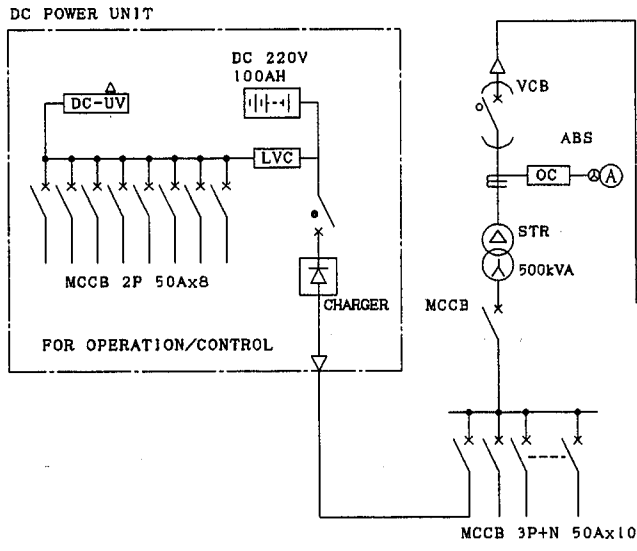
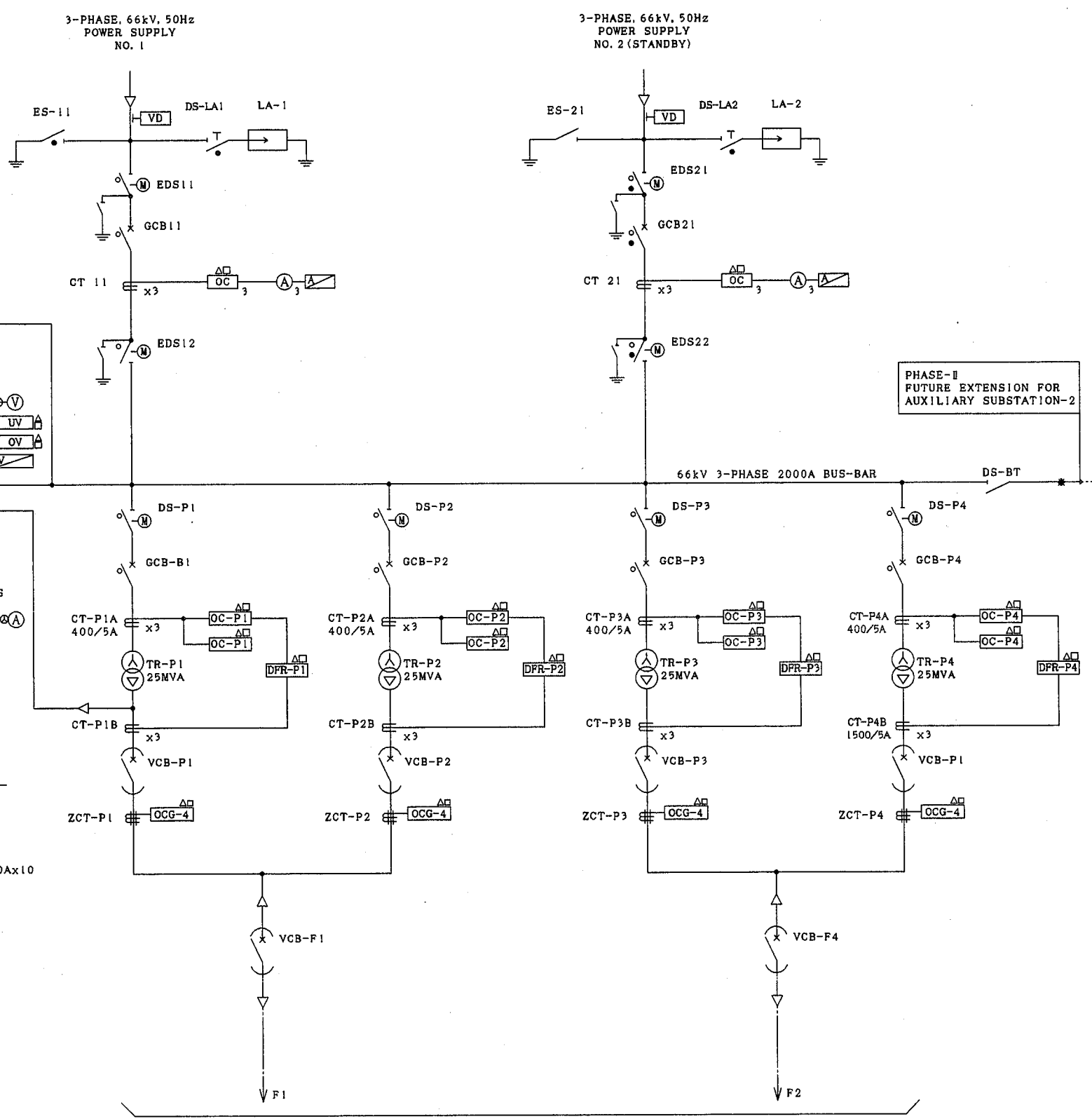


FROM Bir El Abd Substation



LEGEND	
CODE	DESCRIPTION
VD	VOLTAGE DETECTOR
DS	DISCONNECTING SWITCH (ISOLATOR)
ES	EARTHING SWITCH
EDS	DISCONNECTING SWITCH WITH EARTH SWITCH
LA	LIGHTNING ARRESTER
GCB	GAS INSULATED CIRCUIT BREAKER
VCB	VACUUM CIRCUIT BREAKER
MCCB	600V MOLDED CASE CIRCUIT BREAKER
STR	STATION TRANSFORMER
TR	DISTRIBUTION TRANSFORMER
CT	TYPE CURRENT TRANSFORMER
PT	VOLTAGE TRANSFORMER
ZCT	ZERO PHASE CURRENT TRANSFORMER
OC	OVER CURRENT RELAY
OCG	GROUNDING OVER CURRENT RELAY
DFR	DIFFERENTIAL RELAY
UV	UNDER VOLTAGE RELAY
OV	OVER VOLTAGE RELAY
DC-UV	DC UNDER VOLTAGE RELAY
V	VOLT METER
A	AMMETER
—	FUSE
BC	BREAKING CAPACITY
STC	SHORT TIME CAPACITY
⊠	TRANSDUCER (TO REMOTE CONTROL PANEL)
LVC	LOAD VOLTAGE COMPENSATOR
⊞	BATTERY (ALKALINE SHIELD)
○	FOR REMOTE SUPERVISION AND OPERATION
•	FOR REMOTE SUPERVISION (MODE INDICATION)
△	FOR REMOTE SUPERVISION (FAULT INDICATION)
□	INSTALLED IN REMOTE CONTROL RELAY PANEL.

CONNECT TO AUXILIARY SUBSTATION-1

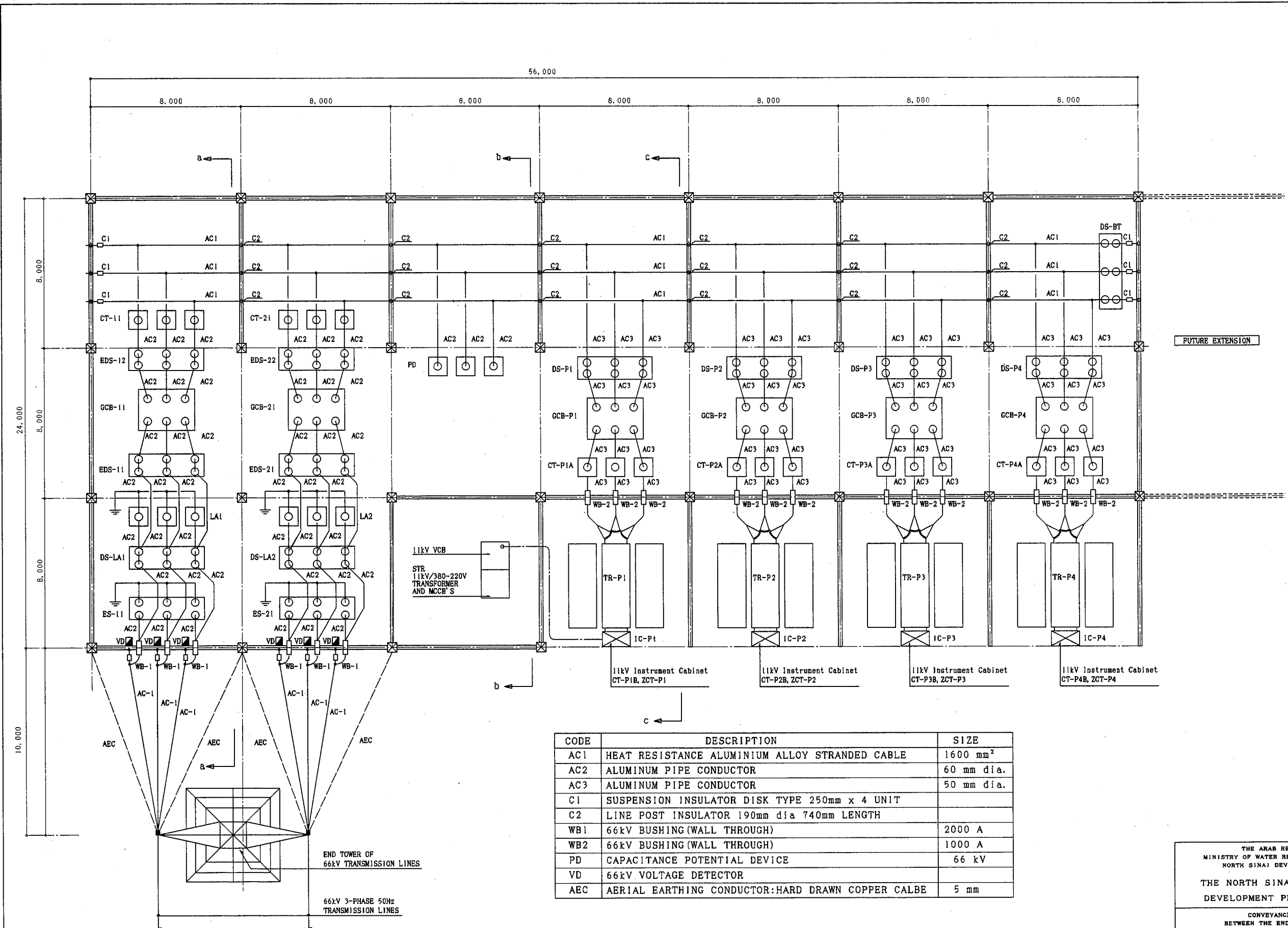
THE ARAB REPUBLIC OF EGYPT
 MINISTRY OF WATER RESOURCES AND IRRIGATION
 NORTH SINAI DEVELOPMENT ORGANIZATION

THE NORTH SINAI INTEGRATED RURAL
 DEVELOPMENT PROJECT (PHASE I II)

CONVEYANCE CANAL SYSTEM
 BETWEEN THE END OF BIR EL ABD ZONE
 UNTIL THE BEGINNING OF EL BIR AND EL KAWAHEER ZONE
 PUMPING STATION
 66kV MAIN SUBSTATION SINGLE LINE DIAGRAM
 (STAGE-I)

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
 SANYU CONSULTANTS INC. PACIFIC CONSULTANTS INTERNATIONAL

DESIGNED	
TRACED	
CHECKED	
APPROVED	
DRAWING NO.	DS-01



CODE	DESCRIPTION	SIZE
AC1	HEAT RESISTANCE ALUMINIUM ALLOY STRANDED CABLE	1600 mm ²
AC2	ALUMINUM PIPE CONDUCTOR	60 mm dia.
AC3	ALUMINUM PIPE CONDUCTOR	50 mm dia.
C1	SUSPENSION INSULATOR DISK TYPE 250mm x 4 UNIT	
C2	LINE POST INSULATOR 190mm dia 740mm LENGTH	
WB1	66kV BUSHING (WALL THROUGH)	2000 A
WB2	66kV BUSHING (WALL THROUGH)	1000 A
PD	CAPACITANCE POTENTIAL DEVICE	66 kV
VD	66kV VOLTAGE DETECTOR	
AEC	AERIAL EARTHING CONDUCTOR: HARD DRAWN COPPER CALBE	5 mm

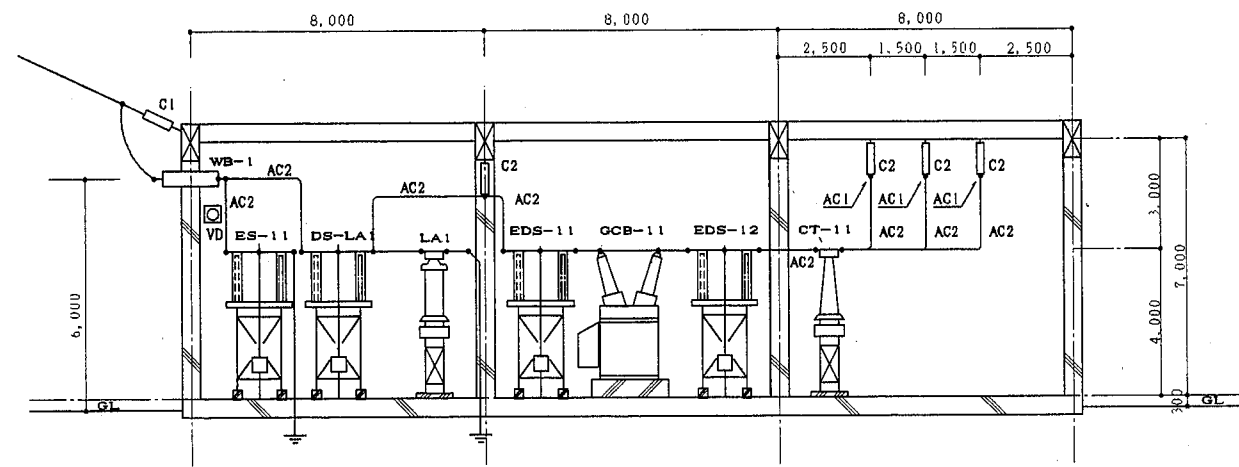
THE ARAB REPUBLIC OF EGYPT
MINISTRY OF WATER RESOURCES AND IRRIGATION
NORTH SINAI DEVELOPMENT ORGANIZATION

