EQUIPMENTS SCHEDULE

AIR COOLED CONDENSING UNIT (DX INVERTER TYPE)

UNIT DESIGNATION	QTY.	AREA SERVED	COOLING CAPACITY	OPERATING TEMPERATURE				COMPRESSOR DATA					CONDENSER DATA						APPROXIMATE OPERATING WEIGHT (KGS)	REFRIGERANT PIPE SIZE (R410-A)		REMARKS
			HORSEPOWER	EVAPORATING		CONDENSING		NO.	KW INPUT	ELECTRICAL SUPPLY			NO. OF PROPELLER FAN	DRIVE	WATTS	ELECTRICAL SUPPLY				SUCTION	LIQUID	
				°C	°F	°C	°F			VOLTS	PHASE	CYCLE				VOLTS	PHASE	CYCLE				
ACCU-1	2	CONFERENCE/OPERATIONS AND TRAINING ROOM	4	4.44	40	48.8	120	1	3.37	230	1	60	1	DIRECT	55	230	1	60	45	5/8"	1/4"	UNIT SHALL BE SUITABLE FOR OUTDOOR INSTALLATION PROVIDE WITH SAFETY DEVICES, TIMER MOTOR FOR COMPRESSOR, ANTI-CYCLING HIGH & LOW PRESSURE CONTROLS, VIBRATION ISOLATORS AND OTHER STANDARD ACCESSORIES. SIMILAR TO DAIKIN INVERTER TYPE OR APPROVED EQUAL.
ACCU-2	2	ADMIN WORK STATION, DINING/MESS HALL	3	4.44	40	48.8	120	1	2.19	230	1	60	1	DIRECT	55	230	1	60	45	5/8"	1/4"	
ACCU-3	4	FIREMAN'S QUARTER'S, OFFICER'S QUARTER'S DIRECTOR'S OFFICE RECEPTION AREA	2	4.44	40	48.8	120	1	2.19	230	1	60	1	DIRECT	55	230	1	60	45	1/2"	1/4"	
ACCU-4	4	911 COMM. STATION, CHIEF OF FIRE, ADMIN OFFICE, CAPTAIN OFFICE	1	4.44	40	48.8	120	1	1.50	230	1	60	1	DIRECT	55	230	1	60	45	3/8"	1/4"	

FAN COIL UNIT (DX INVERTER TYPE)

