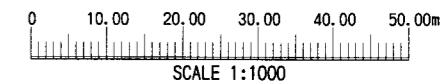


NOTES:

1. This drawing shows "DISTANCE 108.855KM to 108.889KM".
2. The benchmark referred to BM.07 of EL. 21.978 m.
3. This drawing scale is as follow ;

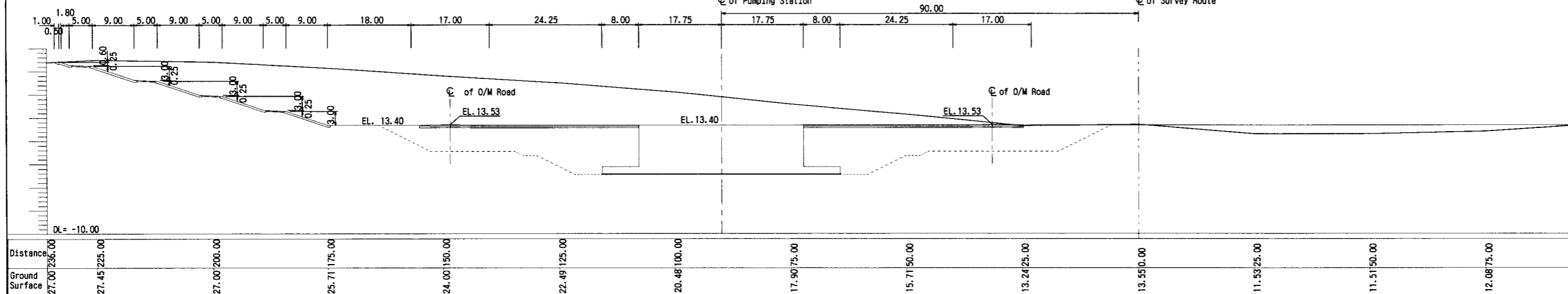


KM 108.855

GH = 19.69 m
FH = 13.40 m

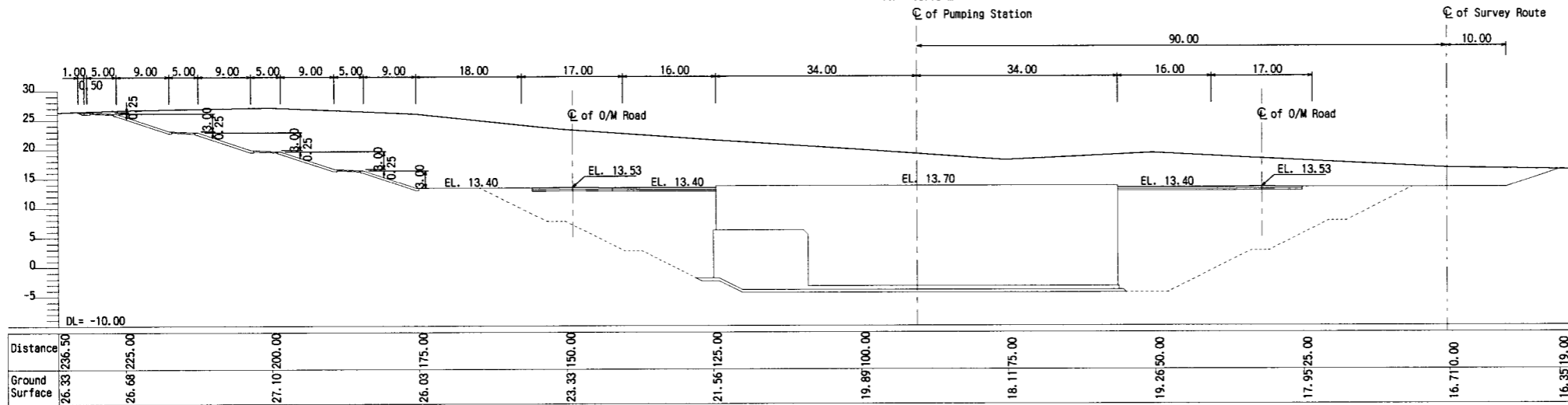
☉ of Pumping Station

☉ of Survey Route



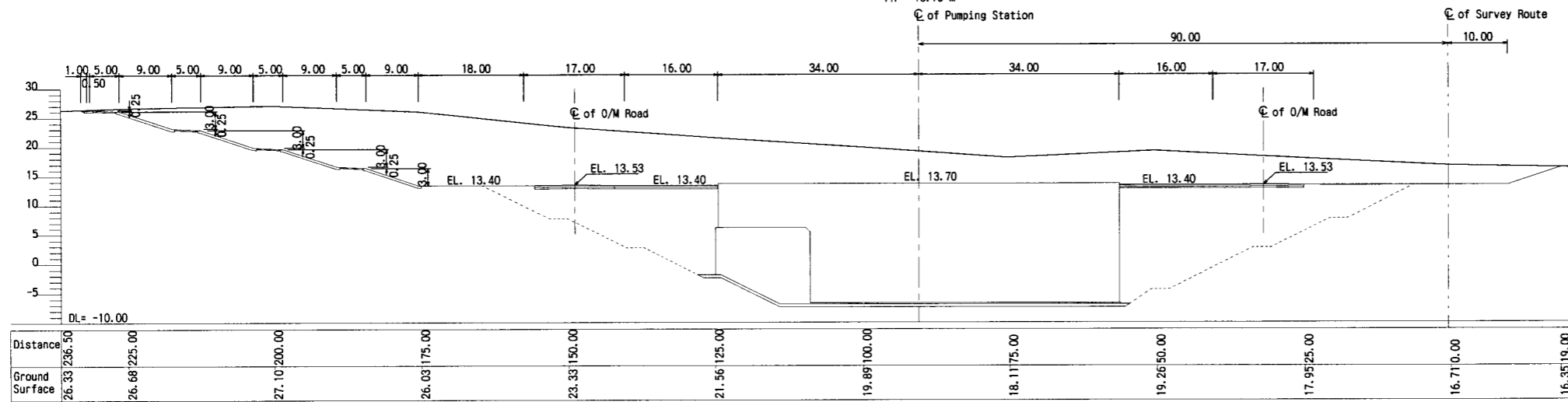
KM 108.889(F.S.)

GH = 19.18 m
FH = 13.70 m



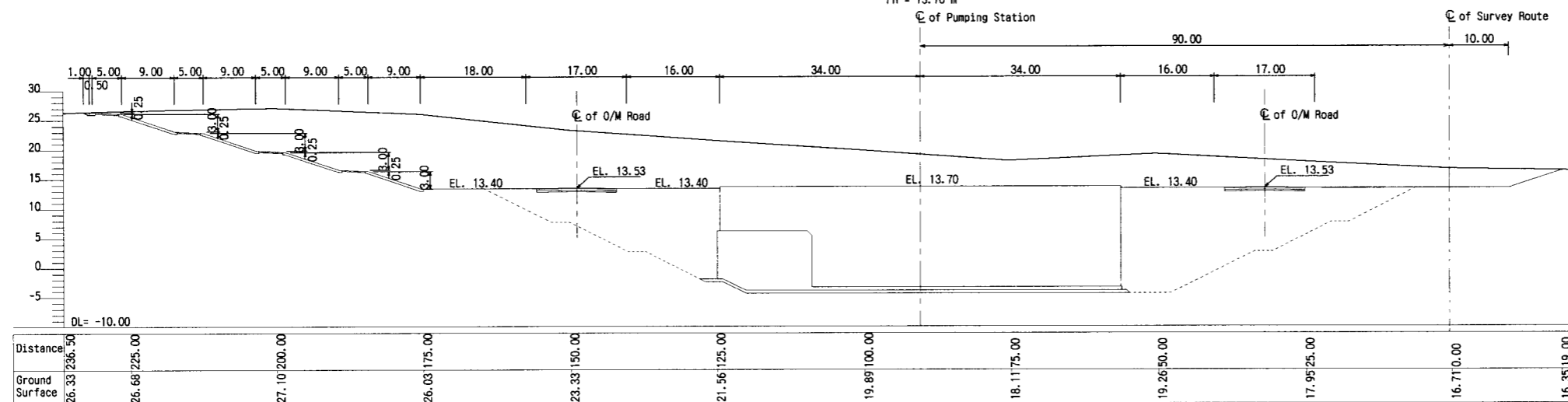
KM 108.900

GH = 19.18 m
FH = 13.70 m



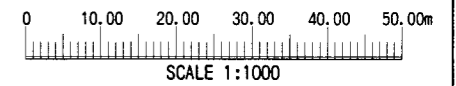
KM 108.9105 (B.S.)

GH = 19.18 m
FH = 13.70 m



NOTES:

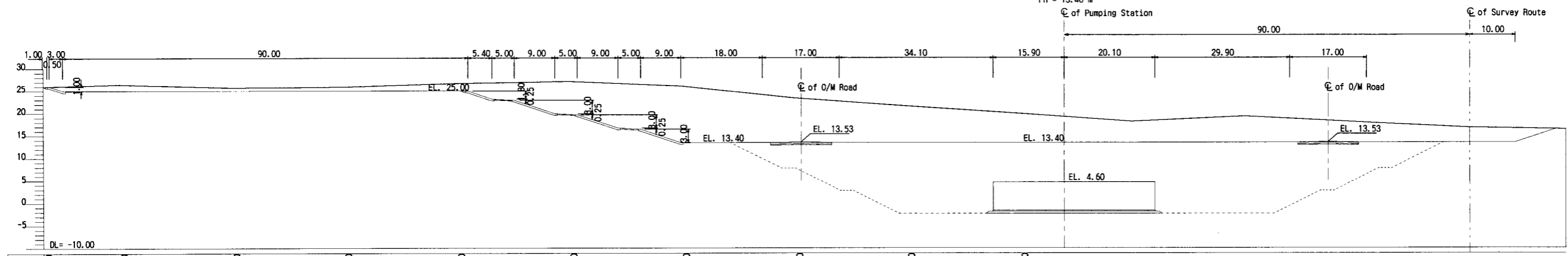
1. This drawing shows "DISTANCE 108.889KM to 108.9105KM".
2. The benchmark referred to BM.07 of EL. 21.978 m.
3. This drawing scale is as follow ;



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 SYSTEM OF EL SHEIKH GABER EL SABBABH CANAL BETWEEN KM 108.466 AND KM 118.560 EL SALAAM No.7 (BIR EL ABD) PUMPING STATION	
PUMPING STATION CROSS SECTIONS(2/3)	
JAPAN INTERNATIONAL COOPERATION AGENCY(JICA) SANYU CONSULTANTS INC,PACIFIC CONSULTANTS INTERNATIONAL	
DESIGNED	
TRACED	
CHECKED	
APPROVED	
DRAWING NO.	PSC-244

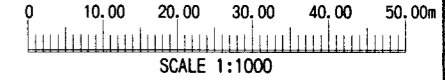
KM 108.9155 (KM 108.9105 F.S.)

GH = 19.18 m
FH = 13.40 m



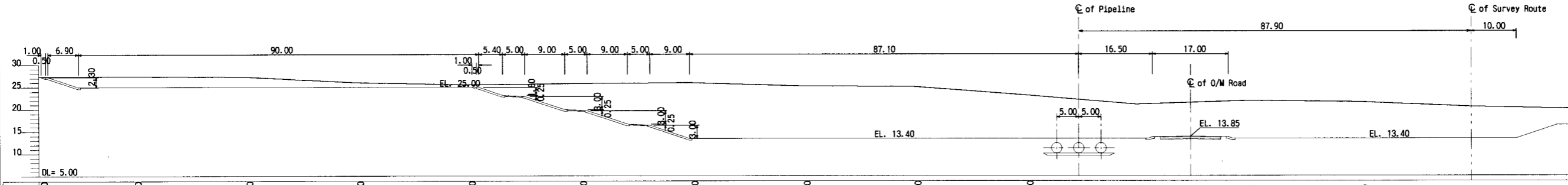
Distance	26.00	26.45	25.75	25.00	26.68	27.10	26.03	23.33	21.56	19.89	18.11	19.26	17.95	16.71	16.35
Ground Surface	317.40	300.00	275.00	250.00	225.00	200.00	175.00	150.00	125.00	100.00	75.00	50.00	25.00	10.00	19.00

- NOTES:
1. This drawing shows "DISTANCE 108.9155KM to 108.985KM".
 2. The benchmark referred to BM.07 of EL. 21.978 m.
 3. This drawing scale is as follow :



KM 108.970

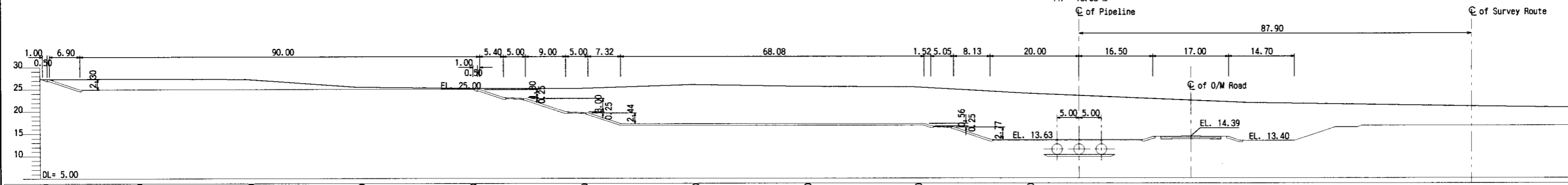
GH = 22.11 m
FH = 13.40 m



Distance	27.36	27.40	27.27	26.00	25.50	25.57	25.92	25.15	25.03	23.12	21.04	21.86	21.57	20.50	20.00	21.25
Ground Surface	321.90	300.00	275.00	250.00	225.00	200.00	175.00	150.00	125.00	100.00	75.00	50.00	25.00	10.00	25.00	50.00

KM 108.985

GH = 23.49 m
FH = 13.63 m



Distance	27.36	27.40	27.27	25.51	25.20	25.15	26.00	25.60	25.45	24.00	22.95	21.90	21.50	21.10	20.75	19.25
Ground Surface	321.90	300.00	275.00	250.00	225.00	200.00	175.00	150.00	125.00	100.00	75.00	50.00	25.00	10.00	25.00	50.00

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 SYSTEM OF EL SHEIKH GABER EL SABBABH CANAL
BETWEEN KM 108.466 AND KM 118.560
EL SALAAM No.7 (BIR EL ABD) PUMPING STATION

PUMPING STATION
CROSS SECTIONS(3/3)

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

DESIGNED	
TRACED	
CHECKED	
APPROVED	
DRAWING NO.	PSC-245

A. GENERAL NOTES:

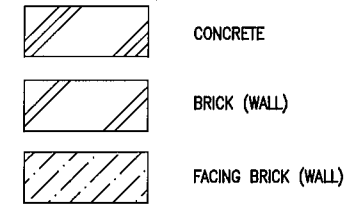
1. ALL ARCHITECTURAL DRAWINGS SHOULD BE READ IN CONJUNCTION WITH SPECIFICATIONS, CIVIL, STRUCTURAL, MECHANICAL AND ELECTRICAL DRAWINGS.
2. ALL DIMENSIONS ARE IN MILLIMETERS AND ALL ELEVATIONS ARE IN METERS UNLESS OTHERWISE NOTED.
3. DO NOT SCALE, USE WRITTEN DIMENSIONS.
4. ALL DIMENSIONS SHALL BE VERIFIED BY THE CONTRACTOR BEFORE CONSTRUCTION.
5. ALL MATERIALS AND WORKMANSHIP SHALL CONFORM TO THE LATEST EDITION OF E.S.S.
6. CONTRACTOR SHALL SUBMIT FOR APPROVAL ALL SHOP DRAWINGS BEFORE FABRICATION AND CONSTRUCTION REQUIRED FOR THE WORKS AS SPECIFIED.
7. UNLESS NOTED ALL EXTERNAL BRICK WALLS SHALL BE 240 MM THICK AND FACING BRICK SHALL BE 250 MM THICK.

