

Your ref 來函檔號:

20 October 2017

Dear Tenderer.

Tender Reference No. (325) in P/AE/PUR/AGC

Design, Project Management and Fitting Out Works for Trade Test Service Centre of the Model Trade Test Centre for the Construction Industry Council

Tender Query No. 1

Further to our issuance of the Invitation to Tender on 3 October 2017 and during the Tender Briefing held on 13 October 2017, queries were received. The CIC's response is hereby distributed to all Tenderers. This letter shall not have any contractual or other legal standing or effect. The question(s) and the CIC's response(s) are set out in Attachment 1

Please acknowledge receipt of the aforementioned information by signing below and returning this letter by fax at (852) 2100 9439 or by e-mail to winnieto@cic.hk by 25 October 2017.

Yours sincerely, Accepted and Confirmed by
For and on behalf of Company Name:

Construction Industry Council

Name:

Manager Position:

Projects & Contracts Administration Date:

<u>Tender for Design, Project Management and Fitting Out Works for Trade Test Service Centre of Model Trade Test for the Construction Industry Council ("the CIC")</u>

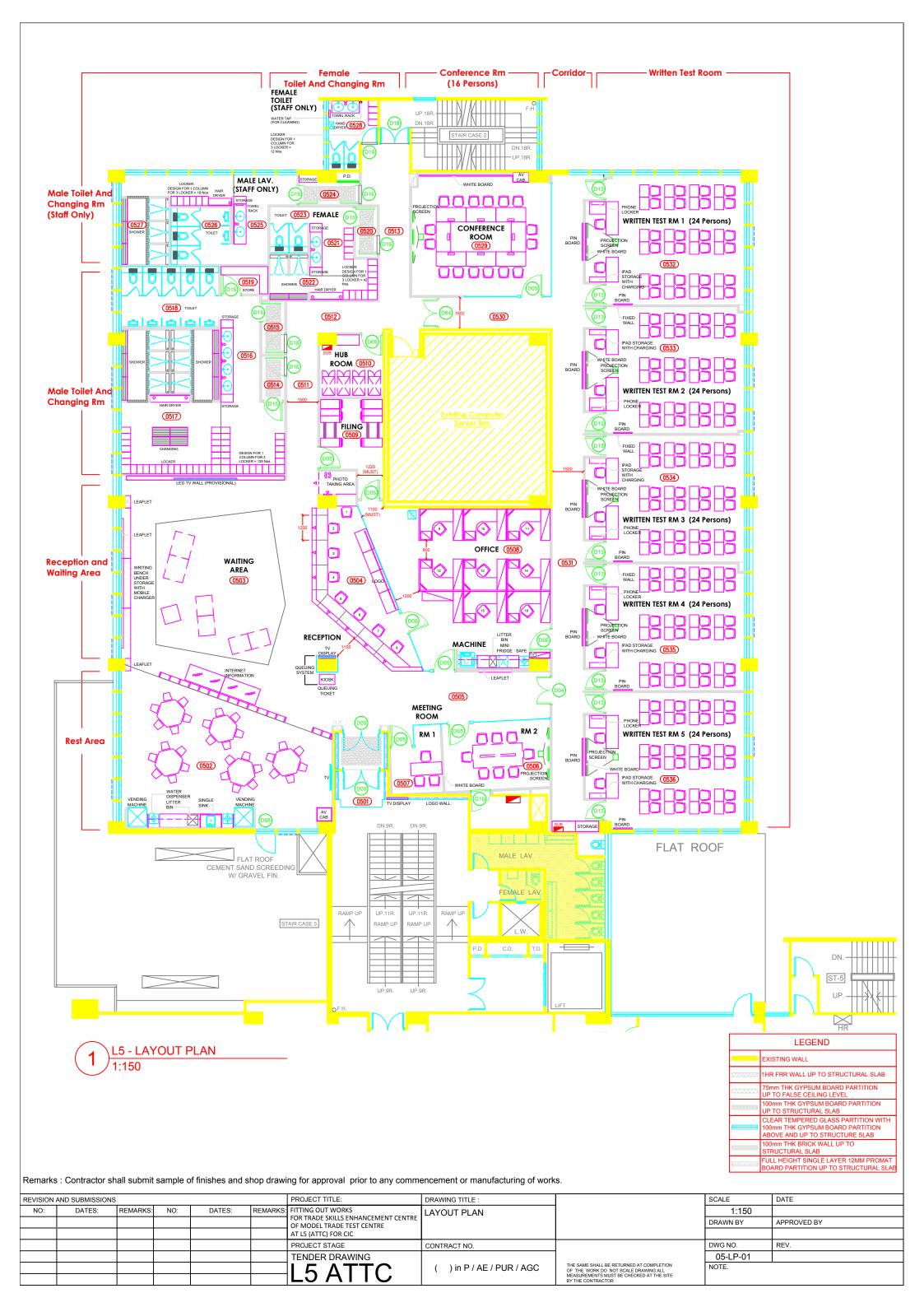
Item No.	Tender Reference / Queries	CIC's Response
1.	Please provide the contact details of the Contractor responsible for the roof maintenance.	 Please refer to Note 8.4 of the Conditions of Tender (Page CT-52), which states: Building Maintenance Contractor Build Jet Engineering Ltd. Contact Person: Mr. Hubert C.M. Wong – Phone No.: 5682 6969, 2897 9139
2.	Please provide the AutoCAD files demonstrated during the tender briefing.	 The editable AutoCAD files containing part of the layout plans and drawings for tendering purpose can be downloaded from the CIC website.
3.	Please clarify whether the Contractor needs to replace all the existing sprinkler head pipe (upper level) or just add new/relocate upper level exposed type sprinkler head with new protector as per SOR (Refer to Page CT-53 Item 9.01 of the Conditions of Tender).	3. The modifications of fire services works as stated in Item 9.01 (Page CT-53) shall include "renew/relocate upper level exposed type sprinkler head with new protector (new conceal type) for all lower level, including all necessary modification of fire services piping works to comply with Fire Service Department requirement." Please refer to Tender Addendum No. 1 dated 20 October 2017 for details.
4.	Please clarify whether the Contractor needs to replace all the existing water pipe (soil waste pipe, waste pipe and potable water pipe).	4. Please refer to Item 2.16.02 'Scope of Works' of the Assignment Brief (Page AB-94), which mentioned that all existing pipes shall be dismantled and replaced/modified.

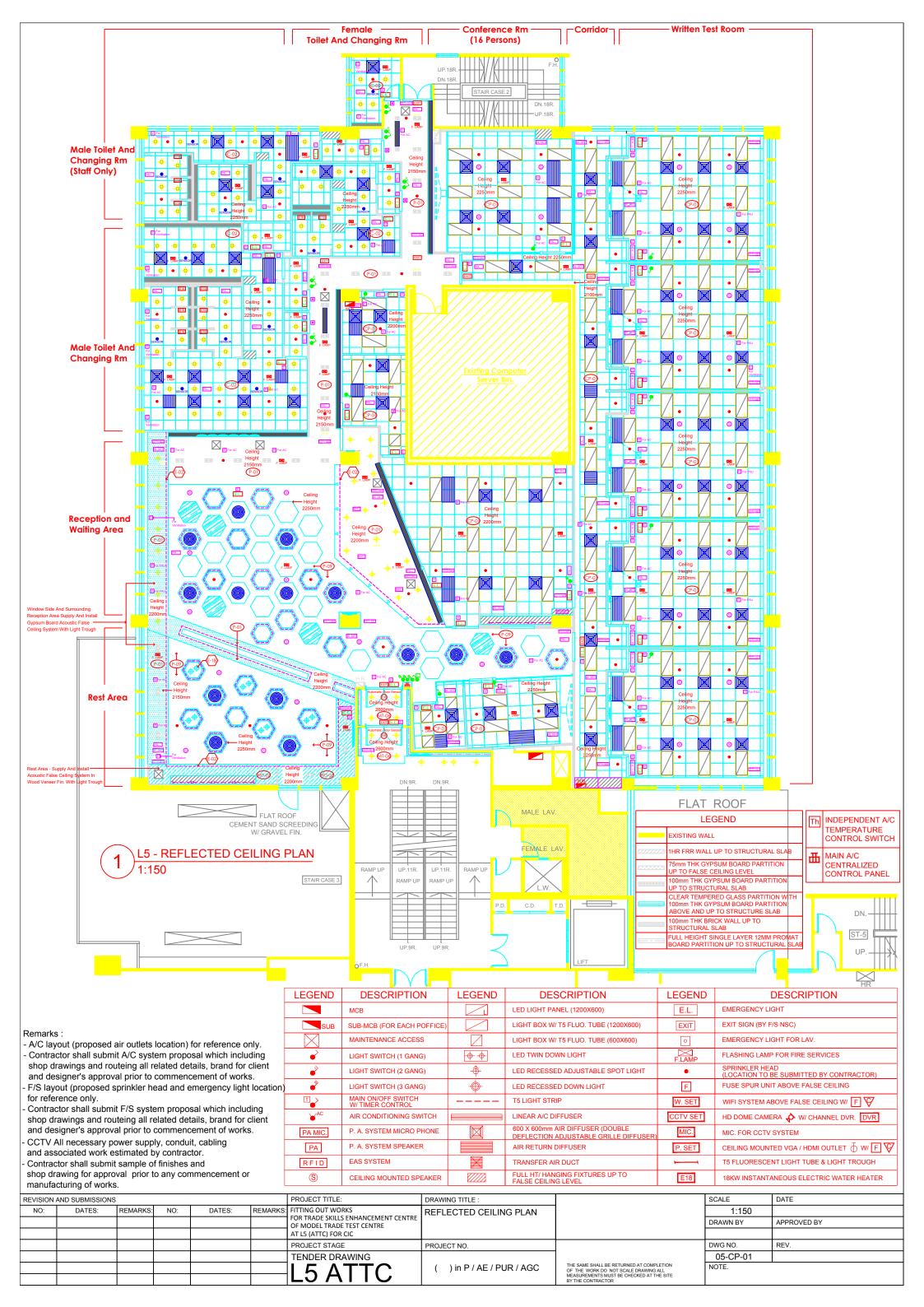
Tender for Design, Project Management and Fitting Out Works for Trade Test Service Centre of Model Trade Test for the Construction Industry Council ("the CIC") Tender Query No. 1