UNIT DESIGNATION	QTY.	AREA SERVED	COOLING CAPACITY	AIR FLOW CAPACITY		COIL DATA			FAN MOTOR DATA						APPROXIMATE OPERATING WEIGHT (KGS)	REMARKS
			HORSEPOWER	CFM	CMH	NO. OF CIRCUITS	NO. OF ROWS	FPI	DRIVE	HP	WATTS	ELECTRICAL SUPPLY				
												VOLTS	PHASE	CYCLE		
FCU-1	2	CONFERENCE/OPERATIONS AND TRAINING ROOM	4	918	1,560	1	3	12	DIRECT	0.113	85	230	1	60	20	UNIT SHALL BE HI-WALL TYPE, FREE BLOW COMPLETE WITH DISPOSABLE OR WASHABLE TYPE AIR FILTERS WITH AIR PURIFIER, PLASMA FILTER, H1N1 FILTER, DEODORIZING FILTER, FITTINGS, VIBRATION ISOLATORS, WIRELESS REMOTE CONTROLLED AND OTHER STANDARD ACCESSORIES. SIMILAR TO LG AIRCON OR DAIKIN INVERTER TYPE OR APPROVED EQUAL.
FCU-2	2	ADMIN WORK STATION, DINING/MESS HALL	3	635	1,079	1	3	12	DIRECT	0.094	70	230	1	60	20	UNIT SHALL BE HI-WALL TYPE, FREE BLOW COMPLETE WITH DISPOSABLE OR WASHABLE TYPE AIR FILTERS WITH AIR PURIFIER, PLASMA FILTER, H1N1 FILTER, DEODORIZING FILTER, FITTINGS, VIBRATION ISOLATORS, WIRELESS REMOTE CONTROLLED AND OTHER STANDARD ACCESSORIES. SIMILAR TO LG AIRCON OR DAIKIN INVERTER TYPE OR APPROVED EQUAL.
FCU-3	4	FIREMAN'S QUARTER'S, OFFICER'S QUARTER'S DIRECTOR'S OFFICE RECEPTION AREA	2	459	780	1	3	12	DIRECT	0.067	50	230	1	60	15	UNIT SHALL BE HI-WALL TYPE, FREE BLOW COMPLETE WITH DISPOSABLE OR WASHABLE TYPE AIR FILTERS WITH AIR PURIFIER, PLASMA FILTER, H1N1 FILTER, DEODORIZING FILTER, FITTINGS, VIBRATION ISOLATORS, WIRELESS REMOTE CONTROLLED AND OTHER STANDARD ACCESSORIES. SIMILAR TO LG AIRCON OR DAIKIN INVERTER TYPE OR APPROVED EQUAL.
FCU-4	4	911 COMM. STATION, CHIEF OF FIRE, ADMIN OFFICE, CAPTAIN OFFICE	1	230	390	1	3	12	DIRECT	0.046	35	230	1	60	15	UNIT SHALL BE HI-WALL TYPE, FREE BLOW COMPLETE WITH DISPOSABLE OR WASHABLE TYPE AIR FILTERS WITH AIR PURIFIER, PLASMA FILTER, H1N1 FILTER, DEODORIZING FILTER, FITTINGS, VIBRATION ISOLATORS, WIRELESS REMOTE CONTROLLED AND OTHER STANDARD ACCESSORIES. SIMILAR TO LG AIRCON OR DAIKIN INVERTER TYPE OR APPROVED EQUAL.

VENTILATING EQUIPMENT

UNIT DESIGNATION	QTY.	AREA SERVED	AIRFLOW QUANTITY		TOTAL STATIC PRESSURE		MOTOR DATA						REMARKS
			CMH	CFM	Pa.	INCH	DRIVE	HP	KW	ELECTRICAL SUPPLY			
										VOLTS	PHASE	CYCLE	
EF	8	PWD TOILET, TOILET & SHOWER'S	255	150	64	0.25	DIRECT	0.030	0.023	230	1	60	UNIT SHALL BE CEILING MOUNTED, DUCTED TYPE COMPLETE WITH BACKFLOW DAMPER SIMILAR TO KDK MODEL 27CHH OR APPROVED EQUAL.
RH	1	KITCHEN RANGE HOOD	1,360	800	64	0.25	DIRECT	0.163	0.122	230	1	60	UNIT SHALL BE CEILING MOUNTED, DUCTED TYPE COMPLETE WITH BACKFLOW DAMPER SIMILAR TO KDK BRAND OR APPROVED EQUAL.
VF	4	FIRE TRUCK BAY AREA	2,560	1,506	32	0.125	DIRECT	0.117	0.088	230	1	60	UNIT SHALL BE WALL MOUNTED, PROPELLER/INDUSTRIAL TYPE COMPLETE WITH VIBRATION ISOLATOR, AUTOMATIC SHUTTER AND OTHER STANDARD ACCRSSORIES. SIMILAR TO KDK MODEL 35GSC OR APPROVED EQUAL.