B. ABBREVIATION

A/C	AIR CONDITIONING	MH	MANHOLE
AEP	ACRYLIC EMULSION PAINT	MIN	MINIMUM
BLDG	BUILDING	MISC	MISCELLANEOUS
CL	CENTRE LINE	NTS	NOT TO SCALE
CI	CAST IRON	OP	OIL PAINT
CM	CENTIMETRE	PL	PLATE
CONC	CONCRETE	PVC	POLYVINYL CHLORIDE
CONST	CONSTRUCTION	R	RADIUS
D	DEPTH	RC	REINFORCED CONCRETE
DIA(Ø)	DIAMETER	REF	REFERENCE
DN	DOWN	REQ	REQUIRED
DWG	DRAWING	REV	REVISED
ELEC	ELECTRICAL	RM	ROOM
ELEV	ELEVATION	SEC	SECTION
ENT	ENTRANCE	SQ	SQUARE
EXP	EXPOSED	SVC	SERVICE
EXT	EXTERNAL	SS	STAINLESS STEEL
FAB	FABRICATED	STD	STANDARD
FDN	FOUNDATION	STL	STEEL
FFL	FINISHED FLOOR LEVEL	SUSP	SUSPENDED
FL	FLOOR	THK	THICKNESS
GALV	GALVANIZED	UG	UNGLAZED
GL	GROUND LEVEL	UPVC	UNPLASTICISED POLYVINYL CHLORIDE
GFL	GROUND FLOOR LEVEL	VAC	VENTILATION AND AIR CONDITIONING
H	HEIGHT	VOL	VOLUME
INT	INTERNAL	VP	VINYL PAINT
KG	KILOGRAM	W	WIDTH
KM	KILOMETER	W/	WITH
L	LENGTH	W/O	WITHOUT
M	METER	WC	WATER CLOSET
MAX	MAXIMUM	WD	WOOD
MECH	MECHANICAL	WM	WIRE MESH

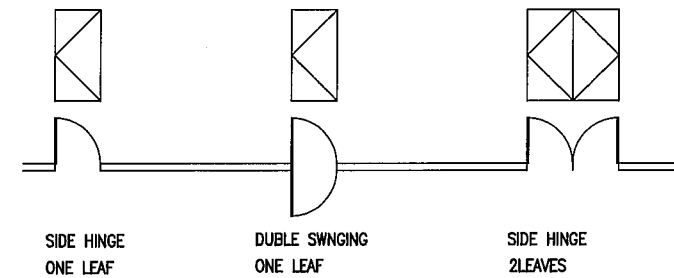
C. SYMBOLS:

1. CONCRETE AND MASONRY

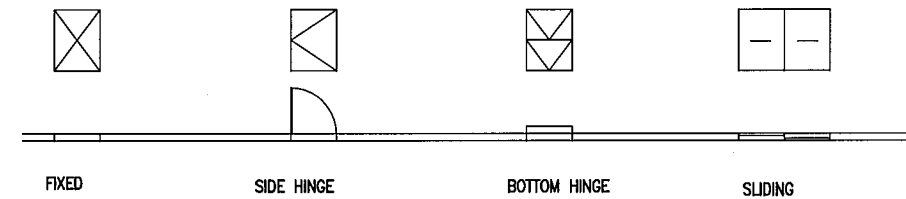


2. DOORS AND WINDOWS

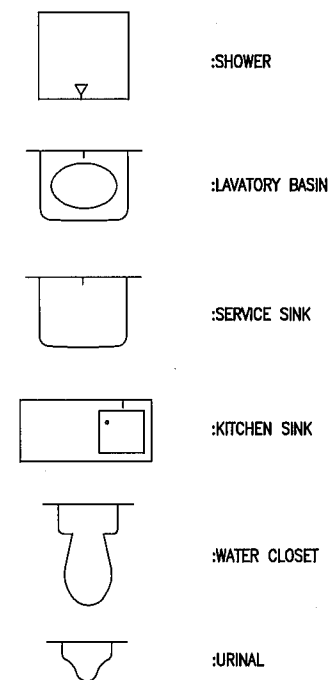
DOORS:



WINDOWS:



3. PLUMBING FIXTURES:



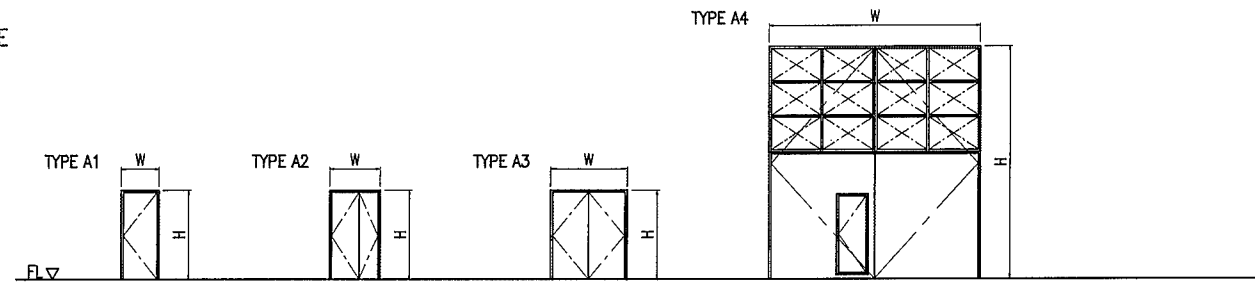
THE ARAB REPUBLIC OF EGYPT MINISTRY OF WATER RESOURCES AND IRRIGATION NORTH SINAI DEVELOPMENT ORGANIZATION THE NORTH SINAI INTEGRATED RURAL DEVELOPMENT PROJECT (PHASE III)	
CONVEYANCE SYSTEM OF EL SHEIKH GABER EL SABBABH CANAL BETWEEN KM 108.466 AND KM 118.560 EL SALAAM No. 7 (BIR EL ABD) PUMPING STATION PUMP HOUSE GENERAL NOTES	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) SANYU CONSULTANTS INC, PACIFIC CONSULTANTS INTERNATIONAL	
DESIGNED	
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CHECKED	
APPROVED	
DRAWING NO.	PSB-201

FINISHING SCHEDULE

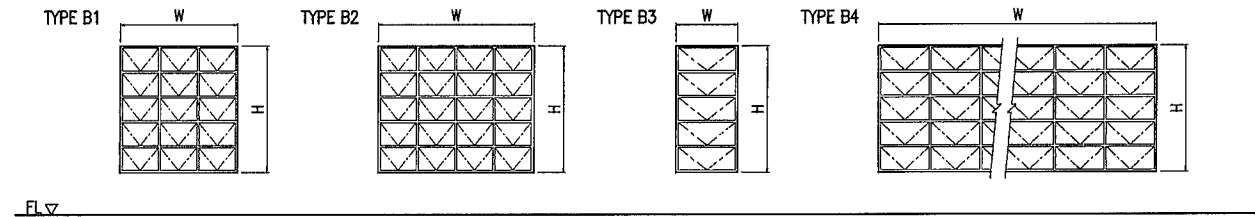
PUMP HOUSE												
BUILDING OUTLINE												
STORY	2											
BUILDING EAVES HEIGHT (GL+mm)	21,525											
BUILDING HEIGHT (GL+mm)	22,525											
MAIN STRUCTURE	RC AND STEEL											
BUILDING AREA (sq.m)	1,758.75											
TOTAL FLOOR AREA (sq.m)	2,106.38											
EXTERNAL FINISHING SCHEDULE												
ROOF	BITUMINOUS WATERPROOFING MEMBRANE W/INSULATION 50mm THK, MORTAR 70mm THK, AND CEMENT MORTAR TILES											
ROOF DRAIN	150MM DIA. CAST IRON											
DOWN SPOUT	CAST IRON PIPE 150 DIA. W/PAINT											
WALL	CEMENT PLASTER W/ PAINT FINISH ON BRICK WORK											
WINDOWS	ALUMINIUM WINDOW ON GLAZED											
LOUVERS	FIXED ALUMINIUM LOUVER											
DOORS	STEEL W/ PAINT FINISH											
BASEBOARD	CEMENT PLASTER W/ PAINT FINISH ON CONCRETE											
INTERNAL FINISHING SCHEDULE												
ROOM NAME	FINISH											
	FLOOR	BASE	WALL	CEILING							REMARKS	
	STEEL TROWELLED W/HARDNER FINISH	TERRAZZO TILE	CERAMIC TILE	CEMENT PLASTER W/ PAINT H=100	TERRAZZO TILE H=100	CEMENT PLASTER W/PAINT	CERAMIC TILE (H=FL+2000)	EXPOSED RC STRUCTURE W/PAINT ON PLASTER	MINERAL FIBER ACOUSTIC TILE SUSPENDED	CEILING HEIGHT	VENTILATION AND AIR CONDITIONING	
GROUND FLOOR	PUMP ROOM									EX	—	
	MAINTENANCE AREA									EX	—	
	AUXILIARY SUBSTATION									EX	V/T	
	WORKSHOP & STORAGE	○		○		○				EX	V/T	
FIRST FLOOR	CENTRAL CONTROL ROOM	○			○	○			○	2,900	A/C	
	OFFICE	○			○	○			○	2,900	A/C	
	MANAGER ROOM	○			○	○			○	2,900	A/C	
	CONFERENCE ROOM	○			○	○			○	2,900	A/C	
	REST ROOM	○			○	○			○	EX	A/C	
	TOILET (F)		○			○	○			EX	V/T	
	TOILET (M)		○			○	○			EX	V/T	
	PANTRY		○			○	○			EX	—	
	STORAGE	○			○	○				EX	—	
	CORRIDOR	○			○	○				EX	—	
COMMON	STAIRCASE	○			○					EX	—	

DOORS AND WINDOWS SCHEDULE

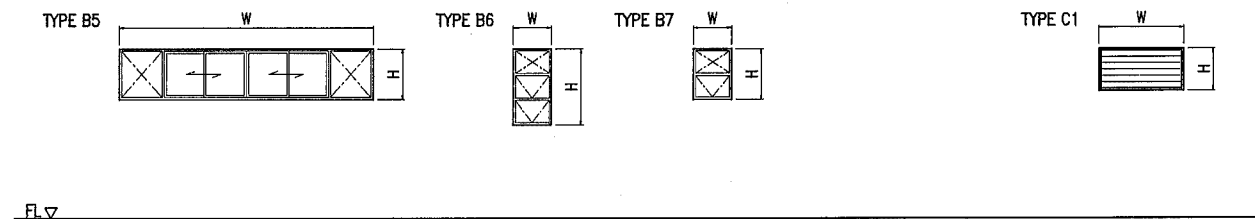
DOORS TYPE



WINDOWS TYPE



LOUVERS TYPE



No.	TYPE	MATERIAL	FRAME	GLASS	OPERATION	WIDE	HEIGHT	SILL LEVEL (FL±)	REMARKS
D1	A1	ST	ST	—	SH	700	1,800	300	
D2	A2	ST	ST	—	SH	1,200	2,100	±0	
D3	A3	ST	ST	—	SH	1,800	2,100	±0	
D4	A4	ST	ST	6mm	SH	5,000	5,500	±0	
D5	A1	ST	ST	—	SH	700	2,100	±0	A.T
D6	A1	WD	WD	—	SH	900	2,100	±0	
D7	A1	WD	WD	—	SH	800	2,100	±0	
D8	A3	WD	WD	—	SH	1,800	2,100	±0	
D9	A1	WD	WD	—	SH	700	2,050	—	
W1	B1	AL	AL	6mm	BH	2,775	3,000	2,000	
W2	B2	AL	AL	6mm	BH	3,700	3,000	2,000	
W3	B1	AL	AL	6mm	BH	2,775	3,000	15,300	
W4	B2	AL	AL	6mm	BH	3,700	3,000	15,300	
W5	B3	AL	AL	6mm	BH	1,450	3,000	17,100	
W6	B4	AL	AL	6mm	BH	50,400	3,000	15,300	
W7	B5	AL	AL	6mm	FIX-SLID	6,000	1,200	1,100	
W8	B6	AL	AL	6mm	BH-FIX	900	1,800	2,000	
W9	B7	AL	AL	6mm	BH-FIX	900	1,200	1,650	
W10	B6	AL	AL	6mm	BH-FIX	900	1,800	1,000	
L1	C1	AL	AL	—	—	2,000	1,000	4,050	
L2	C1	AL	AL	—	—	2,000	3,750	1,300	
L3	C1	AL	AL	—	—	1,000	1,000	4,050	