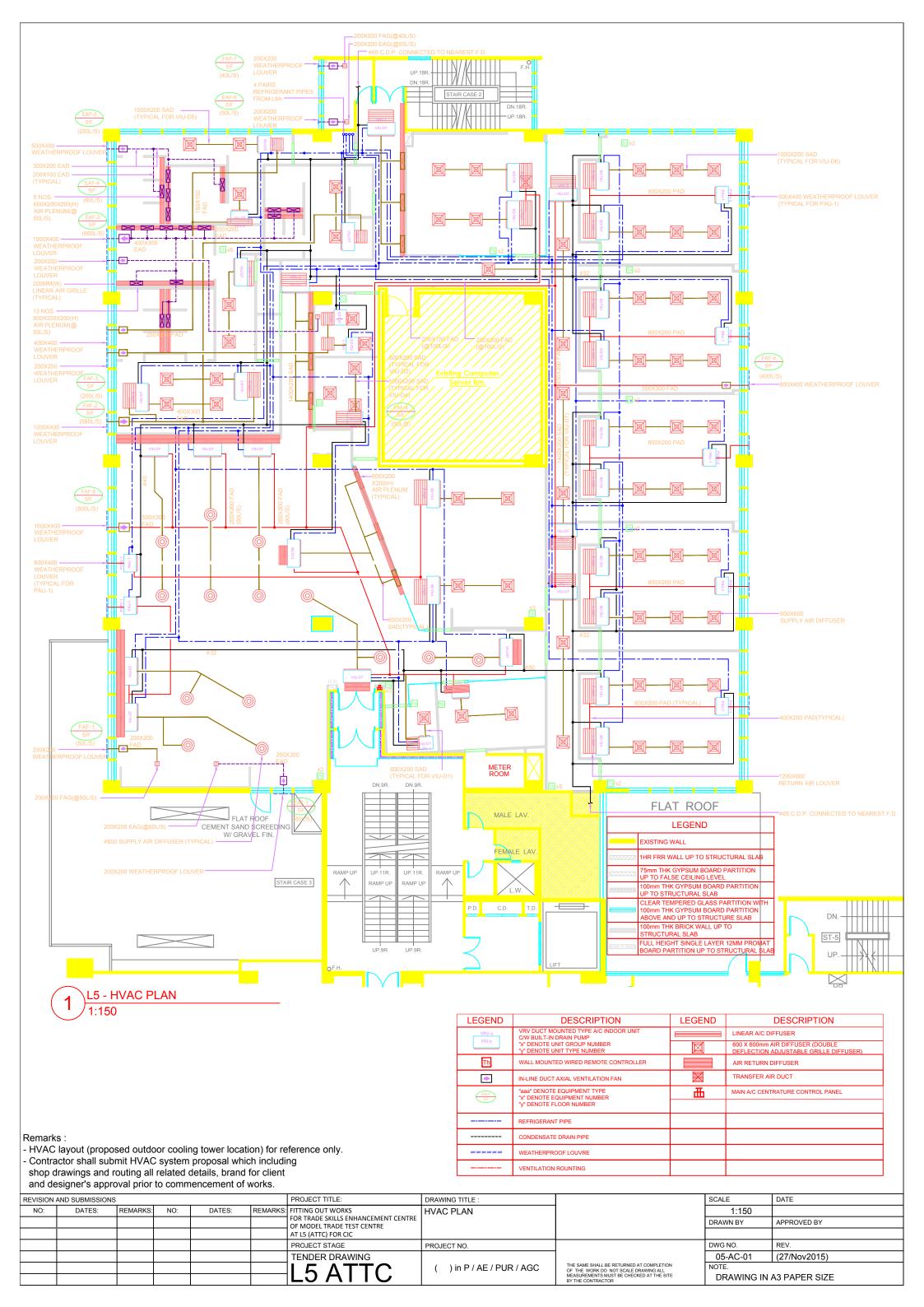
Tender Ref. (325) in P/AE/PUR/AGC

Tender for Design, Project Management and Fitting Out Works for Trade Test Service Centre of Model Trade Test for the Construction Industry Council ("the CIC")

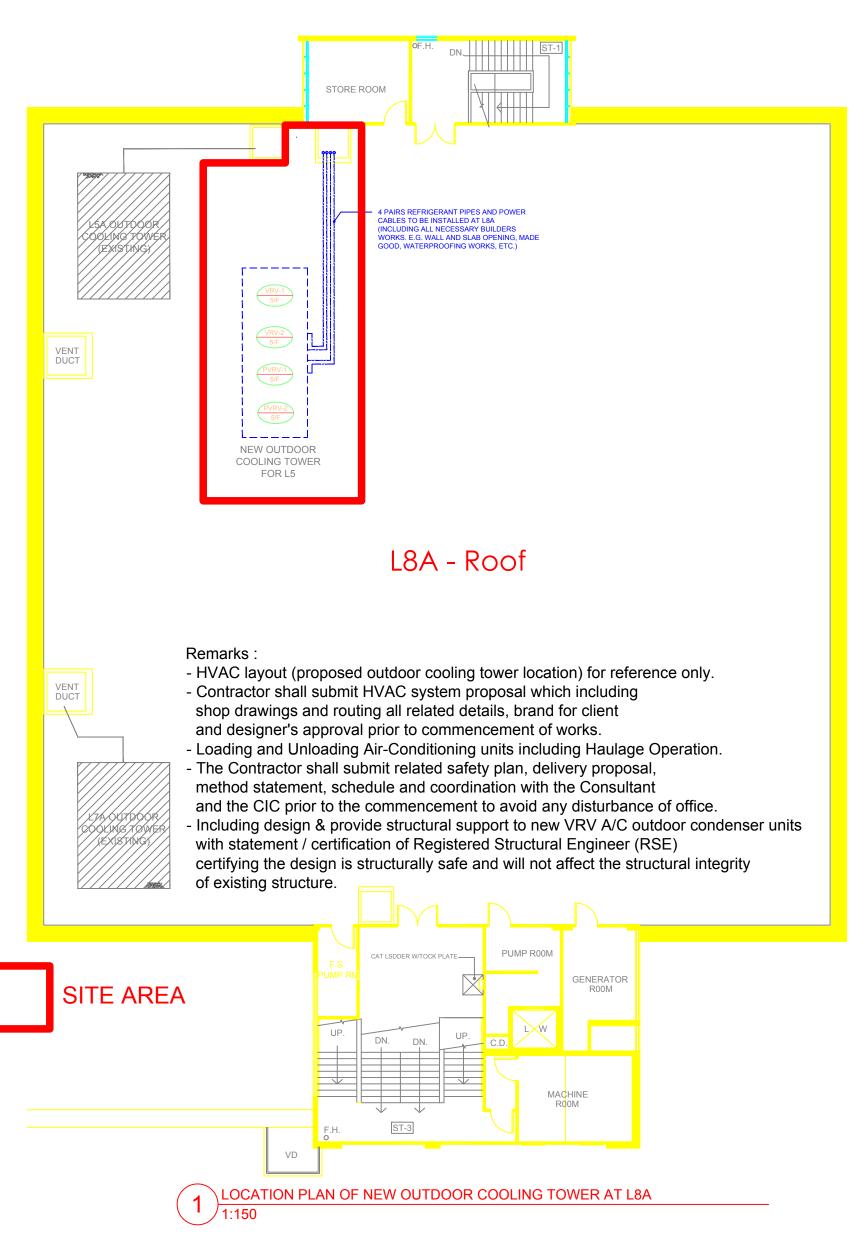
Item No.	Tender Reference / Queries	CIC's Response
5.	Please clarify the inconsistence in Item 6.03 to Item 6.05 of the Condition of Tender (Page CT-37) where some areas need to apply with water proofing layer upto 1000mmm AFFL while the other areas do not need to do so, and double confirm whether the Contractor needs to apply water proof water proofing layer finish up to 1000mm AFFL at wall at Reception, Corridor to Toilet, Rest Area and Waiting Area as the boundary wall is a dry wall not block wall partition.	 Items 6.03, 6.04, 6.05 and 6.06 of the Conditions of Tender (Pages CT-37 and CT-38) have been updated. Two additional Items 6.08 and 6.09 have been added as well. Please refer to Tender Addendum No. 1 dated 20 October 2017 for details.
6.	Please clarify whether the Contractor needs to touch up /repair / modify / repaint the existing window metal frames (Refer to Item 20.35 of the Conditions of Tender (Page CT-87)) as CIC's Mr. Robert Lau mentioned during tender briefing that all the existing windows are newly installed.	 Item 20.35 of the Conditions of Tender (Page CT-87) had been deleted. Please refer to Tender Addendum No. 1 dated 20 October 2017 for details.







FOR REFERENCE ONLY (NOT TO SCALE)



Remarks : Contractor shall submit sample of finishes and shop drawing for approval prior to any commencement or manufacturing of works.