LEGENDS, SYMBOLS

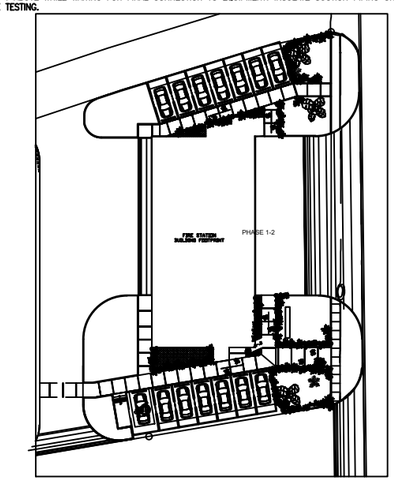
SYMBOL/ ABBREV.	DESCRIPTION	ABBREV.	DESCRIPTION
	EQUIPMENT TAG	FCU	FAN COIL UNIT
	AIR COOLED CONDENSING UNIT	ACCU	AIR COOLED CONDENSING UNIT
CEF	CEILING EXHAUST FAN DUCTED TYPE	CFM	CUBIC FEET PER MINUTE
EF	EXHAUST FAN	CMH	CUBIC METER PER HOUR
DC	A/C DRAIN CONNECTION	FPI	FEET PER INCH
KW	KILOWATTS	HP	HORSEPOWER
HP	HORSEPOWER	RH	RANGE HOOD
TR	TONS OF REFRIGERATIONS		
BTU/HR	BRITISH THERMAL UNIT PER HOUR		

GENERAL NOTES

1. ALL DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED.
2. ALL DUCT DIMENSION INDICATE INSIDE CLEAR DIMENSION IN INCHES.
3. ALL DUCTWORK TO BE FABRICATED IN ACCORDANCE WITH SMACNA STANDARDS.
4. ALL HVAC EQUIPMENT AND ACCESSORIES SHALL BE INSTALL AS PER MANUFACTURER'S INSTALLATION DETAIL.
5. ALL CONTROL SWITCHES SHALL BE ADJACENT TO ROOM LIGHT SWITCH UNLESS OTHERWISE INDICATED.
6. CONSTRUCTION SHALL CONFORM TO LOCAL BUILDING CODES AND STANDARDS. SHOULD THE CONTRACTOR PERFORM ANY WORK THAT DOES NOT COMPLY WITH THE ABOVE, HE SHALL BEAR ALL COSTS ARISING IN CORRECTING THESE DEFICIENCIES.
7. THIS DRAWING SHALL BE READ IN CONJUNCTION WITH THE SPECIFICATION AND RELEVANT DRAWINGS.
8. PIPE ROUTING COULD BE MODIFIED TO SUIT FINAL EQUIPMENT SELECTION AND LOCATION.
9. ALL OPENINGS FOR DUCTS & PIPES SHALL NOT IN ANYWAY PENETRATE A STRUCTURAL RIB ON BEAMS UNLESS OTHERWISE AUTHORIZED AND APPROVED.
10. CONDENSATE DRAIN SIZE TO BE EQUAL TO DRAIN PAN OPENING SIZE OR SIZE INDICATED ON PLANS WHICHEVER IS GREATER.
11. BOLT EQUIPMENT TO CONCRETE PAD AS PER MANUFACTURER & RECOMMENDATION.
12. LOCATION OF CONTROL THERMOSTAT, LOCAL CONTROL PANEL (BLDG) & OTHER SENSORS SHALL BE A CONTRACTORS RESPONSIBILITY TO ENSURE AN EFFICIENT OPERATION OF THE SYSTEM.
13. REFRIGERANT PIPES SHOWN IN THE DRAWINGS ARE SCHEMATIC ONLY. TECHNICAL DETAILS FOR PIPE SIZES AND CONNECTIONS SHALL BE AS PER MANUFACTURER'S RECOMMENDATIONS.
14. THE PROSPECTIVE CONTRACTOR SHALL VISIT AND SURVEY THE PLACE OF INSTALLATION.
15. THERMOSTAT SHALL BE MOUNTED AT 1.5 METERS FROM FINISH FLOOR LEVEL.

NOTES ON REFRIGERANT PIPING INSTALLATION:

1. REFRIGERANT PIPES SHALL BE INTERNALLY CLEANED BY SWABBING WITH CLEAN COTTON CLOTH TO REMOVE ALL DUST, BURRS, AND OTHER MISCELLANEOUS DIRT.
2. WHILE SOLDERING JOINTS, A SWEEP OF INERT NITROGEN GAS SHOULD BE PASSED THRU PIPES TO PREVENT OXIDATION DEPOSITS INSIDE.
3. FITTINGS:
   A. USE STANDARD LONG RADIUS COPPER ELBOWS, REDUCERS, ETC. DO NOT USE FIELD-FORMED ELBOWS, REDUCER ETC.
   B. JOINTS BETWEEN PIPES SHOULD BE THRU STANDARD COPPER COUPLING OR FORMED FITTING MADE BY SWAGING OR ENLARGING ONE PIPE END TO BE ABLE TO RECEIVE THE OTHER PIPE SECTION WOULD NOT BE ALLOWED.
   C. JOINTS TO SCREWED ACCESSORIES SUCH AS EXPANSION VALVES, FILTER DRIER, ETC. SHALL BE MADE WITH STANDARD FLARED.
4. THE COMPLETED PIPING INSTALLATION SHOULD BE LEAK TESTED BY SUBJECTING THE SAME (BOTH LIQUID AND SUCTION LINE) TO A PRESSURE OF 3100kPa USING DRY NITROGEN GAS. THIS PRESSURE SHOULD BE LEFT FOR 42 HOURS AND IF THERE IS NO NOTICEABLE REDUCTION IN PRESSURE WITHIN THE PERIOD. THE NITROGEN CHARGE SHALL BE RELIEVED FOR THE EQUIPMENT CONNECTION. IF THERE IS NOTICEABLE IN THE TEST PRESSURE, LEAK SHOULD BE LOCATED AND REPAIRED.
5. PROPERLY TESTED PIPING SHOULD BE SECURELY CAPPED AT BOTH END AND WITH HOLDING CHARGED AS STATED IN ITEM 4 ABOVE WHILE WAITING FOR FINAL CONNECTION TO EQUIPMENT. INSULATE SUCTION PIPING ONLY AFTER PROPER LEAK TESTING.



1 / M 1 SITE DEVELOPMENT PLAN
NOT TO SCALE

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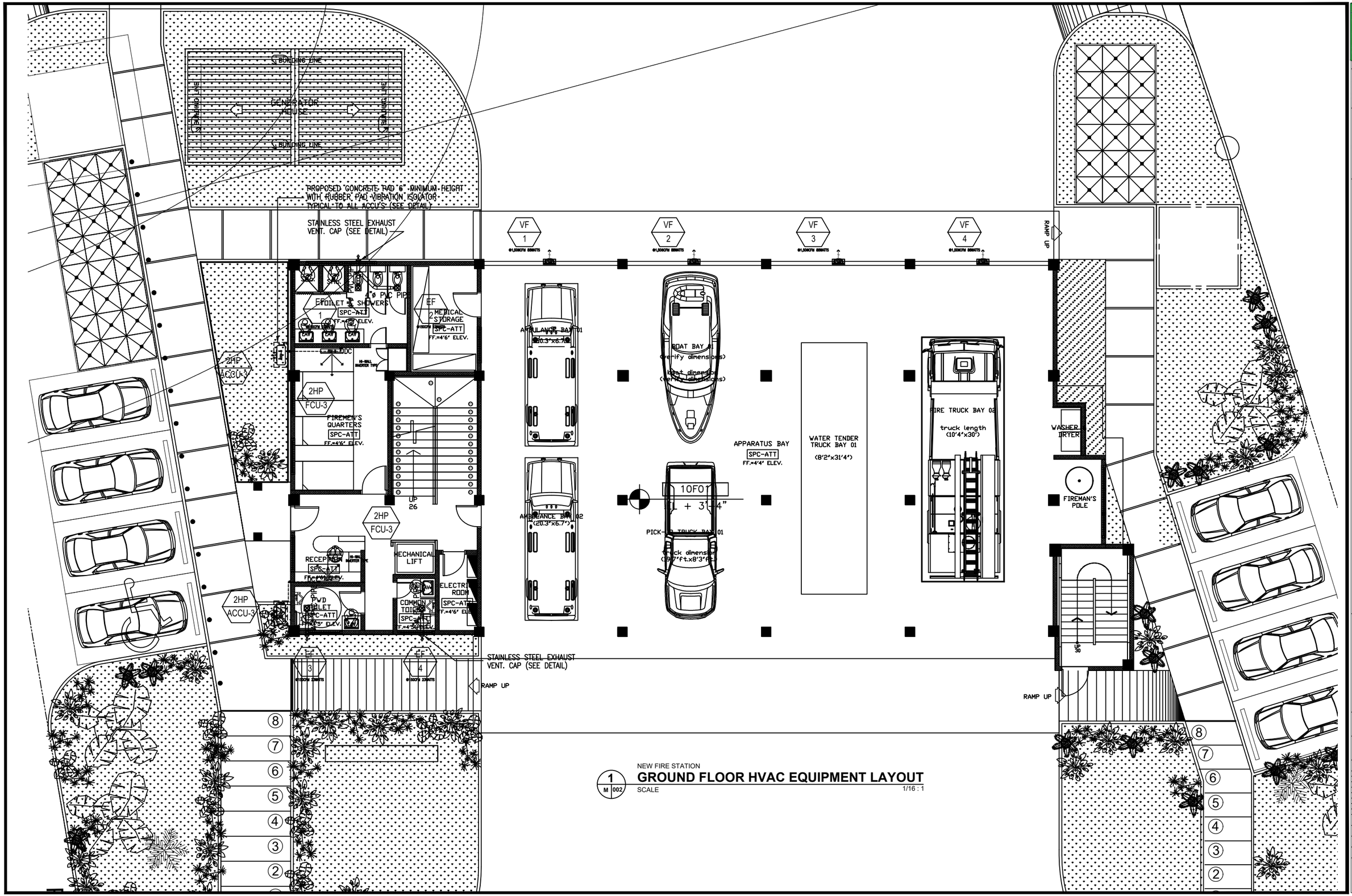
CONTENTS
-EQUIPMENTS SCHEDULE
-SITE DEVELOPMENT PLAN

