CONTRACT CS011.A-12E E&M SERVICES DIVERSION AND BUILDERS WORKS FOR PLATFORM WALL BREAKTHROUGH AT ADM

TENDER DRAWINGS

TENDER ISSUE 2012

DRAWING NUMBER

CS011.A-12E/T/ADM/MTR/ A00/000

CS011.A-12E/T/ADM/MTR/ | A00/001

CS011.A-12E/T/ADM/MTR/ A00/002

CS011.A-12E/T/ADM/MTR/ A00/003

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CS011.A-12E/T/ADM/MTR/ C00/001

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CS011.A-12E/T/ADM/MTR/ | E00/002

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Grand total: 15

KEY PLAN		DRAWN		TITLE COOL 4 B 40F
		DESIGNED		CS011.A-12E
		CHECKED		E&M SERVICES DIVERSION AND BUILDERS WORKS
		APPROVED	ORIGINATOR	FOR PLATFORM WALL BREAKTHROUGH AT ADM
		DATE DEC 2012		
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DRAWING LIST

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DRAWING TITLE

E&M SERVICES DIVERSION AND BUILDERS WORKS FOR PLATFORM WALL BREAKTHROUGH AT ADM CONTRACT COVER SHEET

E&M SERVICES DIVERSION AND BUILDERS WORKS FOR PLATFORM WALL BREAKTHROUGH AT ADM ABBREVIATIONS AND NOTES

E&M SERVICES DIVERSION AND BUILDERS WORKS FOR PLATFORM WALL BREAKTHROUGH AT ADM GENERAL NOTES AND LEGENDS

E&M SERVICES DIVERSION AND BUILDERS WORKS FOR PLATFORM WALL BREAKTHROUGH AT ADM GENERAL NOTES (SHEET 1 OF 2)

E&M SERVICES DIVERSION AND BUILDERS WORKS FOR PLATFORM WALL BREAKTHROUGH AT ADM GENERAL NOTES (SHEET 2 OF 2)

E&M SERVICES DIVERSION AND BUILDERS WORKS FOR PLATFORM WALL BREAKTHROUGH AT ADM ES LEGEND AND ABBREVIATION

E&M SERVICES DIVERSION AND BUILDERS WORKS FOR PLATFORM WALL BREAKTHROUGH AT ADM ES GENERAL NOTES

E&M SERVICES DIVERSION AND BUILDERS WORKS FOR PLATFORM WALL BREAKTHROUGH AT ADM ECS GENERAL NOTES

E&M SERVICES DIVERSION AND BUILDERS WORKS FOR PLATFORM WALL BREAKTHROUGH AT ADM INITIAL PHASE - SYMBOLS & LEGEND

E&M SERVICES DIVERSION AND BUILDERS WORKS FOR PLATFORM WALL BREAKTHROUGH AT ADM NOTES, LEGEND AND ABBREVIATION

E&M SERVICES DIVERSION AND BUILDERS WORKS FOR PLATFORM WALL BREAKTHROUGH AT ADM LEGEND, ABBREVIATION AND NOTE

E&M SERVICES DIVERSION AND BUILDERS WORKS FOR PLATFORM WALL BREAKTHROUGH AT ADM | ECS LEGEND AND ABBREVIATIONS

E&M SERVICES DIVERSION AND BUILDERS WORKS FOR PLATFORM WALL BREAKTHROUGH AT ADM NEW SPRINKLER & FH/HR SYSTEM SCHEMATIC

E&M SERVICES DIVERSION AND BUILDERS WORKS FOR PLATFORM WALL BREAKTHROUGH AT ADM EXISTING SPRINKLER & FH/HR SYSTEM SCHEMATIC

E&M SERVICES DIVERSION AND BUILDERS WORKS FOR PLATFORM WALL BREAKTHROUGH AT ADM INITIAL PHASE - GENERAL NOTES FOR BUILDER'S WORKS

1. GENERAL NOTES :

- 1. INFORMATION SHOWN ON DRAWINGS INDICATES THE DESIGN INTENT. VARIATION ON PLAN AND INFORMATION FOUND ON SITE SHALL BE DRAWN TO THE ATTENTION OF THE ENGINEER.
- 2. ALL DETAILS SHOWN ON DRAWINGS ARE DESIGN INTENT. THE CONTRACTOR SHALL SUBMIT DETAILED SHOP DRAWINGS SHOWING ALL CONSTRUCTION DETAILS, COMPONENTS, ASSEMBLY, MATERIAL SIZES SUPPLEMENTED WITH SPECIFICATIONS AND NECESSARY CALCULATION FOR APPROVAL PRIOR TO COMMENCEMENT OF WORKS.
- 3. ALL DIMENSIONS ARE MEASURED TO FINISH SURFACES AS PER MTRCL SITE SURVEY VALIDATIONS UNLESS OTHERWISE NOTED AND SHOULD BE VARIFIED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS AND FABRICATION.
- 4. ALL DIMENSIONS ARE IN MILLIMETER
- 5. STRUCTURAL FRAME OF ALL ROOF DECK SHALL BE CAPABLE OF RESISTING A UNIFORM IMPOSED LOAD OF 1.5 KPa.
- 6. THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH E&M, STRUCTURAL DRAWINGS AND THE SPECIFICATIONS AND THE CONDITIONS OF CONTRACT FOR INTERFACING WORKS AND ALL WORKS SHALL COMPLY WITH BUILDING REGULATION.
- 7. ALL AFFECTED FINISHES SHALL BE MADE GOOD AFTER COMPLETION OF EACH SECTION OF THE WORKS AND TO THE SATISFACTION OF THE ENGINEER.
- 8. THE CONTRACTOR SHALL CARRY OUT VERIFICATION OF ALL CONCEALED SERVICES PRIOR TO FLOOR EXCAVATION, WALL DEMOLITION AND/OR WALL CHIPPING AND SHALL REFER TO F&M. STRUCTURAL DRAWINGS FOR MORE INFORMATION
- 9. PROPOSED REFLECTED CEILING PLAN WITH E&M WORKS SHALL BE SUBMITTED FOR THE ENGINEER'S APPROVAL
- 10. ALL RELOCATION OF SIGNAGE WORKS SHALL INCLUDE ALL NECESSARY E&M EXTENSION SUCH AS FLOOR TRUNKING, CABLE TRAY, CABLE DISCONNECTION/CONNECTION AND T&C ETC. SUBMISSION SHALL BE PROVIDED FOR THE ENGINEER'S APPROVAL.
- 11. ALL CONDUIT & SERVICES LOCATED AT PUBLIC AREA SHALL BE CONCEALED AND NECESSARY ACCESS. PANELS/JUNCTIONS BOX SHALL BE PROVIDED FOR THE ENGINEER'S APPROVAL.
- 12. EXACT LOCATION/POSITION OF NEW AND RELOCATED ADV. PANELS, SIGNAGES & STATION FURNITURE TO BE DETERMINED BY THE ENGINEER ON SITE.
- 13. ALL NEW STATION SIGNS SHALL BE PROVIDED BY THE EMPLOYER AND INSTALLED BY THE CONTRACTOR. ALL NEW CEILING MOUNTED SIGNS ARE COMPLETE WITH 3000mm LONG STANDARD HANGERS. IF THE STANDARD HANGER ARE NOT SUITABLE FOR THE NEW LOCATION. THE CONTRACTOR IS RESPONSIBLE TO DESIGN, SUMIT SHOP DRAWINGS AND CALCULATION, SUPPLY & INSTALL SPECIAL HANGERS TO SUIT NEW LOCATION.
- 14. ALL EXISTING DRAINAGE SUCH AS MANHOLE, PIPES, GULLY & FLOOR DRAIN SHALL BE REARRANGED/ MODIFIED TO SUIT THE NEW LAYOUT AND SUBMIT FOR THE ENGINEER'S APPROVAL.
- 15. ALL SETTING-OUT SHALL BE MARKED ON SITE AND AGREED BY THE ENGINEER PRIOR TO WORKING.
- 16. ANY DISCREPANCIES SHALL BE NOTIFIED TO THE ENGINEER PRIOR TO THE EXECUTION OF THE WORKS.
- 17. EXISTING FIXTURES AND FINISHES SHALL BE PROTECTED FROM DAMAGES, EXISTING FIXTURES AND FINISHES DAMAGED BY THE CONTRACTOR SHALL BE REPLACED. REINSTATED OR MADE GOOD AT THE CONTRACTOR'S EXPENSE TO THE SAME STANDARD OF EXISTING AND TO THE SATISFACTION OF THE ENGINEER.
- 18. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL SITE VALIDATION, PROTECTION & MODIFICATION WORKS TO SUIT SITE CONDITIONS.
- 19. REINFORCED CONCRETE KICKER SHALL BE PROVIDED AROUND PIPES, CABLES AND TRUNKING THROUGH THE FLOOR SLAB.
- 20. REINFORCED CONCRETE PLINTH SHALL BE PROVIDED FOR ALL E&M EQUIPMENTS. DETAILS, LOCATION & QUANTITY SHALL BE REFERRED TO E&M DRAWINGS.
- 21. ALL REMOVAL/DEMOLITION WORKS OF WALL PANEL AND CEILING PANEL SHALL INCLUDE ITS SUPPORTING FRAMING AND FOOTINGS EMBEDDED IN FLOOR FINISHES.
- 22. ALL FURNITURE AND FIXTURES INSIDE THE AFFECTED AREA SHALL BE MOVED & RE-INSTALLED BY THE CONTRACTOR. THE NEW LOCATION SHALL BE CONFIRMED ON SITE.
- 23. THE HANGER OF EXISTING CEILING MOUNTED PIDS, SIGNAGE AND NEW SIGNAGE MAY NOT SUITABLE FOR NEW LOCATION. THE CONTRACTOR DO NECESSARILY MODIFY AND PROVIDE ADDITION HANGER FOR MOUNTING ONTO THE STRUCTURAL SOFFIT. CALCULATION OF HANGER SHALL BE SUBMITTED FOR **APPROVAL**
- 24. ALL PARAPET WHICH PREVENTS PERSONS FROM FALLING WITH A HEIGHT DIFFERENCE MORE THAN 600mm SHALL BE DESIGNED AND CONSTRUCTED TO WITHSTAND AN UNIFORM HORIZONTAL LOAD OF 3kN/m AT 1.1m HEIGHT FROM GROUND.
- 25. ALL THE RETRACTABLE STAINLESS STEEL BARRIER SHALL BE DESIGNED AND CONSTRUCTED TO WITHSTAND AN UNIFORM HORIZONTAL LOAD OF 0.75kN/m AT THE TOP RAIL WHICH IS NOT LESS THAN 1.1m HIGH.A STATIC LOADING TEST OF 1.5 TIMES DESIGN LOAD SHALL BE CONDUCTED WITH MAXIMUM DEFLECTION NOT EXCEED
- 26. ALL STRUCTURAL STEEL ELEMENTS TO BE PROTECTED WITH INTUMESCENT FIRE PROTECTED PRINTING SYSTEM OR FIRE RATED MINERAL FIBRE BOARD TO GIVE THE APPROPRIATE FIRE RESISTING PERIOD AS STATED ON THE DRAWINGS.
- 27. SETTING OUT OF BLOCK WORK WALL SHOWN ON ARCHITECTURAL DWGS UNO. CONCRETE WALLS ARE TO BE ALIGNED WITH RC WALLS WHERE ADJACENT SUCH THAT CORRIDOR FACE OR PRIMARY FACE IS CO-PLANAR.
- 28. SETTING OUT OF E&M OPENINGS.PENETRATIONS,PLINTHS,KERBS, BUNDS,LIFTING BEAMS & HOOKS ETC ARE SHOWN ON SEM AND STRUCTURAL DWGS.
- 29. FOR INTERFACE DETAILS OF ABWF AND E&M BUILDING SERVICES REFER TO THE E&M INTERFACE DETAILS.
- 30. REFER TO VARIOUS SSCC DRAWINGS (SERIES REF A22) FOR FIRE SAFETY RELATED REQUIREMENTS; IN PARTICULAR.REFER TO SSCC STAGE 1 DWGS FOR FRP.AND SSCC STAGE 2A DWGS FOR EXIT SIGNS IN BOH AREAS.