REVISION	REVISION AND SUBMISSIONS			PROJECT TITLE:	DRAWING TITLE :		SCALE	DATE		
NO:	DATES:	REMARKS:	NO:	DATES:		FITTING OUT WORKS	LOCATION PLAN OF		1:150	
						FOR TRADE SKILLS ENHANCEMENT CENTRE OF MODEL TRADE TEST CENTRE	NEW OUTDOOR COOLING		DRAWN BY	APPROVED BY
						AT L5 (ATTC) FOR CIC	TOWER AT L8A			
						PROJECT STAGE	PROJECT NO.		DWG NO.	REV.
						TENDER DRAWING			05-AC-02	
							() in P / AE / PUR / AGC	OF THE WORK DO NOT SCALE DRAWING ALL	NOTE.	
						LSAIIC		MEASUREMENTS MUST BE CHECKED AT THE SITE BY THE CONTRACTOR	DRAWING IN	A3 PAPER SIZE

- THESE DRAWINGS ARE FOR TENDER AND CONTRACT PURPOSES ONLY.

 THE CONTRACTOR SHALL SUBMIT THE INSTALLATION DETAILED DRAWINGS TO THE CONSULTING ENGINEERS FOR COMMENT/ APPROVAL BASING ON ACTUAL EQUIPMENT TO BE INSTALLED. ALL DRAWINGS MUST BE DETAILED, DIMENSIONED SHOWING CONSTRUCTION SIZE, WEIGHT, ARRANGEMENT, OPERATING CLEARANCE, PERFORMANCE CHARACTERISTICS AND NECESSARY BUILDER'S WORK INVOLVED.
- PHYSICAL SIZES OF ALL PLANTS AND EQUIPMENT ARE TO BE SUITABLE FOR THE SPACE ALLOCATED FOR THE ACCOMMODATION OF SUCH PLANTS AND EQUIPMENT, TAKING INTO ACCOUNT THE REQUIREMENT FOR ACCESS FOR MAINTENANCE PURPOSE.
- PRIOR TO THE COMMENCEMENT OF ANY SITE WORK, SAMPLES OF THE FOLLOWING MATERIALS WHERE APPLICABLE SHALL BE SUPPLIED TO THE ARCHITECT FOR APPROVAL: SHEET METAL, INSULATION MATERIALS, DUCT LINER, ELECTRICAL CABLES, MATERIAL FOR SUPERVISORY PANEL AND INDICATING LAMP, SUPPORTING HANGERS, ELECTRICAL CONDUITS, PIPING MATERIAL AND PIPING FITTING AND ANY OTHER SPECIFIED ITEMS WHICH THE CONSULTING ENGINEERS MAY REQUEST.

 5) DURING THE PROGRESS OF WORK, ALL OPEN ENDS OF PIPES, CONDUITS, DUCT ETC. SHALL BE SUITABLY CAPPED TO PREVENT THE INGRESS OF FOREIGN MATTER.

 6) ALL ANTI-VIBRATION MOUNTS FOR EQUIPMENT SHALL BE OF SPRING TYPE UNLESS OTHERWISE SHOWN ON DRAWINGS.

- SIZE OF CONDENSATE DRAIN PIPE SHALL BE MINIMUM \$25mm
- 8) THE FALL OF ALL HORIZONTAL RUN CONDENSATE DRAIN PIPES SHALL NOT BE LESS THAN 1 IN 100.
 9) FOR PIPES, SLEEVES AND DUCTS THROUGH FIRE BARRIERS THE GAP BETWEEN THE PIPES AND ITS SLEEVES, AND THE GAP BETWEEN THE DUCTS AND FIRE BARRIERS MUST BE FIRMLY SEALED WITH SOFT PACKING HAVING A PERIOD OF FIRE RESISTANCE EQUAL TO THE FIRE BARRIERS. DETAILS OF PIPES AND DUCTS
- THROUGH WALL AND FLOOR TO BE PROVIDED BY THE SUB-CONTRACTOR AND APPROVED BY THE CONSULTING ENGINEERS BEFORE INSTALLATION.

 10) INSULATION FOR PIPES AT POINTS WHERE THEY PASS THROUGH FIRE BARRIERS MUST HAVE A PERIOD OF FIRE RESISTANCE EQUAL TO THE FIRE BARRIERS.
- 11) WHERE A DUCT WITH INSULATION PASS THROUGH A FIRE BARRIER AND IS PROVIDED WITH A FIRE DAMPER, THE EXTERNAL INSULATION MUST HAVE A PERIOD OF FIRE RESISTANCE EQUAL TO THE FIRE BARRIER.
- 12) UNLESS OTHERWISE NOTED ON THE DRAWINGS, SIZE OF SUPPLY AND RETURN AIR DUCTS SHALL BE THE SAME AS THE DISCHARGE AND SUCTION COLLAR OF THE
- RESPECTIVE DUCT TYPE A/C UNIT.

 13) SIZE OF GRILLES, LOUVRES OR DIFFUSERS SHOWN ARE FACE SIZE UNLESS OTHERWISE SPECIFIED.
- 14) SIZE OF ALL BRANCH DUCTS TO GRILLES, LOUVRES OR DIFFUSERS SHOULD BE THE SAME AS THE NECK SIZE OF THE RESPECTIVE GRILLES, LOUVRES OR DIFFUSERS UNLESS OTHERWISE SPECIFIED.
- 15) ALL FRESH/SUPPLY/PRIMARY AIR BRANCH DUCTS FROM MAIN/SUB-MAIN DUCT SHOULD BE PROVIDED WITH ADJUSTABLE SPLITTER VANES.
- 16) ALL PRIMARY AIR BRANCH DUCT TO EACH ZONE OF A/C UNIT SHOULD BE PROVIDED WITH BUTTERFLY TYPE VOLUME CONTROL DAMPER.
 17) ALL AIR BOOTS SHALL BE COMPLETED WITH INSULATION & VOLUME CONTROL DAMPER.
- 18) AFTER ATTACHMENT OF AIR PLENUM ON EXHAUST AND/OR INTAKE LOUVRE, ALL SURPLUS EXHAUST AND/OR INTAKE LOUVRE SHALL BE BLANK OFF BY 3MM THICK
- MATT BLACK FINISHES ALUMINIUM SHEET BY THIS CONTRACTOR.

 19) WHEREVER CONDENSATE DRAIN PIPE IS CONNECTED TO THE DRAINAGE PIPING SYSTEM (e.g. RAIN WATER PIPE). A TRAP WITH 80 WATER SEAL AND VENTED BY MEANS OF ANTI-SYPHONAGE PIPE SHALL BE SUPPLIED AND INSTALLED BY THIS CONTRACTOR
- 20) ALL A/C UNIT WITH DUCTWORK SHALL BE PROVIDED WITH ACCESS PANEL OF ADEQUATE DIMENSIONS TO ALLOW DISMANTLING OF BLOWER DECK
- 21) ALL REFRIGERANT PIPE SIZES SHALL BE COMPLY WITH MANUFACTURER'S REQUIREMENTS.
- 22) SLIM DUCT SHALL BE SUPPLIED AND INSTALLED FOR ALL REFRIGERANT PIPE AND CONDENSATE DRAIN PIPE EXPOSED TO VIEW CONDITION BY THIS CONTRACTOR.
 23) THE CONTRACTOR SHALL SUPPLY AND INSTALL ALUMINIUM BLANK OFF-PLATE PAINTED MATT BLACK FINISHES FOR THE DUMMY AIR GRILLE, LOUVER OR DIFFUSER.
- 25) ALL STAINLESS STEEL FOR KED OR EXHAUST HOOD SHALL BE GRADE 316.

HUB ROOM

RECEPTION

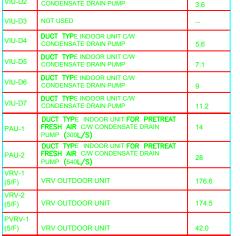
- 26) FAD RUN IN AIR-CONDITIONED AREA SHALL BE INSULATED WITH FIBERGLASS THERMAL INSULATION. WHEN FAD IS EXPOSED TO VIEW, IT SHALL BE ENCLOSED BY
- 27) ALL SPLIT A/C & VRV A/C UNIT SHALL BE OF HEAT PUMP FOR HEATING AS WELL.
 28) THE FALSE CEILING HEIGHT IN DORMITORY SHALL BE 2500MM(H) MINIMUM. THE CONTRACTOR SHALL INCLUDE IN THE CONTRACT THE MODIFICATION OF THE
- EXISTING E&M SERVICES TO SUIT. 29) ALL SURFACE/CONCEALED CONDUIT SYSTEM SHALL BE STEEL PIPES TO BS 4568 : PART 1. CONCEALED CONDUIT SYSTEM SHALL BE ADOPTED FOR AREA WITH NEW
- 30) THIS CONTRACTOR SHALL SUPPLY AND INSTALL #1MM STAINLESS STEEL WIRE MESH (12MMX12MM MESH) FOR ALL LOUVER FOR FRESH AIR INTAKE AND EXHAUST PURPOSE. FOR THOSE SURPLUS LOUVER SHALL BE BLANK-OFF BY 3MM THICK ALUMINUM PLATE BY THIS CONTRACTOR.
- 31) ALUMINUM WIRE WASHABLE FILTER (25MM THICK) SHALL BE PROVIDED BY THIS CONTRACTOR FOR ALL FRESH AIR INTAKE DUCTWORK COMPLETE WITH ACCESS FOR REMOVAL OF FILTER FOR CLEANING

