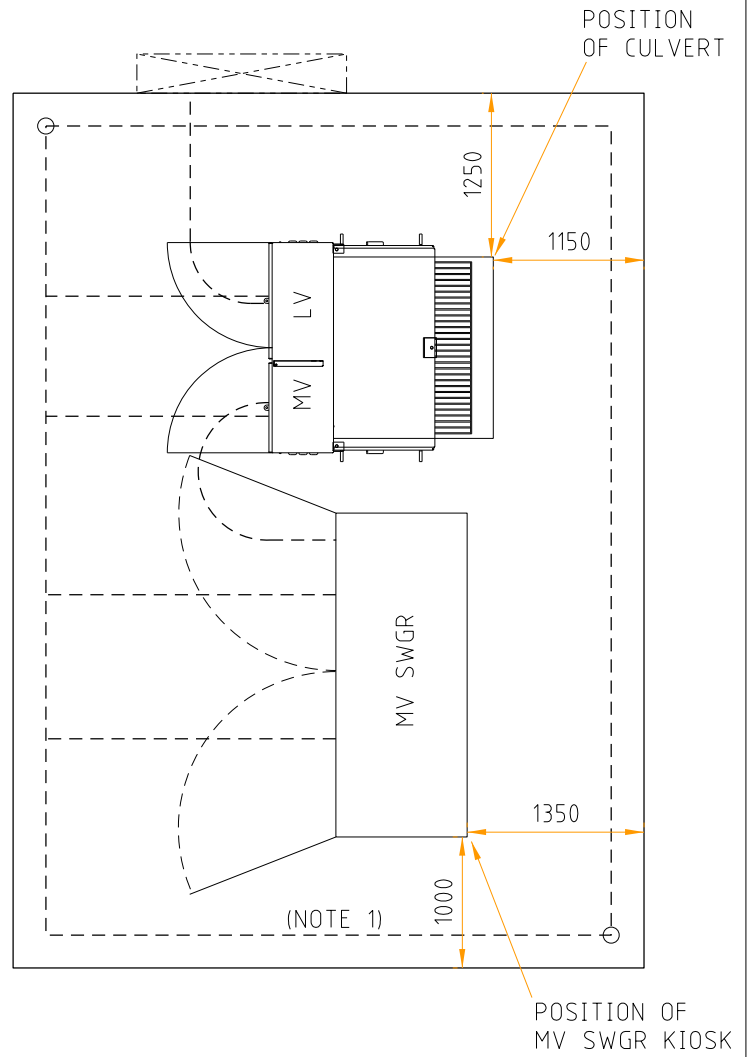
SOLE USE SUBSTATION  
UP TO 1000kVA (NON MPS)  
NON FIRE RATED-WITH MV SWGR  
CIVIL & LAND REQUIREMENTS

REVISION A	DATE 31/08/21
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DRAWING No.  
G3-14/1



BOX CULVERT - CROWN AND BASE TYPE  
 EXTERNAL SIZE = 1416 x 1022 x 1220 LONG  
 CROWN WEIGHT = 1038 kg  
 BASE WEIGHT = 384 kg



NOTES:

1. REFER TO G6-11 FOR DETAILED INFORMATION FOR INSTALLATION OF EARTHING.
2. BOX CULVERT - CROWN AND BASE TYPE, REFER TO G4-02 SHT 2 OF 2 FOR INSTALLATION DETAILS.
3. REFER TO G1-02 FOR FUSE RATINGS

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

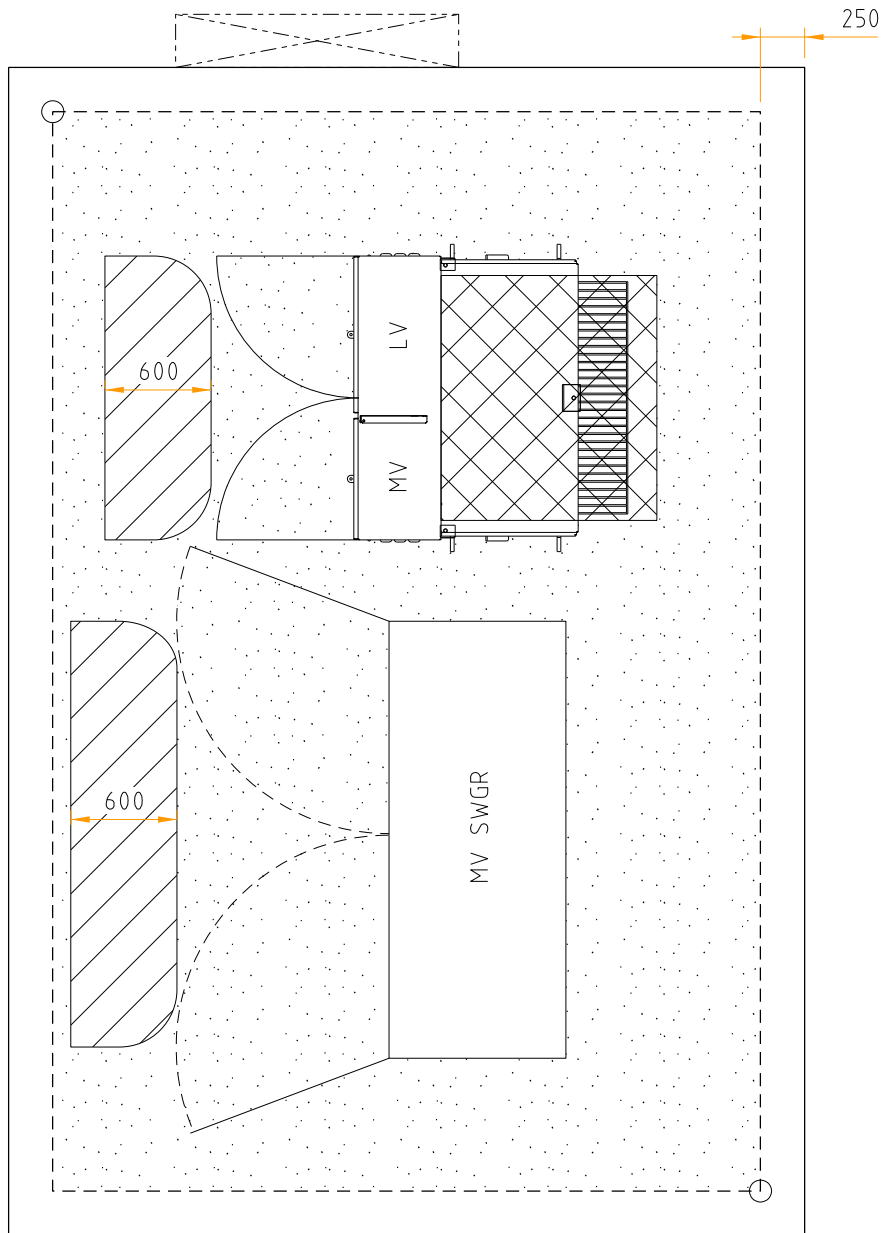


DISTRIBUTION CONSTRUCTION  
 STANDARDS

SOLE USE SUBSTATION  
 UP TO 1000kVA (NON MPS)  
 NON FIRE RATED-WITH MV SWGR  
 EQUIPMENT & INSTALLATION DETAILS

REVISION A	DATE 22/10/21
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DRAWING No.  
 G3-14/2



MINIMUM CLEARANCE REQUIRED FOR EARTHING PURPOSES.  
(STEP AND TOUCH POTENTIAL)



MINIMUM CLEARANCE REQUIRED FOR OPERATIONAL/SAFETY PURPOSES



BOX CULVERT

NOTES:

1. REFER TO G6-11 FOR EARTHING
2. REFER TO G6-13 FOR SCREENING
3. REFER TO G9 FOR ENVIRONMENTAL REQUIREMENTS

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



DISTRIBUTION CONSTRUCTION  
STANDARDS

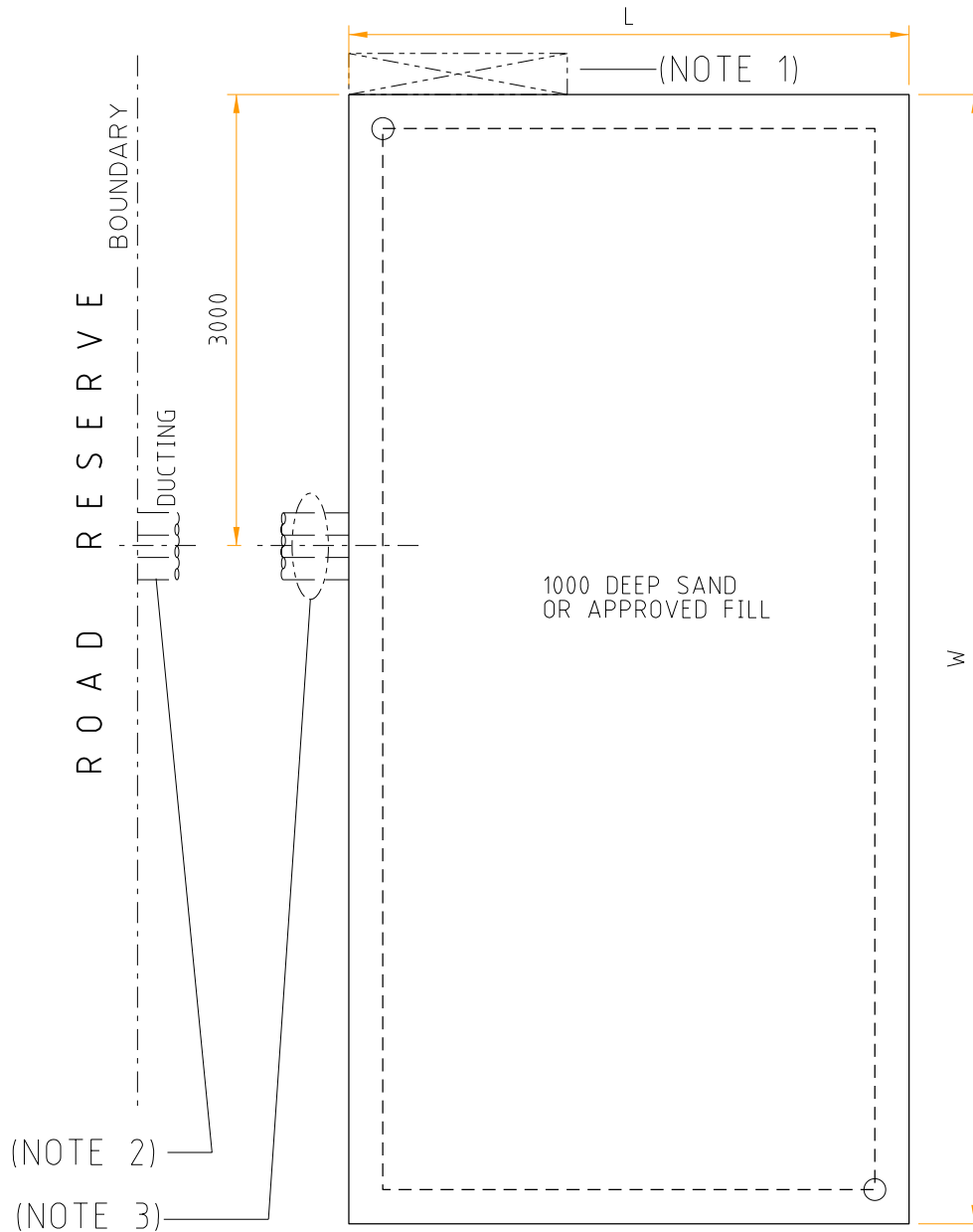
SOLE USE SUBSTATION  
UP TO 1000kVA (NON MPS)  
NON FIRE RATED-WITH MV SWGR  
OPERATIONAL CLEARANCES

REVISION A	DATE 22/10/21
---------------	------------------

DRAWING No.  
G3-14/3



MINIMUM LAND REQUIREMENTS (RECOMMENDED SHOWN)			
TX	6.6 & 11kV	22kV	33kV
	L x W	L x W	L x W
HU60_0/630	3800 X 8150	3800 X 8150	3800 X 8150
HU60_0/1000	3800 X 8100	3800 X 8100	3800 X 8250



NOTES:

1. SITE FOR CONSUMERS MAIN DISTRIBUTION BOARD (IF REQUIRED).
2. DUCTING REQUIRED IF LAND REQUIREMENT IS SET BACK FROM ROAD RESERVE BOUNDARY. 3 - 150 ID HEAVY DUTY DUCTS.
3. REFER TO G6-01 (2) FOR DETAILED INFORMATION FOR INSTALLATION OF DUCTING.

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

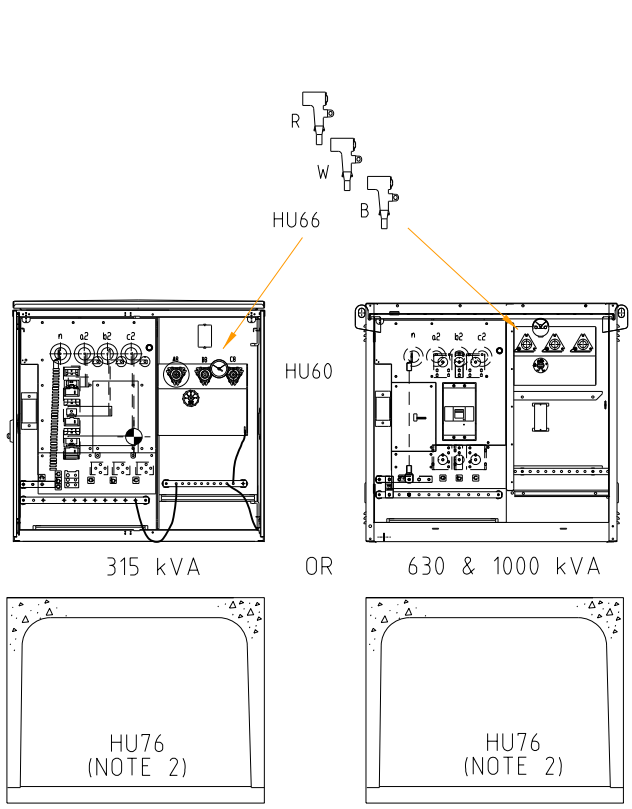


DISTRIBUTION CONSTRUCTION STANDARDS

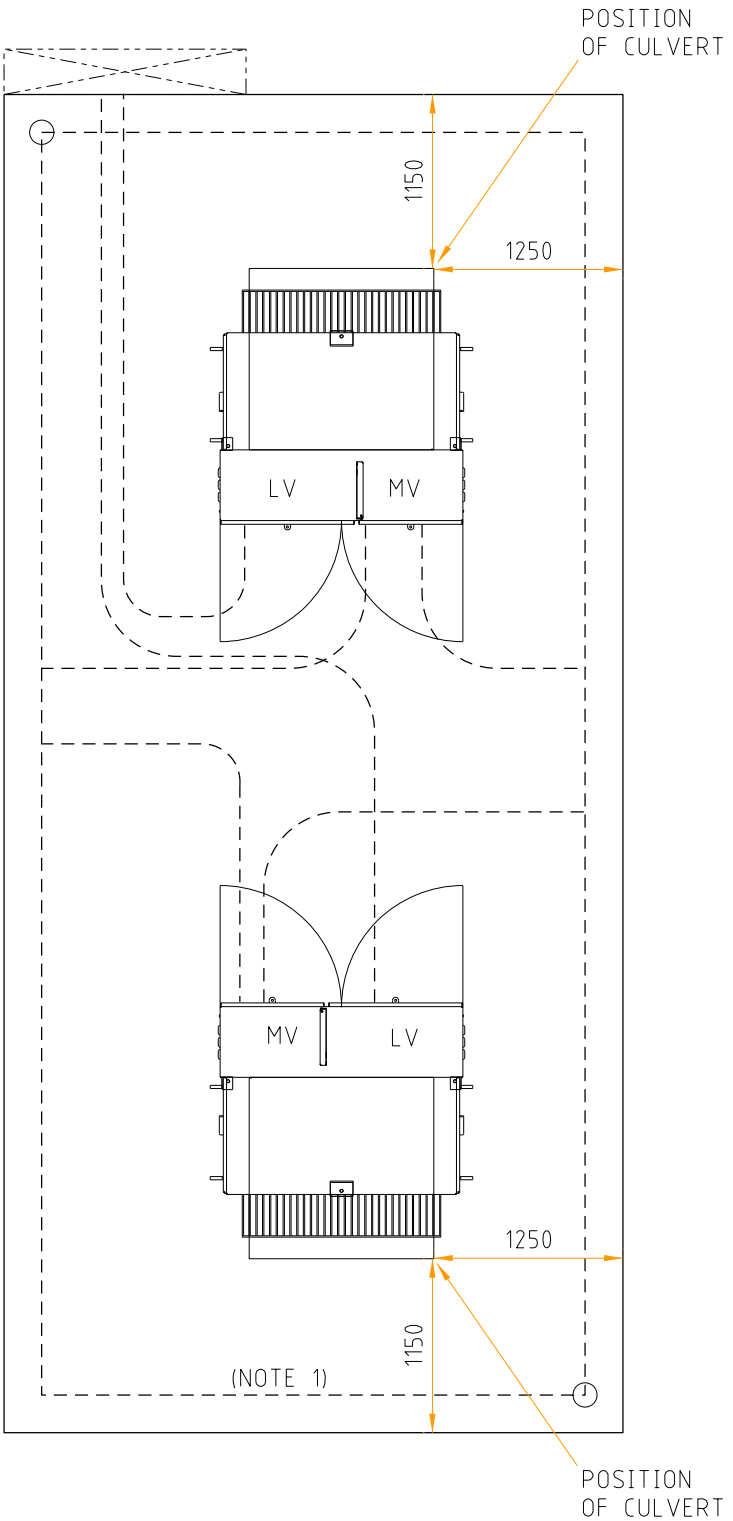
SOLE USE SUBSTATION  
UP TO 2000kVA (NON MPS)  
NON FIRE RATED-WITHOUT MV SWGR  
CIVIL & LAND REQUIREMENTS

REVISION A	DATE 19/08/21
---------------	------------------

DRAWING No.  
G3-15/1



BOX CULVERT - CROWN AND BASE TYPE  
 EXTERNAL SIZE = 1416 x 1022 x 1220 LONG  
 CROWN WEIGHT = 1038 kg  
 BASE WEIGHT = 384 kg

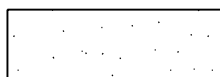
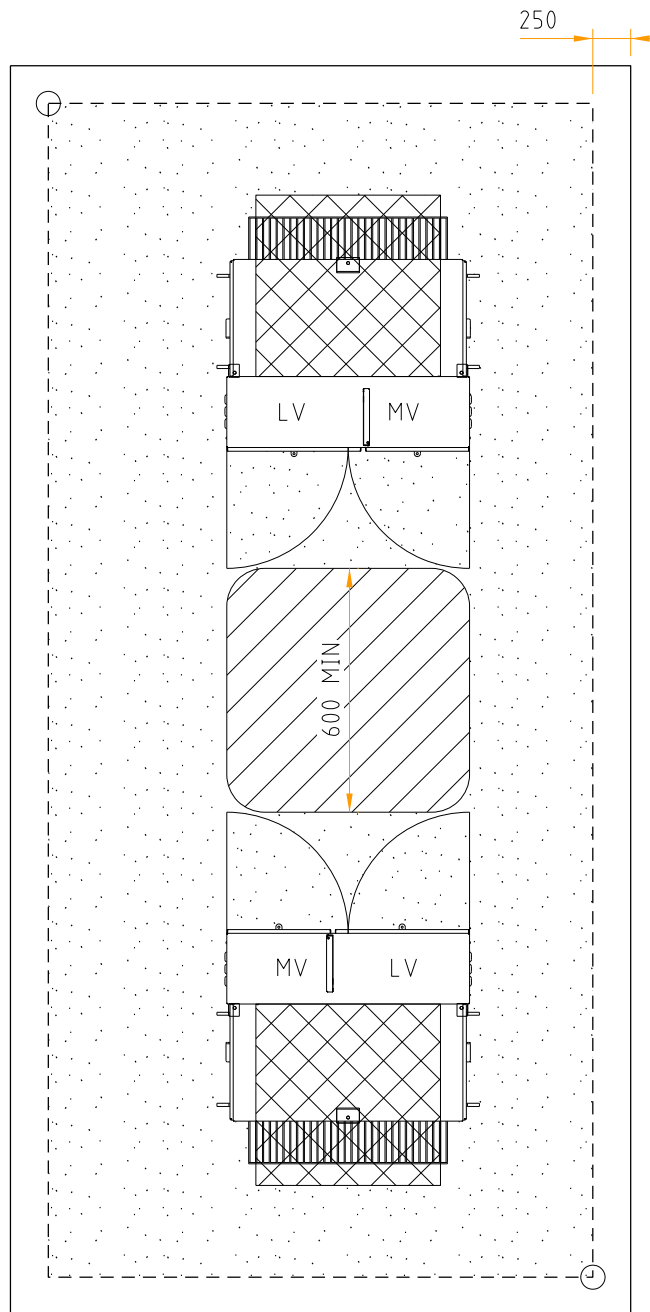


NOTES:  
 1. REFER TO G6-11 FOR DETAILED INFORMATION FOR INSTALLATION OF EARTHING.  
 2. BOX CULVERT - CROWN AND BASE TYPE, REFER TO G4-02 SHT 2 OF 2 FOR INSTALLATION DETAILS.  
 THIS DRAWING TO BE READ IN CONJUNCTION WITH THE DISTRIBUTION DESIGN RULES - HPC-9DJ-01-0002-2015.

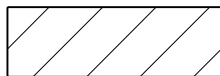
**HORIZON**  
**POWER**  
 DISTRIBUTION CONSTRUCTION  
 STANDARDS

SOLE USE SUBSTATION  
 UP TO 2000kVA (NON MPS)  
 NON FIRE RATED-WITHOUT MV SWGR  
 EQUIPMENT & INSTALLATION DETAILS

REVISION A	DATE 11/11/21
DRAWING No. G3-15/2	



MINIMUM CLEARANCE REQUIRED FOR EARTHING PURPOSES.  
(STEP AND TOUCH POTENTIAL)



MINIMUM CLEARANCE REQUIRED FOR OPERATIONAL PURPOSES



BOX CULVERT

NOTES:

1. REFER TO G6-11 FOR EARTHING
2. REFER TO G6-13 FOR SCREENING
3. REFER TO G9 FOR ENVIRONMENTAL REQUIREMENTS

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



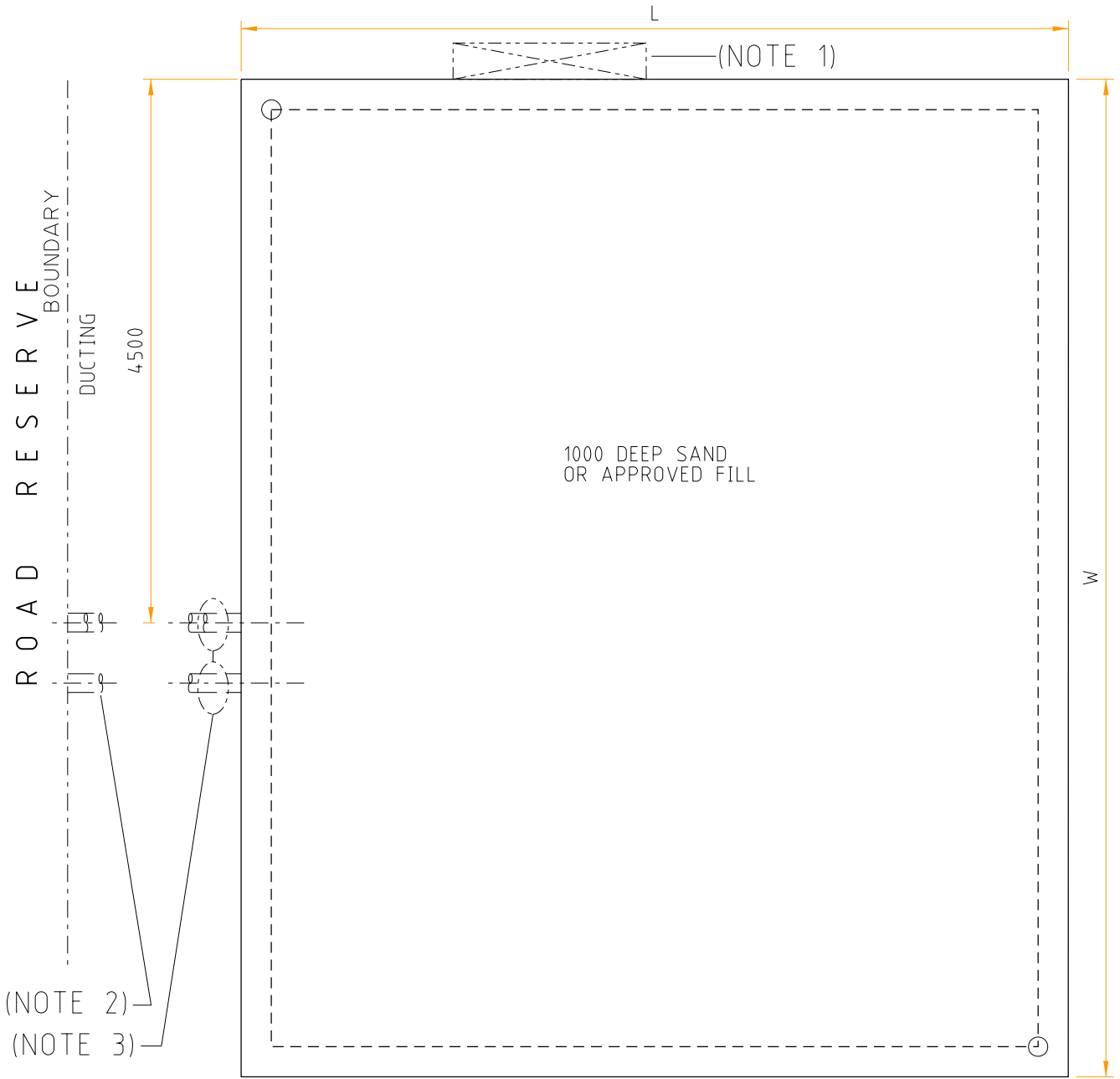
DISTRIBUTION CONSTRUCTION  
STANDARDS

SOLE USE SUBSTATION  
UP TO 2000kVA (NON MPS)  
NON FIRE RATED-WITHOUT MV SWGR  
OPERATIONAL CLEARANCES

REVISION A	DATE 15/10/21
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DRAWING No.  
G3-15/3

MINIMUM LAND REQUIREMENTS (RECOMMENDED SHOWN)			
TX	6.6 & 11kV	22kV	33kV
	L x W	L x W	L x W
HU60_0/630	6550 X 8150	6550 X 8150	6750 x 8150
HU60-0/1000	6550 X 8100	6550 X 8100	6850 X 8250



NOTES:

1. SITE FOR CONSUMERS MAIN DISTRIBUTION BOARD (IF REQUIRED).
2. DUCTING REQUIRED IF LAND REQUIREMENT IS SET BACK FROM ROAD RESERVE BOUNDARY. 3 - 150 ID HEAVY DUTY DUCTS.
3. REFER TO G6-01 (7) FOR DETAILED INFORMATION FOR INSTALLATION OF DUCTING.

