High Load Development

High load development, e.g. data centre, of less than 20MVA electricity supply demand require an 11kV supply network with distribution substations inside the customer's premises supplying a number of load blocks varying from 2 to 9MVA.

Development of higher electricity supply demand and higher supply security can be achieved by building a 132kV transmission plant room inside the customer's premises or lot depending on site conditions and the customer's development. The 132kV supply is transformed down to 11kV as the infeed source for an 11kV supply network to supply several distribution substations inside the customer's premises.

Depending on the actual demand of the new supply application, the typical supply capacities for high load development with transmission plant room are 50MVA, 100MVA and 150MVA. For meeting the supply security standard of the specific high load development, CLP Power will arrange for the electricity network configuration to suit.

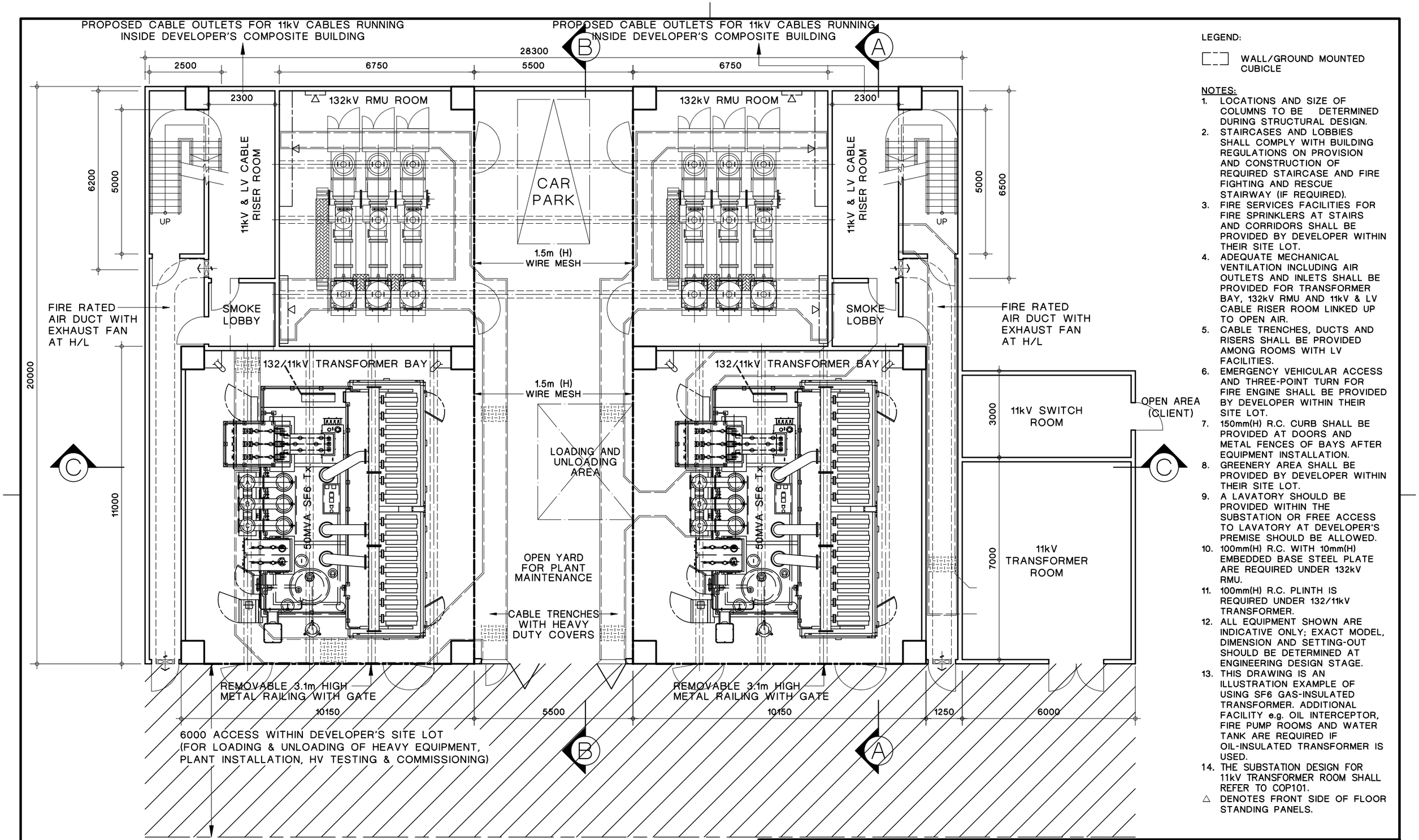
For layout of the accommodation to house the 132kV supply plant and equipment, please refer to the attached typical 132kV transmission plant room layout drawings. ** The drawings are for illustration purpose only, the final arrangement for individual site is subject to the agreement between the customer and CLP Power for specific site conditions and requirements.*

Only English version is available for this document. 本文檔僅提供英文版本。

CONTACT US:

You can contact our Account Manager by email (accmgr@clp.com.hk) or on telephone no. (2678-2660) and we are happy to arrange our Engineer to discuss the technical details of your proposed installation.

您可以透過電郵（accmgr@clp.com.hk）或電話號碼（2678-2660）與我們的客戶經理聯繫。我們很樂意安排相關的工程師與您討論您建議裝置的技術細節。



LEGEND:

WALL/GROUND MOUNTED CUBICLE

NOTES:

1. LOCATIONS AND SIZE OF COLUMNS TO BE DETERMINED DURING STRUCTURAL DESIGN.
2. STAIRCASES AND LOBBIES SHALL COMPLY WITH BUILDING REGULATIONS ON PROVISION AND CONSTRUCTION OF REQUIRED STAIRCASE AND FIRE FIGHTING AND RESCUE STAIRWAY (IF REQUIRED).
3. FIRE SERVICES FACILITIES FOR FIRE SPRINKLERS AT STAIRS AND CORRIDORS SHALL BE PROVIDED BY DEVELOPER WITHIN THEIR SITE LOT.
4. ADEQUATE MECHANICAL VENTILATION INCLUDING AIR OUTLETS AND INLETS SHALL BE PROVIDED FOR TRANSFORMER BAY, 132kV RMU AND 11kV & LV CABLE RISER ROOM LINKED UP TO OPEN AIR.
5. CABLE TRENCHES, DUCTS AND RISERS SHALL BE PROVIDED AMONG ROOMS WITH LV FACILITIES.
6. EMERGENCY VEHICULAR ACCESS AND THREE-POINT TURN FOR FIRE ENGINE SHALL BE PROVIDED BY DEVELOPER WITHIN THEIR SITE LOT.
7. 150mm(H) R.C. CURB SHALL BE PROVIDED AT DOORS AND METAL FENCES OF BAYS AFTER EQUIPMENT INSTALLATION.
8. GREENERY AREA SHALL BE PROVIDED BY DEVELOPER WITHIN THEIR SITE LOT.
9. A LAVATORY SHOULD BE PROVIDED WITHIN THE SUBSTATION OR FREE ACCESS TO LAVATORY AT DEVELOPER'S PREMISE SHOULD BE ALLOWED.
10. 100mm(H) R.C. WITH 10mm(H) EMBEDDED BASE STEEL PLATE ARE REQUIRED UNDER 132kV RMU.
11. 100mm(H) R.C. PLINTH IS REQUIRED UNDER 132/11kV TRANSFORMER.
12. ALL EQUIPMENT SHOWN ARE INDICATIVE ONLY; EXACT MODEL, DIMENSION AND SETTING-OUT SHOULD BE DETERMINED AT ENGINEERING DESIGN STAGE.
13. THIS DRAWING IS AN ILLUSTRATION EXAMPLE OF USING SF6 GAS-INSULATED TRANSFORMER. ADDITIONAL FACILITY e.g. OIL INTERCEPTOR, FIRE PUMP ROOMS AND WATER TANK ARE REQUIRED IF OIL-INSULATED TRANSFORMER IS USED.
14. THE SUBSTATION DESIGN FOR 11kV TRANSFORMER ROOM SHALL REFER TO COP101.

