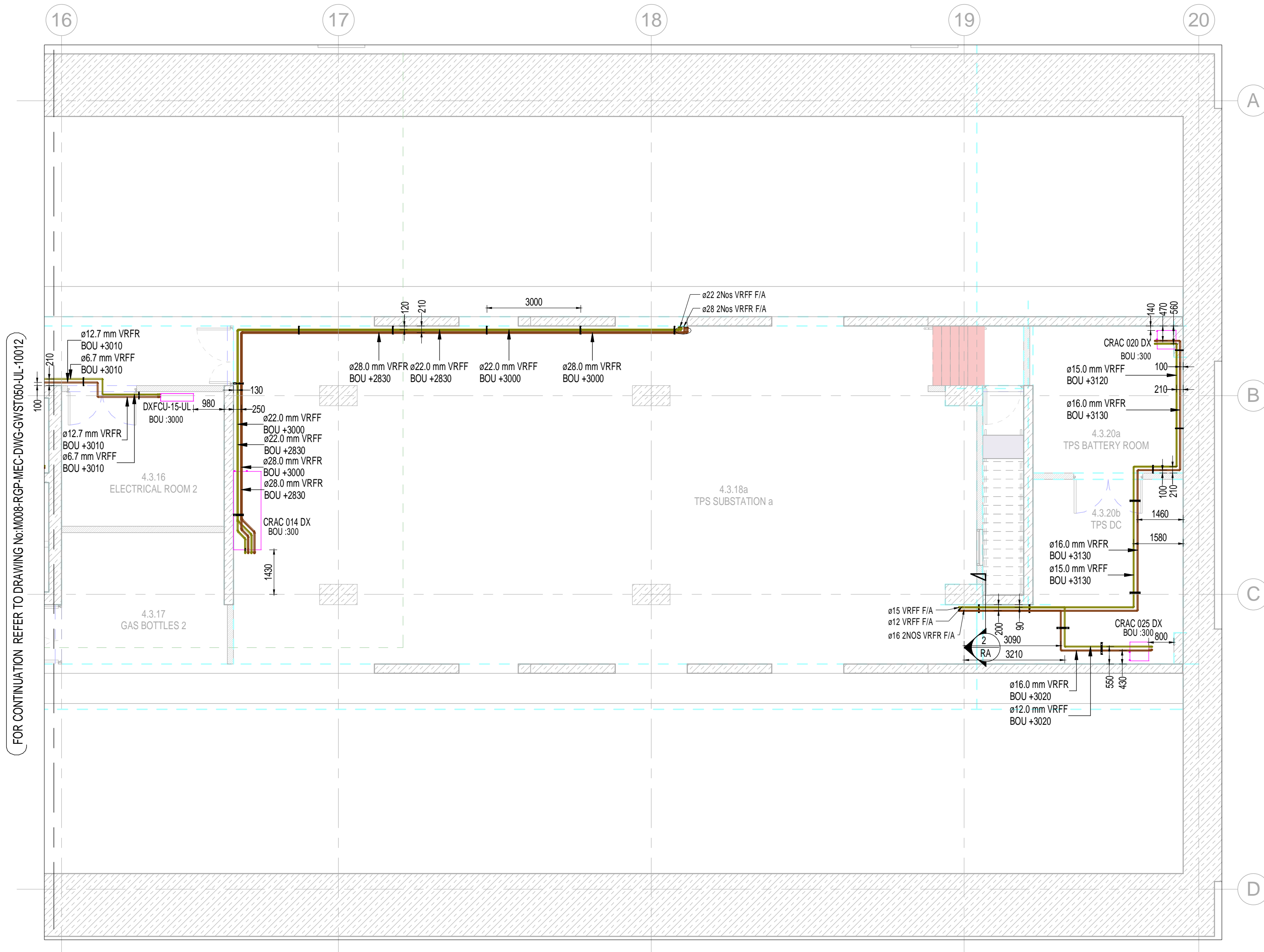
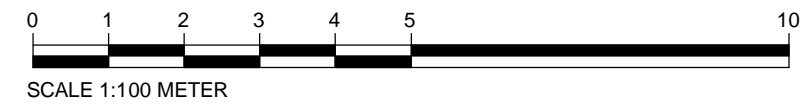
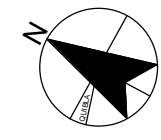
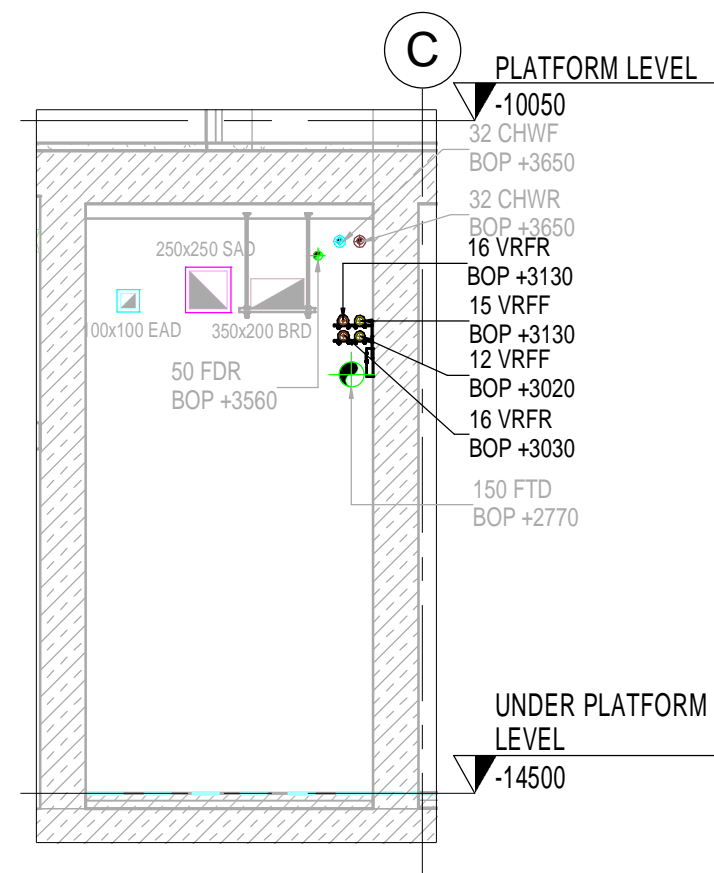


