

EQUIPMENT SCHEDULE:

NOTE: VERIFY POWER SUPPLY CHARACTERISTIC FROM ELECTRICAL DRAWINGS BEFORE ORDERING THE EQUIPMENT.

PACKAGE COOLING UNITS (PCU) / FAN COIL UNIT (FCU) / AIR COOLED CONDENSING UNIT (ACCU):

MARK	AREA SERVED	SUPPLY AIR (CFM)	OUTSIDE AIR (CFM)	ESP IN IN. WG.	COOLING CAPACITY (BTU/HR.)		AIR TEMP. ENT. EVAP.		AIR TEMP. ENTERING CONDENSER	REFRIGERANT	EER MIN.	EVAP. FAN MOTOR FLA	COMP. MOTOR FLA	COND. FAN MOTOR FLA	MERV (FILTER)	POWER SUPPLY CHARACTERISTICS			OPERATING WEIGHT LBS.	REMARKS
					TOTAL	SENSIBLE	*F DB	*F WB								VOLTS	PHASE	HERTZ		
PCU#1	CLASS ROOM 101 / 102	1352	338	1.0	52,500	32,200	80	68	95	R- 410A	12.7	7.1	16.2	3.5	14	208	3	60	829	PCU : "CARRIER" MO. 50LCO6A2 W/ VFD APPROVED EQUAL
PCU#2	ADMIN / OFFICE	3,845	352	1.5	102,400	83,800	78	64	95	R- 410A	12.2	3.4	17.6	1.0	14	208	3	60	1,199	PCU : "CARRIER" MO. 50P612 OR APPROVED EQUAL
PCU#3A	LABORATORY AREA	3,810	3,810	1.0	170,600	80,300	88	79	95	R- 410A	12.2	10.5	2 - 25	3 - 1.5	14	208	3	60	1,878	PCU : "CARRIER" MO. 50HC-D17 W/VFD OR APPROVED EQUAL
PCU#3B		3,810	3,810	1.5	173,100	59,200	69	69	95	R- 410A	10.3	10.5	2 - 25	3 - 1.5	14	208	3	60	1,878	PCU : "CARRIER" MO. 50HC-D17 W/VFD OR APPROVED EQUAL
PCU#4	CLEAN CORRIDOR 121	800	800	1.0	60,700	25,400	88	79	95	R- 410A	12.7	7.1	16.2	3.5	18	208	3	60	775	PCU : "CARRIER" MO. 50LCO6A0 OR APPROVED EQUAL
FCU#1/ACCU#1	OFFICE 102	300	18	0.1	6,400	5,800	86	67	95	R- 410A	12.0	1.18	9.9	0.60	14	115	1	60	25.3	FCU: "CARRIER" MO. 40MVC-12 ACCU: "CARRIER" MO. 38MVC-12 OR APPROVED EQUAL
FCU#2/ACCU#2	OFFICE 103	300	18	0.1	9,700	8,600	86	67	95	R- 410A	12.0	1.18	9.9	0.60	14	115	1	60	25.3	FCU: "CARRIER" MO. 40MVC-12 ACCU: "CARRIER" MO. 38MVC-12 OR APPROVED EQUAL
FCU#3ACCU#3	SERVER 116	950	10	0.1	17,000	16,300	86	66	95	R- 410A	12.0	0.26	7.3	0.78	14	208	1	60	39.6	FCU: "CARRIER" MO. 40MVC-18 ACCU: "CARRIER" MO. 38MVC-18 OR APPROVED EQUAL
FCU#4ACCU#4	ELEC. RM 133	1000	10	0.1	17,300	17,300	86	66	95	R- 410A	12.0	0.26	7.3	0.78	14	208	1	60	39.6	FCU: "CARRIER" MO. 40MVC-18 ACCU: "CARRIER" MO. 38MVC-18 OR APPROVED EQUAL
FCU#5ACCU#5	SERVER 104b	950	10	0.1	17,000	16,300	86	66	95	R- 410A	12.0	0.26	7.3	0.78	14	208	1	60	39.6	FCU: "CARRIER" MO. 40MVC-18 ACCU: "CARRIER" MO. 38MVC-18 OR APPROVED EQUAL
PCU#5	POST AMP LAB	400	400	1.0	35,200	7,726	80	70	15	R- 410A	1.5	4.9	12.8	1.0	14	208	1	60	704	PCU: "CARRIER" MO. 50P603 (BACK-UP, TO TURN ON WHEN MAIN AC IS OUT FOR SERVICE)

EXHAUST FANS:

MARK	AREA/ITEM SERVED	CFM	STATIC PRESSURE INCH W.G.	FAN RPM	TYPE	ELECTRICAL DATA				WEIGHT LBS.	REMARKS
						MOTOR	VOLTS	PHASE	CYCLE		
EF-1	LABORATORY	4,500	2.0	-	STROBIC FAN	3730 WATTS	208/230	3	60	200	"STROBIC FAN" MO. TS15050B12 (1 DUTY / 1 STAND BY) WITH INTEGRAL DISCONNECT
EF-2	GENERATOR RM.	1,000	1.25	1750	PROPELLER WALL FAN	186 WATTS	115	1	60	-	"TWIN CITY" MO. WFB-E-14 (WITH BACKDRAFT DAMPER, WEATHERHOOD AND INTEGRAL DISCONNECT SWITCH) OR APPROVED EQUAL (ALTERNATE BID ITEM NO.1)
CEF-1	MOMENS 106	150	1/8	710	CEILING EXHAUST FAN	100 WATTS	115	1	60	-	"TWIN CITY" MO. T150 OR APPROVED EQUAL
CEF-2	MENS 105	150	1/8	710	CEILING EXHAUST FAN	100 WATTS	115	1	60	-	"TWIN CITY" MO. T150 OR APPROVED EQUAL
CEF-3	MOMENS 121	75	1/8	1550	CEILING EXHAUST FAN	48 WATTS	115	1	60	-	"TWIN CITY" MO. T80 OR APPROVED EQUAL
CEF-4	MENS 120	75	1/8	1550	CEILING EXHAUST FAN	48 WATTS	115	1	60	-	"TWIN CITY" MO. T80 OR APPROVED EQUAL
CEF-5	POST AMP LAB	400	1/8	735	CEILING EXHAUST FAN	146 WATTS	115	1	60	-	"TWIN CITY" MO. T400 OR APPROVED EQUAL (BACK-UP, TO TURN ON WHEN MAIN AC IS OUT FOR SERVICE)
CEF-6	JAN. SINK	50	1/8	1550	CEILING EXHAUST FAN	48 WATTS	115	1	60	-	"TWIN CITY" MO. T80 OR APPROVED EQUAL

LEGEND:

ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
A/C	AIR CONDITIONING	OA	OUTSIDE AIR
A.F.F.	ABOVE FINISH FLOOR	OAD	OUTSIDE AIR DUCT
CD	CEILING DIFFUSER	RA	RETURN AIR
CEF	CEILING EXHAUST FAN	RAD	RETURN AIR DUCT
CFM	CUBIC FEET PER MINUTE	RAG	RETURN AIR GRILLE
CONT'N.	CONTINUATION	RAR	RETURN AIR REGISTER
DL	DOOR LOUVER	SCD	SUPPLY CEILING DIFFUSER
DN.	DOWN	SD	SMOKE DETECTOR
DV	DOOR UNDERCUT	SAD	SUPPLY AIR DUCT
EA.	EACH	SAR	SUPPLY AIR REGISTER
EAD	EXHAUST AIR DUCT	TEF	TOILET EXHAUST FAN
EF	EXHAUST FAN	T	TEMPERATURE SENSOR
EAL	EXHAUST AIR LOUVER	TYP	TYPICAL
EAR	EXHAUST AIR REGISTER	VAV	VARIABLE AIR VOLUME
FC	FLEXIBLE CONNECTION	VD	VOLUME DAMPER
MERV	MINIMUM EFFICIENCY REPORTING VALUE	AP	ACCESS PANEL

LABORATORY AIR BALANCE TABULATION:

AREA	SUPPLY AIR CFM TO ROOMS	TRANSFER AIR/ MAKE UP FROM CORRIDOR TO LAB ROOMS	TOTAL EXHAUST CFM FROM ROOMS
EVIDENCE STO. 122	186	100	286
REFRIGERATED STO. 123	346	100	446
ALS 126	212	100	312
BIOLOGY EXAM LAB 127	721	100	821
POST AMP LAB 128	503	100	603
PRE-AMP 129	235	100	335
LAB STORAGE 131	329	100	429
REAGENT ROOM 132	768	100	1,568
TOTAL	3,810	800	4,610

MAKE-UP AIR VALVES (VENTURI CONTROL VALVES)

MARK	SPACES SERVED	NOMINAL CFM @ 0.3" WG	VAV SIZE Ø IN.	POWER SUPPLY CHARACTERISTICS	ELECTRIC REHEAT CAP. KW-V-PH-HZ	REMARKS
MAV#1	EVIDENCE STO. 122	186	8	115V/1/60		PHOENIX CONTROLS LOW-PRESSURE ACCEL II VENTURI VALVES OR APPROVED EQUAL
MAV#2	REFRIGERATED STO. 123	346	8	115V/1/60		
MAV#3	ALS 126	212	8	115V/1/60		
MAV#4	BIOLOGY EXAM LAB 127	721	12	115V/1/60	3-208-1-60	
MAV#5	POST AMP LAB 128	503	12	115V/1/60		
MAV#6	PRE-AMP 129	235	8	115V/1/60		
MAV#7	LAB STORAGE 131	329	8	115V/1/60		
MAV#8	REAGENT ROOM 132	768	12	115V/1/60	3-208-1-60	
		3,810				

NOTE: PROVIDE MAV'S WITH 115/24 VOLT CONTROL TRANSFORMERS.

EXHAUST VALVES (VENTURI CONTROL VALVES)

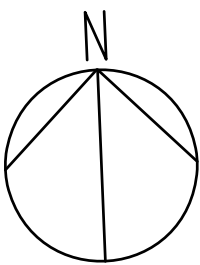
MARK	SPACES SERVED	NOMINAL CFM @ 0.3" WG	VAV SIZE Ø IN.	POWER SUPPLY CHARACTERISTICS	REMARKS
EXV#1	EVIDENCE STO. 122	286	8	115V/1/60	PHOENIX CONTROLS ACCEL II VENTURI VALVES OR APPROVED EQUAL
EXV#2	REFRIGERATED STO. 123	446	8	115V/1/60	
EXV#3	ALS 126	312	8	115V/1/60	
EXV#4	BIOLOGY EXAM LAB 127	821	12	115V/1/60	
EXV#5	POST AMP LAB 128	603	12	115V/1/60	
EXV#6	PRE-AMP 129	335	8	115V/1/60	
EXV#7	LAB STORAGE 131	429	8	115V/1/60	
EXV#8	REAGENT ROOM 132	868	12	115V/1/60	
		4,610		115V/1/60	

NOTE: PROVIDE EXV'S WITH 115/24 VOLT CONTROL TRANSFORMERS.