△ DENOTES FRONT SIDE OF FLOOR STANDING PANELS.

GROUND FLOOR PLAN

C	LAYOUT CHANGED		
B	LAYOUT CHANGED	A	GENERAL REVISED

CLP 中電

DRAWN:	C W WONG	DATE:	3 FEB., 2012
CHECKED:	DENNIS WONG	APPROVED:	S P LEE
SCALE:	1 : 120	SHEET(S) IN SET:	

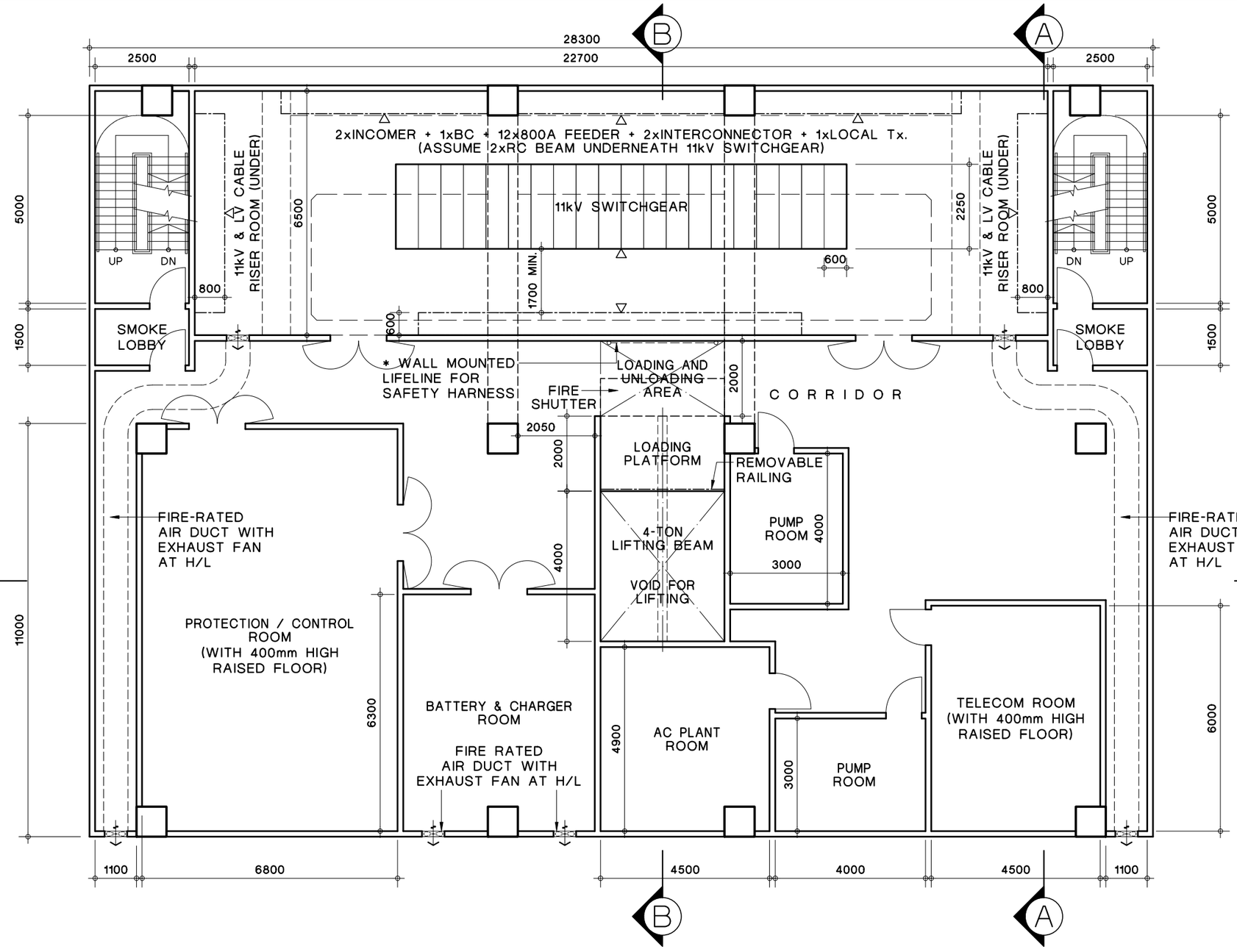
ASSET MANAGEMENT

REVS.	A	B	C	D	E	F	G	H	J	K	L
	05.05.15	18.10.18	02-07-20								
INITIAL	SIMON T	D. WONG	D. WONG								

TITLE : TYPICAL 132kV SUBSTATION LAYOUT FOR HIGH LOAD DEVELOPMENT - 2 x 50MVA Tx & RMUs (GROUND FLOOR)

PROJECT NO. | CONTRACT NO.

DRG. NO. TCOP10250DE3388504CA



FIRST FLOOR PLAN

LEGEND:

WALL/GROUND MOUNTED CUBICLE

NOTES:

1. LOCATIONS AND SIZE OF COLUMNS TO BE DETERMINED DURING STRUCTURAL DESIGN.
2. STAIRCASES AND LOBBIES SHALL COMPLY WITH BUILDING REGULATIONS ON PROVISION AND CONSTRUCTION OF REQUIRED STAIRCASE AND FIRE FIGHTING AND RESCUE STAIRWAY (IF REQUIRED).
3. FIRE SERVICES FACILITIES FOR FIRE SPRINKLERS AT STAIRS AND CORRIDORS SHALL BE PROVIDED BY DEVELOPER WITHIN THEIR SITE LOT.
4. ADEQUATE MECHANICAL VENTILATION INCLUDING AIR OUTLETS AND INLETS SHALL BE PROVIDED FOR ALL ROOMS LINKED UP TO OPEN AIR.
5. CABLE TRENCHES, DUCTS AND RISERS SHALL BE PROVIDED AMONG ROOMS WITH LV FACILITIES.
6. * LIFELINE OF FALL RESTRAINT SYSTEM FOR APPLICATION OF 3 PERSONS (TOTAL LOADING 18kN).
7. METAL SUPPORT FRAME (UNDER) AND WIRE MESH WALKWAY (BEHIND) ARE REQUIRED FOR 11kV SWITCHGEAR.
8. PROTECTION & CONTROL AND TELECOM ROOMS SHALL BE LOCATED NEARBY IN A MANNER OF ANY TELECOM SIGNALLING WIRES/CABLES TO BE TERMINATED BETWEEN CUBICLES IN THESE ROOMS SHALL BE LESS THAN 60m.
9. 150mm(H) R.C. CURB SHALL BE PROVIDED AT DOORS, AND FLOOR OPENINGS AFTER EQUIPMENT INSTALLATION.