- 31. HOSE REELS / HYDRANTS / FIRE EXTINGUISHERS IN PUBLIC AREAS ARE ALL HOUSED WITHIN CABINETS WITH STAINLESS STEEL / VE / STONE CLADDED DOORS. HOSE REELS / HYDRANTS IN BOH (PLANTROOM) AREAS ARE SURFACE MOUNTED ONTO WALLS.WITHOUT ENCLOSURE, UNO.
- 32. ALL OPENINGS IN FLOOR SLAB TO HAVE RC UPSTAND KERB 150MM AFFL.
- 33. REFER TO MTR CADD MANUAL FOR FULL LISTING OF ABBREVIATIONS.
- 34. UNLESS OTHERWISE NOTED, ALL DOOR OPENINGS IN BLOCKWORK WALLS TO BE SET-OUT AS ILLUSTRATED IN DRAWINGS.
- 35. HORIZONTAL JOINT OF WALL PANEL & SKINTING SHALL BE ALIGNED WITH ADJACENT EXISTING.
- 36. EXACT LOCATION OF FLOOR DRAIN SHALL BE DETERMINED AND AGREED ON SITE.
- 37. EXIT SIGN COMPLYING WITH LATEST REQUIREMENT OF FSD FRONT FANEL SHALL BE MADE OF FLAME RESISTANCE AND TESTED TO 508A OF BS 2782 C/W SELF-MAINTANINED. CONTAINED TYPE BATTERY INVERTER STARTER FOR 3 HOURS MAINTAINED OPERATING DURING POWER FAILURE. THE EXIT SIGN SHALL BE PROVIDED WITH SECONDARY BATTERY IN ACCORDANCE WITH BRITISH STANDARD 5266 PART. VOLTAGE PATING SHALL BE 240±10% AND BATTERY SHALL MEET IEC61951 SIZE: 410(L)x180(H)x95(D)mm
- 10w LAMP WITH WHITE COLOUR BOX AND GREEN LETTERS
- 38. TEMPORARY FIRE RETARDANT FABRIC CEILING (2mx2m) FIXED TO TEMPORARY SUSPENDED FRAME.

2. METAL WORKS:

- 1. STAINLESS STEEL PLATE, SHEET AND STRIP TO BS 1449: PART 2, GRADE 316, S16.
- 2. ALL MILD STEEL SHALL BE GRADE 43A TO BS4306.

NEW DOOR

- 3. SYNTHETIC RUBBER, GASKET BUFFERS, WASHERS, SPACER, SEATING STRIPS TO BS 4255: PART 1,COLOUR BLACK TO APPROVAL.
- 4. STEEL TUBES TO BS1775, OTHER STEEL COMPONENTS TO RELEVANT BS.
- 5. WELDING SHALL BE CARRIED OUT WITH BS 693 AND BS 5135 OR OTHER APPROVED METHODS.
- 6. ALL FILLET WELDS SHALL BE FULL PENETRATION OF A MINIMUM OF 6mm-LEG SIZE AND EQUAL TO THE THICKNESS OF THE STEEL ELEMENTS.
- 7. ALUMINIUM ALLOY SHALL BE EXTRUDED ROUND TUBE TO BS 1474, ALLOY DESIGNATION 6063 AND APPROVED.
- 8. ALL MILD STEEL TO BE HOT DIP GALVANIZED TO BS EN 1461 BEFORE INSULATION, MINIMUM GALVANIZED THICKNESS SHALL BE 85 MICRONS.
- 9. EDGE DISTANCE OF ALL DRILLED HOLES TO BE IN ACCORDANCE WITH BS 5950.
- 10. ALL BOLTS & NUTS TO BE GRADE 4.6 TO BS 4190, AND WASHERS COMPLY WITH BS 4320 SHALL BE PROVIDED.
- 11. ANY CONNECTION DETAILS NOT SHOWN IN THE DRAWINGS SHALL BE DESIGNED BY THE CONTRACTOR AND SUBMITTED FOR THE ENGINEER'S APPROVAL.
- 12. ALL STAINLESS STEEL POP RIVET SHALL COMPLY WITH BS 7349: PART 2: 1993.
- 13. AT CONTACT BETWEEN STAINLESS STEEL BOLT/NUT AND STRUCTURAL MILD STEEL ELEMENTS, A PLASTIC WASHER SHALL BE ADDED AS AN ISOLATOR.
- 14. AT CONTACT BETWEEN STAINLESS STEEL ELEMENTS AND STRUCTURAL MILD STEEL ELEMENTS, A CONTINUOUS STRIP OF NEOPRENE SHALL BE ADDED AS AN ISOLATOR.

3. LEGEND

L3X01A

 EXISTING BUILDER'S WORK TO BE DEMOLISHED		WORKS BOUNDARY
EXISTING WALL		EXTENT OF WORKS (PLANTROOM MODIFICATION)
NEW BLOCKWORK WALL	FXIT	EMERGERCY EXIT
	LAII	(SEE GENERAL NOTE 37)

4. ABBREVIATION

ADM	ADMIRALTY STATION	mPD	LEVEL IN METRES RELATIVE TO HONG KONG PRINCIPLE DATUM
ABWF	ARCHITECTURAL BUILDERS WORKS AND FINISHES	MPR	MULTI-PROCESSOR
AC	ACCESS COVER	MS	MILD STEEL
ACU	AUXILIARY COMMUNICATIONS UNIT	NOM.	NOMINAL
ADB	AUTOMATIC DROP BARRIER	NO.	NUMBER
AFC	AUTOMATIC FARE COLLECTION	NTS	NOT TO SCALE
AFFL	ABOVE FINISHED FLOOR LEVEL	OTE	OVER TRACK EXHAUST DUCT
AHU	AIR HANDLING UNIT	P/D	PIPE DUCT
APPROX	APPROXIMATELY	P&D	PLUMBING & DRAINAGE
ATM	AUTOMATIC TELLER MACHINE	PEP	EMERGENCY STOP PLUNGER
AVM	ADD VALUE MACHINE	PER	POWER EQUIPMENT ROOM
BOH	BACK OF HOUSE	PID	PASSENGER INFORMATION DISPLAY
BSVS	BACK OF HOUSE SUPPLY VENT SHAFT	PS	PARTICULAR SPECIFICATION
BEVS	BACK OF HOUSE EXHAUST VENT SHAFT	PSB	PLATFORM SUPERVISOR BOOTH
C/C	CENTRE TO CENTRE	PSD	PLATFORM SCREEN DOOR
C/C	CONSTRUCTION JOINT	PSV	PRE-ACTION SPRINKLER VALVE CHAMBER
CL	CAT LADDER	RC/R.C.	REINFORCED CONCRETE
C.L.	CEILING LEVEL	RCP.	REFLECTED CEILING PLAN
	CENTRE LINE	REF	REFERENCE
(
C&C	CONTROL AND COMMUNICATION	RHS	RECTANGULAR HOLLOW SECTION
C.H.S.	CIRCULAR HOLLOW SECTION	RM	ROOM
CONC	CONCRETE	RWO	RAIN WATER OUTLET
CONT.	CONTINUOUS	RWP	RAIN WATER PIPE
C/S	CEMENT / SAND	NON-FS	NON-FIRE SERVICES
C/W	COMPLETE WITH	SCL(NSL)	,
CTR	CABLE TERMINATION ROOM	SCR	STATION CONTROL ROOM
CTER	COMMON TELECOM EQUIPMENT ROOM	SIL	SOUTH ISLAND LINE
CUC	CUSTOMER SERVICE CENTRE	SED	SMOKE EXTRACT DUCT
D/T	DOWN TRACK	SEE	SUPPLEMENTARY EMERGENCY ENTRANCE
DEE	DESIGNATED EMERGENCY ENTRANCE	SEM	STRUCTURAL.ELECTRICAL & MECHANICAL
DIA	DIAMETER	SFL	STRUCTURAL FLOOR LEVEL
DIV.	DIVIDER	SH	SHUTTER
DN	DOWN	SIM.	SIMILAR
DR	DOOR	SOP	SETTING OUT POINT
DWG	DRAWING	SEVS	STATION EXHAUST VENT SHAFT
ECC	ESCALATOR CONTROL CABINET	SER	SIGNALING EQUIPMENT ROOM
ECS	ESCALATOR CONTROL SYSTEM	SFH	STREET FIRE HYDRANT
ELEC	ELECTRICAL RISER	S.MCC	STATION MOTOR CONTROL CENTRE
EQ	EQUAL AND MECHANICAL	S.Q.	SQUARE
E&M	ELECTRICAL AND MECHANICAL	SS/S.S.	STAINLESS STEEL
ESC	ESCAPE	S/S	STAINLESS STEEL
EX./EXTG	EXISTING	SSCC	SAFETY & SECURITY COORDINATING COMMITTEE
EVA	EMERGENCY VEHICULAR EVACUATION ROUTE	SSP	SELF SERVICES POINT
EVS	EXHAUST VENT SHAFT	SSVS	STATION SUPPLY VENT SHAFT
FCL	FINISHED CEILING LEVEL	SPS	STAIRCASE PRESSURIZATION SUPPLY
FD	FLOOR DRAIN	SPR	STAIRCASE PRESSURIZATION RELIEF
FFL/F.F.L.	FINISHED FLOOR LEVEL	SVS	SUPPLY VENT SHAFT
FH	FIRE HYDRANT	S/W	SYSTEM WIDE
FHR	FIRE HYDRANT & HOSE REEL	TBC	TO BE CONFIRMED
FIN	FINISH	TEF	TRACKSIDE EXHAUST FAN
FL	FLOOR	TER	TELECOM EQUIPMENT ROOM
FOH	FRONT OF HOUSE	THK/T	THICK
FRP	FIRE RATED PERIOD	T&C	TESTING & COMMISSIONS
FS	FIRE SERVICE	TM	TICKET ISSUING MACHINE
FSI	FIRE SERVICE INLET	T.MCC	TRACKSIDE MOTOR CONTROL CENTRE
FW	FILLET WELDED	T.O.R	TOP OF RAIL
GA	GENERAL ARRANGEMENT	T.O.K TSF	TRACKSIDE SUPPLY FAN
GA GL	GRID LINE	TVF	TUNNEL VENTILATION FAN
GMS	GALVANIZED MILD STEEL	TVF	TUNNEL VENTILATION FAIN TUNNEL VENT SHAFT
H.	HEIGHT	TWL	TSUEN WAN LINE
H/L	HIGH LEVEL	TEVS	TRACKWAY EXHAUST VENT SHAFT
HWU	HEAD WALL UNIT	TSVS	TRACKWAY SUPPLY VENT SHAFT
TWU	TAIL WALL UNIT	TWU	TAIL WALL UNIT
ISL	ISLAND LINE	TYP	TYPICAL
KOB	KNOCK OUT BLOCKWORK	TX	TRANSFORMER
LPR	LOBBY PRESSURIZATION RELIEF	U/T	UPPER TRACK
LEV.	LEVEL	UP	UP
L.W.	LIGHT WEIGHT	UPD(UPS)	·
LSR	LIFT SHAFT RELIER	UNO	UNLESS NOTED OTHERWISE
LV	LOW VOLTAGE	VE/V.E.	VITREOUS ENAMEL
LO	LOUVRE	VEM	VENDING MACHINE
MCC	MOTOR CONTROL CENTRE	W/	WITH
MIN.	MINIMUM	W	WIDE
MAX.	MAXIMIUM	WT	WEIGHT
m	METRE(S) (OR m)		
MJ	MOVEMENT JOINT		
mm	MILLIMETRE(S) (OR mm)		
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KEY PLAN