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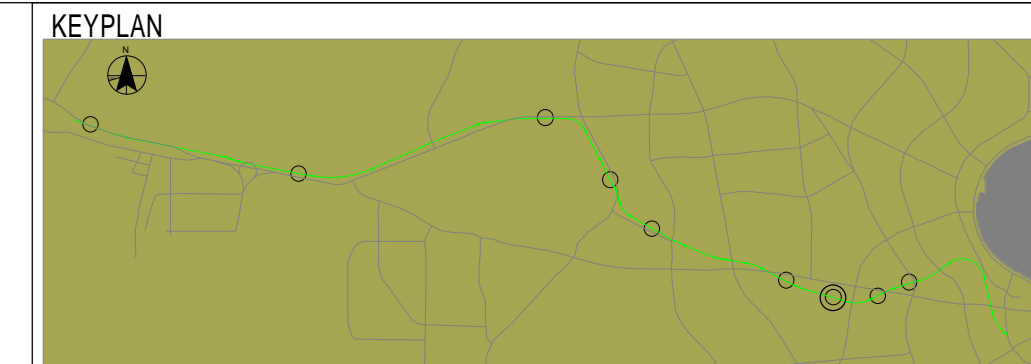
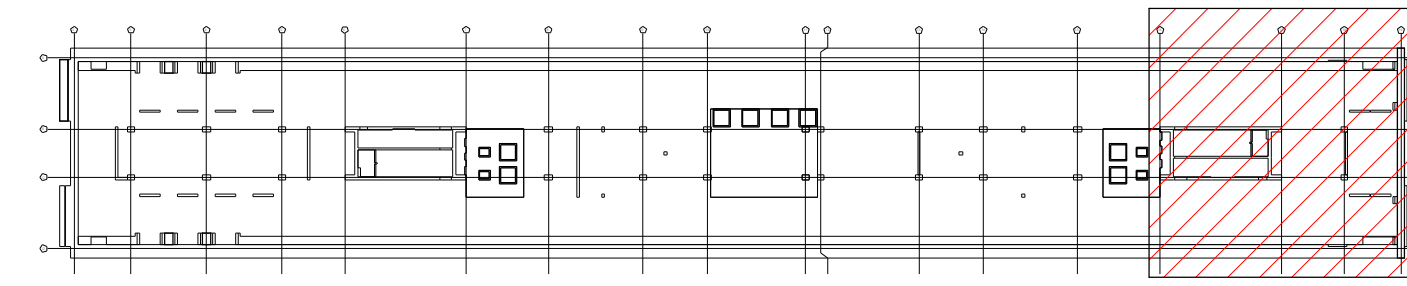