△ DENOTES FRONT SIDE OF FLOOR STANDING PANELS.

C	LAYOUT CHANGED
B	LAYOUT UPDATED
A	GENERAL REVISED

CLP 中電

DRAWN:	C W WONG	DATE:	3 FEB., 2012
CHECKED:	DENNIS WONG	APPROVED:	S P LEE
SCALE:	1 : 120	SHEET(S) IN SET:	

ASSET MANAGEMENT

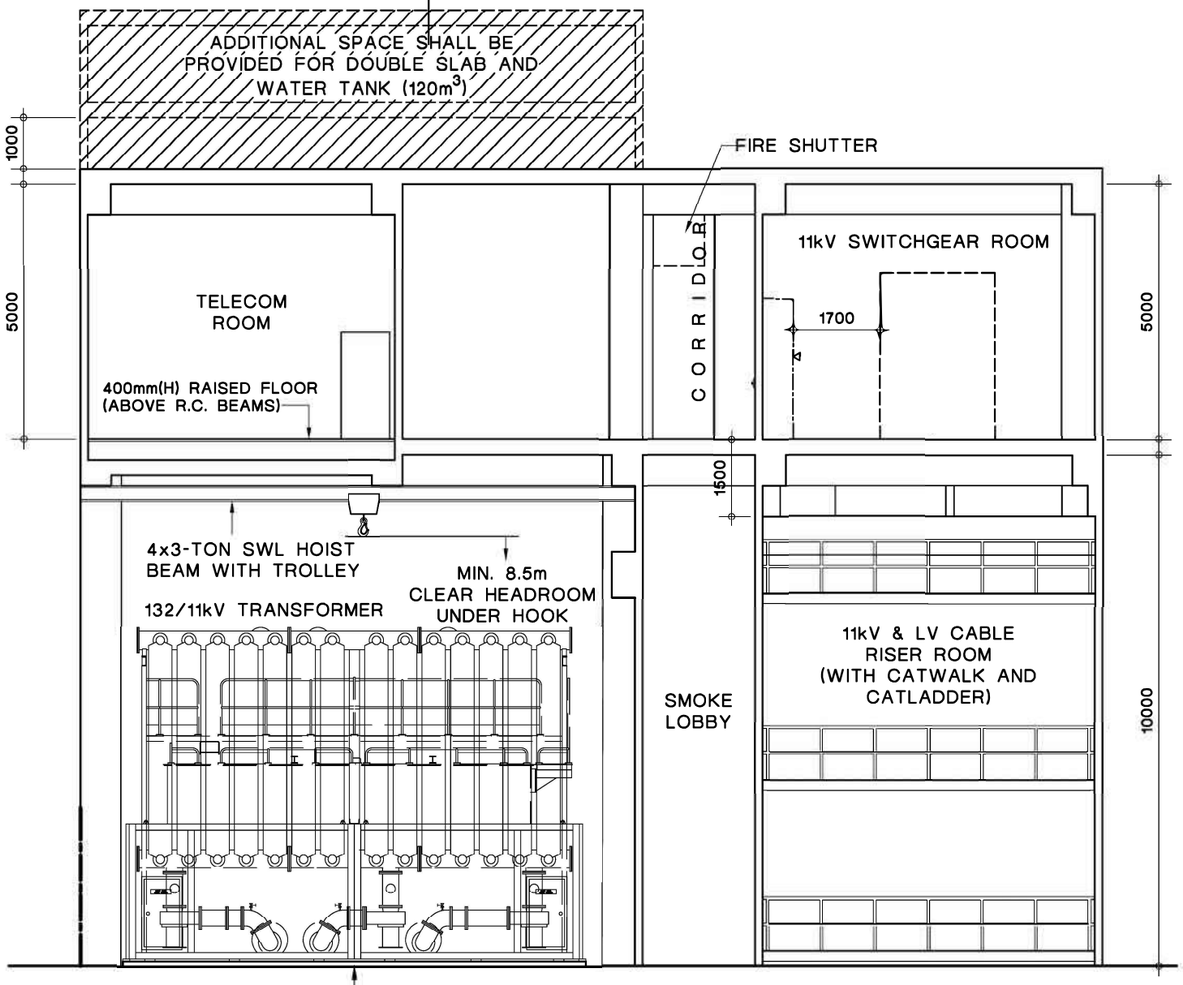
REVS.	A	B	C	D	E	F	G	H	J	K	L
	05.05.15	18.10.18	02-07-20								
INITIAL	SIMON T	D. WONG	D. WONG								

TITLE : TYPICAL 132kV SUBSTATION LAYOUT FOR HIGH LOAD DEVELOPMENT - 2 x 50MVA Tx & RMUs (FIRST FLOOR)

PROJECT NO.