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

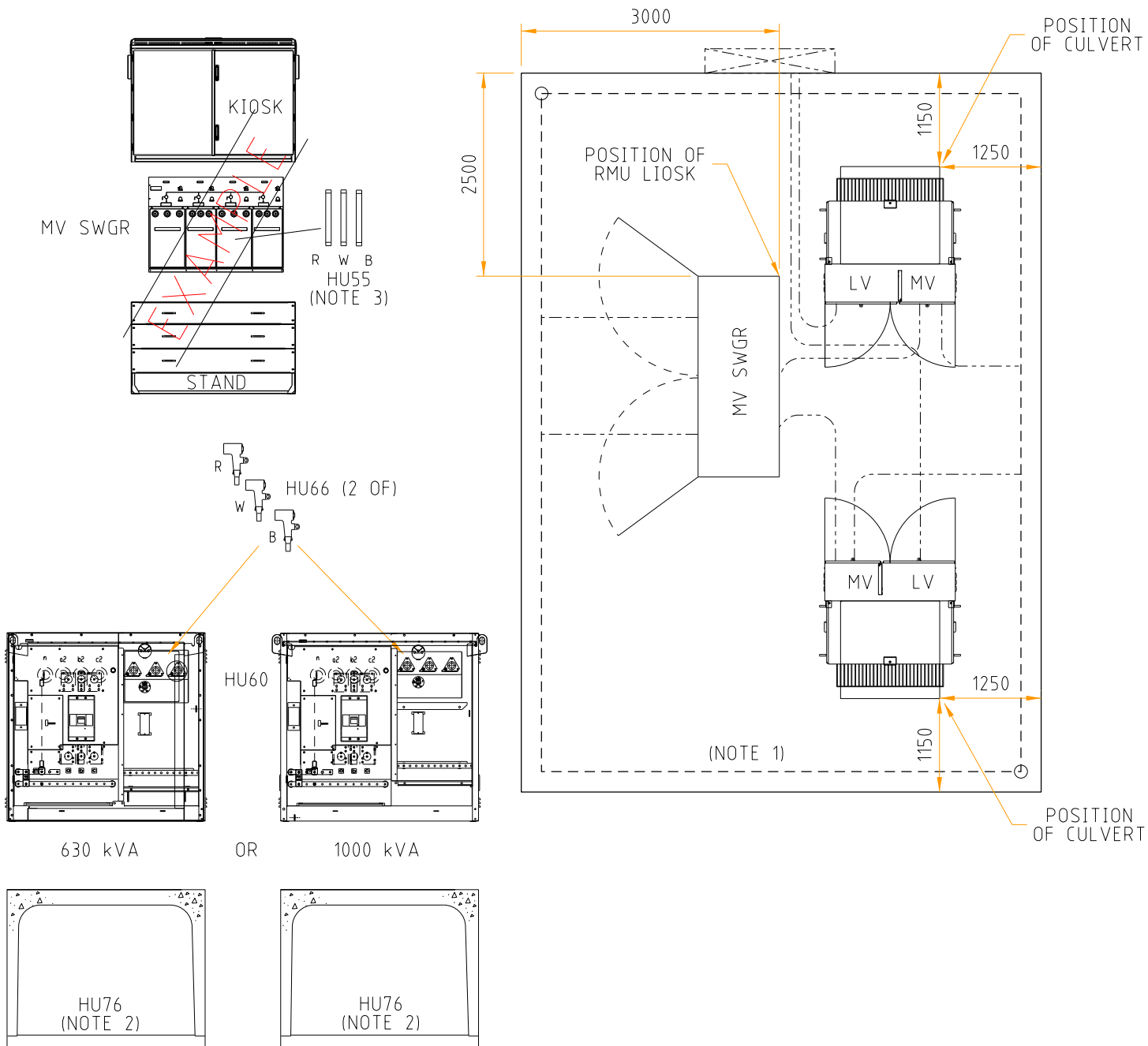


DISTRIBUTION CONSTRUCTION STANDARDS

SOLE USE SUBSTATION  
UP TO 2000kVA (NON MPS)  
NON FIRE RATED-WITH MV SWGR  
CIVIL & LAND REQUIREMENTS

REVISION A	DATE 19/08/21
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DRAWING No.  
G3-16/1

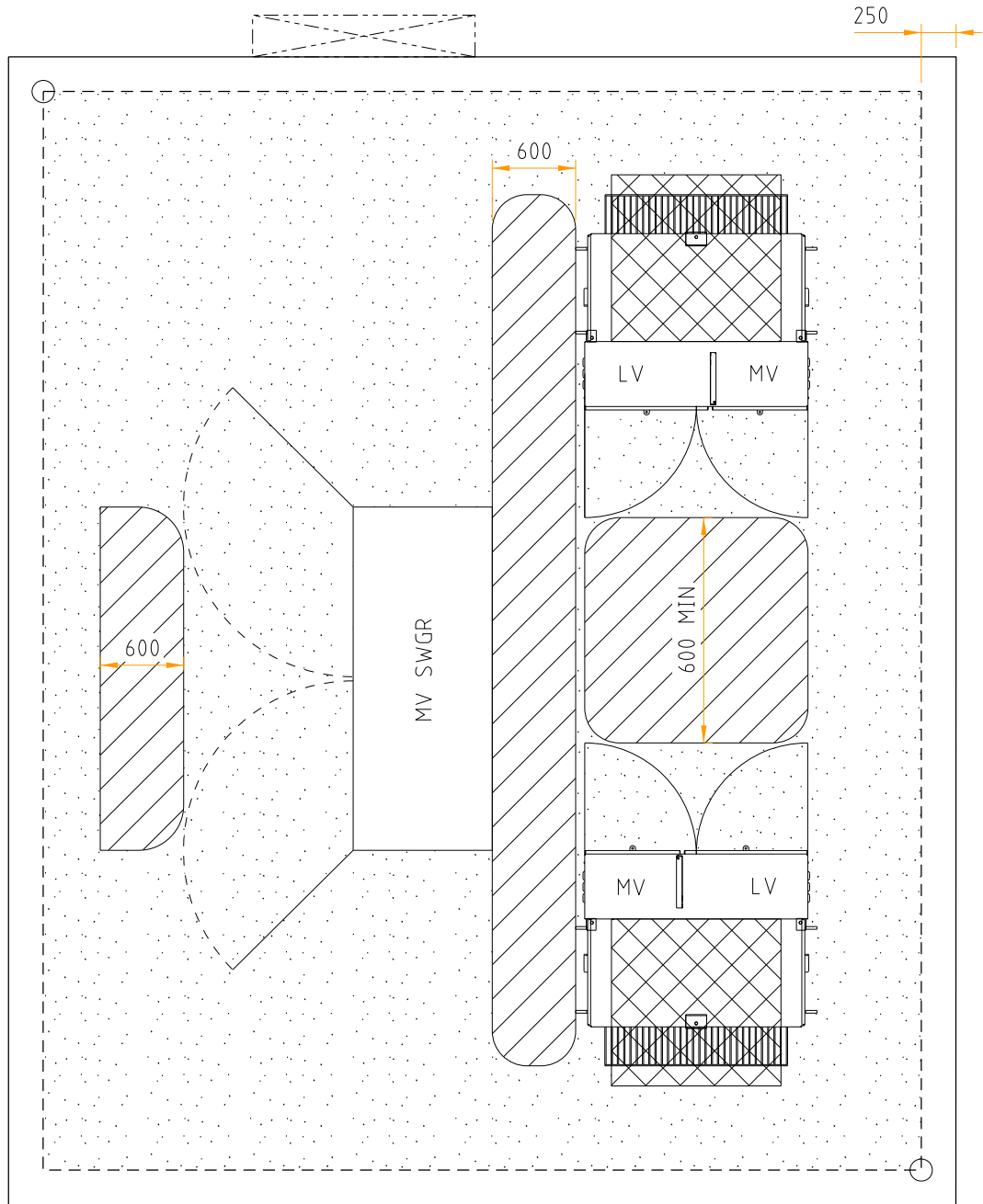


BOX CULVERT - CROWN AND BASE TYPE  
 EXTERNAL SIZE = 1416 x 1022 x 1220 LONG  
 CROWN WEIGHT = 1038 kg  
 BASE WEIGHT = 384 kg

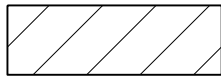
- NOTES:
1. REFER TO G6-11 FOR DETAILED INFORMATION FOR INSTALLATION OF EARTHING.
  2. BOX CULVERT - CROWN AND BASE TYPE, REFER TO G4-02 SHT 2 OF 2 FOR INSTALLATION DETAILS.
  3. REFER TO G1-02 FOR FUSE RATINGS.

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

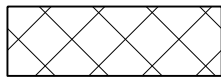
 DISTRIBUTION CONSTRUCTION STANDARDS	SOLE USE SUBSTATION UP TO 2000kVA (NON MPS) NON FIRE RATED-WITH MV SWGR EQUIPMENT & INSTALLATION DETAILS	REVISION	DATE
		A	15/10/21
		DRAWING No.	
		G3-16/2	



MINIMUM CLEARANCE REQUIRED FOR EARTHING PURPOSES.  
(STEP AND TOUCH POTENTIAL)



MINIMUM CLEARANCE REQUIRED FOR OPERATIONAL/SAFETY PURPOSES



BOX CULVERT

NOTES:

1. REFER TO G6-11 FOR EARTHING
2. REFER TO G6-13 FOR SCREENING
3. REFER TO G9 FOR ENVIRONMENTAL REQUIREMENTS

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

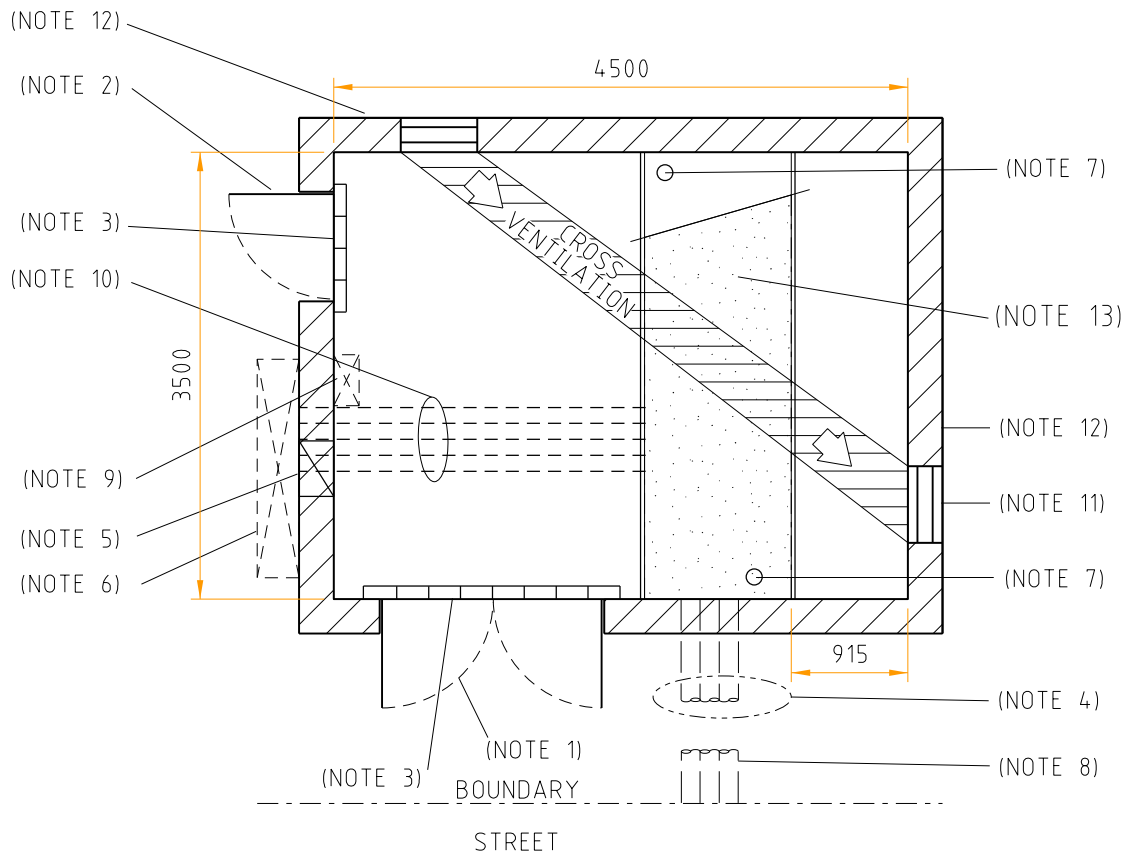


DISTRIBUTION CONSTRUCTION  
STANDARDS

SOLE USE SUBSTATION  
UP TO 2000kVA (NON MPS)  
NON FIRE RATED-WITH MV SWGR  
OPERATIONAL CLEARANCES

REVISION A	DATE 15/10/21
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DRAWING No.  
G3-16/3



NOTES:

1. DOUBLE DOORS 2340 x 1720 CLEAR, EXIT.
2. DOOR 2040 x 820 CLEAR, EXIT.
3. 75 HIGH BRICK BUND LAID AFTER EQUIPMENT INSTALLED.
4. REFER TO G6-01 (5) FOR DETAILED INFORMATION FOR INSTALLATION OF DUCTING.
5. CONSUMERS DUCT(S) AT FLOOR OF TRENCH.
6. CONSUMERS MAIN DISTRIBUTION BOARD.
7. 75 DIA PENETRATION THROUGH SLAB FOR EARTHING.
8. 3 - 150 ID HEAVY DUTY DUCTS 750 COVER AT BOUNDARY.
9. SUBSTATION DISTRIBUTION BOARD.
10. 4 - 150 ID HEAVY DUTY DUCTS INSTALLED AT FLOOR OF TRENCH.
11. 600 x 600 WIDE FIRE DAMPERED VENT AT HIGH & LOW LEVELS.
12. WALLS TO BE 2HR FIRE RATED, CEILING HEIGHT TO BE MIN. 2500.
13. 1200 DEEP TRENCH WITH GALVANISED STEEL FLOOR GRATING (WEBFORGE (253MPG OR EQUIV.) WALLS & FLOOR OF TRENCH TO BE PAINTED WITH "CEMENTAID" SILICON GLAZE S50 REFER TO G6-10 SHEET 2 FOR TRENCH AND GRATING DETAILS.

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

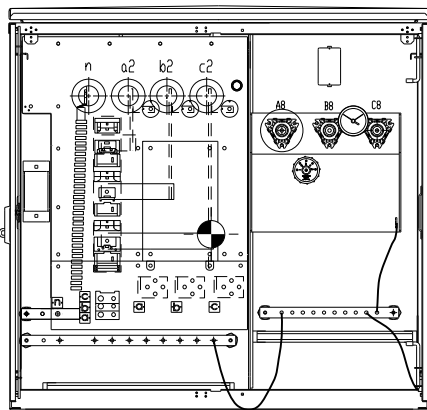
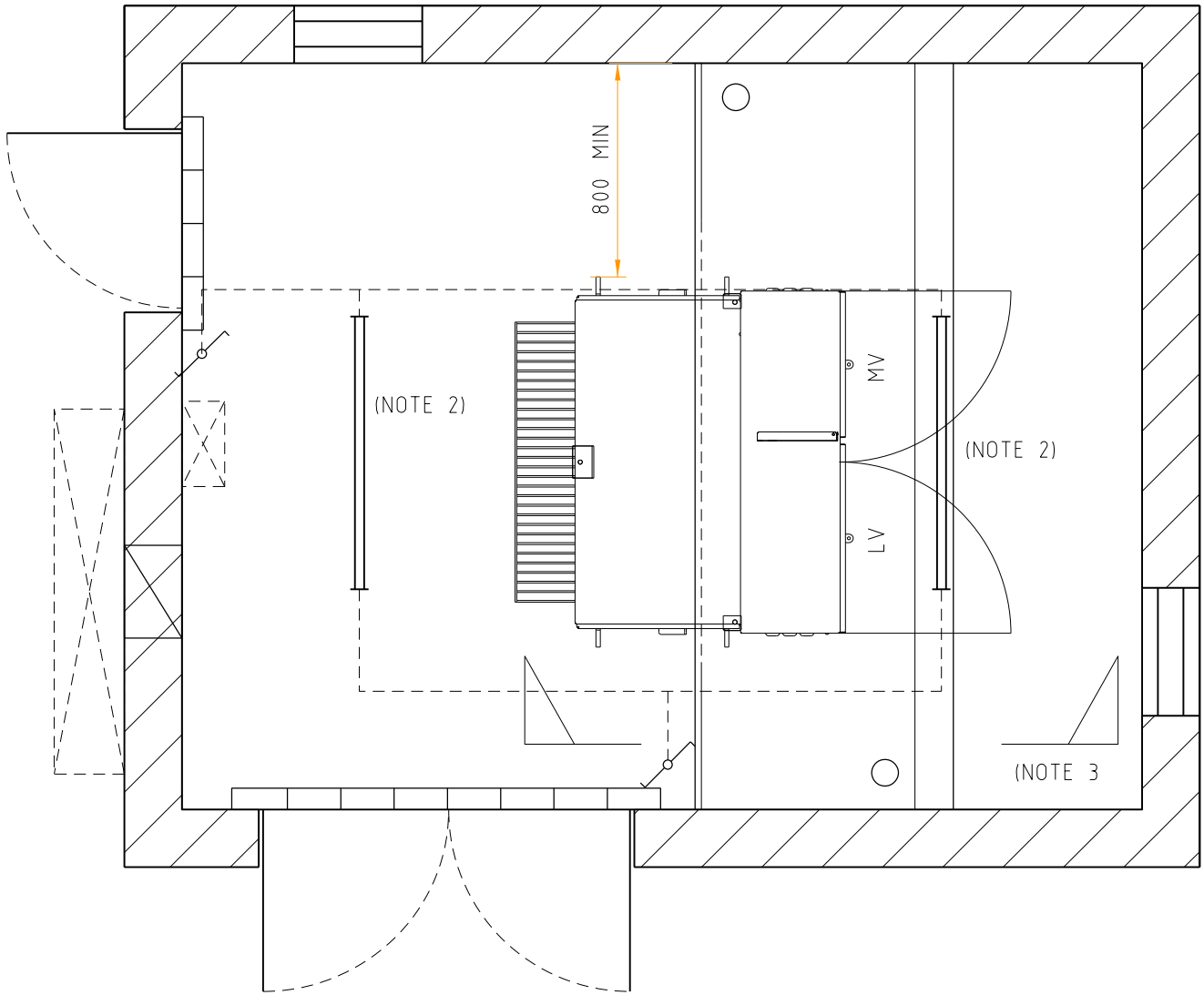


DISTRIBUTION CONSTRUCTION STANDARDS

SOLE USE SUBSTATION  
UP TO 1000kVA (NON MPS)  
FIRE RATED-WITHOUT MV SWGR  
CIVIL & LAND REQUIREMENTS

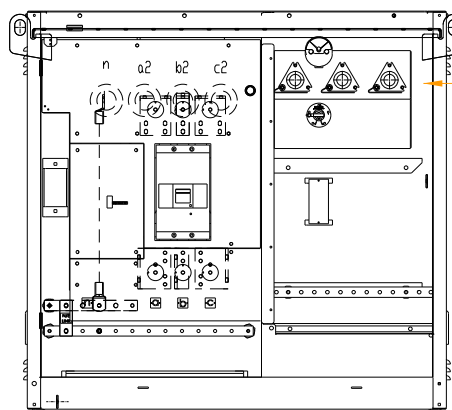
REVISION A	DATE 22/10/21
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DRAWING No.  
G3-17/1

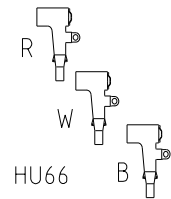


315 kVA

OR



630 AND 1000 kVA



NOTES:

1. REFER TO G6-12 FOR DETAILED INFORMATION FOR INSTALLATION OF EARTHING.
2. 2 x 38W FLUORESCENT BATTEN FITTING.
3. REFER TO G6-10 SHEET 3 TO 6 AND 10 FOR TRANSFORMER CANTILEVER SUPPORT AND GRATING DETAILS.

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



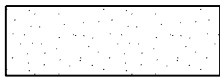
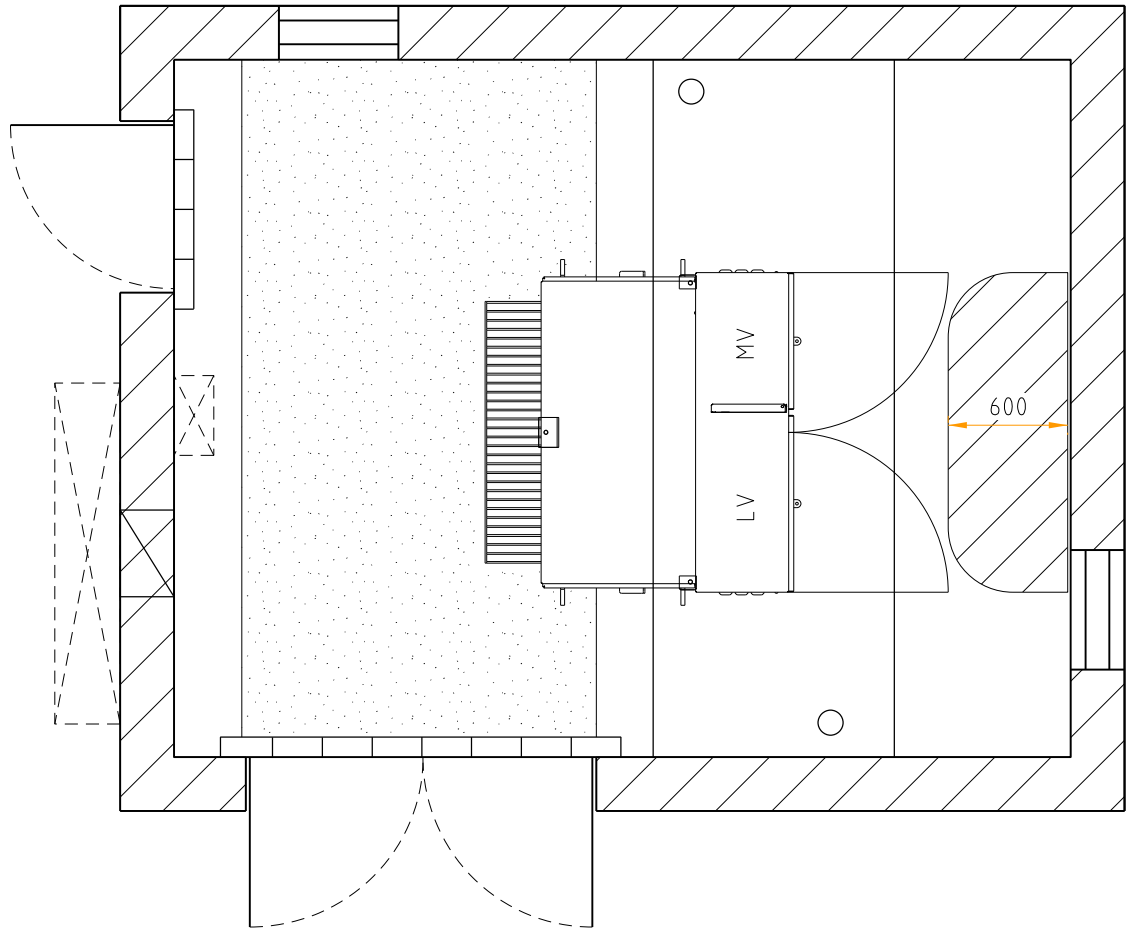
DISTRIBUTION CONSTRUCTION  
STANDARDS

SOLE USE SUBSTATION  
UP TO 1000kVA (NON MPS)  
FIRE RATED-WITHOUT MV SWGR  
EQUIPMENT & INSTALLATION DETAILS

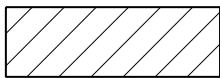
REVISION A	DATE 15/10/21
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DRAWING No.  
G3-17/2





CLEARANCE REQUIRED FOR TRANSFORMER INSTALLATION PURPOSES



MINIMUM CLEARANCE REQUIRED FOR OPERATIONAL/SAFETY PURPOSES

NOTES:

1. REFER TO G6-12 FOR EARTHING
2. REFER TO G6-10 FOR TRENCHING

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

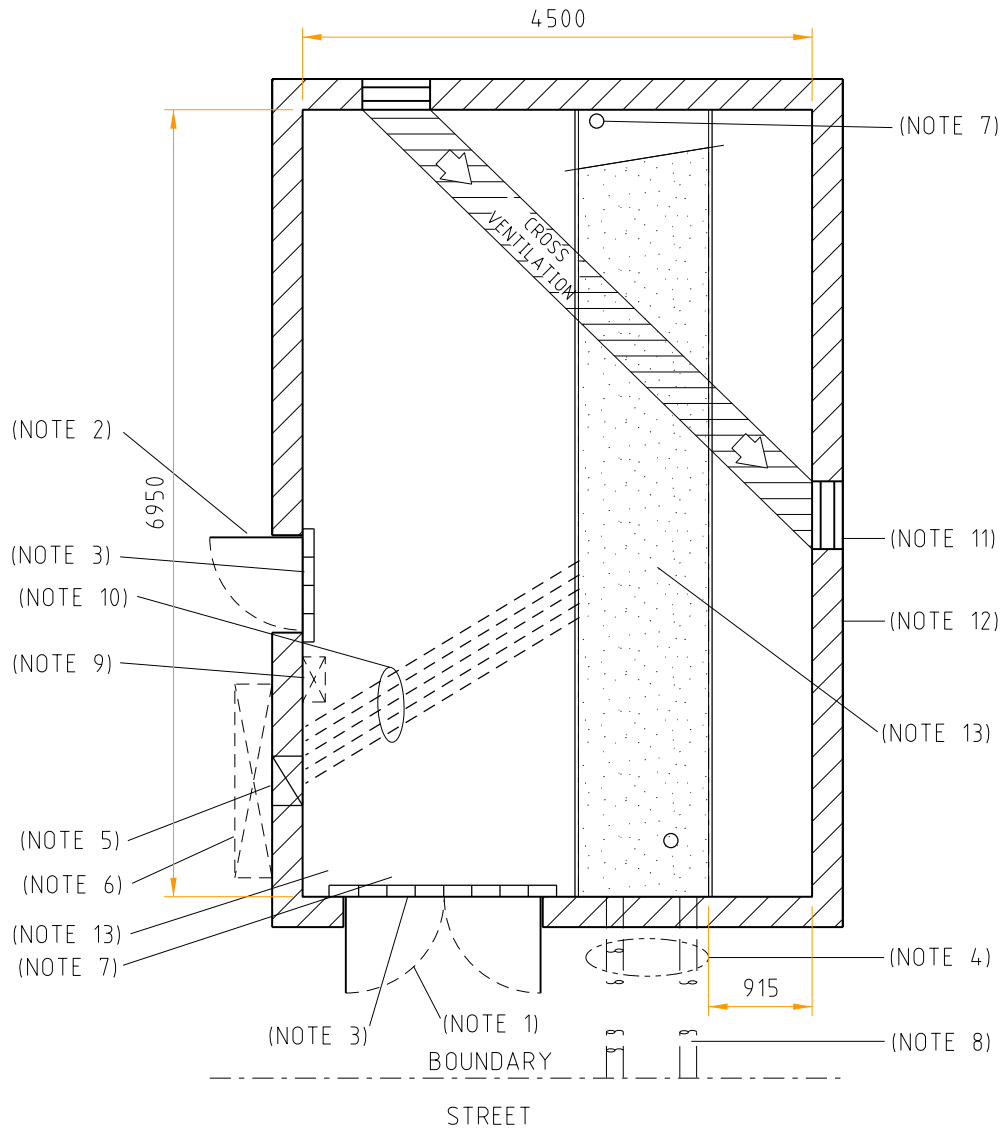


DISTRIBUTION CONSTRUCTION  
STANDARDS

SOLE USE SUBSTATION  
UP TO 1000kVA (NON MPS)  
FIRE RATED-WITH MV SWGR  
OPERATIONAL CLEARANCES

REVISION A	DATE 15/10/21
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DRAWING No.  
G3-17/3



NOTES:

1. DOUBLE DOORS 2340 x 1720 CLEAR, EXIT.
2. DOOR 2040 x 820 CLEAR, EXIT.
3. 75 HIGH BRICK BUND LAID AFTER EQUIPMENT INSTALLED.
4. REFER TO G6-01 (12) FOR DETAILED INFORMATION FOR INSTALLATION OF DUCTING.
5. CONSUMERS DUCT(S) AT FLOOR OF TRENCH.
6. CONSUMERS MAIN DISTRIBUTION BOARD.
7. 75 DIA PENETRATION THROUGH SLAB FOR EARTHING.
8. 3 - 150 ID HEAVY DUTY DUCTS 750 COVER AT BOUNDARY.
9. SUBSTATION DISTRIBUTION BOARD.
10. 4 - 150 ID HEAVY DUTY DUCTS INSTALLED AT FLOOR OF TRENCH.
11. 600 x 600 WIDE FIRE DAMPERED VENT AT HIGH & LOW LEVELS.
12. WALLS TO BE 2HR FIRE RATED, CEILING HEIGHT TO BE MIN. 2500.
13. 1200 DEEP TRENCH WITH GALVANISED STEEL FLOOR GRATING (WEBFORGE C253MPG OR EQUIV.) WALLS & FLOOR OF TRENCH TO BE PAINTED WITH "CEMENTAID" SILICON GLAZE S50 REFER TO G6-10 SHEET 2 FOR TRENCH AND GRATING DETAILS.

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



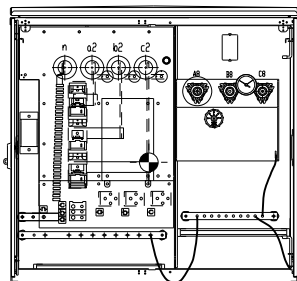
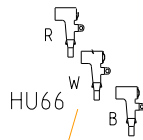
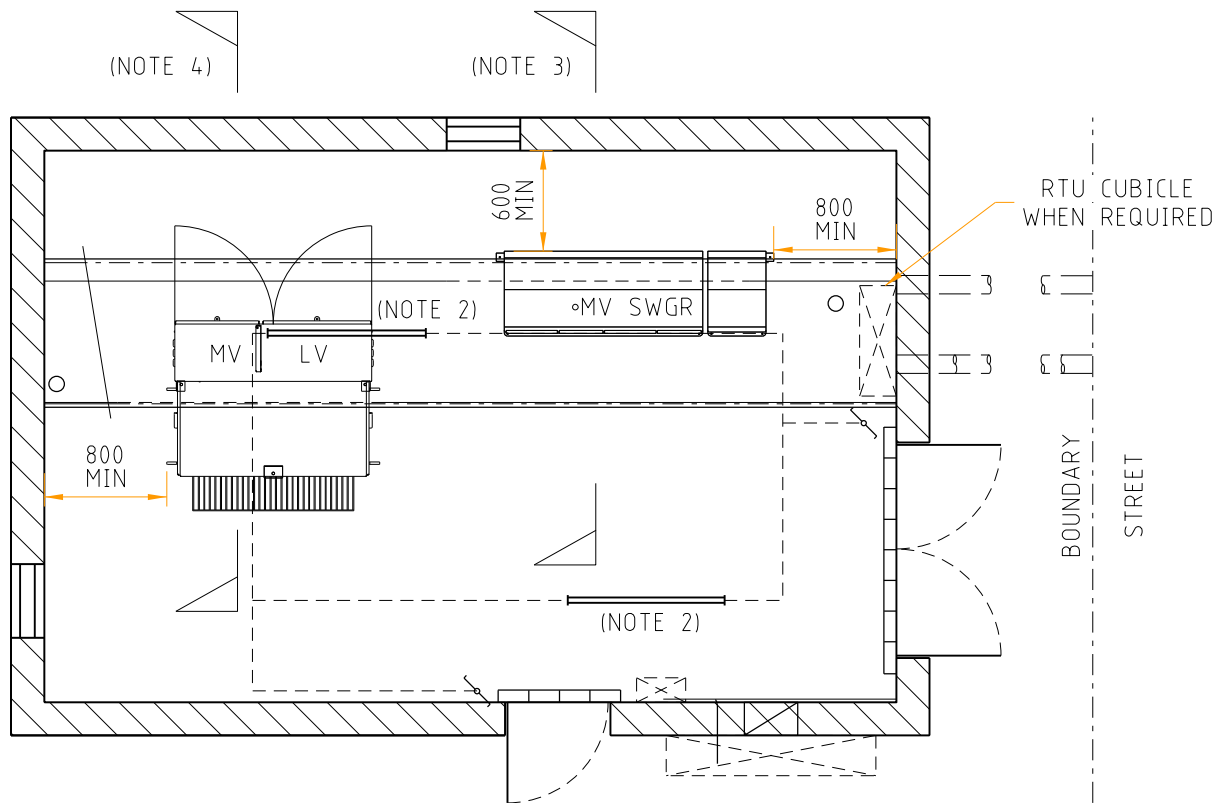
DISTRIBUTION CONSTRUCTION STANDARDS

SOLE USE SUBSTATION  
UP TO 1000kVA (NON MPS)  
FIRE RATED-WITH MV SWGR  
CIVIL & LAND REQUIREMENTS

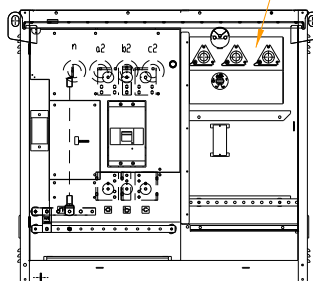
REVISION A	DATE 15/10/21
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DRAWING No.

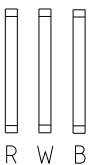
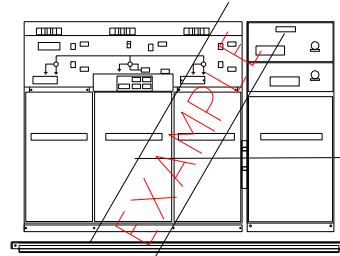
G3-18/1



HU60



OR



HU55 FUSES (NOTE 5)

NOTES:

1. REFER TO G6-12 FOR DETAILED INFORMATION FOR INSTALLATION OF EARTHING.
2. 2 x 38W FLUORESCENT BATTEN FITTING
3. REFER TO G6-7 MV SWGR SUPPORT AND G6-10 SHEET 10 GOT GRATING DETAILS.
4. REFER TO G6-10 SHEET 3 TO 6 AND 10 FOR TRANSFORMER CANTILEVER SUPPORT AND GRATING DETAILS..
5. REFER TO G1-02 FOR FUSE RATINGS.

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

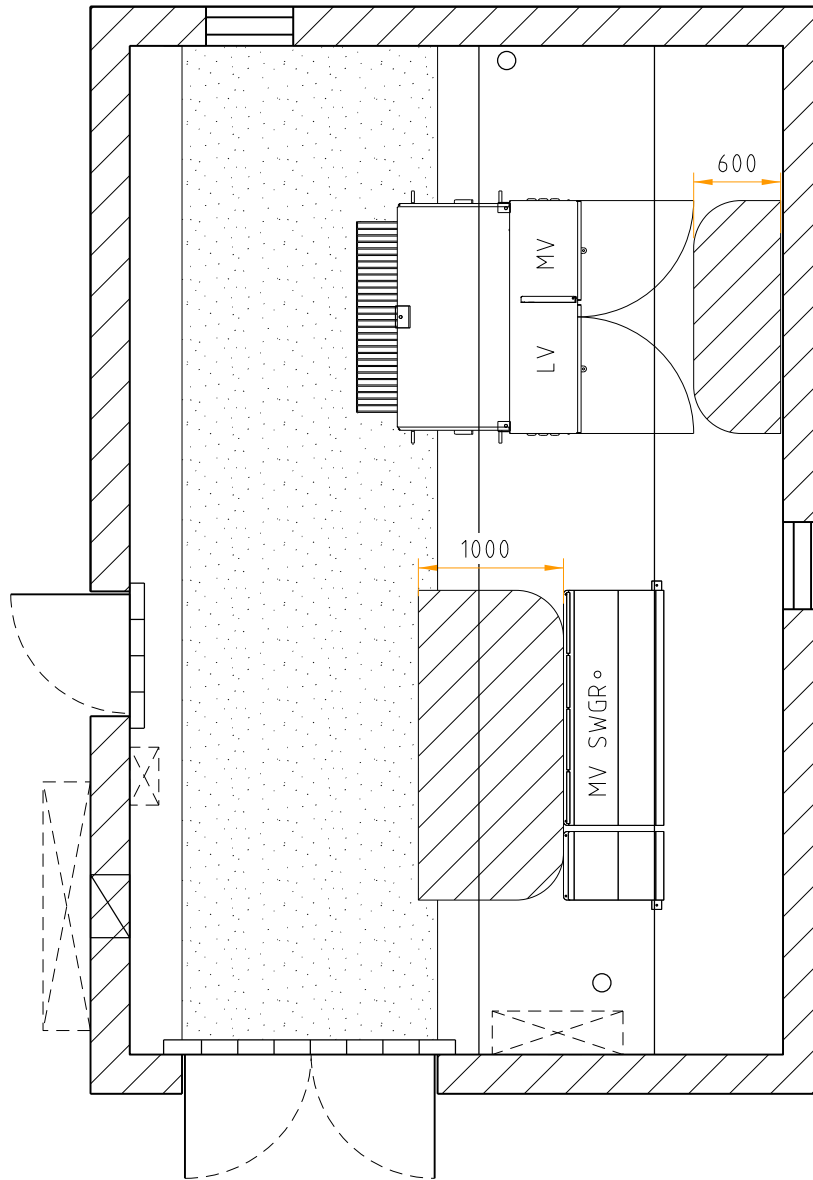


DISTRIBUTION CONSTRUCTION STANDARDS

SOLE USE SUBSTATION  
UP TO 1000kVA (NON MPS)  
FIRE RATED-WITH MV SWGR  
EQUIPMENT & INSTALLATION DETAILS

REVISION A	DATE 18/10/21
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DRAWING No.  
G3-18/2



CLEARANCE REQUIRED FOR TRANSFORMER INSTALLATION PURPOSES



MINIMUM CLEARANCE REQUIRED FOR OPERATIONAL/SAFETY PURPOSES

NOTES:

1. REFER TO G6-12 FOR EARTHING
2. REFER TO G6-10 FOR TRENCHING

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

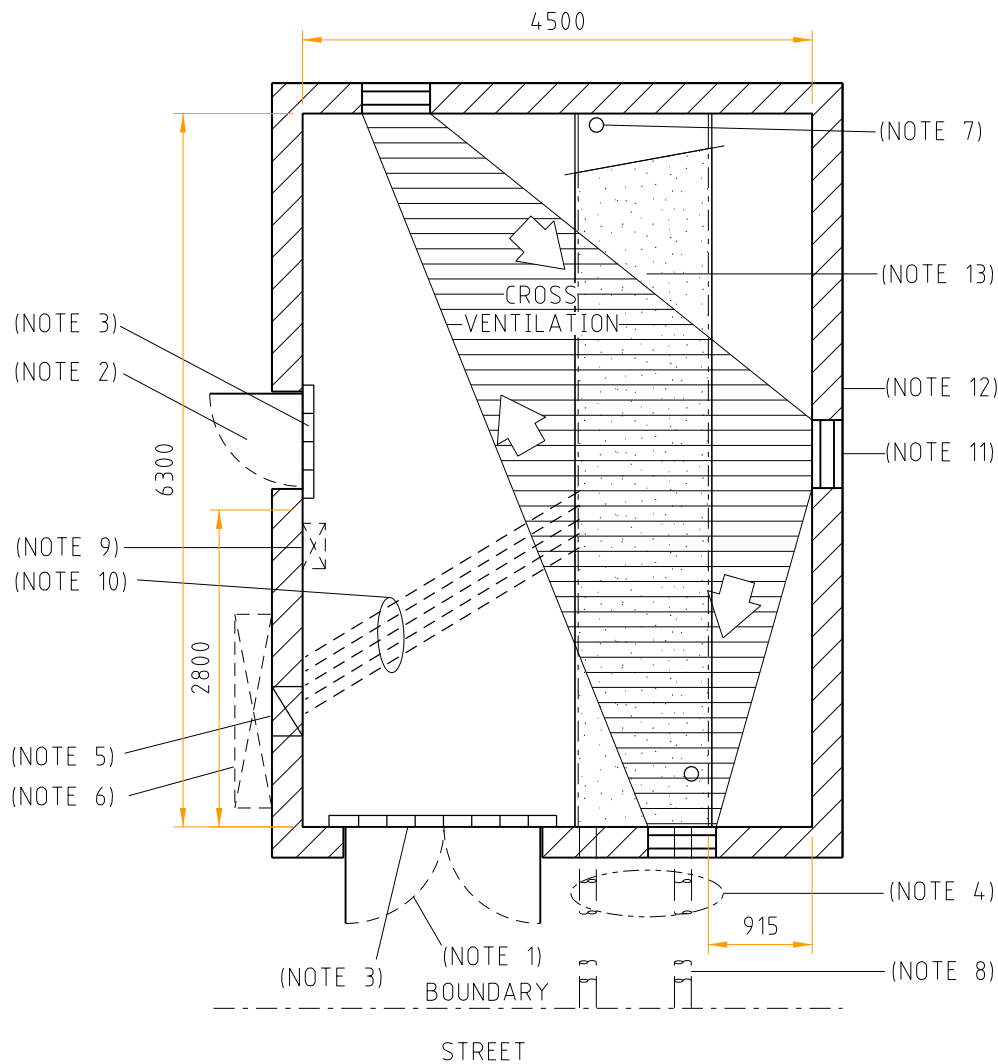


DISTRIBUTION CONSTRUCTION STANDARDS

SOLE USE SUBSTATION  
UP TO 1000kVA (NON MPS)  
FIRE RATED-WITH MV SWGR  
OPERATIONAL CLEARANCES

REVISION A	DATE 18/10/21
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DRAWING No.  
G3-18/3



NOTES:

1. DOUBLE DOORS 2340 x 1720 CLEAR, EXIT.
2. DOOR 2040 x 820 CLEAR, EXIT.
3. 75 HIGH BRICK BUND LAID AFTER EQUIPMENT INSTALLED.
4. REFER TO G6-01 (16) FOR DETAILED INFORMATION FOR INSTALLATION OF DUCTING.
5. CONSUMERS DUCT(S) AT FLOOR OF TRENCH.
6. CONSUMERS MAIN DISTRIBUTION BOARD.
7. 75 DIA PENETRATION THROUGH SLAB FOR EARTHING.
8. 4 - 150 ID HEAVY DUTY DUCTS 750 COVER AT BOUNDARY.
9. SUBSTATION DISTRIBUTION BOARD.
10. 4 - 150 ID HEAVY DUTY DUCTS INSTALLED AT FLOOR OF TRENCH.
11. 600 x 600 WIDE FIRE DAMPERED VENT AT HIGH & LOW LEVELS
12. WALLS TO BE 2HR FIRE RATED, CEILING HEIGHT TO BE MIN. 2500.
13. 1200 DEEP TRENCH WITH GALVANISED STEEL FLOOR GRATING (WEBFORGE C253MPG OR EQUIV.) WALLS & FLOOR OF TRENCH TO BE PAINTED WITH "CEMENTAID" SILICON GLAZE S50 REFER TO G6-10 SHEET 2 FOR TRENCH AND GRATING DETAILS.

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

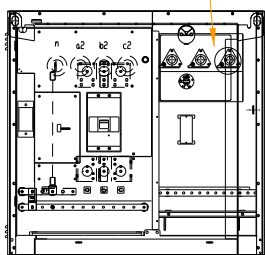
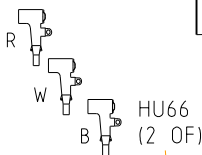
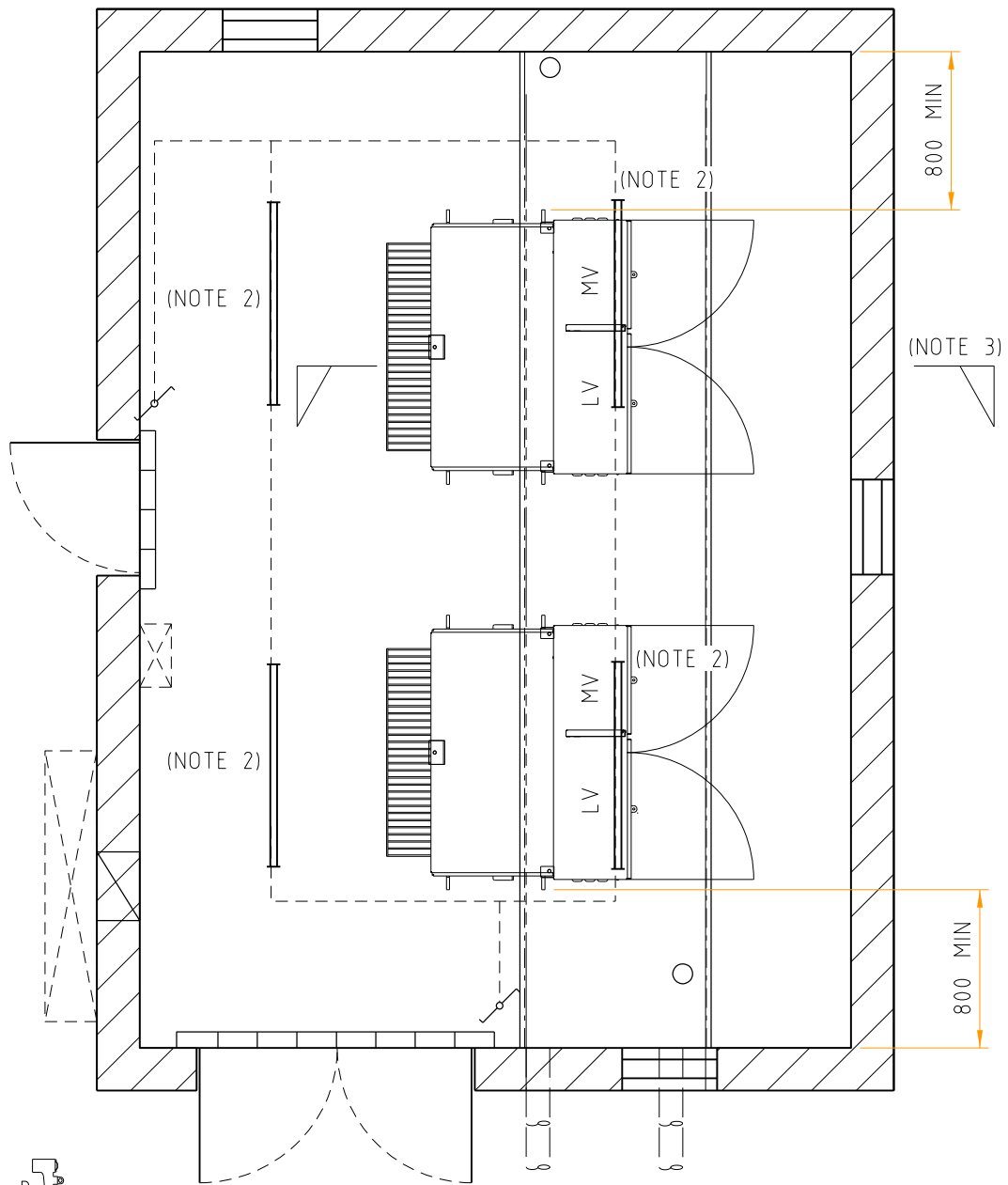


DISTRIBUTION CONSTRUCTION STANDARDS

SOLE USE SUBSTATION  
UP TO 2000kVA (NON MPS)  
FIRE RATED-WITHOUT MV SWGR  
CIVIL & LAND REQUIREMENTS

REVISION A	DATE 18/10/21
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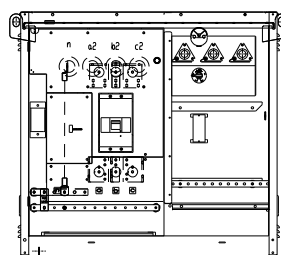
DRAWING No.  
G3-19/1



315 kVA

HU60

OR



1000 kVA

NOTES:

1. REFER TO G6-12 FOR DETAILED INFORMATION FOR INSTALLATION OF EARTHING.
2. 4 x 38W FLUORESCENT BATTEN FITTING.
3. REFER TO G6-10 SHEET 3 TO 6 AND 10 FOR TRANSFORMER CANTILEVER SUPPORT AND GRATING DETAILS.