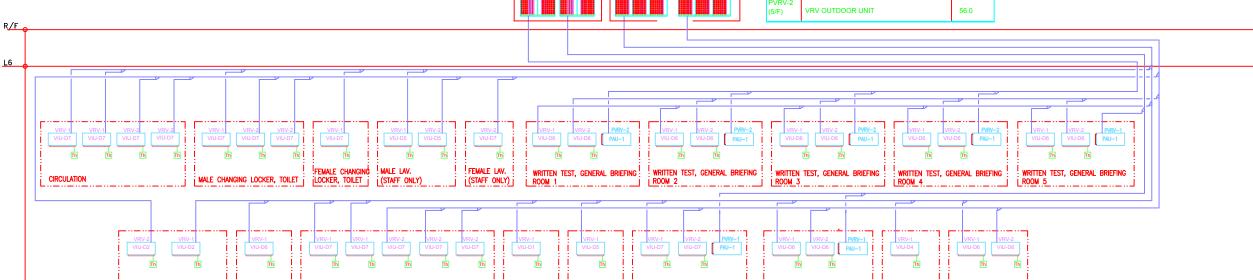
LEGEND:

SYMBOL	DESCRIPTION
VRV-x VIU-y	VRV DUCT MOUNTED TYPE A/C INDOOR UNIT C/W BUILT-IN DRAIN PUMP "x" DENOTE UNIT GROUP NUMBER "y" DENOTE UNIT TYPE NUMBER
	VRV A/C OUTDOOR UNIT (HEAT PUMP)
A	REFRIGERANT PIPE TEE-OFF PIPE JOINT
aaa-x y/F	"aaa" DENOTE EQUIPMENT TYPE "x" DENOTE EQUIPMENT NUMBER "y" DENOTE FLOOR NUMBER
	REFRIGERANT PIPE
	CONDENSATE DRAIN PIPE

DAIKIN VRV X-SERIES A/C UNIT SCHEDULE

		COOLING CAPACITY
TYPE	DESCRIPTION	KW
VIU-D1	DUCT TYPE INDOOR UNIT C/W CONDENSATE DRAIN PUMP	2.8
VIU-D2	DUCT TYPE INDOOR UNIT C/W CONDENSATE DRAIN PUMP	3.6
VIU-D3	NOT USED	
VIU-D4	DUCT TYPE INDOOR UNIT C/W CONDENSATE DRAIN PUMP	5.6
VIU-D5	DUCT TYPE INDOOR UNIT C/W CONDENSATE DRAIN PUMP	7.1
VIU-D6	DUCT TYPE INDOOR UNIT C/W CONDENSATE DRAIN PUMP	9
VIU-D7	DUCT TYPE INDOOR UNIT C/W CONDENSATE DRAIN PUMP	11.2
PAU-1	DUCT TYPE INDOOR UNIT FOR PRETREAT FRESH AIR CW CONDENSATE DRAIN PUMP (300L/S)	14
PAU-2	DUCT TYPE INDOOR UNIT FOR PRETREAT FRESH AIR CW CONDENSATE DRAIN PUMP (540L/S)	28
VRV-1 (5/F)	VRV OUTDOOR UNIT	176.6
VRV-2 (5/F)	VRV OUTDOOR UNIT	174.5
PVRV-1 (5/F)	VRV OUTDOOR UNIT	42.0
PVRV-2 (5/F)	VRV OUTDOOR UNIT	56.0





SCHEMATIC DIAGRAM OF VRV SYSTEM

OFFICE

MEETING RM 2 REST AREA

MEETING RM 1

Remarks: Contractor shall submit sample of finishes and shop drawing for approval prior to any commencement or manufacturing of works.

FILING AREA CONFERENCE ROOM

NO:	DATES:	REMARK

REVISION AND SUBMISSIONS

PROJECT TITLE:

FOR TRADE SKILLS ENHANCEMENT CENTRE OF MODEL TRADE TEST CENTRE AT L5 (ATTC) FOR CIC

PROJECT STAGE

AS FITTED DRAWING

DRAWING TITLE

VRV SYSTEM SCHEMATIC DIAGRAM

PROJECT NO.

() in P / AE / PUR / AGC

Not To Scale DRAWN BY APPROVED BY DWG NO. REV.



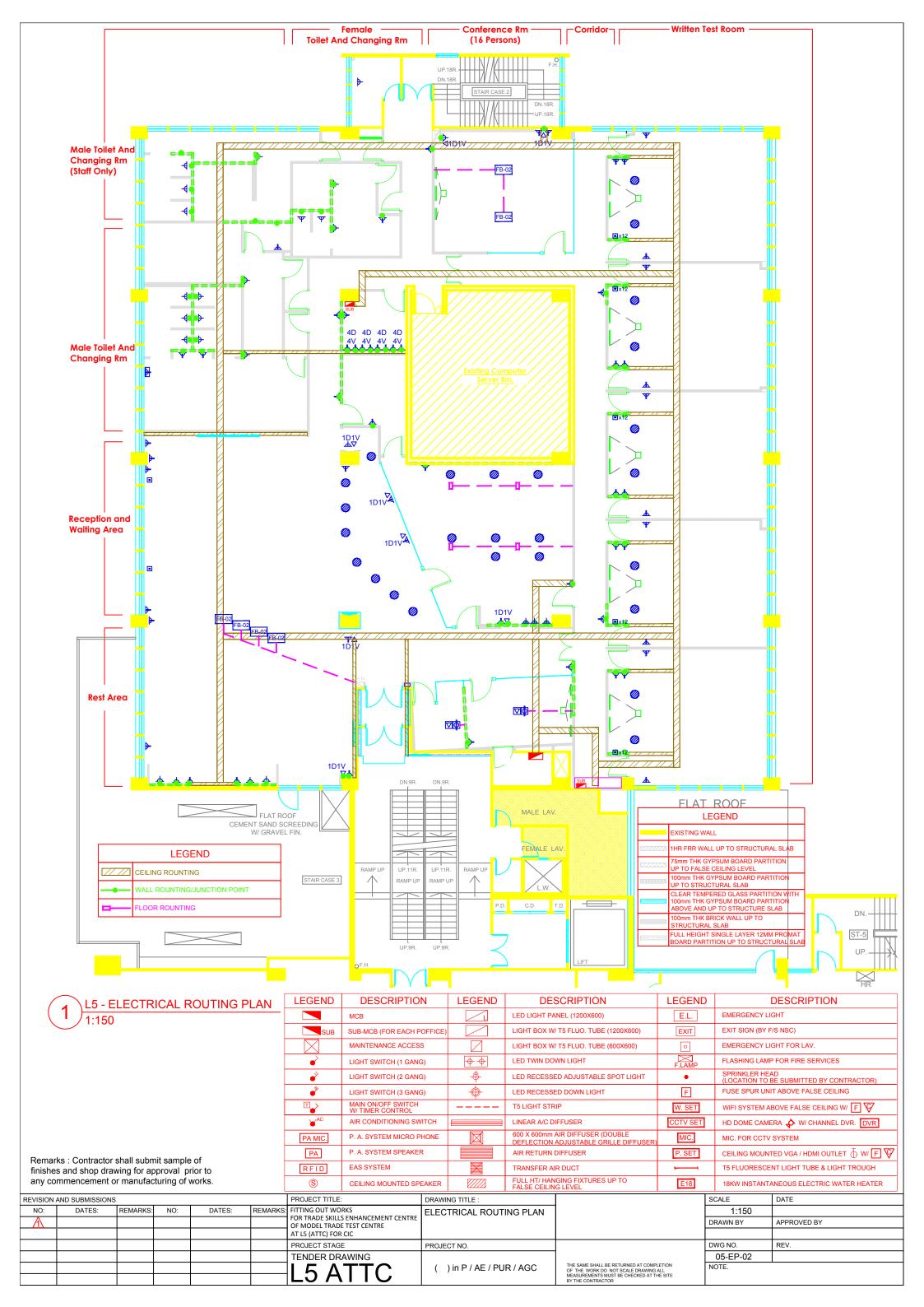
Remarks :

- Smart card, locks, release button, door contact and push bar supplied & installed by other vendor .
- Vendor should submitted details, lock size, installation method for designer & client's approval.
- Drawing shows the location and for reference only

LEGEND						
	EXISTING WALL					
	1HR FRR WALL UP TO STRUCTURAL SLAB					
	75mm THK GYPSUM BOARD PARTITION UP TO FALSE CEILING LEVEL					
(XXXXXXXXX	100mm THK GYPSUM BOARD PARTITION UP TO STRUCTURAL SLAB					
	CLEAR TEMPERED GLASS PARTITION WITH 100mm THK GYPSUM BOARD PARTITION ABOVE AND UP TO STRUCTURE SLAB					
	100mm THK BRICK WALL UP TO STRUCTURAL SLAB					
	FULL HEIGHT SINGLE LAYER 12MM PROMAT BOARD PARTITION UP TO STRUCTURAL SLAE					

Д	13 AMP SINGLE TYPE SOCKET (WALL MOUNTED ABOVE SKIRTING)	DR	DOOR RELEASE BUTTON
\mathbb{A}	13 AMP TWIN TYPE SOCKET (WALL MOUNTED ABOVE SKIRTING)	BR	BREAK GLASS
Ф	13 AMP SINGLE TYPE SOCKET (FLOOR MOUNTED)	SC	SMART CARD READER
Ф	13 AMP TWIN TYPE SOCKET (FLOOR MOUNTED)	DC	DOOR CONTACT
∇	WALL MOUNTED VOICE / DATE OUTLET	РВ	PUSH BAR ALARM
	FLOOR MOUNTED VOICE / DATE OUTLET	DB	DOOR BELL
□♪	TIMER CONTROL FOR OVER-TIME LIGHT ON SWITCH (2 HOURS)	TCB	TCB (TIMER CONTROL BOX)
τv	TV ANTENNA POINT	P.SET	CEILING MOUNTED VGA / HDMI
0		P.SET	OUTLET \bigoplus W/ F
	MAIN MCB	FB-02	FLOOR BOX WITH TWIN SOCKET / 1 x VOICE & 1 x DATA OUTLET / VGA
SUB	SUB-MCB	FB-02	POINT/ HDMI POINT / MIC POINT
Ф	WALL MOUNTED VGA / HDMI POINT		
•	USB Power Plate		