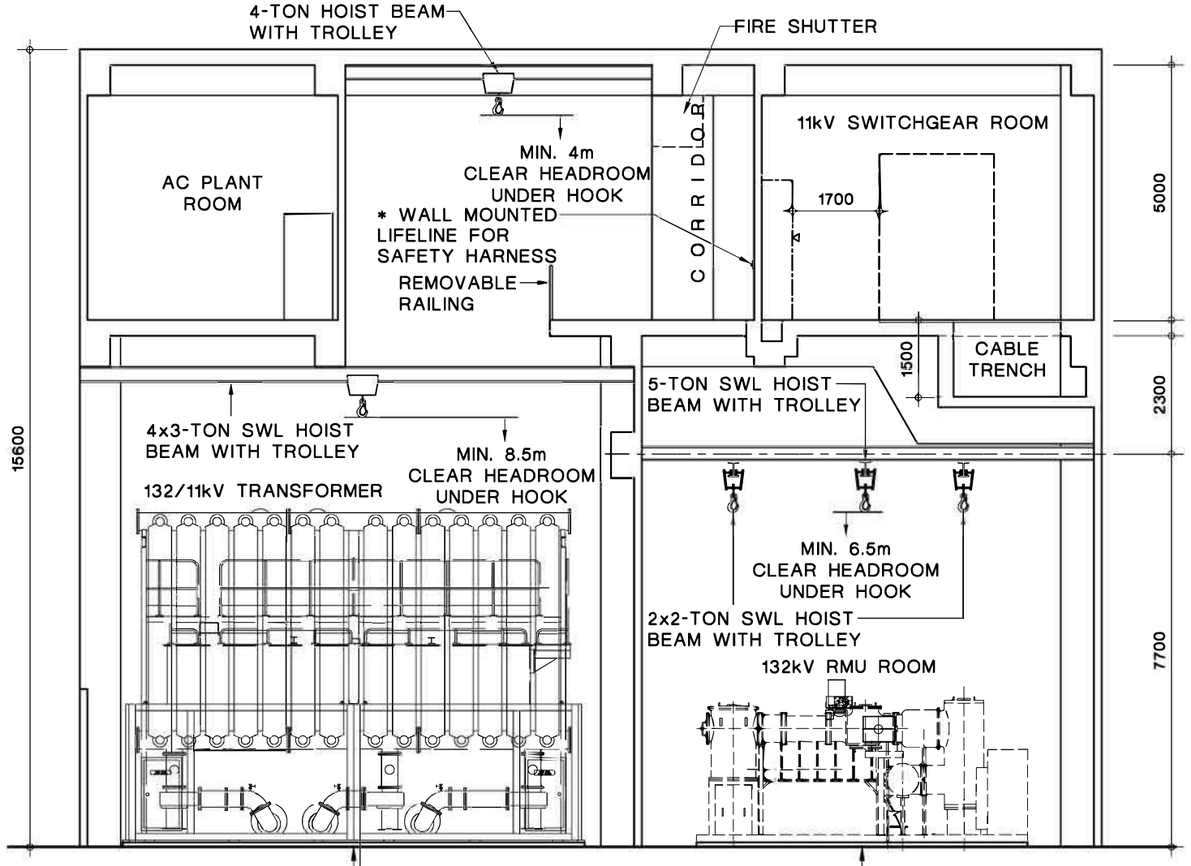
CONTRACT NO.

DRG. NO. TCOP10250DE3888505CA



C

SECTION A-A



C

SECTION B-B

NOTES:

1. ALL EQUIPMENT SHOWN ARE INDICATIVE ONLY; EXACT MODEL, DIMENSION AND SETTING-OUT SHOULD BE DETERMINED AT ENGINEERING DESIGN STAGE.
2. THIS DRAWING IS AN ILLUSTRATION EXAMPLE OF USING SF6 GAS-INSULATED TRANSFORMER. ADDITIONAL FACILITY e.g. OIL INTERCEPTOR, FIRE PUMP ROOMS AND WATER TANK ARE REQUIRED IF OIL-INSULATED TRANSFORMER IS USED.

C	LAYOUT CHANGED
B	GENERAL REVISED
A	GENERAL REVISED

CLP 中電

DRAWN:	C W WONG	DATE:	3 FEB., 2012
CHECKED:	DENNIS WONG	APPROVED:	S P LEE
SCALE:	1 : 120	SHEET(S) IN SET:	

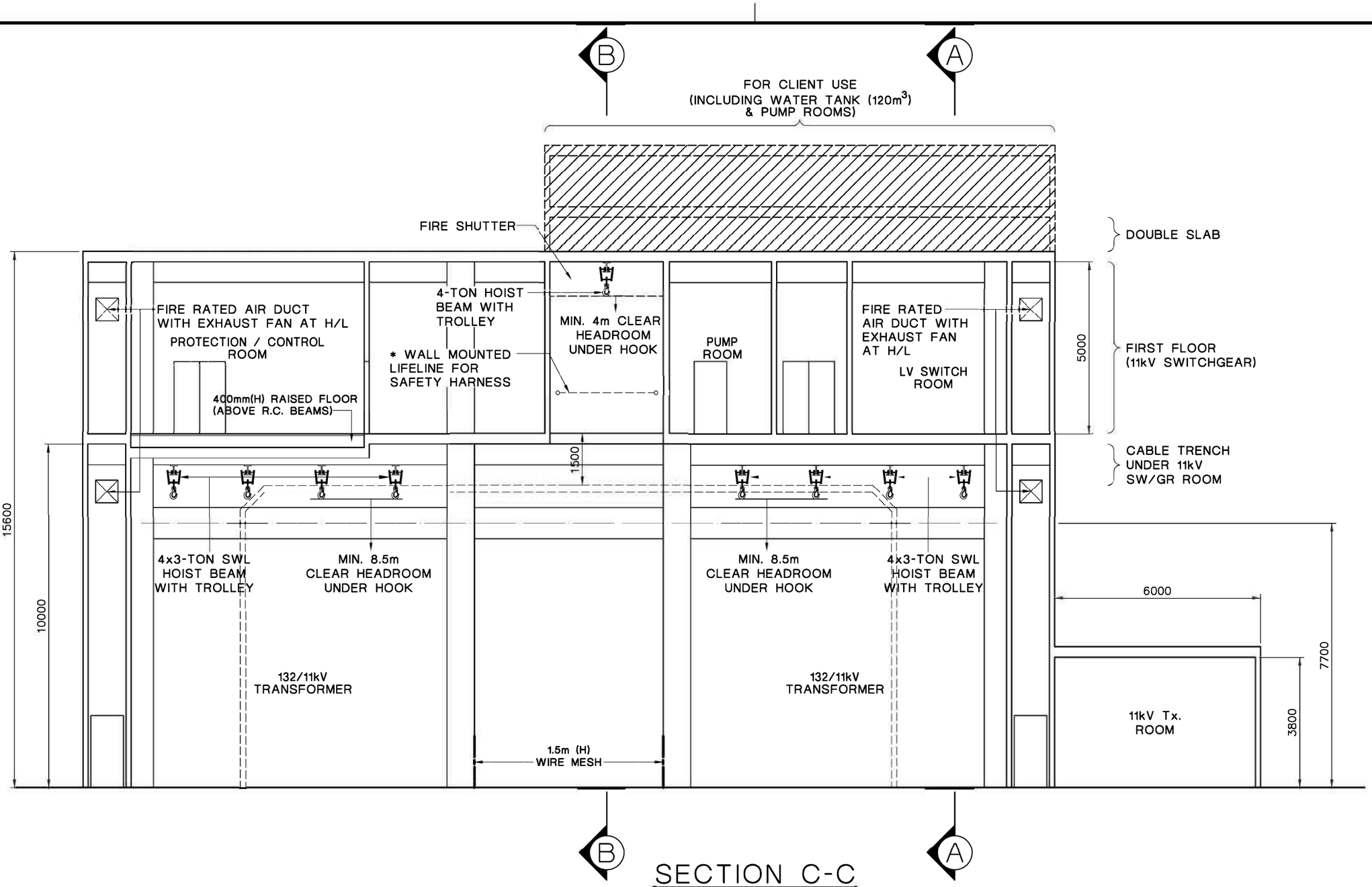
ASSET MANAGEMENT

REVS.	A	B	C	D	E	F	G	H	J	K	L
	05.05.15	18.10.18	02-07-20								
INITIAL	SIMON T	D. WONG	D. WONG								

TITLE : TYPICAL 132kV SUBSTATION LAYOUT FOR HIGH LOAD DEVELOPMENT - 2 x 50MVA Tx & RMUs (SECT. A-A & B-B)

PROJECT NO. | CONTRACT NO.