VAV BOX SCHEDULE

MARK	SPACES SERVED	NOMINAL CFM @ 0.1 IN. H2O	VAV SIZE Ø IN.	POWER SUPPLY CHARACTERISTICS	REMARKS
VAV#1-1	GCC CLASSROOM 101	720	12	115V/1/60	CARRIER MO. 35E
VAV#1-2	GCC CLASSROOM 102	655	12	115V/1/60	
VAV#2-1	ADMIN AREA 109 / OFC 109a	620	12	115V/1/60	
VAV#2-2	RECEPT 109b/ADMIN. 109c/OFC 109d	280	8	115V/1/60	
VAV#2-3	OFFICE 110 / CODIS 111	450	8	115V/1/60	
VAV#2-4	RESEARCH & DEV'T. 114 / CASE RM. 113	260	8	115V/1/60	
VAV#2-5	BREAK RM. 115 / EE RM 117	1,095	14	115V/1/60	
VAV#2-6	LIBRARY 112	350	8	115V/1/60	
VAV#2-7	CORRIDOR 108	240	8	115V/1/60	
VAV#2-8	LAUNDRY	550	12	115V/1/60	

NOTE: PROVIDE EXV'S WITH 115/24 VOLT CONTROL TRANSFORMERS.



IF SHEET IS LESS THAN 24" x 36"
REDUCED PRINT - USE GRAPHIC SCALES

REVISIONS		
No.	Description	Date

TRMA

Taniguchi Ruth Makio Architects
100 Cliff Business Center, P.O. Box EA, Agaña, GU 96910
Tel.: (671) 475-8772 • Fax.: (671) 472-3381

Architecture
Planning
Interior Design

emc2
MECHANICAL, INC.
565-A NORTH MARINE DRIVE,
TAMUNING, GUAM 96911
P.O. BOX 23156, GUMF, GUAM 96921
TEL: (671) 646-1558 / 5363
FAX: (671) 646-8606
e-mail: engineer@emc2mechanical.com

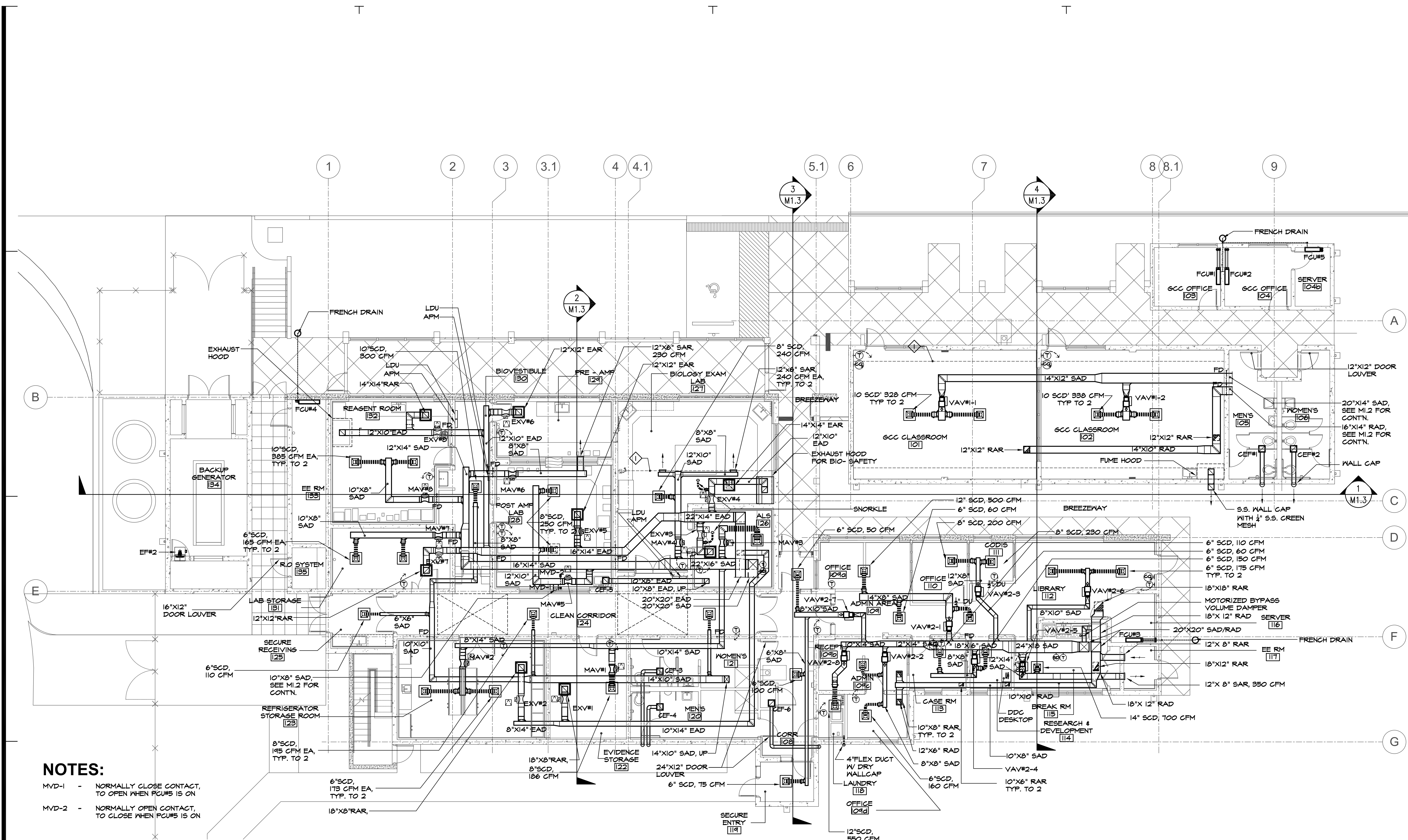
BID
DOCUMENTS

I HEREBY CERTIFY THAT THE PLAN WAS PREPARED
BY ME OR UNDER MY DIRECT SUPERVISION

Project:
GUAM COMMUNITY
COLLEGE
FORENSIC DNA LAB

Title:
EQUIPMENT
SCHEDULE, NOTES
LEGEND

Designed: RPS
Drawn: VSA/RPS
Checked: CGV
Supv: CGV
Scale: AS SHOWN
Date: 12/19/12
Project No. File
Drawing No.
M1.0
Sheet No. of



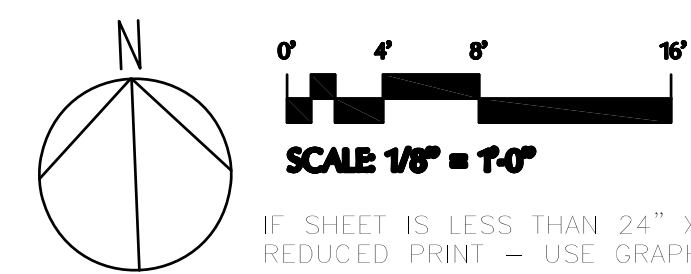
KEYED NOTE:

◆ LINE OF CEILING SOFFIT

1 AIR CONDITIONING AND VENTILATION PLAN

SCALE

1/8" = 1'-0"



REVISIONS		
No.	Description	Date

TRMA

Taniguchi Ruth Makio Architects
100 Cliff Business Center, P.O. Box EA, Agaña, GU 96910
Tel.: (671) 475-8772 • Fax: (671) 472-3381

Architecture
Planning
Interior Design

emc2

MECHANICAL, INC.
565-A NORTH MARINE DRIVE,
TAMUNING, GUAM 96911
P.O. BOX 23156, GUAM 96921
TEL: (671) 646-1558/5363
FAX: (671) 646-8606
e-mail: engineer@emc2mechanical.com

BID DOCUMENTS



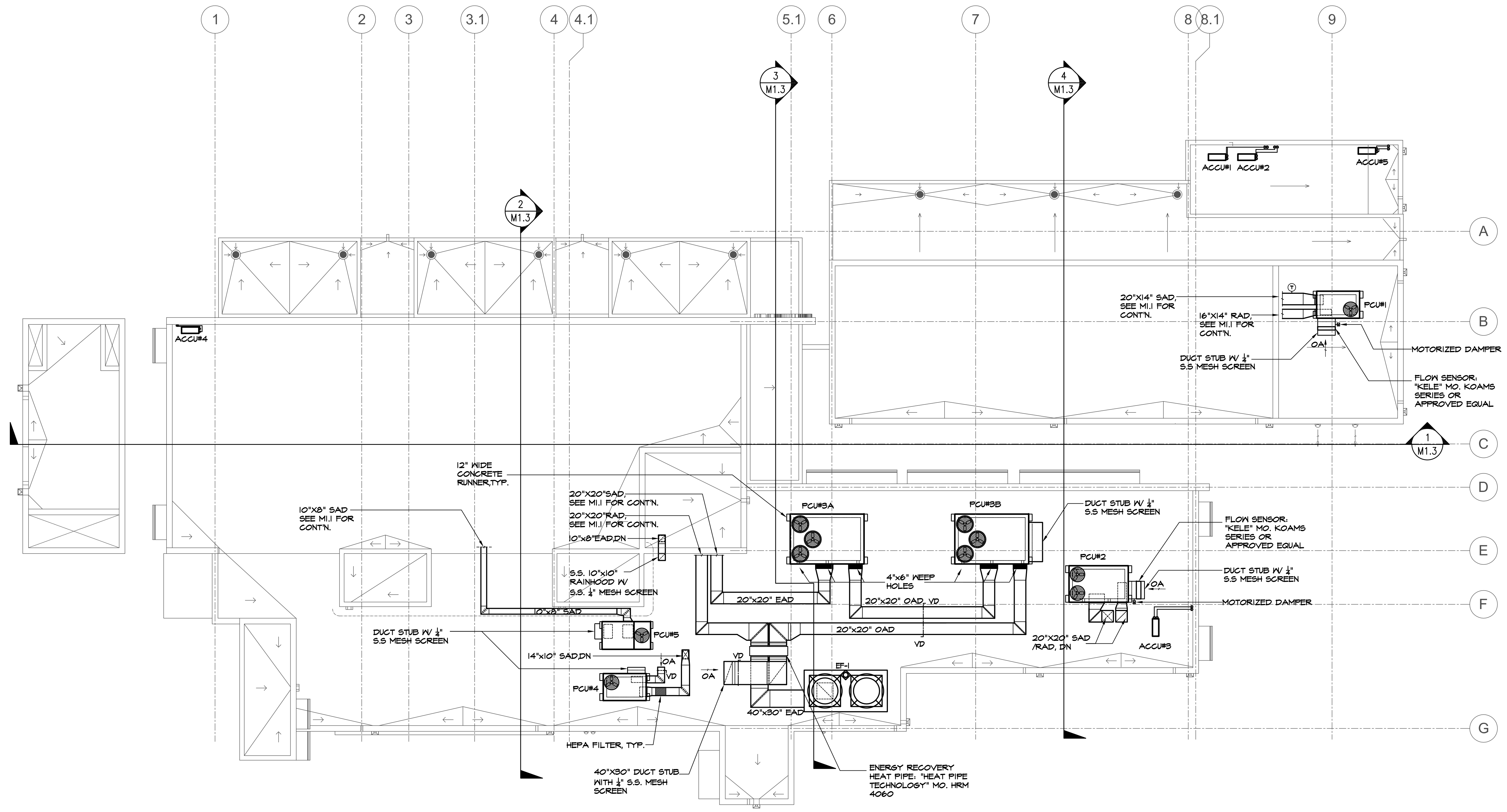
Project:
GUAM COMMUNITY COLLEGE
FORENSIC DNA LAB