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

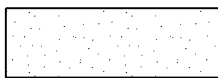
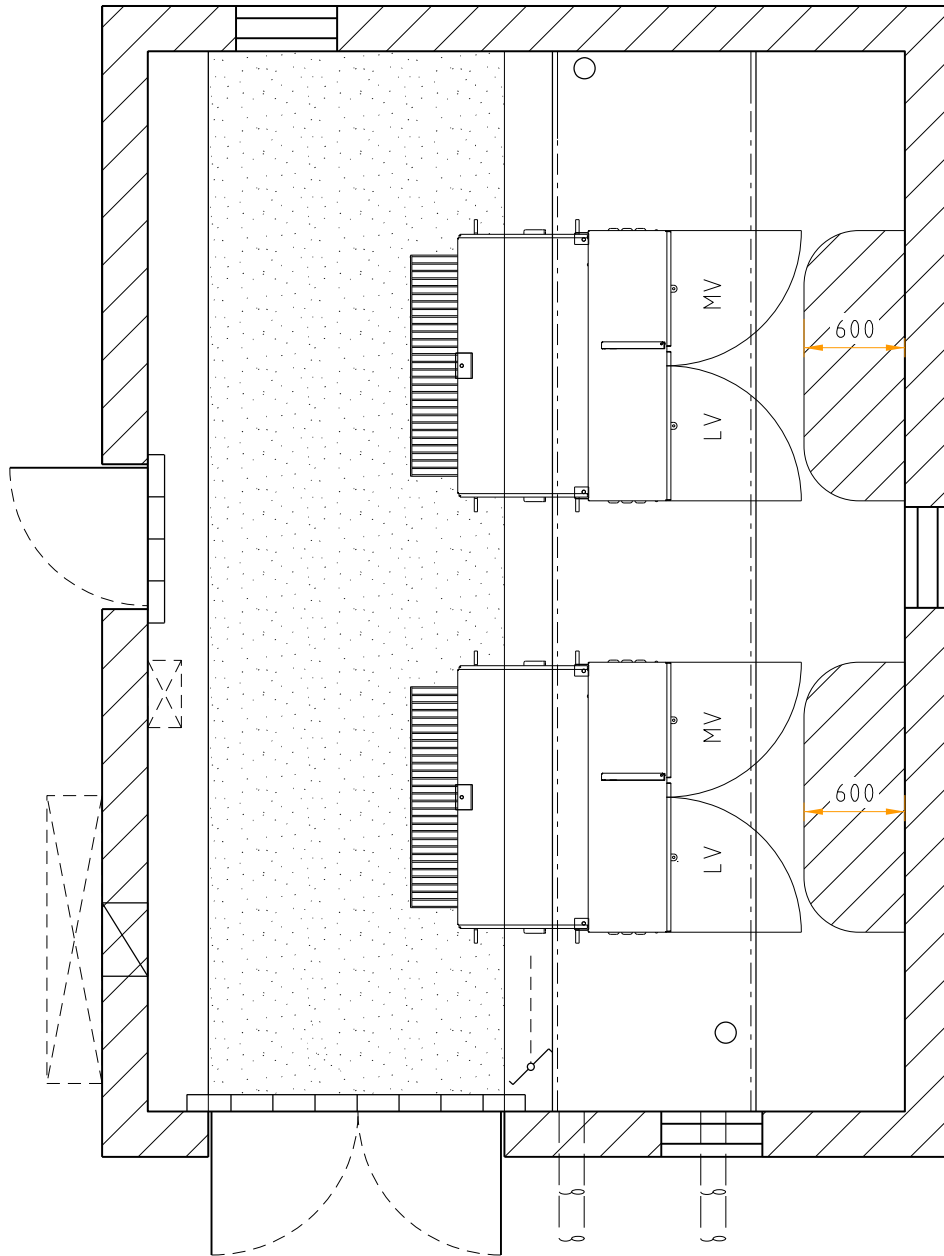


DISTRIBUTION CONSTRUCTION STANDARDS

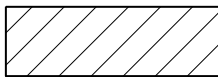
SOLE USE SUBSTATION  
UP TO 2000kVA (NON MPS)  
FIRE RATED-WITHOUT MV SWGR  
EQUIPMENT & INSTALLATION DETAILS

REVISION A	DATE 11/11/21
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DRAWING No.  
G3-19/2



CLEARANCE REQUIRED FOR TRANSFORMER INSTALLATION PURPOSES



MINIMUM CLEARANCE REQUIRED FOR OPERATIONAL/SAFETY PURPOSES

NOTES:

1. REFER TO G6-12 FOR EARTHING.
2. REFER TO G6-10 FOR TRENCHING.

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

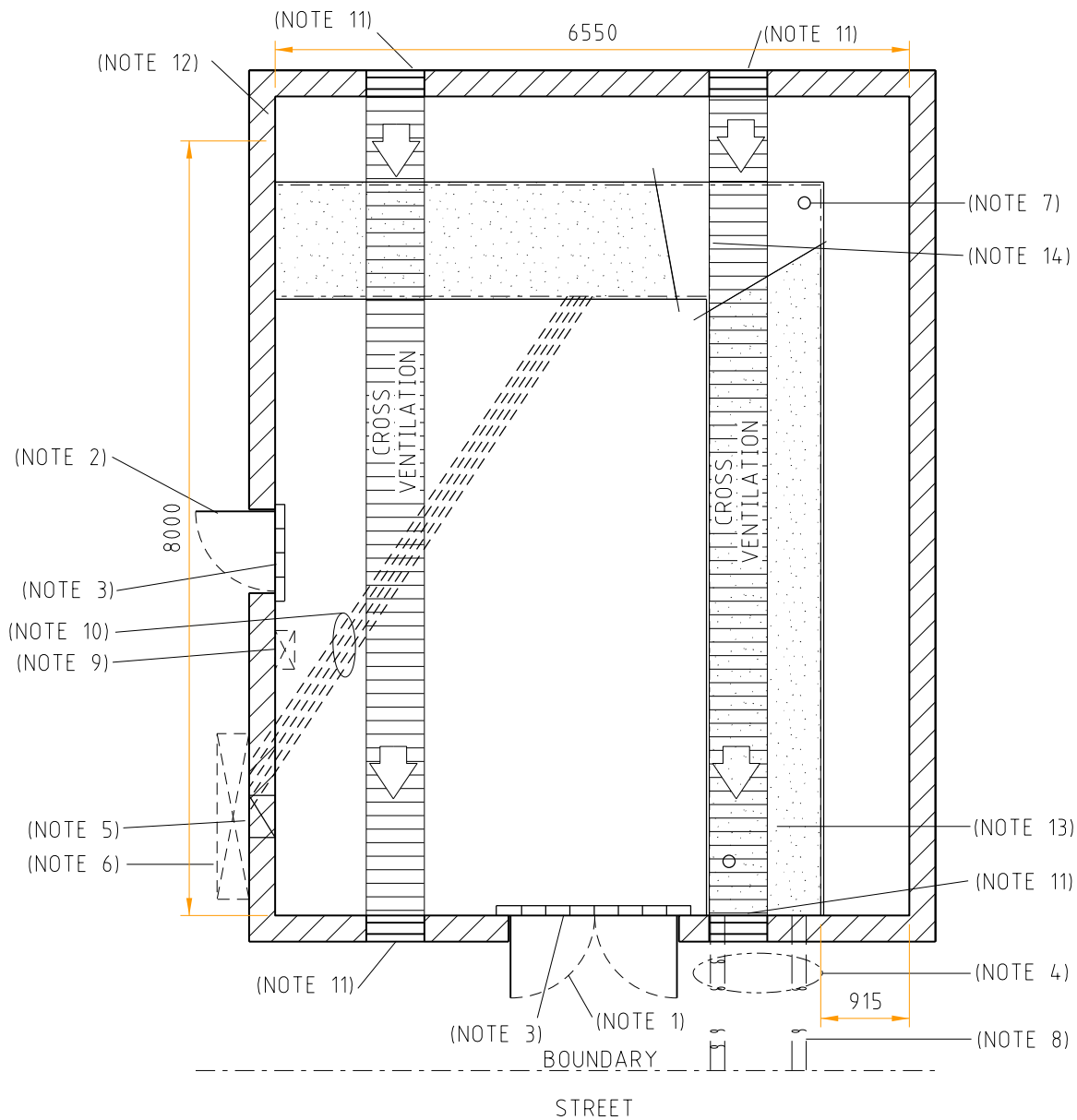


DISTRIBUTION CONSTRUCTION  
STANDARDS

SOLE USE SUBSTATION  
UP TO 2000kVA (NON MPS)  
FIRE RATED-WITHOUT MV SWGR  
OPERATIONAL CLEARANCES

REVISION A	DATE 18/10/21
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DRAWING No.  
G3-19/3



NOTES:

1. DOUBLE DOORS 2340 x 1720 CLEAR, EXIT.
2. DOOR 2040 x 820 CLEAR, EXIT.
3. 75 HIGH BRICK BUND LAID AFTER EQUIPMENT INSTALLED.
4. REFER TO G6-01 (8) FOR DETAILED INFORMATION FOR INSTALLATION OF DUCTING.
5. CONSUMERS DUCT(S) AT FLOOR OF TRENCH.
6. CONSUMERS MAIN DISTRIBUTION BOARD.
7. 75 DIA PENETRATION THROUGH SLAB FOR EARTHING.
8. 3 - 150 ID HEAVY DUTY DUCTS 750 COVER AT BOUNDARY.
9. SUBSTATION DISTRIBUTION BOARD.
10. 8 - 150 ID HEAVY DUTY DUCTS INSTALLED AT FLOOR OF TRENCH.
11. 600 x 600 WIDE FIRE DAMPERED VENT AT HIGH & LOW LEVELS.
12. WALLS TO BE 2HR FIRE RATED, CEILING HEIGHT TO BE MIN. 2500.
13. 1200 DEEP TRENCH WITH GALVANISED STEEL FLOOR GRATING (WEBFORGE C253MPG OR EQUIV.) WALLS & FLOOR OF TRENCH TO BE PAINTED WITH "CEMENTAID" SILICON GLAZE S50 REFER TO G6-10 SHEET 2 FOR TRENCH AND GRATING DETAILS.
14. REFER TO G6-10 SHEET 7 & 8 FOR DETAILED INFORMATION OF TRENCH GRATING SUPPORT.

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



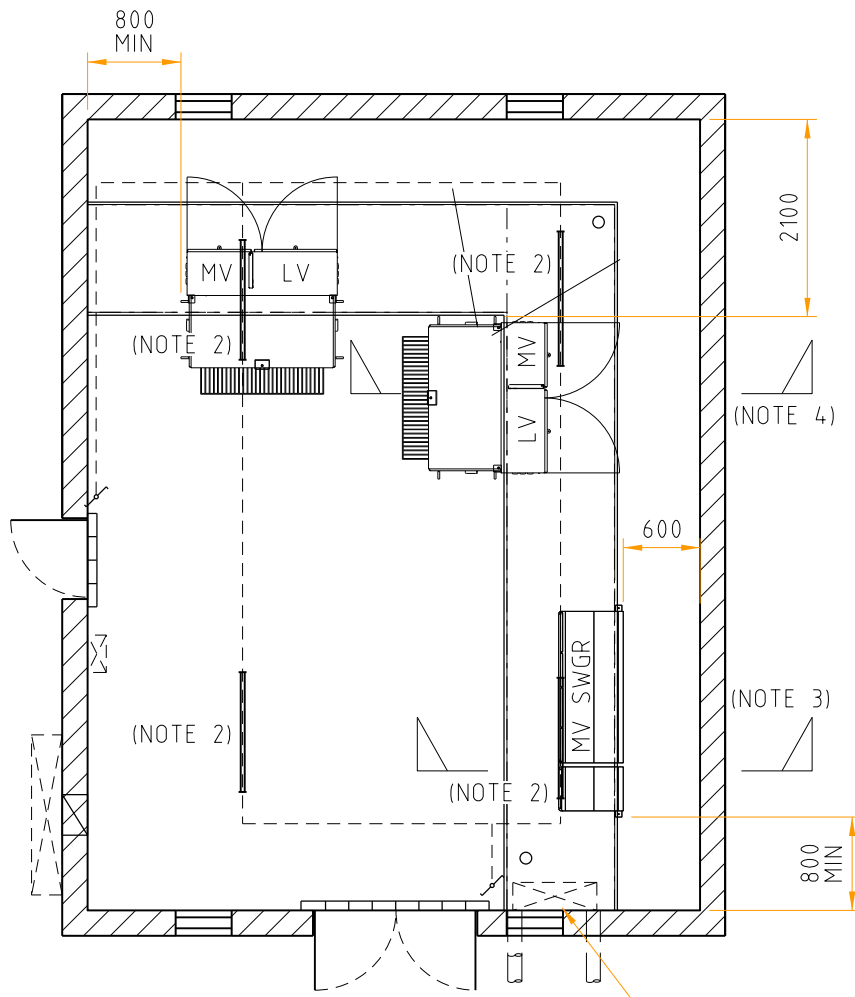
DISTRIBUTION CONSTRUCTION STANDARDS

SOLE USE SUBSTATION  
UP TO 2000kVA (NON MPS)  
FIRE RATED-WITH MV SWGR  
CIVIL & LAND REQUIREMENTS

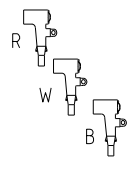
REVISION A	DATE 18/10/21
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DRAWING No.  
G3-20/1

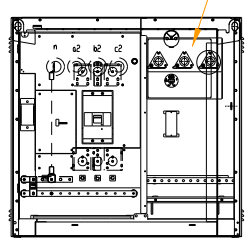




RTU CUBICLE  
WHEN REQUIRED



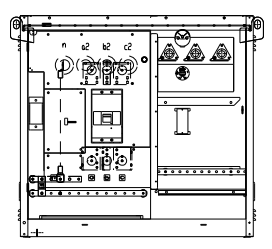
HU66 ( 2 OF )



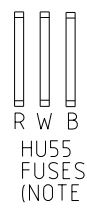
315 kVA

HU60

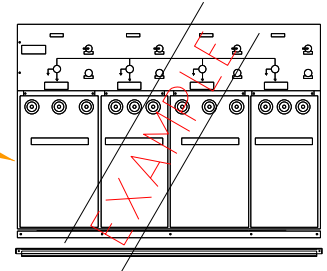
OR



1000 kVA



R W B  
HU55  
FUSES  
(NOTE 5)



SUPPORT

NOTES:

1. REFER TO G6-12 FOR DETAILED INFORMATION FOR INSTALLATION OF EARTHING.
2. 4 x 38W FLUORESCENT BATTEN FITTING.
3. REFER TO G6-7 FOR MV SWGR SUPPORT AND G6-10 SHEET 10 FOR GRATING DETAILS.
4. REFER TO G6-10 SHEET 3 TO 6 AND 10 FOR TRANSFORMER CANTILEVER SUPPORT AND GRATING DETAILS.
5. REFER TO G1-02 FOR FUSE RATINGS.

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

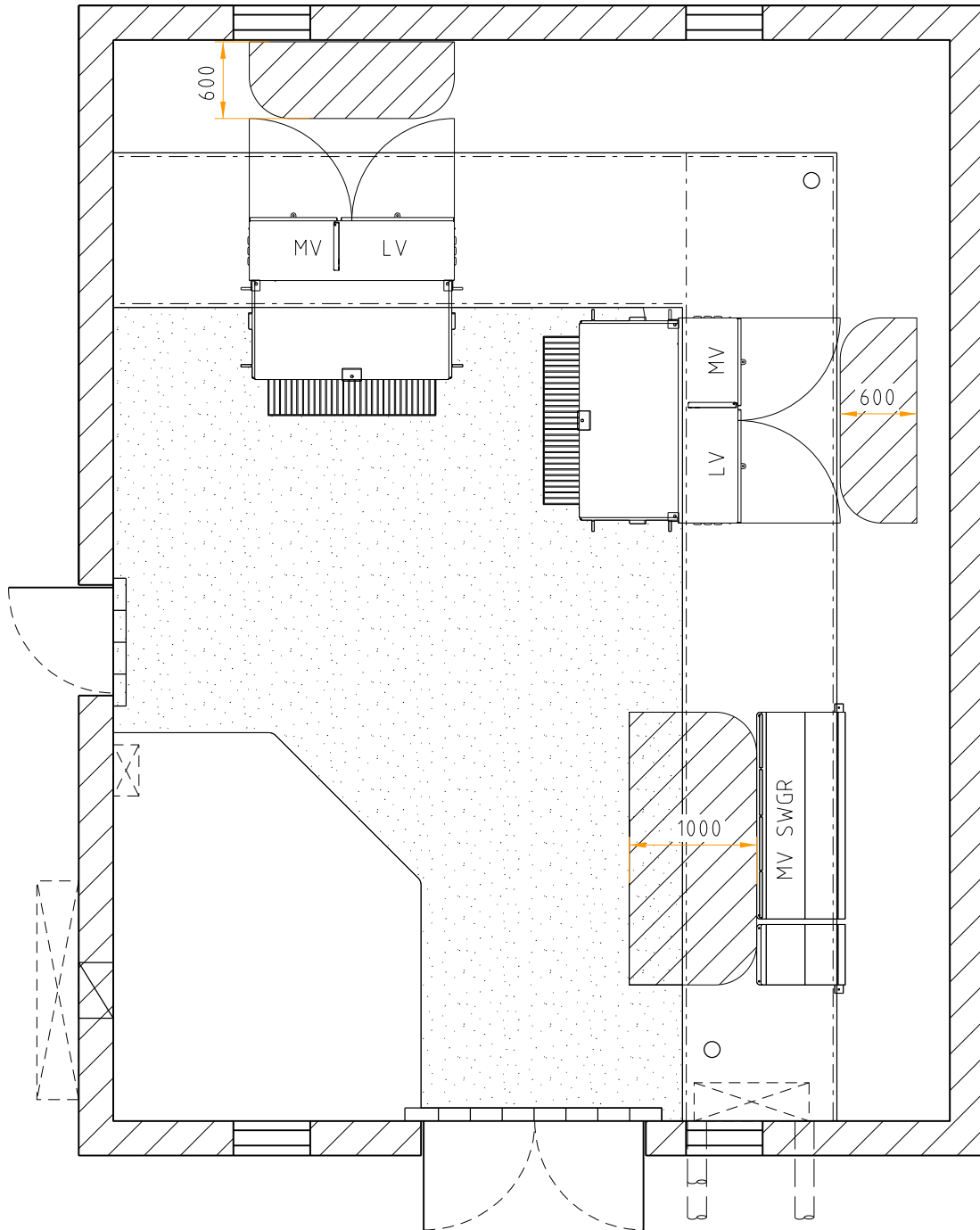


DISTRIBUTION CONSTRUCTION  
STANDARDS

SOLE USE SUBSTATION  
UP TO 2000kVA (NON MPS)  
FIRE RATED-WITH MV SWGR  
EQUIPMENT & INSTALLATION DETAILS

REVISION A	DATE 18/10/21
---------------	------------------

DRAWING No.  
G3-20/2



CLEARANCE REQUIRED FOR TRANSFORMER INSTALLATION PURPOSES



MINIMUM CLEARANCE REQUIRED FOR OPERATIONAL/SAFETY PURPOSES

NOTES:

1. REFER TO G6-12 FOR EARTHING.
2. REFER TO G6-10 FOR TRENCHING.

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

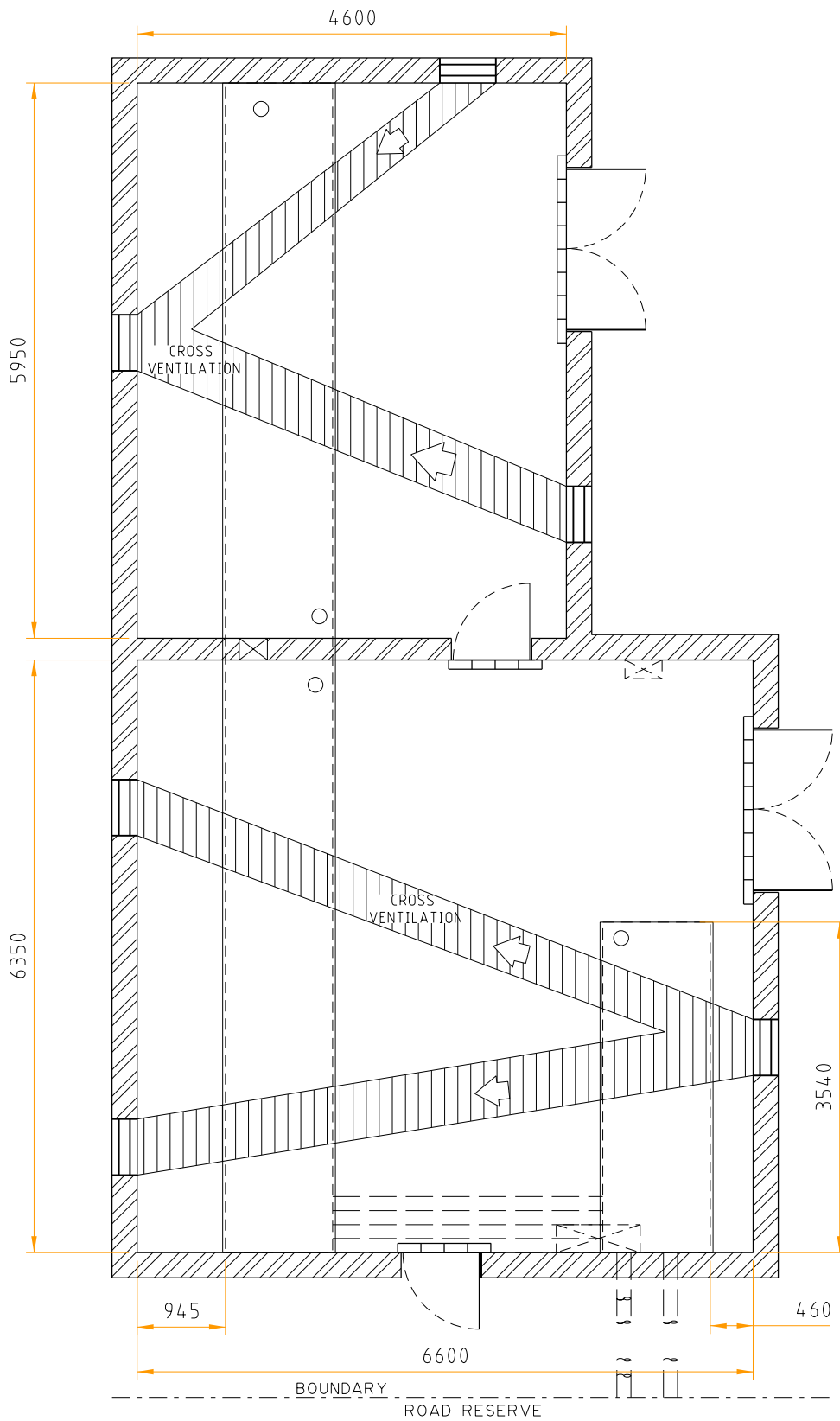


DISTRIBUTION CONSTRUCTION STANDARDS

SOLE USE SUBSTATION  
UP TO 2000kVA (NON MPS)  
FIRE RATED-WITH MV SWGR  
OPERATIONAL CLEARANCES

REVISION A	DATE 18/10/21
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DRAWING No.  
G3-20/3



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



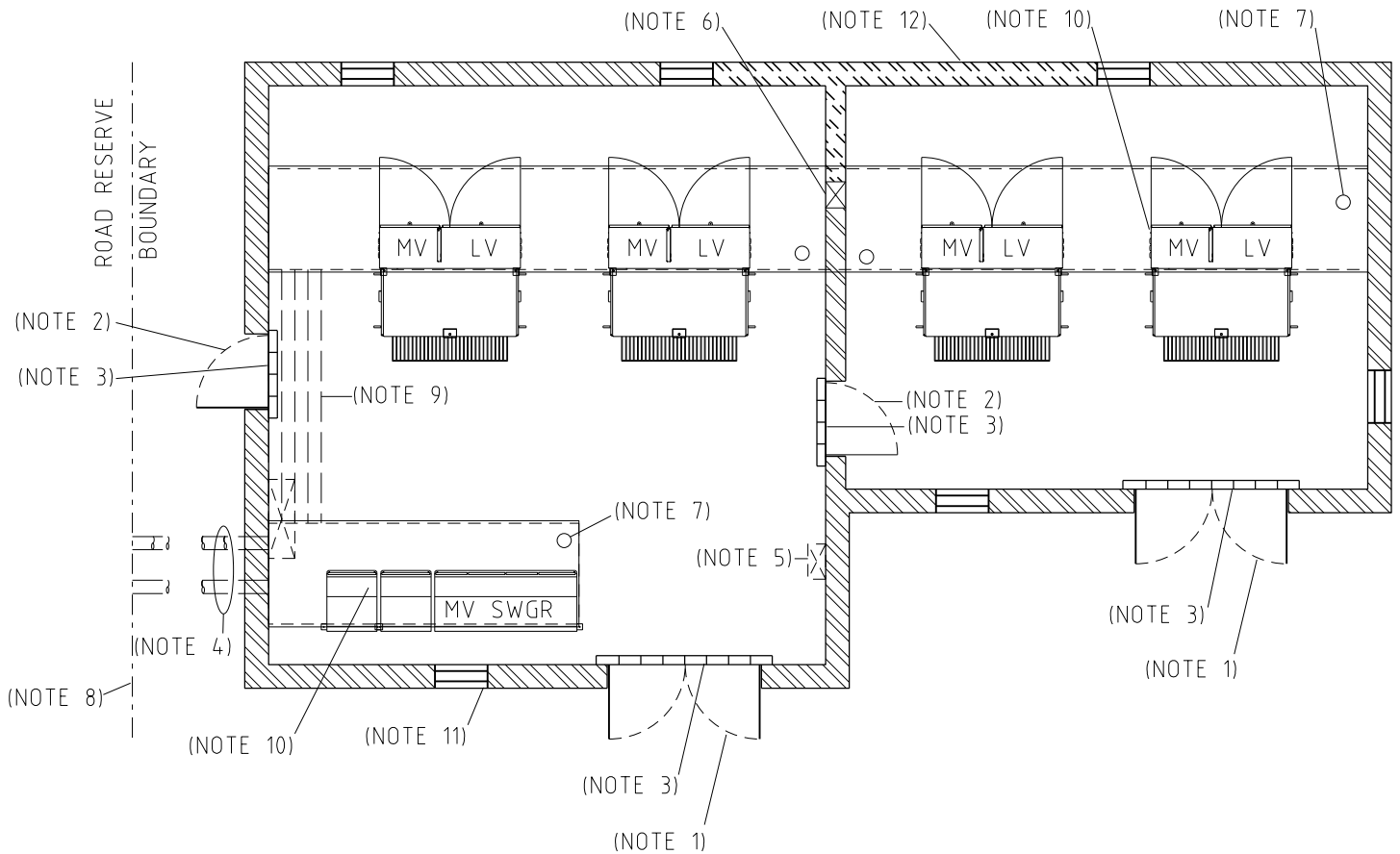
DISTRIBUTION CONSTRUCTION  
STANDARDS

SOLE USE SUBSTATION  
UP TO 4000kVA (NON MPS)  
FIRE RATED-WITH MV SWGR  
CIVIL & LAND REQUIREMENTS

REVISION A	DATE 20/08/21
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DRAWING No.