**THE NORTH SINAI INTEGRATED RURAL
DEVELOPMENT PROJECT (PHASE III)**

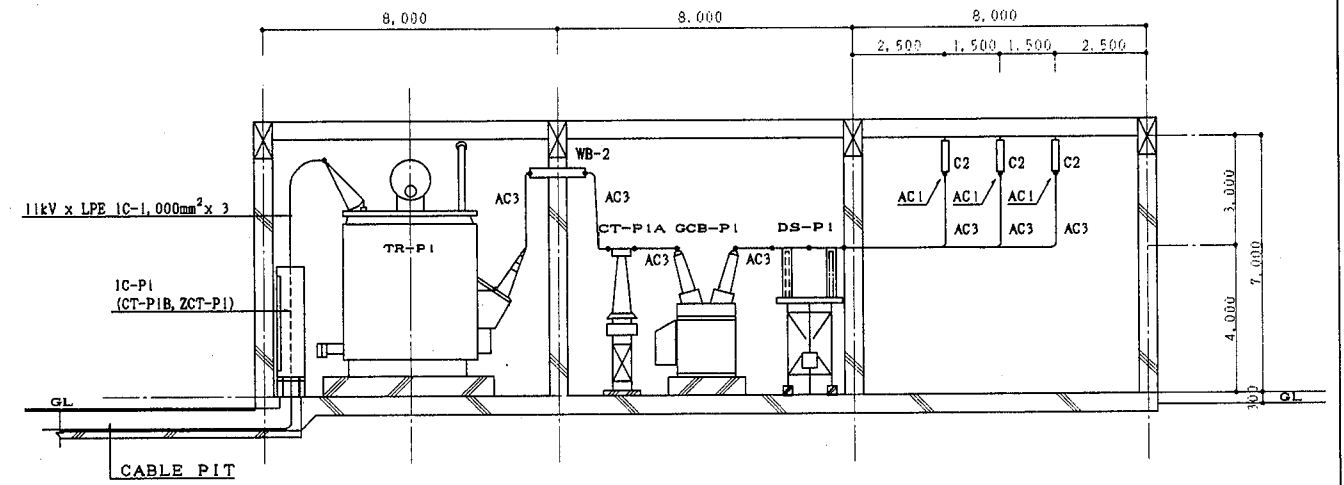
CONVEYANCE CANAL SYSTEM
BETWEEN THE END OF SIR EL ABD ZONE
UNTIL THE BEGINNING OF EL SIR AND EL KAWAREER ZONE
PUMPING STATION
**66kV MAIN SUBSTATION LAYOUT PLAN
(STAGE-I)**

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
SANYU CONSULTANTS INC, PACIFIC CONSULTANTS INTERNATIONAL

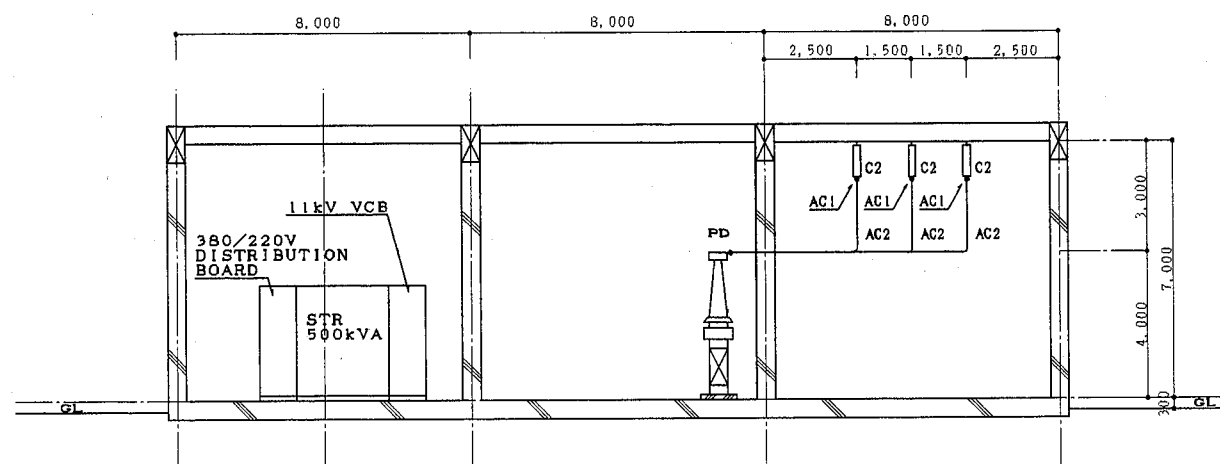
DESIGNED	
TRACED	
CHECKED	
APPROVED	
DRAWING NO.	DS-02



SECTION a-a

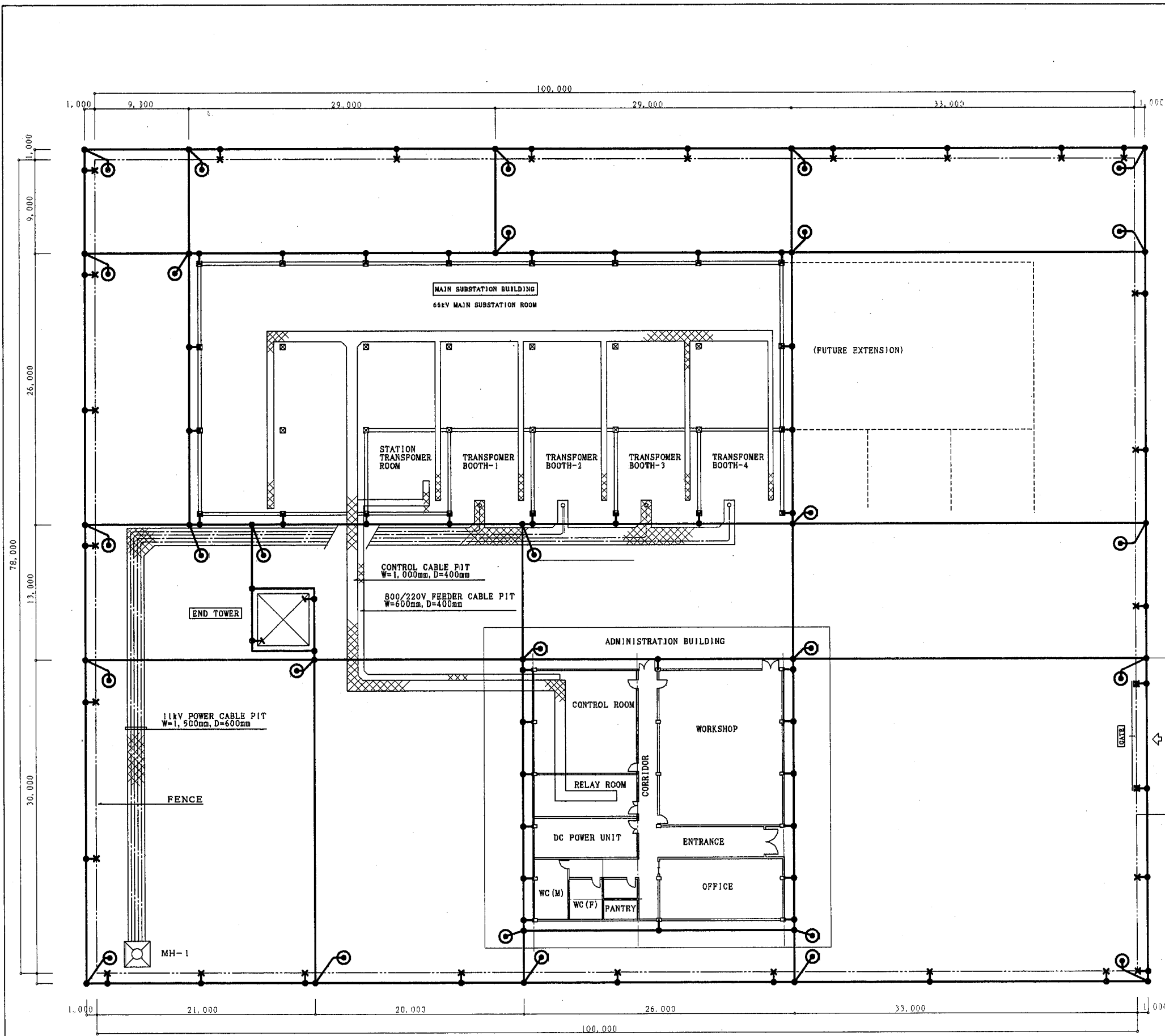


SECTION c-c



SECTION b-b

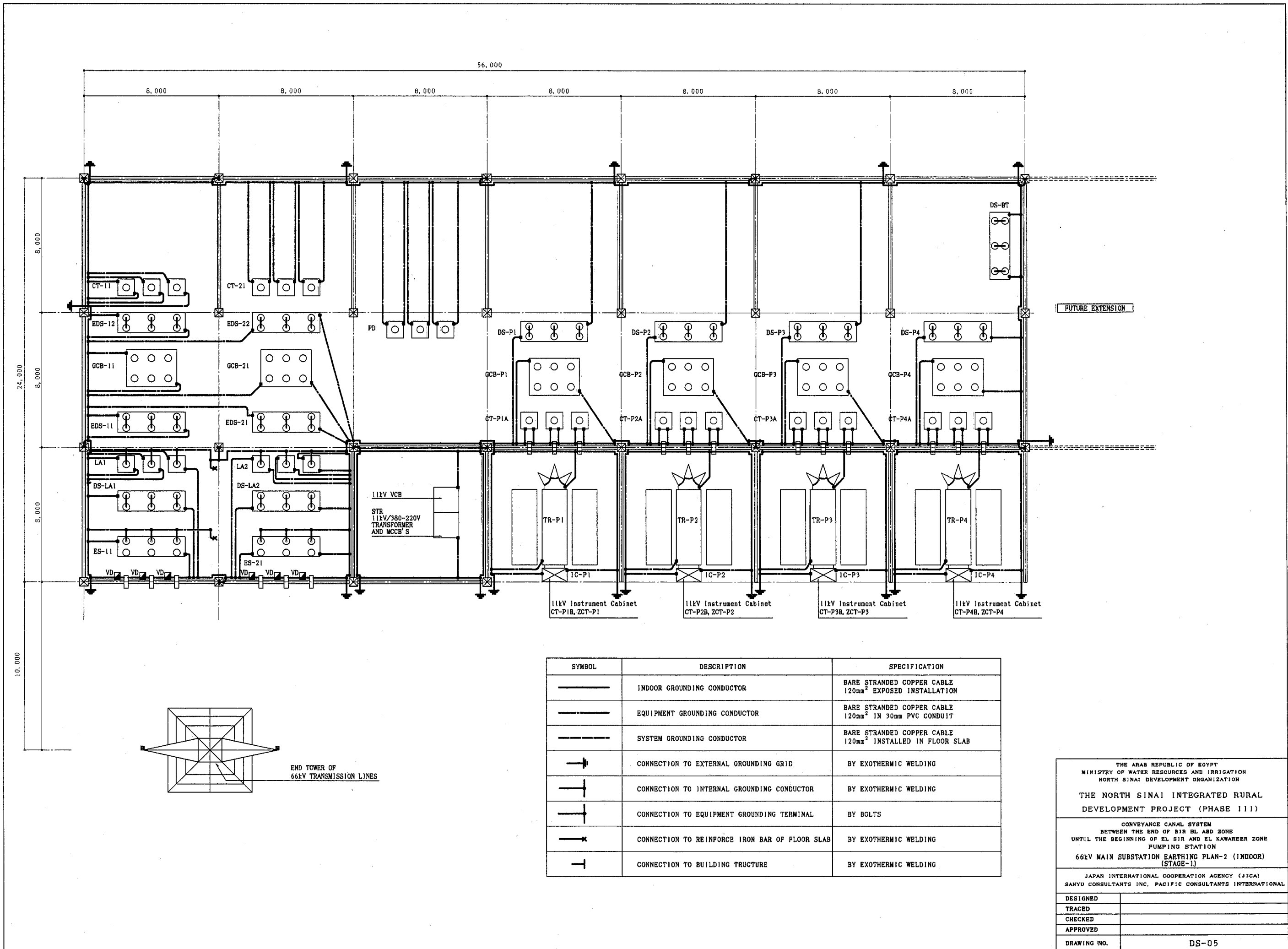
THE ARAB REPUBLIC OF EGYPT MINISTRY OF WATER RESOURCES AND IRRIGATION NORTH SINAI DEVELOPMENT ORGANIZATION	
THE NORTH SINAI INTEGRATED RURAL DEVELOPMENT PROJECT (PHASE III)	
CONVEYANCE CANAL SYSTEM BETWEEN THE END OF BIR EL ABD ZONE UNTIL THE BEGINNING OF EL SIR AND EL KAWAREER ZONE PUMPING STATION 66kV MAIN SUBSTATION TYPICAL SECTION (STAGE-I)	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) SANYU CONSULTANTS INC, PACIFIC CONSULTANTS INTERNATIONAL	
DESIGNED	
TRACED	
CHECKED	
APPROVED	
DRAWING NO.	DS-03



SYMBOL	DESCRIPTION	SPECIFICATION
—	EARTH GRID CONDUCTOR	STRANDED COPPER CABLE 120mm ²
—●—	CONNECTION POINT	STRANDED COPPER CABLE 120mm ² BY EXOTHERMIC WELDING
⊙	GROUNDING ROD	COPPER SHEATHED STEEL ROD 14mm dia. x 3m long.
⊥	CONNECT TO STRUCTURE	STRANDED COPPER CABLE 120mm ² BY EXOTHERMIC WELDING
⊥	CONNECTION FENCE AND EARTHING GRID	STRANDED COPPER CABLE 120mm ² BY EXOTHERMIC WELDING
⊠	MANHOLE	

- NOTE:
- All earthing grid shall be buried 600mm below finished ground level.
 - The grid conductor shall be 120mm² of bare stranded copper.
 - All connections underground and where possible above ground shall be exothermic welds.
 - The fence shall be connected to the earthing grid every 15 meters.
 - Each major piece of equipment shall be grounded twice with separate ground leads.
 - All foundation reinforcing steel and anchor bolts shall be interconnected with a suitable connection to the ground grid provided.
 - A earthing conductor (120mm² stranded copper cable) shall be installed through the all cable pits.
 - The earthing conductors in the cable pits shall be grounded earth grid at all crossing by exothermic weld.