Title:
AIR CONDITIONING AND VENTILATION PLAN

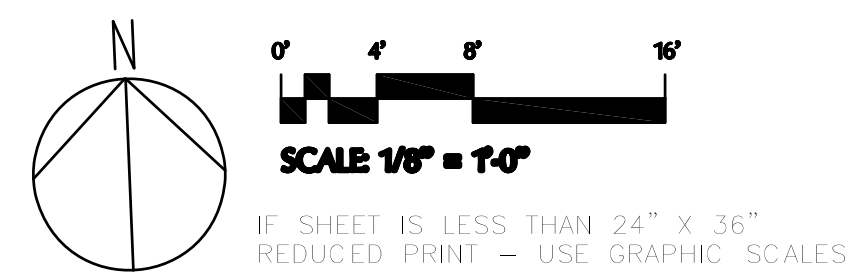
Designed: RPS
Drawn: VSA/RPS
Checked: CGV
Supv: CGV
Scale: AS SHOWN
Date: 12/19/12
Project No. File
Drawing No.

M1.1

Sheet No. of



1 ROOF PLAN
SCALE 1/8" = 1'-0"



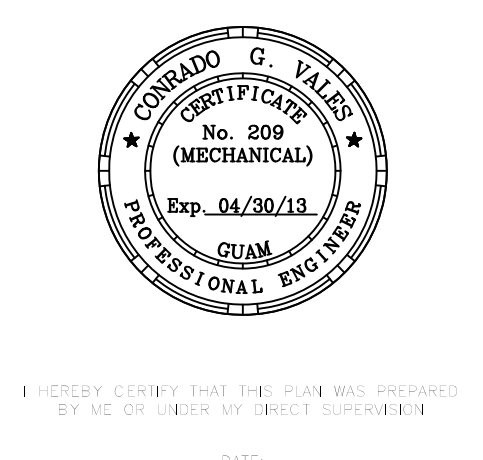
REVISIONS		
No.	Description	Date

TRMA
Taniguchi Ruth Makio Architects
100 Cliff Business Center, P.O. Box EA, Agaña, GU 96910
Tel.: (671) 475-8772 • Fax: (671) 472-3381

Architecture
Planning
Interior Design

emc2
MECHANICAL, INC.
565-A NORTH MARINE DRIVE,
TAMUNING, GUAM 96911
P.O. BOX 23156, GMA, GUAM 96921
TEL: (671) 646-1558/5363
FAX: (671) 646-8606
e-mail: engineer@emc2mechanical.com

BID DOCUMENTS

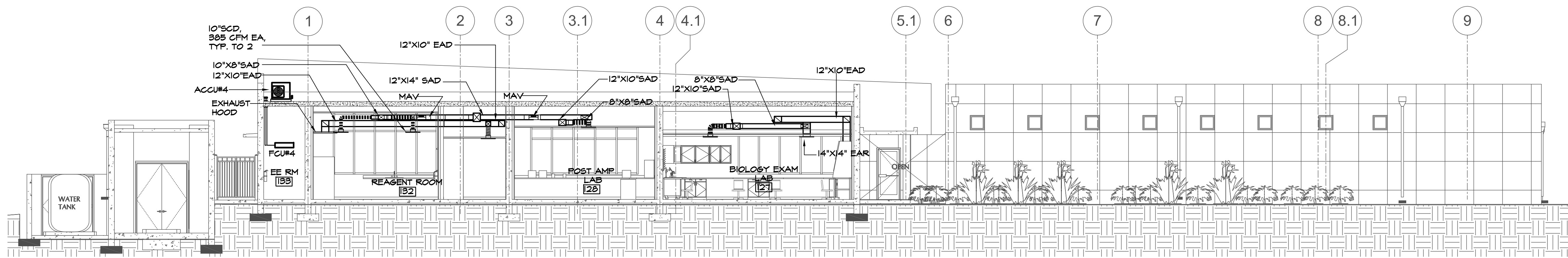


Project:
GUAM COMMUNITY COLLEGE
FORENSIC DNA LAB

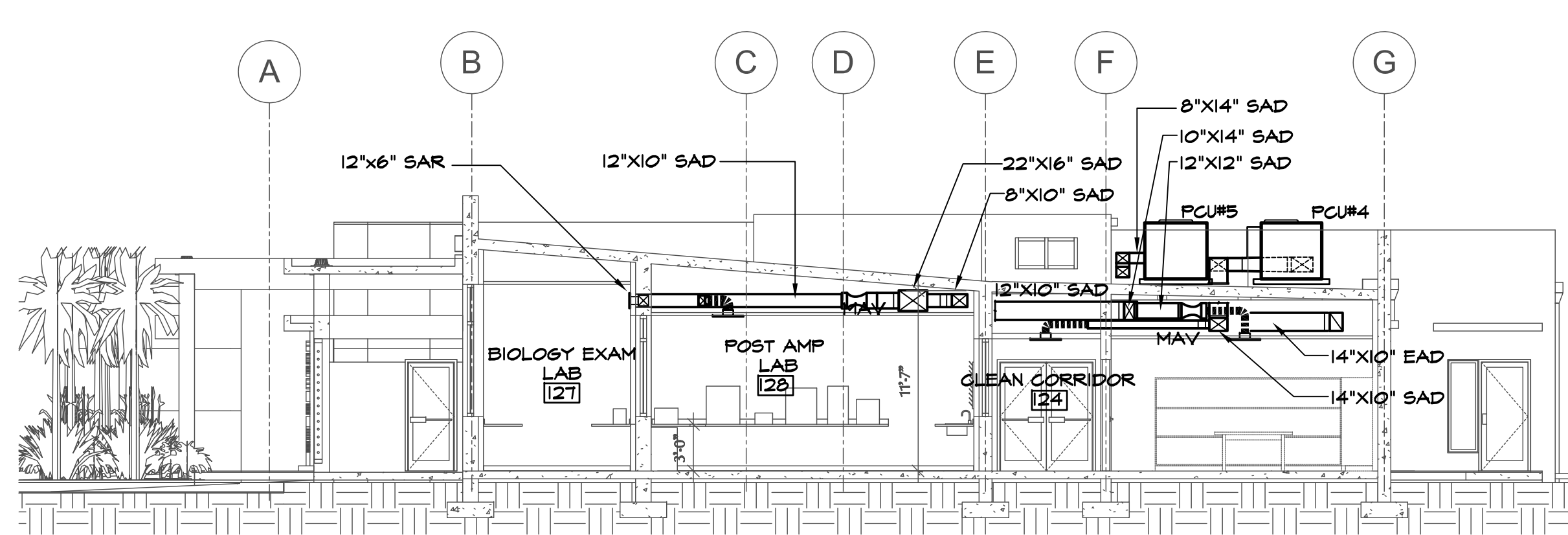
Title:
ROOF PLAN

Designed: RPS
Drawn: VSA/RPS
Checked: C&V
Supv: C&V
Scale: AS SHOWN
Date: 12/19/12
Project No. File
Drawing No.