G3-21/1



NOTES:

1. DOUBLE DOORS 2340 x 1720 CLEAR, EXIT.
2. DOOR 2040 x 820 CLEAR, EXIT.
3. 75 HIGH BRICK BUND LAID AFTER EQUIPMENT INSTALLED.
4. REFER TO G6-01 (8) FOR DETAILED INFORMATION FOR INSTALLATION OF DUCTING.
5. SUBSTATION DISTRIBUTION BOARD.
6. 2 - 150 ID HEAVY DUTY DUCTS INSTALLED AT FLOOR OF TRENCH.
7. 75 DIA PENETRATION THROUGH SLAB FOR EARTHING.
8. 3 - 150 ID HEAVY DUTY DUCTS 750 COVER AT BOUNDARY.
9. 4 - 150 ID HEAVY DUTY DUCTS INSTALLED AT FLOOR OF TRENCH.
10. 1200 DEEP TRENCH WITH GALVANISED STEEL FLOOR GRATING (WEBFORGE C253MPG OR EQUIV.) WALLS & FLOOR OF TRENCH TO BE PAINTED WITH "CEMENTAID" SILICON GLAZE S50 REFER TO G6-10 SHEET 2 FOR TRENCH AND GRATING DETAILS.
11. 600 x 600 WIDE FIRE DAMPERED VENT AT HIGH & LOW LEVELS.
12. WALLS TO BE 2HR FIRE RATED, CEILING HEIGHT TO BE MIN. 2500.

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



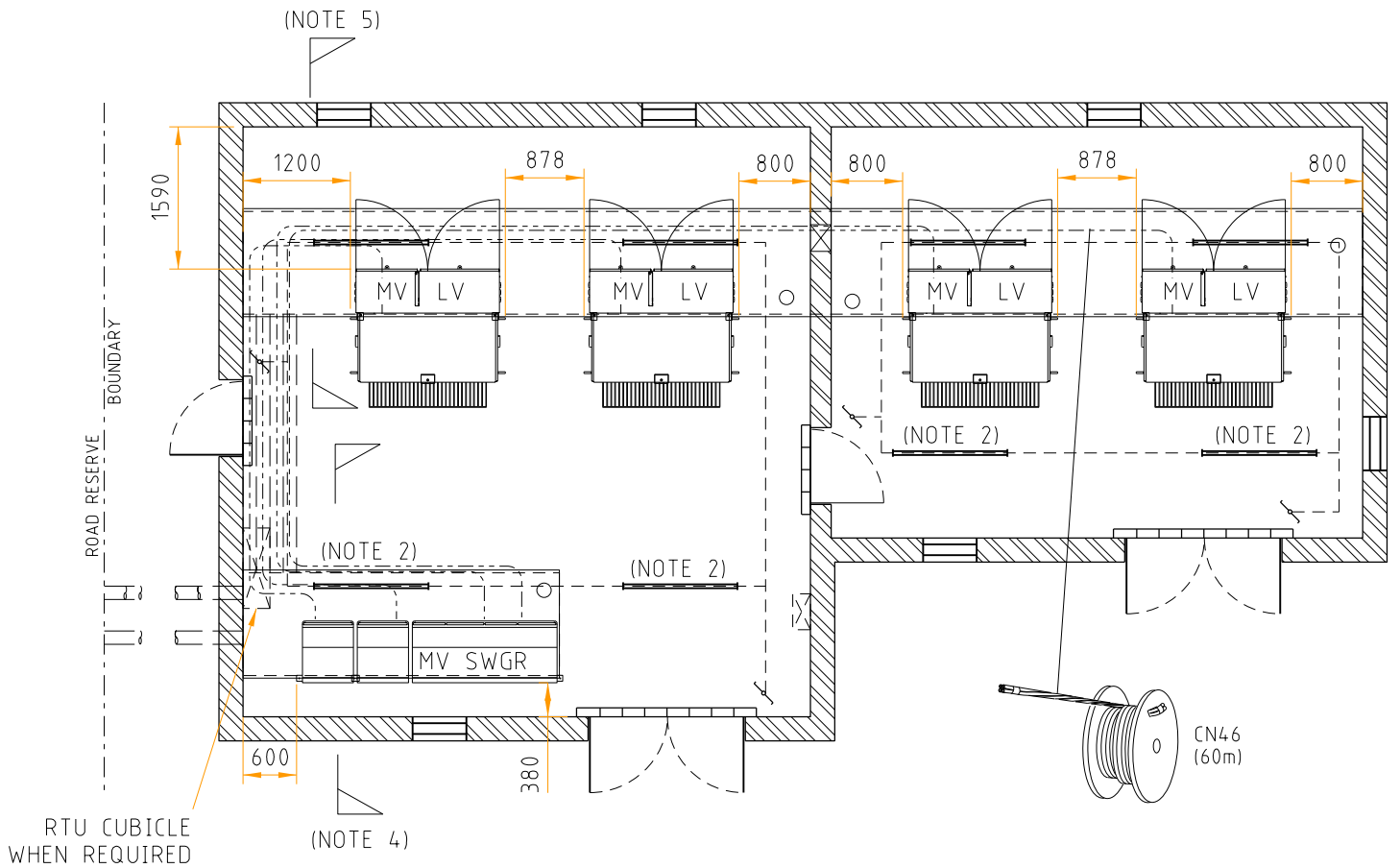
DISTRIBUTION CONSTRUCTION  
STANDARDS

SOLE USE SUBSTATION  
UP TO 4000kVA (NON MPS)  
FIRE RATED-WITH MV SWGR  
EQUIPMENT & INSTALLATION DETAILS

REVISION A	DATE 22/10/21
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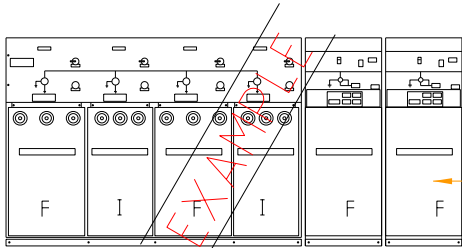
DRAWING No.

G3-21/2

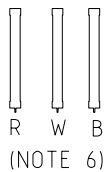


RTU CUBICLE WHEN REQUIRED

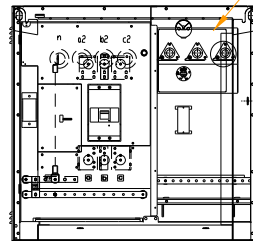
(NOTE 4)



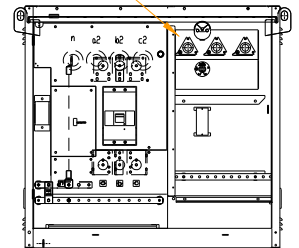
4 WAY (2+2) (HU24) HU79 x 2  
VIEW FROM FRONT OF SWITCHGEAR



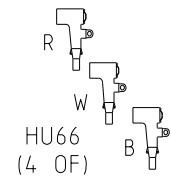
(NOTE 6)



630 kVA



1000 kVA



HU60

OR

NOTES:

1. REFER TO G6-12 FOR DETAILED INFORMATION FOR INSTALLATION OF EARTHING.
2. 8 x 38W FLUORESCENT BATTEN FITTING.
3. REFER TO G6-04 SHEET 2 FOR INSTALLATION OF SWGR.
4. REFER TO G6-7 FOR MV SWITCHGEAR SUPPORT AND G6-10 SHEET 10 FOR GRATING DETAILS.
5. REFER TO G6-10 SHEET 3 TO 6 AND 10 FOR TRANSFORMER CANTILEVER SUPPORT AND GRATING DETAILS.
6. REFER TO G1-02 FOR FUSE RATINGS.

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

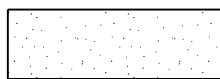
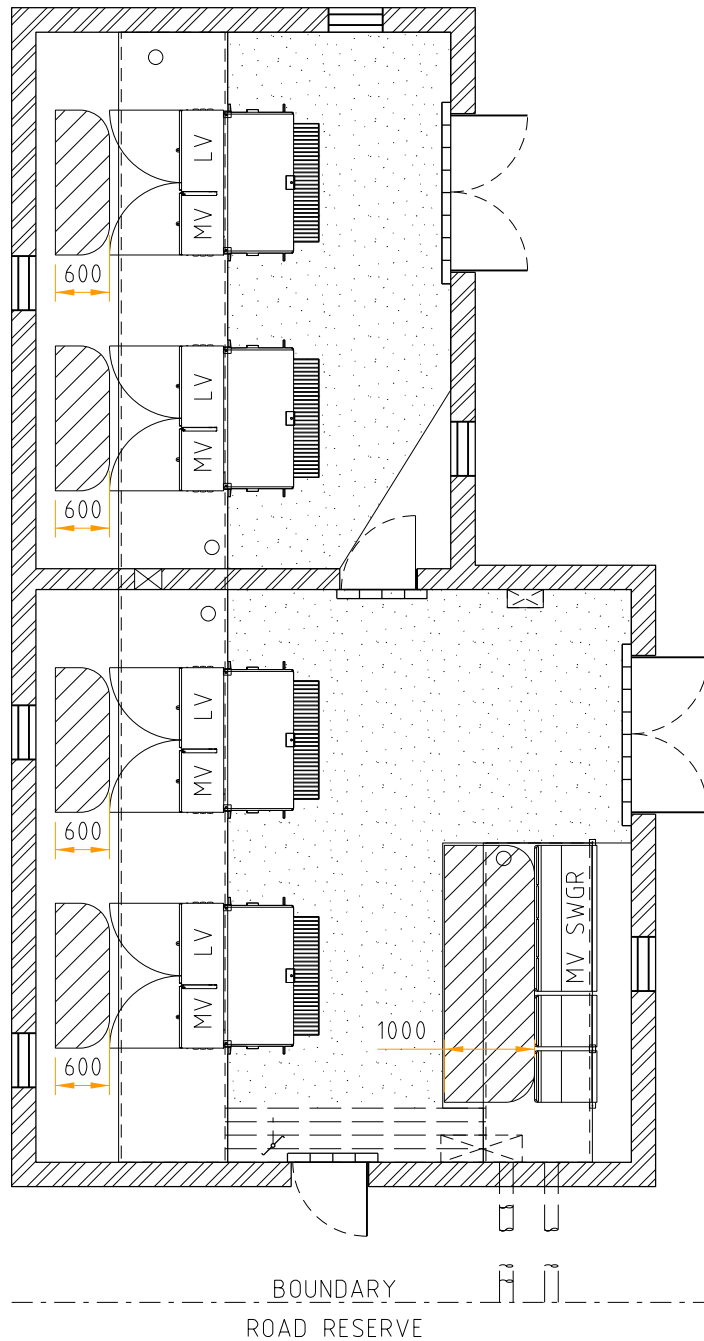


DISTRIBUTION CONSTRUCTION STANDARDS

SOLE USE SUBSTATION  
UP TO 4000kVA (NON MPS)  
FIRE RATED-WITH MV SWGR  
EQUIPMENT & INSTALLATION DETAILS

REVISION A	DATE 19/10/21
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DRAWING No.  
G3-21/3



CLEARANCE REQUIRED FOR TRANSFORMER INSTALLATION PURPOSES



MINIMUM CLEARANCE REQUIRED FOR OPERATIONAL/SAFETY PURPOSES

NOTES:

1. REFER TO G6-12 FOR EARTHING
2. REFER TO G6-10 FOR TRENCHING

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

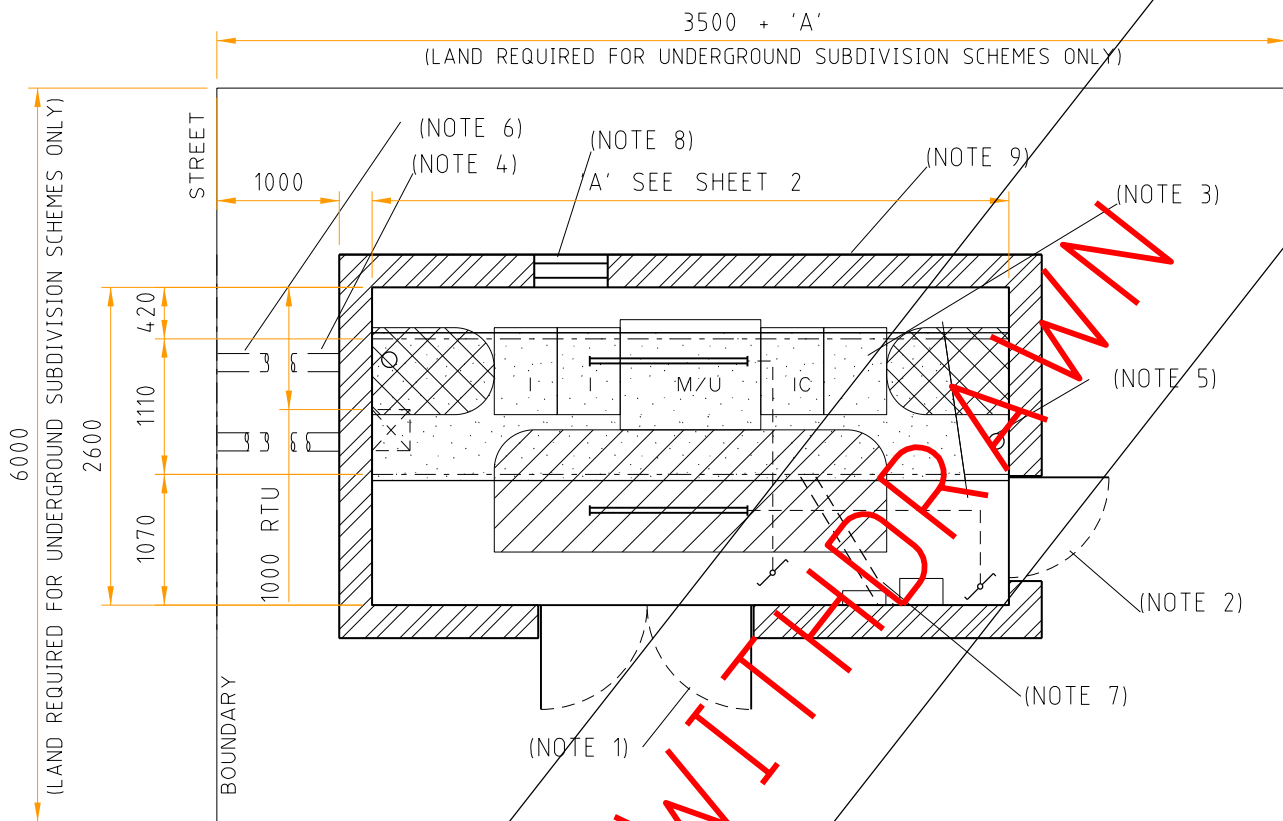


DISTRIBUTION CONSTRUCTION STANDARDS

SOLE USE SUBSTATION  
UP TO 4000kVA (NON MPS)  
FIRE RATED-WITH MV SWGR  
OPERATIONAL CLEARANCES

REVISION A	DATE 19/10/21
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DRAWING No.  
G3-21/4



NOTES:

1. DOUBLE DOORS 2340 x 1720 CLEAR, EXIT
2. DOOR 2040 x 820 CLEAR, EXIT
3. 1200 DEEP TRENCH WITH GALVANISED STEEL FLOOR GRATEING (WEB FORGE (253MPG OR EQUIV.) WALLS & FLOOR OF TRENCH TO BE PAINTED WITH "CEMENTAID" SILICON GLAZE S50 REFER TO G6-10 SHEET 2 FOR DETAILS
4. REFER TO G6-01 (12) FOR DETAILED INFORMATION FOR INSTALLATION OF DUCTING.
5. 75 DIA PENETRATION THROUGH SLAB FOR EARTHING
6. 150 ID HEAVY DUTY DUCTS 750 COVER AT BOUNDARY (1 EACH UNIT + 1 SPARE)
7. 75 ID HEAVY DUTY DUCT INSTALLED AT FLOOR OF TRENCH FOR METERING
8. 600 x 600 WIDE FIRE DAMPERED VENT AT HIGH & LOW LEVELS
9. WALLS TO BE 2HR FIRE RATED, CEILING HEIGHT TO BE MIN. 2500mm

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

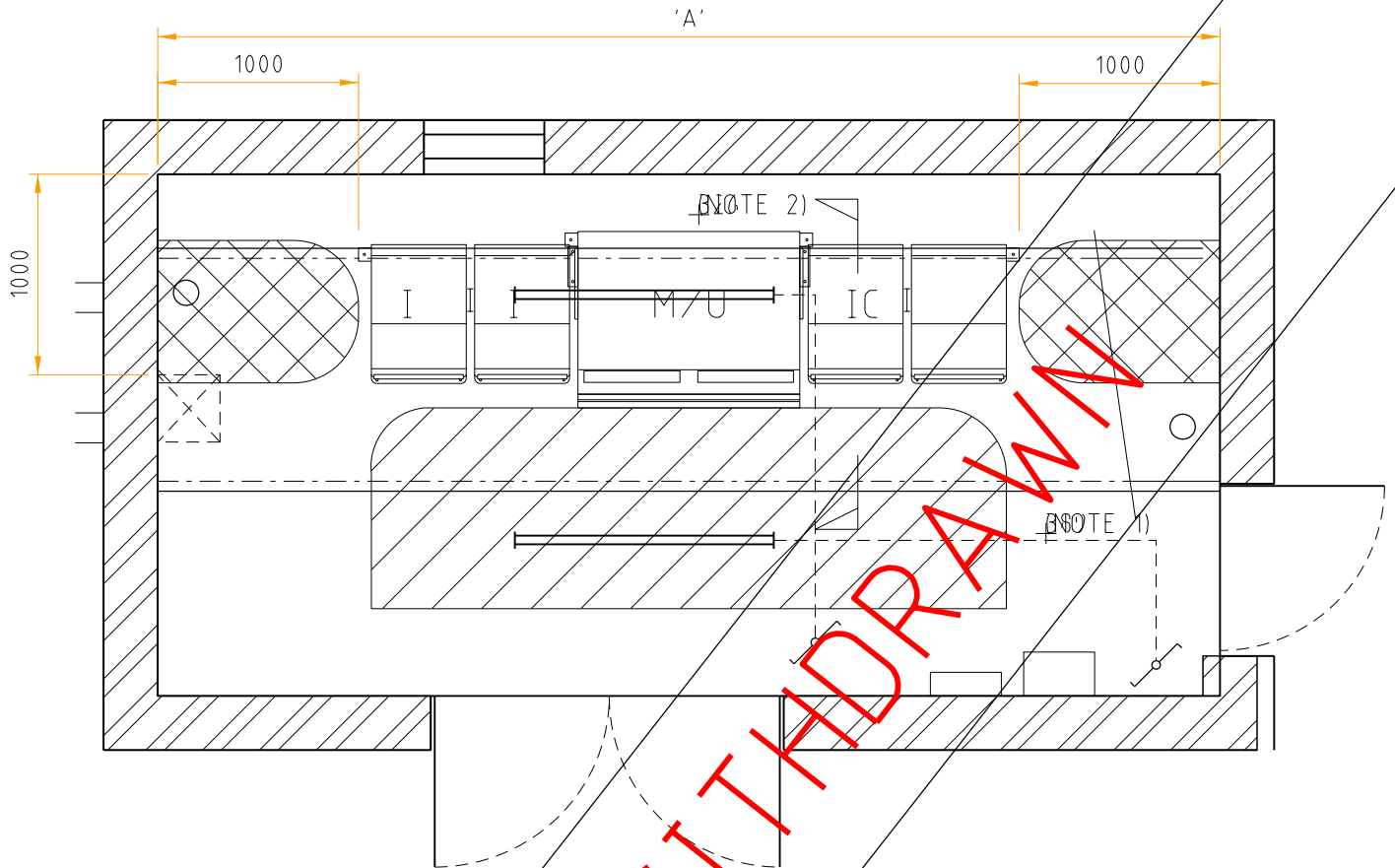


DISTRIBUTION CONSTRUCTION  
STANDARDS

CUSTOMER OWNED SUBSTATION  
MV INDOOR GROUND MOUNTED SWGR  
DIRECT BUS CONNECTION  
(HP. SCHNEIDER MV SWITCHGEAR)  
CIVIL & LAND REQUIREMENTS

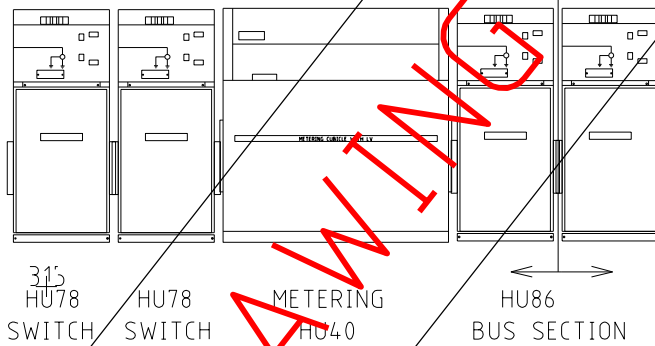
REVISION A	DATE 20/08/21
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DRAWING No.  
G3-22A/1



HORIZON POWER SWITCHGEAR

CUSTOMER SWITCHGEAR (HU86 ONLY)



315  
HU78  
SWITCH

HU78  
SWITCH

METERING  
HU40

HU86  
BUS SECTION

	DIMENSION	No. UNITS	TOTAL
	(mm)	REQUIRED	DEPTH (mm)
ISOLATOR	515		
BUS SECTION	632		
METERING UNIT	1149		
FUSES W/			
FUSES W/	515		
CIRCUIT BREAKER	632		
INSTALLATION			2000
REQUIRED			
TOTAL 'A'			

NOTES:

- 2 x 38W FLUORESCENT BATTEN FITTING.
- REFER TO G6-10 SHEET 7 & 8.
- REFER TO G6-04 FOR DETAILED INFORMATION FOR INSTALLATION OF HV SWGR SUPPORT.
- REFER TO G6-12 FOR DETAILED INFORMATION FOR INSTALLATION OF EARTHING.

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



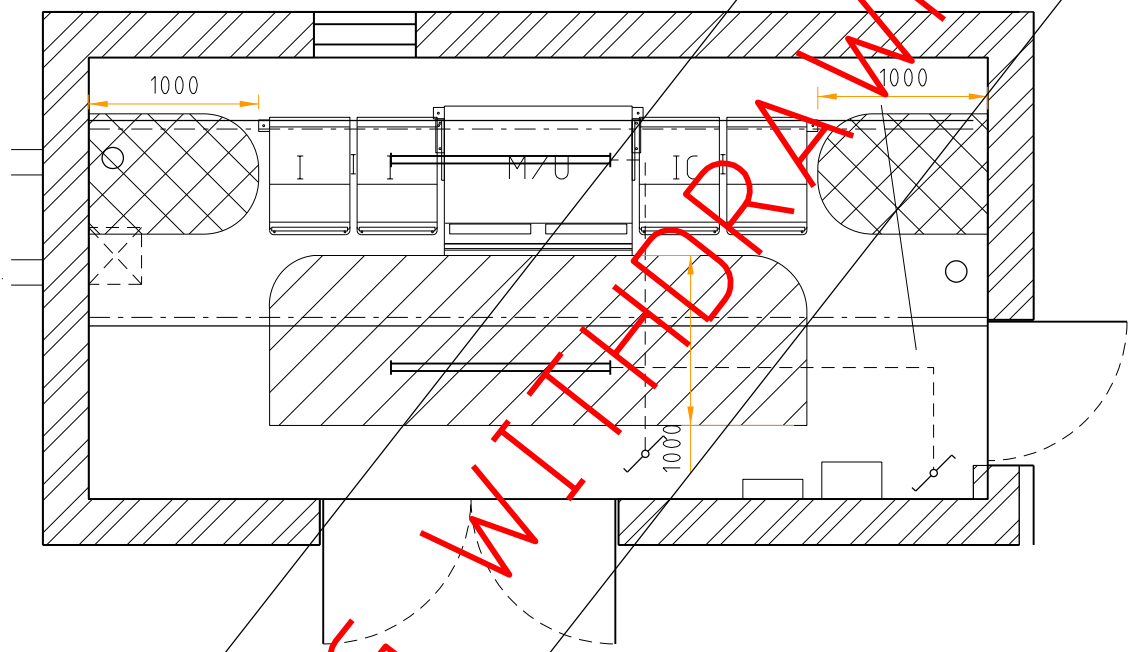
DISTRIBUTION CONSTRUCTION STANDARDS

CUSTOMER OWNED SUBSTATION  
MV INDOOR GROUND MOUNTED SWGR  
DIRECT BUS CONNECTION  
(HP. SCHNEIDER MV SWITCHGEAR)  
EQUIPMENT & INSTALLATION DETAILS

REVISION A DATE 20/08/21

DRAWING No. G3-22A/2





CLEARANCE REQUIRED FOR SWITCHGEAR INSTALLATION PURPOSES



MINIMUM CLEARANCE REQUIRED FOR OPERATIONAL/SAFETY PURPOSES

NOTES:

- 1. REFER TO G6-12 FOR EARTHING
- 2. REFER TO G6-10 FOR TRENCHING

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

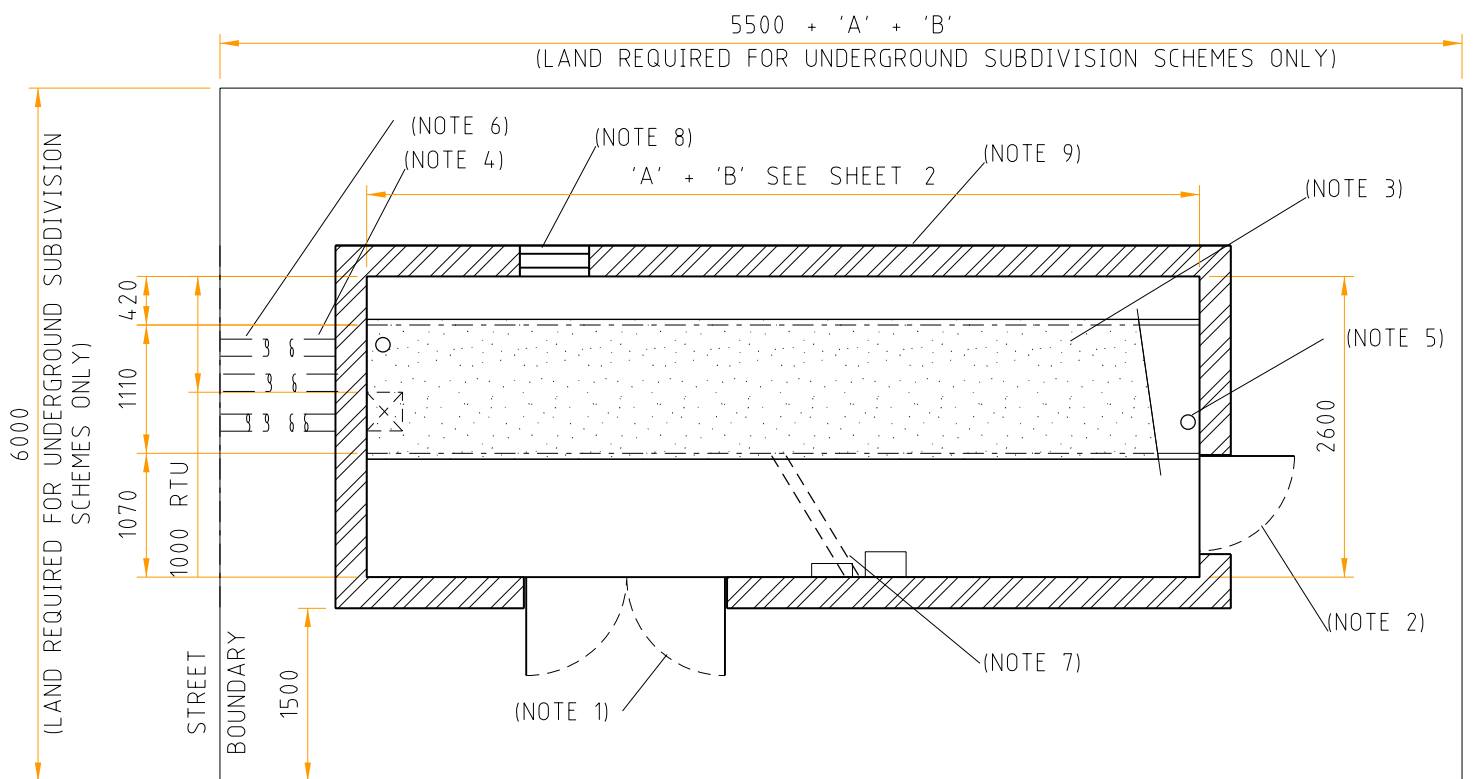


DISTRIBUTION CONSTRUCTION STANDARDS

CUSTOMER OWNED SUBSTATION  
 MV INDOOR GROUND MOUNTED SWGR  
 DIRECT BUS CONNECTION  
 (HP. SCHNEIDER MV SWITCHGEAR)  
 OPERATIONAL CLEARANCES

REVISION A	DATE 23/08/21
---------------	------------------

DRAWING No.  
G3-22A/3



NOTES:

1. DOUBLE DOORS 2340 x 1720 CLEAR, EXIT.
2. DOOR 2040 x 820 CLEAR, EXIT.
3. 1200 DEEP TRENCH WITH GALVANISED STEEL FLOOR GRATING (WEBFORGE C253MPG OR EQUIV.) WALLS & FLOOR OF TRENCH TO BE PAINTED WITH "CEMENTAID" SILICON GLAZE S50 REFER TO G6-10 SHEET 2 FOR TRENCH AND GRATING DETAILS.
4. REFER TO G6-01 (12) FOR DETAILED INFORMATION FOR INSTALLATION OF DUCTING.
5. 75 DIA PENETRATION THROUGH SLAB FOR EARTHING.
6. 150 ID HEAVY DUTY DUCTS 750 COVER AT BOUNDARY (1 EACH UNIT + 1 SPARE).
7. 75 ID HEAVY DUTY DUCT INSTALLED AT FLOOR OF TRENCH FOR METERING.
8. 600 x 600 WIDE FIRE DAMPERED VENT AT HIGH & LOW LEVELS.
9. WALLS TO BE 2HR FIRE RATED, CEILING HEIGHT TO BE MIN. 2500.