DRG. NO. TCOP10250DE338885 06 C A



SECTION C-C

REVS.	05.05.15	18.10.18	02-07-20								
	A	B	C	D	E	F	G	H	J	K	L
INITIAL	SIMON T	D. WONG	D. WONG								

CLP 中電

DRAWN:	C W WONG	DATE:	3 FEB., 2012
CHECKED:	DENNIS WONG	APPROVED:	S P LEE
SCALE:	1 : 120	SHEET(S) IN SET:	

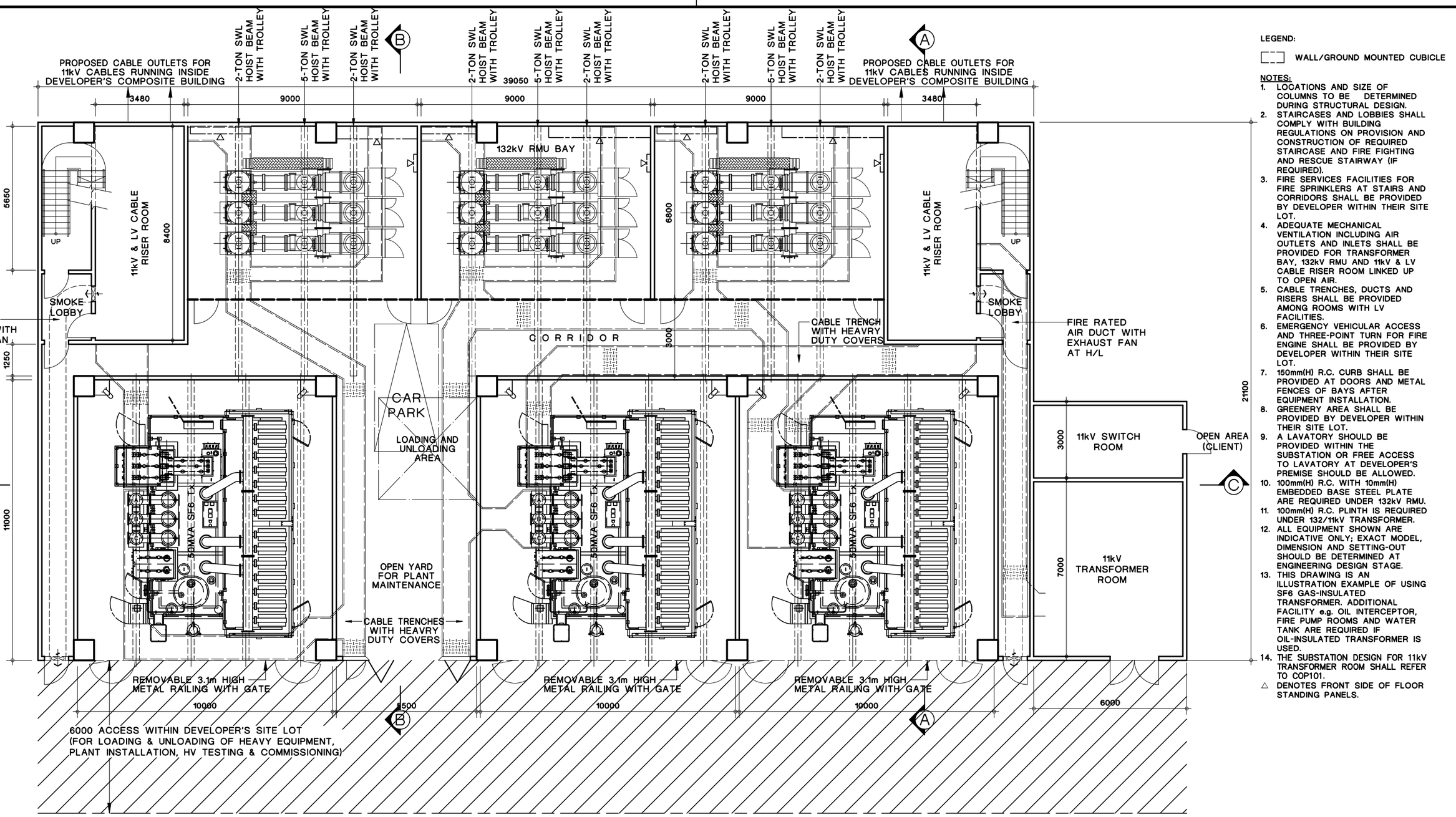
ASSET MANAGEMENT

TITLE : TYPICAL 132kV SUBSTATION LAYOUT FOR HIGH LOAD DEVELOPMENT - 2 x 50MVA Tx & RMUs (SECT. C-C)

PROJECT NO. | CONTRACT NO.

DRG. NO. TCOP10250DE3885075CA

C	LAYOUT CHANGED		
B	GENERAL REVISED	A	GENERAL REVISED



LEGEND:

WALL/GROUND MOUNTED CUBICLE

NOTES:

1. LOCATIONS AND SIZE OF COLUMNS TO BE DETERMINED DURING STRUCTURAL DESIGN.
2. STAIRCASES AND LOBBIES SHALL COMPLY WITH BUILDING REGULATIONS ON PROVISION AND CONSTRUCTION OF REQUIRED STAIRCASE AND FIRE FIGHTING AND RESCUE STAIRWAY (IF REQUIRED).
3. FIRE SERVICES FACILITIES FOR FIRE SPRINKLERS AT STAIRS AND CORRIDORS SHALL BE PROVIDED BY DEVELOPER WITHIN THEIR SITE LOT.
4. ADEQUATE MECHANICAL VENTILATION INCLUDING AIR OUTLETS AND INLETS SHALL BE PROVIDED FOR TRANSFORMER BAY, 132kV RMU AND 11kV & LV CABLE RISER ROOM LINKED UP TO OPEN AIR.
5. CABLE TRENCHES, DUCTS AND RISERS SHALL BE PROVIDED AMONG ROOMS WITH LV FACILITIES.
6. EMERGENCY VEHICULAR ACCESS AND THREE-POINT TURN FOR FIRE ENGINE SHALL BE PROVIDED BY DEVELOPER WITHIN THEIR SITE LOT.
7. 150mm(H) R.C. CURB SHALL BE PROVIDED AT DOORS AND METAL FENCES OF BAYS AFTER EQUIPMENT INSTALLATION.
8. GREENERY AREA SHALL BE PROVIDED BY DEVELOPER WITHIN THEIR SITE LOT.
9. A LAVATORY SHOULD BE PROVIDED WITHIN THE SUBSTATION OR FREE ACCESS TO LAVATORY AT DEVELOPER'S PREMISE SHOULD BE ALLOWED.
10. 100mm(H) R.C. WITH 10mm(H) EMBEDDED BASE STEEL PLATE ARE REQUIRED UNDER 132kV RMU.
11. 100mm(H) R.C. PLINTH IS REQUIRED UNDER 132/11kV TRANSFORMER.
12. ALL EQUIPMENT SHOWN ARE INDICATIVE ONLY; EXACT MODEL, DIMENSION AND SETTING-OUT SHOULD BE DETERMINED AT ENGINEERING DESIGN STAGE.
13. THIS DRAWING IS AN ILLUSTRATION EXAMPLE OF USING SF6 GAS-INSULATED TRANSFORMER. ADDITIONAL FACILITY e.g. OIL INTERCEPTOR, FIRE PUMP ROOMS AND WATER TANK ARE REQUIRED IF OIL-INSULATED TRANSFORMER IS USED.
14. THE SUBSTATION DESIGN FOR 11kV TRANSFORMER ROOM SHALL REFER TO COP101.