REVISION A	AND SUBMISSION	S				PROJECT TITLE:	DRAWING TITLE :		SCALE	DATE				
NO:	DATES:	REMARKS:	NO:	DATES:		FITTING OUT WORKS	ELECTRICAL PLAN		1:150					
					OF MODEL TRADE TEST CENTRE					FOR TRADE SKILLS ENHANCEMENT CENTRE OF MODEL TRADE TEST CENTRE			DRAWN BY	APPROVED BY
						AT L5 (ATTC) FOR CIC								
						PROJECT STAGE	PROJECT NO.		DWG NO.	REV.				
						TENDER DRAWING			05-EP-01					
							() in P / AE / PUR / AGC	THE SAME SHALL BE RETURNED AT COMPLETION OF THE WORK DO NOT SCALE DRAWING ALL	NOTE.					
						11 () A 1 1 ()		MEASUREMENTS MUST BE CHECKED AT THE SITE						



LEGEND

LLGLIND					
SYMBOL	DESCRIPTION				
EF	I.D.M.T EARTH FAULT RELAY				
OC	3-ELEMENT I.D.M.T. OVER-CURRENT RELAY				
<u> </u>	INDICATING LAMP RED, YELLOW & BLUE				
l:	TPN FUSESWITCH				
8.	TPN SWITCHFUSE				
1,0	TPN ISOLATOR				
∞	TPN HRC FUSE				
6	MCCB / MCB				
X	AIR CIRCUIT BREAKER				
3	CURRENT TRANSFOMER				
0	KWH/MDI METER				
8	TRANSFORMER				
	STEEL WIRE ARMOURED CABLE				
	MINIATURE CIRCUIT BREAKER BOARD				
	MCCB BOARD				
-	EARTHING TERMINAL				
-	PLUG-IN UNIT WITH MCCB				
DA	ELECTRICAL DIGITAL NETWORK ANALYZER				
UV	UNDERVOLT RELAY				
III III	4-POLES CHANGEOVER CONTACTOR C/W E & M INTERLOCK DEVICE				
DA H	ELECTRICAL DIGITAL NETWORK ANALYZER FOR MEASURING VOLTAGES (PHASE-TO-PHASE AND PHASE-TO-NEUTRAL), CURRENTS (THREE PHASES AND NEUTRAL, TOTAL POWER FACTOR, TOTAL KWH, MAXIMUM KVA AND TOTAL HARMONIC DISTORTION				

FINAL/SUB-CIRCUIT CABLE SIZES

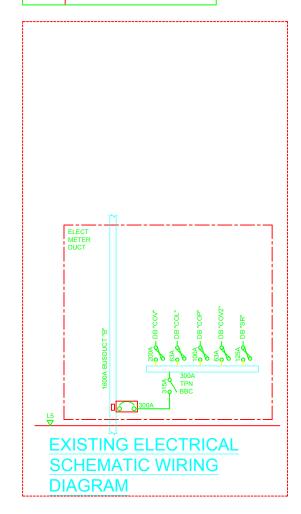
HRC FUSE/ MCB RATING		MIN. CABL	E SIZE	
		NORMAL SUPPLY	ESSENTIAL SUPPLY	
		(1/C PVC CU. CABLE)	(1/C FIRE RESISTANT CABLE TO BS 6387 CAT. CWZ	
5A & 10A		2 x 1.5mm ²	2 x 1.5mm ²	
15A		2 x 2.5mm ²	2 x 2.5mm ²	
20A	П	2 x 4 mm ²	2 x 4 mm ²	
	Z ≪	2 x 6 mm ²	2 x 6 mm ²	
32A	S	4 x 2.5 mm ² (FOR RING CIRCUIT)	4 x 2.5 mm ² (FOR RING CIRCUIT)	
		2 x 4 mm ² /C (FOR RADIAL CIRCUIT)	2 x 4 mm ² /C (FOR RADIAL CIRCUIT)	
16A/20A		4 x 4 mm ²	4 x 4 mm ²	
32A	z	4 x 6 mm ²	4 x 6 mm ²	
63A	TP &	4 x 16 mm ²	4 x 16 mm ²	
100A]⊢[4 x 35 mm ²	4 x 35 mm ²	
160A		4 x 70 mm ²	4 x 70 mm ²	
200/250A		4 x 95 mm ²	4 x 95 mm ²	
400A		4 x 240 mm ²	4 x 240 mm ²	

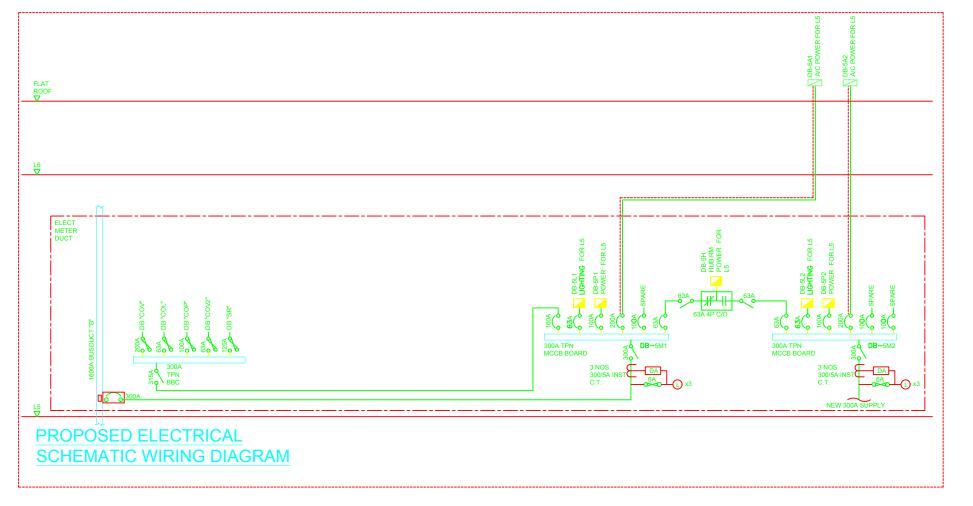
NOTES:

BUSBAR CHAMBER WITH ADEQUATE PRE-DRILLED HOLES TO TERMINATE ALL POTENTIAL CONSUMERS. BUSBAR CHAMBER TO B.S. 5486 PART 1 ASTA APPROVED TYPE AS "VIKINGS" OR EQUIVALENT. (600 mm MIN. LENGTH)

3. ALL CONDUIT SYSTEM SHALL BE ADOPTED AND USING STEEL PIPES TO BS 4568 : PART 1.

4. ALL CABLE FOR ESSENTIAL SUPPLY SHALL BE FIRE RESISTANCE, LSOH, TO BS6387 CAT CWZ.



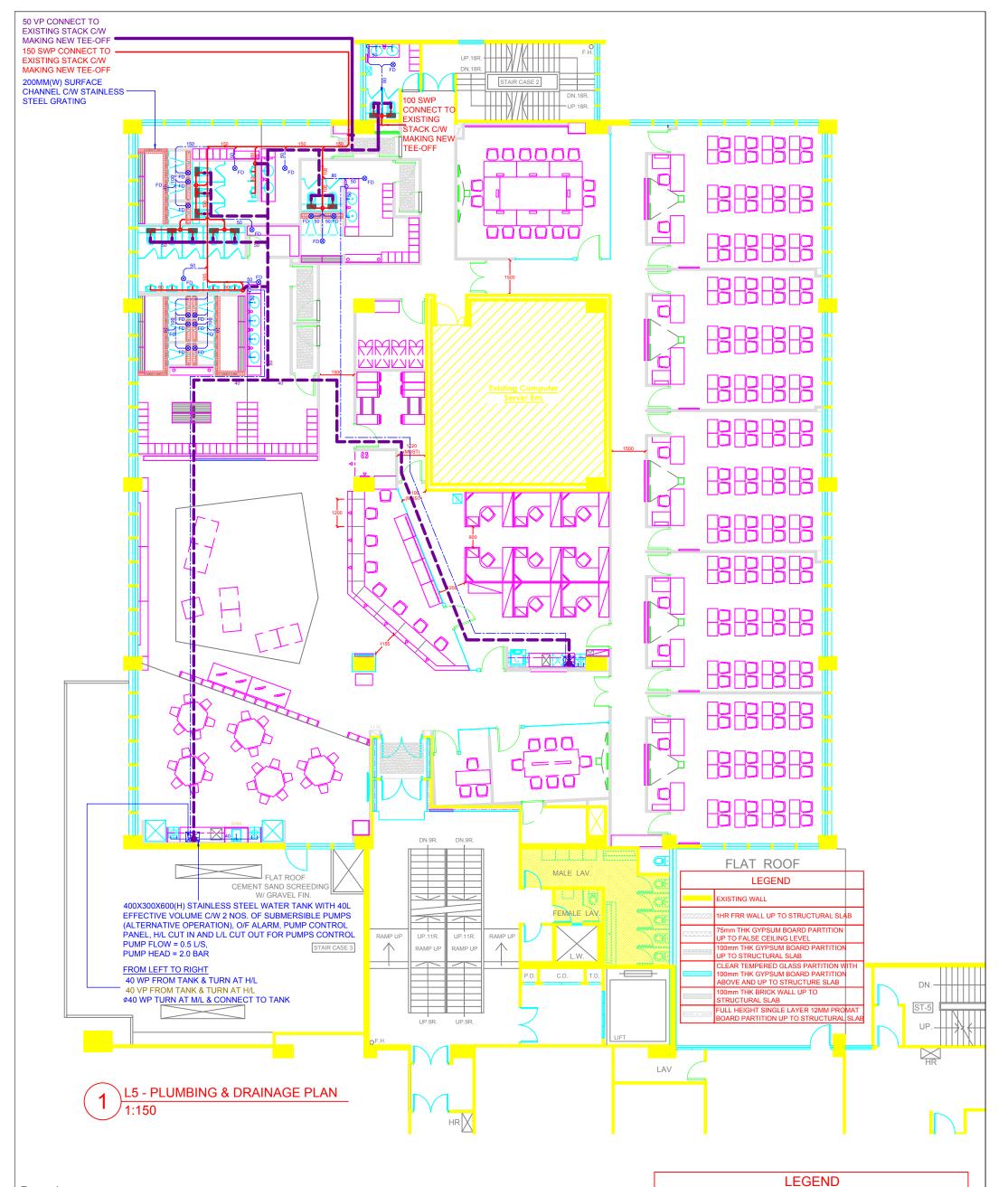


REVISION AND SUBMISSIONS NO: DATES: REMARKS: PROJECT TITLE: FITTING OUT WORKS
FOR TRADE SKILLS ENHANCEMENT CENTRE
OF MODEL TRADE TEST CENTRE
AT L5 (ATTC) FOR CIC PROJECT STAGE AS FITTED DRAWING DRAWING TITLE : ELECTRICAL SCHEMATIC WIRING DIAGRAM, LEGEND & NOTES

PROJECT NO.