CB NOV 2012 DF TENDER DRAWING

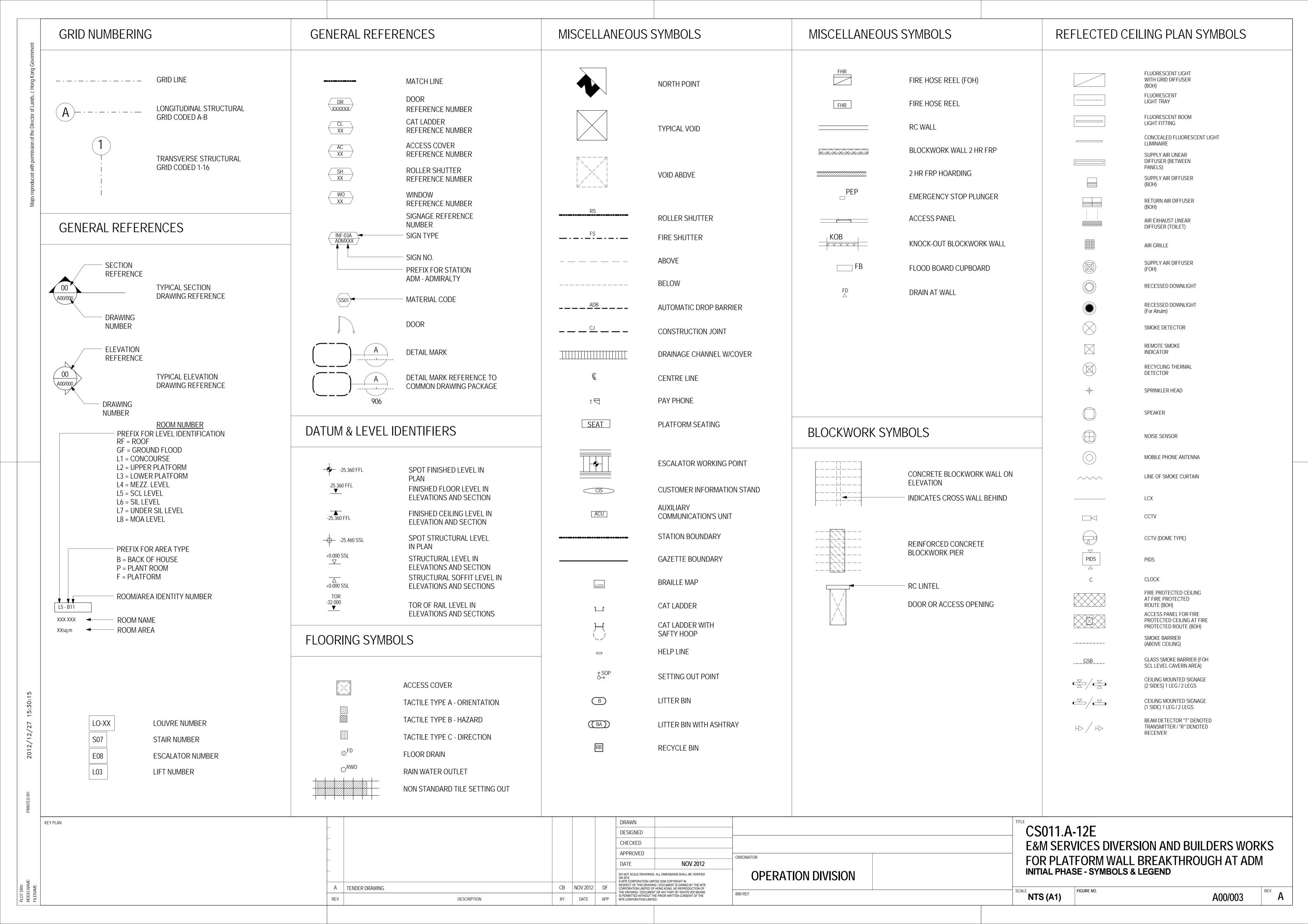
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OPERATION DIVISION

CS011.A-12E **E&M SERVICES DIVERSION AND BUILDERS WORKS** FOR PLATFORM WALL BREAKTHROUGH AT ADM ABBREVIATIONS AND NOTES **INITIAL PHASE**

A00/002



DESCRIPTION

STRUCTURAL GENERAL NOTES

A. GENERAL

- 1. A) ALL WORKS SHALL COMPLY WITH THE LATEST EDITION OF: HONG KONG BUILDING (CONSTRUCTION) REGULATIONS
 - B) ALL STRUCTURAL STEELWORKS SHALL COMPLY WITH THE LATEST EDITION OF: CODE OF PRACTICE FOR THE STRUCTURAL USE OF STEEL
 - C) ALL WIND LOAD SHALL COMPLY WITH THE LATEST EDITION OF: CODE OF PRACTICE ON WIND EFFECTS IN HONG KONG
- 2. ALL DIMENSIONS IN MILLIMETRES UNLESS OTHERWISE STATED.
- 3. ALL DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECTURAL AND E&M DRAWINGS.
- 4. A) ALL LEVELS & DIMENSIONS TO BE VERIFIED ON SITE BEFORE ANY OFF-SITE FABRICATION/CONSTRUCTION.
 - B) FIGURED DIMENSIONS ARE FOR REFERENCE ONLY.
 - C) DRAWINGS SHALL NOT BE SCALED FOR DIMENSIONS.
- 5. A PROPPING & DEMOLITION PROPOSAL WITH CALCULATION SHALL BE CERTIFIED BY A QUALIFIED STRUCTURAL ENGINEER APPOINTED BY THE CONTRACTOR AND SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL PRIOR TO THE COMMENCEMENT OF WORKS. EXISTING STRUCTURES SHALL BE RIGIDLY PROPPED PRIOR TO ANY DEMOLITION AND ALTERNATION WORKS.
- 6. NOTES ON DEMOLITION OF EXISTING STRUCTURES:
 - A) HAND OPERATED TOOLS OR DIAMOND SAW CUTTING SHALL ONLY BE USED UNLESS OTHERWISE APPROVED BY THE ENGINEER.
 - B) ANY DEVIATION OF EXISTING STRUCTURE FROM THE DRAWINGS SHALL BE REPORTED TO THE ENGINEER IMMEDIATELY.
- 7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE VERIFICATION AND PROTECTION OF ALL CONCEALED SERVICES AND UTILITIES BEFORE THE COMMENCEMENT OF CONSTRUCTION WORKS.
- 8. THE CONTRACTOR SHALL MAKE GOOD/REINSTATE ALL DISTURBED SURFACES/FINISHES TO MATCH EXISTING.
- 9. THE PEAK PARTICLE VELOCITIES AT ANY STRUCTURE RESULTING FROM DEMOLISHING OR ANY OPERATION WHICH CAN INDUCE PROLONGED VIBRATION SHALL NOT EXCEED 15mm/SEC.
- 10. FIRE RATED PERIOD (FRP) SHALL BE MAINTAINED AT ALL CONSTRUCTION STAGE, DETAILS TO BE SUBMITTED FOR THE ENGINEER'S APPROVAL.
- 11. THE REGISTERED STRUCTURAL ENGINEER (RSE) RESPONSIBLE FOR ALL ASPECTS OF THE DESIGN INCLUDING TEMPORARY WORKS.
- 12. STRUCTURAL CALCULATION SHALL BE SUBMITTED FOR THE SUPPORTING STEELWORKS SYSTEM AND ALL TEMPORARY WORKS. THE SUBMITTED CALCULATION AND DRAWINGS WILL BE ENDORSED BY CONTRACTOR'S REGISTERED STRUCTURAL ENGINEER (RSE). THE RSE SHALL ALSO REQUIRE TO ENSURE THE STRUCTURAL INTEGRITY OF THIS INSTALLATION AND NO DAMAGE TO THE EXISTING STRUCTURE.
- 13. THE CONTRACTOR SHALL APOINT A PROFESSIONAL QUALIFIED AND TECHNICAL COMPETENT PERSON TO SUPERVISE THE EXECUTION OF WORKS.
- 14. TEST REPORTS ON ANCHOR BOLTS AND WELDING SHOULD BE SUBMITTED FOR RECORD PURPOSE.

FIRST ISSUE

DESCRIPTION

B. STRUCTURAL STEEL

- 1. ALL STEEL TO BE GRADE S275 TO COMPLY WITH BS EN 10025 / BS EN 10210.
- 2. STEEL MEMBER TO COMPLY WITH BRITISH STEEL CORPORATION SECTIONS TO BS 4 AND BS 4848 UNLESS OTHERWISE STATED.
- 3. ALL STEELWORKS EXCEPT STAINLESS STEEL SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH BS EN ISO 1461:1999. THE MINIMUM GALVANIZED THICKNESS TO BE 87 MICRONS. VENT HOLES SHALL BE PROVIDED IN ALL HOLLOW SECTIONS FOR HOT DIP GALVANIZING. GALVANIZING DAMAGED ON SITE TO BE MADE GOOD BY THE APPLICATION OF 2 COATS OF ZINC RICH PAINT. CORROSION PROTECTION FOR ALL STEEL TO BE PROVIDED IN ACCORDANCE WITH THE SPECIFICATION.
- 4. EDGE DISTANCE OF ALL DRILLED HOLES TO BE IN ACCORDANCE WITH BS 5950.
- 5. A) ALL WELDS TO BE CONTINUOUS AND EITHER FILLET WELD OR BUTT WELD DEPENDING ON THE TYPE OF JOINT CONNECTION SHOWN ON THE DRAWING UNLESS OTHERWISE STATED.
 - B) SIZE OF FILLET WELD NOT SPECIFIED TO BE 6mm OR EQUAL TO THE THICKNESS OF THE STEEL ELEMENTS WHICHEVER IS SMALLER.
- 6. ALL BOLTS & NUTS TO BE GRADE 8.8 TO BS 3692.
- 7. SPRING WASHERS TO BE PROVIDED FOR BOLTS UNDER THE NUT OR BOLT HEAD, WHICHEVER IS ROTATED DURING TIGHTENING.
- 8. ALL CUTTING & DRILLING OF STEEL ELEMENT TO BE MACHINE FLAME-CUT, SAWN OR PLANED EDGE.
- 9. SITE WELDING IS NOT PERMITTED WITHOUT THE APPROVAL OF THE ENGINEER.
- 10. ALL BUTT WELDS TO BE FULL STRENGTH PENETRATION BUTT WELD.
- 11. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS & WELDING PROCEDURES FOR ENGINEER'S REVIEW NOT LESS THAN SIX WEEKS PRIOR TO COMMENCING ANY FABRICATION.
- 12. ALL STEEL WORKS EXCEPT STAINLESS STEEL TO BE PAINTED.

C. TESTING & CERTIFICATION

- 1. UNLESS OTHERWISE STATED, ALL STRUCTURAL MATERIALS TO BE INCORPORATED IN THE WORKS TO HAVE CHEMICAL COMPOSITION/STRENGTH TEST CERTIFICATION SENT TO ENGINEER FOR APPROVAL PRIOR TO CONSTRUCTION.
- 2. ALL WELDING SHALL BE SUBJECTED TO WELD TEST, TESTING FREQUENCY SHOULD BE IN ACCORDANCE TABLE 14.3A OF THE "CODE OF PRACTICE FOR THE STRUCTURAL USE OF STEEL" OR AS SPECIFIED IN GENERAL MATERIAL AND WORKMANSHIP SPECIFICATION FOR CIVIL AND BUILDING WORKS, WHICHEVER IS MORE ONEROUS. NOTWITHSTANDING THE ABOVE REQUIREMENTS, TESTING SHALL BE 10% OF ALL FILLET WELDS AND 100% OF ALL BUTT WELDS AS AN ABSOLUTE MINIMUM.
- 3. ALL WELDING SHALL BE PERFORMED BY QUALIFIED WELDERS. WELDER TEST SHALL BE WITNESSED BY A QUALIFIED WELDING INSPECTOR AND CERTIFICATES ENDORSED BY AN INDEPENDENT TESTING BODY. ALL TESTING LABORATORIES TO BE `HOKLAS' ACCREDITED.

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ORIGINATOR

OPERATION DIVISION

11/28/12

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D. ANCHOR FIXING

- 1. ALL ANCHOR BOLTS TO BE STAINLESS STEEL AND SHALL HAVE EUROPEAN TECHNICAL APPROVAL (ETA). [HILTI OR OTHER APPROVED EQUIVALENT]
- 2. TYPE OF ANCHOR BOLTS SHALL BE TORQUE CONTROLLED EXPANSION HEAVY DUTY ANCHOR OR OTHER EQUIVALENT APPROVAL
- 3. THE CONTRACTOR SHALL PROVIDE THE SITE MEASUREMENT OR SURVEY TO DETECT AND IDENTIFY THE EXISTING WALL REINFORCEMENT WITH THE CALIBRATED STEEL REINFORCEMENT SCANNER PRIOR TO HOLE DRILLING. SHOULD A CLASH OR BOLT AND REINFORCEMENT BE EVIDENT, CONTRACTOR TO ADVISE ENGINEER IMMEDIATELY.
- 4. THE CONTRACTOR SHALL CARRY OUT THE SITE SURVEY (WHEN THE BOLTS ARE EMBEDDED INTO THE CONCRETE WALL) TO ENSURE THE VERTICAL CENTRE LINE OF THE BRACKET SHALL ALIGN WITH THE CENTRE OF GRAVITY OF THE ANCHOR BOLTS GROUP (ECCENTRICITY OF LOAD ACTS ON THE BOLTS ARE NOT ALLOWED).
- 5. THE INSTALLATION OF ANCHOR BOLTS SHALL STRICTLY COMPLY WITH THE MANUFACTURER'S RECOMMENDATION.
- 6. THE SUPPLIER OF ANCHOR BOLTS SHALL PROVIDE ANCHOR INSTALLATION TRAINING COURSE TO THE CONTRACTOR'S WORKERS. ALL ANCHOR BOLTS INSTALLATION WORKS TO BE CARRIED OUT BY LICENSED WORKERS
- 7. IF DAMAGE TO WALL BY MIS-LOCATED DRILLING AND EXISTING DRILLING HOLES:
 - A) THE HOLES SHALL BE PATCHED UP WITH INJECTION ADHESIVE GROUTING.
 - B) THE APPLICATION METHOD SHALL STRICTLY COMPLY WITH THE MANUFACTURER'S RECOMMENDATION.
- 8. UNLESS OTHERWISE STATED, PULL OUT TEST SHALL BE CARRIED OUT BY A RECOGNIZED LABORATORY OF EACH TYPE AND SIZE OF ANCHORS INSTALLED AND SHALL BE SUBMITTED TO THE ENGINEER AS FOLLOWS:

CATEGORY	NO. OF EACH TYPE OF ANCHOR	MIN. NO. OF ANCHOR			
SIMPLY SUPPORTED OR	> OR = 50 NOS.	5% OR MIN. 5 NOS.			
CONTINUOUS BEAM	< 50 NOS.	10% OR MIN. 2 NOS.			
*CANTHEVED	> OR = 50 NOS.	5% OR MIN. 5 NOS.			
*CANTILEVER (SEE ALSO NOTES WITH *)	< 50 NOS.	10% OR MIN. 2 NOS.			
(SEL ALSO NOTES WITH)	IN ANY CASE	AT LEAST 1 NO. AT EACH BASE PLATE			
HANCED	> OR = 50 NOS.	5% OR MIN. 5 NOS.			
HANGER	< 50 NOS.	10% OR MIN. 2 NOS.			