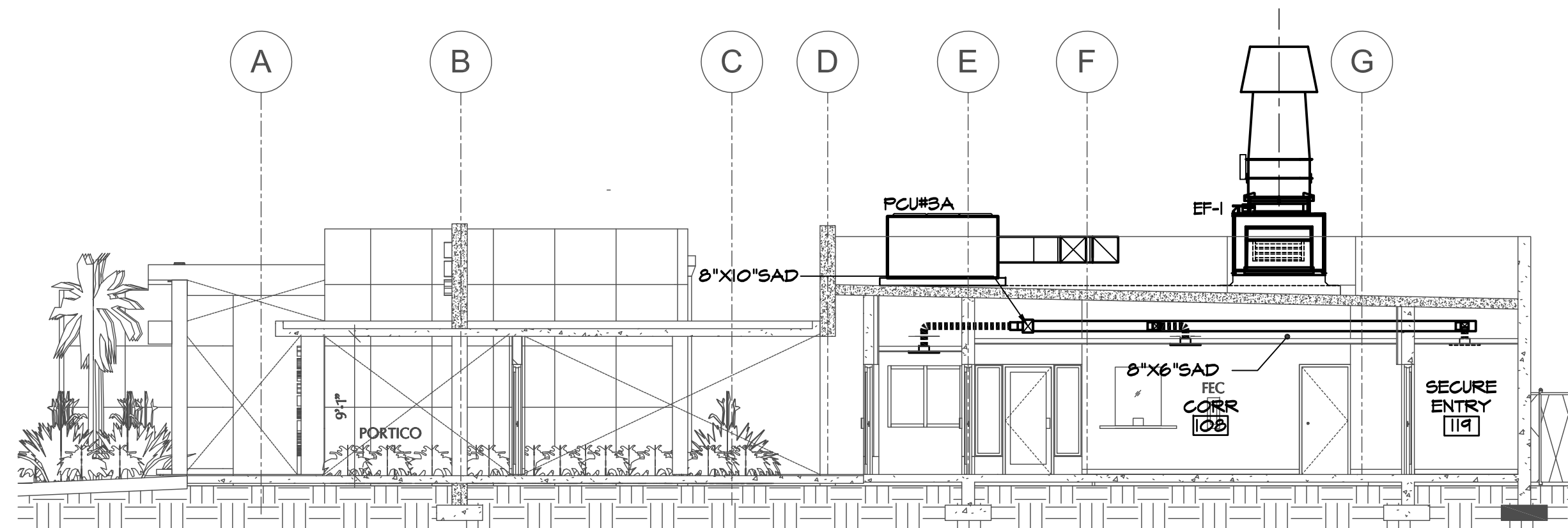
M1.2
Sheet No. of



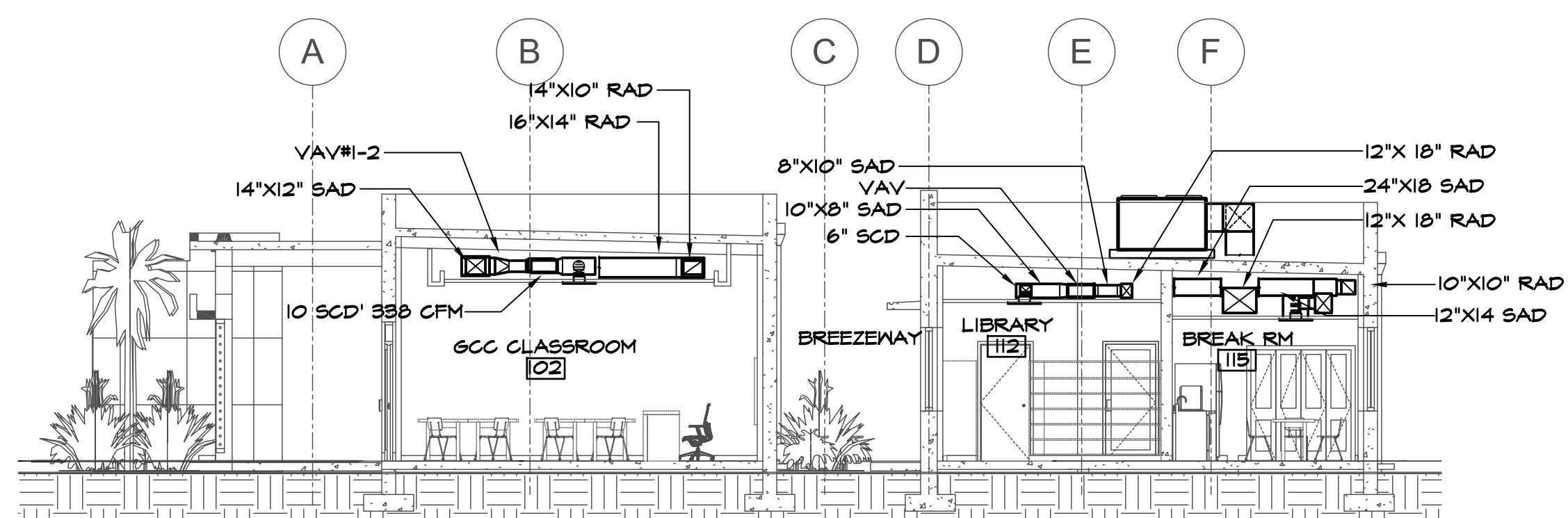
1 LONGITUDINAL SECTION
SCALE: 1/8" = 1'-0"



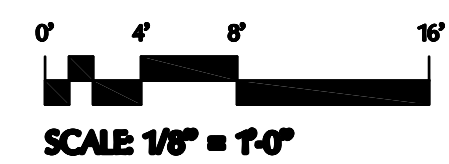
2 CROSS SECTION
SCALE: 1/8" = 1'-0"



3 CROSS SECTION
SCALE: 1/8" = 1'-0"



4 CROSS SECTION
SCALE: 1/8" = 1'-0"



IF SHEET IS LESS THAN 24" X 36"
REDUCED PRINT - USE GRAPHIC SCALES

REVISIONS		
No.	Description	Date

TRMA

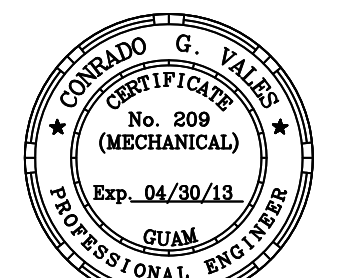
Taniguchi Ruth Makio Architects
100 Cliff Business Center, P.O. Box EA, Agaña, GU 96910
Tel.: (671) 475-8772 • Fax: (671) 472-3381

Architecture
Planning
Interior Design

emc2

MECHANICAL, INC.
565-A NORTH MARINE DRIVE,
TAMUNING, GUAM 96911
P.O. BOX 23156, GMA, GUAM 96921
TEL: (671) 646-1558/5363
FAX: (671) 646-8606
e-mail: engineer@emc2mechanical.com

**BID
DOCUMENTS**



I HEREBY CERTIFY THAT THE PLAN WAS PREPARED
BY ME OR UNDER MY DIRECT SUPERVISION
DATE: _____

Project:
GUAM COMMUNITY
COLLEGE
FORENSIC DNA LAB

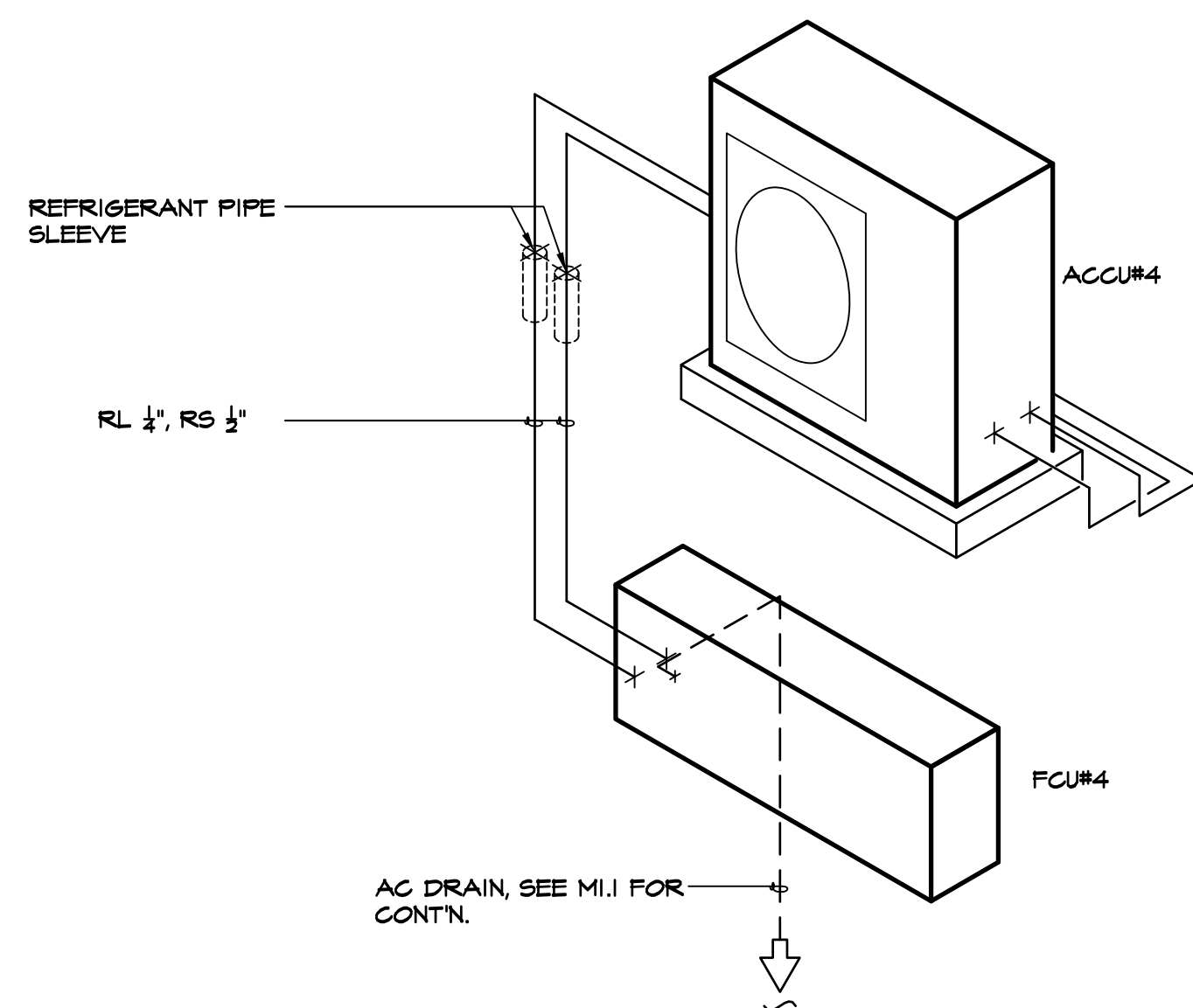
Title:

LONGITUDINAL
SECTION
AND CROSS SECTION

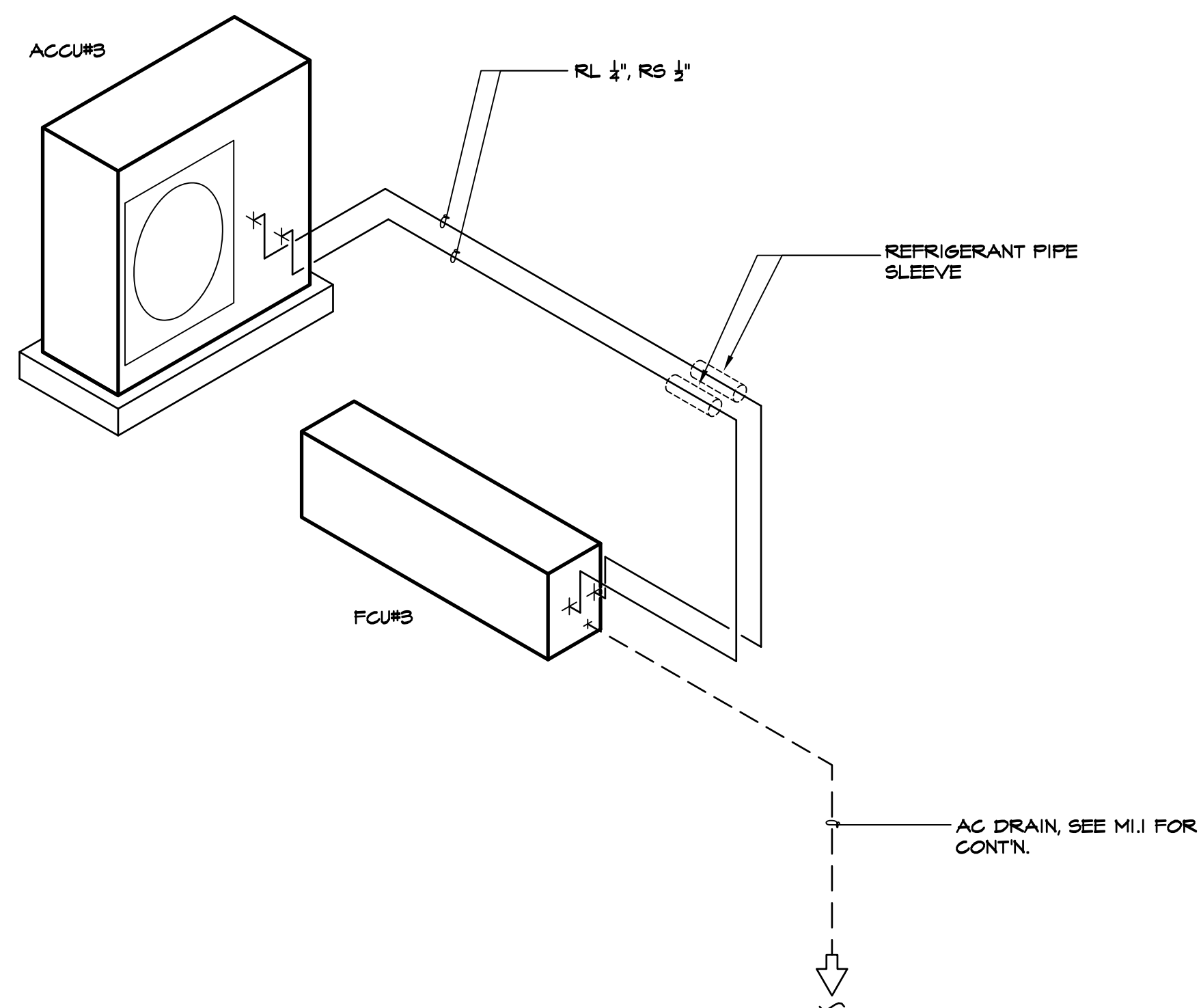
Designed: **RPS**
Drawn: **VSA/RPS**
Checked: **CSV**
Supv: **CSV**
Scale: **AS SHOWN**
Date: **12/19/12**
Project No. _____ File _____
Drawing No. _____