SHOP DRAWINGS STATION - AL RAYYAN / AL QADEEM UNDER PLATFORM LEVEL
REFRIGERATION (STATION EAST)

SCALE : 1:100



SECTION-RA
SCALE : 1:50



LEGENDS AND ABBREVIATION	
SYMBOLS	DESCRIPTION
	FCU FAN COIL UNIT
	SECTION CUTTING LINE
	VRFF LIQUID REFRIGERANT SUPPLY PIPE
	VRFF GAS REFRIGERANT RETURN PIPE
	FLOW DIRECTION
	TEE UP
	PIPE REDUCER
	ELBOW UP
	ELBOW DOWN
	PIPE RISER
	ELBOW 90°
	ISOLATION VALVE
	PIPE SUPPORT
	PIPE WITH INSULATION
	VP VALVE PACKAGE
	F/A FROM ABOVE
	F/B FROM BELOW
	T/A TO ABOVE
	T/B TO BELOW
	BOP BOTTOM OF PIPE

REFRIGERANT PIPE - SUPPORT SPACING SCHEDULE

S.NO.	NOMINAL DIA. (DN)		PIPE SPACING		THREADED ROD SIZE
	INCH	MM	HORIZONTAL	VERTICAL	
1	1/2"	15	1.2	1.8	M08
2	3/4"	20	1.4	2.1	M08
3	1"	25	1.8	2.4	M08
4	1 1/4"	32	2.4	3.0	M08
5	1 1/2"	40	2.4	3.0	M08
6	2"	50	2.7	3.6	M08
7	2 1/2"	65	3.0	3.6	M10
8	3"	80	3.0	3.6	M10
9	4"	100	3.0	3.6	M10
10	6"	150	3.6	4.2	M10

- NOTE:
 1) REFRIGERANT PIPE MATERIAL SHALL BE COPPER PIPE
 2) THE COPPER PIPE FITTINGS SHALL BE SOLDERED/BRAZED BENDS, TEES AND REDUCERS COMPLYING TO BS EN 1057-R250 AND R290
 3) FOR HE CHANGE OF DIRECTION AND LEVELS APPLICATION OF CONCENTRATED LOADS, POINTS POINTS FITTINGS AND VALVES EXTRA SUPPORT SHALL BE PROVIDED AS PER THE SITE CONDITION
 4) THREADED ROD SHALL BE HOT DIPPED GALVANIZED IRON.