THE ARAB REPUBLIC OF EGYPT MINISTRY OF WATER RESOURCES AND IRRIGATION NORTH SINAI DEVELOPMENT ORGANIZATION THE NORTH SINAI INTEGRATED RURAL DEVELOPMENT PROJECT (PHASE III) CONVEYANCE CANAL SYSTEM BETWEEN THE END OF BIR EL ABD ZONE UNTIL THE BEGINNING OF EL SIR AND EL KAWAREER ZONE PUMPING STATION 66kV MAIN SUBSTATION EARTHING PLAN-1 (EARTH GRID) (STAGE-1)	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) SANYU CONSULTANTS INC. PACIFIC CONSULTANTS INTERNATIONAL	
DESIGNED	
TRACED	
CHECKED	
APPROVED	
DRAWING NO.	DS-04

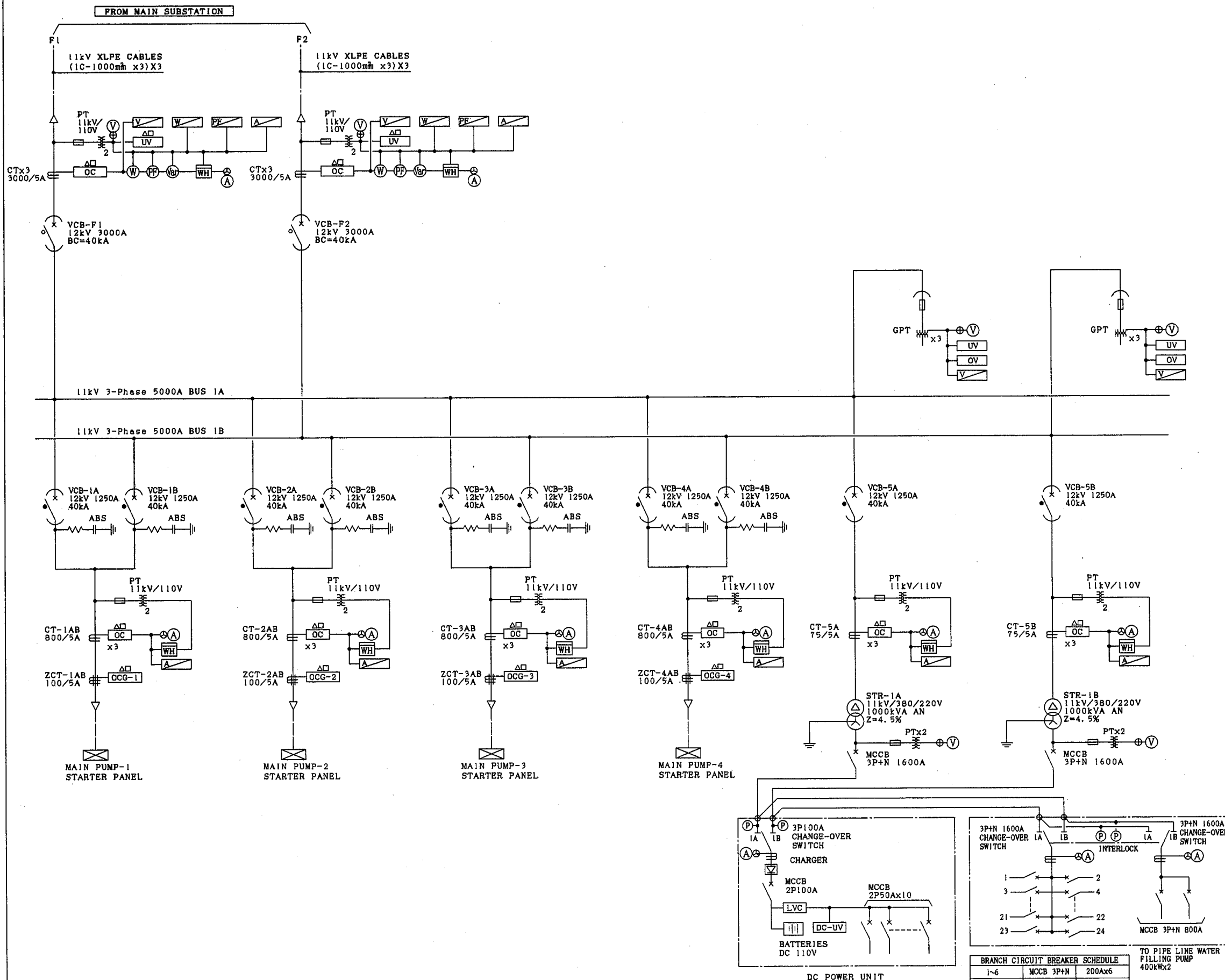


SYMBOL	DESCRIPTION	SPECIFICATION
—	INDOOR GROUNDING CONDUCTOR	BARE STRANDED COPPER CABLE 120mm ² EXPOSED INSTALLATION
—	EQUIPMENT GROUNDING CONDUCTOR	BARE STRANDED COPPER CABLE 120mm ² IN 30mm PVC CONDUIT
—	SYSTEM GROUNDING CONDUCTOR	BARE STRANDED COPPER CABLE 120mm ² INSTALLED IN FLOOR SLAB
⊥	CONNECTION TO EXTERNAL GROUNDING GRID	BY EXOTHERMIC WELDING
⊥	CONNECTION TO INTERNAL GROUNDING CONDUCTOR	BY EXOTHERMIC WELDING
⊥	CONNECTION TO EQUIPMENT GROUNDING TERMINAL	BY BOLTS
⊥	CONNECTION TO REINFORCE IRON BAR OF FLOOR SLAB	BY EXOTHERMIC WELDING
⊥	CONNECTION TO BUILDING TRUCTURE	BY EXOTHERMIC WELDING

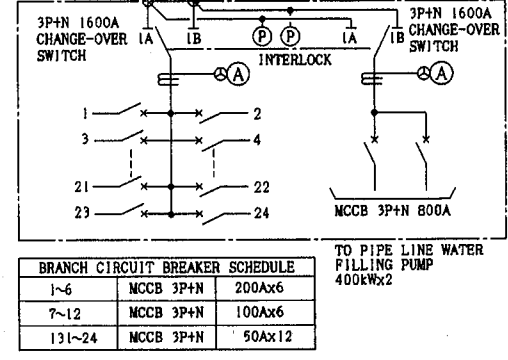
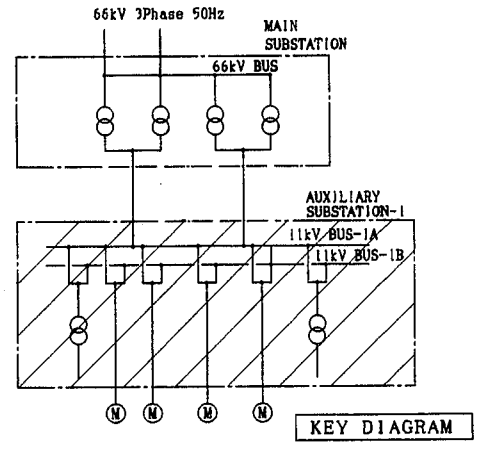
THE ARAB REPUBLIC OF EGYPT
 MINISTRY OF WATER RESOURCES AND IRRIGATION
 NORTH SINAI DEVELOPMENT ORGANIZATION
 THE NORTH SINAI INTEGRATED RURAL
 DEVELOPMENT PROJECT (PHASE III)
 CONVEYANCE CANAL SYSTEM
 BETWEEN THE END OF BIR EL ABD ZONE
 UNTIL THE BEGINNING OF EL SIR AND EL KAWAZER ZONE
 PUMPING STATION
 66kV MAIN SUBSTATION EARTHING PLAN-2 (INDOOR)
 (STAGE-1)

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
 SANYU CONSULTANTS INC. PACIFIC CONSULTANTS INTERNATIONAL

DESIGNED	
TRACED	
CHECKED	
APPROVED	
DRAWING NO.	DS-05



LEGEND	
CODE	DESCRIPTION
VCB	VACUUM CIRCUIT BREAKER (WITHDRAWABLE)
STR	STATION TRANSFORMER
CT	CURRENT TRANSFORMER
PT	VOLTAGE TRANSFORMER
GPT	EARTHING VOLTAGE TRANSFORMER
ZCT	ZERO PHASE CURRENT TRANSFORMER
OC	OVER CURRENT RELAY
OCG	GROUNDING OVER CURRENT RELAY
UV	UNDER VOLTAGE RELAY
OV	OVER VOLTAGE RELAY
DC-UV	DC UNDER VOLTAGE RELAY
V	VOLT METER
A	AMMETER
W	KILO-WATTO METER
F	FREQUENCY METER
Var	REACTIVE POWER METER
FUSE	FUSE
BC	BREAKING CAPACITY
P	VOLTAGE INDICATION LAMP
⊠	TRANSDUCER (TO RENTE CONTROL PANEL)
LVC	LOAD VOLTAGE COMPENSATOR
ABS	RUSH CURRENT ABSORBER
MCCB	MOLDED CASE CIRCUIT BREAKER
○	FOR REMOTE SUPERVISION AND OPERATION
•	FOR REMOTE SUPERVISION (MODE INDICATION)
△	FOR REMOTE SUPERVISION (FAULT INDICATION)
□	INSTALLED IN REMOTE CONTROL RELAY PANEL
⊞	BATTERY (ALKALINE SHIELD)
LBD	LV DISTRIBUTION BOARD
⊞	KILO-WATT HOUR METER



BRANCH CIRCUIT BREAKER SCHEDULE		
1-6	MCCB 3P+N	200Ax6
7-12	MCCB 3P+N	100Ax6
13-24	MCCB 3P+N	50Ax12

THE ARAB REPUBLIC OF EGYPT
 MINISTRY OF WATER RESOURCES AND IRRIGATION
 NORTH SINAI DEVELOPMENT ORGANIZATION

THE NORTH SINAI INTEGRATED RURAL
 DEVELOPMENT PROJECT (PHASE 111)

CONVEYANCE CANAL SYSTEM
 BETWEEN THE END OF BIR EL ABD ZONE
 UNTIL THE BEGINNING OF EL SIR AND EL KAWAREER ZONE
 PUMPING STATION

AUXILIARY SUBSTATION-1 SINGLE LINE DIAGRAM
 (STAGE-1)

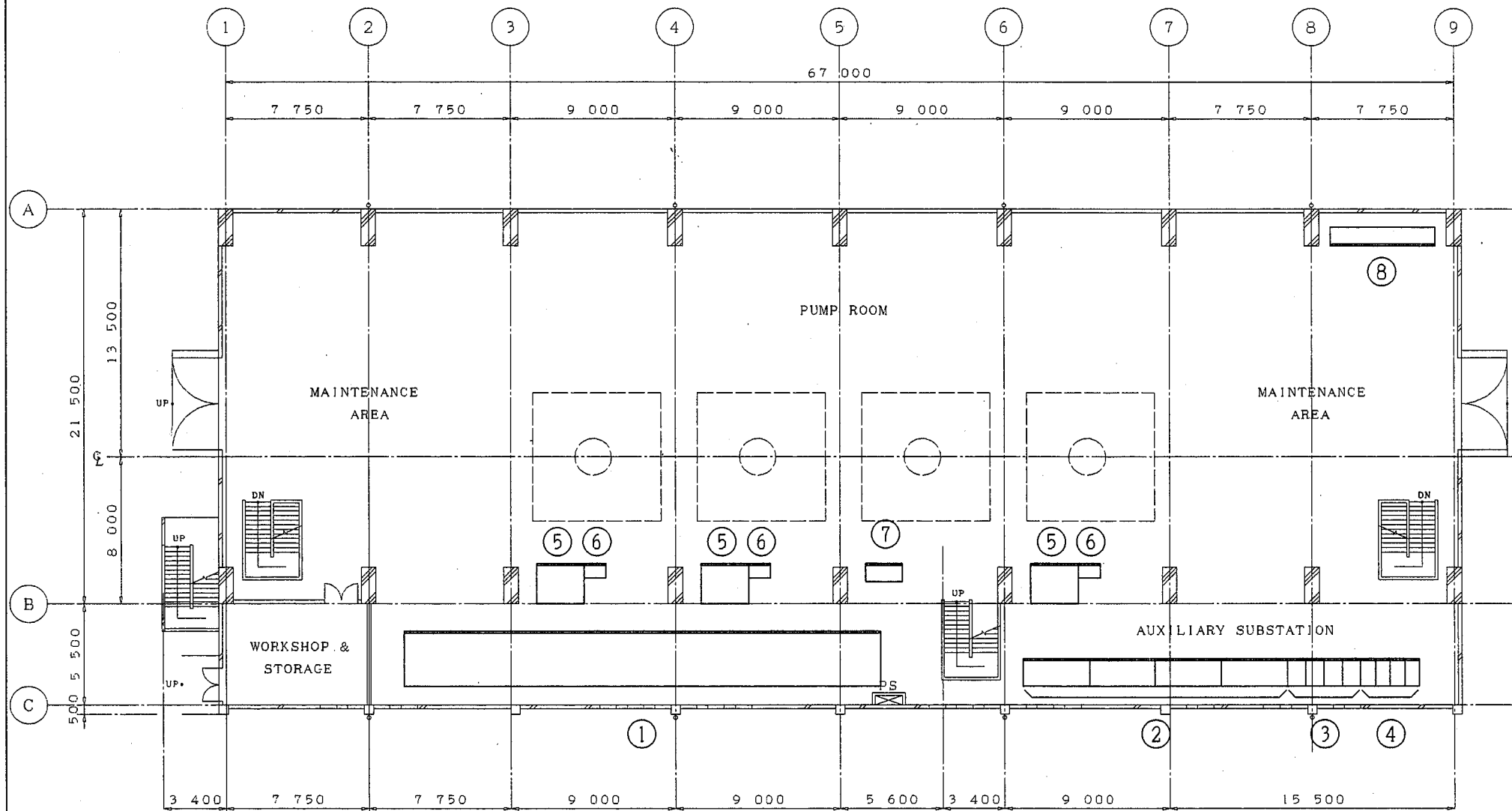
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
 SANYU CONSULTANTS INC, PACIFIC CONSULTANTS INTERNATIONAL