ABBREVIATIONS

- ST STEEL
- AL ALUMINIUM
- WD WOOD
- FIX FIXED
- SH SIDE HINGE
- BH BOTTOM HINGE
- SLID SLIDING

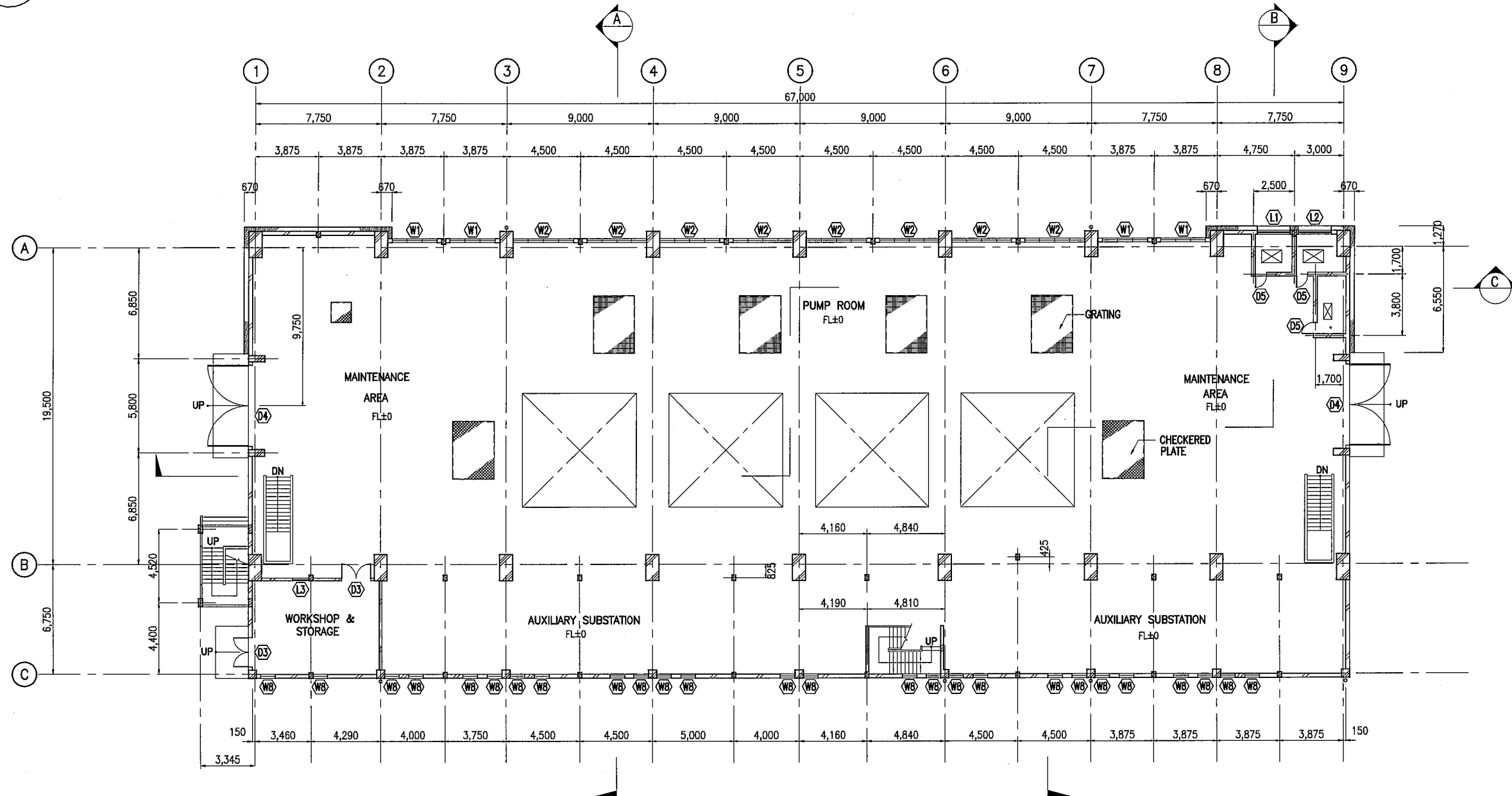
THE ARAB REPUBLIC OF EGYPT
 MINISTRY OF WATER RESOURCES AND IRRIGATION
 NORTH SINAI DEVELOPMENT ORGANIZATION
THE NORTH SINAI INTEGRATED RURAL DEVELOPMENT PROJECT (PHASE III)

CONVEYANCE SYSTEM OF EL SHEIKH GABER EL SABBAH CANAL
 BETWEEN KM 108.466 AND KM 118.560
 EL SALAAM No. 7 (BIR EL ABD) PUMPING STATION

PUMP HOUSE
DOORS, WINDOWS AND FINISHING SCHEDULE

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

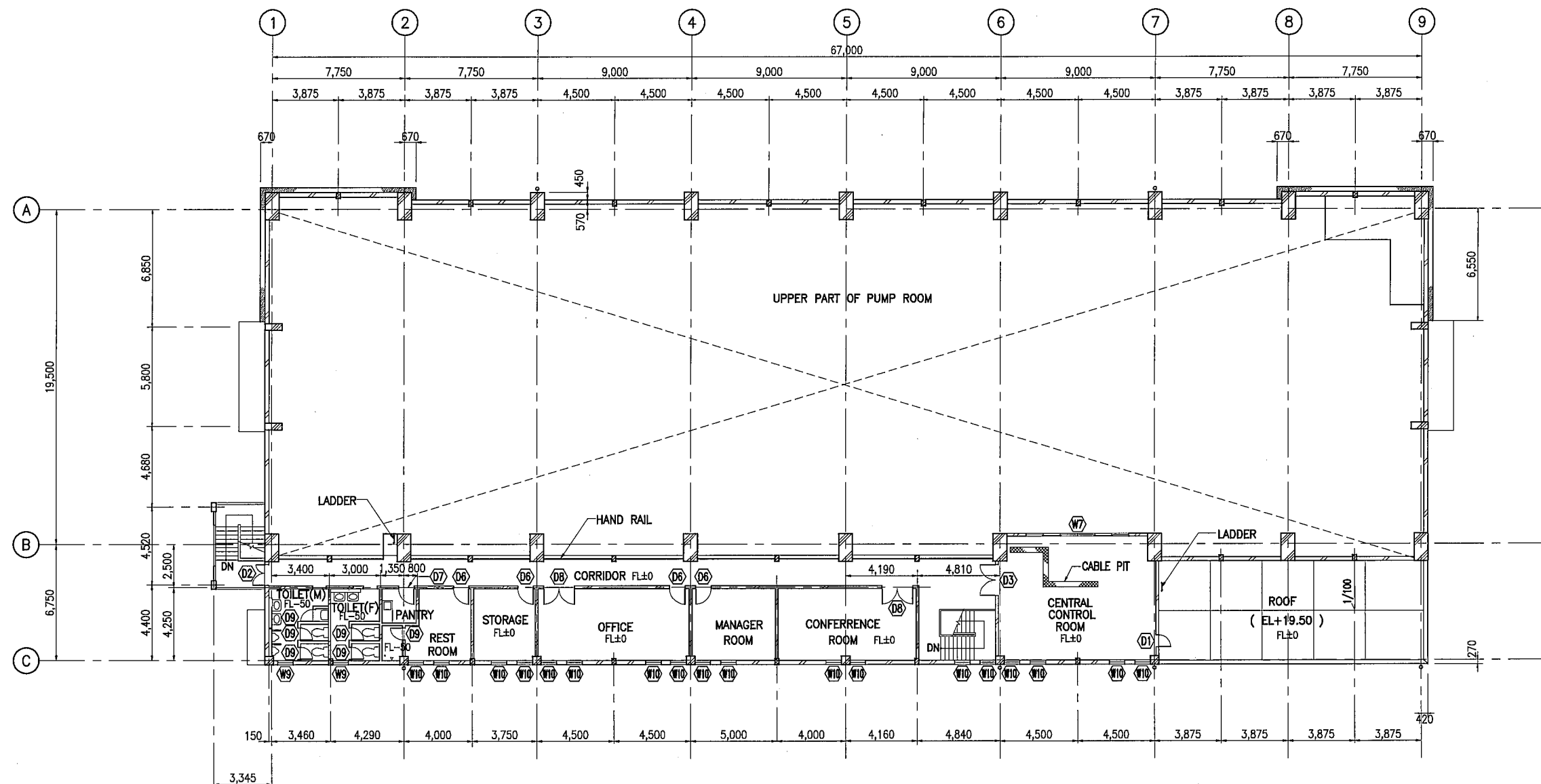
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DRAWING NO.	PSB-202



GROUND FLOOR PLAN (EL +13.70)



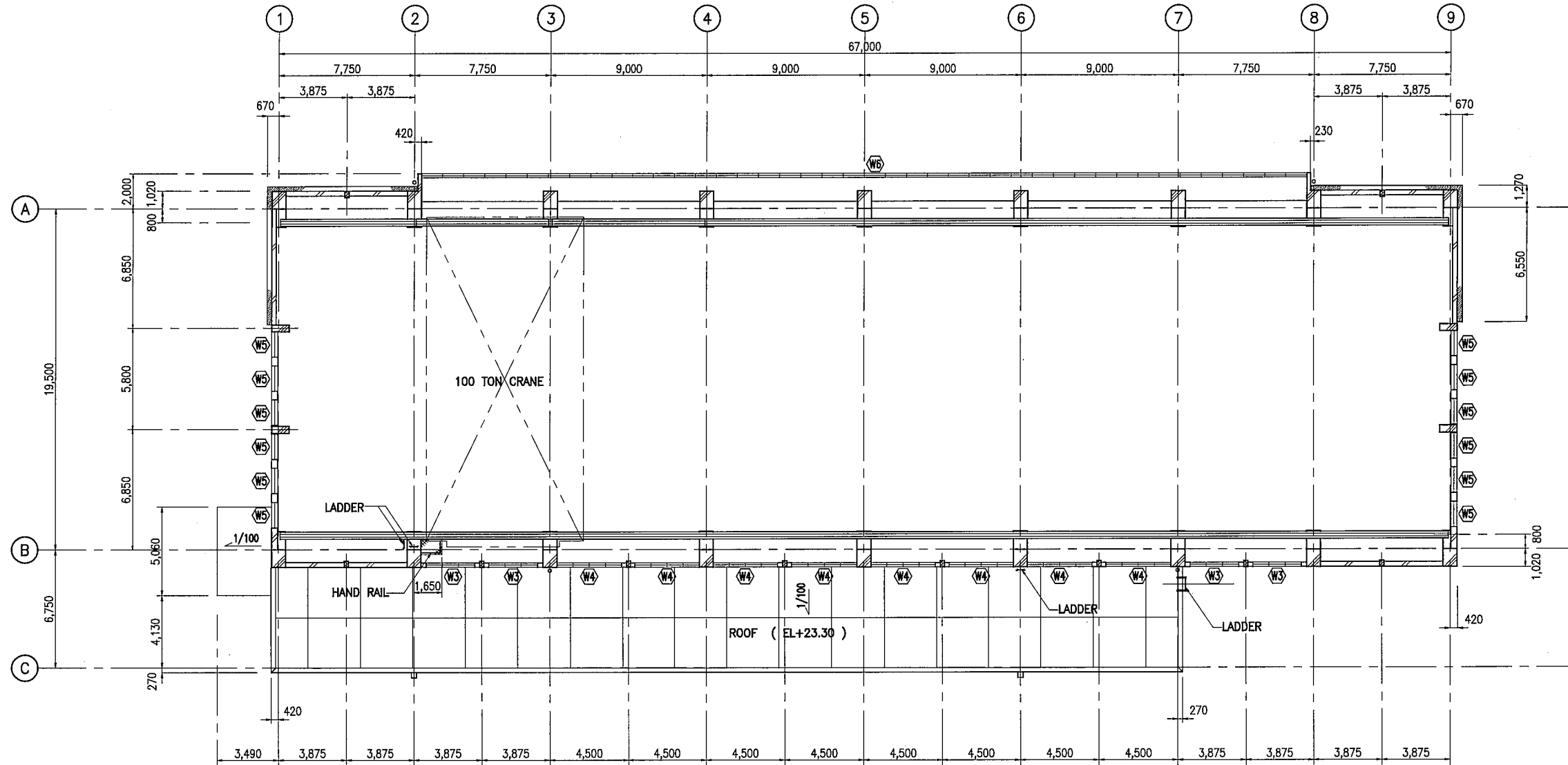
THE ARAB REPUBLIC OF EGYPT MINISTRY OF WATER RESOURCES AND IRRIGATION NORTH SINAI DEVELOPMENT ORGANIZATION THE NORTH SINAI INTEGRATED RURAL DEVELOPMENT PROJECT (PHASE III)	
CONVEYANCE SYSTEM OF EL SHEIKH GABER EL SABBAH CANAL BETWEEN KM 108.466 AND KM 118.560 EL SALAAM No. 7 (BIR EL ABD) PUMPING STATION	
PUMP HOUSE GROUND FLOOR PLAN (EL+13.70m)	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) SANYU CONSULTANTS INC, PACIFIC CONSULTANTS INTERNATIONAL	
DESIGNED	
TRACED	
CHECKED	
APPROVED	
DRAWING NO.	PSB-203



FIRST FLOOR PLAN (EL +19.50)