Approved

Approved

REVISION	BY

DATE: 08/2020
SCALE:
DRAWN: LARA
JOB:
SHEET
M-01



NEW FIRE STATION

1 / M 002

GROUND FLOOR HVAC EQUIPMENT LAYOUT

SCALE 1/16 : 1

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- GROUND FLOOR HVAC EQUIPMENT LAYOUT

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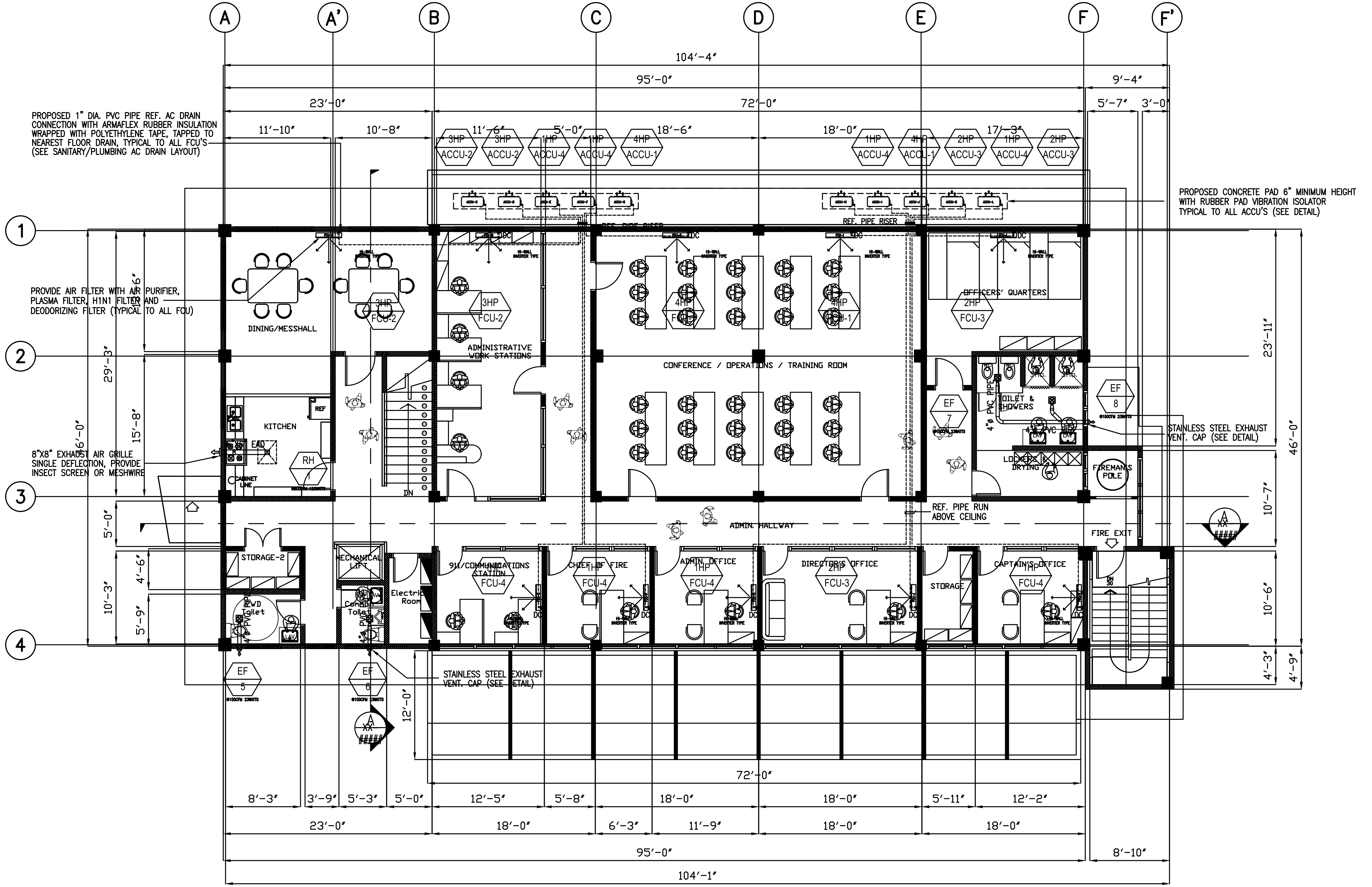

A
A'
B
C
D
E
F
F'
1
2
3
4
104'-4"
95'-0"
9'-4"
23'-0"
72'-0"
5'-7"
3'-0"
11'-10"
10'-8"
11'-6"
5'-0"
18'-6"
18'-0"
17'-3"
PROPOSED 1" DIA. PVC PIPE REF. AC DRAIN CONNECTION WITH ARMAFLEX RUBBER INSULATION WRAPPED WITH POLYETHYLENE TAPE, TAPPED TO NEAREST FLOOR DRAIN, TYPICAL TO ALL FCU'S (SEE SANITARY/PLUMBING AC DRAIN LAYOUT)
PROPOSED CONCRETE PAD 6" MINIMUM HEIGHT WITH RUBBER PAD VIBRATION ISOLATOR TYPICAL TO ALL ACCU'S (SEE DETAIL)
REF. PIPE RISER