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

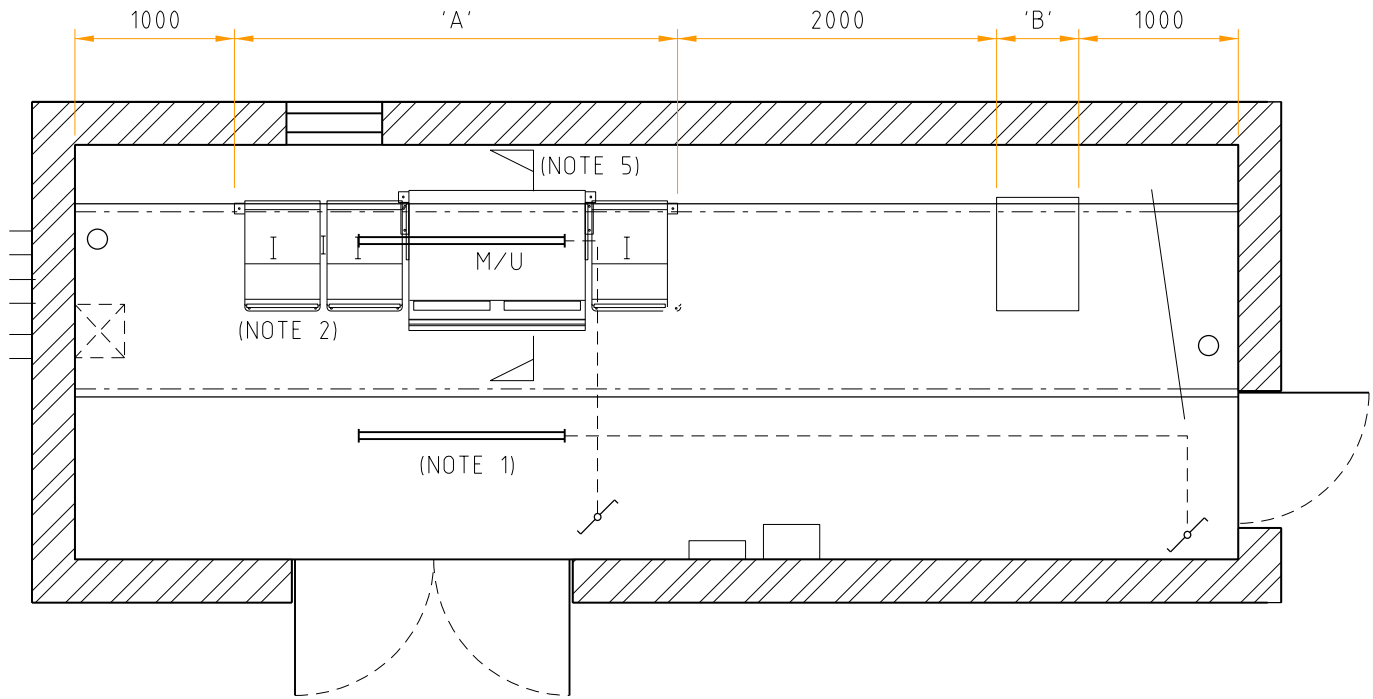


DISTRIBUTION CONSTRUCTION  
STANDARDS

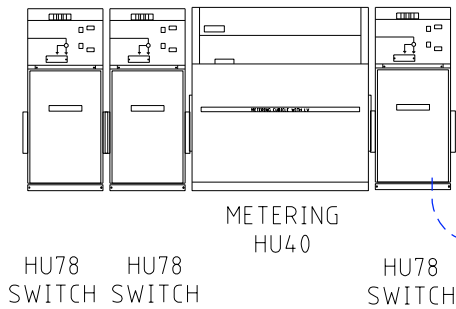
CONSUMER OWNED SUBSTATION  
MV INDOOR GROUND MOUNTED SWGR  
CABLE CONNECTION  
(HP. SCHNEIDER MV SWITCHGEAR)  
CIVIL & LAND REQUIREMENTS

REVISION A	DATE 22/10/21
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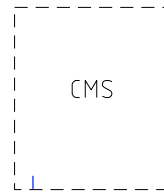
DRAWING No.  
G3-22B/1



HORIZON POWER SWITCHGEAR (NOTE 3)



CONSUMER SWITCHGEAR



(NOTE 6)

	DIMENSION (w)	No. UNITS REQUIRED	TOTAL WIDTH (mm)
ISOLATOR (I)	515		
BUS SECTION (IC)	632		
METERING UNIT (M/U)	1149		
FUSES WITH (O)	515		
CIRCUIT BREAKER (O)	632		
DIMENSION 'A'			
DIMENSION 'B'			
INSTALLATION REQUIRED			4 000
TOTAL SWITCHROOM LENGTH			

NOTES:

- 2 x 38W FLUORESCENT BATTEN FITTING
- REFER TO G6-4 FOR DETAILED INFORMATION FOR INSTALLATION OF MV SWGR SUPPORT.
- REFER TO G6-6 FOR MV SWITCHGEAR LAYOUT
- REFER TO G6-7 FOR MV SWITCHGEAR SUPPORT DETAILS.
- REFER TO G6-10 SHEET 7 & 10 FOR MV SWITCHGEAR GRATING DETAILS
- 5m x 22kV 400mm<sup>2</sup> XPLE 1C/PHASE CABLE FROM HORIZON POWER SWITCHGEAR CABLE SUPPLIED BY HORIZON POWER CONSUMER RESPONSIBLE FOR TERMINATING CABLE TO CONSUMER SWITCHGEAR ONLY.
- CONSUMER POINT OF SUPPLY IS AT THE CABLE TERMINATION IN HORIZON POWER ISOLATOR
- REFER TO G6-12 FOR DETAILED INFORMATION FOR INSTALLATION OF EARTHING.

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

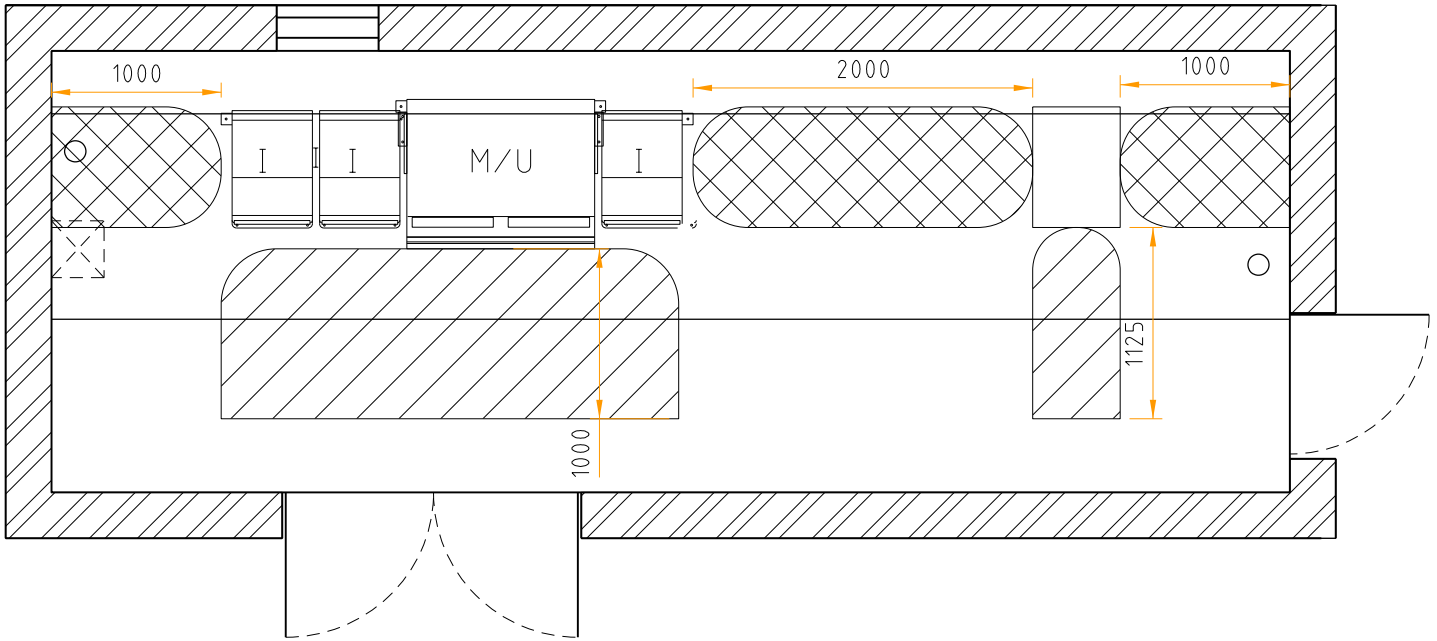


DISTRIBUTION CONSTRUCTION STANDARDS

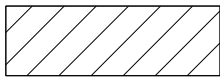
CONSUMER OWNED SUBSTATION  
MV INDOOR GROUND MOUNTED SWGR  
CABLE CONNECTION  
(HP. SCHNEIDER MV SWITCHGEAR)  
EQUIPMENT & INSTALLATION DETAILS

REVISION A DATE 19/10/21

DRAWING No. G3-22B/2



CLEARANCE REQUIRED FOR SWITCHGEAR INSTALLATION PURPOSES



MINIMUM CLEARANCE REQUIRED FOR OPERATIONAL/SAFETY PURPOSES

NOTES:

1. REFER TO G6-12 FOR EARTHING
2. REFER TO G6-10 FOR TRENCHING

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

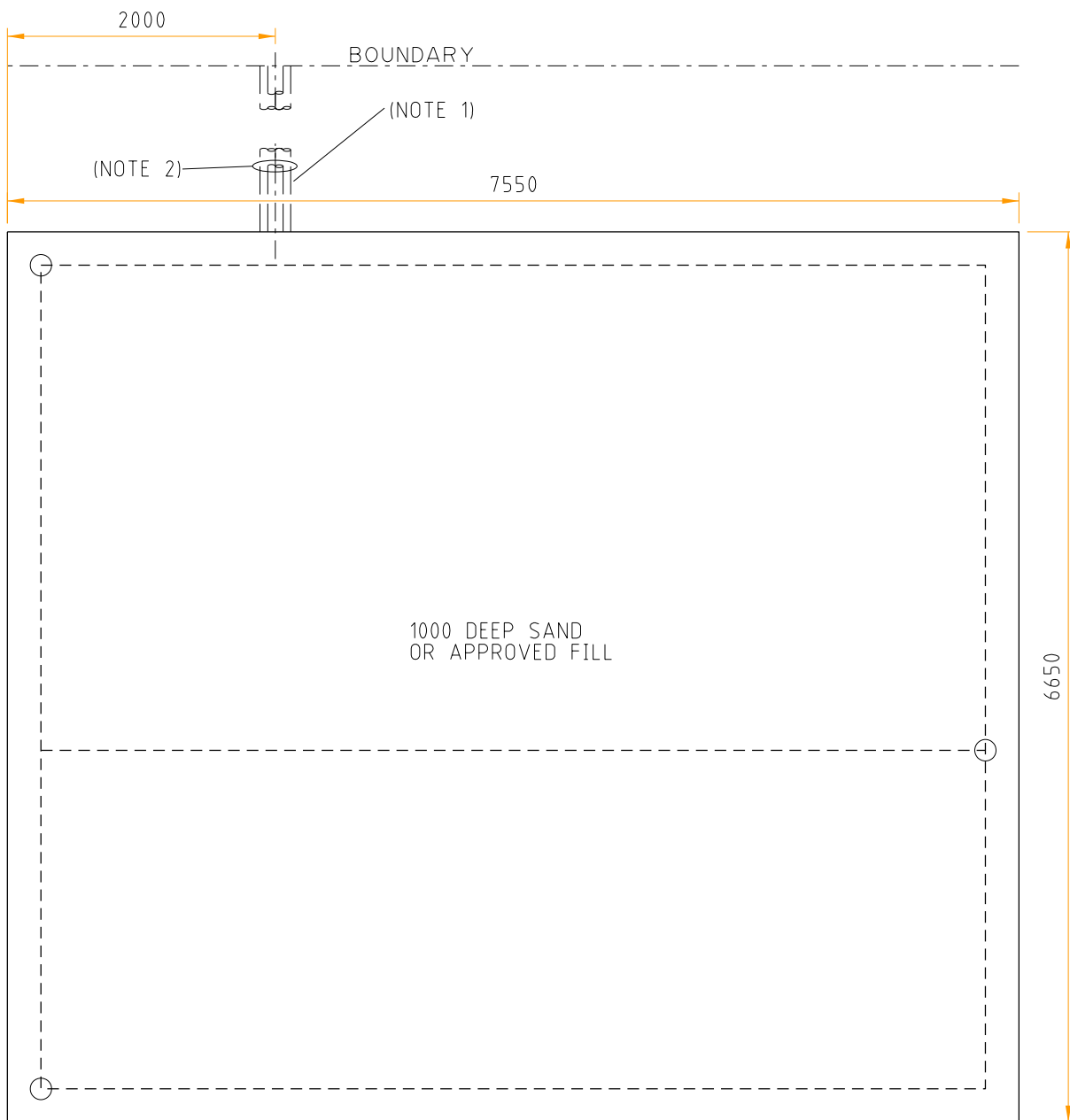


DISTRIBUTION CONSTRUCTION STANDARDS

CONSUMER OWNED SUBSTATION  
 MV INDOOR GROUND MOUNTED SWGR  
 CABLE CONNECTION  
 (HP. SCHNEIDER MV SWITCHGEAR)  
 OPERATIONAL CLEARANCES

REVISION A	DATE 19/10/21
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DRAWING No.  
G3-22B/3



NOTES:

1. DUCTING REQUIRED IF LAND REQUIREMENT IS SET BACK FROM ROAD RESERVE BOUNDARY. 3 - 150 ID HEAVY DUTY DUCTS.
2. REFER TO G6-01 (12) FOR DETAILED INFORMATION FOR INSTALLATION OF DUCTING.

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



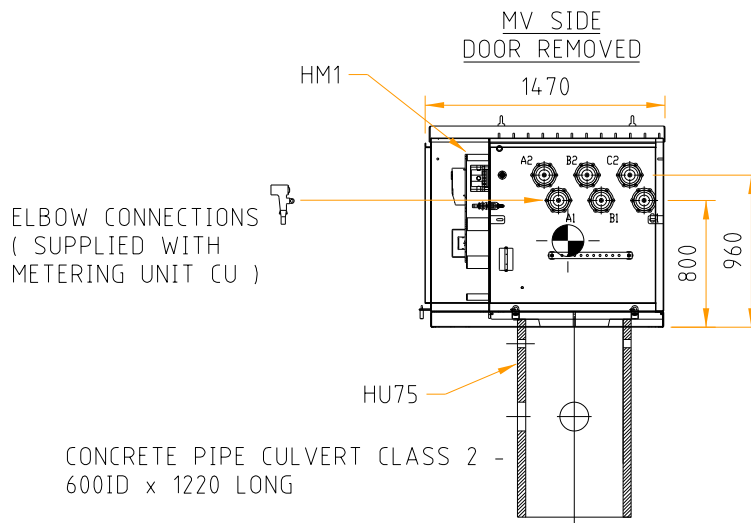
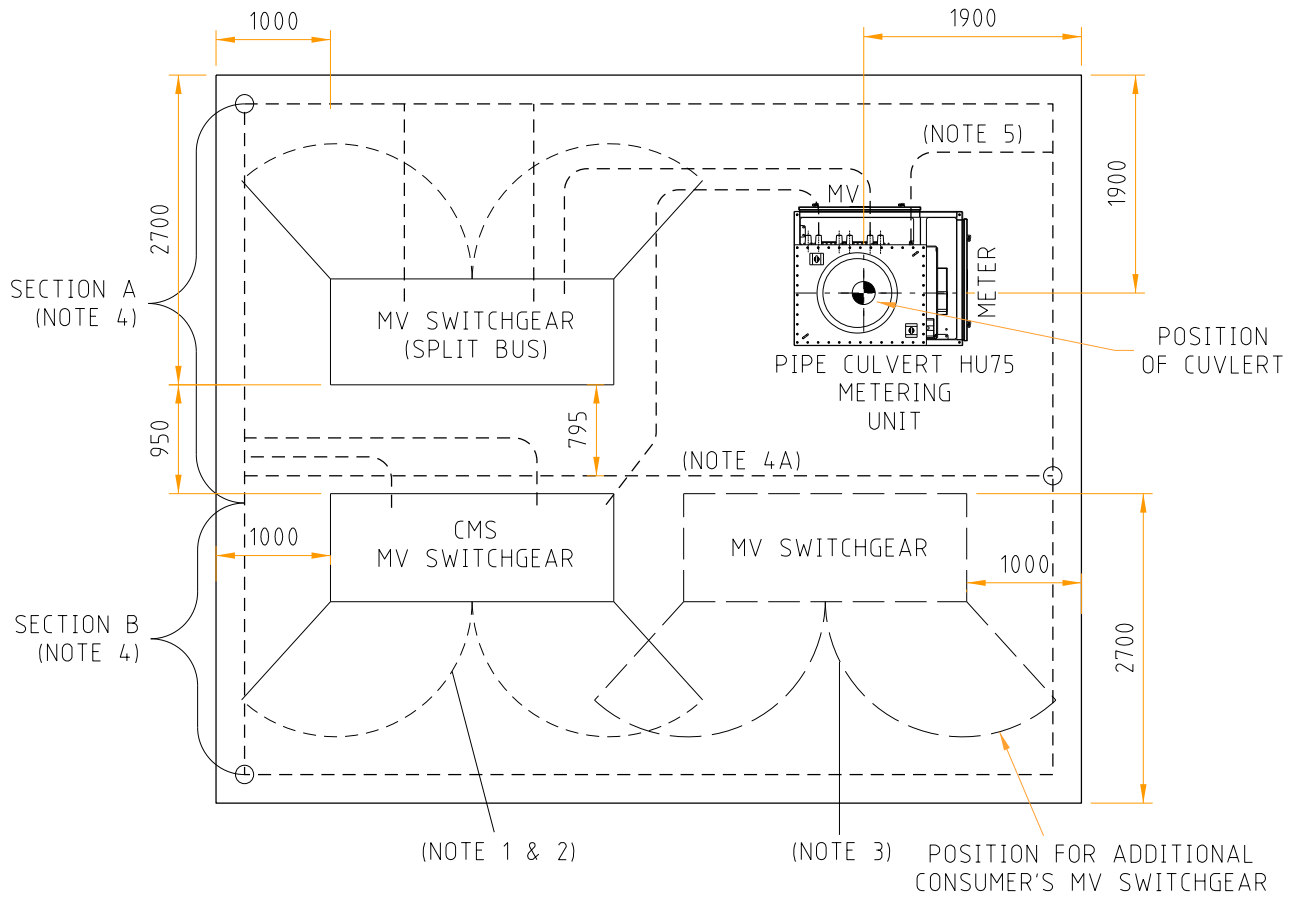
DISTRIBUTION CONSTRUCTION  
STANDARDS

CONSUMER OWNED SUBSTATION  
MV OUTDOOR GROUND MOUNTED SWGR

CIVIL & LAND REQUIREMENTS

REVISION A	DATE 23/08/21
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DRAWING No. G3-23/1
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NOTES:

1. ALL MV ISOLATORS FORMING PART OF THE CONSUMERS MV SWGR ARE TO BE FITTED WITH HP LOCKS AND LABELED (SWITCH TO BE OPERATED ONLY BY HP)
2. THE CONSUMERS MV SWGR CABINET IS TO BE FITTED WITH HP LOCKING FACILITY TO ALLOW 24HR ACCESS TO HP PERSONNEL
3. THIS INSTALLATION IS ONLY SUITABLE FOR LOADS UPTO AND INCLUDING 4MVA
4. SECTION A EARTHING IS TO BE INSTALLED BY HP, SECTION B EARTHING IS TO BE INSTALLED BY CONSUMER AND CONNECTED TO HP EARTH GRID IF HP AND THE CONSUMER MV EQUIPMENT IS BEING INSTALLED SIMULTANEOUSLY THE CUSTOMER IS RESPONSIBLE FOR ALL OF THE EARTH GRIDS.
- 4A. TO BE REMOVED IF SECTION A AND B INSTALLED SIMULTANEOUSLY
5. REFER TO G6-11 FOR DETAILED INFORMATION FOR INSTALLATION OF EARTHING.
6. REFER TO G4-01 SHT 2 OF 2 FOR INSTALLATION DETAILS.
7. REFER TO G1-02 FOR FUSE RATINGS AND G1-10 FOR ELECTRICAL LAYOUTS.