△ DENOTES FRONT SIDE OF FLOOR STANDING PANELS.

GROUND FLOOR PLAN

C	LAYOUT CHANGED		
B	GENERAL REVISED	A	GENERAL REVISED

CLP 中電

DRAWN:	C W WONG	DATE:	3 FEB., 2012
CHECKED:	DENNIS WONG	APPROVED:	S P LEE
SCALE:	1 : 120	SHEET(S) IN SET:	

ASSET MANAGEMENT

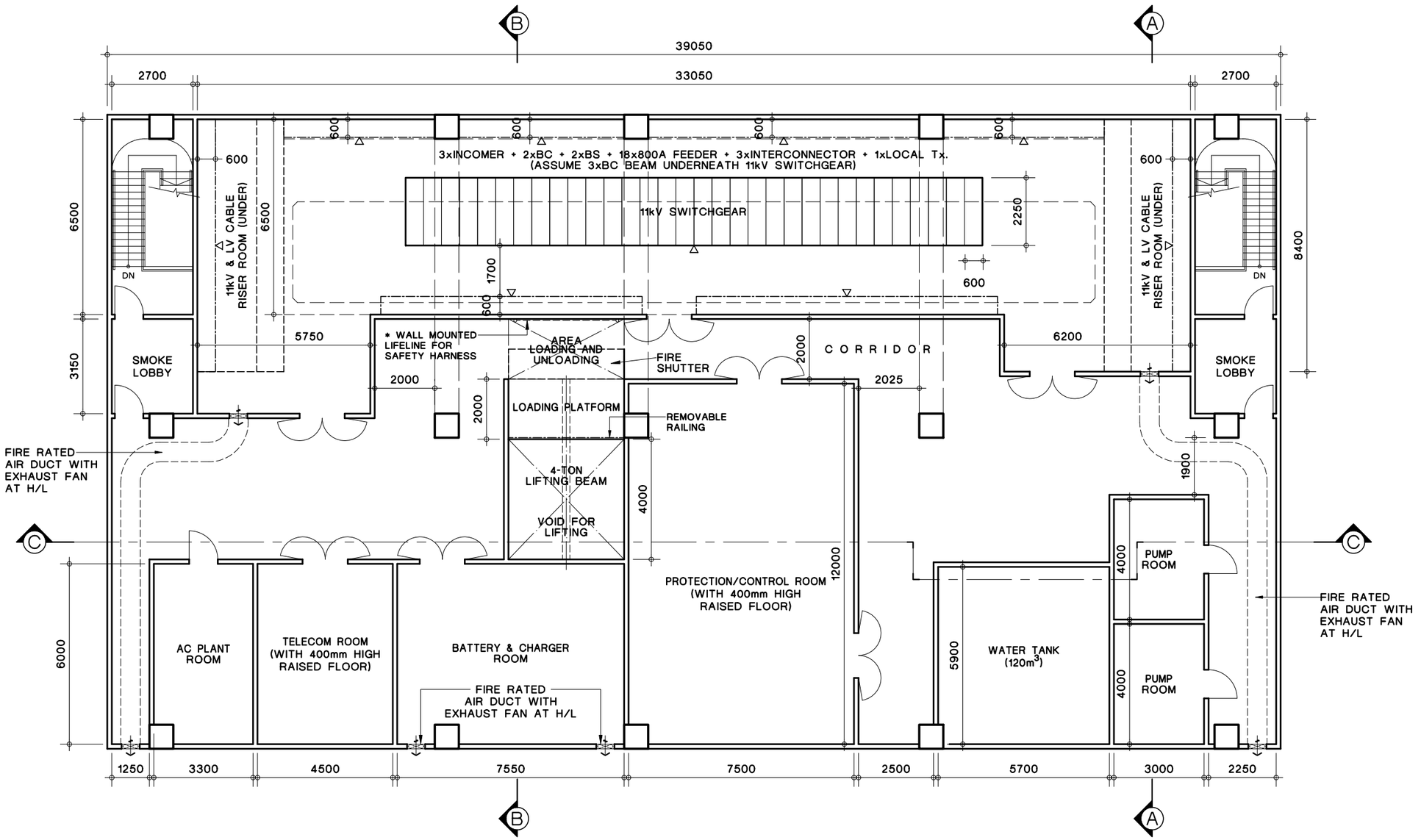
REVS.	A	B	C	D	E	F	G	H	J	K	L
	05.05.15	05.05.15	02-07-20								
INITIAL	SIMON T	D WONG	D. WONG								

TITLE : TYPICAL 132kV SUBSTATION LAYOUT FOR HIGH LOAD DEVELOPMENT - 3 x 50MVA Tx & RMUs (GROUND FLOOR)

PROJECT NO.

CONTRACT NO.

DRG. NO. TCOP10250DE3388508CA



LEGEND:

WALL/GROUND MOUNTED CUBICLE

\# FINAL LIFTING METHOD WILL BE BY LIFTING BEAM OR MOBILE CRANE BASED ON DISCUSSION WITH CLIENT.

NOTES:

1. AT LEAST 2 NOS. FLOOR OPENING FOR MULTI-CORE CABLING AND 1 NO. FLOOR OPENING FOR BS INSTALLATION SHALL BE PROVIDED AT PROTECTION/CONTROL ROOM.
2. ADEQUATE MECHANICAL VENTILATION INCLUDING AIR OUTLET AND INLET SHALL BE PROVIDED FOR BATTERY & CHARGER ROOM AND A/C ROOM LINKED UP TO OPEN AIR.
3. * LIFELINE OF FALL RESTRAINT SYSTEM FOR APPLICATION OF 3 PERSONS (TOTAL LOADING 18kN).
4. 150mm(H) R.C. CURB SHALL BE PROVIDED AT DOORS, LOADING AND UNLOADING AREA AND FLOOR OPENINGS AFTER EQUIPMENT INSTALLATION.
5. CABLE TRENCHES, DUCTS AND RISERS SHALL BE PROVIDED AMONG ROOMS WITH LV FACILITIES, DETAILED DESIGN IN SUBJECTED TO THE ENGINEER'S APPROVED.
5. METAL SUPPORT FRAME (UNDER) AND WIRE MESH WALKWAY (BEHIND) ARE REQUIRED UNDER 11kV SWITCHGEAR.
6. PROTECTION & CONTROL AND TELECOM ROOMS SHALL BE LOCATED NEARBY IN A MANNER OF ANY TELECOM SIGNALLING WIRES/CABLES TO BE TERMINATED BETWEEN CUBICLES IN THESE ROOMS SHALL BE LESS THAN 60m.