PROVIDE AIR FILTER WITH AIR PURIFIER, PLASMA FILTER, H1N1 FILTER AND DEODORIZING FILTER (TYPICAL TO ALL FCU)
8"X8" EXHAUST AIR GRILLE SINGLE DEFLECTION, PROVIDE INSECT SCREEN OR MESHWIRE
DINING/MESSHALL
KITCHEN
ADMINISTRATIVE WORK STATIONS
CONFERENCE / OPERATIONS / TRAINING ROOM
OFFICERS' QUARTERS
TOILET & SHOWERS
LOCKERS & DRYING
FIREMAN'S POLE
STAINLESS STEEL EXHAUST VENT. CAP (SEE DETAIL)
REF. PIPE RUN ABOVE CEILING
ADMIN. HALLWAY
FIRE EXIT
STORAGE-2
MECHANICAL LIFT
Electric Room
PWD Toilet
Common Toilet
911/COMMUNICATIONS STATION
CHIEF OF FIRE
ADMIN. OFFICE
DIRECTOR'S OFFICE
STORAGE
CAPTAIN'S OFFICE
29'-3"
46'-0"
15'-8"
5'-0"
10'-3"
4'-6"
5'-9"
23'-11"
10'-7"
10'-6"
4'-3"
4'-9"
12'-0"
72'-0"
8'-3"
3'-9"
5'-3"
5'-0"
12'-5"
5'-8"
18'-0"
5'-11"
12'-2"
23'-0"
6'-3"
11'-9"
95'-0"
8'-10"
104'-1"