- 9. TEST LOAD SHOULD NOT BE LESS THAN 1.5 TIMES THE RECOMMENDED LOAD OF THE ANCHOR AS SPECIFIED BY THE MANUFACTURER.
- 10. A METHOD STATEMENT FOR THE ANCHOR TEST TO BE SUBMITTED FOR THE ENGINEER'S
- *11 UPON THE MAXIMUM TEST IS REACHED. THE LOAD SHOULD BE MAINTAINED FOR AT LEAST ONE HOUR WITH RECORDINGS OF LOAD AND DEFORMATION BEING TAKEN AT THE BEGINNING AND END OF THIS PERIOD TO ESTABLISH WHETHER THE TESTED ANCHOR IS SUBJECT TO CREEP AND RELAXATION OF LOAD AT HIGHER LOAD CONDITION.
- *12 RECOVERY OF THE DEFORMATION AFTER REMOVAL OF ALL LOAD SHOULD BE LEAST 80% OF THE TOTAL DEFORMATION AT THE MAXIMUM TEST LOAD CONDITION AND THE TESTED ANCHOR SHOULD NOT SHOW ANY SIGNS OF SEPARATION, PLASTIC DEFORMATION OR DELETERIOUS EFFECT.

CS011.A-12E

SCALE

NTS

GENERAL NOTES (SHEET 1 OF 2)

FIGURE NO.

E&M SERVICES DIVERSION AND BUILDERS WORKS

C00/001

FOR PLATFORM WALL BREAKTHROUGH AT ADM

E. PAINTING FOR GENERAL STEELWORK

- 1. ALL GALVANIZED MILD STEEL MEMBERS SHALL BE PROTECTED BY APPLICATION OF FULL PROPRIETARY COATING SYSTEM COMPATIBLE WITH ZINC COATING WHICH SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL AS FOLLOWS:
 - A) TWO COAT OF HIGH SOLIDS EPOXY GRAY PRIMER WITH THE FOLLOWING PROPERTIES:
 - DRY FILM THICKNESS NOT LESS THAN 125?m PER COAT
 - ii) VOLUME SOLID CONTENTS (ACTIVATED) SHALL BE 67%-69%
- iii) VOC < 340 q/L
- B) TWO COATS OF POLYURETHANE FINISH WITH THE FOLLOWING PROPERTIES:
- i) TWO COMPONENT HIGH BUILD ALIPHATIC ACRYLIC POLYURETHANE
- ii) DRY FILM THICKNESS NOT LESS THAN 125?m PER COAT
- iii) VOLUME SOLID CONTENTS (ACTIVATED) SHALL BE 58%-62%
- iv) VOC < 340 g/L

F. TEMPORARY WORKS

- 1. TEMPORARY WORKING PLATFORM/SCAFFOLDING SHALL BE DESIGNED BY THE CONTRACTOR AND SUBMITTED FOR THE ENGINEER'S APPROVAL
- 2. TEMPORARY POSTS ARRANGED TO CAUSE MINIMUM OBSTRUCTION.

G. SHOP DRAWINGS

- 1. DETAILS IN THE DRAWINGS SHOW THE DESIGN INTENT ONLY, THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AND STRUCTURAL CALCULATION FOR THE ENGINEER'S APPROVAL PRIOR TO FABRICATION
- 2. ALL CALCULATION SUPPORTING THE DESIGNS SHALL BE ENDORSED BY A REGISTERED STRUCTURAL ENGINEER (RSE) EMPLOYED BY THE CONTRACTOR FOR THE ENGINEER'S APPROVAL.

H. EARTHING REQUIREMENT

- THE CONTRACTOR SHALL PROVIDE EARTHING/BONDING TO ALL METAL PARTS ACCORDING TO LATEST EDITION OF CODE OF PRACTICE FOR THE ELECTRICITY (WIRING) REGULATIONS AND IEE WIRING REGULATION.
- THE CONTRACTOR SHALL CARRY OUT NECESSARY SITE INSPECTION, VERIFY THE NEAREST TERMINUS, PROPOSE AND SUBMIT TO THE ENGINEER THE PROPOSAL FOR INSTALLATION OF THE NECESSARY EARTHING/BONDING, WHERE APPLICABLE.
- 3. THE PROPOSAL AND INSTALLATION SHALL ONLY BE EXECUTED BY A REGISTERED ELECTRICAL WORKER.
- 4. ALL PROPOSAL SHALL BE PREPARED IN A3 OR A4 SIZE DRAWING TOGETHER WITH PHOTOGRAPHS INDICATING THE ROUTE. FIXING AND CONNECTION DETAILS FOR EACH BONDING.

I. MATERIALS

THE PHRASE "OR OTHER APPROVED" IS DEEMED TO BE INCLUDED WHENEVER MATERIALS ARE SPECIFIED BY PROPRIETARY NAME. MATERIAL OF DIFFERENT MANUFACTURER BUT OF EQUAL QUALITY MAY BE SUBSTITUTED IF PRIOR APPROVAL HAS BEEN OBTAINED. THE CONTRACT SUM IS DEEMED TO HAVE INCLUDED FOR ALL COSTS OF PROVIDING SUBSTITUTES APPROVED BY THE ENGINEER.

SLAB CUTTING PROCEDURE:

- 1. ALL TEMPORARY SUPPORTING WORKS FOR EXISTING STRUCTURE SHALL BE COMPLETED BEFORE COMMENCEMENT OF ANY SLAB CUTTING WORKS. ALL SLABES SHALL BE CUT BY A 'DRY' METHOD. WATER CUTTING OR INCANDESCENT PROCEDURE WILL NOT BE ACCEPTABLE.
- 2. THE CONTRACTOR SHALL ERECT PROPERLY AND GOOD QUALITY HOARDINGS AROUND EARCH LOCATION. EACH HOARDIING SHALL CONTAIN ALL DUST AND DEBRIS FROM THE CUTTING PROCESS. THE POSITION AND APPEARANCE OF THE HOARDING SHALL BE AGREED WITH THE EINGINEER BEFORE HAND.
- 3. ALL SLAB CUTTING AND REMOVAL SHALL BE NEAT TIDY AND SHALL BE COMMENCED BY SAW-CUTTING TO EXACT PROFILE OF THE HOLE. THE CONTRACTOR SHALL THEN PATTERN-DRILL OR OTHER AGREED PROCEDURE.
- 4. ALL DEBRIS SHALL BE BROKEN DOWN FOR EASY TRANSPORTATION AND REMOVED FROM THE BUILDING AT TIMES AND ON ROUTES AGREED WITH THE ENGINEER.
- 5. ALL REINFORCEMENT SHALL BE SAWCUT FLUSH WITH THE FINISHED FACES. UNDER NO CIRCUMSTANCES, LAME-CUTTING IS ALLOWED.
- 6. THE FINISHED CONCRETE EDGES SHALL BE NEAT AND TIDY AND SHALL NOT EXCEED THE REQUIRED DIMENSIONS.
- 7. ALL SAWCUTTING SHALL BE CARRIED OUT BY APPROVED 'LIGHT WEIGTH' TOOLS. CONSTRUCTION LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD.

EXISTING CONCRETE STRUCTURES:

- 1. THE CONTRACTOR SHALL VERIFY THE DIMENSIONS OF ALL EXISTING STRUCTURES AND REPORT THE RESULTS TO THE ENGINEER WITH ONE WEEK OF COMMENCING WORK.
- 2. COVER-METER SURVEYS SHALL BE TAKEN AT THE LOCATION OF A&A WORKS AFTER THE REMOVAL OF ANY FINISHES AS REQUIRED.

FORMATION OF OPENING AT EXISTING SLAB

- REMOVE ALL DEBRIS AND LOOSE MATERIALS AROUND THE PROPOSED OPENING AREA.
- 2. MARK THE PORTION TO BE CUT AND REMOVED IN THE SLAB. CHECK ADEQUATE CLERANCE IS AVAILABLE FROM THE EXISTING WALLS AND UPSTAND BEAMS.
- 3. CUT THE SLAB TO ITS DIMENSIONS INDICATED IN DRAWINGS. EXISTING REINFORCEMENT BARS SHALL BE CUT WITHIN THE PROPOSED OPENING AS INDICATED. CUTTING PROCEDURE SHALL BE AGREED WITH THE ENGINEER. REINFORCEMENT BARS OUTSIDE THE PROPOSED OPENING SHALL NOT BE CUT.
- 4. FIX FORMWORK AND FALSEWORK ALL AROUND THE PORPOSED OPENING WHICH ARE TO BE CONCRETE.
- 5. CONCRETE AND MAKE GOOD THE EDGES WITH CLEAR OPENING SIZE.
- 6. ALLOW ADEQUATE CURING AND REMOVE THE FORMWORK AND FALSEWORK AS AGREED WITH THE ENGINEER.

FORMATION OF OPENING AT EXISTING WALL

- 1. REMOVED OR RE-DIVERT THE EXISTING SERVICES IN THE AREA AS NECESSARY, BY OTHERS. REFER TO E&M DRAWINGS FOR DETAILS.
- 2. MARK THE PORTION OF WALL TO BE CUT ON SITE.
- 3. DEMOLITION SHALL BE CARRIED OUT BY HAND HELD MANCHINES AND THE PROCEDURE SHALL BE AGREED WITH THE ENGINEER.
- 4. OVER BREAK THE WALL OPENING TO EXTENT AS SHOWN ON DRAWING.
- 5. MAKE GOOD THE SURFACE AS SHOWN ON DRAWING.

HOLE CORING ON STRUCTURE

- 1. THE CONTRACTOR SHALL CHECK ON SITE THE EXISTING FIXTURE, CABLES/WIRES BEFORE CARRYING OUT ANY HOLE CORING ACTIVITIES TO STRUCTURES INCLUDING SUCH AS WALL AND FLOOR SLAB TO AVOID DAMAGES.
- 2. ALL CABLES/WIRES SHALL BE TREATED AS 'LIVE' AT ALL TIME.
- 3. ALL CABLES/WIRES AND/OR FIXTURE SHALL BE PROTECTED AGAINST DAMAGE DURING
- 4. ANY CABLES/WIRES CLOSER THAN 300mm IN DISTANCE FROM EDGE OF HOLE BEING CORED SHALL BE COVERED BY MEANS OF A SPLIT TYPE METAL SLEEVE OR SIMILAR OF LENGTH 500mm (MINIMUM) AND OF 3mm IN THICKNESS (MINIMUM) AS ADDITIONAL PROTECTIVE MEASURE.
- 5. 20mm DIAMETER PILOT HOLE CORING IS REQUIRED BEFORE CORING OF PERMANENT HOLE TO STRUCTURE IF EXISTING CABLE/WIRE IS CLOSER THAN 150mm IN DISTANCE FROM EDGE OF THE PERMANENT HOLE TO BE CORED.
- 6. DURING WHOLE PROCESS, EACH SIDE OF WALL OR FLOOR SHOULD BE SAFEGUARDED BY COMPETENT PERSON TO PROTECT EXISTING FIXTURE, CABLE/WIRE AGAINST ANY POSSIBLE DAMAGE.

