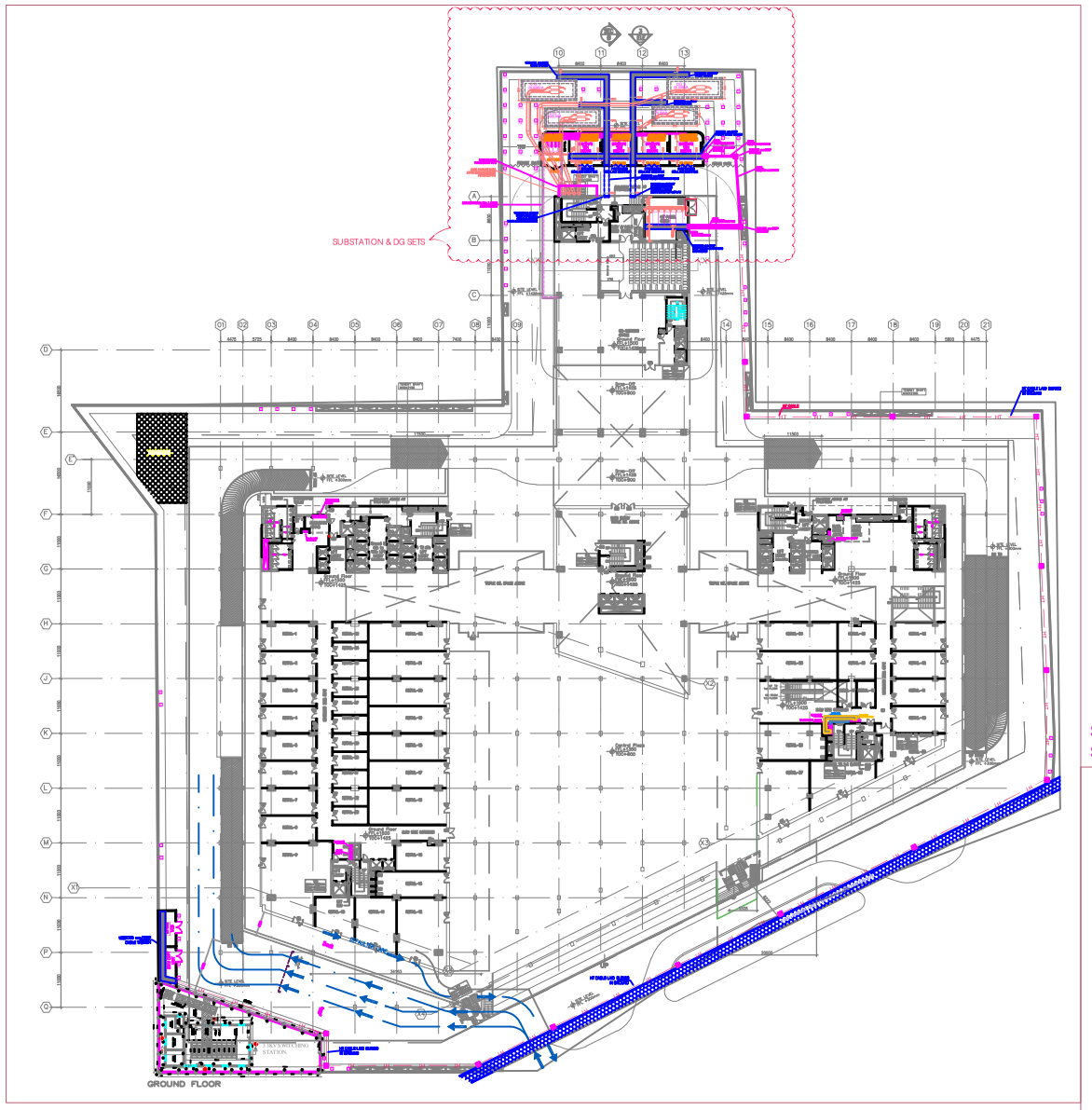
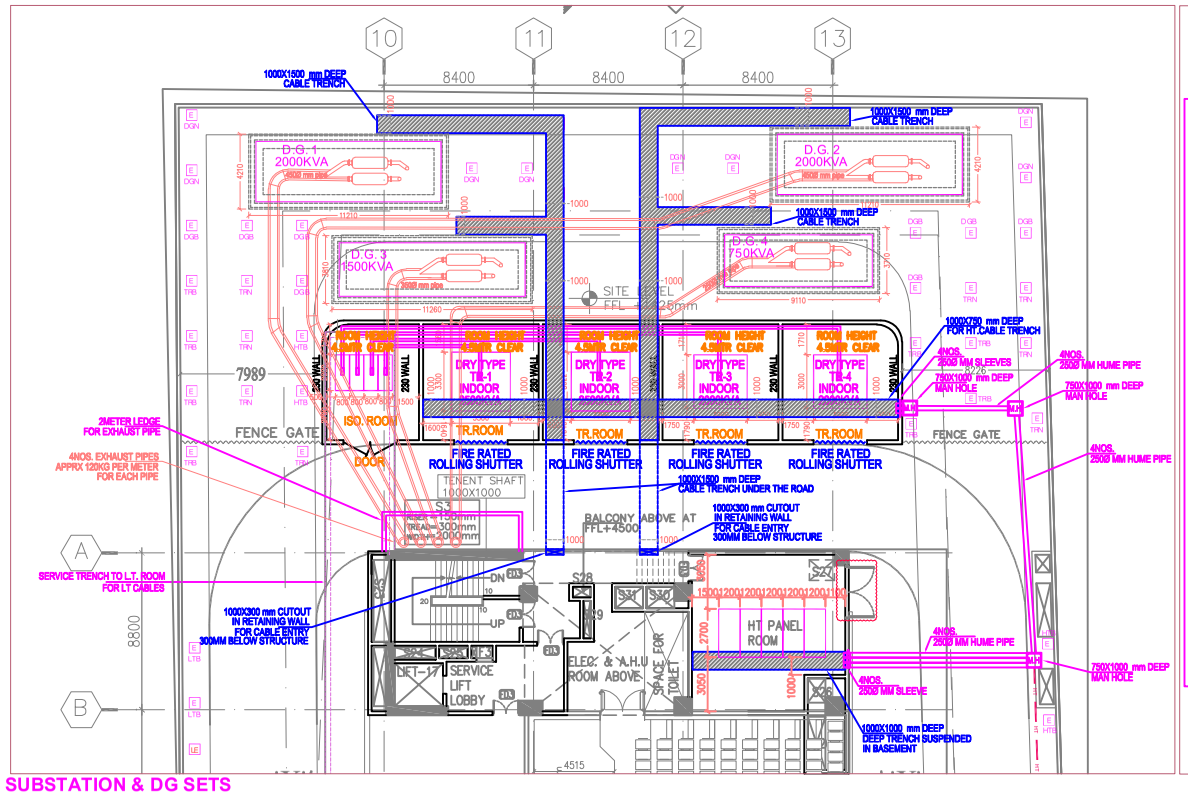