DESIGNED
 TRACED
 CHECKED
 APPROVED

DRAWING NO. DS-06

EQUIPMENT SCHEDULE

No.	EQUIPMENT	DIMENSION WidthxDepthxHeight
①	Auxiliary Substation-1	26,000x3000x3,000
②	Main Motor Starter Panel	3,600x1,200x2,350
③	Exit Transformer Panel	1,000x1,200x2,350
④	Exit Panel	800x800x2,350
⑤	Starter Transformer Panel	2,600x2,500x3,000
⑥	Auxiliary Motors for Main Motor Control Panel	1,200x600x2,350
⑦	Main Motor Control Panel	1,600x830x2,350
⑧	380/220V Load Center Panel	5,700x1,200x2,350

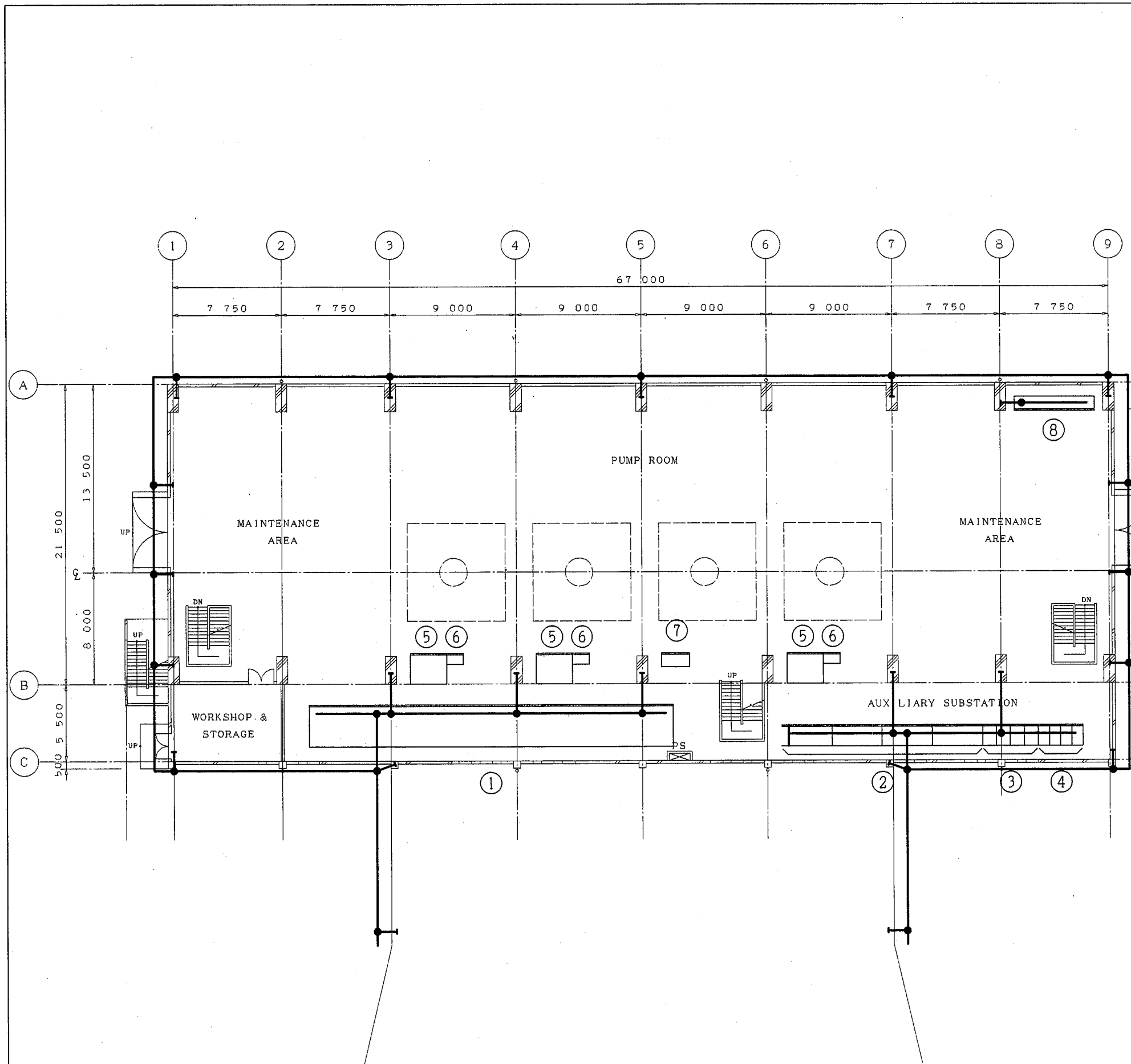


GROUND FLOOR PLAN (EL +13.70)
S=1/300

LEGEND:

- /// REINFORCED CONCRETE
- /// BRICK

THE ARAB REPUBLIC OF EGYPT MINISTRY OF WATER RESOURCES AND IRRIGATION NORTH SINAI DEVELOPMENT ORGANIZATION	
THE NORTH SINAI INTEGRATED RURAL DEVELOPMENT PROJECT (PHASE III)	
CONVEYANCE CANAL SYSTEM BETWEEN THE END OF BIR EL ABD ZONE UNTIL THE BEGINNING OF EL SIR AND EL KAWAREER ZONE PUMPING STATION	
AUX. SUBSTATION, SWITCHGEAR & PANEL LAYOUT PLAN (STAGE-1)	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) SANYU CONSULTANTS INC. PACIFIC CONSULTANTS INTERNATIONAL	
DESIGNED	
TRACED	
CHECKED	
APPROVED	
DRAWING NO.	DS-08



EQUIPMENT SCHEDULE

No.	EQUIPMENT	DIMENSION WidthxDepthxHeight
①	Auxiliary Substation-1	26,000x3000x3,000
②	Main Motor Starter Panel	3,600x1,200x2,350
③	Exit Transformer Panel	1,000x1,200x2,350
④	Exit Panel	800x800x2,350
⑤	Starter Transformer Panel	2,600x2,500x3,000
⑥	Auxiliary Motors for Main Motor Control Panel	1,200x600x2,350
⑦	Main Motor Control Panel	1,600x830x2,350
⑧	380/220V Load Center Panel	5,700x1,200x2,350

LEGEND

SYMBOL	DESCRIPTION	SPECIFICATION
—	EARTH LINK CONDUCTOR	STRANDED COPPER CABLE 120mm ²
⊥	CONNECTION TO STRUCTURE	STRANDED COPPER CABLE 120mm ² BY EXOTHEERMIC WELDING
⊙	GROUNDING ROD	STRANDED COPPER STEEL ROD 14mm dia. x3m long.
▨	REINFORCED CONCRETE	
▧	BRICK	

THE ARAB REPUBLIC OF EGYPT
 MINISTRY OF WATER RESOURCES AND IRRIGATION
 NORTH SINAI DEVELOPMENT ORGANIZATION

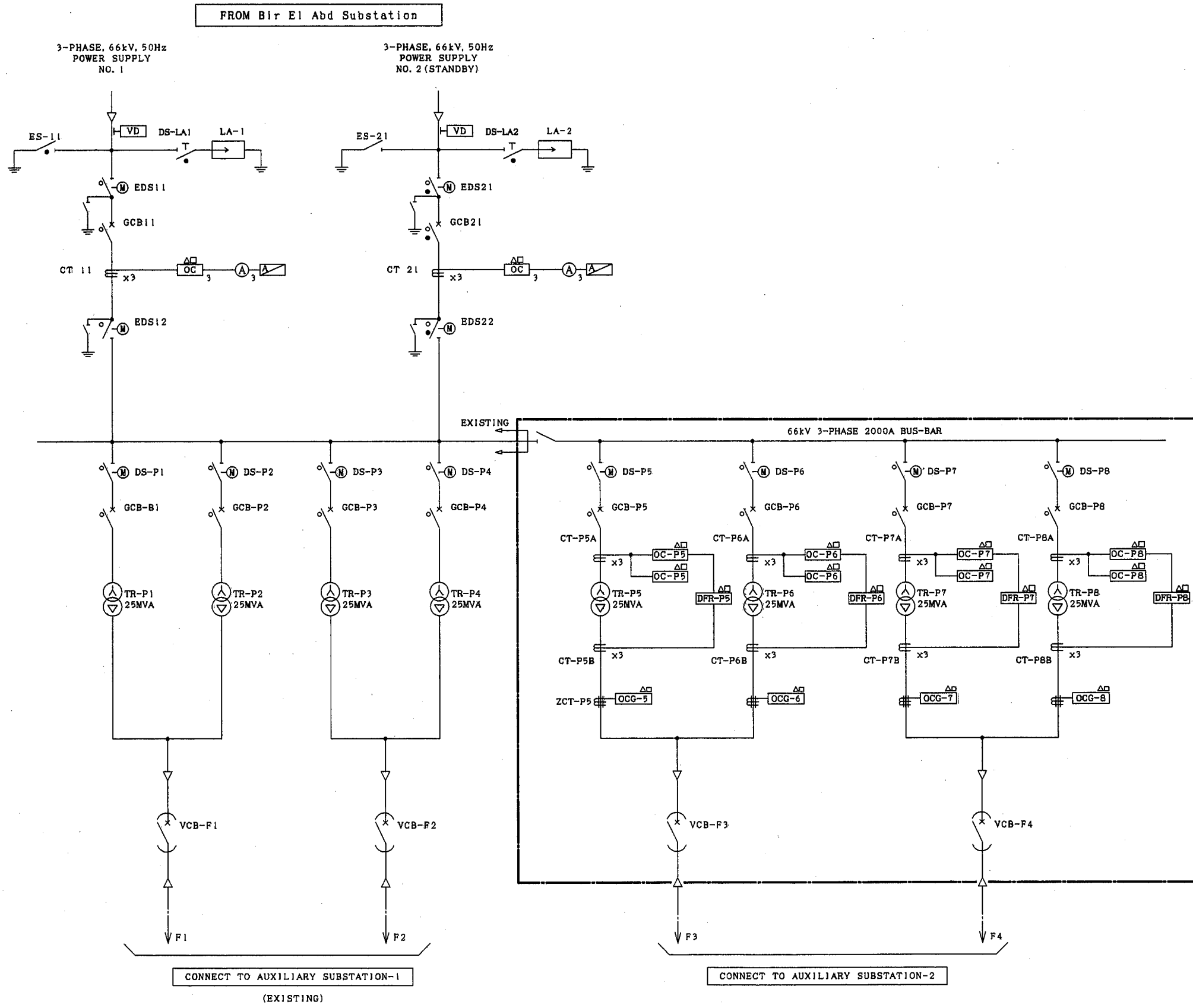
THE NORTH SINAI INTEGRATED RURAL
 DEVELOPMENT PROJECT (PHASE III)

CONVEYANCE CANAL SYSTEM
 BETWEEN THE END OF BIR EL ABD ZONE
 UNTIL THE BEGINNING OF EL SIR AND EL KAWAREER ZONE
 PUMPING STATION

AUXILIARY SUBSTATION-1 EARTH LINK PLAN
 (STAGE-1)

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
 SANYU CONSULTANTS INC. PACIFIC CONSULTANTS INTERNATIONAL

DESIGNED	
TRACED	
CHECKED	
APPROVED	
DRAWING NO.	DS-09



LEGEND	
CODE	DESCRIPTION
VD	VOLTAGE DETECTOR
DS	DISCONNECTING SWITCH (ISOLATOR)
ES	EARTHING SWITCH
EDS	DISCONNECTING SWITCH WITH EARTH SWITCH
LA	LIGHTNING ARRESTER
GCB	GAS INSULATED CIRCUIT BREAKER
VCB	VACUUM CIRCUIT BREAKER
MCCB	600V MOLDED CASE CIRCUIT BREAKER
STR	STATION TRANSFORMER
TR	DISTRIBUTION TRANSFORMER
CT	TYPE CURRENT TRANSFORMER
PT	VOLTAGE TRANSFORMER
ZCT	ZERO PHASE CURRENT TRANSFORMER
OC	OVER CURRENT RELAY
OCG	GROUNDING OVER CURRENT RELAY
DFR	DIFFERENTIAL RELAY
UV	UNDER VOLTAGE RELAY
OV	OVER VOLTAGE RELAY
DC-UV	DC UNDER VOLTAGE RELAY
V	VOLT METER
A	AMMETER
BC	BREAKING CAPACITY
STC	SHORT TIME CAPACITY
▭	TRANSDUCER (TO REMOTE CONTROL PANEL)
○	FOR REMOTE SUPERVISION AND OPERATION
●	FOR REMOTE SUPERVISION (MODE INDICATION)
△	FOR REMOTE SUPERVISION (FAULT INDICATION)
□	INSTALLED IN REMOTE CONTROL RELAY PANEL