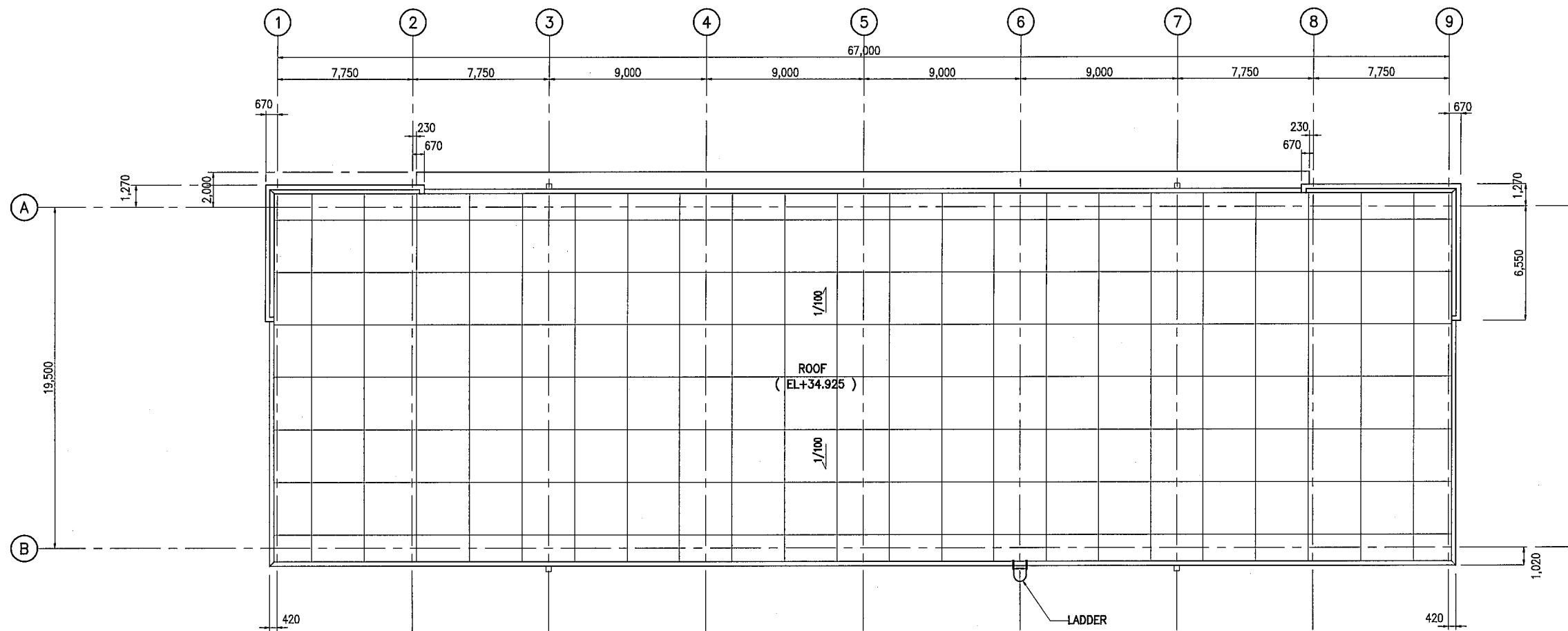
THE ARAB REPUBLIC OF EGYPT MINISTRY OF WATER RESOURCES AND IRRIGATION NORTH SINAI DEVELOPMENT ORGANIZATION THE NORTH SINAI INTEGRATED RURAL DEVELOPMENT PROJECT (PHASE III)	
CONVEYANCE SYSTEM OF EL SHEIKH GABER EL SABBAH CANAL BETWEEN KM 108.466 AND KM 118.560 EL SALAAM No. 7 (BIR EL ABD) PUMPING STATION	
PUMP HOUSE FIRST FLOOR PLAN (EL+19.50m)	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) SANYU CONSULTANTS INC, PACIFIC CONSULTANTS INTERNATIONAL	
DESIGNED	
TRACED	
CHECKED	
APPROVED	
DRAWING NO.	PSB-204



ROOF FLOOR PLAN (EL +23.30)



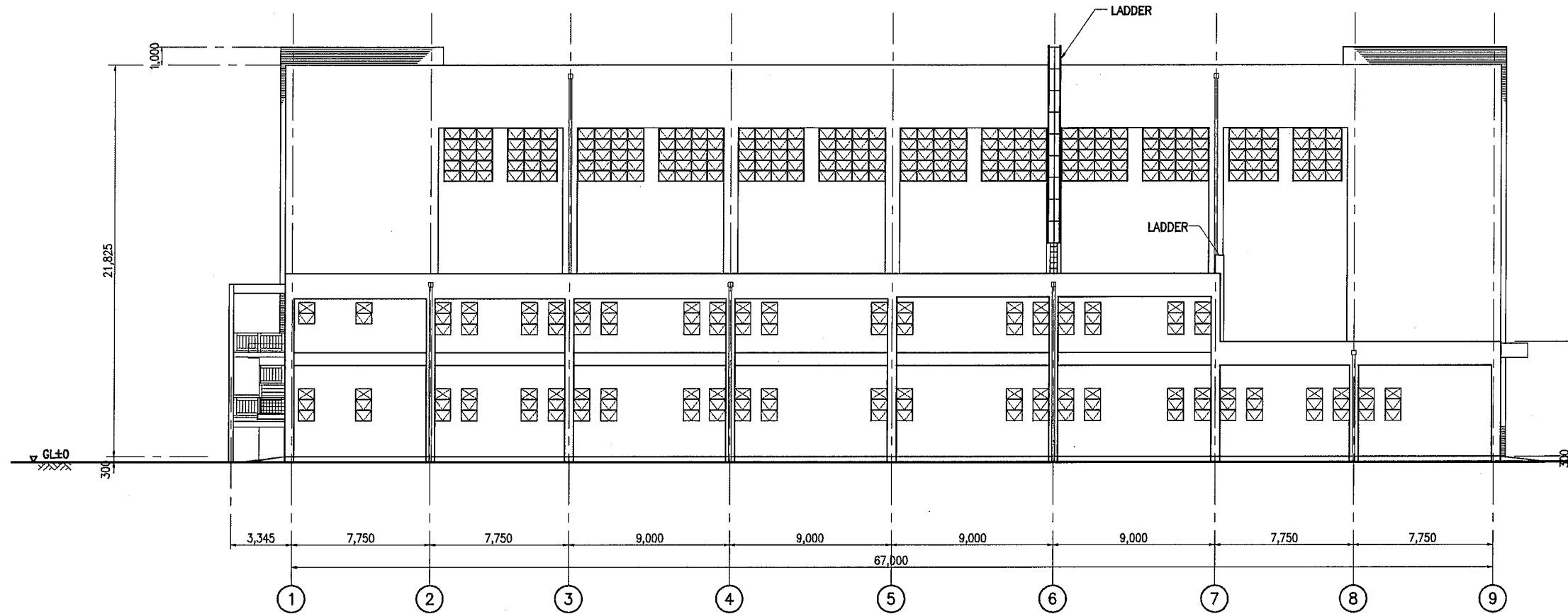
THE ARAB REPUBLIC OF EGYPT MINISTRY OF WATER RESOURCES AND IRRIGATION NORTH SINAI DEVELOPMENT ORGANIZATION THE NORTH SINAI INTEGRATED RURAL DEVELOPMENT PROJECT (PHASE III)	
CONVEYANCE SYSTEM OF EL SHEIKH GABER EL SABBAH CANAL BETWEEN KM 108.466 AND KM 118.560 EL SALAAM No. 7 (BIR EL ABD) PUMPING STATION PUMP HOUSE ROOF FLOOR PLAN (EL+23.30m)	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) SANYU CONSULTANTS INC, PACIFIC CONSULTANTS INTERNATIONAL	
DESIGNED	
TRACED	
CHECKED	
APPROVED	
DRAWING NO.	PSB-205



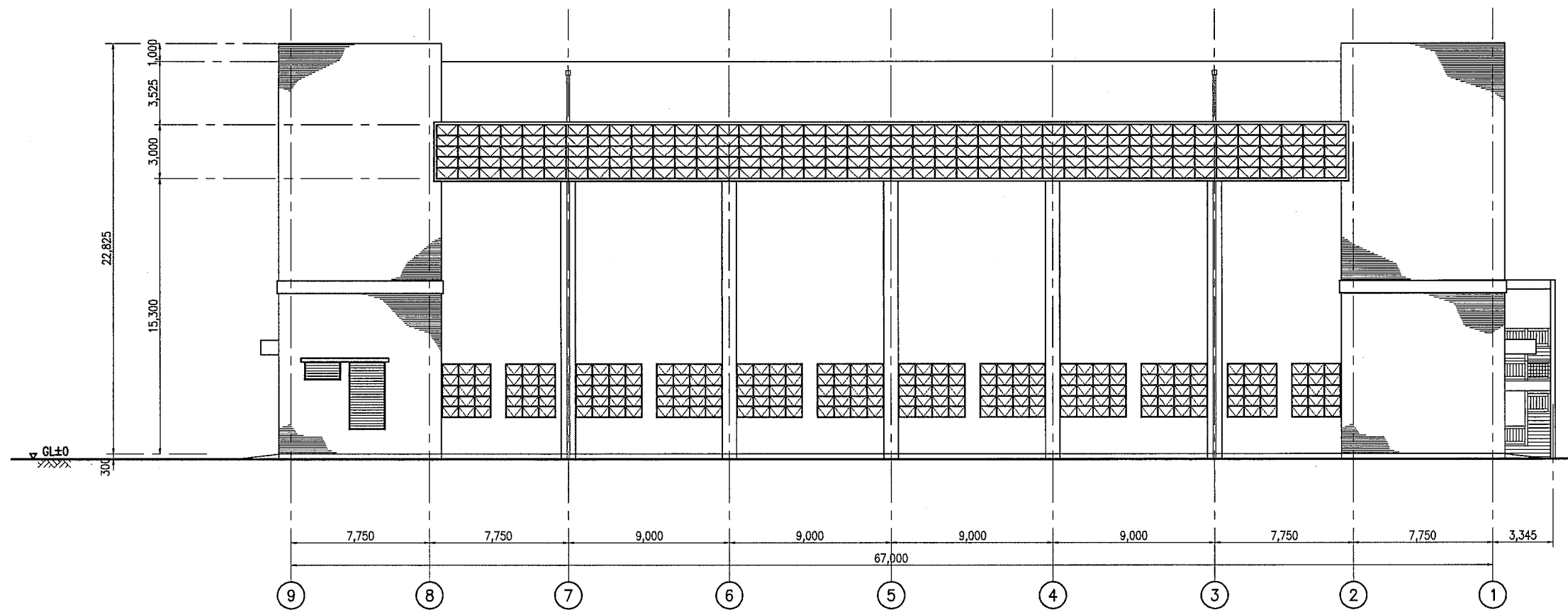
ROOF PLAN (EL +34.925)



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 SYSTEM OF EL SHEIKH GABER EL SABBAB CANAL BETWEEN KM 108.466 AND KM 118.560 EL SALAAM No. 7 (BIR EL ABD) PUMPING STATION PUMP HOUSE ROOF PLAN (EL+34.925m)	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) SANYU CONSULTANTS INC, PACIFIC CONSULTANTS INTERNATIONAL	
DESIGNED	
TRACED	
CHECKED	
APPROVED	
DRAWING NO.	PSB-206