NEW FIRE STATION

GROUND FLOOR HVAC EQUIPMENT LAYOUT

1 M 003

SCALE 1/16 : 1

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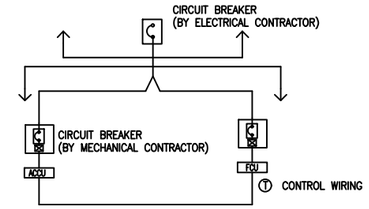
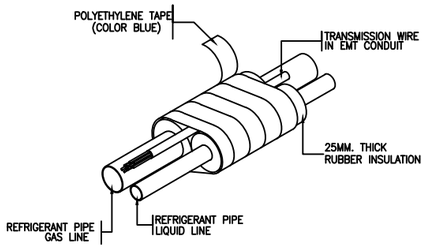


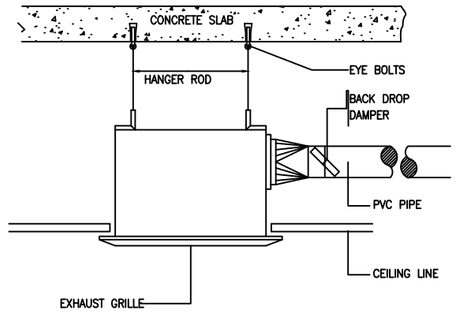
CONTROL DESCRIPTIONS

1. THERMOSTAT Ⓣ SHALL HAVE OFF FAN COOL CONTROL.
2. SWICTH TO FAN SHALL START FCU FAN.
3. SWICTH TO COOL (FAN) SHALL START THE ACCU WITH FAN ON
4. THERMOSTAT SHALL CYCLE THE ACCU TO MAINTAIN ROOM TEMPERATURE AT 24°C