KEY PLAN
SCALE-1:150



SUBSTATION & DG SETS
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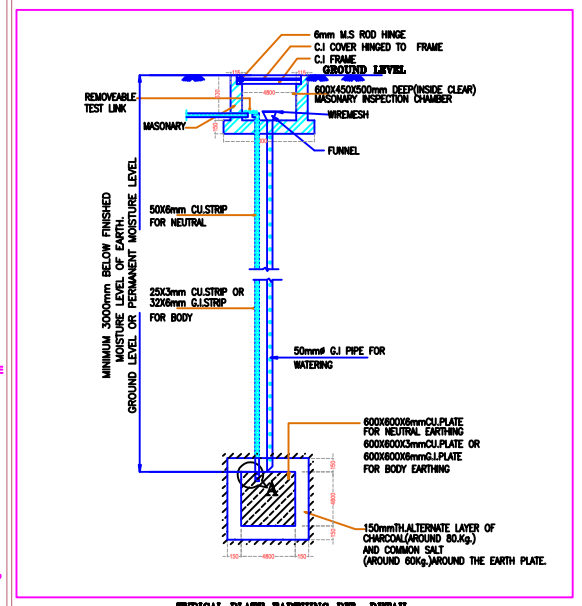
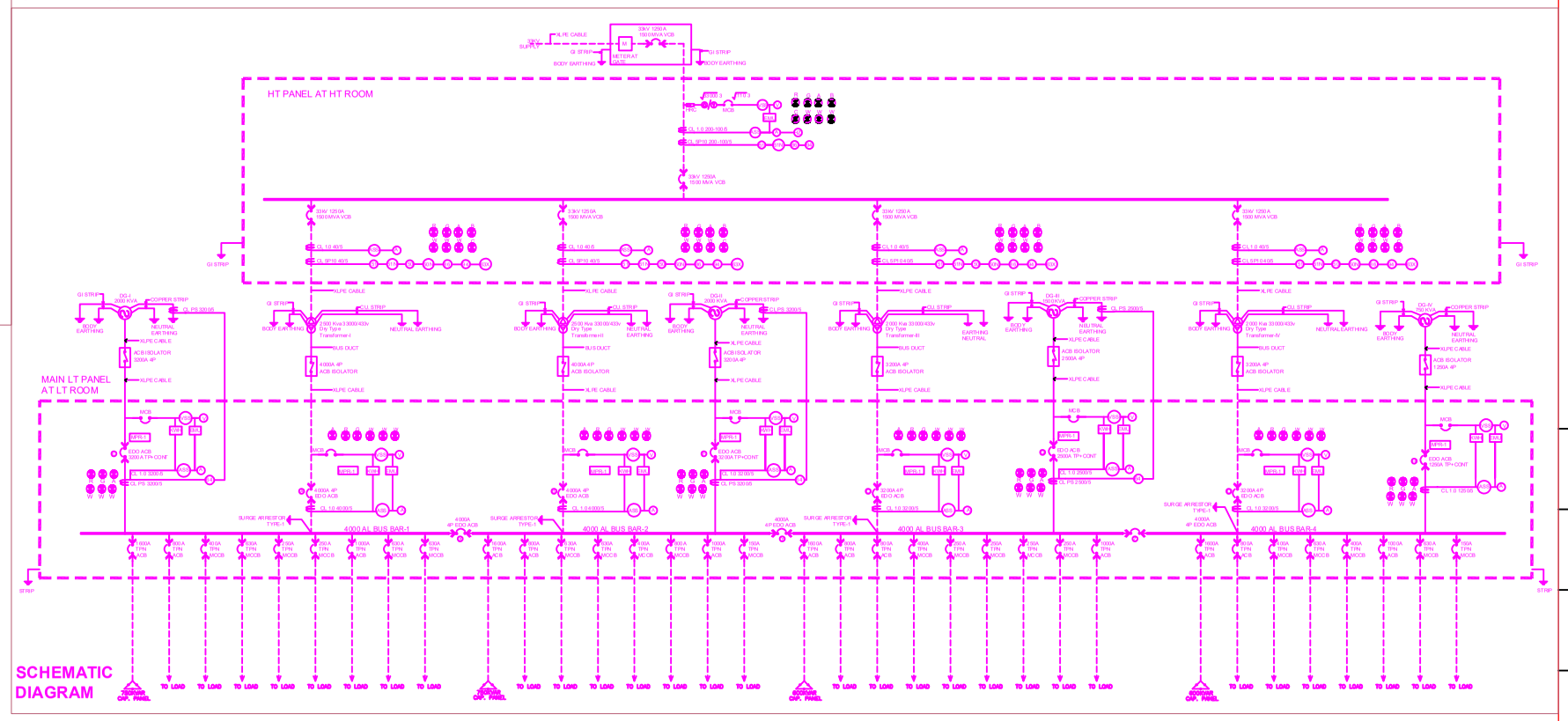
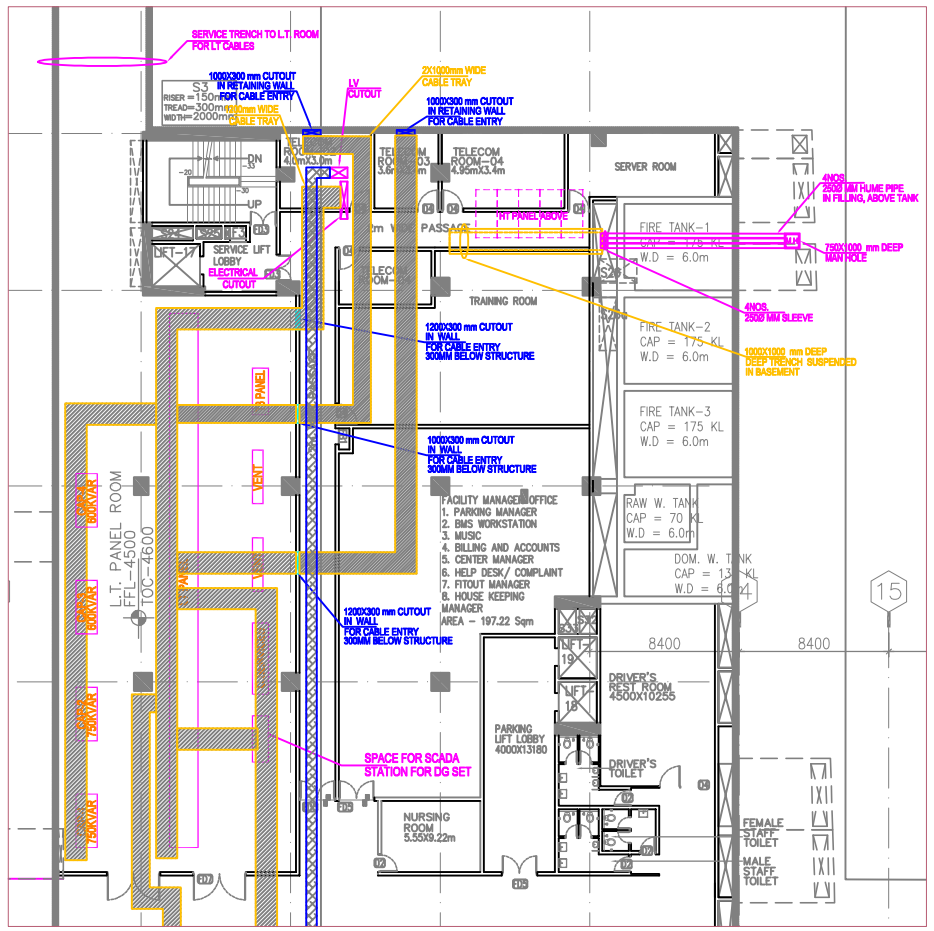