WORKING PROCEDURES AND SAFETY:

- 1. ALL A&A WORKS SHALL FOLLOW THE GENERAL REQUIREMENTS OF CONSTRUCTION SITE (SAFETY) REGULATIONS.
- 2. ALL STEELWORKS SHALL BE ERECTED. SECURED AND ON CONTACT WITH THE EXISITNG CONCRETE STRUCTURE BEFORE ANY SLAB CONCRETE IS CUT OR REMOVED.
- 3. ALL PACKING, BY WEDGES, OF THE SPACE BETWEEN THE STEELWORK AND THE CONCRETE SHALL BE HAMMER-DRIVEN TO THE SATISFACTION OF THE ENGINEER.
- 4. FLAME-CUTTING OF ANY COMPONENT SHALL NOT BE ALLOWED IN ANY PART OF THE BUILDING SITE.
- 5. DUST AND DEBRIS SHALL BE CONTROLLED AT ALL TIMES AND SHALL NOT BE ALLOWED TO AFFECT ANY PUBLIC SPACES.
- 6. THE CONTRACTOR SHALL BE COGNIZANT OF SAFETY PROCEDURES AT ALL TIMES AND HE SHALL SUBMIT A SAFTY PLAN FOR THE APPROVAL OF THE ENGINEER.
- 7. WET CUTTING PROCEDURES SHALL NOT BE USED IN THE SLAB REMOVAL WORKS.
- 8. CONTRACTOR TO LIASE WITH MTRC AND ENSURE THAT NO WORKS ARE CARRIED OUT FOR FUTURE DEVELOPMENT OF OR OTHER REASONS ABOVE THE 'A&A WORKS AREA', WHEN THE A&A WORKS ARE IN PROGRESS.

WALL CUTTING PROCEDURE

1. DEMOLITION SHALL BE CARRIED OUT BY HAND OPERATED PNEUMATIC JACK HAMMER WEGHR WEIGHT OF THE JACK HAMMER SHALL BE NOT MORE THAN 50kg.

ABBERVIATION

EXISTING EX. STAINLESS STEEL S/S THK THICK GMS **GALVANISED MILD STEEL** MILD STEEL MS FW FILLET WELD DIA DIAMETER W/ WITH

MINIMUM

RSE REGISTERED STRUCTURAL ENGINEER

> CS011.A-12E **E&M SERVICES DIVERSION AND BUILDERS WORKS** FOR PLATFORM WALL BREAKTHROUGH AT ADM

GENERAL NOTES (SHEET 2 OF 2) FIGURE NO.

C00/002 NTS

FIRST ISSUE

DESCRIPTION

CY DEC 2012 DF

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MIN

NOTES:

MATERIAL AND PIPE WORK:

- 1. ALL CAST IRON PIPES TO BE HEAVY GRADE (ECCI) FOR THIS PROJECT.
- 2. EPOXY COATED CAST IRON (ECCI) PIPE AND ASSOCIATED FITTINGS
 - a. UNLESS OTHERWISE STATED, ALL DRAINAGE PIPE OF DIAMETER PIPE OF DIAMETER GREATER THAN 50mm IN DIAMETER SHALL BE PROVIDED WITH EPOXY COATED STEEL (ECCI) PIPES AND ASSOCIATED FITTINGS TO EN 877, AND SHALL BE SUBMITTED FROM MANUFACTURER CERTIFIED TO ISO 9001:2000 AND UNDER THE SURVEILLANCE BY AN ACCREDITED ORGANIZATION ACCREDITED TO EN45011 AS LISTED IN THE ANNEXES D & E OF EN 877.
 - b. ALL COUPLINGS SHALL BE OF ONE-PIPCE DESIGN, CONSTRUCTED OF GRADE 316 STAINLESS STEEL WITH A EPOM COLLAR INSERT FOR SEALING.
 - c. THE WHOLE PIPE SYSTEM INCLUDING ASSOCIATED FITTINGS SHALL BE FROM ONE SINGLE PROPRIETARY PRODUCT WITH A MINIMUM PRODUCT GUARANTEE FOR 10 YEARS. SUCH GUARANTEE SHALL BE ISSUED BY THE MANUFACTURER.
- 1. HEAVY GRADE OF ECCI PIPES AND ASSOCIATED FITTINGS SHALL BE:
- a. PIPES: INTERNALLY COATED WITH TWO-PART SOLVENT FREE EPOXY WITH A MINMUM AVERAGE THICKNESS OF 250 MICRON. EXTERNALLY COATED WITH INITIAL FLAME APPLIED ZINC SPRAY WITH COVERAGE OF 130 G/M2 AND FINISHED WITH A PRIMER WITH A MINIMUM AVERAGE THICKNESS OF 40 MICRON.
- b. FITTINGS: INTERNALLY AND EXTERNALLY COATED IN FLUIDIZED BED WITH A POLYMERIZED EPOXY POWER WITH A MINMUM AVERAGE THICKNESS OF 300 MICRON.
- c. EPOXY COATING SHALL HAS A RESISTANCE TO EXPOSURE OF SALT SPRAY TEST TO ISO 7253 FOR A MINIMUM OF 1000 HOURS. A MINIMUM AVERAGE THICKNESS OF 300 MICRON.

FIRST ISSUE

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LEGEND & ABBREVIATIONS:

	NEW PIPES
	EX. DRAIN PIPE TO BE REPLACED
CI	CAST IRON
L/L	LOW LEVEL
H/L	HIGH LEVEL
EX.	EXISTING

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CS011.A-12E **E&M SERVICES DIVERSION AND BUILDERS WORKS** FOR PLATFORM WALL BREAKTHROUGH AT ADM NOTES, LEGEND AND ABBREVIATION

FIGURE NO. D00/001 NTS

GENERAL NOTES:

- UNLESS OTHERWISE SPECIFIED. THE CONTRACTOR SHALL DESIGN SUPPLY & INSTALL ALL THE WHOLE ELECTRICAL INSTALLATION SHOWN ON THE DRAWINGS EXCEPT FOR THOSE DESIGNATED AS 'BY OTHERS'.
- ALL DIMENSIONS SHOWN IN mm, UNLESS OTHERWISE SPECIFIED.
- EXISTING INSTALLATION IS SHOWN IN DOTTED LINES OR IN DIM COLOR FOR EASE OF REFERENCE, UNLESS OTHERWISE SPECIFIED. THE EXACT ROUTING. SIZE AND SETTING-DUT OF THE EXISTING OR AS-BUILT E&M SERVICES SHALL BE VERIFIED ON SITE BY THE CONTRACTOR.
- FIXING TO CONCRETE LINING SHALL BE BY MEANS OF STAINLESS STEEL ANCHORS, BOLTS AND NUTS. CONTACT SURFACE BETWEEN STAINLESS STEEL AND OTHER METAL SHALL BE INSULATED TO PREVENT BI-METALLIC CORROSION.
- ALL CABLE TRAY BRACKETS, CABLE BRACKETS, SUPPORTS AND SOCKET MOUNTING PLATES SHALL BE HOT DIPPED GALVANIZED TO BS729 AFTER WELDING AND FABRICATION.
- CABLE ROUTES, CIRCUIT REF. NO. AND SWITCHGEAR LOCATIONS SHOWN ARE INDICATIVE ONLY. THE CONTRACTOR SHALL SUBMIT DETAILED POWER & CONTROL CABLE ROUTE, CIRCUIT REF. NO. AND SWITCHGEAR ARRANGEMENT TO THE ENGINEER FOR APPROVAL AFTER HIS OWN SITE INSPECTION & COORDINATION AND PRIOR TO SITE INSTALLATION.
- IF EXISTING CABLE CONTAINMENTS HAVE BEEN FULLY OCCUPIED BY EXISTING CABLES. THE CONTRACTOR SHALL PROVIDE NEW CABLE BRACKETS, CABLE CONTAINMENTS FOR FIXING NEW CABLE. SUCH NEW CABLE CONTAINMENTS IN ADDITION TO THE EXISTING ONES SHALL HAVE BEEN INCLUDED IN THE CONTRACT SUM. TO UTILIZE EXISTING CABLE CONTAINMENTS FOR NEW CABLES. THE CONTRACTOR SHALL PROVIDE JUSTIFICATION, CALCULATIONS, PHOTOS, ETC. TO DEMONSTRATE THAT THE EXISITNG CABLE CONTAINMENTS HAVE ADEQUATE SPARE CAPACITY TO ACCOMMODATE THE NEW CABLES.
- ALL SLAB AND WALL OPENINGS FOR INSTALLATION OF E&M EQUIPMENT SHALL BE PROVIDED BY THE CONTRACTOR.
- ALL SLAB OPENINGS AND WALL OPENINGS FOR CABLE RUNNING SHALL BE KEPT AT 300mm MINIMUM APART FROM THE EXISTING CABLE SLOT OR ANY POSITION OF CABLE SEALANT.
- DRILLING THROUGH BEAM OR RIB OF SLAB IS NOT ALLOWED UNLESS WITH THE ENGINEER'S APPROVAL.
- 11. ALL CONDUITS SHALL BE OF CONCEALED TYPE WHEN MOUNTING BELOW FALSE CEILING AT PUBLIC AREA AND BACK OF HOUSE AREA.
- FIRE RESISTANT Cu CABLE TO BS 6387 CAT. CWZ SHALL BE USED FOR THE INTERNAL CABLE AND THE CABLE BETWEEN EMERGENCY POWER PACK AND EMERGENCY LIGHTING FITTINGS.
- CIRCUITS OF NORMAL LIGHTING POWER SUPPLY AND THOSE OF THE EMERGENCY LIGHTING POWER SUPPLY SHALL BE LAID INSIDE INDIVIDUAL CABLE CONTAINMENT SEPARATED FROM ONE AND THE OTHER.
- 14. ALL CIRCUITS SHALL BE PROVIDED WITH INDEPENDENT CIRCUIT PROTECTIVE CONDUCTORS.
- EXACT LOCATION OF POWER SUPPLIES AND FINAL CIRCUITS SHALL BE CHECKED BY THE CONTRACTOR.
- CABLE DIVERSION SHALL INCLUDE ALL WORKS FOR RELOCATING, REARRANGING & STRAIGHTENING OF THE RELEVANT SECTION OF THE EXISTING CABLES BY GAINING CABLE SLACK, AND PROVISION OF NEW CABLE CONTAINMENT AND ASSOCIATED ACCESSORIES.
- FOR EXISTING CABLES REQUIRED FOR DIVERSION BUT WITHOUT SUFFICIENT CABLE SLACK. NEW CABLES SHALL BE PROVIDED OR EXISTING CABLES SHALL BE EXTENDED BY ADDING SECTION OF NEW CABLES WITH ADEQUATE CABLE JOINTS UNLESS OTHERWISE SPECIFIED. THE CHOICE DEPENDS ON THE OPERATIONAL REQUIREMENT AND SITE CONDITION SUBJECT TO APPROVAL BY THE ENGINEER. THE ABOVE WORKS AND NEW CABLES USED SHALL COMPLY WITH MTRC'S STANDARD AND SHALL BE SAME SIZE AS THE EXISTING ONES ULESS OTHERWISE SPECIFIED.
- EACH SWITCH-FUSE, FUSE SWITCH, ISOLATING SWITCH, BUSBAR CHAMBER, MCB BOARD, ENERGY METER, FCU, CABLE TERMINATION BOX AND CABLE SHALL BE LABELLED ON FRONT COVER TO INDICATE:

FIRST ISSUE

DESCRIPTION

- a) THE CIRCUIT NAME/NUMBER
- b) THE RATING OF FUSE/CIRCUIT BREAKER
- c) THE PURPOSE OF THE CIRCUIT IT SERVES.
- (e.g. LIGHTING AT ENTRANCE B etc.)
- ALL RCB OR AN INDIVIDUAL DP MCB WITH BUILT-IN RCD FOR SOCKET OUTLET SHALL BE 30mA SENSITIVITY.