M1.3

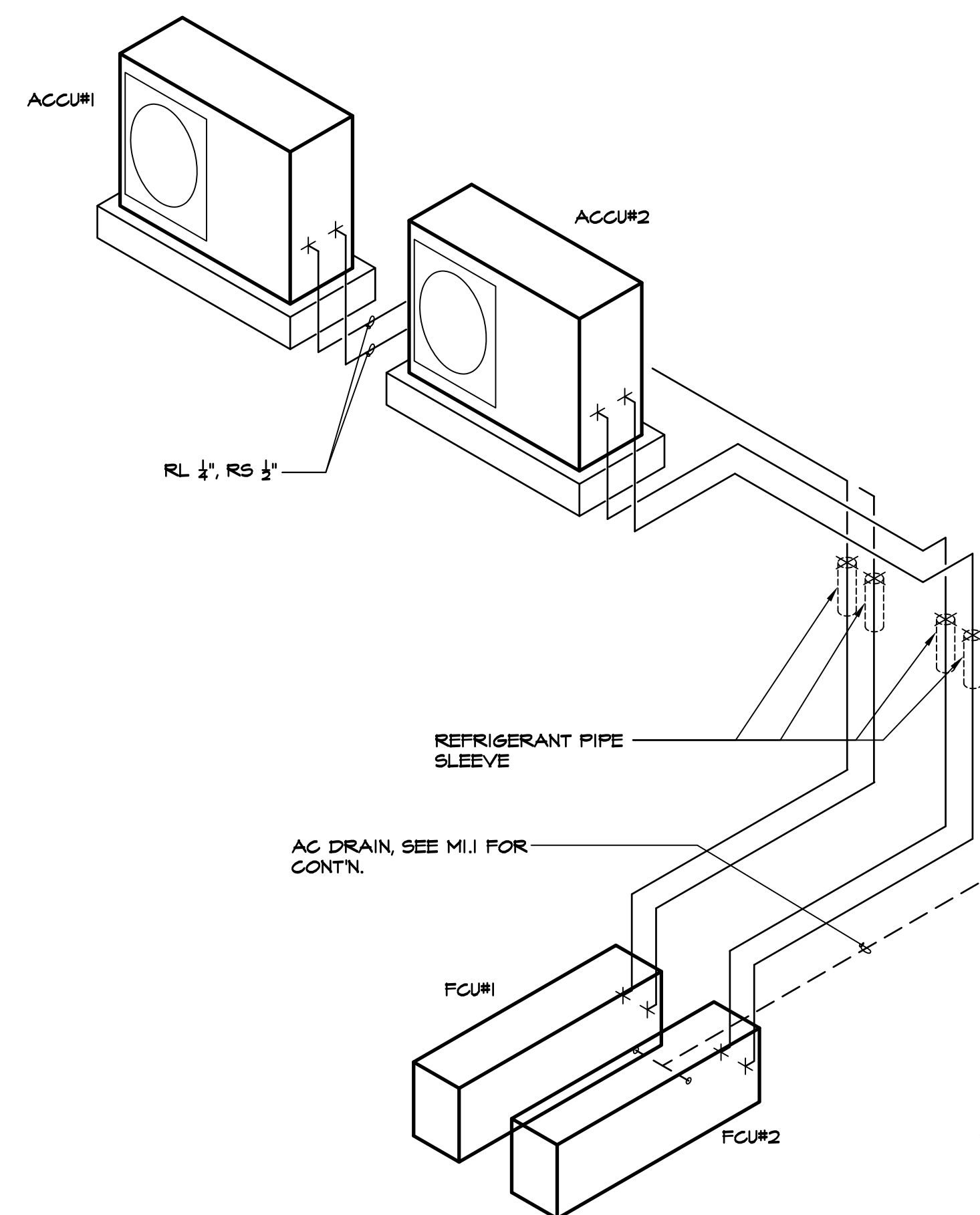
Sheet No. _____ of _____



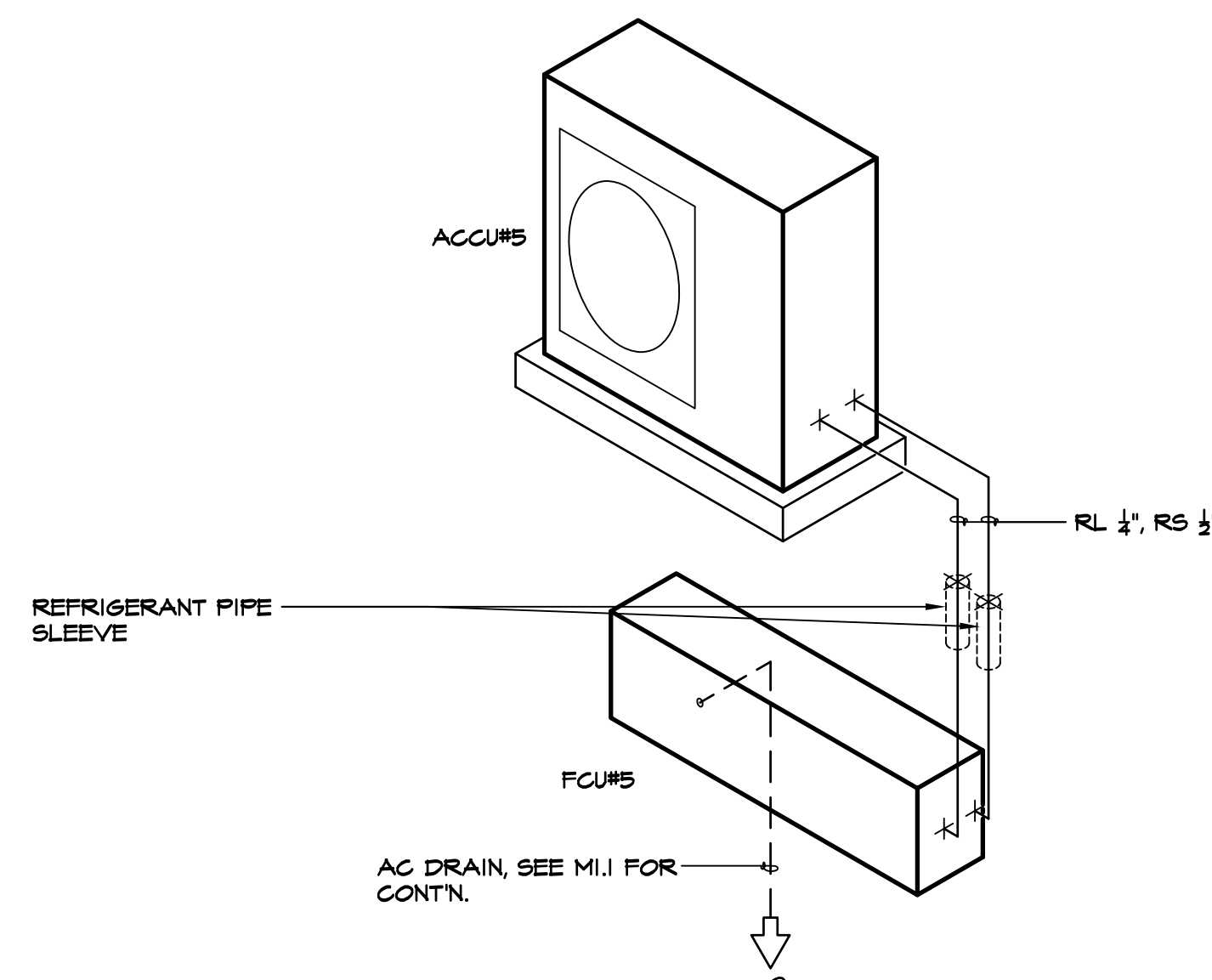
1 REFRIGERANT PIPING ISOMETRIC - FCU#4 / ACCU#4
SCALE NOT TO SCALE ELEC RM 133



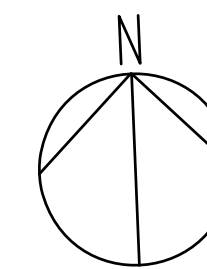
2 REFRIGERANT PIPING ISOMETRIC - FCU#3 / ACCU#3
SCALE NOT TO SCALE SERVER 116



3 REFRIGERANT PIPING ISOMETRIC - FCU#1, #2 / ACCU#1, #2
SCALE NOT TO SCALE GCC OFFICE 103-104



4 REFRIGERANT PIPING ISOMETRIC - FCU#5 / ACCU#5
SCALE NOT TO SCALE SERVER 104b



IF SHEET IS LESS THAN 24" X 36"
REDUCED PRINT - USE GRAPHIC SCALES

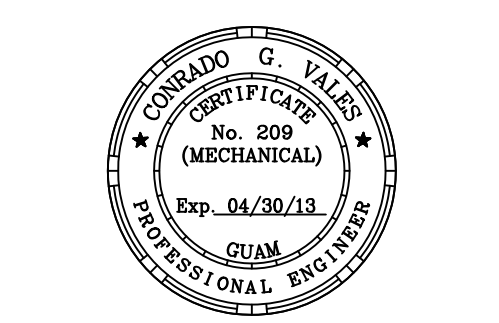
REVISIONS		
No.	Description	Date

TRMA
Taniguchi Ruth Makio Architects
100 Cliff Business Center, P.O. Box EA, Agaña, GU 96910
Tel.: (671) 475-8772 • Fax.: (671) 472-3381

Architecture
Planning
Interior Design

emc2
MECHANICAL, INC.
565-A NORTH MARINE DRIVE,
TAMUNING, GUAM 96911
P.O. BOX 23156, GME, GUAM 96921
TEL: (671) 646-1558/5363
FAX: (671) 646-8606
e-mail: engineer@emc2mechanical.com