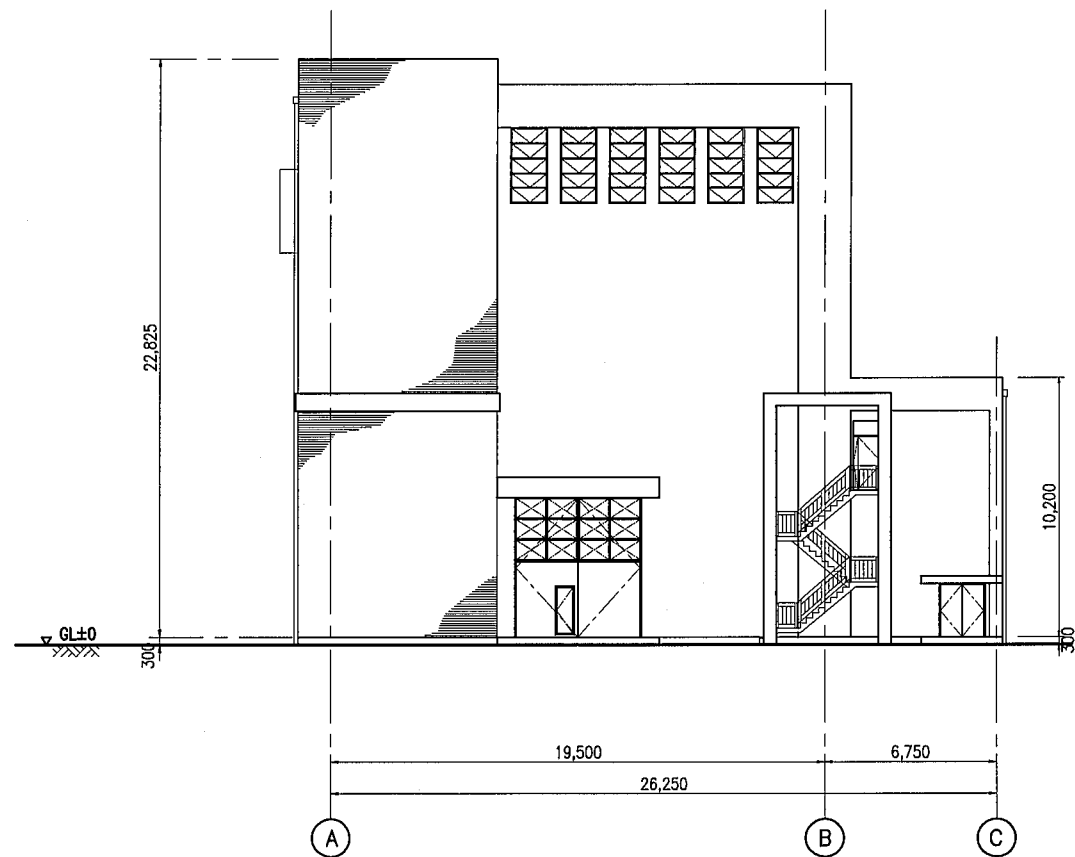
WEST ELEVATION



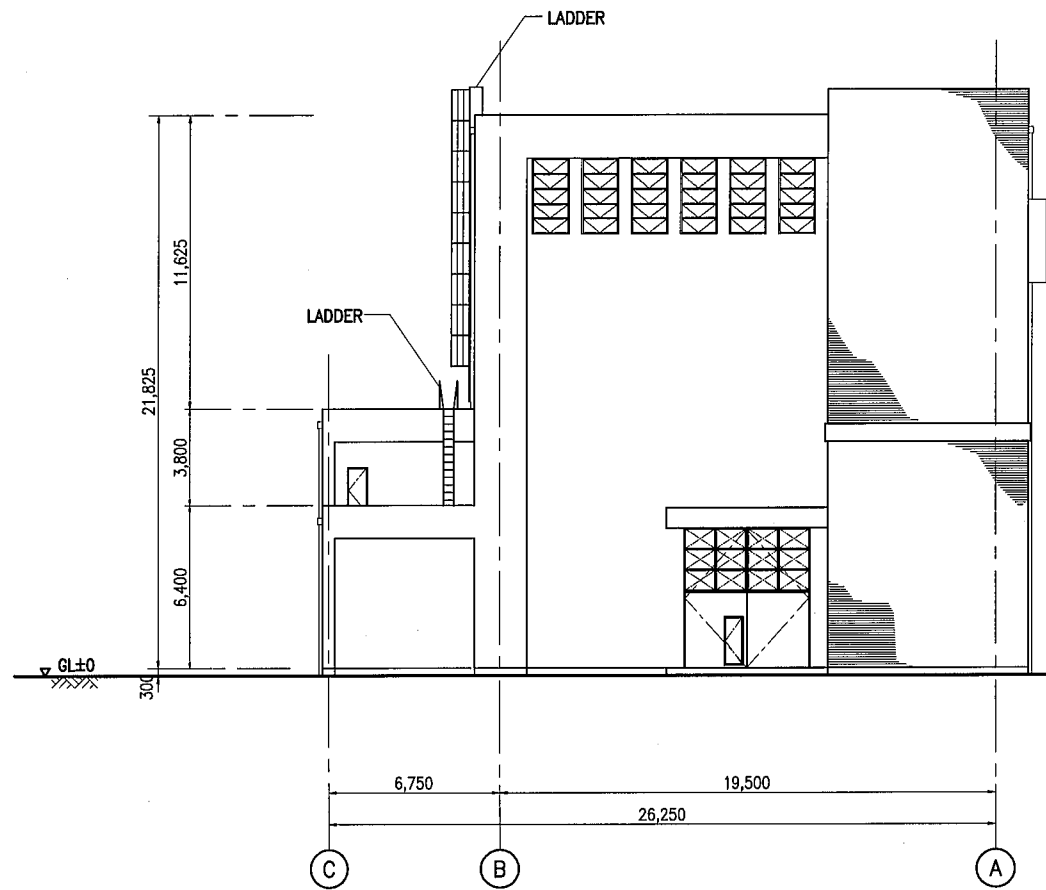
EAST ELEVATION



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 SYSTEM OF EL SHEIKH GABER EL SABBAB CANAL BETWEEN KM 108.466 AND KM 118.560 EL SALAAM No. 7 (BIR EL ABD) PUMPING STATION	
PUMP HOUSE ELEVATIONS (1/2)	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) SANYU CONSULTANTS INC, PACIFIC CONSULTANTS INTERNATIONAL	
DESIGNED	
TRACED	
CHECKED	
APPROVED	
DRAWING NO.	PSB-207



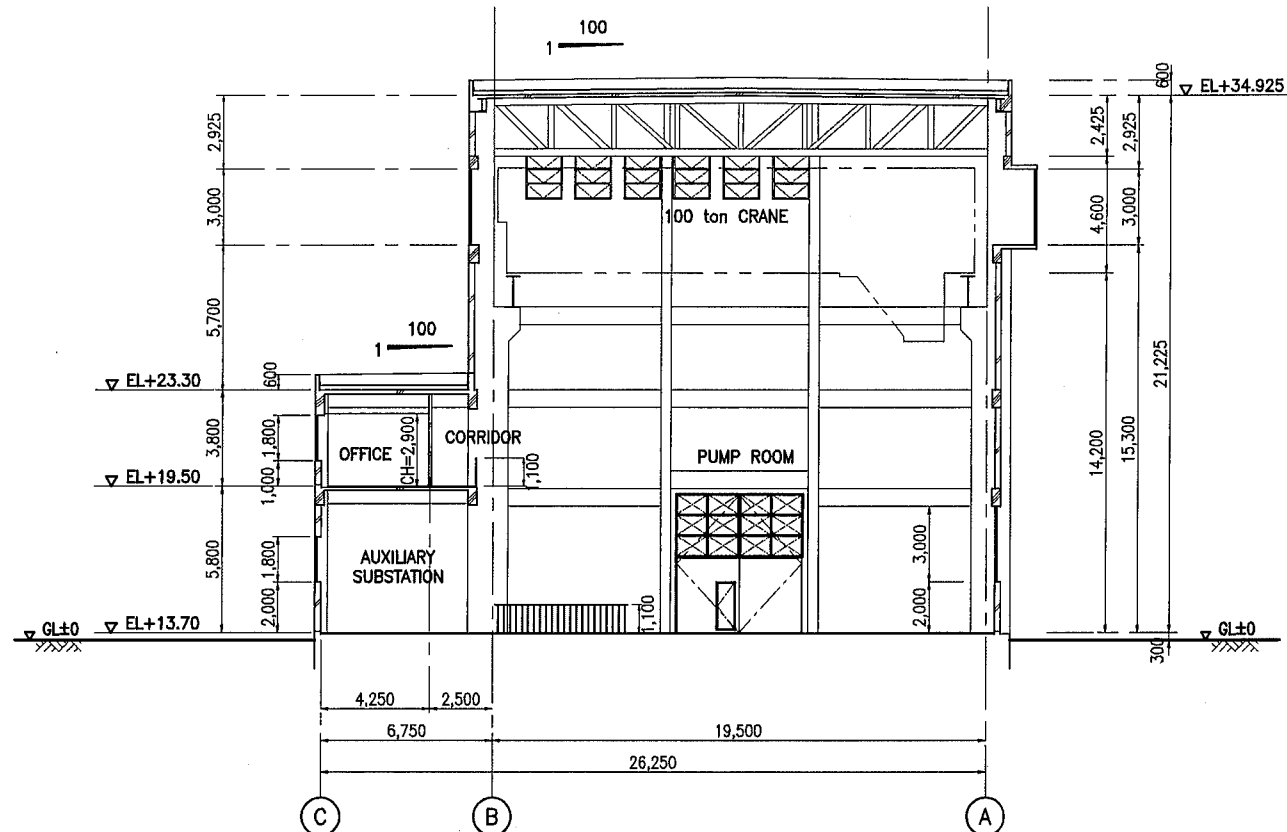
NORTH ELEVATION



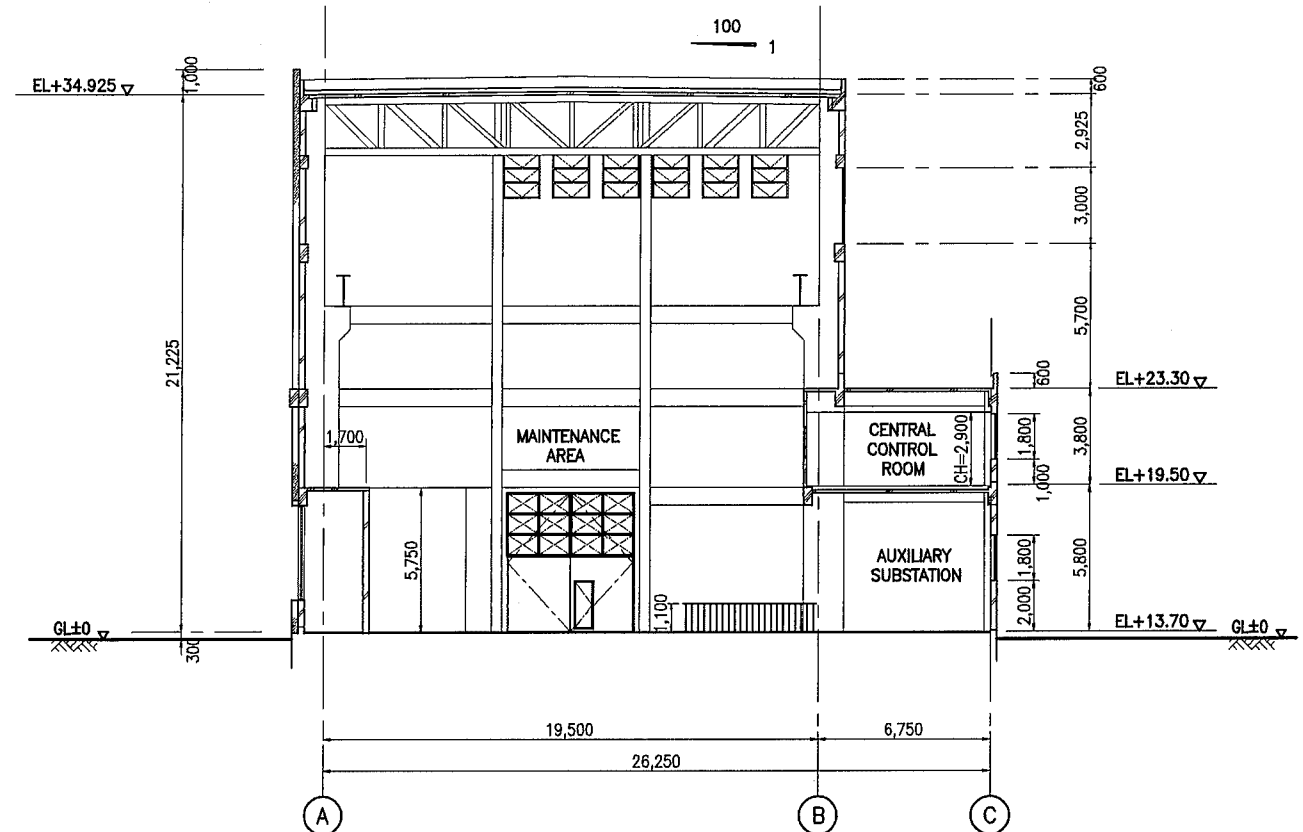
SOUTH ELEVATION



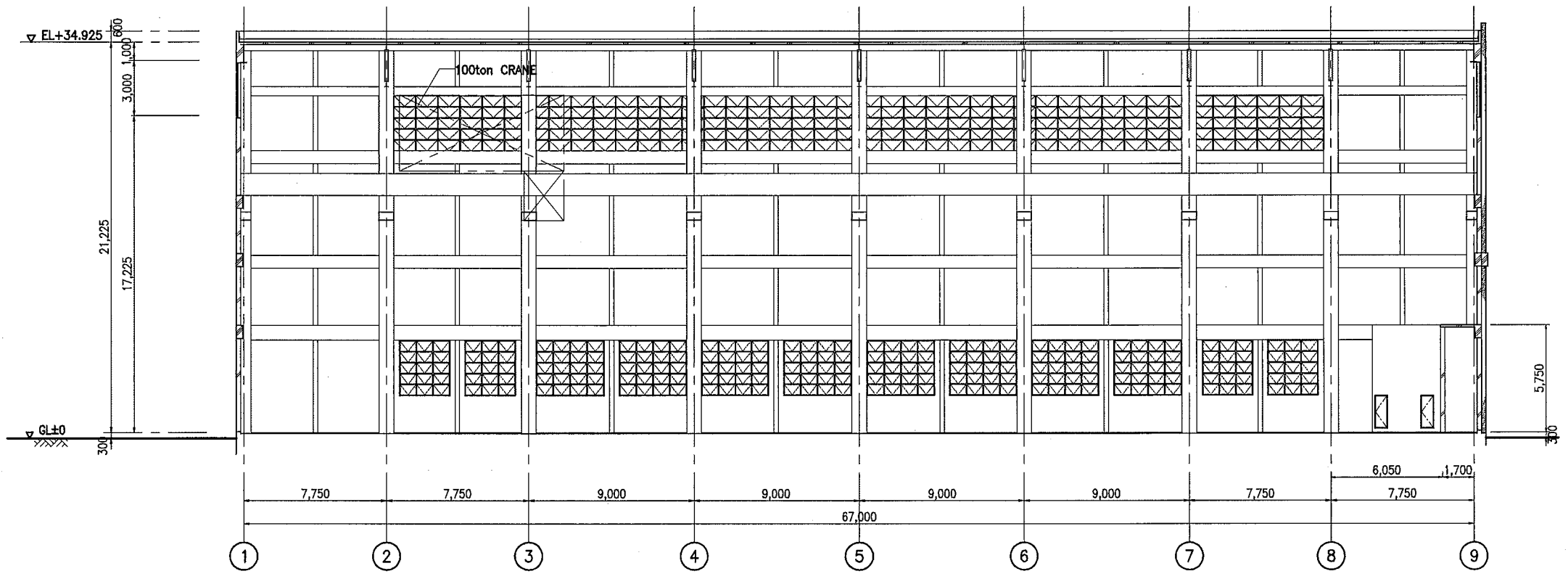
THE ARAB REPUBLIC OF EGYPT MINISTRY OF WATER RESOURCES AND IRRIGATION NORTH SINAI DEVELOPMENT ORGANIZATION THE NORTH SINAI INTEGRATED RURAL DEVELOPMENT PROJECT (PHASE III)	
CONVEYANCE SYSTEM OF EL SHEIKH GABER EL SABBAH CANAL BETWEEN KM 108.466 AND KM 118.560 EL SALAAM No. 7 (BIR EL ABD) PUMPING STATION PUMP HOUSE ELEVATIONS (2/2)	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) SANYU CONSULTANTS INC, PACIFIC CONSULTANTS INTERNATIONAL	
DESIGNED	
TRACED	
CHECKED	
APPROVED	
DRAWING NO.	PSB-208