- 20. THIS SET OF DRAWINGS SHOWS DESIGN INTENT ONLY, THE CONTRACTOR SHALL VERIFY ON SITE THE EXACT NUMBER AND LOCATION OF DEVICES/EQUIPMENT AND COORDINATE THE WORKS WITH THE OTHER CONTRACTORS. (IF ANY), MTR SITE/MAINTENANCE STAFF. THE CONTRACTOR SHALL REPORT ANY OUTSTANDING OR DEFECTIVE WORKS.
- 21. FOR RELOCATION OF EXISTING EQUIPMENT, THE CONTRACTOR SHALL PROVIDE FULL LENGTH OF NEW CABLE WHEN SPCIFIED IN TENDER DRAWING/SPECIFIATION REQUIREMENT OR EXTEND THE EXISTING CABLES LENGTH IN THE EVENT THAT THE EXISTING CABLE IS NOT LONG ENOUGH. METHOD OF EXTENSION SHALL BE SUBMITTED FOR ENGINEER'S APPROVAL.
- 22. EACH MCB DISTRIBUTED BOARD WILL BE OPERATED BY A METALCLAD ISOLATING SWITCH OF RATING AS SPECIFIED IN THE MCB BOARD SCHEDULE / DRAWING.
- 23. UNLESS OTHERWISE SPECIFIED, ALL INTERNAL CABLES FOR LIGHTING FITTINGS SHALL BE OPERATED UP TO 125°C AND OF LOW SMOKE AND ZERO HALOGEN TYPE.
 - UNLESS OTHERWISE SPECIFIED, THE MINIMUM SIZE OF SMALL POWER AND CONTROL/SIGNAL CABLES SHALL BE 2.5mm² AND 1.5mm² COPPER CABLE ACCORDINGLY.
 - UNLESS OTHERWISE SPECIFIED, ALL CABLES OTHER THAN FIRE RESISTANT CABLE SHALL BE FIRE RETARDANT.
 - CIRCUITS FOR LIGHTING AND SMALL POWER FOR PLANT ROOM SHALL BE SEPARATED FROM THOSE FOR PUBLIC AREAS AND STAFF AREAS.
- 24. THE CONTRACTOR SHALL TAKE ALL NECESSARY SAFETY PRECAUTION REQUIRED WHEN THE WORK IS TO BE CARRRIED OUT IN A CONFINED SPACE AND/OR HIGH LEVEL
- 25. THE CONTRACTOR SHALL MAKE GOOD ALL WALL/SLAB OPENINGS BY BACKFILLING WITH FIRE-RESISTANT NON-ASBESTOS CONTAINED MATERIALS WITH FIRE RATIING NOT LESS THAN THE PENETRATED SLAB/WALL AND, WITH NON-ASBESTOS CONTAINED MARKER ON BOTH SIDES FOR IDENTIFICATION. WATER PROOFING MATERIAL SHALL BE APPLIED ON SLAB OPENINGS FOR BACKFILLING.
- 26. THE CONTRACTOR SHALL VERIFY ABSENCE OF ANY CONCEALED SERVICE PIPE OR CONCEALED CONDUIT RUNNING ACROSS THE PROPOSED LOCATIONS OF SLAB/WALL OPENING BEFORE ANY DRILLING OR DESTRUCTIVE WORK IS MADE.
- 27. THE CONTRACTOR SHALL SUBMIT SHOP DRAWINGS SHOWING THEIR PROPOSED SLAB AND WALL OPENINGS. ETC. FOR ENGINEER'S APPROVAL BEFORE CARRYING OUT CORING WORK.
- 28. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DISMANTLING THE EXISTING CABLING, CABLE CONTAINMENT, POWER DISTRIBUTION EQUIPMENT AND CONTROL COMPONENTS WHICH ARE REDUNDANT FROM THE WORK, INCLUDING EXISTING LIGHTING SYSTEM AND MCBs.
- 29. THE CONTRACTOR SHALL SUBMIT ACTUAL MOUNTING DETAILS INCLUDING DIMENSIONAL ELEVATION AND VIEW OF NEW OR RELOCATED EQUIPMENT FOR ENGINEER'S APPROVAL BEFORE ACTUAL INSTALLATION.
- 30. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DISMANTLING AND REINSTATING ALL EXISTING FALSE CEILING, VE PANELS, COVERS, ETC. NECESSARY FOR THE EXECUTION OF THE WORKS.
- 31. ALL LIGHTING SHOWN ON THE TENDER DRAWINGS ARE INDICATIVE ONLY, THE CONTRACTOR SHALL DESIGN, SUPPLY & INSTALL THE NORMAL AND EMERGENCY LIGHTING WITHIN THE CONSTRUCTION AFFECTED AREA.
- 32. UNLESS OTHERWISE SPECIFIED, ALL EXISTING LV EQUIPMENT, CABLES & CABLE CONTAINMENT NEED TO BE RELOCATED OR DIVERTED SHALL BE REPLACED BY BRAND NEW MATERIAL.
- 33. THE CONTRACTOR SHALL FOLLOW THE FOLLOWING VOLTAGE DROP REQUIREMENT FOR CARRYING OUT THE CABLE SIZING OF NEW CIRCUITS.

CABLE VOLTAGE DROP FROM L.V.	MAXIMUM ALLOWED CABLE VOLTAGE DROP
SWITCHBOARD TO DISTRIBUTION BOARD	FROM DISTRIBUTION BOARD TO EQUIPMENT
2%	2%

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34. ALL INSTALLATION SHALL FOLLOW THE NEW CABLE COLOUR CODE SYSTEM AS SPECIFIED BY THE EMSD OF HKSAR. THE CORE IDENTIFICATION FOR LV POWER CABLES SHALL FOLLOW THE NEW CABLE COLOUR CODE AS FOLLOWS:

SYSTEM	PHASE CC	ONDUCTORS	NICHTOAL	FADTU		
	SYSTEM	L1	L2	L3	NEUTRAL	EARTH
	1-PHASE	BROWN	-	-	BLUE	GREEN/YELLOW
	3-PHASE	BROWN	BLACK	GREY	BLUE	GREEN/YELLOW

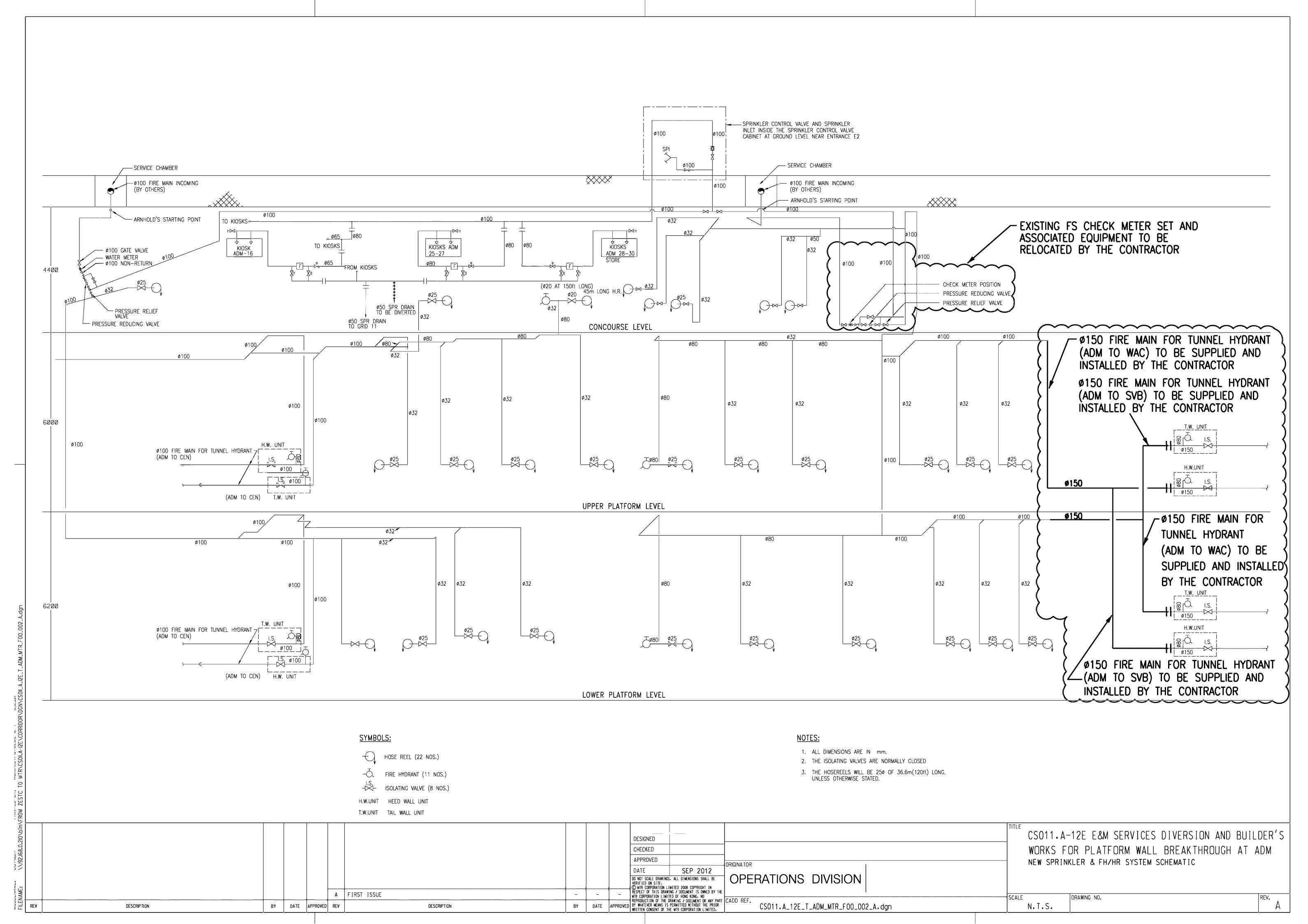
A DURABLE AND LEGIBLE YELLOW WARNING NOTICE IN BOTH ENGLISH AND CHINESE SHALL BE PROVIDED AND DISPLAYED AT AN APPROPRIATE LOCATION IF NEW AND OLD COLOUR CABLES ARE INSTALLED TOGETHER. ADDITIONAL MARKING, LABEL, SLEEVE ETC. SHALL BE PROVIDED FOR IDENTIFICATION AT THE INTERFACE BETWEEN NEW AND OLD COLOUR CABLES SO AS TO AVOID ANY POSSIBILITY OF MISTAKE.

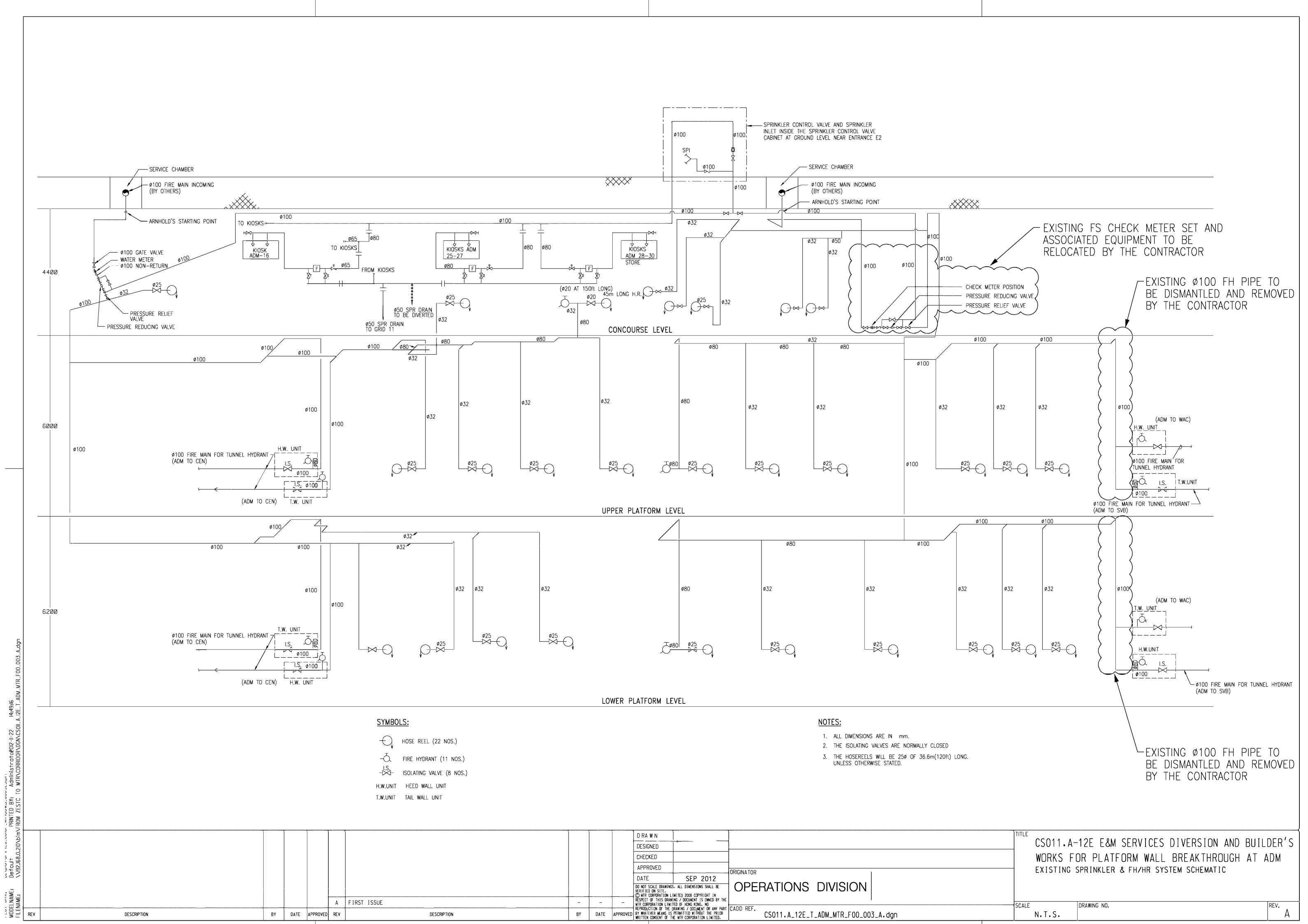
ALL RELEVANT REQUIREMENTS AS SPECIFIED IN THE LATEST CODE OF PRACTICE FOR THE ELECTRICITY (WIRING) REGULATIONS (CoP) SHALL BE COMPLIED WITH.