BID
DOCUMENTS



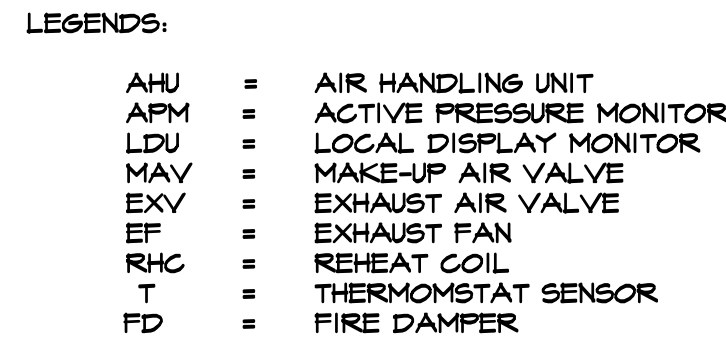
I HEREBY CERTIFY THAT THE PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION

Project:
GUAM COMMUNITY
COLLEGE
FORENSIC DNA LAB

Title:
REFRIGERANT PIPING
ISOMETRIC

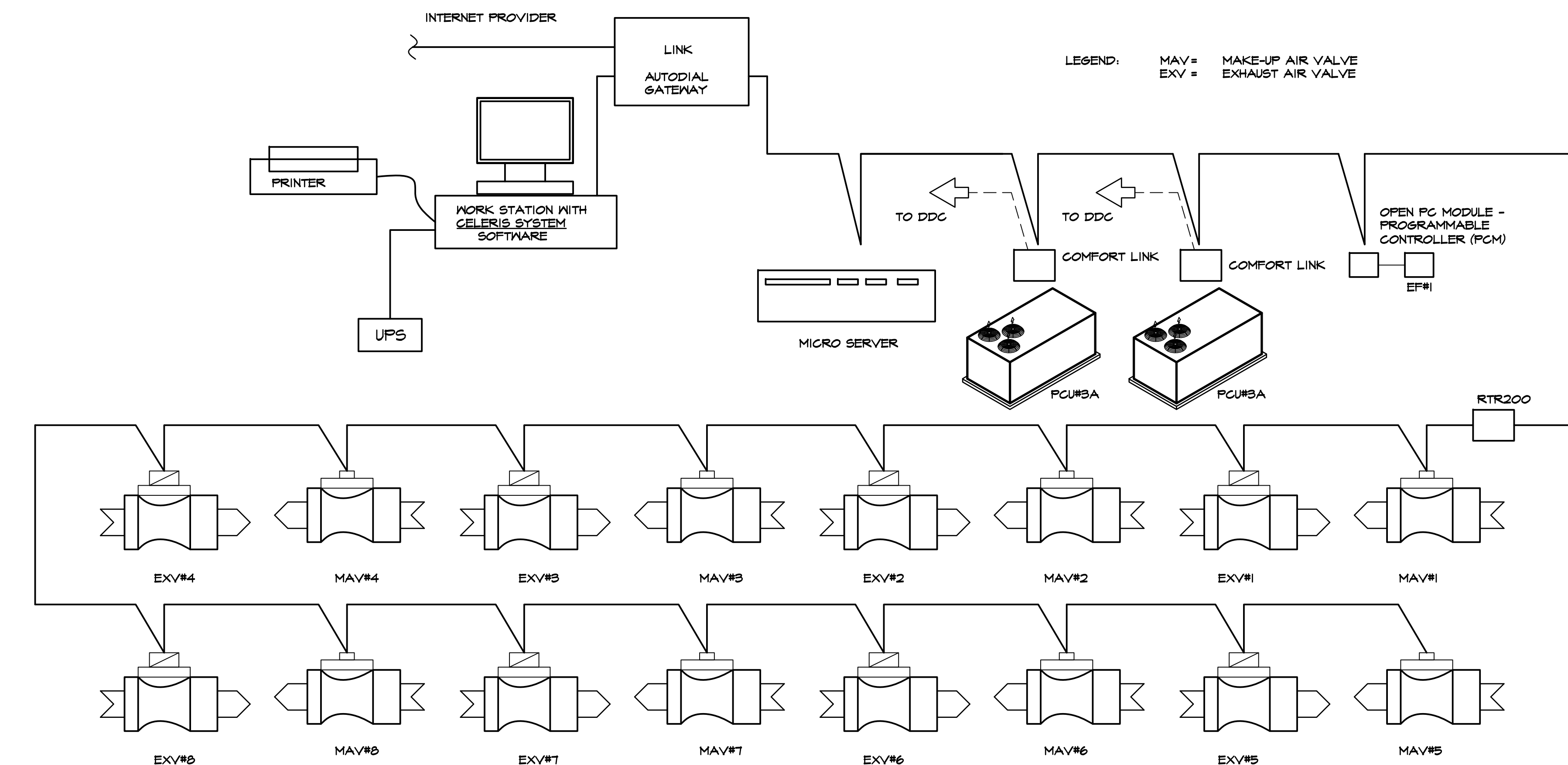
Designed: RPS
Drawn: VSA/RPS
Checked: CSV
Supv: CSV
Scale: AS SHOWN
Date: 12/19/12
Project No. File
Drawing No.