(A) SECTION



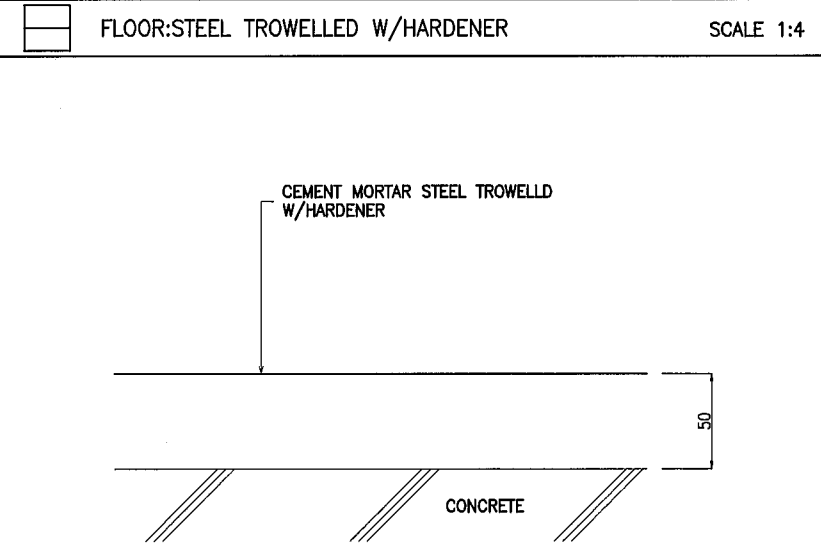
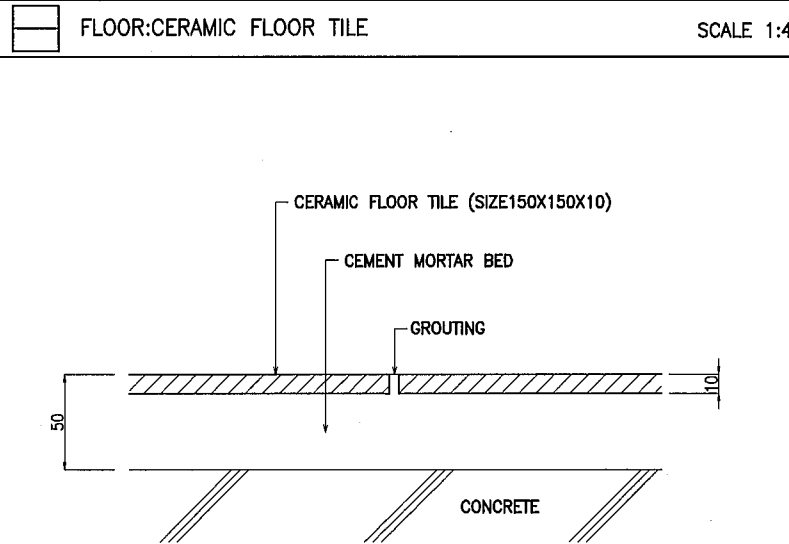
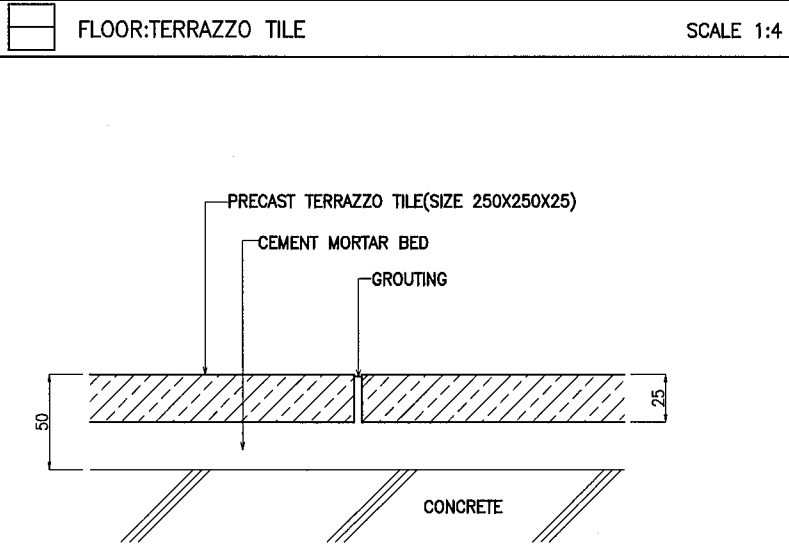
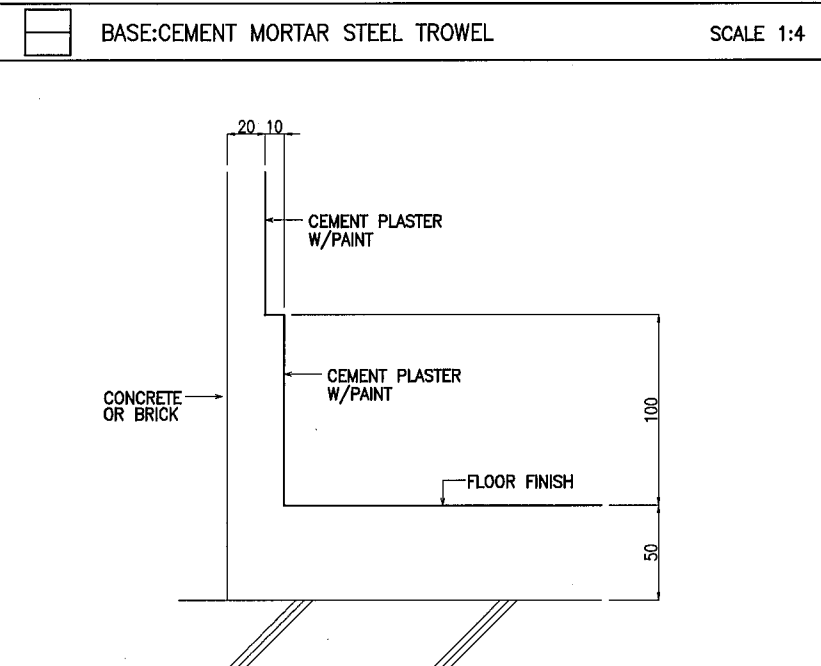
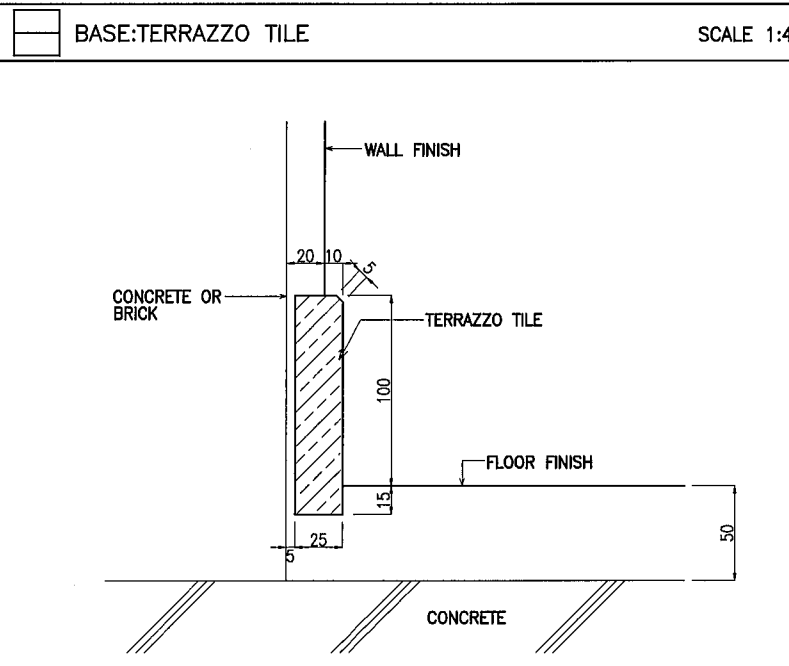
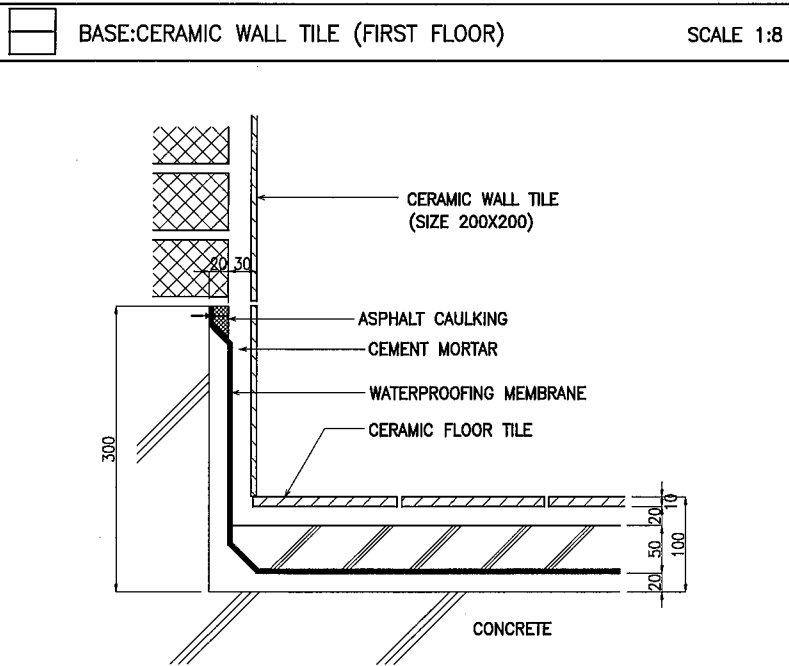
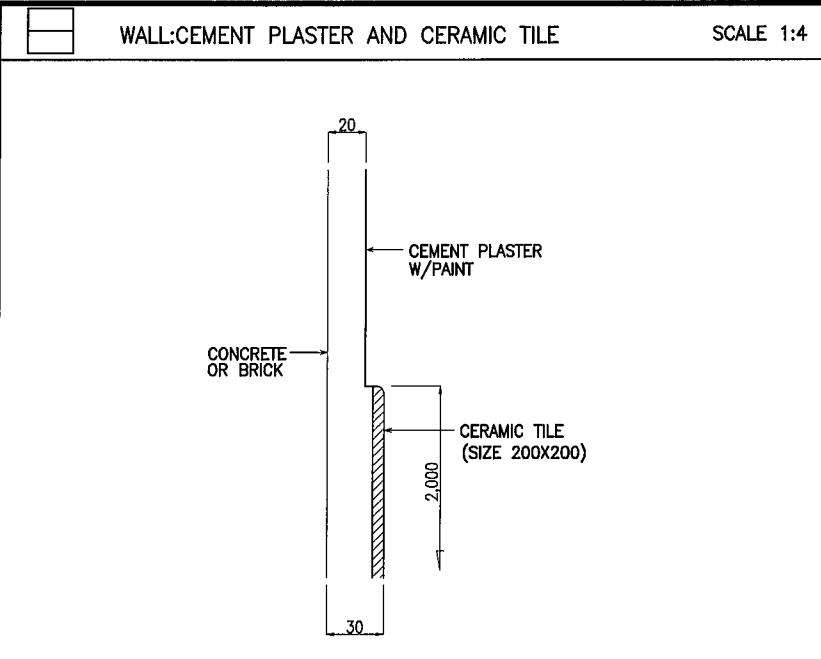
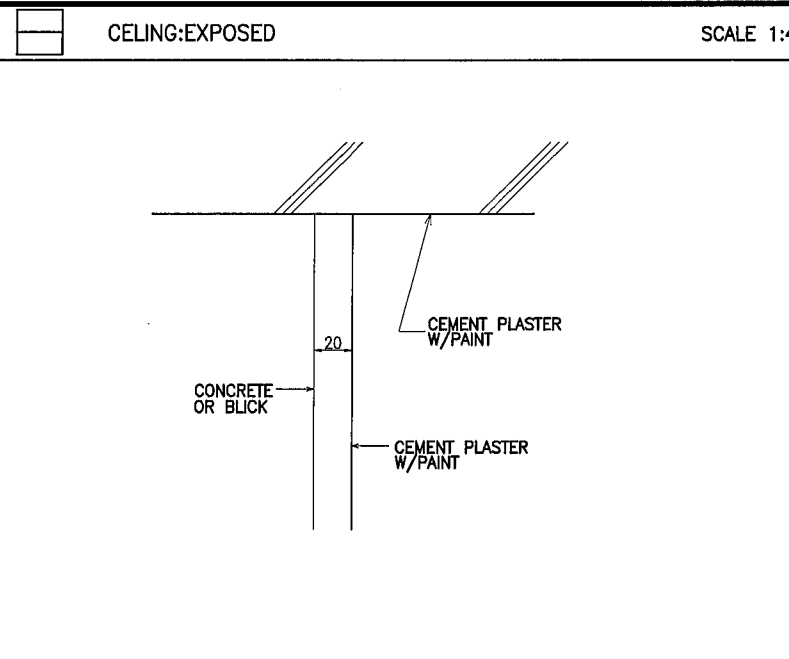
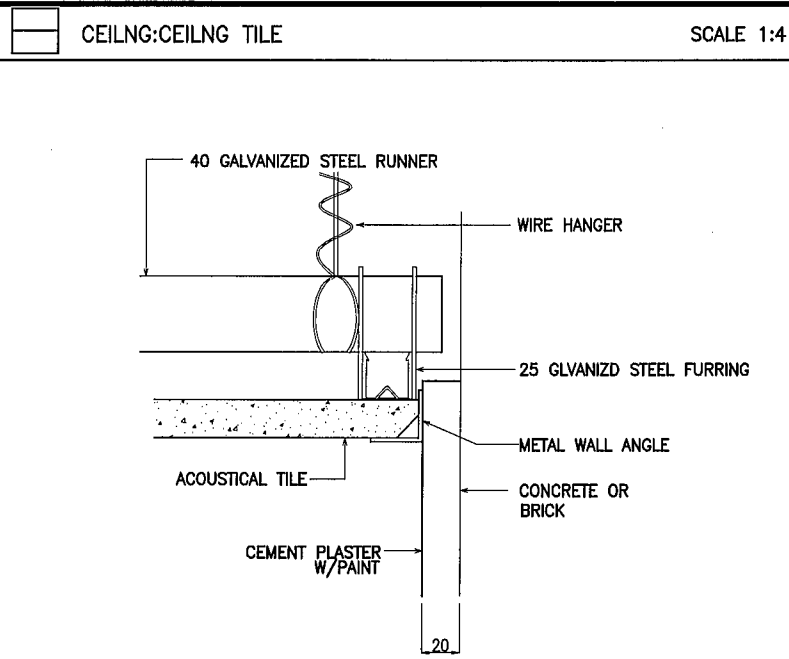
(B) SECTION