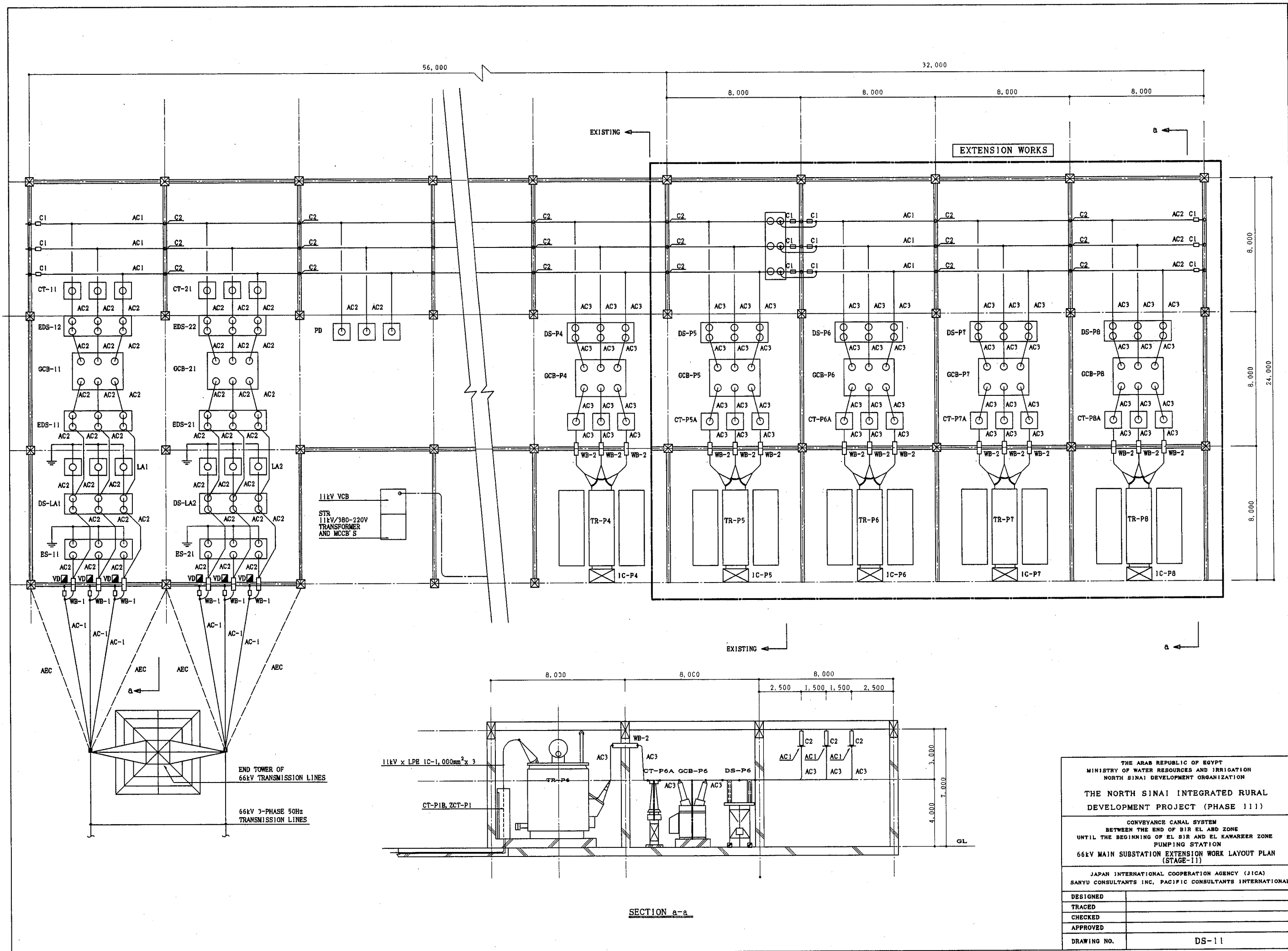
THE ARAB REPUBLIC OF EGYPT
 MINISTRY OF WATER RESOURCES AND IRRIGATION
 NORTH SINAI DEVELOPMENT ORGANIZATION

**THE NORTH SINAI INTEGRATED RURAL
 DEVELOPMENT PROJECT (PHASE III)**

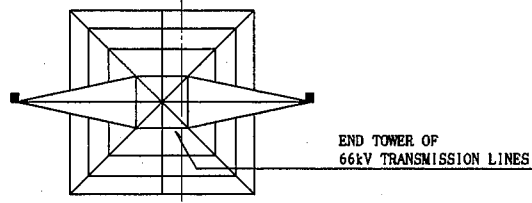
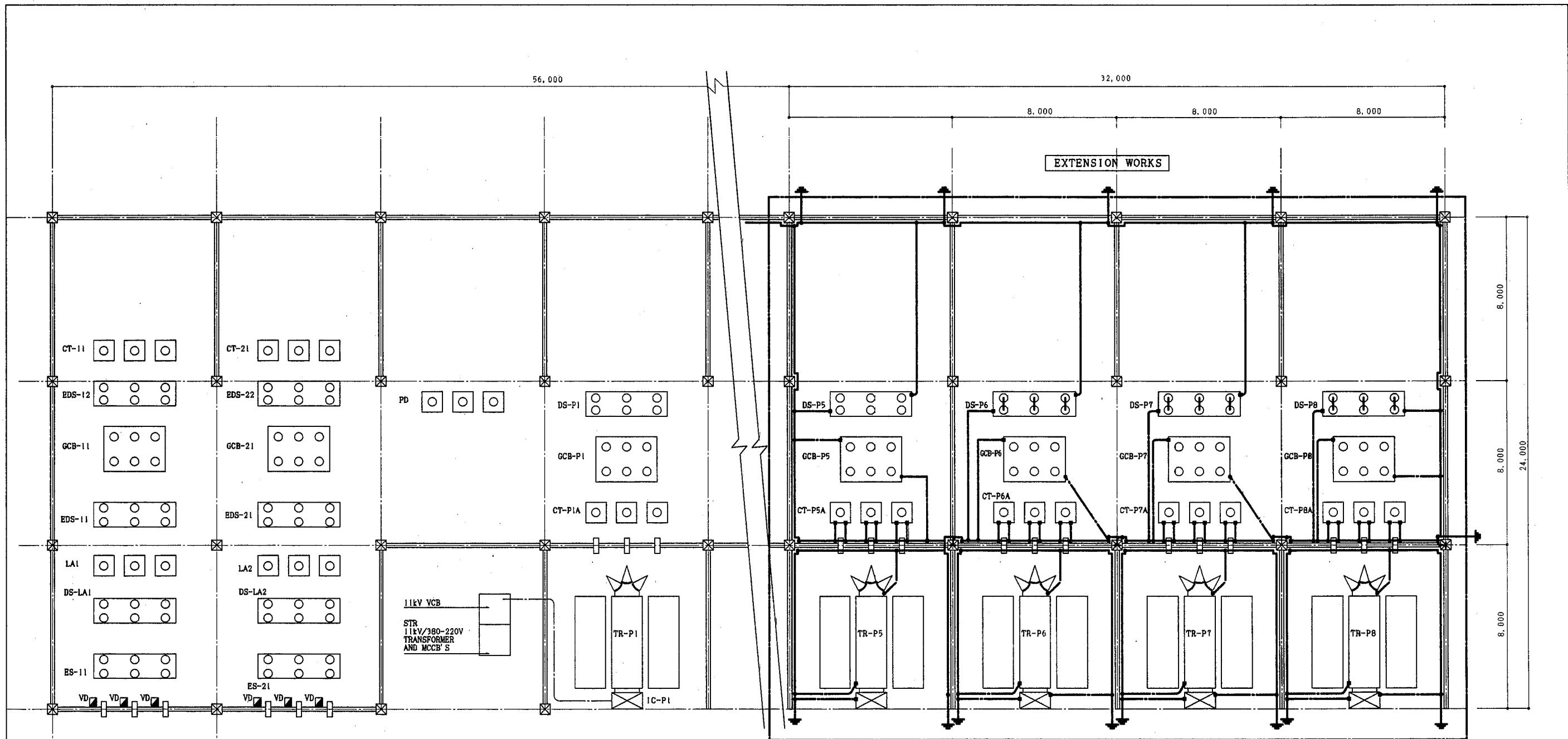
CONVEYANCE CANAL SYSTEM
 BETWEEN THE END OF BIR EL ABD ZONE
 UNTIL THE BEGINNING OF EL SIR AND EL KAWAREER ZONE
 PUMPING STATION
 66kV MAIN SUBSTATION EXTENSION WORKS
 SINGLE LINE DIAGRAM (STAGE-II)

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
 SANYU CONSULTANTS INC, PACIFIC CONSULTANTS INTERNATIONAL

DESIGNED	
TRACED	
CHECKED	
APPROVED	
DRAWING NO.	DS-10



THE ARAB REPUBLIC OF EGYPT MINISTRY OF WATER RESOURCES AND IRRIGATION NORTH SINAI DEVELOPMENT ORGANIZATION	
THE NORTH SINAI INTEGRATED RURAL DEVELOPMENT PROJECT (PHASE 111)	
CONVEYANCE CANAL SYSTEM BETWEEN THE END OF BIR EL ABD ZONE UNTIL THE BEGINNING OF EL BIR AND EL KAWAZER ZONE PUMPING STATION 66kV MAIN SUBSTATION EXTENSION WORK LAYOUT PLAN (STAGE-11)	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) SANYU CONSULTANTS INC, PACIFIC CONSULTANTS INTERNATIONAL	
DESIGNED	
TRACED	
CHECKED	
APPROVED	
DRAWING NO.	DS-11



SYMBOL	DESCRIPTION	SPECIFICATION
—	INDOOR GROUNDING CONDUCTOR	BARE STRANDED COPPER CABLE 120mm ² EXPOSED INSTALLATION
—	EQUIPMENT GROUNDING CONDUCTOR	BARE STRANDED COPPER CABLE 120mm ² IN 30mm PVC CONDUIT
—	SYSTEM GROUNDING CONDUCTOR	BARE STRANDED COPPER CABLE 120mm ² INSTALLED IN FLOOR SLAB
⊥	CONNECTION TO EXTERNAL GROUNDING GRID	BY EXOTHERMIC WELDING
⊥	CONNECTION TO INTERNAL GROUNDING CONDUCTOR	BY EXOTHERMIC WELDING
⊥	CONNECTION TO EQUIPMENT GROUNDING TERMINAL	BY BOLTS
⊥	CONNECTION TO REINFORCE IRON BAR OF FLOOR SLAB	BY EXOTHERMIC WELDING
⊥	CONNECTION TO BUILDING TRUCTURE	BY EXOTHERMIC WELDING

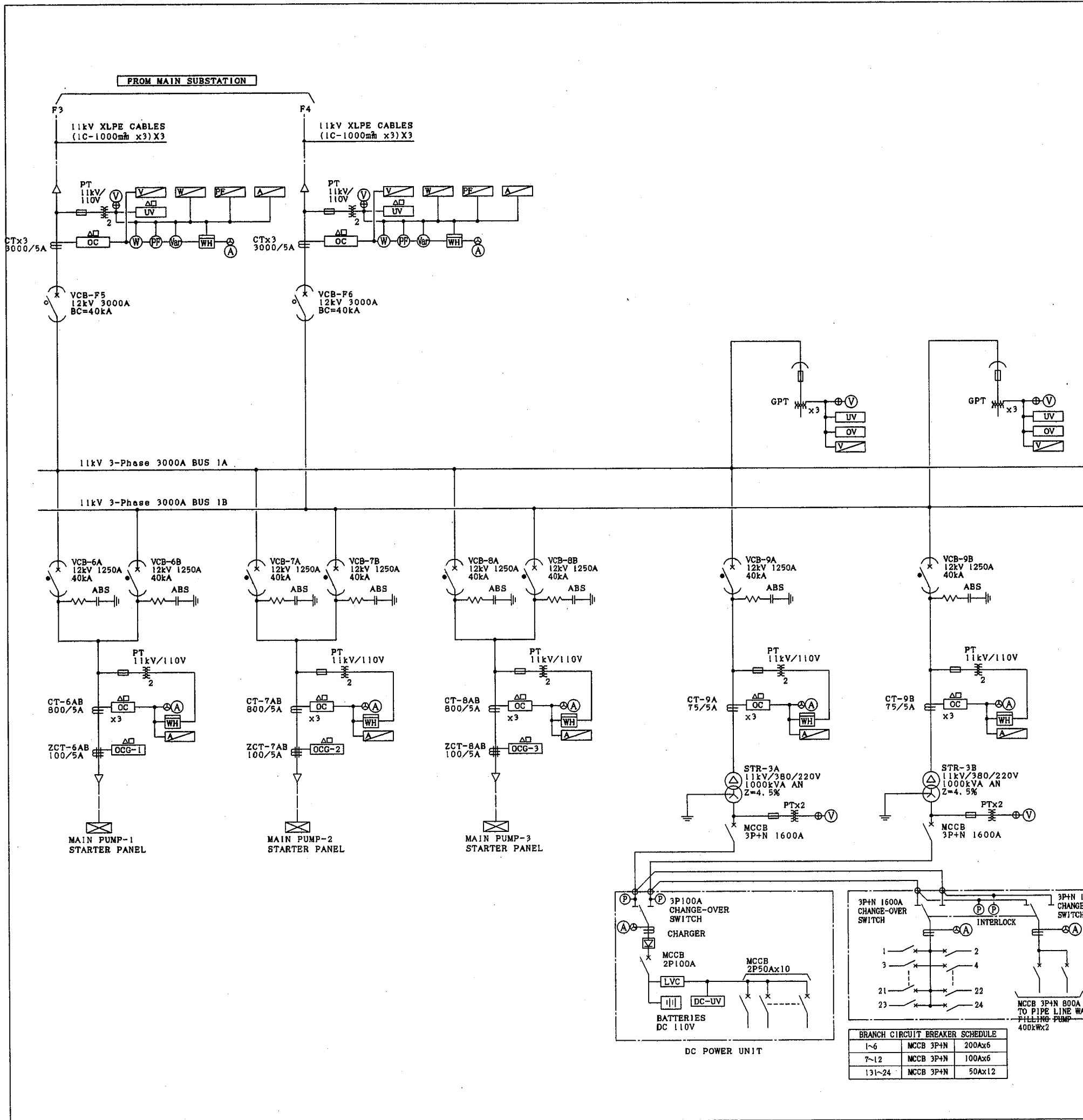
THE ARAB REPUBLIC OF EGYPT
MINISTRY OF WATER RESOURCES AND IRRIGATION
NORTH SINAI DEVELOPMENT ORGANIZATION

THE NORTH SINAI INTEGRATED RURAL
DEVELOPMENT PROJECT (PHASE III)

CONVEYANCE CANAL SYSTEM
BETWEEN THE END OF SIR EL ABD ZONE
UNTIL THE BEGINNING OF EL SIR AND EL KAWARER ZONE
PUMPING STATION
66kV MAIN SUBSTATION EXTENSION WORKS
PROTECTION EARTHING PLAN (INDOOR) (STAGE-11)

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
SARYU CONSULTANTS INC. PACIFIC CONSULTANTS INTERNATIONAL

DESIGNED	
TRACED	
CHECKED	
APPROVED	
DRAWING NO.	DS-12



LEGEND	
CODE	DESCRIPTION
VCB	VACUUM CIRCUIT BREAKER(WITHDRAWABLE)
STR	STATION TRANSFORMER
CT	CURRENT TRANSFORMER
PT	VOLTAGE TRANSFORMER
GPT	EARTHING VOLTAGE TRANSFORMER
ZCT	ZERO PHASE CURRENT TRANSFORMER
OC	OVER CURRENT RELAY
OCG	GROUNDING OVER CURRENT RELAY
UV	UNDER VOLTAGE RELAY
OV	OVER VOLTAGE RELAY
DC-UV	DC UNDER VOLTAGE RELAY
V	VOLT METER
A	AMMETER
W	KILO-WATTO METER
F	FREQUENCY METER
Var	REACTIVE POWER METER
—	FUSE
BC	BREAKING CAPACITY
P	VOLTAGE INDICATION LAMP
□	TRANSDUCER(TO RENTE CONTROL PANEL)
LVC	LOAD VOLTAGE COMPENSATOR
ABS	RUSH CURRENT ABSORBER
MCCB	MOLDED CASE CIRCUIT BREAKER
o	FOR REMOTE SUPERVISION AND OPERATION
•	FOR REMOTE SUPERVISION(MODE INDICATION)
△	FOR REMOTE SUPERVISION(FAULT INDICATION)
□	INSTALLED IN REMOTE CONTROL RELAY PANEL
B	BATTERY(ALKALINE SHIELD)
LBD	LV DISTRIBUTION BOARD
WH	KILO-WATT HOUR METER