TYPICAL PLATE EARTHING PIT DETAIL
FOR BODY AND NEUTRAL EARTHING



SCHEMATIC DIAGRAM



LT PANEL ROOM IN BASEMENT
SCALE-1:150

Earthing Chart					
		Type Of Earthing			
S.No	Equipment	GI Plate	Size	CU Plate	Size
1	Transformer-I	2	75 x 10	2	50X6
2	Transformer-II	2	75 x 10	2	50X6
3	Transformer-III	2	75 x 10	2	50X6
4	Transformer-IV	2	75 x 10	2	50X6
5	LT Panel	2	65 x 10		
6	DG-I (2000KVA)	2	60 x 10	2	50X6
7	DG-II (1500KVA)	2	60 x 10	2	50X6
8	DG-III (2000KVA)	2	60 x 10	2	50X6
9	DG-IV (750KVA)	2	60 x 10	2	50X6
10	HT Panel	2	50 x 6		
11	HT Meter Room CTPT	2	50 x 6		

INTERLOCKING SCHEME-MAIN LT PANEL												
		TRANSFORMER				DG SETS				BUS COUPLER ACB BREAKER		
S.NO	DESCRIPTION	TR-I A	TR-II B	TR-III C	TR-IV D	ACB-I E	ACB-II F	ACB-III G	ACB-IV H	BC-1 X	BC-2 Y	BC-3 Z
1	POWER SUPPLY NORMAL (From DHBVN) - ALL DG OFF	ON	ON	ON	ON	OFF	OFF	OFF	OFF	OFF	OFF	OFF
2	IN CASE OF POWER FAILURE - ALL TRAFO OFF WORKING DG ACB SHALL BE ON AS PER LOAD AND ALL BUSCOUPLERS ARE ON	OFF	OFF	OFF	OFF	ON	ON	ON	ON	ON	ON	ON
TRANSFORMER INCOMERS ACB AND BUSCOUPLERS ARE INTERLOCKED SUCH THAT TRANSFORMERS CANNOT BE PARALLED												

LOAD CALCULATION	
Total Area (FAR)	64080 Sq.mt
Load AS per DHBVNL	16 KW/100Sq.mt
Total Connected Load	10252.8 kW
Diversity	60%
Maximum Demand	**6151.68 kW**
Total KVA Demand at 0.9 Power factor	**6835.2 kVA**
Total KVA Demand at 80% loading	**8544 kVA**
Transformer Recommended	**2 nos 2500kVA + 2 nos 2000kVA**