M2.1
Sheet No. of

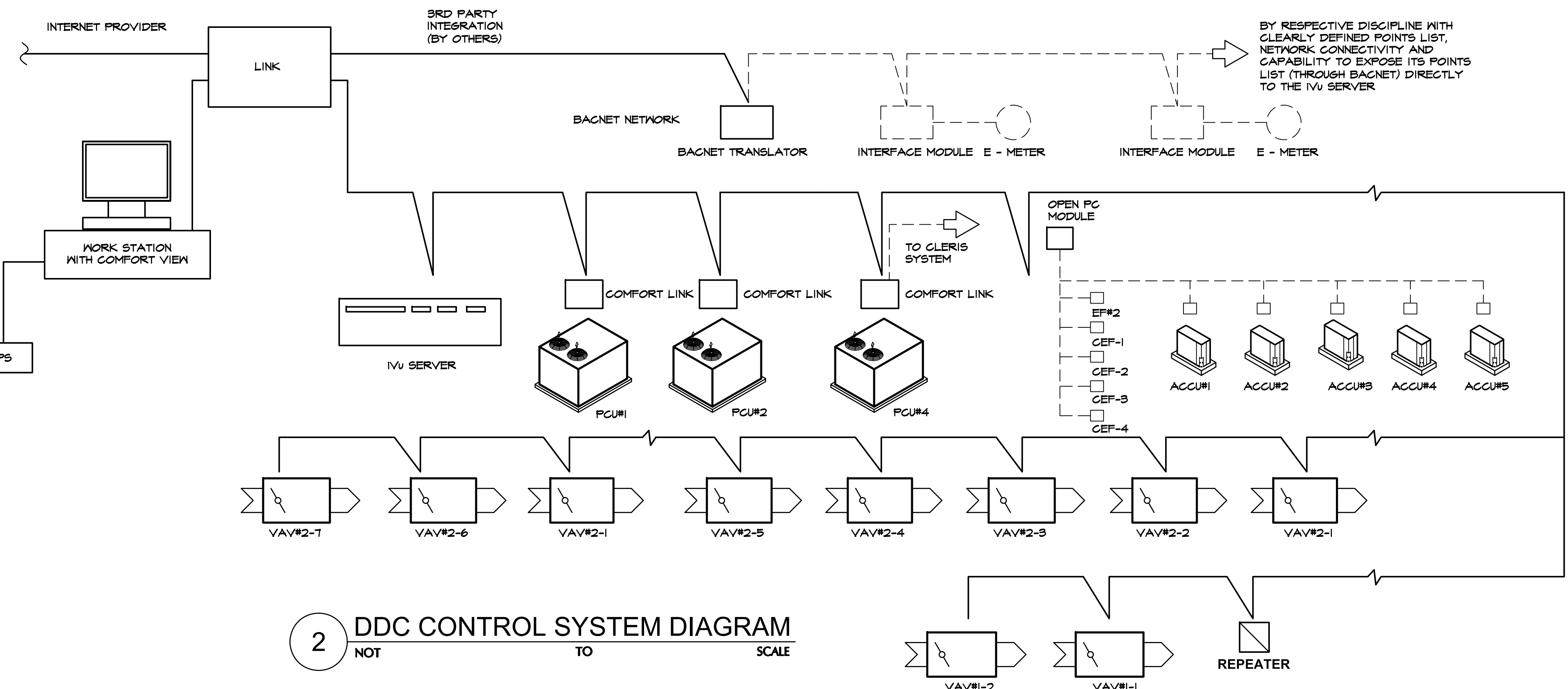


IF SHEET IS LESS THAN 24" X 36"
REDUCED PRINT - USE GRAPHIC SCALES

M3.1



1 LABORATORY ENVIRONMENTAL CONTROL SYSTEM DIAGRAM
NOT TO SCALE



2 DDC CONTROL SYSTEM DIAGRAM
NOT TO SCALE

LABORATORY ENVIROMENTAL CONTROL SYSTEM (LECS) OPERATION

- SUPPLY AIR TEMPERATURE LEAVING PACKAGE COOLING UNIT (PCU) #3A WILL BE MAINTAINED AT $55 \pm 2^\circ\text{F}$ BY THE AIR CONDITIONING AND VENTILATION DIRECT DIGITAL CONTROL (DDC) SYSTEM. SEE M2.3 A TEMPERATURE SENSOR AT THE DISCHARGE DUCT WILL PROVIDE INPUT TO THE DDC SYSTEM WHICH IN TURN WILL MODULATE THE COMPRESSOR COOLING CAPACITY.
- DISCHARGE STATIC PRESSURE OF PCU#3A WILL BE MAINTAINED BY THE DDC SYSTEM AT $2.5"$ WATER GAGE. A STATIC PRESSURE SENSOR, INSTALLED AT 75% OF THE MAIN DUCT LENGTH FROM THE PACKAGE COOLING UNIT WILL PROVIDE INPUT TO THE DDC SYSTEM WHICH IN TURN MODULATE SUPPLY FAN SPEED THROUGH THE VARIABLE FREQUENCY DRIVE (VFD).
- PROVIDE EACH ROOM WITH PRESSURE INDEPENDENT, VENTURI TYPE MAKE-UP AND EXHAUST AIR CONTROL VALVES. THE MICROPROCESSOR BASED LABORATORY ENVIROMENTAL CONTROL SYSTEM SHALL MODULATE MAKE-UP AND EXHAUST AIR VALVES TO MAINTAIN PROPER ROOM PRESSURES.
- AT ROOMS WITHOUT FUME HOODS, AIR FLOW WILL BE GOVERNED BY THE SUPPLY AIR QUANTITIES REQUIRED FOR COOLING. ROOM TEMPERATURE SENSORS WILL PROVIDE INPUT TO THE LECS WHICH WILL MODULATE THE MAKE-UP AIR VALVES TO MAINTAIN DESIGN ROOM TEMPERATURE AT $75 \pm 2^\circ\text{F}$. EXHAUST AIR VALVES WILL BE PROGRAMMED TO EXHAUST MAKE-UP AIR $\text{CFM} + 100$ CFM . 100 CFM MAKE-UP AIR WILL COME FROM THE ADJACENT CORRIDOR THROUGH DOOR CRACKS. PROVIDE NEUTRALIZERS AT BOTH MAKE-UP AND EXHAUST AIR VALVES.
- AT ROOMS WITH FUME HOODS, AIR FLOW WILL BE GOVERNED BY THE EXHAUST AIR QUANTITIES. MAKE-UP AIR CFM WILL BE EQUAL TO EXHAUST CFM MINUS 100 CFM . 100 CFM OF MAKE-UP AIR WILL COME FROM THE ADJACENT CORRIDOR THROUGH DOOR CRACKS. MAKE-UP AIR WILL BE MORE THAN THE AMOUNT REQUIRED FOR COOLING. PROVIDE ELECTRIC REHEAT COILS TO MAINTAIN ROOM TEMPERATURE AT $72 \pm 2^\circ\text{F}$. PROVIDE NEUTRALIZERS AT MAKE-UP AIR VALVES.
- LECS SHALL MODULATE CORRIDOR MAKE-UP AIR VALVES TO MAINTAIN SUPPLY AIR QUANTITY EQUAL TO THE TOTAL OF MAKE-UP AIR CFM FROM THE CORRIDOR. CFM TO THE CORRIDOR WILL BE MORE THAN THAT WHAT IS REQUIRED FOR COOLING. PROVIDE ELECTRIC REHEAT COIL TO MAINTAIN ROOM TEMPERATURE AT $72 \pm 2^\circ\text{F}$. PROVIDE NEUTRALIZERS AT SUPPLY AGV'S.
- LECS SHALL OPERATE THE TRISTACK EXHAUST SYSTEM TO TURN ON AND OFF STROBIC FANS TO PROVIDE REQUIRED CFM AND MAINTAIN PROPER DISCHARGE VELOCITY. PROVIDE BACNET/ETHERNET CONNECTIONS TO PROPERLY COMMUNICATE WITH THE TRISTACK CONTROL SYSTEM AND WITH THE A/C AND VENTILATION DIRECT DIGITAL CONTROL (DDC) SYSTEM.
- PROVIDE ALL ROOMS WITH ACTIVE PRESSURE MONITOR (APM) AND LOCAL DISPLAY UNITS MOUNTED OUTSIDE EACH ROOM, NEXT TO THE ENTRY DOORS.
- PROVIDE ELECTRONIC DEVICES WITH PROPERLY SIZED POWER SUPPLIES.
- ALL COMPONENTS OF THE LABORATORY ENVIROMENTAL CONTROL SYSTEM SHALL BE PRODUCTS OF PHOENIX CONTROLS CORPORATION OR APPROVED EQUAL.

NOTES:

- PROVIDE ADDITIONAL ROUTER AS REQUIRED
- LECS INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S PUBLISHED INSTRUCTIONS.

REVISIONS		
No.	Description	Date

Taniguchi Ruth Makio Architects
100 Cliff Business Center, P.O. Box EA, Agaña, GU 96910
Tel.: (671) 475-8772 • Fax: (671) 472-3381

Architecture
Planning
Interior Design

MECHANICAL, INC.
565-A NORTH MARINE DRIVE,
TAMUNING, GUAM 96911
P.O. BOX 23156, GME, GUAM 96921
TEL: (671) 646-1558/5363
FAX: (671) 646-8606
e-mail: engineer@emc2mechanical.com

BID DOCUMENTS

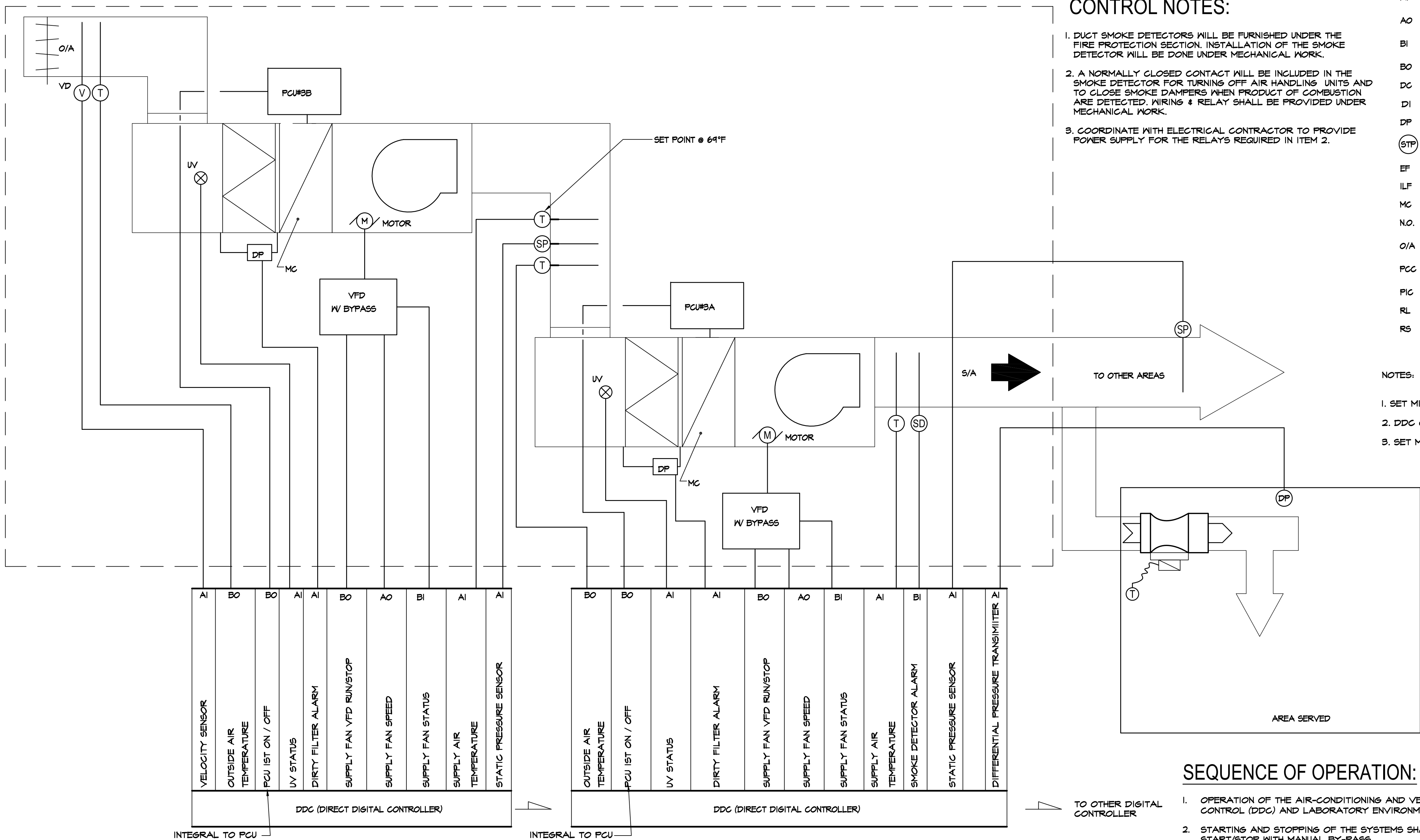
I HEREBY CERTIFY THAT THE SEAL WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION

Project:
GUAM COMMUNITY COLLEGE
FORENSIC DNA LAB

Title:
LABORATORY ENVIRONMENTAL CONTROL SYSTEM DIAGRAM, DDC CONTROL SYSTEM DIAGRAM

Designed: RPS
Drawn: VSA/RPS
Checked: CGV
Supv: CGV
Scale: AS SHOWN
Date: 12/19/12
Project No. File
Drawing No.

M3.2
Sheet No. of



CONTROL NOTES:

- DUCT SMOKE DETECTORS WILL BE FURNISHED UNDER THE FIRE PROTECTION SECTION. INSTALLATION OF THE SMOKE DETECTOR WILL BE DONE UNDER MECHANICAL WORK.
- A NORMALLY CLOSED CONTACT WILL BE INCLUDED IN THE SMOKE DETECTOR FOR TURNING OFF AIR HANDLING UNITS AND TO CLOSE SMOKE DAMPERS WHEN PRODUCT OF COMBUSTION ARE DETECTED. WIRING & RELAY SHALL BE PROVIDED UNDER MECHANICAL WORK.
- COORDINATE WITH ELECTRICAL CONTRACTOR TO PROVIDE POWER SUPPLY FOR THE RELAYS REQUIRED IN ITEM 2.

LEGEND & SYMBOLS

AI	ANALOG INPUT	R/A	RETURN AIR
AO	ANALOG OUTPUT	S/A	SUPPLY AIR
BI	BINARY INPUT	(S)	SPRING RETURN
BO	BINARY OUTPUT	UV	UV EMITTER
DC	DIGITAL CONTROL	VFD	VARIABLE FREQUENCY DRIVE
DI	DIGITAL INPUT	(CO ₂)	CARBON DIOXIDE SENSORS
DP	DIFFERENTIAL PRESSURE SWITCH	(MD)	MOTORIZED DAMPER
(STP)	EMERGENCY STOP BUTTON	(MV)	MOTORIZED VALVE
EF	EXHAUST FAN	(R)	CONTROL RELAY
ILF	IN-LINE FAN	(SD)	SMOKE DETECTOR
MC	MAIN COIL	(SP)	STATIC PRESSURE SENSOR
N.O.	NORMALLY OPEN	(T)	TEMPERATURE SENSOR
O/A	OUTSIDE AIR	(V)	VELOCITY SENSOR
PCC	PRE-COOLING COIL		
PIC	PRODUCT INTEGRATED CONTROL		
RL	REFRIGERANT LIQUID		
RS	REFRIGERANT SUCTION		

NOTES:

- SET MINIMUM MAV OPENINGS AT THE DESIGN CFM.
- DDC CONTROL SHALL BE OPEN PROTOCOL / NON - PROPRIETARY
- SET MINIMUM CFM FLOW OF PCU#3A & PCU#3B AT DESIGN CFM

OPERATION OF AIR-CONDITIONING & VENTILATION SYSTEM

- OPERATION OF AIR CONDITIONING AND VENTILATION SYSTEM WILL BE PROGRAMMED THROUGH THE DIRECT DIGITAL CONTROL (DDC) SYSTEM AND LABORATORY ENVIRONMENTAL CONTROL (LEC) SYSTEM
- MONITORING OF PACKAGE COOLING UNIT SHALL BE PROGRAMMED THROUGH THE DDC SYSTEM. PROVIDE CONTROLLER AT PCU#3A TO INTERLOCK WITH PCU#3B.