- 35. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL MODIFICATION WORKS OF THE RELATED ELECTRICAL SERVICES, WHICH MAY NOT BE SHOWN ON DRAWINGS AND WILL AFFECT THE CONSTRUCTION OF CIVIL WORKS.
- 36. THE CONTRACTOR SHALL BE RESPONSIBLE TO VALIDATE ON SITE FOR EXISTING POWER & CONTROL CABLES INCLUDING THEIR LOADING, FUNCTION, TYPE, SIZE, NUMBER OF CORES, ROUTING AND BOTH END DESTINATIONS ETC. TO WORK OUT HIS NEW CABLE DIVERSION ROUTING & CHANGEOVER PLAN FOR THE ENGINEER'S APPROVAL.
- 37. CABLE CONTAINMENTS FOR SYSTEM WIDE EQUIPMENT BY THE CONTRACTOR SHALL BE 300mm LENGTH EXTENED AND TERMINATED WITHIN SYSTEM WIDE PLANT ROOM.
- 38. EXISTING SERVICES IN CASE CRASHED WITH THE NEW CABLE CONTAINMENT UNAVOIDABLY, THE CONTRACTOR SHALL BE RESPOPNSIBLE TO DIVERT/MODIFY THEM TO COMPLETE THE INSTALLATION WORKS.
- 39. CABLE CONTAINMENT PASSING THROUGH THE PROTECTED AREA (e.g. STAIRCASE) SHALL BE PROTECTED BY 2 HOURS FIRE RATED ENCLOSURE.
- 40. THE CONTRACTOR SHALL BE RESPONSIBLE TO COORDINATE WITH OTHER BS CONTRACTOR FOR EXACT INTERFACE LOCATION.
- 41. THE CONTRACTOR SHALL CARRY OUT RE-WIRING WORKS FOR EXISTING SERVICES/EQUIPMENT THAT BE CONNECTED TO THE DECOMMISSIONED OR RELOCATED SERVICES/EQUIPMENT FOR CONTINUOUS OPERATION.

CS011.A-12E DESIGNED CHECKED **E&M SERVICES DIVERSION AND BUILDERS WORKS** APPROVED FOR PLATFORM WALL BREAKTHROUGH AT ADM DEC 2012 DATE **ES GENERAL NOTES OPERATION DIVISION** DO NOT SCALE DRAWINGS. ALL DIMENSIONS SHALL BE VERIFIED © MTR CORPORATION LIMITED 2008 COPYRIGHT IN RESPECT OF THIS DRAWING / DOCUMENT IS OWNED BY THE MTR CORPORATION LIMITED OF HONG KONG. NO REPRODUCTION OF THE DRAWING / DOCUMENT OR ANY PART BY WHATEVER MEANS

FIGURE NO. E00/002 NTS





GENERAL NOTES:

- 1. ALL DIMENSIONS ARE IN MM. UNLESS OTHERWISE STATED, DO NOT SCALE THE DRAWINGS.
- 2. ALL SUPPLY AIR GRILLES / REGISTERS SHALL BE DOUBLE DEFLECTION UNLESS OTHERWISE INDICATED.
- 3. ALL EXHAUST AIR GRILLES / REGISTERS SHALL BE LOUVRE TYPE UNLESS OTHERWISE INDICATED.
- 4. ALL SUPPLY, RETURN AND EXHAUST AIR DIFFUSERS / GRILLES / REGISTERS SHALL BE COMPLETE WITH OPPOSED BLADE VOLUME CONTROL DAMPERS.
- 5. AIR TIGHT ACCESS PANEL SHOULD BE PROVIDED ON AIR DUCTS ADJACENT TO FIRE DAMPERS FOR INSPECTION AND MAINTENANCE.
- 6. ALL ANTI-VIBRATION MOUNTING FOR EQUIPMENT AND PIPEWORK SHALL BE OF SPRING TYPE UNLESS OTHERWISE SHOWN ON DRAWINGS.
- 7. ALL DUCT ELBOWS / BENDS MUST BE FITTED WITH TURNING VANES TO DW144 STANDARD.
- 8. UNLESS OTHERWISE SPECIFIED, THE AIR GRILLE, LOUVRES AND DIFFUSERS C/W BRANCH DUCTS SHALL BE INSTALLED TO MATCH THE FALSE CEILING LEVEL AND LAYOUT. THE EXACT LOCATION OF AIR GRILLES, LOUVRES AND DIFFUSERS SHALL BE IDENTIFIED ON SITE. SIZE OF ALL BRANCH DUCTS TO GRILLES, LOUVRES OR DIFFUSERS SHALL BE THE SAME OF THE NECK SIZE OF THE RESPECTIVE GRILLES, LOUVRES OR DIFFUSERS UNLESS OTHERWISE SPECIFIED.
- 9. THE DUCT DIMENSION SHOWN ON THE DRAWING ARE THE NET SIZE EXCLUDING INTERNAL LINING & EXTERNAL INSULATION THICKNESS.
- 10. SUPPLY AND INSTALL ALL THE FIRE DAMPERS IN ALL THE AIR DUCTS PASSING THROUGH THE FIRE RATED WALLS / SLABS.
- 11. UNLESS OTHERWISE STATED, THE FIRE DAMPERS AND MFSDs FOR THE FIRE RATED WALL ADJOINTED ESCAPE STAIRCASE OR VENT SHAFT SHALL BE 4 HOURS FRP. ALL OTHER FIRE DAMPERS SHALL BE 2 HOURS FRP.
- 12. THE EQUIPMENT/MATERIAL OFFERED, THE FINAL SERVICES ROUTING AND ALL THE CALCULATIONS SHALL BE SUBMITTED TO ENGINEERS FOR APPROVAL.
- 13. THE CONTRACTOR SHALL PROVIDE TEMPORARY SUPPORT INCLUDING HANGER/BRACKETS TO ALL THE E&M SERVICES (SUCH AS DUCTWORKS, PIPEWORK, CABLE TRAYS & EQUIPMENT) THAT ARE MOUNTED AND SUPPORTED ON THE WALL WHICH IS TO BE REMOVED AFTER REMOVAL OF THE WALL, PERMANENT SUPPORTS INCLUDING BRACKETS/HANGERS AND THE ASSOCIATED BUILDER'S WORKS TO THESE E&M SERVICES SHALL BE PROVIDED.
- 14. ALL AIR GRILLES/REGISTERS/LOUVRES/LINEAR DIFFUSER SHALL BE MADE OF ALUMINIUM WITH FINISHES TO ENGINEER'S SATISFACTION. SAMPLE SHALL BE SUBMITTED PRIOR TO ORDERING AND INSTALLATION.
- 15. THE SIZE OF ACCESS PANEL ON AIR DUCT SHALL BE MINIMUM 150mmx150mm FOR AIR DUCT WIDTH/DEPTH NOT EXCEEDING 200mm, 300mmx300mm FOR AIR DUCT WIDTH/DEPTH NOT EXCEEDING 400mm, 600mmx600mm FOR AIR DUCT WIDTH/DEPTH NOT EXCEEDING 1000mm, 2 NOS. 600mmx600mm FOR AIR DUCT WIDTH/DEPTH NOT EXCEEDING 1500mm AND FULL DUCT WIDTH FOR THOSE AT RETURN PLENUM OF THE UNIT.
- 16. THE CONTRACTOR SHALL CARRY AIR FLOW MEASUREMENT FOR THE EXISTING AIR DUCT WHICH IS TO BE REPLACED/MODIFIED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE AIR BALANCING AFTER MODIFICATION/REPLACEMENT WORKS.
- 17. UNLESS OTHERWISE SPECIFIED, THE RELATED POWER SUPPLY INCLUDING CABLES, STARTERS, COMPONENTS INSIDE MCC, CABLE TRAY AND ACCESSORIES SHALL BE REPLACED/PROVIDED FOR THE ECS INSTALLATION.
- 18. PENETRATION OF SERVICES THROUGH FIRE COMPARTMENT WALL SHALL USE G.I. SLEEVE FOR PROTECTION AND BE SEALED UP WITH FIRE RESISTANT MATERIALS TO MAINTAIN THE SAME FIRE RESISTANT RATING.

- 19. THE SPECIFIED EXTERNAL STATIC PRESSURES FOR FANS ARE FOR REFERENCE ONLY. THE CONTRACTOR SALL SUBMIT CALCULATIONS, ACCORDING TO THE WORKING DRAWING AND ACTUAL SITE SITUTATIONS, TO IDENTIFY THE EXTERNAL STATIC PRESSURE REQUIRED FOR THE FANS.
- 20. DIMENSION AND LOCATIONS OF NEW AND EXISTING SERVICES SHOWN ON THE DRAWINGS IS FOR REFERENCE ONLY. ACTUAL DIMENSION AND LOCATION TO BE IDENTIFIED ON SITE.
- 21. UNLESS OTHERWISE SPECIFIED, EXISTING FANS C/W ALL RELATED DUCTWORK, HANGERS, PIPEWORK, GRILLES, DIFFUSERS, DAMPERS, SUPPORTING FRAMES AND ACCESSORIES SHALL BE REPLACED/MODIFIED TO SUIT THE ECS SYSTEM MODIFICATION.
- 22. EXISTING ECS EQUIPMENT AND ACCESSORIES TO BE RETAINED ARE SHOWN IN DIMMED LINES AND THOSE TO BE NEWLY INSTALLED ARE SHOWN IN SOLID LINES.
- 23. ASSOCIATED BUILDING AND CIVIL ENGINEERING WORK ARE DEEMED TO HAVE BEEN INCLUDED IN THIS CONTRACT SUM TO MEET THE REQUIREMENTS OF SYSTEM MODIFICATION. AFTER INSTALLATION, THE CONTRACTOR SHALL BE RESPONSIBLE FOR SUBSEQUENT TOUCH-UP REPAIRING, PAINTING AND MAKING GOOD OF THE AFFECTED WALLS, PARTITIONS, FLOOR, AND CEILINGS TO MATCH THE EXISTING COLOUR AND FINISH.
- 24. EVERY MOTOR HAVING A RATING EXCEEDING 0.37kw SHALL BE PROVIDED WITH CONTROL EQUIPMENT INCORPORATING MEANS OF PROTECTION AGAINST OVERLOAD OF THE MOTOR.
- 25. THE DISMANTLING AND REINSTATEMENT OF THE FALSE CEILING FOR THE ECS MODIFICATION WORKS SHALL BE INCLUDED IN THIS CONTRACT. THE AFFECTED FALSE CEILING SHALL BE MODIFIED, REPLACED, IF NECESSARY, WITH SAME COLOUR AND MATERIAL TO SUIT THE ECS SYSTEM MODIFICATION.
- 26. ALL THE PLINTH SHALL BE MODIFIED/REPLACED TO SUIT THE ECS SYSTEM MODIFICATION.
- 27. THE CONTRACTOR SHALL TRACE AND SUBSEQUENTLY IDENTIFY THE EXISTING ECS CONTROL/MONITORING CIRCUITRY OF THE EXISTING FANS. ALL THE EXISTING REMOTE CONTROL/MONITORING SIGNAL CABLE OF THE REPLACED FANS SHALL BE RE-INSTATED AND RE-COMMISSIONED BY THE CONTRACTOR.
- 28. PLEASE NOTE THAT THE INFORMATION PROVIDED ABOVE AND ON THE AS-BUILT DRAWINGS/EXISTING LAYOUT ARE FOR REFERENCE ONLY AND THE CORPORATION SHALL NOT BE LIABLE FOR ANY INACCURACY OR NON-COMPLETENESS OF SUCH INFORMATION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INVESTIGATING AND VERIFYING ALL ACTUAL INFORMATION DIMENSION ON SITE FOR EXECUTION OF THE WORKS.
- 29. STARTING CAPACITOR, IF IT IS A STARTER PART, OF THE FAN MOTOR SHALL COMPLY WITH BS EN60252-:2001 STANDARD OF CLASS A.
- 30. THE CONTRACTOR SHALL TRACE AND SUBSEQUENTLY IDENTIFY AND SUGGEST APPROPRIATE EQUIPMENT DELIVERY ROUTES AND METHOD FOR THE WORKS. ALL COSTS AND INTERFACE WORKS RELATED TO THE DELIVERY MATTER AND EQUIPMENT ALTERNATION MODIFICATION SHALL BE RESPONSIBILITY OF THE CONTRACTOR.
- 31. THIS DRAWING IS APPLICABLE TO ALL ECS INSTALLATIONS AT ALL LOCATIONS OF THIS CONTRACT.