(C) SECTION

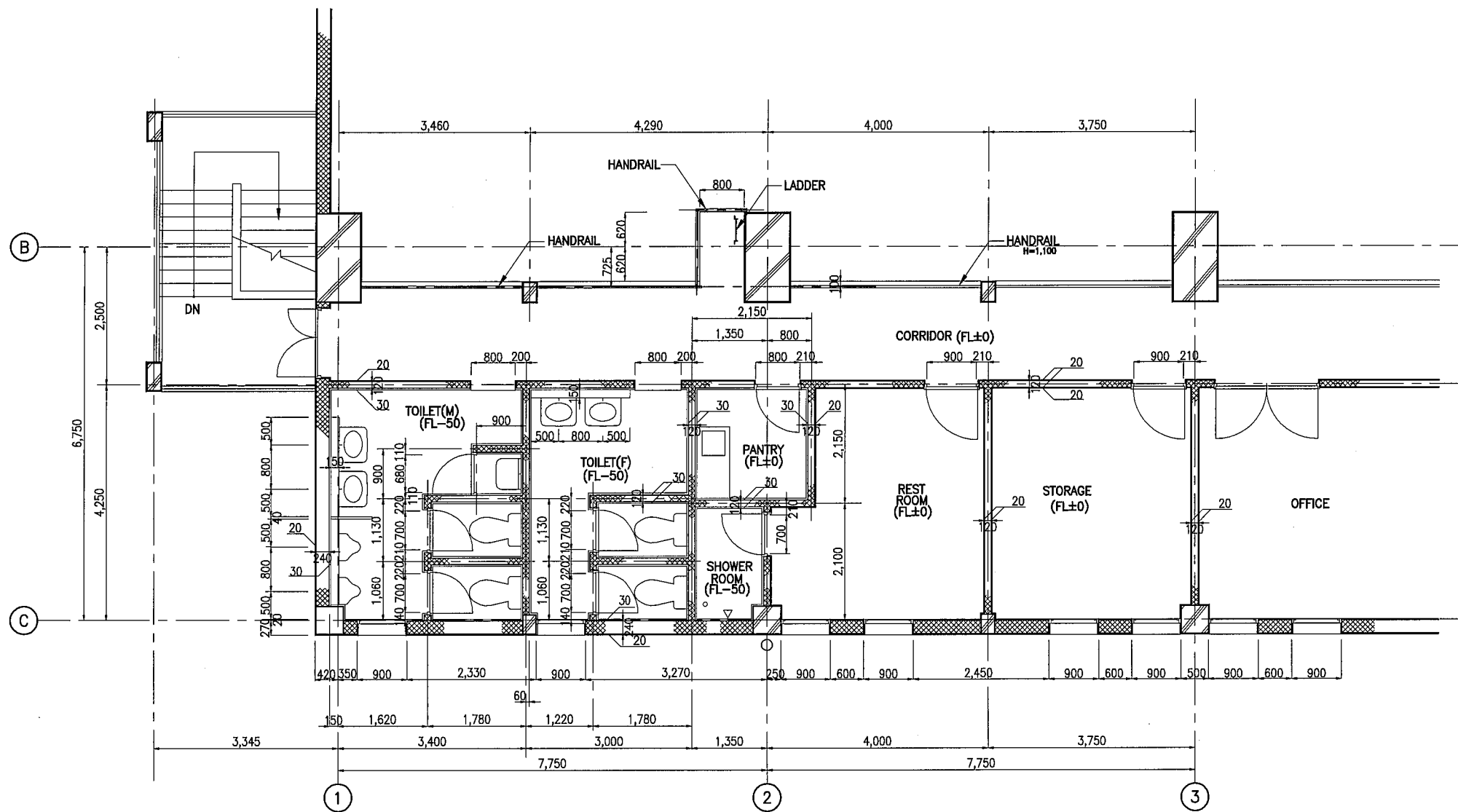


THE ARAB REPUBLIC OF EGYPT MINISTRY OF WATER RESOURCES AND IRRIGATION NORTH SINAI DEVELOPMENT ORGANIZATION THE NORTH SINAI INTEGRATED RURAL DEVELOPMENT PROJECT (PHASE III)	
CONVEYANCE SYSTEM OF EL SHEIKH GABER EL SABBAH CANAL BETWEEN KM 108.466 AND KM 118.560 EL SALAAM No. 7 (BIR EL ABD) PUMPING STATION	
PUMP HOUSE SECTIONS	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) SANYU CONSULTANTS INC, PACIFIC CONSULTANTS INTERNATIONAL	
DESIGNED	
TRACED	
CHECKED	
APPROVED	
DRAWING NO.	PSB-209



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 SYSTEM OF EL SHEIKH GABER EL SABBAH CANAL
 BETWEEN KM 108.466 AND KM 118.560
 EL SALAAM No. 7 (BIR EL ABD) PUMPING STATION
 PUMP HOUSE
 STANDARD DETAILS (1/2)
 JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
 SAMYU CONSULTANTS INC, PACIFIC CONSULTANTS INTERNATIONAL

DESIGNED	
TRACED	
CHECKED	
APPROVED	
DRAWING NO.	PSB-210



LEGEND:

 CEMENT BRICK (WALL)

TOILET DETAIL PLAN

0 1 3 5m
SCALE 1:100

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 SYSTEM OF EL SHEIKH GABER EL SABBAH CANAL BETWEEN KM 108.466 AND KM 118.560 EL SALAAM No. 7 (BIR EL ABD) PUMPING STATION PUMP HOUSE DETAIL (2/2)	
JAPAN INTERNATIONAL COOPERATION AGENCY (JICA) SANYU CONSULTANTS INC, PACIFIC CONSULTANTS INTERNATIONAL	
DESIGNED	
TRACED	
CHECKED	
APPROVED	
DRAWING NO.	PSB-213

1-GENERAL : -

- 1 - ALL STRUCTURAL DRAWINGS SHOULD BE READ IN CONJUNCTION WITH SPECIFICATIONS, ARCHITECTURAL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS.
- 2 - ALL DIMENSIONS SHOULD BE VERIFIED BY THE CONTRACTOR BEFORE CONSTRUCTION.
- 3 - DO NOT SCALE. USE WRITTEN DIMENSIONS.
- 4 - ALL OPENINGS SHALL BE FORMED OR SLEEVED BEFORE PLACING CONCRETE.
- 5 - NO OPENINGS OR SLEEVES SHALL BE PLACED IN BEAMS OR COLUMNS EXCEPT AS INDICATED ON THE STRUCTURAL DRAWINGS.
- 6 - PROVIDE ALL NECESSARY INSERTS, CLIPS, ANCHORS, TIES AND OTHER FASTENING DEVICES AS REQUIRED TO BE CAST INTO CONCRETE.
- 7 - PROVIDE 20 mm CHAMFER AT CORNERS OF ALL CONCRETE BEAMS, WALLS AND SQUARE COLUMNS EXPOSED IN THE COMPLETED WORK, UNLESS OTHERWISE INDICATED.
- 8 - INDIVIDUAL PANELS OF CONCRETE SLAB ON GRADE SHALL BE BOUNDED BY CONTROL OR CONSTRUCTION JOINTS LOCATED ON COLUMN CENTERLINES AND AT INTERMEDIATE LOCATIONS AS REQUIRED AT A MAXIMUM SPACING OF 3600 MM IN EACH DIRECTION. LOCATE JOINTS SO THAT ALL COLUMNS OCCUR ON EDGES OF PANELS. PROVIDE EXPANSION JOINTS IN SLAB ON GRADE MATCHING LOCATION OF EXPANSION JOINTS ON STRUCTURAL SLAB AND BEAMS ABOVE.
- 9 - ALL DIMENSIONS ARE IN MILLIMETERS AND ALL ELEVATIONS ARE IN METERS UNLESS OTHERWISE NOTED.
- 10 - FINISHES TO ALL EXPOSED FORMED SURFACES ARE CONSIDERED TO BE OF GREAT IMPORTANCE. THE CONTRACTOR SHALL DEMONSTRATE BEFORE COMMENCEMENT OF WORK THAT EACH TYPE OF SPECIFIED FINISH CAN BE CONSISTENTLY ACHIEVED.
- 11 - ALL FOOTINGS SHALL BE PLACED ON THE SOIL OF NET ALLOWABLE BEARING CAPACITY NOT LESS THAN 2.00 KPa (UNLESS OTHERWISE NOTED) AND SHALL BE SUBJECT TO APPROVAL OF THE ENGINEER. BEARING CAPACITY AND OTHER SOIL DATA SHALL BE VERIFIED BY THE CONTRACTOR BY CONDUCTING SUB-SOIL INVESTIGATION AT SITE UNDER THE SUPERVISION OF A QUALIFIED GEOTECHNICAL ENGINEER.
- 12 - DO NOT EXCAVATE BELOW THE ELEVATION OF ANY COMPLETED FOOTING ANY CLOSER TO THE FOOTING THAN A SLOPE OF 2 HORIZONTAL (MEASURED FROM EDGE OF FOOTING TO ANY POINT IN THE EXCAVATION) TO 1 VERTICAL.
- 13 - UNLESS OTHERWISE SHOWN, BAR BENDS, LAP SPLICES AND REINFORCEMENT DETAILS SHALL CONFORM TO E.S.S.
- 14 - ALL MATERIALS, WORKMANSHIP, WELDING AND TESTS SHALL CONFORM TO E.S.S.
- 15 - CONSTRUCTION JOINTS IN FLOORS SHALL BE LOCATED WITHIN THE MIDDLE THIRD OF SPANS OF SLABS, BEAMS AND GIRDERS. CONSTRUCTION JOINTS IN GIRDERS SHALL BE OFFSET A MINIMUM DISTANCE OF TWO TIMES THE WIDTH OF INTERSECTING BEAMS.
- 16 - SURFACE OF CONCRETE CONSTRUCTION JOINTS SHALL BE CLEANED AND LAITANCE REMOVED.
- 17 - CONSTRUCTION JOINTS SHALL BE SO MADE AND LOCATED AS NOT TO IMPAIR THE STRENGTH OF THE STRUCTURE.
- 18 - FOR STRUCTURAL STEEL ALL WELDING SHALL BE DONE BY CERTIFIED WELDERS IN ACCORDANCE WITH E.S.S. STANDARDS. ALL WELDING SHALL BE DONE ON SURFACES FREE OF PAINT.
- 19 - CONTRACTOR SHALL SUBMIT FOR APPROVAL SHOP DRAWINGS SHOWING PROPOSED CONSTRUCTION JOINT LAYOUT BEFORE CONSTRUCTION.

2-DESIGN CRITERIA : -

2.1 DESIGN REFERENCES : -

- EGYPTIAN CODE OF PRACTICE E.S.S.

2.2 DESIGN LOADS : -

- THE DESIGN METHOD FOR ALL BUILDINGS SHALL BE " ULTIMATE STRENGTH DESIGN " AND ULTIMATE LOAD " U " SHOULD BE TAKEN FROM E.S.S.

a) DEAD LOADS : -

- WEIGHT OF REINFORCED CONCRETE	2500	kg/m ³
- WEIGHT OF STEEL	7850	kg/m ³
- CONCRETE FINISH TOPPING	2200	kg/m ³
- HANGING LOAD (CEILING, MECH., ELEC., ETC.)	75	kg/m ²
- SOLID BLOCK	1900	kg/m ³
- MORTAR	2100	kg/m ³
- MARBLE	2700	kg/m ³

b) LIVE LOAD : -

b.1- ROOFS ACCESSIBLE	200	kg/m ²
INACCESSIBLE	100	kg/m ²
b.2- FLOORS		
- CORRIDORS	400	kg/m ²
- OFFICE AREA	300	kg/m ²
- STAIRS	500	kg/m ²
- LABORATORIES	400	kg/m ²
- MECHANICAL ROOMS	VARIABLE	
- TOILET ROOMS	300	kg/m ²
- STORAGE AREA	1000	kg/m ²

c) WIND LOAD : -

- AS PER E.S.S.

d) SEISMIC LOADS : -

- AS PER E.S.S.
- SEISMIC ZONE 2

3- CONSTRUCTION MATERIALS : -

3.1 - CONCRETE : (NORMAL WEIGHT)

MINIMUM 28 DAYS CUBE COMPRESSIVE STRENGTH (F_{cu}) SHALL BE AS FOLLOWS.

a) CAST IN PLACE :

- FOUNDATION, SLAB ON GRADE (SLAB ON METAL DECK, TOPPING)-----F_{cu} = 275 kg/cm²
- GRADE BEAMS, COLUMNS, WALLS, BEAMS, SLABS-----F_{cu} = 300 kg/cm²
- ALL OTHER CONCRETE-----F_{cu} = 300 kg/cm²
- PLAIN CONCRETE-----F_{cu} = 180 kg/cm²

3.2 - CEMENT :

CEMENT SHALL CONFORM TO E.S.S. THE WATER CEMENT RATIO SHALL NOT EXCEED 0.45. FOR ALL CONCRETE IN CONTACT WITH SOIL USE SULPHATE RESISTING CEMENT. FOR ALL CONCRETE ABOVE GROUND LEVEL, USE ORDINARY PORTLAND CEMENT TYPE (1)

3.3 - REINFORCING STEEL :

NORMAL MILD STEEL	24/35	F _y = 2400 kg/cm ²
HIGH GRADE STEEL	36/52	F _y = 3600 kg/cm ²

3.4 - STRUCTURAL STEEL :

- STEEL UNLESS OTHERWISE SPECIFIED, STRUCTURAL STEEL SHALL CONFORM TO JIS G3101 SS400, ASTM A36 OR EQUIVALENT.
- CONNECTION BOLT CONNECTION BOLT FOR PRIMARY MEMBERS SHALL BE HIGH STRENGTH BOLT CONFORMING TO JIS B1186 F10T, ASTM A325F OR EQUIVALENT. CONNECTION BOLT FOR SECONDARY MEMBERS SHALL BE ORDINARY BOLT CONFORMING TO JIS G3101 SS400, ASTM A36 OR EQUIVALENT. ANCHOR BOLT SHALL CONFORM TO JIS G3101 SS400, ASTM A36 OR EQUIVALENT. NUT : JIS B1181 WASHER : JIS B1256
- A SAMPLE FROM ALL THE MATERIALS USED SHALL BE APPROVED BY THE ENGINEER BEFORE CONSTRUCTION.
- STEEL DRAWINGS SHOULD BE CHECKED BY THE CONTRACTOR BEFORE FABRICATION.