NOTES

1 TRANSFORMERS ON GRADE ON SOLID GROUND
2 HT PANEL ON GROUND FLOOR.
3 D.G.SETS ON GRADE ON SOLID GROUND
4 LT PANEL IN BASEMENT
5 TRANSFORMER IMPEDANCE AS PER IS 2026
6 33 KV METER SHALL BE INSTALLED AS PER DHBVN REQ.
7 EARTHING SHALL BE AS PER IS 3043
8 ALL THE EQUIPMENTS, 4 POLE CHANGE OVER SWITCHES AND ACB'S SHALL BE EARTHED
9 THIS DRG. SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTURAL, STRUCTURAL & ELECTRICAL DRGS.
10 ALL DIMENSIONS ARE IN mm.

LEGEND							
EQUIPMENTS		METERS		RELAYS			
	Transformer		ANALOG		Under Voltage Relay		
	Diesel Generating Set		Voltmeter 96mm Sq		Reverse Power Relay		
	Automatic Voltage Stabilizer		Ammeter 96mm Sq		Current Unbalance Relay		
	Upsmith Battery		Frequency Meter 96mm Sq		Reverse Phase Voltage		
	Rear Out Circuit Breaker Acb		Power Factor Meter 96mm Sq		Thermal Over Load Relay		
	Current Transformer		Kwh Watt-Hour Meter		High Instantaneous Over Current Relay		
	Potential Transformer		DIGITAL		Adjacent Feeder Interlock Relay		
	Contactor		Kw-Hr Meter		Voltage Restrained High set Relay		
	Switch Fuse Unit		Ammeter		Over Current Protective Device		
	Switch Isolator Unit		Hz-Hr Frequency		Directional Over Current Relay		
	Kw Fuse		Single Service Energy Meter		Earth Fault Protective Device		
	Potential Circuit Mcb		Single Service Energy Meter Wp Sms		Directional Earth Fault Relay		
	Change Over Switch		Single Service Energy Meter Wp Sms Wireless		Voltage Restrained O.C. Relay		
	Architectural Selector Switch		Kwh Energy Meter Tri Vector Data Transmission Port		Over Voltage Relay		
	Capacitor Bank		Tri Vector Energy Meter Wp Sms		Auxiliary Relay		
	Push Button		Tri Vector Energy Meter Wp Sms Wireless		Under/Over Frequency		
	Kw Group Healthy		Kwh Energy Meter Wp Sms Wireless Phase Sequence Power Factor Phase Sequence Vr Phase Vy Phase Vb Phase		Master Trip Relay		
	Breaker ON		Kwh Energy Meter Wp Sms Wireless Phase Sequence Power Factor Phase Sequence Vr Phase Vy Phase Vb Phase		Restricted earth fault relay		
	Breaker OFF				Anti Pumping Relay		
	Phase healthy indicating lamp		Three Way And Off Ammeter Selector Switch		Automatic Power Factor Correction Relay		
	SPRING Charged		Three Way & Off Voltmeter Selector Switch		Single Phase Relay		
					Voltage Monitor Relay With Phase Sequence		
					DIFFERENTIAL RELAY		

ELECTRICAL Consultants
Kanwar Krishen Associates Private Ltd.
Engineers & Consultants
F – 201, Lado Sarai, New Delhi - 110 030, INDIA
Tel: +91-11-2851 1163, 2851*1161,2851 1120
Fax: +91-11-2851*103
E-mail: kka@kapl.com

Design & Executive Architects
MAas
D–229,Basement
Sarvodya Enclave,New Delhi
011–41829971,71,72

Concept Architects
Benoy

CLEINT
aipl
values that build worth

Project title
PROPOSED IT COLONY
AT SECTOR-66, GURGAON, MANESAR,HARYANA

Drawing title
MAIN SCHEMATIC DIAGRAM SUBSTATION,DG,LT PANEL AND EARTH PIT LAYOUT

Job No.		Drawing No.
Drawn	Checked	AI/AG/IT/ED-100
M.S	S.M	
Date	Scale	Revisions
7.4.2021		

No.	Date	By	Description