PRIN							
	KEY PLAN			DRAWN			TITLE OCCUPANT A COMMENT OF THE COMM
				DESIGNED			CS011.A-12E
				CHECKED			E&M SERVICES DIVERSION AND BUILDERS WORKS
				APPROVED		ORIGINATOR	
				DATE	DEC 2012		FOR PLATFORM WALL BREAKTHROUGH AT ADM ECS GENERAL NOTES
نن				DO NOT SCALE DRAWINGS. A ON SITE. © MTR CORPORATION LIMITE	LL DIMENSIONS SHALL BE VERIFIED	OPERATION DIVISION	EGS GENERAL NOTES
DRV: ELNAME JAME:		A FIRST ISSUE	CM DEC 20	12 DF RESPECT OF THIS DRAWING CORPORATION LIMITED OF H	ODCUMENT IS OWNED BY THE MTR ONG KONG. NO REPRODUCTION OF DR ANY PART BY WHATEVER MEANS	BIM REF	SCALE FIGURE NO. REV.
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f Lands, c Ho	ASF	ACCOMMODATION SUPPLY FAN	FAG	FRESH AIR GRILLE	PG	PRESSURE GAUGE	P	PRESSURE GAUGE	VCD	VOLUME CONTROL	_ DAMPER		SUPPLY AIR DUCT TO/FROM ABOVE
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nced with pe	AP	ACCESS PANEL	FAL	FRESH AIR LOUVRE				TEMPERATURE GAUGE	FLD _/_/	FUSIBLE LINK DAM	IPER (FIRE RATED)		EXHAUST AIR DUCT TO/FROM ABOVE
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	CCR	CENTRAL CONTROL ROOM	F.S.	FIRE SERVICES	SAG	SUPPLY AIR GRILLE	$\overline{F_{M}}$	FLOW METER	MFSD				TO/FROM ABOVE
	CDP	CONDENSATE DRAIN PIPE	QTY.	QUANTITY	SIL	SILENCER	FS	FLOW SWITCH	\\\\		AND SMOKE DAMPER		RETURN AIR DUCT TO/FROM BELOW
	CECS	CENTRAL ENVIRONMENTAL	H/L	HIGH LEVEL	SS	STAINLESS STEEL	T	THEMOSTAT C/W 3-SPEED CONTROLLER		IPMENT		<u>AP</u>	AIR DUCT WITH ACCESS
		CONTROL SYSTEM	IL	INVERT LEVEL	TAL	TRANSFER AIR LOUVRE			PCU 01	EQUIPMENT DESC	CRIPTIONS		PANEL AT BOTTOM SIDE
	CHWR	CHILLED WATER RETURN PIPE	LMCP	LOCAL MOTOR CONTROL PANEL	TAD	TRANSFER AIR DUCT		DIRECTION OF FLOW	DES	IGNATION NUMBER		—CHWP—	CHILLED WATER PIPE
	CHWS	CHILLED WATER SUPPLY PIPE	L/L	LOW LEVEL	TAG	TRANSFER AIR GRILLE		FAN				<u> </u>	BUTTERFLY VALVE
	COMC	CUT-OVER MARSHALLING CUBICLE	L/S	LITRE PER SECOND	T/A	TO ABOVE	S	ADDRESSABLE PHOTOELECTRIC		THERMOMETER		\	
	DIA	DIAMETER	M	METRE	T/B	TO BELOW		PROBE TYPE SMOKE DETECTOR		FLEXIBLE CONNE	CTOR (PIPEWORK)		GLOBE VALVE
	DIA				VCD	VOLUME CONTROL		INDICATOR LAMP		EXPANSION BELL	OWS (PIPEWORK)	RP	REFRIGERANT PIPE
		DEGREE CELCIUS	MCC	MOTORISED FIRE AND	MO	DAMPER	E	EMERGENCY STOP	I			D	CONDENSATE DRAIN PIPE
	DB	DECIBEL	MFSD	MOTORISED FIRE AND SMOKE DAMPER	WO	WALL OPENING	——————————————————————————————————————	DIFFERENTIAL PRESSURE SENSOR		UNION		<u> </u>	GALVANIZED IRON
	DOL	DIRECT ON LINE	M/S	METRE PER SECOND	FFL	FINISHED FLOOR LEVEL		INCLINED MANOMETER TYPE DIFFERENTIAL PRESSURE GAUGE FOR FILTER.	$^{\perp}_{D}$ D	DRAIN WITH COCH	<		SHEET METAL DUCT
	DWG	DRAWING	M^2	METER SQUARE	SCR	STATION CONTROLLER ROOM			AIR FITTING			<	FLEXIBLE CONNECTION
	DN	DOWN	M³/S	METRE CUBE PER SECOND	C/W	COMPLETE WITH			SAR 300x200	TYPE OF AI REGISTER/		+ + + + + + + + + +	(DUCTWORK)
	EAD	EXHAUST AIR DUCT	mm	MILLIMETER	F.A.	FRESH AIR		EXTRACT AIR GRILLE (EAG)	10 234	SIZE (L)mm		+ + + + + + + + + + + + + + + + + + + +	FIRE RATED ENCLOSUR
ı	EAG	EXHAUST AIR GRILLE	MAX	MAXIMUM	S.A.	SUPPLY AIR	*	SUPPLY AIR FITTING WITH FLOW DIRECTION		AIR FLOW FOR THE NUMBER O	RATE(L/S) F REGISTER/DIFFUSER/	•	
ı	EAL	EXHAUST AIR LOUVRE	MIN	MINIMUM	SCD	SUPPLY CEILING	→			AIR GRILLE ISOLATOR		NOTE:	
	ECSLC	ENVIRONMENTAL CONTROL SYSTEM LOCAL CONTROLLER	M/L	MID LEVEL	5 5 -	DIFFUSER		EXTRACT AIR FITTING WITH FLOW DIRECTION		FUSED SPUR UNI	г	THIS DI	RAWING IS APPLICABLE TO
	ETD	ELECTROTHERMAL LINK FIRE	NC	NORMALLY CLOSE	SAR	SUPPLY AIR REGISTER		MITRED BEND WITH TURNING VANES (REFER	S				S INSTALLATIONS AT ALL IONS OF THIS CONTRACT.
3:08	LID	DAMPER	NO	NORMALLY OPEN	RAR	RETURN AIR REGISTER		TO NOTE 15)		CONTROL PANEL	FF CONTROL VALVE (TWO		
7 14:36	EX	EXISTING			URS	UNDER ROOF SOFFIT		RADIUS BEND / ELBOW WITH TURNING VANES			CALLY OPERATED)		
2/12/2	EXF	EXHAUST FAN	NRD	NON-RETURN DAMPER			L	(REFER TO NOTE 15)	M		ULATING CONTROL VALVE ECTRICALLY OPERATED)		
201	FAF	FRESH AIR FAN	OBD	OPPOSITE BLADE DAMPER				EXISTING AIR DUCT TO BE RETAINED		GATE VALVE	,		
ВУ:	FRP	FIRE RESISTING PERIOD	Pa	PASCAL (N/M ²)				FILTER	~ >>	DALANCINIC VALV	г		
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PART 1: SCR CORRIODR TENDER DRAWINGS

	SCR COI	RRIDOR DRAWING SCHEDULE			
DRAWING NUMBER	DRAWING TITLE				
				REVISION	SCALE
CS011.A-12E/T/ADM/MTR/ A00/100	E&M SERVICES DIVERSION AND BUILDERS WORKS FOR PLATFORM WALL BREAKTHROUGH AT ADM	EXISTING PLANT ROOM AND NEW SCR CORRIDOR	DRAWING LIST	Α	NIL
CS011.A-12E/T/ADM/MTR/ A11/101	E&M SERVICES DIVERSION AND BUILDERS WORKS FOR PLATFORM WALL BREAKTHROUGH AT ADM	CONCOURSE LEVEL-NEW SCR CORRIDOR LOCATION PLAN		А	NTS
CS011.A-12E/T/ADM/MTR/ A12/101	E&M SERVICES DIVERSION AND BUILDERS WORKS FOR PLATFORM WALL BREAKTHROUGH AT ADM	EXISTING PLANT ROOM AND NEW SCR CORRIDOR	GENERAL LAYOUT	А	1 : 50 (A1)
CS011.A-12E/T/ADM/MTR/ A38/101	E&M SERVICES DIVERSION AND BUILDERS WORKS FOR PLATFORM WALL BREAKTHROUGH AT ADM	EXISTING PLANT ROOM AND NEW SCR CORRIDOR	CO-ORDINATED BUILDING SERVICES LAYOUT	А	1 : 50 (A1)
CS011.A-12E/T/ADM/MTR/ A38/102	E&M SERVICES DIVERSION AND BUILDERS WORKS FOR PLATFORM WALL BREAKTHROUGH AT ADM	EXISTING PLANT ROOM AND NEW SCR CORRIDOR	CO-ORDINATED SECTION 1	А	1 : 50 (A1)
CS011.A-12E/T/ADM/MTR/ A38/103	E&M SERVICES DIVERSION AND BUILDERS WORKS FOR PLATFORM WALL BREAKTHROUGH AT ADM	EXISTING PLANT ROOM AND NEW SCR CORRIDOR	CO-ORDINATED SECTION 2	А	1 : 50 (A1)
CS011.A-12E/T/ADM/MTR/ A38/104	E&M SERVICES DIVERSION AND BUILDERS WORKS FOR PLATFORM WALL BREAKTHROUGH AT ADM	EXISTING PLANT ROOM AND NEW SCR CORRIDOR	EXISTING PLANT ROOM AND NEW CORRIDOR CUTWAY SECTIONS	А	NTS
CS011.A-12E/T/ADM/MTR/ D06/101	E&M SERVICES DIVERSION AND BUILDERS WORKS FOR PLATFORM WALL BREAKTHROUGH AT ADM	EXISTING PLANT ROOM AND NEW SCR CORRIDOR	MODIFICATION OF DRAINAGE LAYOUT	Α	1 : 50 (A1)
CS011.A-12E/T/ADM/MTR/ E01/101	E&M SERVICES DIVERSION AND BUILDERS WORKS FOR PLATFORM WALL BREAKTHROUGH AT ADM	EXISTING PLANT ROOM AND NEW SCR CORRIDOR	MODIFICATION OF LIGHTING	А	1:50 (A1)
CS011.A-12E/T/ADM/MTR/ E08/101	E&M SERVICES DIVERSION AND BUILDERS WORKS FOR PLATFORM WALL BREAKTHROUGH AT ADM	EXISTING PLANT ROOM AND NEW SCR CORRIDOR	DIVERSION OF LV CABLES & CABLE CONTAINMENT	А	1 : 50 (A1)
CS011.A-12E/T/ADM/MTR/ F08/101	E&M SERVICES DIVERSION AND BUILDERS WORKS FOR PLATFORM WALL BREAKTHROUGH AT ADM	EXISTING PLANT ROOM AND NEW SCR CORRIDOR	EXISTING FS LAYOUT AND NEW FS LAYOUT	А	1:50 (A1)
CS011.A-12E/T/ADM/MTR/ M09/101	E&M SERVICES DIVERSION AND BUILDERS WORKS FOR PLATFORM WALL BREAKTHROUGH AT ADM	CONCOURSE LEVEL - UP END (NEW SCR CORRIDOR)	MODIFICATION OF ECS INSTALLATIONS	А	1 : 50 (A1)

DESIGNED

CHECKED APPROVED

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A FIRST ISSUE

DESCRIPTION

OPERATION DIVISION

CS011.A-12E

DRAWING LIST

E&M SERVICES DIVERSION AND BUILDERS WORKS

A00/100

FOR PLATFORM WALL BREAKTHROUGH AT ADM

EXISTING PLANT ROOM AND NEW SCR CORRIDOR