REFRIGERANT PIPE INSULATION SCHEDULE

S.NO.	PIPE SIZE IN mm	INSULATION THICKNESS	TYPE
1.	15mm to 125mm	19 mm	TUBE

- NOTES
- All pipework shall be installed around piers and other obstructions and minor modifications shall be made as per site difficulties and conditions.
 - All pipework to be adequately supported. All support installations shall be as per manufacturer recommendation and QCS 2010.
 - Vertical rising pipes shall be supported at the base and the support shall withstand the total weight of the pipe and fluid contained.
 - Anti-vibration supports shall be fitted at all locations where pipework vibration is likely to be a problem.
 - Pipes shall not be enclosed in a common insulating covering.
 - All open ends shall be capped with the appropriate pipework fittings. Wooden plugs and the like shall not be used.
 - Valves fitted in the ends of pipe work shall not be accepted as a means of preventing the ingress of foreign materials.
 - Crac units and Fan coil units dimensions are only indicative.
 - Pipe work shall be installed so as to give the following minimum clearances between adjacent services as follows:
 - walls 25 mm
 - ceilings 50 mm
 - adjacent pipes both insulated 25 mm
 - insulated pipes to adjacent conduit or trunking 100mm
 - adjacent electrical cables not in conduit or trunking 150mm
 - The clearance between pipework / services shall comply to QCS 2010, Section 22 - 25-5.3.1.3 which is based on the pipework Outer Diameter and the thickness of the insulation with its support clearance.
 - High level services should not be installed any lower than 3000mm AFFL.
 - AVV shall be installed at all high points in supply and return piping.

- REFERENCES:
 M008-ARE-ARC-MD3-GWST050-CL-00101.S4.P7
 M008-ARE-ARC-MD3-GWST050-ZZ-00101.S4.P11
 M008-HLQ-MEP-MD3-GWST050-PL-00101.RVT
 M008-SSF-ARC-MD3-GWST050-CL-00301.S3.P16
 M008-SSF-ARC-MD3-GWST050-ZZ-00101.S3.P19
 M008-SSF-STR-MD3-GWST050-CL-00301.S3.P14
 M008-SSF-STR-MD3-GWST050-ZZ-00101.S3.P24
- SCHEMATICS AND DETAIL INSTALLATION REFERENCES :
 M008-HLQ-MEC-DWG-GWST050-AA-10031
 M008-HLQ-MEC-DWG-GWST050-AA-10032
 M008-RGP-MEC-DWG-GWST050-AA-10041-42-46
 M008-HLQ-MEC-DWG-6WAANN-2001
 M008-HLQ-MEC-DWG-6WAANN-AA-20002

ISSUED FOR CONSTRUCTION	ISSUED FOR CONSTRUCTION APPROVAL
MH 30-12-2017 JF 30-12-2017 IM 30-12-2017	NN 13-11-2016 IM 13-11-2016 MN 13-11-2016

SCALES @A1	ISSUING OFFICE	PROJECT NUMBER
1:100	DOHA	M008

CLIENT APPROVAL
A - APPROVED
B - APPROVED WITH COMMENTS
C - DO NOT USE

STATUS	PURPOSE OF ISSUE
S4	FOR CONSTRUCTION APPROVAL

CONTRACTOR
 PORR - SBG - HBK JOINT VENTURE
 P.O. BOX 207471 DOHA
 QATAR



CONSULTANT:
 HOARE LEA QATAR LLC
 P.O. BOX 201834 DOHA
 QATAR

SUB CONTRACTOR
 PSC S.P.A. Viale Scharavanti 27/28 - 00173 ROMA TEL:06/72630488 FAX:06/72671393 Website: www.pscgroup.com QATAR - ITALY
 Redco International W.L.L. TEL: 444-15426 FAX: 444-13786 Email: redco@redco.com DOHA, QATAR

PROJECT
**DESIGN & BUILD PACKAGE 2
 GREEN LINE UNDERGROUND**

TITLE
SHOP DRAWINGS STATION - AL RAYYAN / AL QADEEM UNDER PLATFORM LEVEL - REFRIGERATION (STATION EAST)

CLIENT
 QATAR RAILWAYS COMPANY
 P.O. BOX 29988 DOHA
 QATAR

DRAWING NUMBER
 M008-RGP-MEC-DWG-GWST050-UL-10011

REV
 C2