△ DENOTES FRONT SIDE OF FLOOR STANDING PANELS.

FIRST FLOOR PLAN

C	LAYOUT CHANGED		
B	GENERAL REVISED	A	GENERAL REVISED

CLP 中電

DRAWN:	C W WONG	DATE:	3 FEB., 2012
CHECKED:	DENNIS WONG	APPROVED:	S P LEE
SCALE:	1 : 120	SHEET(S) IN SET:	

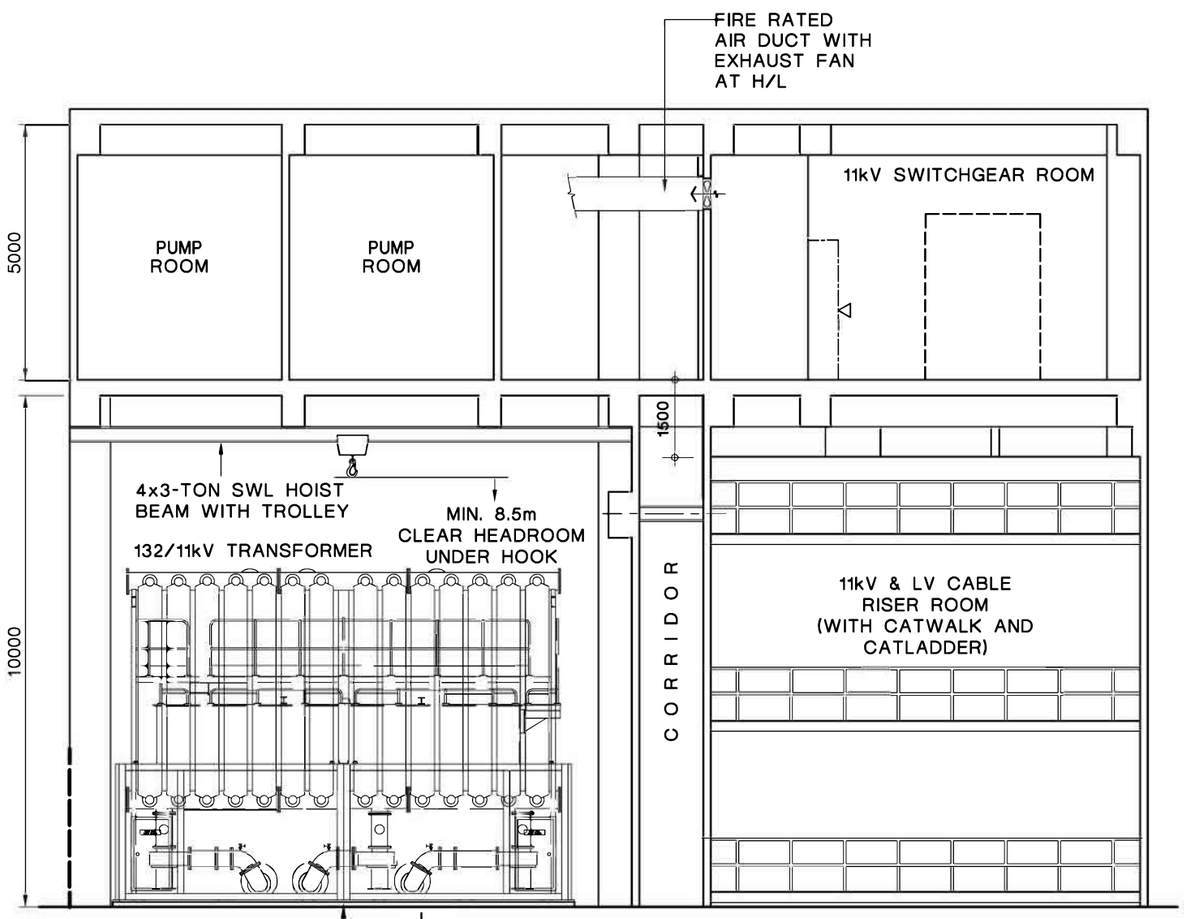
ASSET MANAGEMENT

REVS.	A	B	C	D	E	F	G	H	J	K	L
	05.05.15	12.12.18	02-07-20								
INITIAL	SIMON T	D. WONG	D. WONG								

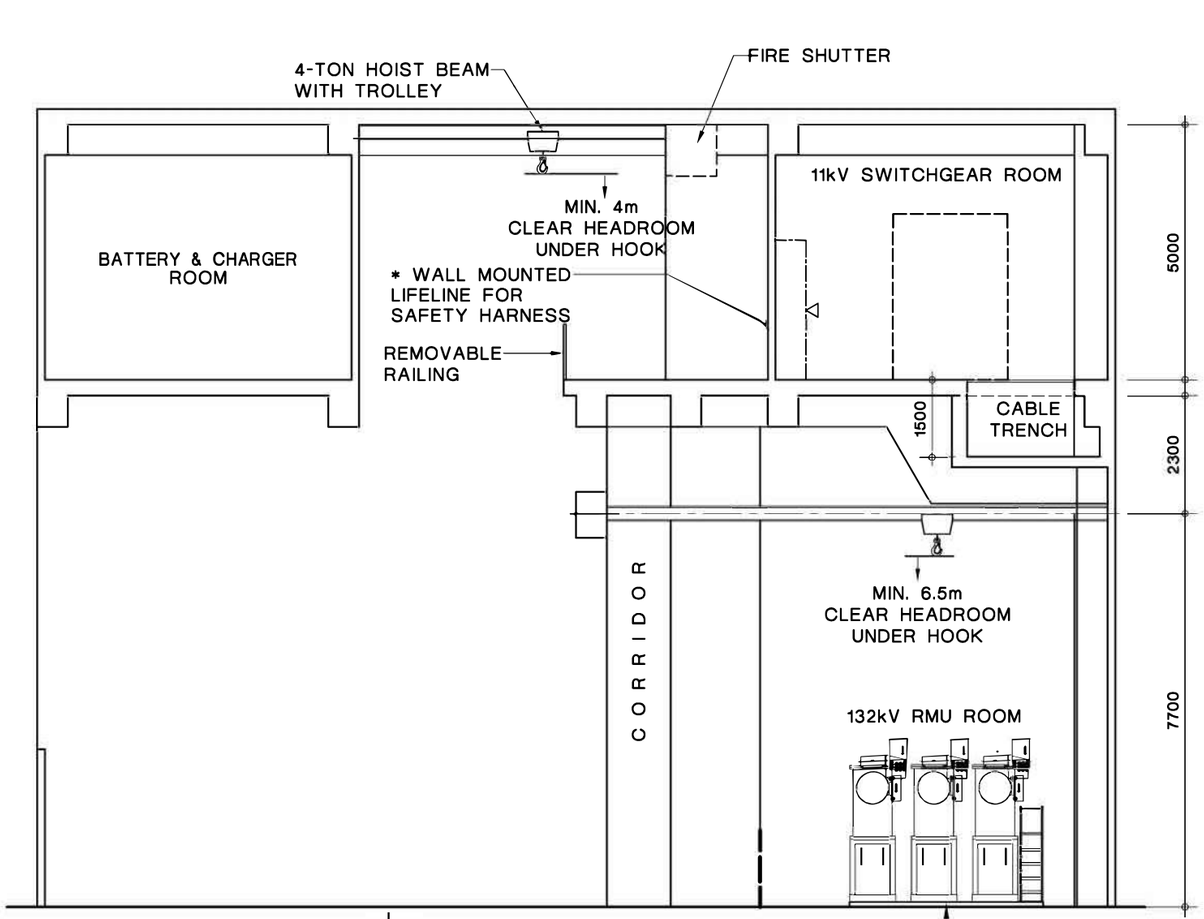
TITLE : TYPICAL 132kV SUBSTATION LAYOUT FOR HIGH LOAD DEVELOPMENT - 3 x 50MVA Tx & RMUs (FIRST FLOOR)