() in P / AE / PUR / AGC SCALE

Not To Scale DRAWN BY APPROVED BY DWG NO. REV. 05-EP-03



Remarks :

- P/D layout (proposed sump tank, copper water supply pipe w/ valve and PVC drainage pipe location) for reference only.
- Contractor should submit P/D system proposal which including shop drawings and routeing all related details, brand for client and designer's approval prior to commencement of works.

Remarks: Contractor should submit sample of finishes and shop drawing for approval	prior to any commencement or manufacturing of works.
	, ,

REVISION AND SUBMISSIONS			PROJECT TITLE:	DRAWING TITLE :		SCALE	DATE				
NO:	DATES:	REMARKS:	NO:	DATES:	REMARKS	FITTING OUT WORKS	PLUMBING		1:150		
						FOR TRADE SKILLS ENHANCEMENT CENTRE OF MODEL TRADE TEST CENTRE	OR TRADE SKILLS ENHANCEMENT CENTRE	R TRADE SKILLS ENHANCEMENT CENTRE MODEL TRADE TEST CENTRE MODEL TRADE TEST CENTRE	ı	DRAWN BY	APPROVED BY
						AT L5 (ATTC) FOR CIC					
						PROJECT STAGE	PROJECT NO.		DWG NO.	REV.	
						TENDER DRAWING			05-PD-01		
						L5 ATTC	() in P / AE / PUR / AGC	THE SAME SHALL BE RETURNED AT COMPLETION OF THE WORK DO NOT SCALE DRAWING ALL	NOTE.		
								MEASUREMENTS MUST BE CHECKED AT THE SITE BY THE CONTRACTOR			

WASTE PIPE

SOIL & WASTE PIPE

ANTI-SIPHONAGE PIPE/VENT PIPE

FLOOR DRAIN W/ ANTI-SYPHONAGE TRAP

WP

SWP

ASP/VP

PIPING NOTES:

1) PIPEWORK MATERIALS FOR POTABLE WATER SUPPLY SHALL BE AS FOLLOWS:

APPLICATION	SIZE	<u>MATERIAL</u>
POTABLE WATER PIPE	ABOVE & INCLUDING Ø80	DUCTILE IRON PIPES TO BS EN 545, CLASS K-12 WITH INTERNAL LINING, 'FLANGED JOINT'
	UP TO AND INCLUDING	HALF HARD COPPER PIPES TO BS EN1057 (TABLE 3 R250) WITH PLASTIC COVER TO BS 3412 AND COPPER CAPILLARY FITTINGS TO BS EN 1254-1.
	Φ65	HALF HARD COPPER PIPES TO BS EN1057 (TABLE 3 R250) WITH ELASTOMERIC THERMAL INSULATION OF NOT LESS THAN 9mm THICK CLASS O TO BS 476 PART 6 AND COPPER CAPILLARY FITTINGS TO BS EN 1254-1 FOR PIPEWORK INSIDE ENCLOSED CEILING VOID & BULKHEAD AREA
HOT WATER PIPE	UP TO AND INCLUDING ¢65	HALF HARD COPPER PIPES TO BS EN1057 (TABLE 3 R250) WITH CORRUGATED PLASTIC COVER TO BS 3412 AND COPPER CAPILLARY FITTINGS TO BS EN 1254-1 FOR CONCEALED PIPEWORK.
		HALF HARD COPPER PIPES TO BS EN1057 (TABLE 3 R250) WITH ELASTOMERIC THERMAL INSULATION OF NOT LESS THAN 13mm THICK CLASS O TO BS 476 PART 6 AND COPPER CAPILLARY FITTINGS TO BS EN 1254-1 FOR EXPOSED PIPEWORK INCLUDED INSIDE ENCLOSED CEILING VOID & BULKHEAD AREA.
		HALF HARD COPPER PIPES TO BS EN1057 (TABLE 3 R250) WITH ELASTOMERIC THERMAL INSULATION OF NOT LESS THAN 13mm THICK CLASS O TO BS 476 PART 6 & ALUMINIUM METAL CLADDING AND COPPER CAPILLARY FITTINGS TO BS EN 1254-1 FOR OUTDOOR PIPEWORK.

USING SILVER BRAZING CAPILLARY JOINT WITH NO LESS THAN 5% SILVER FOR POTABLE & HOT WATER COPPER PIPEWORK.
2) PIPEWORK MATERIALS FOR FLUSHING WATER SUPPLY SHALL BE AS FOLLOWS:

APPLICATION	SIZE	MATERIAL MATERIAL		
FLUSHING WATER PIPE	ABOVE & INCLUDING Ø80	DUCTILE IRON PIPES TO BS EN 545, CLASS K-12 WITH INTERNAL LINING, 'FLANGED JOINT'		
	UP TO AND INCLUDING ¢65	UPVC PIPES TO BS 3505 CLASS E AND FITTING TO BS 4346 : PART 2. 'UPVC CEMENT SOLVENT JOINT'		
		L6		

GENERAL NOTES:

- 1) EVERY WATER CLOSET SHALL BE PROVIDED WITH A FLUSHING CISTERN WHICH SHALL HAVE AN OVERFLOW TERMINATING IN A CONSPICOUS POSITION.
- 2) THE DISCHARGE MECHANISM WITHIN THE FLUSHING CISTERN SHALL BE OF THE VALVELESS SYPHONIC TYPE.
- 3) CISTERNS SHALL BE FITTED WITH A BALL VALVE AND A FULLWAY GATE VALVE AT THE INLET IN THE CASE OF A GRAVITY SUPPLY. THE BALL VALVE SHALL SHUT OFF THE SUPPLY WHEN THE WATER LEVEL IS 25mm BELOW THE INVERT OF THE OVERFLOW PIPE. THE INVERT OF THE INLET PIPE OR THE FACE OF THE OUTLET NOISE OF THE BALL VALVE SHALL BE NOT LESS THAN 25mm ABOVE THE TOP OF THE OVERFLOW PIPE.
- 4) FULLWAY GATE VALVE SHALL BE PROVIDED AT THE OUTLET OF EVERY CISTERN AND PROVISION
- SHALL BE MADE FOR A DRAIN-OFF PIPE TO ENABLE THE CISTERN TO BE EMPTIED.

 5) AN OVERFLOW SHALL BE PROVIDED AND SHALL AT LEAST BE ONE COMMERCIAL SIZE LARGER THAN THE INLEST PIPE.
- 6) METAL HINGED FLAPS OR GRATINGS ARE REQUIRED FOR OVERFLOW PIPES AND WARNING PIPES OF CISTERNS AND WARNING PIPES WITH MINIMUM SIZE 25mm SHALL DISCHARGE IN CONSPICUOUS POSITIONS.
- 7) ALL OUTLET PIPES FROM THE STORAGE CISTERN SHOULD, WHEREVER POSSIBLE, BE
- POSITIONED AT THE OPPOSITE SIDE TO THE INLET SUPPLY SIDE.

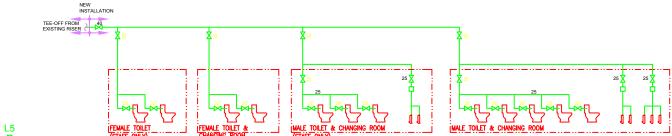
 8) F.R.P. ENCLOSURE FOR PIPEWORK WITHIN PROTECTED AREA TO BE PROVIDED BY THIS CONTRACTOR, F.R.P. NOT TO BE LESS THAN THE STRUCTURAL ELEMENT.
- 9) THIS CONTRACTOR SHALL EMPLOY LICENSED PLUMBER SUBMIT ALL NECESSARY FORMS, DRAWINGS AND DOCUMENT TO WATER SUPPLY DEPARTMENT.
- 10) PUMP CONTROL PANELS, WIRING AND CONDUITS SHOULD BE SUPPLIED AND INSTALLED BY THIS
- CONTRACTOR.

 11) NO WATER PIPE SHALL BE EMBEDDED WITHIN LOAD BEARING STRUCTURAL ELEMENTS SUCH AS
- COLUMNS, BEAMS AND SLABS IN LONGITUDINAL DIRECTION.
 12) HOT WATER PIPE SHALL BE INSULATED BY FLASTOMERIC THERMAL INSULATION OF CLASS 0 TO
- 12) HOT WATER PIPE SHALL BE INSULATED BY ELASTOMERIC THERMAL INSULATION OF CLASS 0 TO BS 476 PART 7. MINIMUM INSULATION THICKNESS SHALL BE 9MM.