THE ARAB REPUBLIC OF EGYPT
 MINISTRY OF WATER RESOURCES AND IRRIGATION
 NORTH SINAI DEVELOPMENT ORGANIZATION

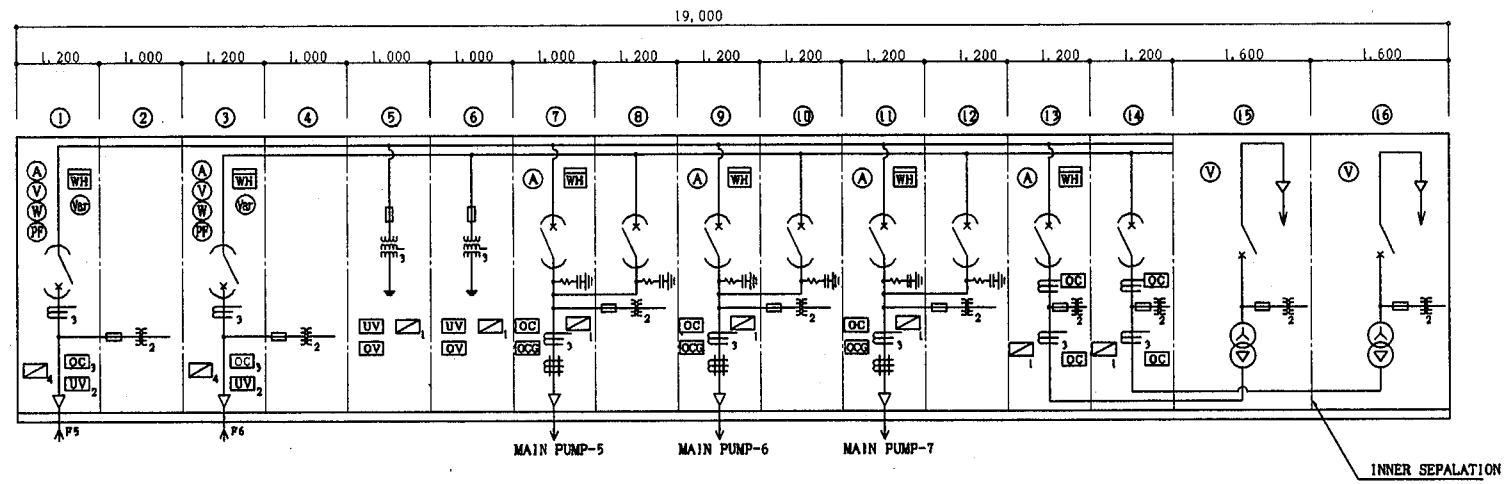
THE NORTH SINAI INTEGRATED RURAL DEVELOPMENT PROJECT (PHASE 111)

CONVEYANCE CANAL SYSTEM
 BETWEEN THE END OF B1R EL ABD ZONE
 UNTIL THE BEGINNING OF EL B1R AND EL KAWAREER ZONE
 PUMPING STATION

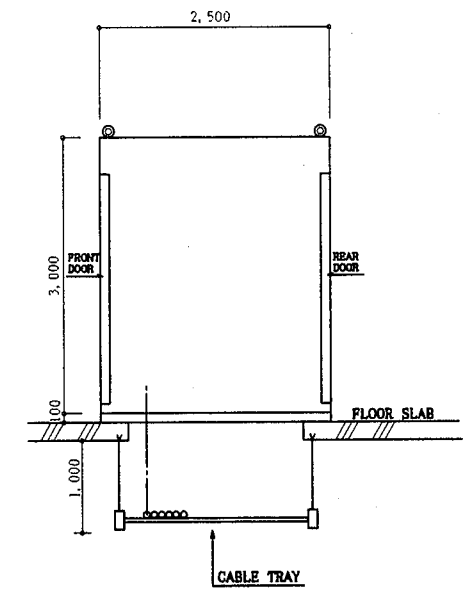
AUXILIARY SUBSTATION-2 SINGLE LINE DIAGRAM (STAGE-11)

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
 SANYU CONSULTANTS INC, PACIFIC CONSULTANTS INTERNATIONAL

DESIGNED	
TRACED	
CHECKED	
APPROVED	
DRAWING NO.	DS-13



FRONT VIEW



SIDE VIEW

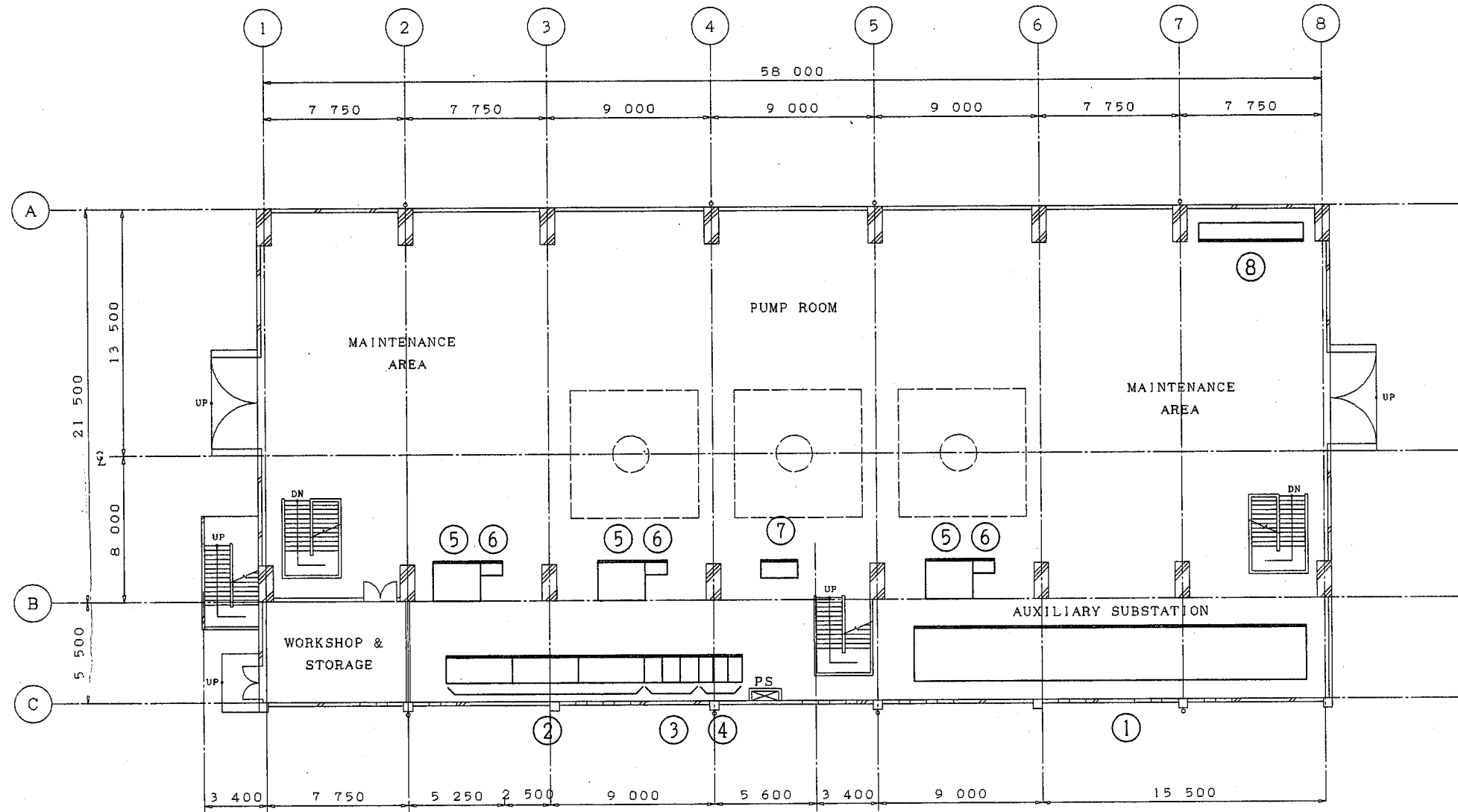
PANEL SCHEDULE	
NO.	NAME OF PANEL
①	POWER RECEIVING PANEL F5
②	PT PANEL F5
③	POWER RECEIVING PANEL F6
④	PT PANEL F6
⑤	GPT PANEL 1A
⑥	GPT PANEL 1B
⑦	PUMP MOTOR FEEDER PANEL 5A
⑧	PUMP MOTOR FEEDER PANEL 5B
⑨	PUMP MOTOR FEEDER PANEL 6A
⑩	PUMP MOTOR FEEDER PANEL 6B
⑪	PUMP MOTOR FEEDER PANEL 7A
⑫	PUMP MOTOR FEEDER PANEL 7B
⑬	STATION TRANSFORMER FEEDER PANEL A
⑭	STATION TRANSFORMER FEEDER PANEL B
⑮	STATION TRANSFORMER PANEL A
⑯	STATION TRANSFORMER PANEL B

LEGEND	
SYMBOL	DESCRIPTION
Ⓐ	AMMETER
Ⓥ	VOLTMETER
Ⓐ	DC AMMETER
Ⓥ	DC VOLTMETER
Ⓜ	KILO-WATT METER
Ⓜ	REACTIVE POWER METER
Ⓜ	POWER FACTOR METER
Ⓜ	KILO-WATT HOUR METER
Ⓜ	TRANSDUCER
Ⓜ	OVER CURRENT RELAY
Ⓜ	UNDER VOLTAGE RELAY
Ⓜ	OVER VOLTAGE RELAY
Ⓜ	GROUNDING OVER CURRENT RELAY
Ⓜ	GROUNDING OVER VOLTAGE RELAY
Ⓜ	MOLDED CASE CIRCUIT BREAKER
Ⓜ	VACUUM CIRCUIT BREAKER
Ⓜ	RUSH CURRENT ABSORBER
Ⓜ	CURRENT TRANSFORMER
Ⓜ	ZERO PHASE CURRENT TRANSFORMER
Ⓜ	VOLTAGE TRANSFORMER
Ⓜ	EARTHING VOLTAGE TRANSFORMER
Ⓜ	FUSE
Ⓜ	MOLD TYPE DRY TRANSFORMER

THE ARAB REPUBLIC OF EGYPT MINISTRY OF WATER RESOURCES AND IRRIGATION NORTH SINAI DEVELOPMENT ORGANIZATION THE NORTH SINAI INTEGRATED RURAL DEVELOPMENT PROJECT (PHASE III) CONVEYANCE CANAL SYSTEM BETWEEN THE END OF SIR EL ABD ZONE UNTIL THE BEGINNING OF EL SIR AND EL KAWAHEER ZONE PUMPING STATION PANEL COMPOSITION OF AUXILIARY SUBSTATION-2 (STAGE-11)	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) SANYU CONSULTANTS INC, PACIFIC CONSULTANTS INTERNATIONAL	
DESIGNED	
TRACED	
CHECKED	
APPROVED	
DRAWING NO.	DS-14

EQUIPMENT SCHEDULE

No.	EQUIPMENT	DIMENSION WidthxDepthxHeight
①	Auxiliary Substation-1	22,000x3000x3,000
②	Main Motor Starter Panel	3,600x1,200x2,350
③	Exiter Transformer Panel	1,000x1,200x2,350
④	Exiter Panel	800x800x2,350
⑤	Starter Transformer Panel	2,600x2,500x3,000
⑥	Auxiliary Motors for Main Motor Control Panel	1,200x600x2,350
⑦	Main Motor Control Panel	1,600x830x2,350
⑧	380/220V Load Center Panel	5,700x1,200x2,350



LEGEND:
 // REINFORCED CONCRETE
 // BRICK

GROUND FLOOR PLAN (EL +13.70)
 S=1/300

THE ARAB REPUBLIC OF EGYPT
 MINISTRY OF WATER RESOURCES AND IRRIGATION
 NORTH SINAI DEVELOPMENT ORGANIZATION

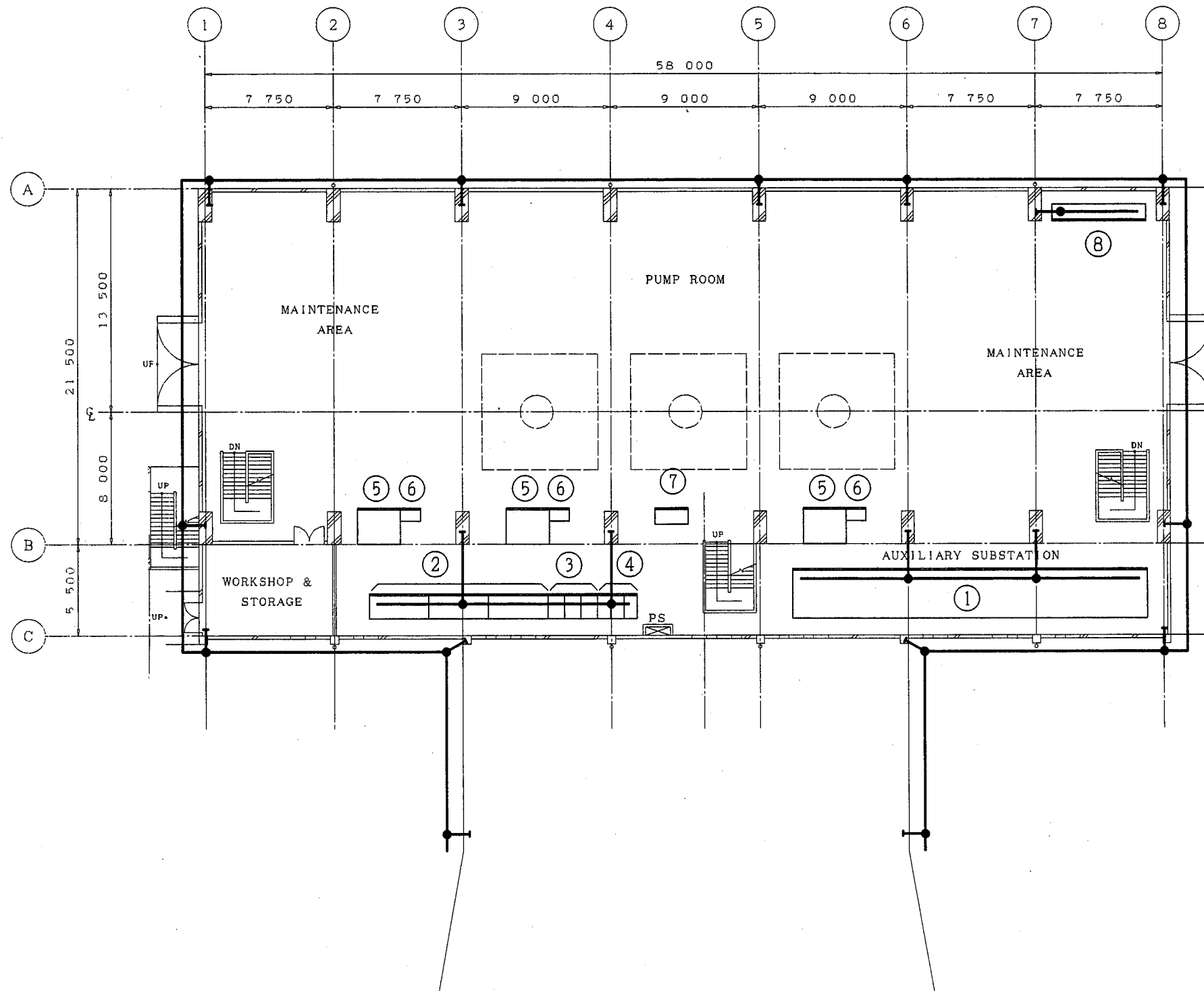
THE NORTH SINAI INTEGRATED RURAL
 DEVELOPMENT PROJECT (PHASE III)