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

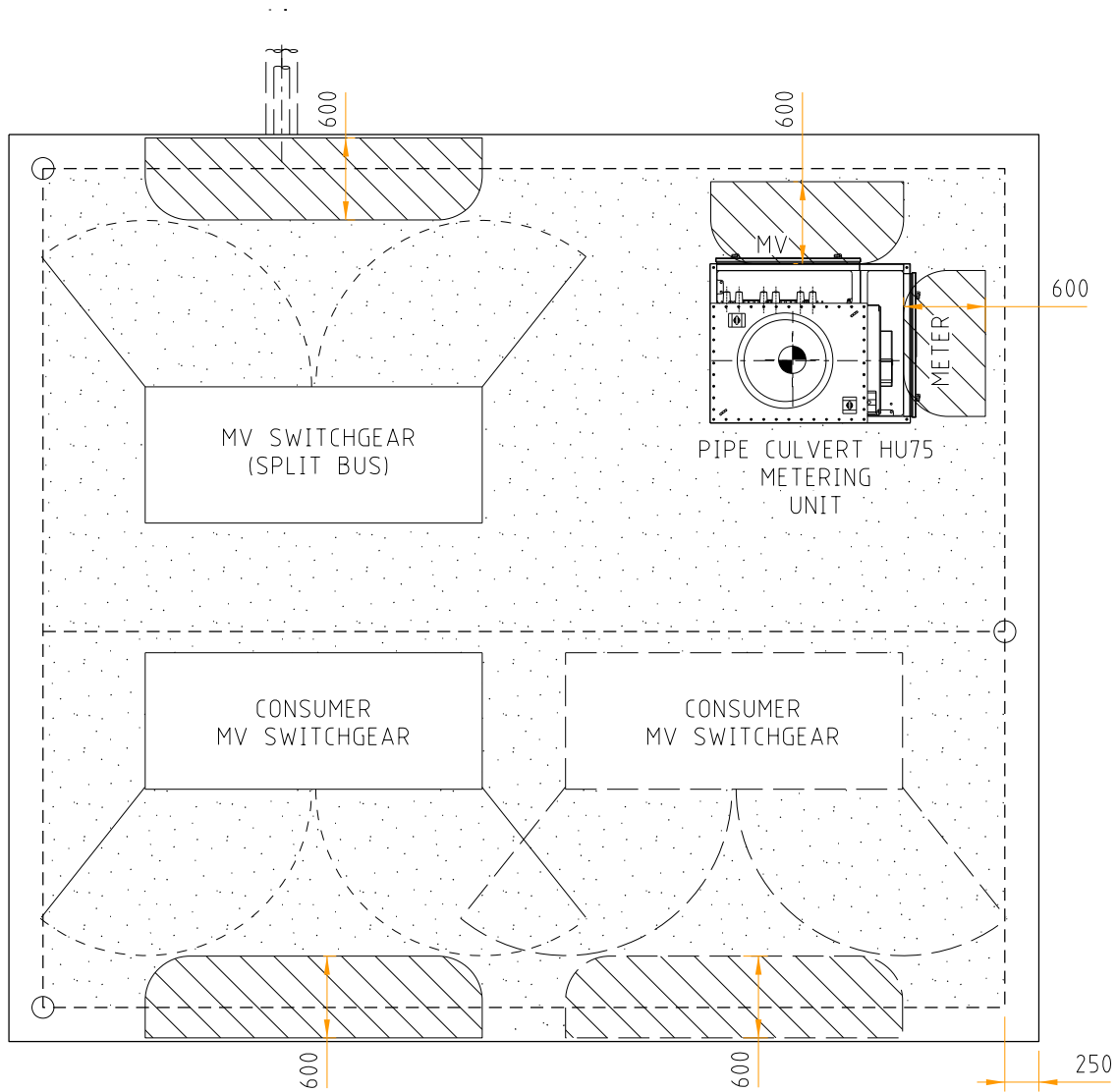
**HORIZON**  
**POWER**

DISTRIBUTION CONSTRUCTION  
STANDARDS

CONSUMER OWNED SUBSTATION  
MV OUTDOOR GROUND MOUNTED SWGR  
EQUIPMENT & INSTALLATION DETAILS

REVISION A	DATE 19/10/21
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DRAWING No.  
G3-23/2



MINIMUM CLEARANCE REQUIRED FOR EARTHING PURPOSES.  
(STEP AND TOUCH POTENTIAL)



MINIMUM CLEARANCE REQUIRED FOR OPERATIONAL/SAFETY PURPOSES

NOTES:

1. REFER TO G6-11 FOR EARTHING
2. REFER TO G6-13 FOR SCREENING

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



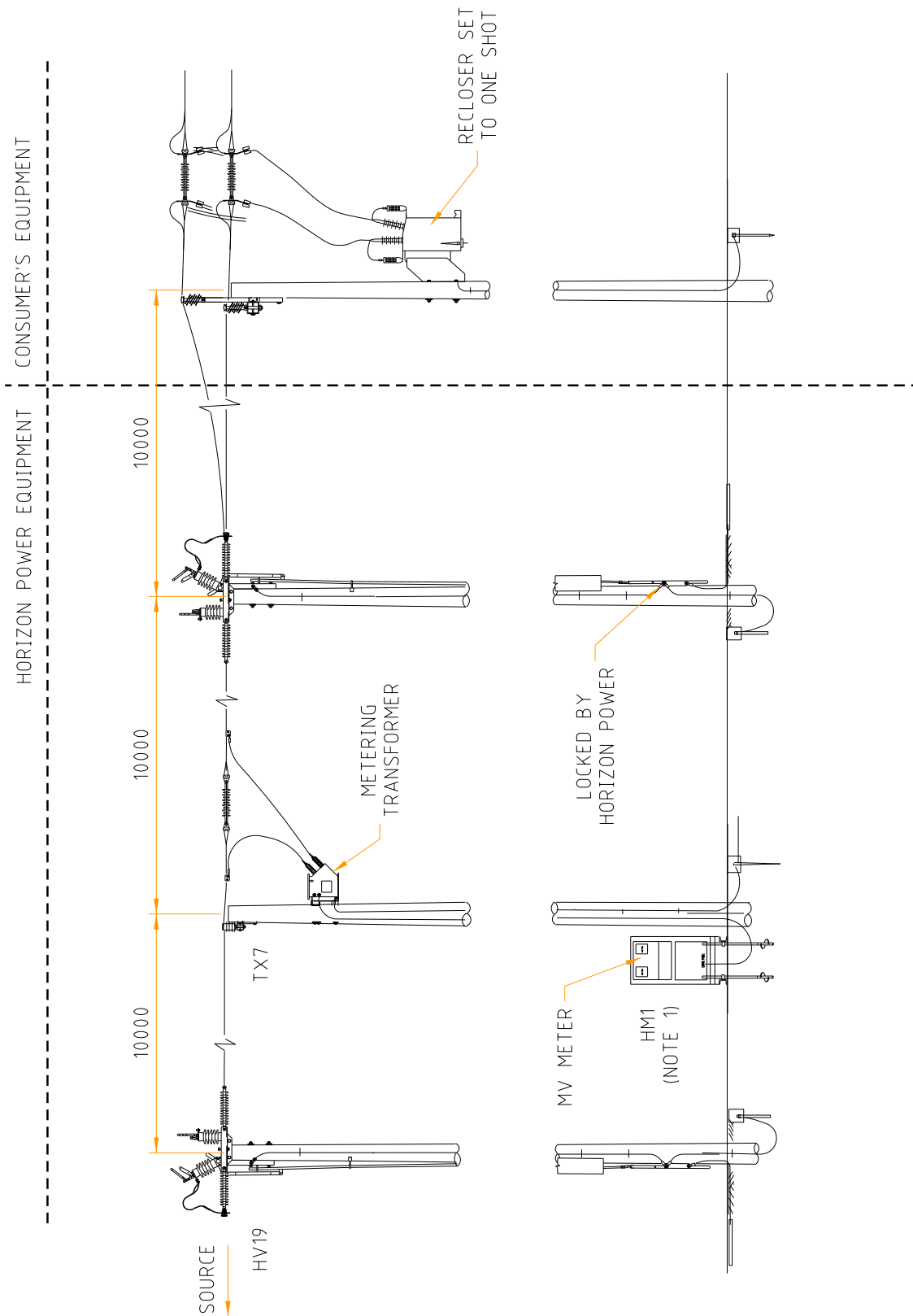
DISTRIBUTION CONSTRUCTION  
STANDARDS

CONSUMER OWNED SUBSTATION  
MV OUTDOOR GROUND MOUNTED SWGR

OPERATIONAL CLEARANCES

REVISION A	DATE 19/10/21
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DRAWING No.  
G3-23/3



NOTES:

1. USE HM1 M1 FOR 1-6 AMP AND M2 FOR 5-20 AMP RANGES.

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



DISTRIBUTION CONSTRUCTION STANDARDS

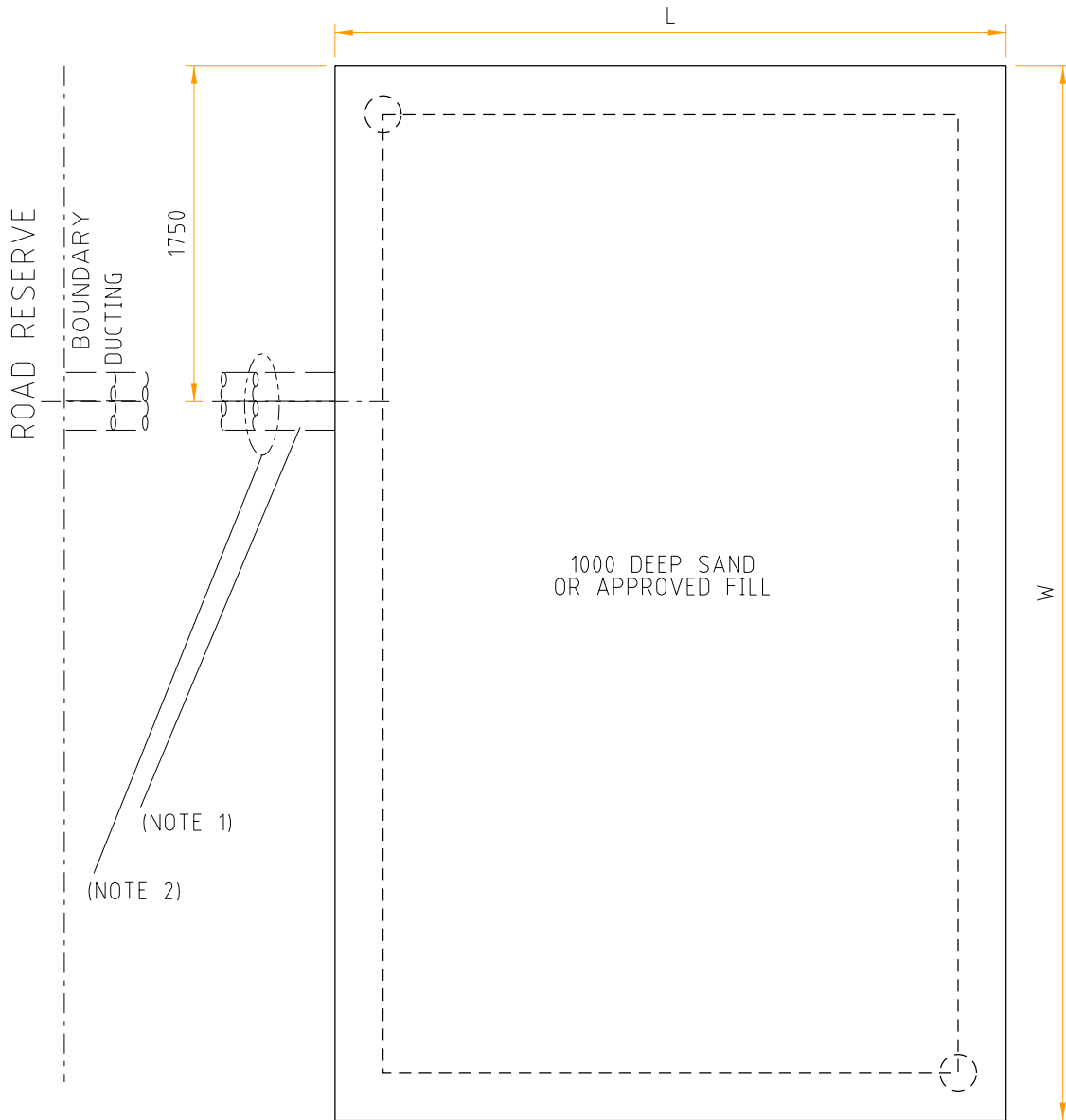
CONSUMER OWNED SUBSTATION  
 MV OUTDOOR OVERHEAD SWGR  
 MV INSTALLATION  
 EQUIPMENT & INSTALLATION DETAILS

REVISION A	DATE 19/10/21
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DRAWING No.  
G3-24/1



MINIMUM LAND REQUIREMENTS (RECOMMENDED SHOWN)		
TX	19.1kW	19.1kW BANKED
	L x W	L x W
HU31/50	3500 x 3500	3500 x 5500



NOTES:

1. DUCTING REQUIRED IF LAND REQUIREMENT IS SET BACK FROM ROAD RESERVE BOUNDARY. 4 - 150 ID HEAVY DUTY DUCTS.
2. REFER TO G6-01 (3) FOR DETAILED INFORMATION FOR INSTALLATION OF DUCTING.

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

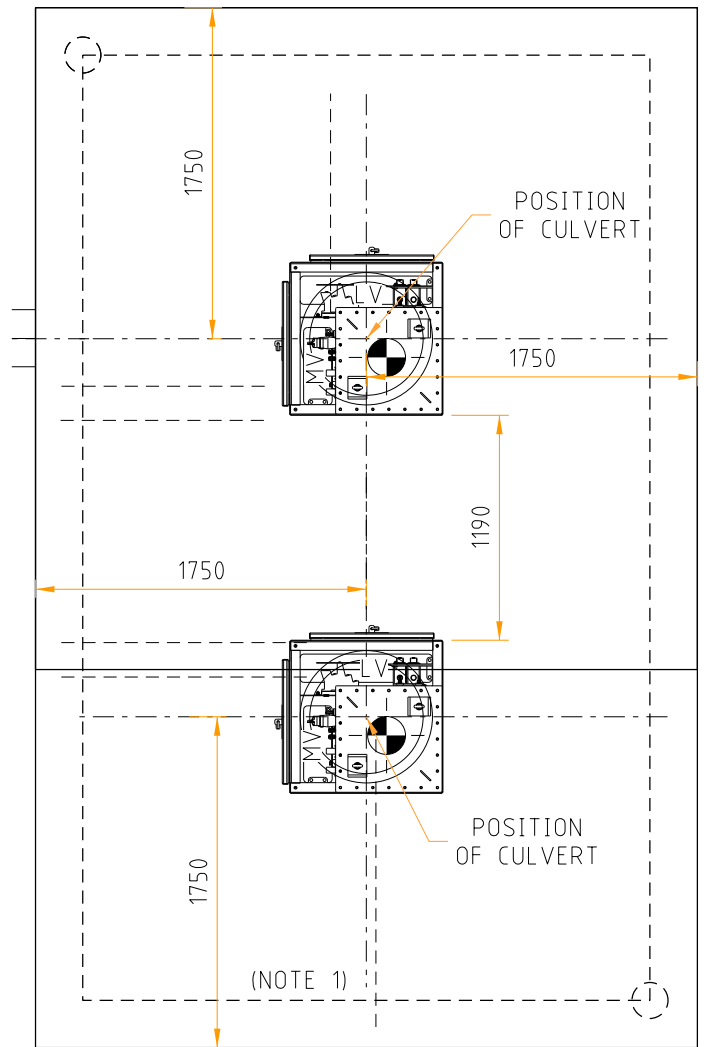
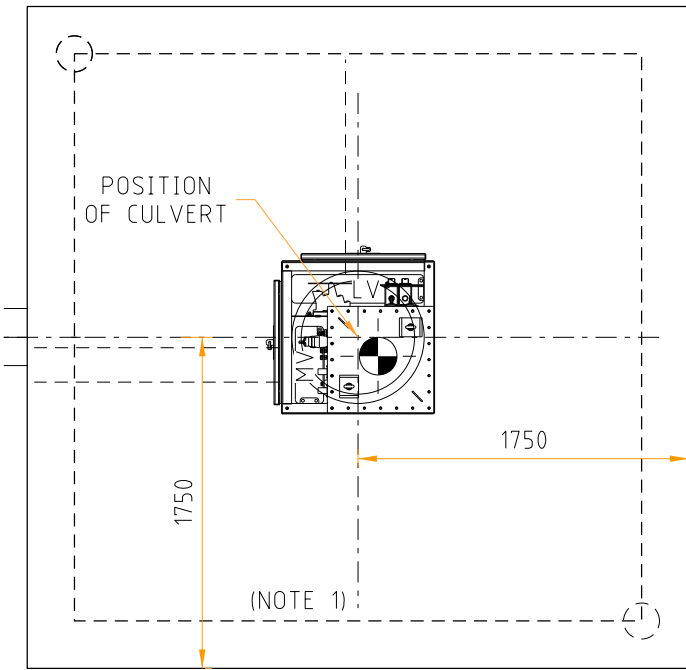


DISTRIBUTION CONSTRUCTION STANDARDS

DISTRICT SUBSTATION  
50kVA (NON MPS)  
NON FIRE RATED-WITHOUT MV SWGR  
CIVIL & LAND REQUIREMENTS

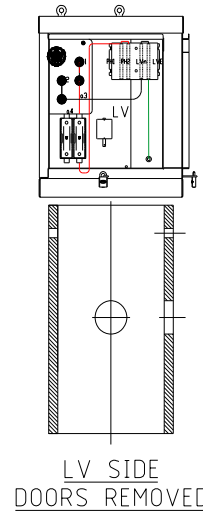
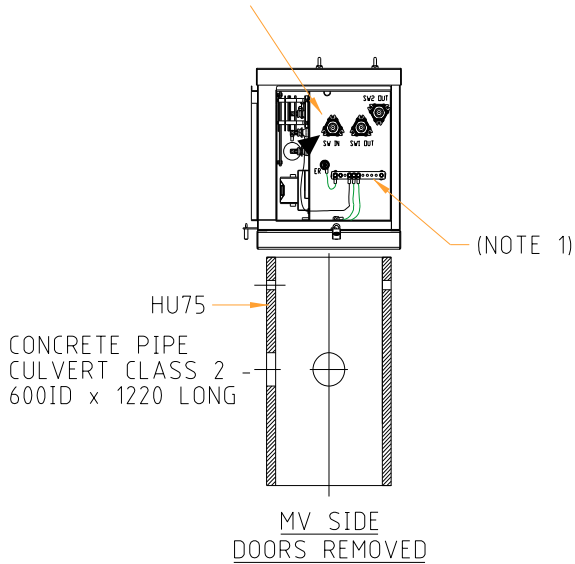
REVISION A	DATE 31/08/21
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DRAWING No.  
G3-25/1



- HU66 - ELBOWS
- HU67 - DEAD END RECEPTACLE
- HU77 - SURGE ARRESTOR

SEE DRAWING  
G4-1 SERIES FOR  
INSTALLATION DETAILS



NOTES:

1. REFER TO G6-11 FOR DETAILED INFORMATION FOR INSTALLATION OF EARTHING.
2. REFER TO G4-01 SHT 2 OF 2 FOR INSTALLATION DETAILS.
3. REFER TO G1-02 FOR FUSE RATINGS

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

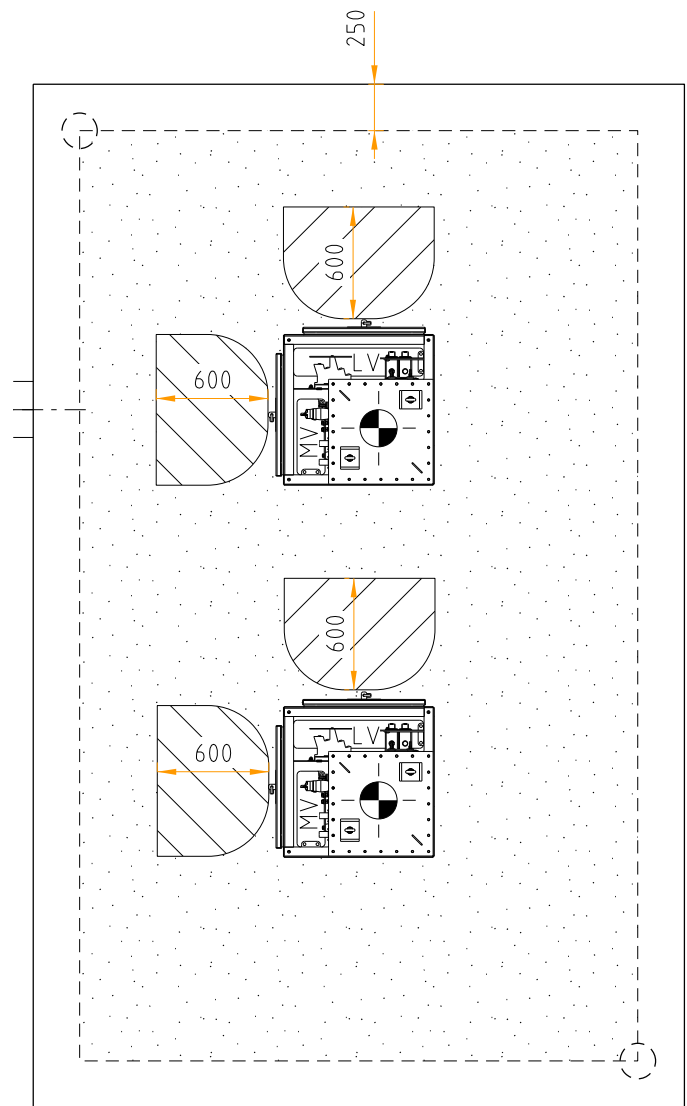
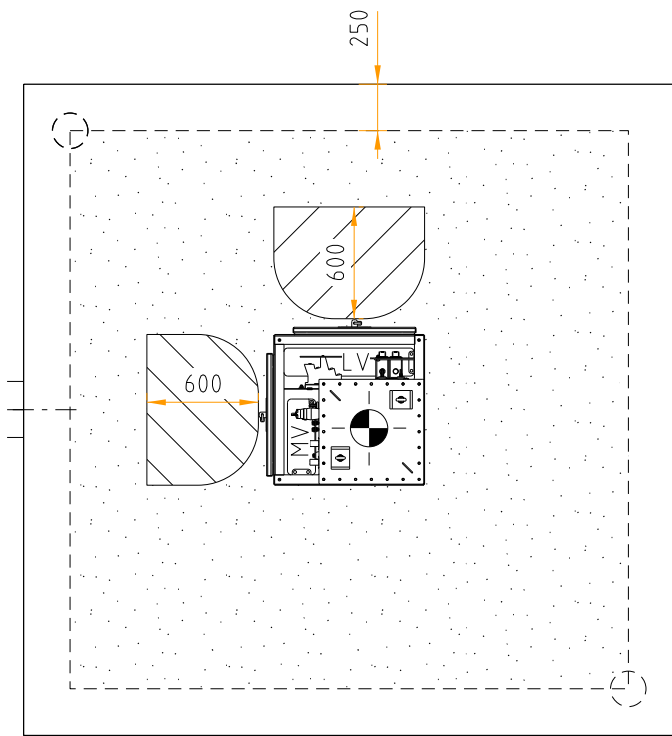


DISTRIBUTION CONSTRUCTION  
STANDARDS

DISTRICT SUBSTATION  
50kVA (NON MPS)  
NON FIRE RATED-WITHOUT MV SWGR  
EQUIPMENT & INSTALLATION DETAILS

REVISION A	DATE 19/10/21
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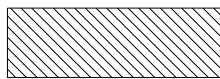
DRAWING No.  
G3-25/2



MINIMUM CLEARANCE REQUIRED FOR EARTHING PURPOSES.  
(STEP AND TOUCH POTENTIAL)



MINIMUM CLEARANCE REQUIRED FOR INSTALLATION/SAFETY PURPOSES



PIPE

NOTES:

1. REFER TO G6-11 FOR EARTHING
2. REFER TO G6-13 FOR SCREENING

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

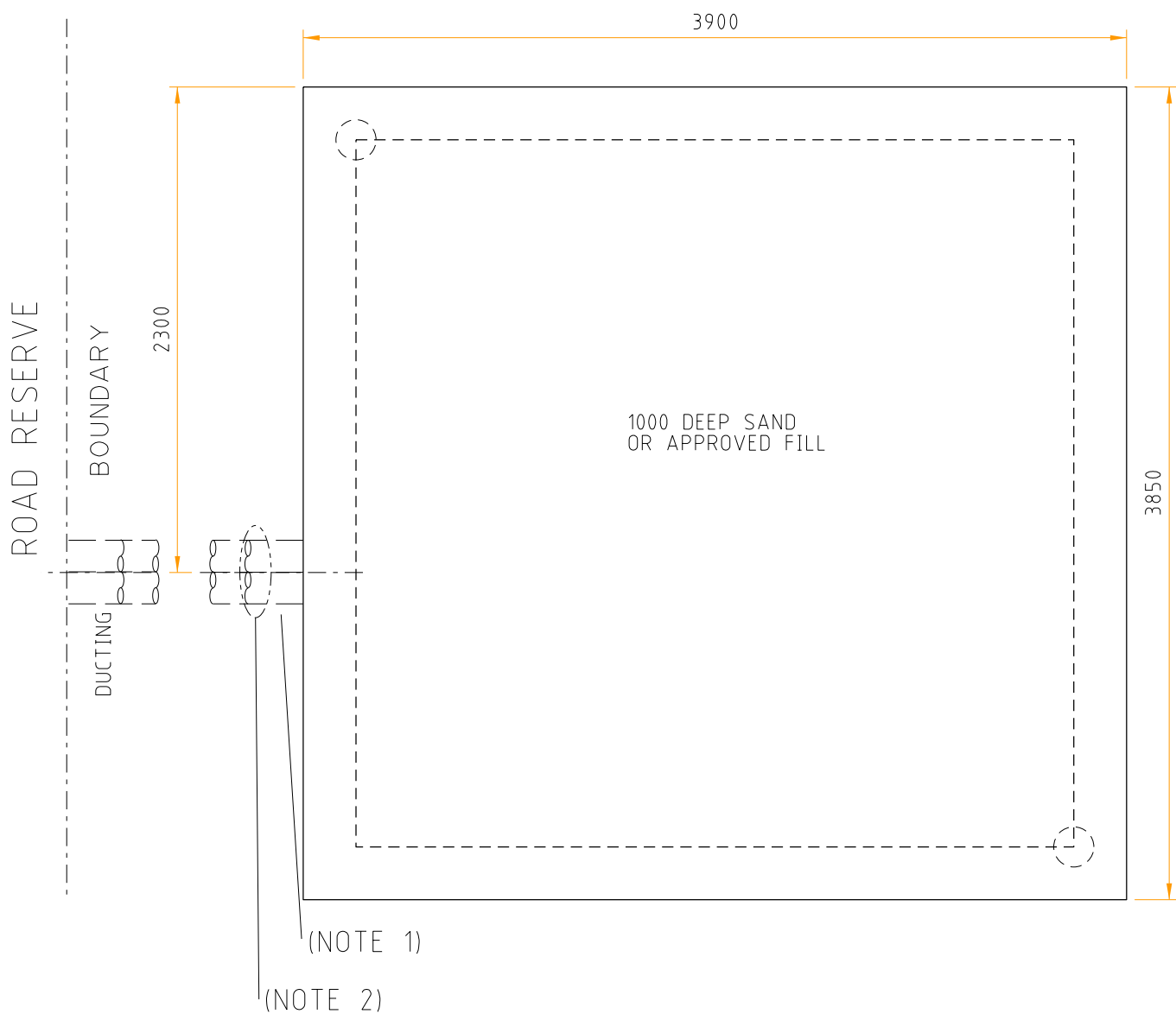


DISTRIBUTION CONSTRUCTION  
STANDARDS

DISTRICT SUBSTATION  
50kVA (NON MPS)  
NON FIRE RATED-WITHOUT MV SWGR  
OPERATIONAL CLEARANCES

REVISION A	DATE 19/10/21
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DRAWING No.  
G3-25/3