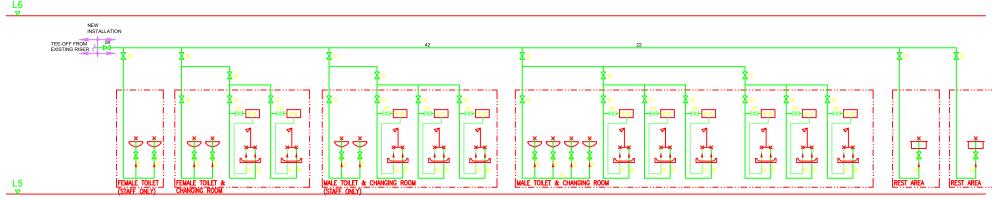
LEGEND

ADDITION OF

SYMBOL	DESCRIPTION
M	GATE VALVE
[81	GLOBE VALVE
×	LOOSE JUMPER TYPE STOP COCK
Þ⊪	ANGLE VALVE
×	WATER POINT/TAP
D	WASH BASIN
	KITCHEN SINK
I	URINAL
김	WATER CLOSET
	URINAL CHANNEL C/W 7.5L CISTERN & ACCESSORIES
E18	18KW INSTANTANEOUS ELECTRIC WATER HEATER
1	SHOWER
	HOT WATER SUPPLY PIPE



VERTICAL PLUMBING LINE DIAGRAM FOR FLUSHING WATER SUPPLY



VERTICAL PLUMBING LINE DIAGRAM FOR POTABLE WATER SUPPLY

Remarks: Contractor shall submit sample of finishes and shop drawing for approval prior to any commencement or manufacturing of works.

REVISION AND SUBMISSIONS					
NO:	DATES:	REMARKS:			
1					

HE SAME SHALL BE RETURNED AT COMPLETION F THE WORK DO NOT SCALE DRAWING ALL EASUREMENTS MUST BE CHECKED AT THE SITE FOR THE CONTRACTOR

PROJECT TITLE:

FITTING OUT WORKS FOR TRADE SKILLS ENHANCEMENT CENTRE OF MODEL TRADE TEST CENTRE AT L5 (ATTC) FOR CIC

PROJECT STAGE

AS FITTED DRAWING

L5-ATTC

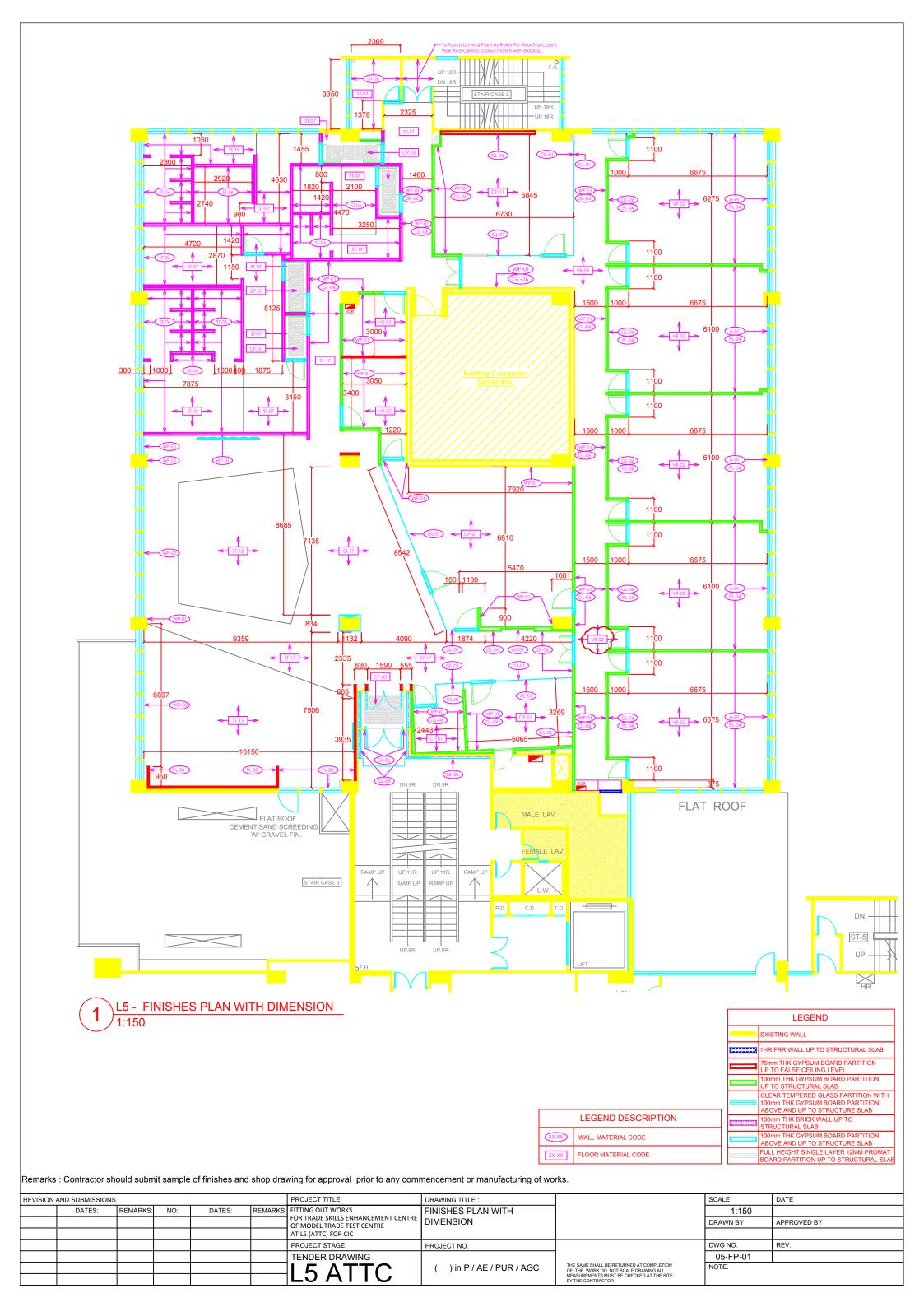
DRAWING TITLE :

VERTICAL PLUMBING LINE DIAGRAM, PIPING NOTES & GENERAL NOTES.

PROJECT NO.

() in P / AE / PUR / AGC

!	SCALE	DATE
!	Not To Scale	
_	DRAWN BY	APPROVED BY
	DWG NO.	REV.
	05-PD-02	/



ABBREVIATION

AFFL	ABOVE FINISHED FLOOR LEVEL	CE	CLEANING EYE	F.D.	FLOOR DRAIN
F/A	FROM ABOVE	U/G	UNDERGROUND	VP	VENT PIPE
T/B	TO BELOW	CI	CAST IRON	WP	WASTE PIPE
H/L	HIGH LEVEL	GS	GALVANIZED STEEL	SP	SOIL PIPE
M/L	MIDDLE LEVEL	DI	DUCTILE IRON	SWP	SOIL AND WASTE PIPE
1./I	LOWLEVEL	VG	VERTICAL GRATING		

	-		
MATERIAL SCHEDULE	WM	WASH	HING MACHINE
	ZB	ZIP BO	OILER

SERVICES/LOCATION	DIAMETER OF PIPES (mm)	MATERIAL OF PIPES
ABOVEGROUND SOIL & WASTE DRAINAGE PIPEWORK & VENT PIPEWORK	40 AND BELOW	WITHIN THE SAME FIRE COMPARTMENT UPVC PIPE & FITTING TO BS 5255: 1989 PASSING THROUGH DIFFERENT FIRE COMPARTMENTS GALVANIZED STEEL PIPE TO BS 1387 MEDIUM DUTY AND FITTINGS TO BS 143
	50 - 300 (PIPE SIZE OF 225 AS SHOWEN IN THE DRAWINGS IS EQUIVALENT TO 250 EPOXY CAST IRON PIPE)	WITHIN THE SAME FIRE COMPARTMENT UPVC PIPE & FITTING TO BS 5255: 1989 PASSING THROUGH DIFFERENT FIRE COMPARTMENTS EPOXY COATED CAST IRON PIPES & FITTINGS TO BS EN877 WITH S.S. 316 FLEXIBLE COUPLING JOINT TO BS 6087 AND RUBBER GASKET RING TO BS 2494
KITCHEN WASTE PIPE	ANY SIZE	GALVANIZED STEEL PIPE TO BS 1387 MEDIUM DUTY AND FITTINGS TO BS 143

- THE CONTRACTOR SHALL CHECK ON SITE THE EXISTING CONDITIONS AND EXECUTE INSTALLATION TO SUIT WITH EXTRA CLAIM ON DEVIATION WITH DRAWINGS.
- 2) THE CONTRACTOR SHALL CONDUCT TESTING OF THE EXISTING INSTALLATION AND RECTIFY THOSE DEFECTS BEING IDENTIFIED. PHOTO RECORD SHALL BE PREPARED AND SUBMIT TO CONSULTANT FOR RECORD
- CLEAR UP ANY BLOCKAGE OF THE DRAINAGE PIPE OR VENT PIPE SHALL BE RESPONSIBLE BY THIS CONTRACTOR
- THE CONTRACTOR SHALL RESPONSIBLE TO DISMANTLE THE OBSOLETE INSTALLATION ACCORDING TO THE DRAWING SHOWING THE EXISTING INSTALLATION BEING RETAINED.

32mm

100mm

50mm / 100mm

THE CONTRACTOR SHALL VERIFY THE EXTENT OF EXISTING HORIZONTAL PIPING AND RESPONSIBLE FOR MAKE CONNECTION ACCORDING TO THE EXISTING SITE CONDITION.