CONVEYANCE CANAL SYSTEM
 BETWEEN THE END OF SIR EL ABD ZONE
 UNTIL THE BEGINNING OF EL SIR AND EL KAWARBER ZONE
 PUMPING STATION

AUX. SUBSTATION, SWITCHGEAR & PANEL
 LAYOUT PLAN (STAGE-11)

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
 SANYU CONSULTANTS INC. PACIFIC CONSULTANTS INTERNATIONAL

DESIGNED	
TRACED	
CHECKED	
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DRAWING NO.	DS-15



EQUIPMENT SCHEDULE

No.	EQUIPMENT	DIMENSION WidthxDepthxHeight
①	Auxiliary Substation-1	22,000x3000x3,000
②	Main Motor Starter Panel	3,600x1,200x2,350
③	Exit Transformer Panel	1,000x1,200x2,350
④	Exit Panel	800x800x2,350
⑤	Starter Transformer Panel	2,600x2,500x3,000
⑥	Auxiliary Motors for Main Motor Control Panel	1,200x600x2,350
⑦	Main Motor Control Panel	1,600x830x2,350
⑧	380/220V Load Center Panel	5,700x1,200x2,350

LEGEND

SYMBOL	DESCRIPTION	SPECIFICATION
—	EARTH LINK CONDUCTOR	STRANDED COPPER CABLE 120mm ²
⊥	CONNECTION TO STRUCTURE	STRANDED COPPER CABLE 120mm ² BY EXOTHEERMIC WELDING
⊙	GROUNDING ROD	STRANDED COPPER STEEL ROD 14mm dia. x 3m long.
▨	REINFORCED	
▨	BRICK	

THE ARAB REPUBLIC OF EGYPT
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THE NORTH SINAI INTEGRATED RURAL
 DEVELOPMENT PROJECT (PHASE III)

CONVEYANCE CANAL SYSTEM
 BETWEEN THE END OF BIR EL ABD ZONE
 UNTIL THE BEGINNING OF EL BIR AND EL KAWARBER ZONE
 PUMPING STATION

AUXILIARY SUBSTATION-2 EARTH LINK PLAN
 (STAGE-11)

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
 SANYU CONSULTANTS INC. PACIFIC CONSULTANTS INTERNATIONAL

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APPROVED	
DRAWING NO.	DS-16

EXTERNAL FINISH

ROOF	BITUMINOUS WATERPROOFING MEMBRANE W/INSULATION 100mm THK, MORTAR 60mm THK, AND GLAZED CERAMIC TILES	ROOF DRAIN	CAST IRON #150
WALL	CEMENT PLASTER W/ PAINT AND BRICK	DOWN SPOUT	PVC PIPE #150
WINDOW	ALUMINIUM GLAZED		
DOOR	STEEL W/ PAINT FINISH		
BASEBOARD	CEMENT PLASTER W/ PAINT ON CONCRETE		

INTERNAL FINISH

ROOM NAME	FINISH	FLOOR		BASE	WALL		CEILING		REMARKS	
		STEEL TROWELLED W/HARDNER FINISH	TERRAZZO TILE	CERAMIC TILE	CEMENT PLASTER W/ PAINT	TERRAZZO TILE	CEMENT PLASTER W/PAINT	CERAMIC TILE (H=FL+2000)		EXPOSED RC STRUCTURE W/PAINT ON PLASTER
MAIN SUBSTATION BUILDING	66kv SWITCHGEAR ROOM			○					EX	—
	STATION TRANSFORMER ROOM	○		○					EX	—
	TRANSFORMER BOOTHS	○		○					EX	—
ADMINISTRATION BUILDING	CONTROL ROOM			○	○	○	○	○	EX	A/C
	RELAY ROOM			○	○	○	○	○	EX	—
	DC POWER UNIT			○	○	○	○	○	EX	—
	WORKSHOP	○		○	○	○	○	○	EX	—
	OFFICE		○		○	○	○	○	EX	—
	ENTRANCE		○		○	○	○	○	EX	—
	STORAGE	○		○	○	○	○	○	EX	—
	PANTRY			○			○	○	EX	V/T
	TOILET (M)			○			○	○	EX	V/T
	TOILET (F)			○			○	○	EX	V/T
CORRIDOR		○		○	○	○	○	EX	—	

FLOOR AREA (SUMMARY)

	AREA (sq.m)
MAIN SUBSTATION BUILDING	1,344.0
ADMINISTRATION BUILDING	576.0
TOTAL	1,920.0

FLOOR AREA (BREAKDOWN)

MAIN SUBSTATION BUILDING	SIZE	AREA (sq.m)
66kv SWITCHGEAR ROOM	56 x 16 + 8 x 16	1,024
STATION TRANSFORMER ROOM	8 x 8	64
TRANSFORMER BOOTHS (4)	8 x 32	256
(SUBTOTAL)		1,344

FLOOR AREA (BREAKDOWN)

ADMINISTRATION BUILDING	SIZE	AREA (sq.m)
CONTROL ROOM	10 x 10	100
RELAY ROOM	10 x 4	40
DC POWER UNIT	10 x 4	40
WORKSHOP	12 x 15	180
OFFICE	12 x 6.0	72
ENTRANCE	3.0 x 12	36
STORAGE	3.0 x 2.0	6
PANTRY	3.0 x 2.0	6
TOILET (M)	3.5 x 6.0	21
TOILET (F)	3.5 x 4.0	14
CORRIDOR	2 x 24 + 6.5 x 2	61
(SUBTOTAL)		576

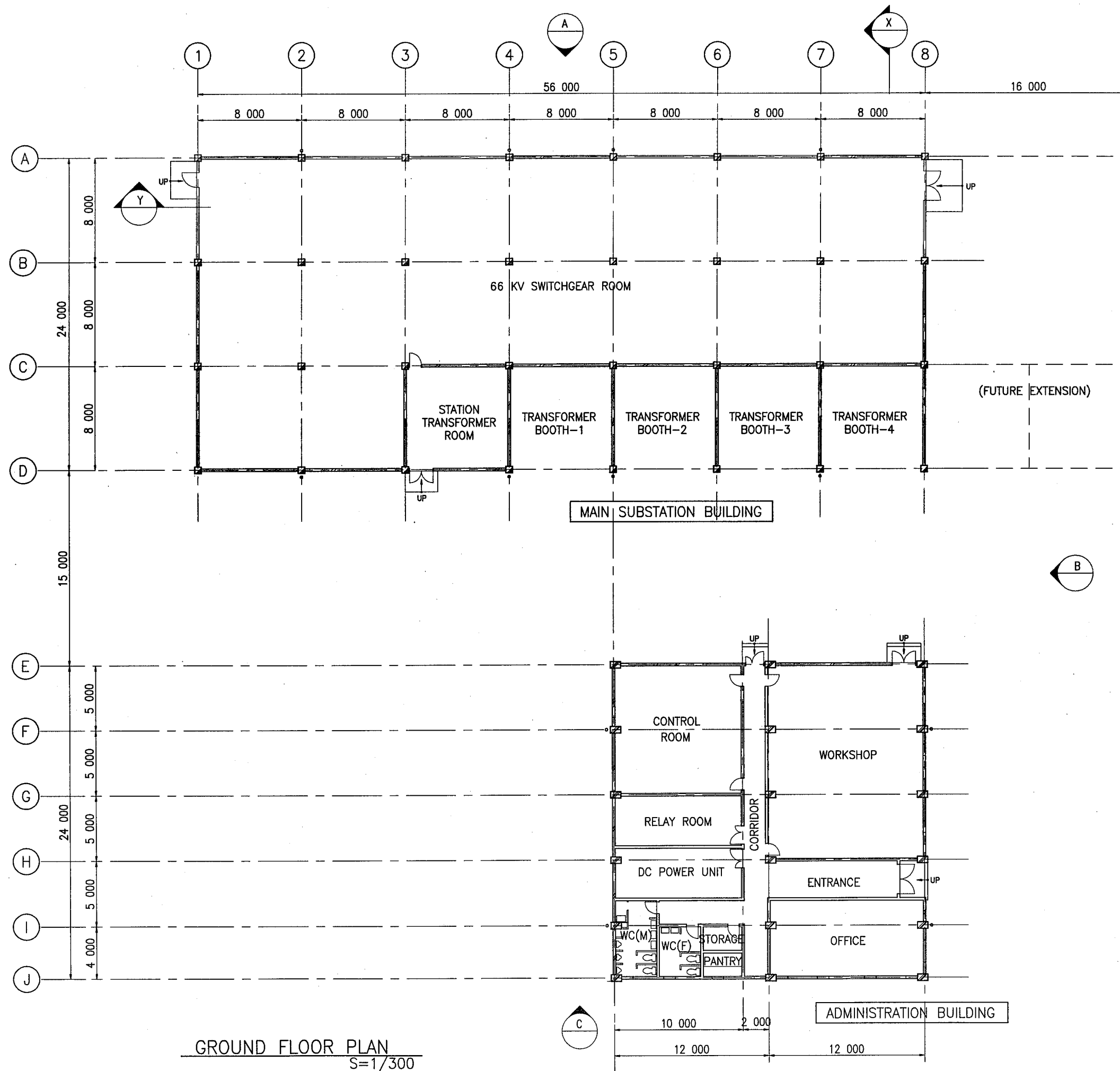
THE ARAB REPUBLIC OF EGYPT
MINISTRY OF WATER RESOURCES AND IRRIGATION
NORTH SINAI DEVELOPMENT ORGANIZATION
**THE NORTH SINAI INTEGRATED RURAL
DEVELOPMENT PROJECT (PHASE III)**

CONVEYANCE CANAL SYSTEM
BETWEEN THE END OF BIR EL ABB ZONE
UNTIL THE BEGINNING OF EL SIR AND EL KAMAREER ZONE

**POWER SUPPLY
MAIN SUBSTATION BUILDING & ADMINISTRATION BUILDING
FINISHING SCHEDULE (STAGE I)**

JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
SANYU CONSULTANTS INC, PACIFIC CONSULTANTS INTERNATIONAL

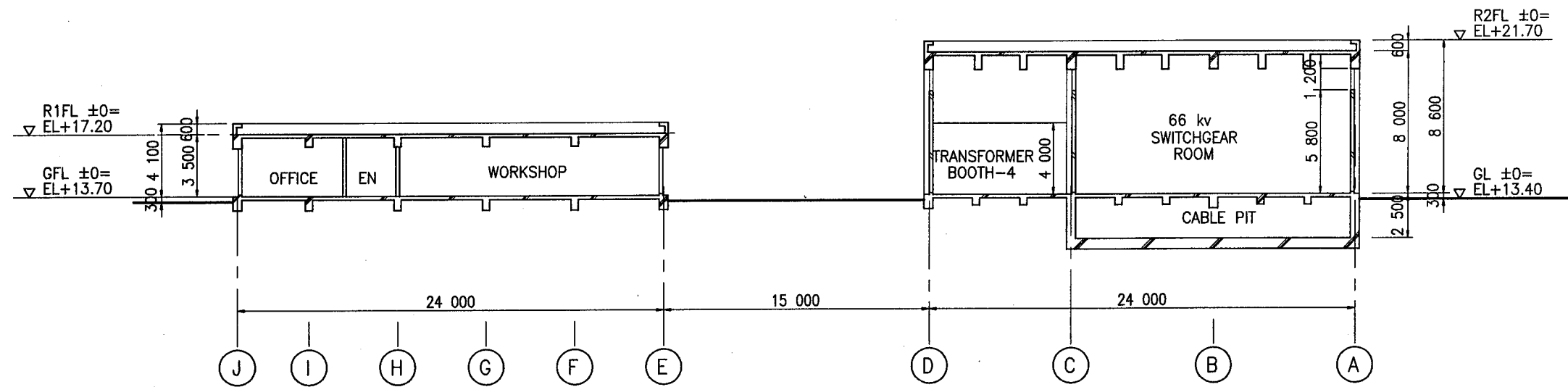
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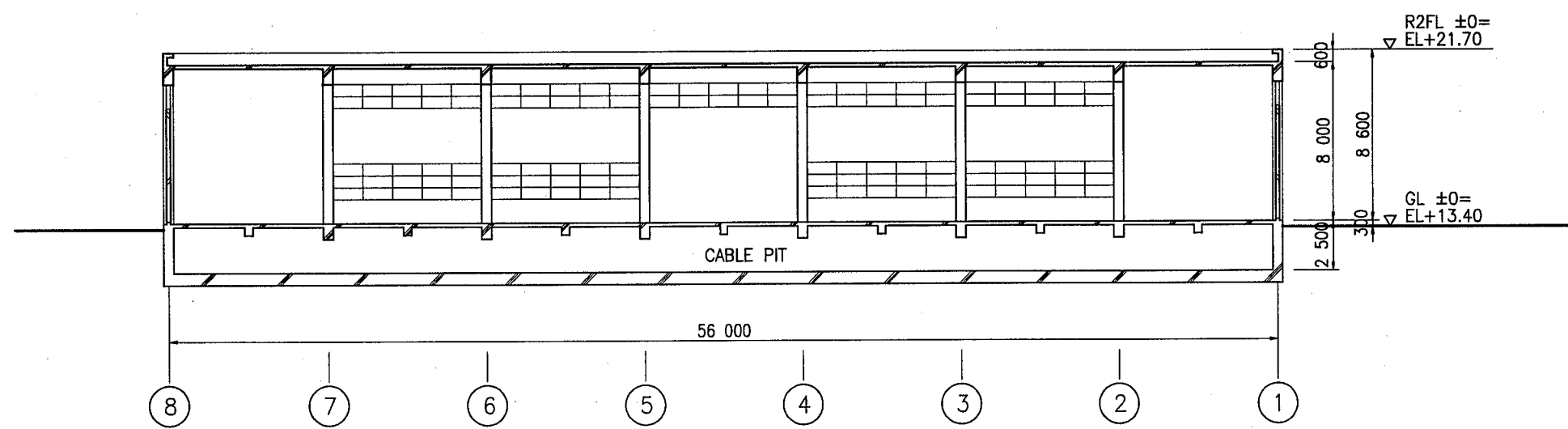
GROUND FLOOR PLAN
S=1/300