4- CONCRETE COVER FOR REINFORCEMENT. : -

CONCRETE COVER FOR REINFORCEMENT SHALL BE AS FOLLOWS :

- A) CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH (FOUNDATIONS) -----50 mm
- B) ALL OTHER CONCRETE ABOVE G.L.
 - SLAB AND WALLS -----15 mm
 - BEAMS AND COLUMNS -----25 mm
 - SHELLS AND DOMES -----15 mm

5- DEVELOPMENT LENGTH (L_d) AND LAP SPLICE LENGTH (L_p) FOR STEEL REINFORCEMENT :

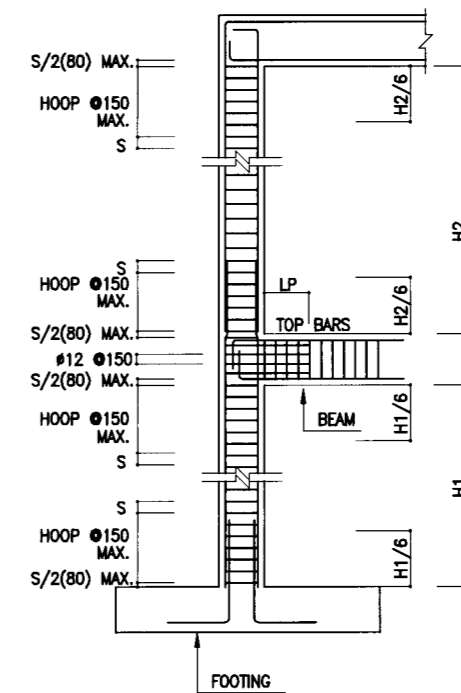
UNLESS NOTED OTHERWISE ON THE DRAWINGS MINIMUM DEVELOPMENT LENGTH (L_d) AND LAP SPLICE (L_p) SHALL BE AS FOLLOWS :

BAR DIAMETER mm.	8	10	12	14	16	18	20	22	25	28	32
DEVELOPMENT LENGTH L _d (mm) F _{cu} = 300 kg/cm ²	350	350	350	400	450	500	550	600	800	1000	1200
LAP SPLICE LENGTH L _p (mm) (TENSION BARS) F _{cu} = 300 kg/cm ²	400	400	550	650	700	800	850	1000	1300	1700	2100
LAP SPLICE LENGTH L _p (mm) (COMPRESSION BARS) F _{cu} = 300kg/cm ²	350	350	400	450	500	550	600	700	800	900	1000

NOTES :

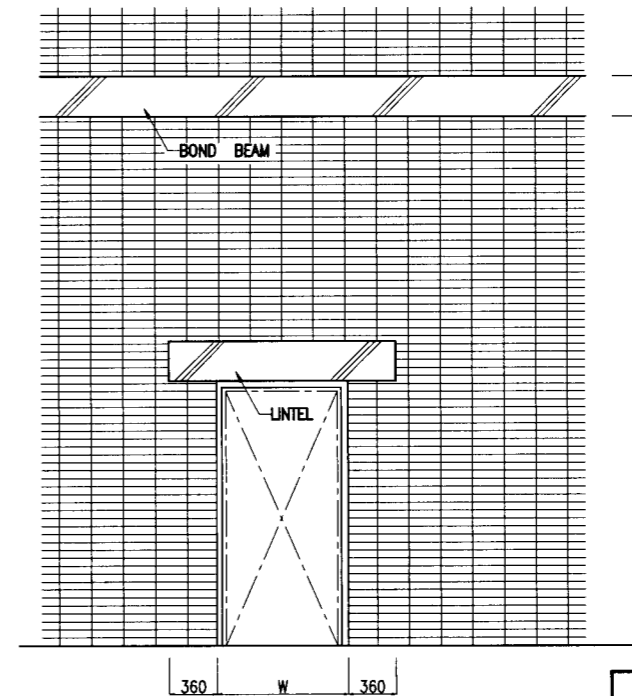
- 1 - FOR TOP BARS ALL TENSION SPLICE LENGTHS MENTIONED ABOVE SHALL BE MULTIPLIED BY 1.30. TOP BARS ARE ANY HORIZONTAL BARS PLACED SO THAT MORE THAN 300 mm OF FRESH CONCRETE IS CAST IN THE MEMBER BELOW THE REINFORCEMENT.
- 2 - UNLESS OTHERWISE MENTIONED TENSION LAP SPLICE LENGTH (L_p) SHALL BE USED AT :
 - COLUMN TO FOOTING JUNCTION CONNECTED WITH GRADE BEAM.
 - COLUMNS IN UPPER FLOORS.
 - RETAINING WALLS TO FOOTING JUNCTION.
- 3 - AT COLUMN TO FOOTING JUNCTION WITHOUT GRADE BEAM, COMPRESSION LAP SPLICE LENGTH (L_p) SHALL BE USED.

6-TYPICAL SEISMIC-RESISTANT DETAILS FOR EXTERIOR COLUMNS AND BEAMS CONNECTIONS



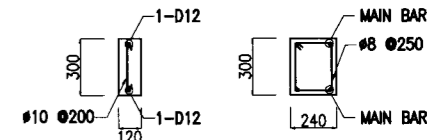
NOTE :
FOR SPACING (S) AND THE DIAMETER, SEE MEMBER SCHEDULE.

7-LINTEL FOR CEMENT BRICK



LINTEL

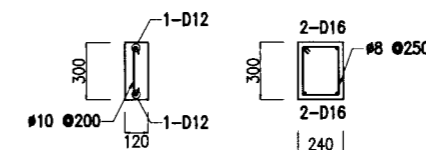
IN CASE WALL THICKNESS = 120mm
IN CASE WALL THICKNESS = 240mm



	MAIN BAR
W ≤ 1.0 m	2-D12
1 < W ≤ 2	2-D16
2 < W ≤ 3.0 m	2-D22

BOND BEAM

IN CASE WALL THICKNESS = 120mm
IN CASE WALL THICKNESS = 240mm



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CONVEYANCE SYSTEM OF EL SHEIKH GABER EL SABBAH CANAL
BETWEEN KM 108.466 AND KM 118.560
EL SALAM No. 7 (BIR EL ABO) PUMPING STATION

PUMP HOUSE
GENERAL NOTES (1/2)

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

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TYPICAL DETAIL FOR WELDING

FILLET WELD		MANUAL WELDING	
FILLET WELD (CONTINUOUS)	LAP FILLET WELD	TC-U4a	SINGLE-BEVEL GROOVE WELD T&C JOINT
			$T < 19\text{mm}$ $\alpha = 45^\circ$ $R < 3\text{mm}$ $d < 2\text{mm}$
LAP FILLET WELD	INTERMITTENT FILLET WELD	TC-U4c	SINGLE-BEVEL GROOVE WELD T&C JOINT
			$T < 19$ $19 < T < 32$ $\alpha = 45^\circ$ $\alpha = 35^\circ$ $R = 7$ $R = 9$ $f = 1 \sim 2$ $f = 1 \sim 2$
PARTIAL PENETRATION WELD		B-U2a	SINGLE-BEVEL GROOVE WELD BUTT JOINT
			$T < 19$ $19 < T < 50$ $\alpha = 45^\circ$ $\alpha = 35^\circ$ $R = 7$ $R = 9$ $f = 1 \sim 2$ $f = 1 \sim 3$

STANDARD SIZE OF FILLET WELD
(SIZE OF FILLET WELD UP TO 8mm MUST USE SINGLE PASS WELD)

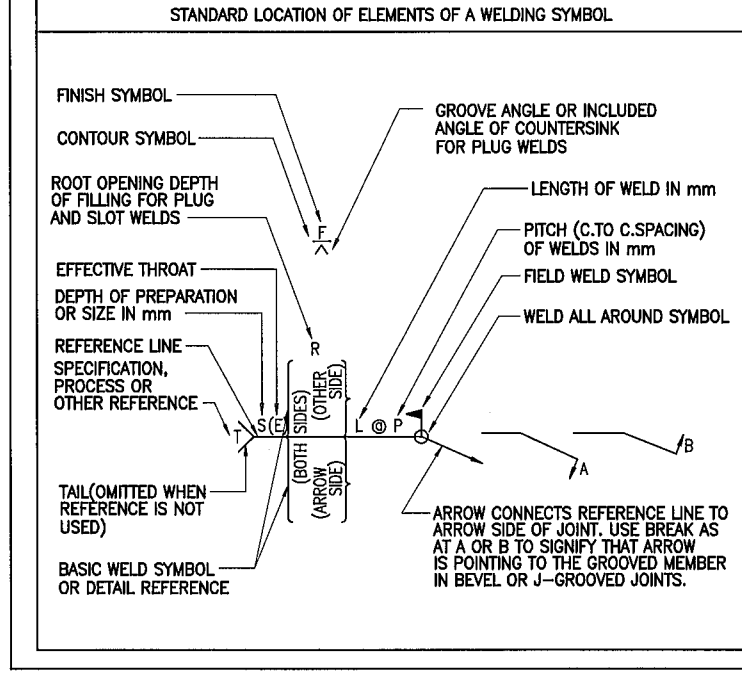
THICKNESS OF PLATE (mm) (T2)	4.5	6	9	12	16	19	22	25	28
MANUAL	4	5	6	8	10	12	14	16	18
AUTO	4	5	6	8	10	11	12	13	15

BASIC WELD SYMBOLS

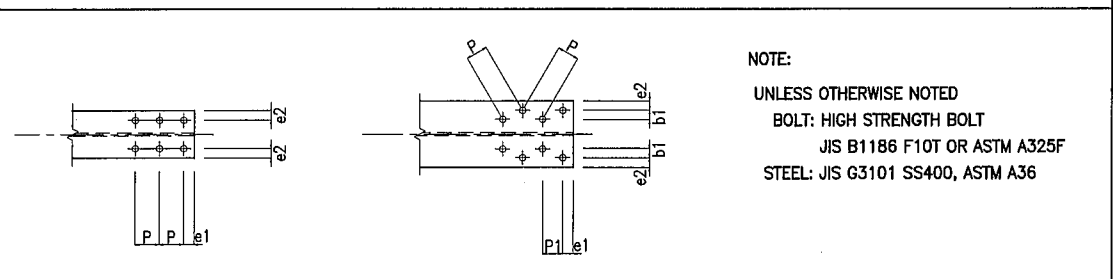
BACK	FILLET	PLUG OR SLOT	GROOVE OR BUTT				
			SQUARE	V	BEVEL	FLARE V	FLARE BEVEL

SUPPLEMENT WELD SYMBOLS

BACKING	SAUCER	WELD ALL AROUND	FIELD WELD	CONTOUR	
				FLUSH	CONVEX



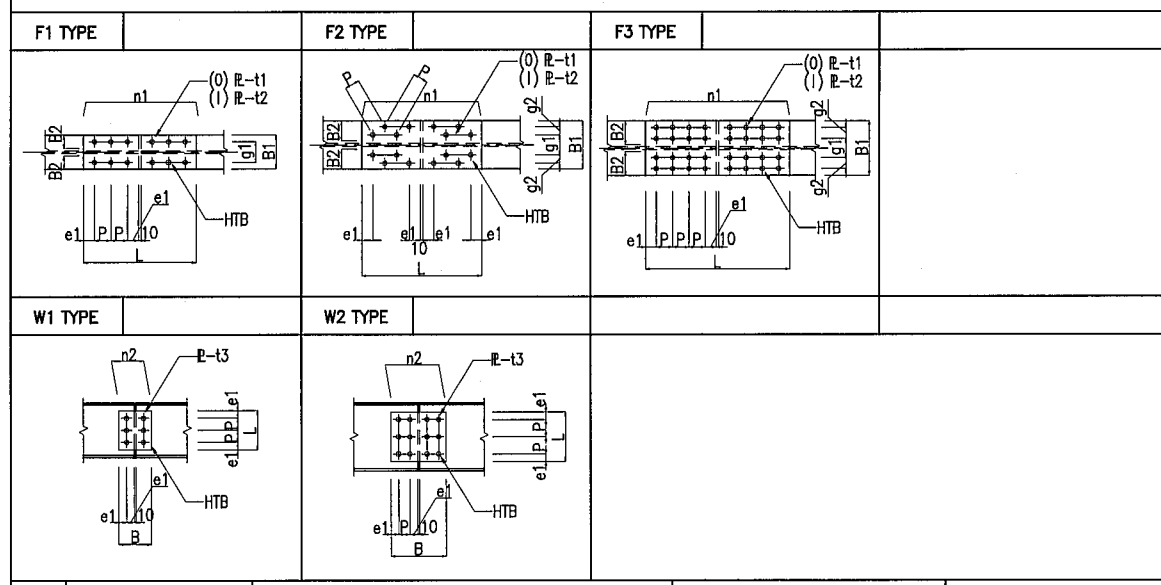
BOLT SPACE & HOLE



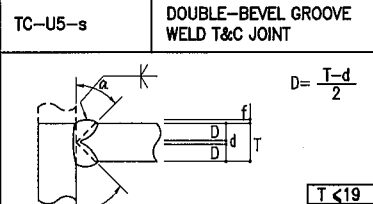
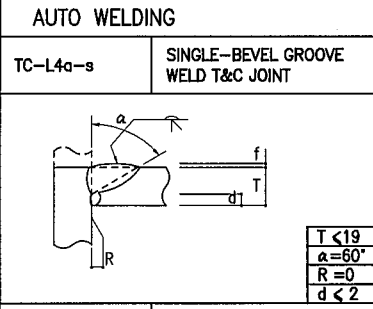
NOTE:
UNLESS OTHERWISE NOTED
BOLT: HIGH STRENGTH BOLT
JIS B1186 F10T OR ASTM A325F
STEEL: JIS G3101 SS400, ASTM A36

BOLT SIZE	BOLT HOLE DIA	TYPICAL P	MINIMUM P	TYPICAL P1	TYPICAL b1	TYPICAL e1	TYPICAL e2	REMARKS
M16	17.5	60	40	40	35	35	25	
M20	21.5	60	50	45	40	40	30	
M22	23.5	60	55	45	40	45	35	
M24	25.5	70	60	60	40	45	35	

RIGID CONNECTION



MARK	MEMBERS	FLANGE				WEB		DIMENSION		
		TYPE	OUTSIDE $R-t1 \times B1 \times L$	INSIDE $2R-t2 \times B2 \times L$	$n1$ (HTB)	TYPE	$2R-t3 \times B \times L$	$n2$ (HTB)	$g1$	$g2$
ST1	H-300x305x15x15	F2	$R-9 \times 300 \times 440$	$2R-12 \times 110 \times 440$	16-M20	W2	$2R-9 \times 290 \times 200$	12-M20	150	40
ST1	H-175x175x 7x11	F1	$R-9 \times 175 \times 290$	$2R-12 \times 64 \times 290$	8-M20	W2	$2R-9 \times 290 \times 80$	4-M20	105	-
ST2	H-390x300x10x16	F2	$R-9 \times 300 \times 440$	$2R-12 \times 110 \times 440$	16-M20	W1	$2R-9 \times 170 \times 260$	8-M20	150	40
ST3	BH-1000x400x16x32	F3	$R-19 \times 400 \times 650$	$2R-22 \times 165 \times 650$	40-M20	W1	$2R-12 \times 170 \times 740$	24-M20	140	90



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PUMP HOUSE
GENERAL NOTES (2/2)

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

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