GENERAL NOTES

- 1. UNLESS OTHERWISE STATED, BRANCH PIPE SHALL BE AS FOLLOWS:-
 - 1.1) WASTE BRANCH FOR EACH BASIN..
 - 1.2) WASTE BRANCH FOR EACH VERTICAL GRATING/FLOOR DRAIN
- 1.6) VENT BRANCH FOR EACH URINAL
- SIZE OF TRAPS FOR FITMENTS SHALL BE THE SAME AS THE PIPE SIZE NOTED FOR FITMENTS.
- 3. WHETHER SHOWN ON DRAWING OR NOT, SUFFICIENT ACCESS SHALL BE PROVIDED BY MEANS OF CLEANING EYES OR OTHER APPROVED METHOD TO ENABLE ALL DRAINAGE PIPES TO BE CLEARED OF OBSTRUCTION, SUCH ACCESS POINTS SHALL BE SO SITED AS TO ALLOW CLEARANCE FOR THE EASY ENTRY OF CLEANING RODS.
- 4. ALL BENDS IN SOIL PIPES & WASTE PIPES SHALL HAVE AN OBTUSE ANGLE & HAVE THE LARGEST PRACTICABLE RADIUS OF CURVATURE, THE BENDS SHALL NOT CHANGE IN ANY OF THE SECTION OF THE PIPE & A CLEANING EYE SHALL BE PROVIDED AT OR NEAR THE BEND.
- 5. EVERY ANTI-SYPHONAGE PIPE SHALL BE CONNECTED WITH THE TRAP IF THE CONNECTION FOR THE ANTI-SYPHONAGE IS AN INTEGRAL PART OF THE TRAP OR SHALL BE CONNECTED WITH THE BRANCH SOIL PIPE OR BRANCH WASTE PIPE, AT A POINT NOT MORE THAN 300mm FROM THE TRAP OUTLET.
- 6. WHERE THE WASTE PIPE FROM A WASTE FITMENT IS CONNECTED TO A SOIL PIPE, THE TRAP PROVIDED FOR THE WASTE FITMENT SHALL HAVE A WATER SEAL OF 80mm DEEP AND VENTILATED BY MEANS OF
- 7. RE-SEALING TRAP WITH WATER SEAL OF 80mm DEEP SHALL BE USED WHERE ANTI-SYPHONAGE PIPE HAVE NOT BEEN PROVIDED IN ITEM 6 AND WHERE MORE THAN ONE TRAP OF WASTE FITMENT IS CONNECTED WITH ONE WASTE PIPE.
- 8. ALL SOIL VENTILATING PIPES & WASTE VENTILATING PIPES ARE TO BE TERMINATED AT NOT LESS THAN 1 M ABOVE THE ROOF OR FLAT ROOF
- 9. HORIZONTAL VENT BRANCHES SHALL BE SLIGHTLY INCLINED UPWARD CONNECTED TO VENT STACK WITH A FALL OF 1:100.
- 10. ALL 50mm ANTI-SYPHONAGE PIPE AND VENTILATED PIPES FROM CONTAINER CHAMBER SEALED TRAP GULLIES SHALL BE CONNECTED TO BUILDING MAIN VENTILATION PIPE SYSTEM AND TERMINATED AT NOT LESS THAN 1 M ABOVER THE ROOF OR FLAT ROOF.
- 11. EVERY DRAIN OR SEWER SHALL BE LAID WITH A MIN. FALL AS FOLLOWS OR AS INDICATED

100mm & BELOW	1 IN 40
150mm	1 IN 70
225mm	1 IN 100
250mm	1 IN 120
300mm	1 IN 150

12. WHERE ANY DRAIN OR SEWER IS LAID THROUGH ANY BUILDING OR WHERE ANY BUILDING IS CONSTRUCTED OVER ANY DRAIN OR SEWER, RELEVELING ARCHES OR BEAMS TO BE PROVIDED BY OTHERS

LEGEND

SOIL & WASTE PIPE

ANTI-SIPHONAGE PIPE/VENT PIPE

FLOOR DRAIN W/ ANTI-SYPHONAGE TRAF

WASTE PIPE

WP

SWF

ASP/VP

- 13. FALL OF SURFACE/DISH CHANNEL IS TO BE MINIMUM 1:100 OR INDICATED ON DRAWINGS.
- 14. INSPECTION PANELS OF ADEQUATE SIZE SHALL BE PROVIDED AT ALL PIPE DUCTS AND SHAFTS FOR INSPECTION AND MAINTENANCE OF PIPES.
- 15. ALL PIPES PASSING THROUGH A COMPARTMENT WALL OR SLAB SHALL BE PROVIDED FIRE RESISTING PIPEWORK OR ENCLOSURE BY FIRE RESISTING MATERIAL. THE FIRE RESISTING REQUIREMENT SHALL BE COMPLIANCE WITH REGULATIONS.
- 16. ALL DRAIN PIPES TURN WITHIN FIRE EXIT ROUTE. STAIRCASE AND FIRE PROTECTIVE AREA SHALL BE ENCLOSURED WITH 2 HRS. FIRE RATED PROOF MATERIAL AND 4 HRS. FIRE RATED PROOF MATERIAL FOR BASEMENT
- 17. IN GENERAL, EMBEDMENT OF WATER-BORNE PIPES IN STRUCTURE MEMBERS WOULD NOT BE PERMITTED WITHIN COLUMNS. SLABS, STRUCTURAL WALLS, BEAMS OR TRANSFER PLATES IN ACCORDING TO PNAP230. ALL WATER PIPES PASSING THRIUGH STRUCTURAL ELEMENT SHALL BE COMPLETED WITH SLEEVES OR OTHER SUITABLE MATERIAL.
- WATER-BORNE PIPES PIERCING THROUGH THE FOLLOWING STRUCTURAL MEMBERS MAY BE PERMITTED WHERE IT IS DEMONSTRATED THAT NO ADVERSE EFFECT WILL BE CAUSED TO THE PERFORMANCE OF THE STRUCTURAL MEMBERS AND, WHERE THE PIPES ARE EASILY ACCESSIBLE FOR MAINTENANCE.
- a. VERTICAL PIPES PIERCING THROUGH THE STRUCTURAL SLAB, TRANSFER PLATES; AND b. HORIZONTAL PIPES PIERCING THROUGH BEAMS, COLUMNS, STRUCTURAL WALLS, BEAMS OR TRANSFER PLATES
- 18. ALL PIPES SHALL BE CONCEALED IN DRY WALL, FALSE CEILING VOID OR PIPEDUCT INSIDE THE TOILETS
- 19. THE CONTRACTOR SHALL ALLOW IN THE CONTRACT SUM OF ALL NECESSARY EXPENSES FOR OVERTIME AND NIGHT WORKS IN ORDER TO COMPLETE ALL CONTRACT WORKS.
- 20. DRIP TRAY WITH DRAIN PIPES SHALL BE PROVIDED FOR ALL DRAINAGE PIPES PASSING THROUGH THE ELECTRICAL ROOMS AND TENANTS' AREA.
- 21. BEFORE CARRYING OUT THE DRAINAGE WORK AND DIVERSION WORK, THE CONTRACTOR SHALL SURVEY THE EXISTING DRAINAGE PIPES, SIZES AND ALIGNMENT, E&M UTILITY SERVICES, ETC. AND REPORT WITHIN 2 WEEKS AFTER AWARD THE THE FOLLOWING WORK SHALL BE CARRIED OUT BY THIS CONTRACTOR:
- THE CONTRACTOR SHALL SURVEY/RECHECK/VERIFY ALL EXISTING SERVICES SUCH AS ALIGNMENT, SIZES, COVER LEVEL, INVERT LEVEL, BOTTOM LEVEL, WATER TEST, ETC.
- ii) AFTER VERIFICATION OF ALL SERVICES, THE CONTRACTOR SHALL SUBMIT ALTERNATIVE DRAINAGE PROPOSAL FOR ARCHITECT/ENGINEER COMMENT WITHIN 3 WEEK AFTER AWARD OF CONTRACT.
- 22. THE FALSE CEILING HEIGHT IN DORMITORY SHALL BE 2500MM(H) MINIMUM. THE CONTRACTOR SHALL INCLUDE IN THE CONTRACT THE MODIFICATION OF THE EXISTING E&M SERVICES TO SUIT
- 23. THIS CONTRACTOR SHALL DISMANTLE OBSOLETE EXISTING DRAIN PIPE EXPOSED TO VIEW OUTSIDE PIPE DUCT AND PROPERLY PLUG-OFF INSIDE PIPEDUCT.

FOR PROTECTION OF THE DRAIN OR SEWER & FOR PREVENTION OF ANY LOAD FROM THE BUILDING TRANSMITTED TO THE DRAIN OR SEWER.

OF THE WORK DO NOT SCALE DRAWING ALL MEASUREMENTS MUST BE CHECKED AT THE SITE BY THE CONTRACTOR

REVISION AND SUBMISSIONS

DATES:

REMARKS

PROJECT TITLE:

FOR TRADE SKILLS ENHANCEMENT CENTRE OF MODEL TRADE TEST CENTRE AT L5 (ATTC) FOR CIC

PROJECT STAGE

AS FITTED DRAWING

DRAWING TITLE

LEGEND, NOTES, GENERAL NOTES, ABBREVIATION & MATERIAL SCHEDULE

PROJECT NO. () in P / AE / PUR / AGC

Not To Scale	
DRAWN BY	APPROVED BY
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05-PD-03	1

Remarks: Contractor shall submit sample of finishes and shop drawing for approval prior to any commencement or manufacturing of works.