NOTES:

1. DUCTING REQUIRED IF LAND REQUIREMENT IS SET BACK FROM ROAD RESERVE BOUNDARY. 4 - 150 ID HEAVY DUTY DUCTS
2. REFER TO G6-01 (3) FOR DETAILED INFORMATION FOR INSTALLATION OF DUCTING.
3. FOR CONVERSION TO MPS SEE G3-01

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



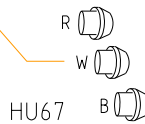
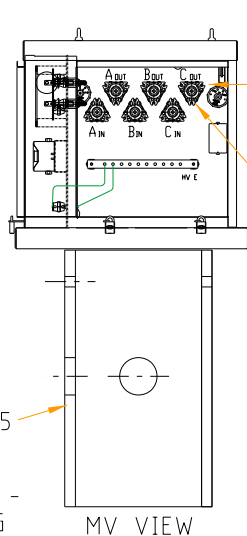
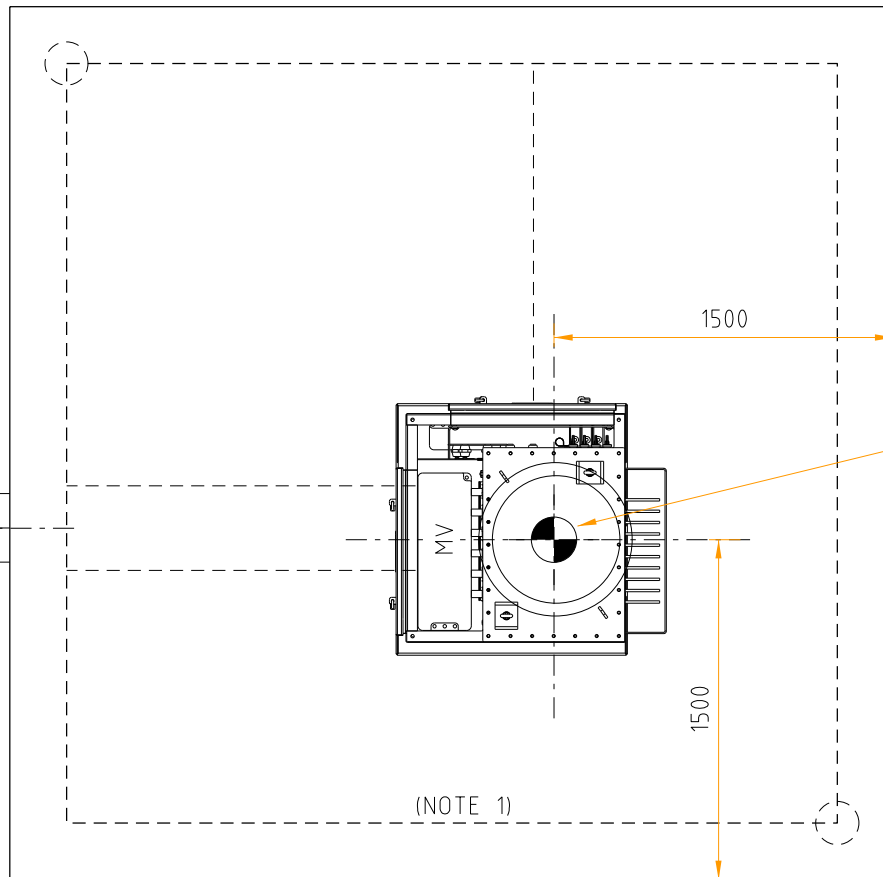
DISTRIBUTION CONSTRUCTION  
STANDARDS

DISTRICT SUBSTATION  
63kVA (NON MPS)  
NON FIRE RATED-WITHOUT MV SWGR  
CIVIL & LAND REQUIREMENTS

REVISION A	DATE 24/08/21
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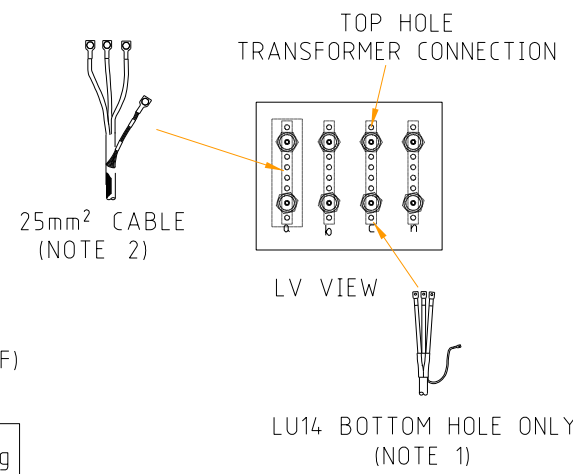
DRAWING No.  
G3-26/1

ROAD RESERVE  
BOUNDARY



(REQUIRED IF TRANSFORMER IS NOT TO BE 'LOOPED' OUT OF)

TOTAL MASS 885kg  
- INCLUDES OIL



CONCRETE PIPE  
CULVERT CLASS 2 -  
600ID x 1220 LONG

MV VIEW

NOTES

1. REFER TO G6-11 FOR DETAILED INFORMATION FOR INSTALLATION OF EARTHING
2. REFER TO G4-01 SHT 2 OF 2 FOR INSTALLATION DETAILS
3. MAXIMUM OF 2 x LU14 (BACK TO BACK) CAN BE CONNECTED TO LV DISTRIBUTION BARS OF THE TRANSFORMER
4. MAXIMUM OF 4 x 25mm<sup>2</sup> PLUS LU14 CAN BE CONNECTED TO LV DISTRIBUTION BARS OF THE TRANSFORMER ORDER 3 x FL1448 & 1 x FL1442 LUGS FOR EVERY 25mm<sup>2</sup> TERMINATION
5. DEAD END RECEPTACLES (HU67) TO BE INSTALLED TO PLUG 3 MV BUSHING WHEN 6 BUSHING TRANSFORMERS ARE USED FOR 3 BUSHING TRANSFORMERS USE HU66

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

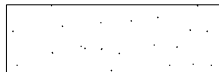
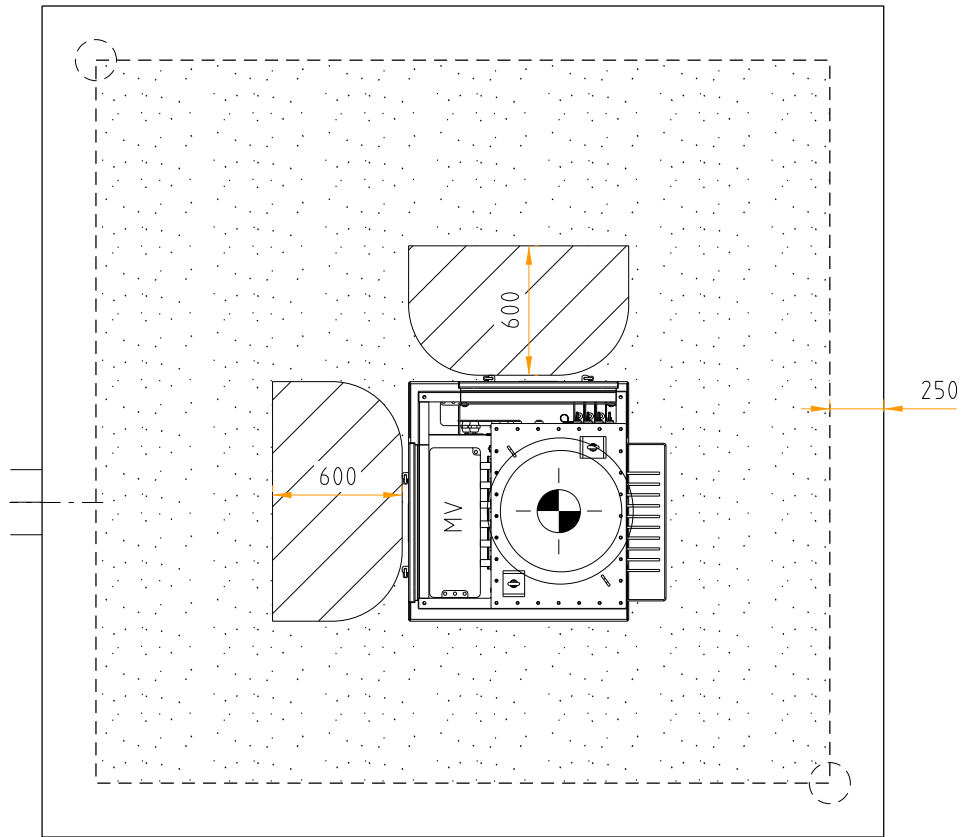


DISTRIBUTION CONSTRUCTION  
STANDARDS

DISTRICT SUBSTATION  
63kVA (NON MPS)  
NON FIRE RATED-WITHOUT MV SWGR  
EQUIPMENT & INSTALLATION DETAILS

REVISION A	DATE 20/10/21
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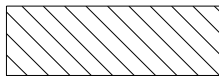
DRAWING No.  
G3-26/2



MINIMUM CLEARANCE REQUIRED FOR EARTHING PURPOSES.  
(STEP AND TOUCH POTENTIAL)



MINIMUM CLEARANCE REQUIRED FOR INSTALLATION/SAFETY PURPOSES



PIPE

NOTES:

1. REFER TO G6-11 FOR EARTHING
2. REFER TO G6-13 FOR SCREENING

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

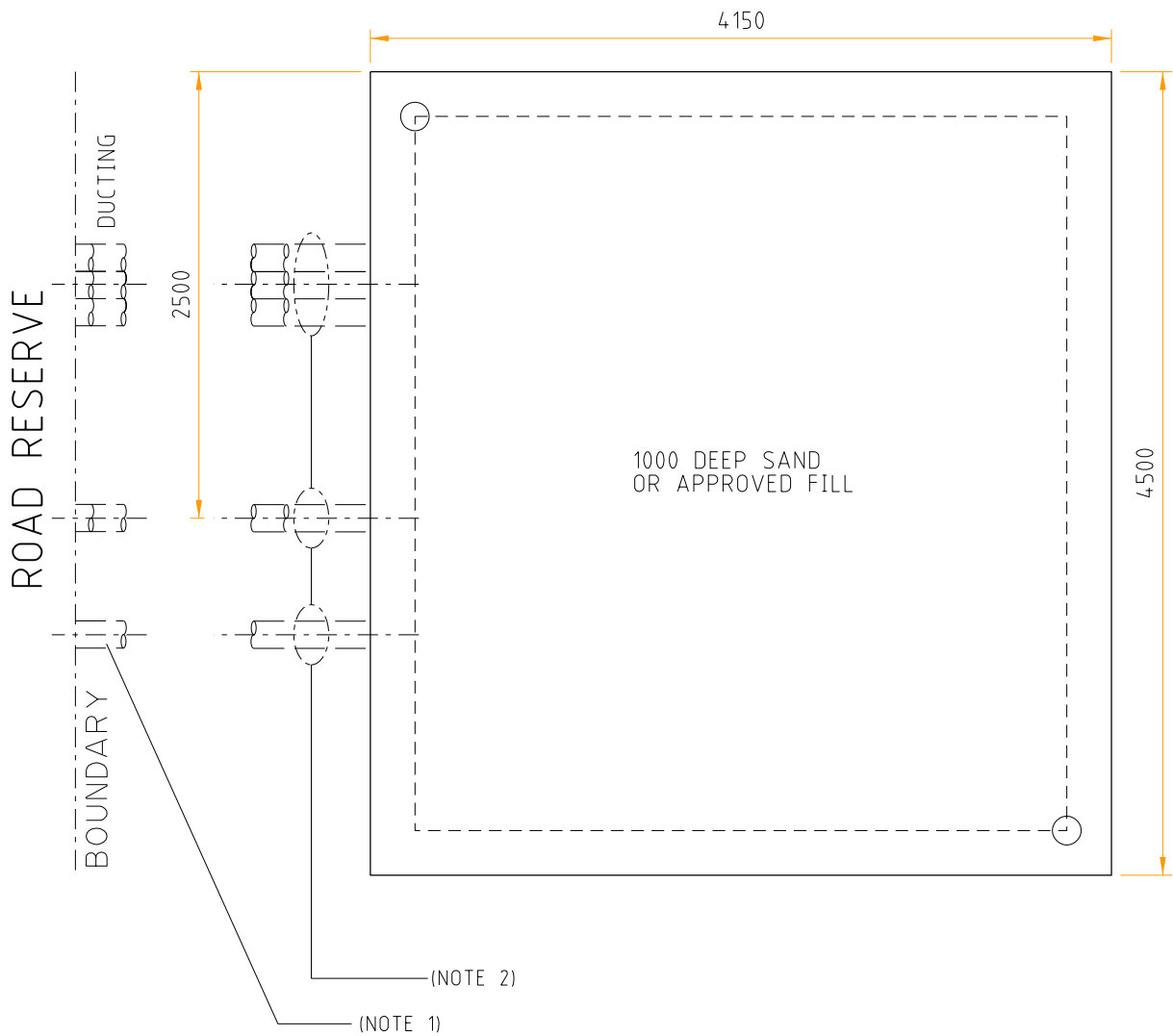


DISTRIBUTION CONSTRUCTION  
STANDARDS

DISTRICT SUBSTATION  
63kVA (NON MPS)  
NON FIRE RATED-WITHOUT MV SWGR  
OPERATIONAL CLEARANCES

REVISION A	DATE 20/10/21
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DRAWING No.  
G3-26/3



NOTES:

1. DUCTING REQUIRED IF LAND REQUIREMENT IS SET BACK FROM ROAD RESERVE BOUNDARY. 8 - 150 ID HEAVY DUTY DUCTS.
2. REFER TO G6-01 (14) FOR DETAILED INFORMATION FOR INSTALLATION OF DUCTING.

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

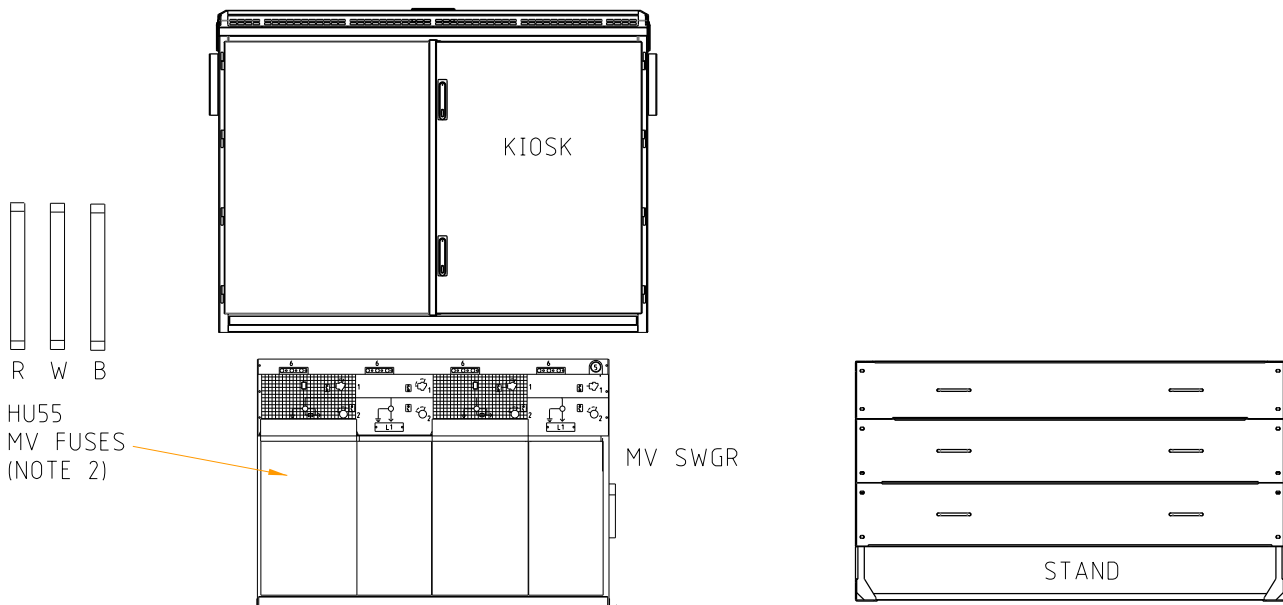
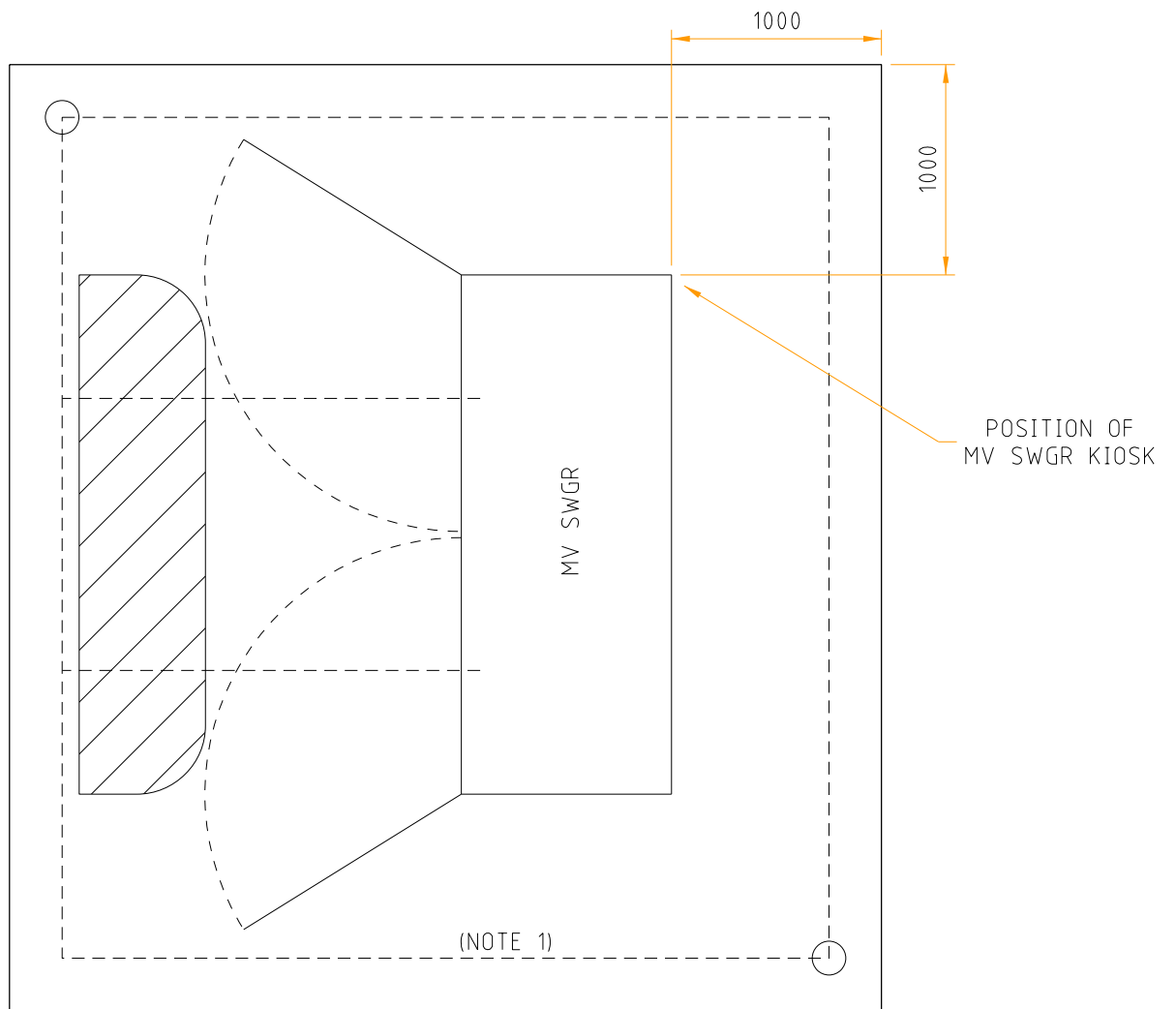


DISTRIBUTION CONSTRUCTION  
STANDARDS

MV SWITCHGEAR SUBSTATION  
MV OUTDOOR GROUND MOUNTED SWGR  
SCHNEIDER SWITCHGEAR  
CIVIL & LAND REQUIREMENTS

REVISION A	DATE 28/08/21
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DRAWING No.  
G3-27/1



NOTES:

1. REFER TO G6-11 FOR DETAILED INFORMATION FOR INSTALLATION OF EARTHING.
2. REFER TO G1-02 FOR FUSE RATINGS.

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



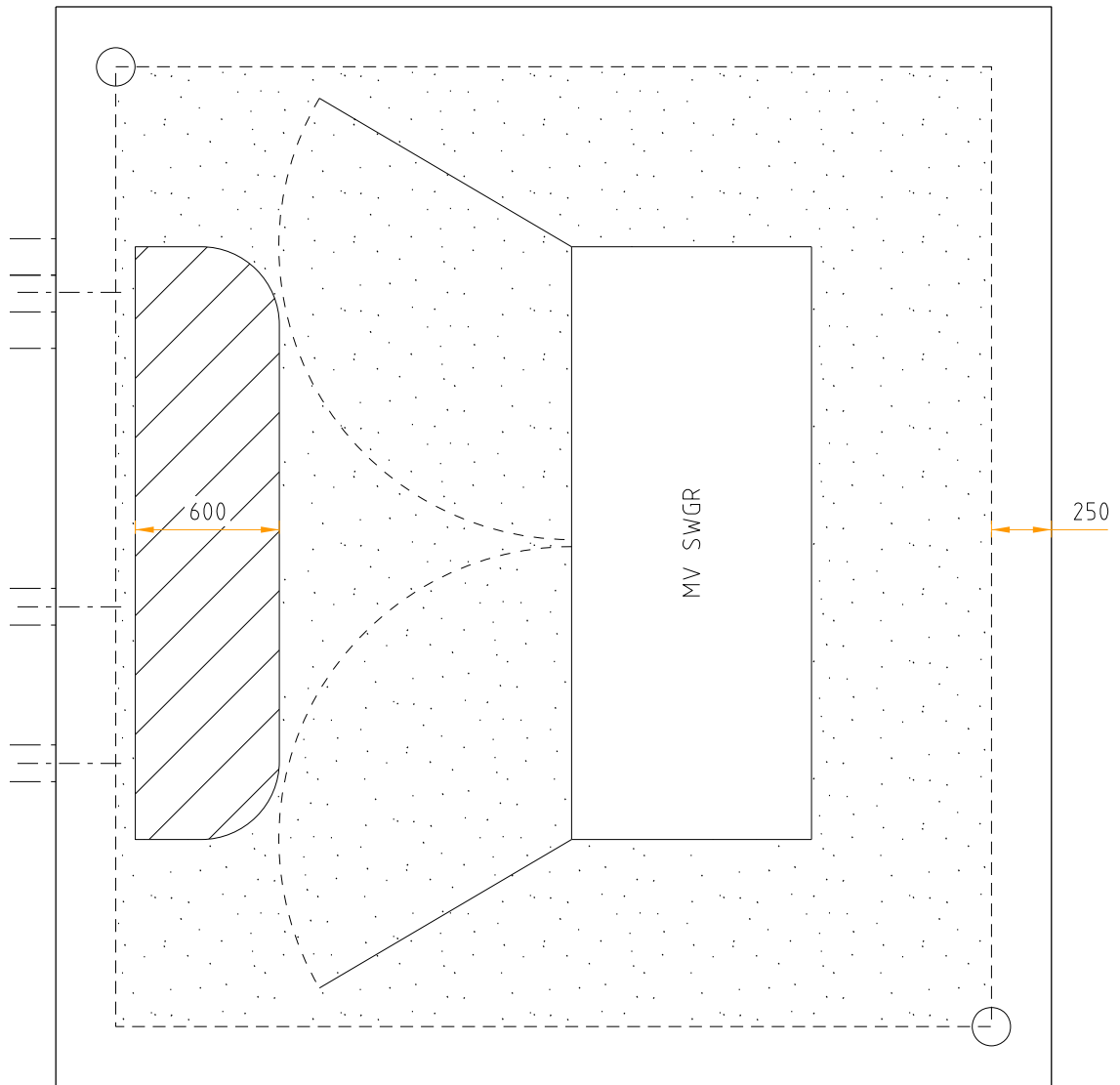
DISTRIBUTION CONSTRUCTION STANDARDS

MV SWITCHGEAR SUBSTATION  
MV OUTDOOR GROUND MOUNTED SWGR  
SCHNEIDER SWITCHGEAR  
EQUIPMENT & INSTALLATION DETAILS

REVISION	DATE
A	20/10/21

DRAWING No.  
G3-27/2





MINIMUM CLEARANCE REQUIRED FOR EARTHING PURPOSES.  
(STEP AND TOUCH POTENTIAL)



MINIMUM CLEARANCE REQUIRED FOR OPERATIONAL PURPOSES

NOTES:

1. REFER TO G6-11 FOR EARTHING
2. REFER TO G6-13 FOR SCREENING

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



DISTRIBUTION CONSTRUCTION  
STANDARDS

MV SWITCHGEAR SUBSTATION  
MV OUTDOOR GROUND MOUNTED SWGR  
SCHNEIDER SWITCHGEAR  
OPERATIONAL CLEARANCES

REVISION A	DATE 20/10/21
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DRAWING No.  
G3-27/3