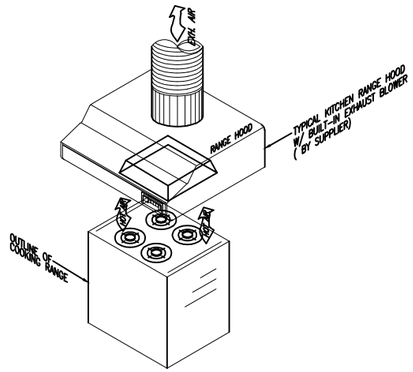
ELECTRICAL RISER AND CONTROL DIAGRAM



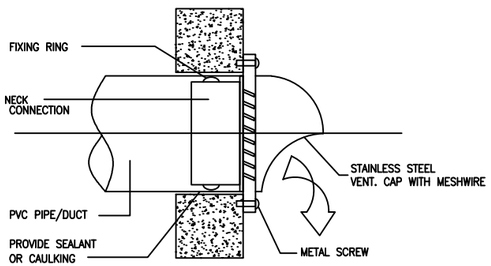
REFRIGERANT PIPE INSULATION DETAIL



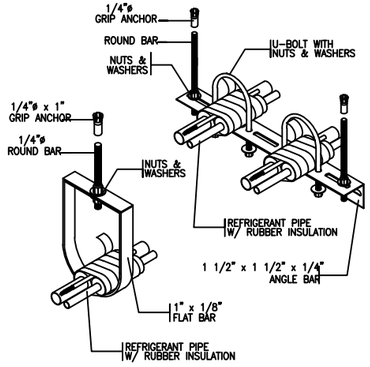
EXHAUST FAN INSTALLATION DETAIL



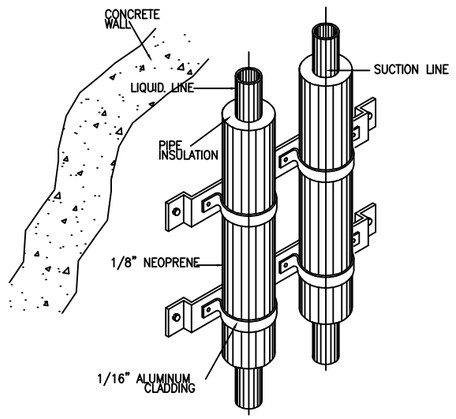
KITCHEN RANGE HOOD DETAIL



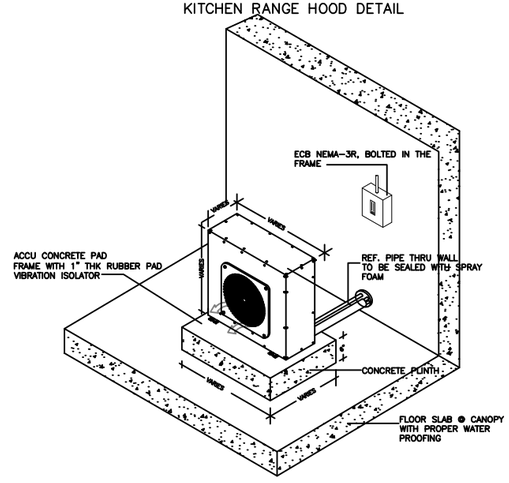
EXHAUST AIR GRILLE/SCREEN



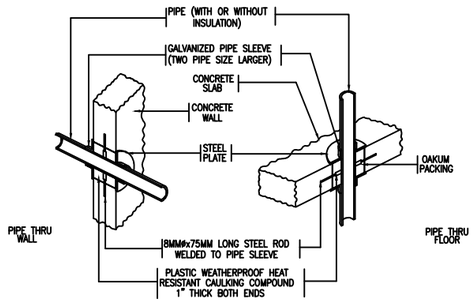
REFRIGERANT PIPE HANGER AND SCHEDULE DETAIL



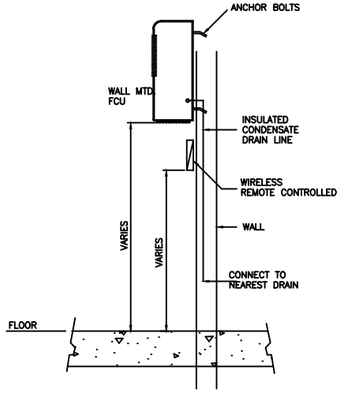
PIPE SUPPORT ALONG THE WALL



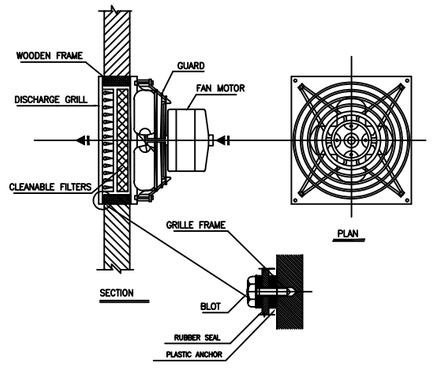
ACCU MOUNTING INSTALLATION DETAIL



PIPE PASSING THRU WALL/FLOOR DETAIL



FCU WALL MOUNTED INSTALLATION DETAIL



PROPELLER TYPE WALL MOUNTING DETAIL

DIMENSION LONGEST SIDE MM.	G. I. SHEET GAUGE NO.	SIZE OF SUPPORT ANGLES MM.	DISTANCE BETWEEN HANGERS MM.	MIN. SIZE OF STEEL ROD HANGER MM.
UP TO 300	26	25 X 25 X 3	1200	10
350 TO 750	24	38 X 38 X 3	1200	12
800 TO 1500	22	38 X 38 X 3	2000	12
1550 TO 2300	20	38 X 38 X 3	2000	12
2350 OVER	18	38 X 38 X 3	2000	12

G.I. DUCT SCHEDULE

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