LEGEND:
 // REINFORCED CONCRETE
 // BRICK

THE ARAB REPUBLIC OF EGYPT MINISTRY OF WATER RESOURCES AND IRRIGATION NORTH SINAI DEVELOPMENT ORGANIZATION THE NORTH SINAI INTEGRATED RURAL DEVELOPMENT PROJECT (PHASE III)	
CONVEYANCE CANAL SYSTEM BETWEEN THE END OF BIR EL ABD ZONE UNTIL THE BEGINNING OF EL SIR AND EL KANAREER ZONE POWER SUPPLY MAIN SUBSTATION BUILDING & ADMINISTRATION BUILDING GROUND FLOOR PLAN (STAGE I)	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) SANYU CONSULTANTS INC, PACIFIC CONSULTANTS INTERNATIONAL	
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TRACED	
CHECKED	
APPROVED	
DRAWING NO.	DB-02



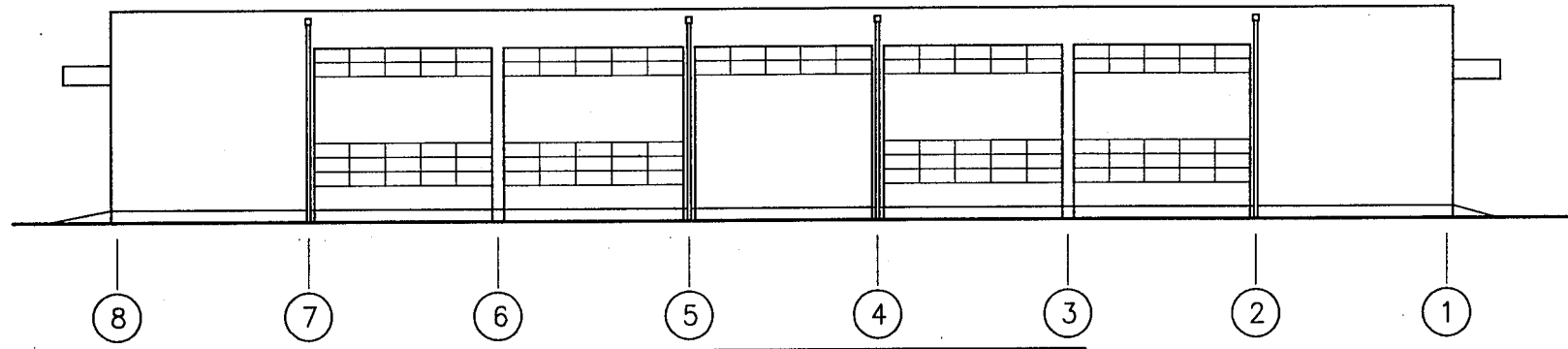
(X) SECTION
S=1/300



(Y) SECTION
S=1/300

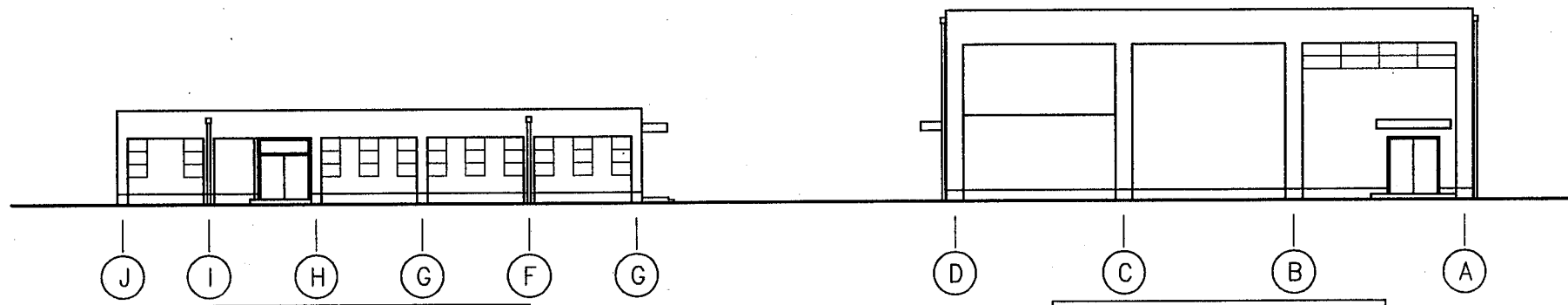
LEGEND:
 // REINFORCED CONCRETE
 // BRICK

THE ARAB REPUBLIC OF EGYPT MINISTRY OF WATER RESOURCES AND IRRIGATION NORTH SINAI DEVELOPMENT ORGANIZATION THE NORTH SINAI INTEGRATED RURAL DEVELOPMENT PROJECT (PHASE III)	
CONVEYANCE CANAL SYSTEM BETWEEN THE END OF BIR EL ABD ZONE UNTIL THE BEGINNING OF EL SIR AND EL KAMAREER ZONE POWER SUPPLY MAIN SUBSTATION BUILDING & ADMINISTRATION BUILDING SECTIONS (STAGE I)	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) SANYU CONSULTANTS INC, PACIFIC CONSULTANTS INTERNATIONAL	
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DRAWING NO.	DB-03



MAIN SUBSTATION BUILDING

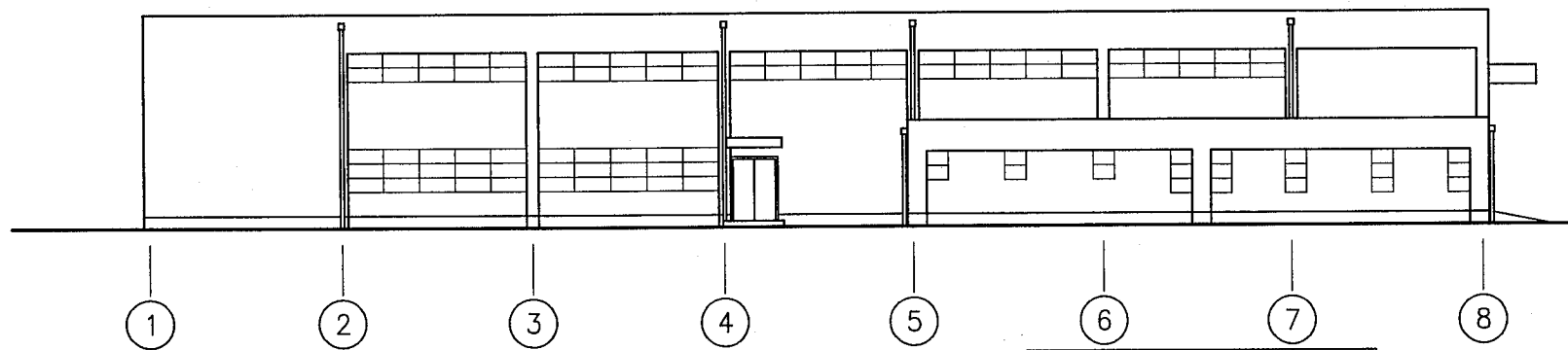
(A) ELEVATION
S=1/300



ADMINISTRATION BUILDING

MAIN SUBSTATION BUILDING

(B) ELEVATION
S=1/300

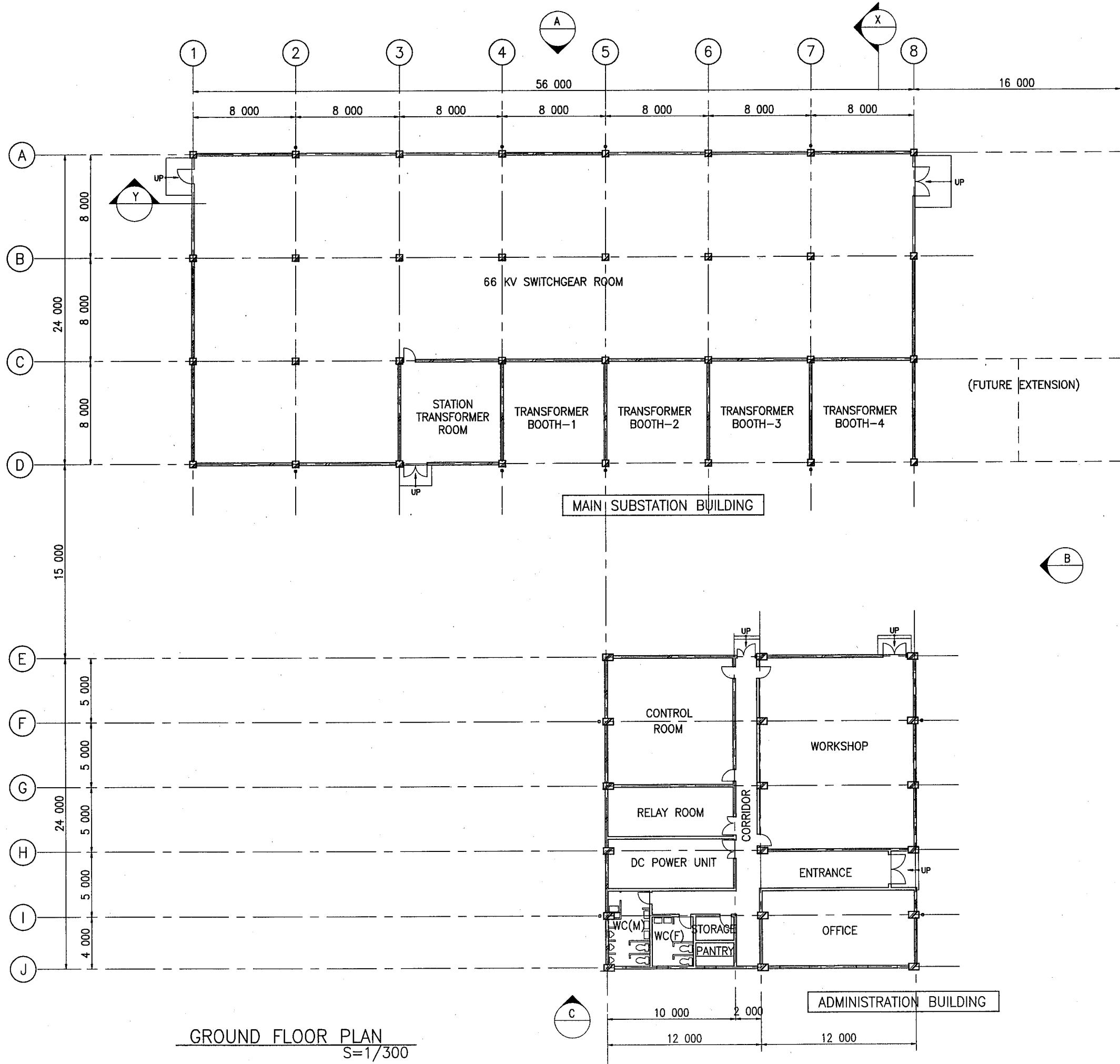


MAIN SUBSTATION BUILDING

ADMINISTRATION BUILDING

(C) ELEVATION
S=1/300

THE ARAB REPUBLIC OF EGYPT MINISTRY OF WATER RESOURCES AND IRRIGATION NORTH SINAI DEVELOPMENT ORGANIZATION THE NORTH SINAI INTEGRATED RURAL DEVELOPMENT PROJECT (PHASE III)	
CONVEYANCE CANAL SYSTEM BETWEEN THE END OF BIR EL ABD ZONE UNTIL THE BEGINNING OF EL SIR AND EL KAMAREER ZONE POWER SUPPLY MAIN SUBSTATION BUILDING & ADMINISTRATION BUILDING ELEVATION (STAGE I)	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) SANYU CONSULTANTS INC, PACIFIC CONSULTANTS INTERNATIONAL	
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APPROVED	
DRAWING NO.	DB-04



GROUND FLOOR PLAN
S=1/300

LEGEND:
 // REINFORCED CONCRETE
 // BRICK

THE ARAB REPUBLIC OF EGYPT MINISTRY OF WATER RESOURCES AND IRRIGATION NORTH SINAI DEVELOPMENT ORGANIZATION THE NORTH SINAI INTEGRATED RURAL DEVELOPMENT PROJECT (PHASE III)	
CONVEYANCE CANAL SYSTEM BETWEEN THE END OF BIR EL ABD ZONE UNTIL THE BEGINNING OF EL SIR AND EL KANAREER ZONE POWER SUPPLY MAIN SUBSTATION BUILDING & ADMINISTRATION BUILDING GROUND FLOOR PLAN (STAGE II)	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) SANYU CONSULTANTS INC., PACIFIC CONSULTANTS INTERNATIONAL	
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