PROJECT NO. | CONTRACT NO.

DRG. NO. TCOP10250DE3388850 9CA



SECTION A-A



SECTION B-B

NOTES:

1. ALL EQUIPMENT SHOWN ARE INDICATIVE ONLY; EXACT MODEL, DIMENSION AND SETTING-OUT SHOULD BE DETERMINED AT ENGINEERING DESIGN STAGE.
2. THIS DRAWING IS AN ILLUSTRATION EXAMPLE OF USING SF6 GAS-INSULATED TRANSFORMER. ADDITIONAL FACILITY e.g. OIL INTERCEPTOR, FIRE PUMP ROOMS AND WATER TANK ARE REQUIRED IF OIL-INSULATED TRANSFORMER IS USED.

C	GENERAL REVISED		
B	GENERAL REVISED	A	GENERAL REVISED

CLP 中電

DRAWN:	C W WONG	DATE:	3 FEB., 2012
CHECKED:	DENNIS WONG	APPROVED:	S P LEE
SCALE:	1 : 120	SHEET(S) IN SET:	

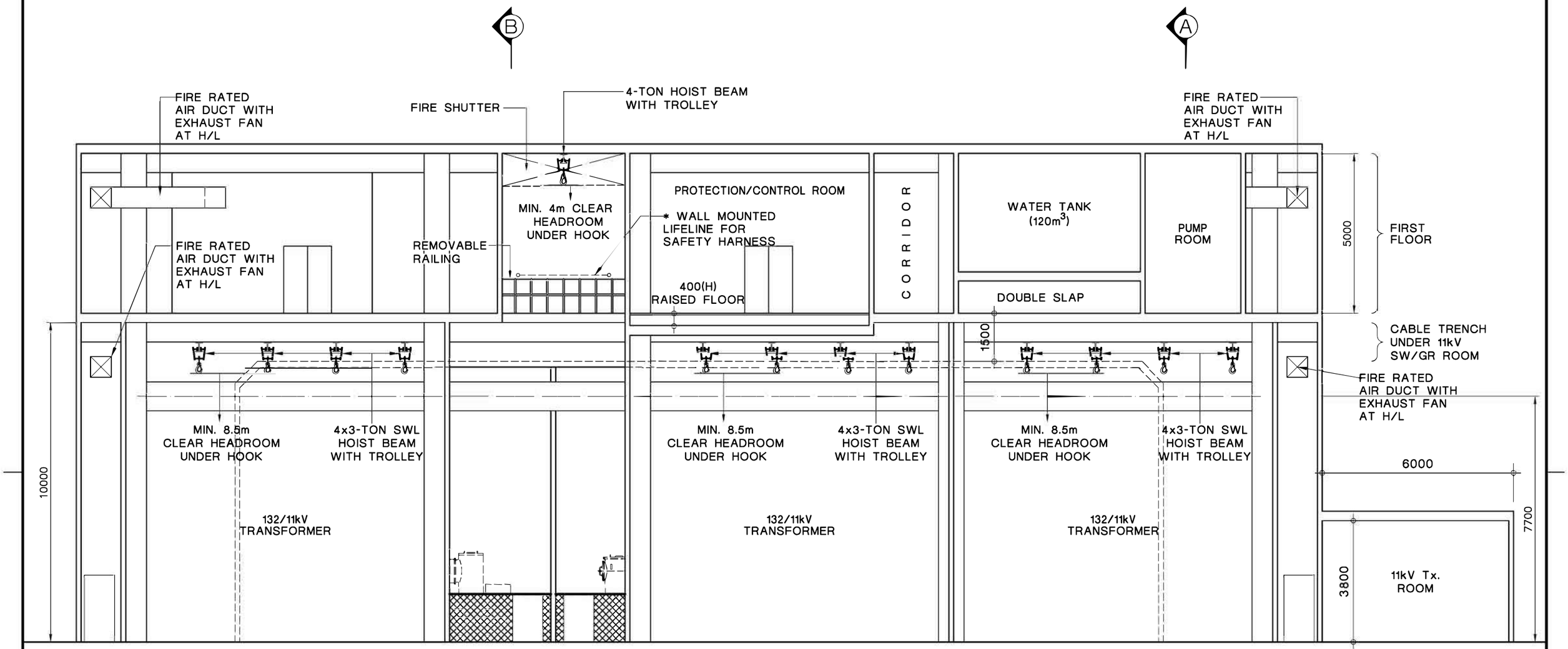
ASSET MANAGEMENT

REVS.	A	B	C	D	E	F	G	H	J	K	L
	05.05.15	12.12.18	02-07-20								
INITIAL	SIMON T	D WONG	D. WONG								

TITLE : TYPICAL 132kV SUBSTATION LAYOUT FOR HIGH LOAD DEVELOPMENT - 3 x 50MVA Tx & RMUs (SECT. A-A & B-B)

PROJECT NO. | CONTRACT NO.

DRG. NO. TCOP10250DE3388510CA



SECTION C-C

C	LAYOUT CHANGED		
B	GENERAL REVISED	A	GENERAL REVISED

CLP 中電

DRAWN:	C W WONG	DATE:	3 FEB., 2012
CHECKED:	DENNIS WONG	APPROVED:	S P LEE
SCALE:	1 : 120	SHEET(S) IN SET:	

ASSET MANAGEMENT

REVS.	A	B	C	D	E	F	G	H	J	K	L
	05.05.15	18.10.18	02-07-20								
INITIAL	SIMON T	D. WONG	D. WONG								

TITLE : TYPICAL 132kV SUBSTATION LAYOUT FOR HIGH LOAD DEVELOPMENT - 3 x 50MVA Tx & RMUs (SECT. C-C)

PROJECT NO. | CONTRACT NO.

DRG. NO. TCOP10250DE3388851 1 CA