SEQUENCE OF OPERATION:

- OPERATION OF THE AIR-CONDITIONING AND VENTILATION SHALL BE PROGRAMMED THROUGH THE DIRECT DIGITAL CONTROL (DDC) AND LABORATORY ENVIRONMENTAL CONTROLS (LEC) SYSTEM.
- STARTING AND STOPPING OF THE SYSTEMS SHALL BE THROUGH THE DDC SYSTEM'S ENERGY SAVINGS PROGRAMMED START/STOP WITH MANUAL BY-PASS.
- PACKAGE COOLING UNIT (PCU#3B) FAN SHALL TURN ON AND OFF WITH THE PCU#3A. AT START UP PCU#3B'S VARIABLE FREQUENCY DRIVE (VFD) SHALL BE SET TO PROVIDE DESIGN OUTSIDE AIR QUANTITY. SMOKE DAMPER SHALL CLOSE WHEN PRODUCT OF COMBUSTION OCCURS.
- ZONE TEMPERATURE SENSORS CONTROLLING MAKE-UP AIR VALVES (MAV) SHALL BE SET TO MAINTAIN ZONE TEMPERATURES AT 75 °F ± 2°F.
- SUPPLY DUCT TEMPERATURE SENSORS CONTROLLING PCU#3A & PCU#3B SHALL BE SET TO MAINTAIN SUPPLY AIR TEMPERATURE AT 55 °F ± 2 °F & 64° F ± 2°F RESPECTIVELY.
- STATIC PRESSURE SENSOR CONTROLLING PCU#3A VFD SHALL BE SET TO MAINTAIN MINIMUM REQUIRED STATIC PRESSURE AT INLETS OF MAV VALVES.
- TOILET EXHAUST FANS SHALL TURN ON WHEN AT LEAST ONE LIGHT SWITCH IN ANY OF THE AREAS SERVED BY RESPECTED EXHAUST FAN IS ON.
- EF#1 BE PROGRAMMED THROUGH THE LEC SYSTEM.

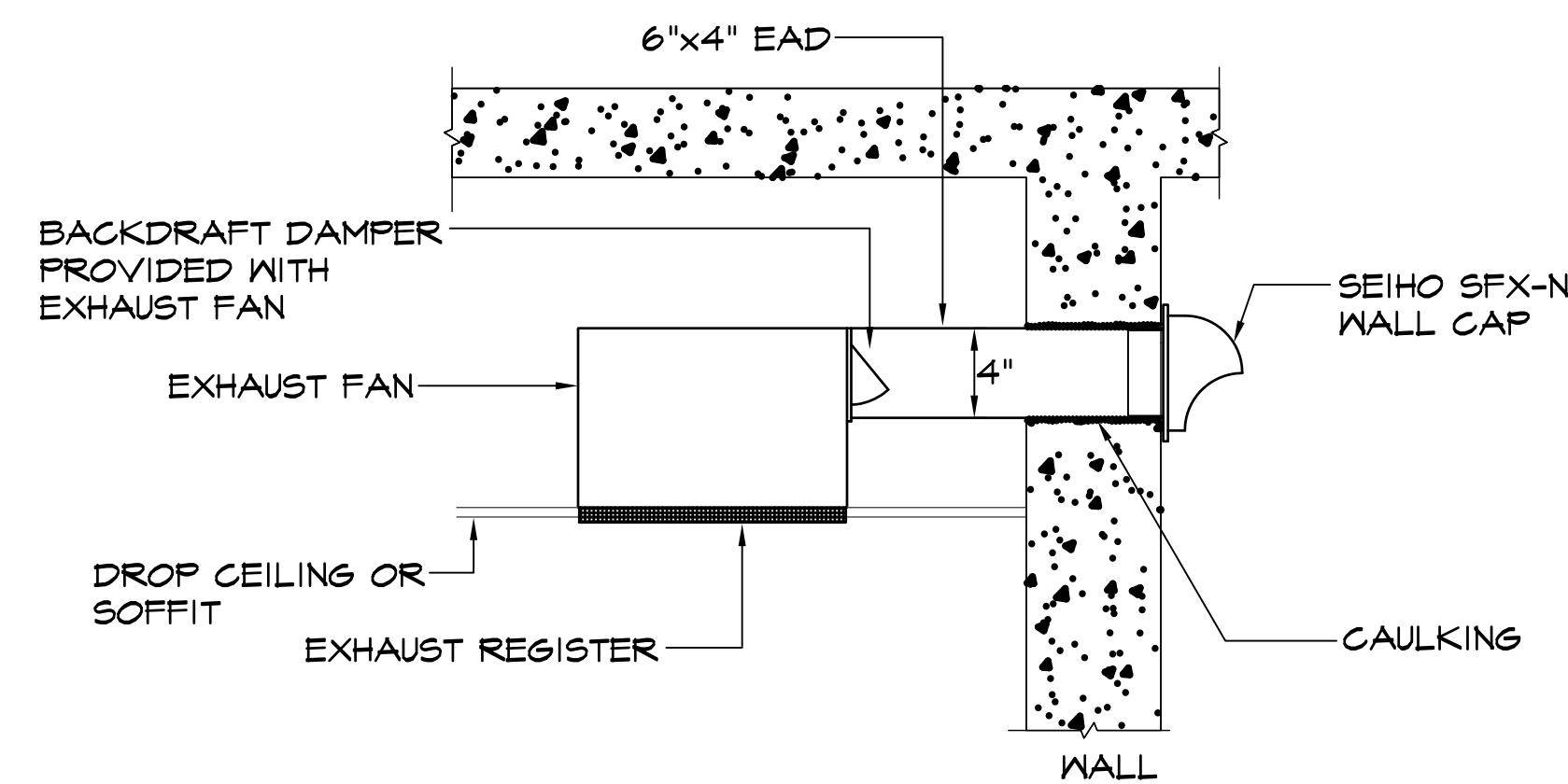
DDC POINTS LIST

ITEM	DESCRIPTION	ANALOG		BINARY		SOFTWARE PROGRAM					
		INPUT		OUTPUT							
		PRE-COOLED AIR TEMPERATURE	SUPPLY AIR TEMPERATURE	DUCT STATIC PRESSURE	DIFFERENTIAL PRESSURE TRANSMITTER	ROOM TEMPERATURE SENSOR	DIRTY FILTER ALARM	UV STATUS	SUPPLY FAN SPEED	SUPPLY FAN VFD FAULT	SUPPLY FAN VFD STATUS
PCU 3A		●	●	●	●	●	●	●	●	●	●
		●	●	●	●	●	●	●	●	●	●
		●	●	●	●	●	●	●	●	●	●
		●	●	●	●	●	●	●	●	●	●
		●	●	●	●	●	●	●	●	●	●
		●	●	●	●	●	●	●	●	●	●
		●	●	●	●	●	●	●	●	●	●
		●	●	●	●	●	●	●	●	●	●
		●	●	●	●	●	●	●	●	●	●
		●	●	●	●	●	●	●	●	●	●
		●	●	●	●	●	●	●	●	●	●
		●	●	●	●	●	●	●	●	●	●

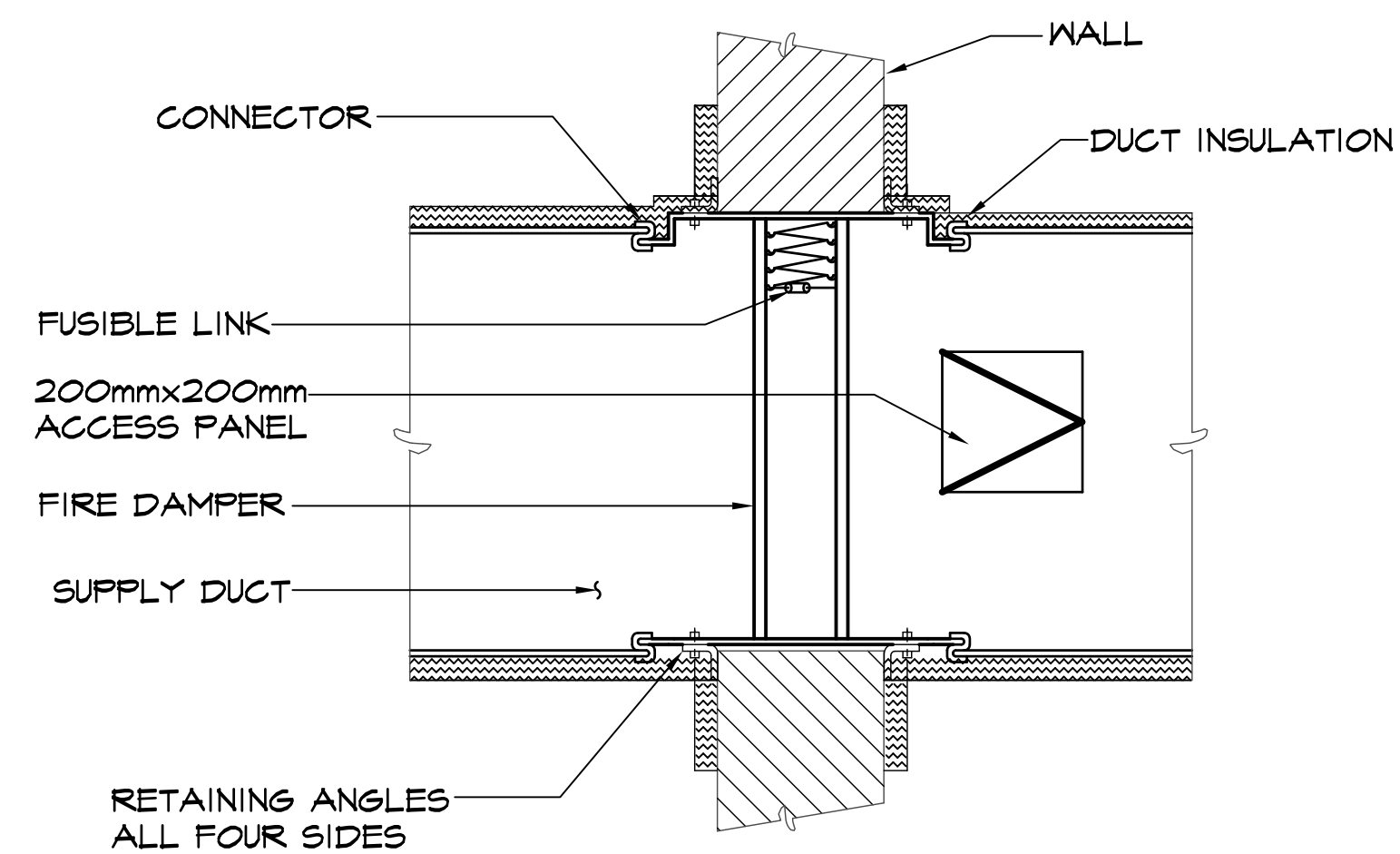
1 PCU 3A & 3B CONTROL / MONITOR SYSTEM DIAGRAM

ITEM	DESCRIPTION	ANALOG		BINARY		SOFTWARE PROGRAM					
		INPUT		OUTPUT							
		OUTSIDE AIR TEMPERATURE	SUPPLY AIR TEMPERATURE	DUCT STATIC PRESSURE	DIRTY FILTER ALARM	UV STATUS	SUPPLY FAN SPEED	SUPPLY FAN VFD FAULT	SUPPLY FAN VFD STATUS	SUPPLY FAN VFD STOP/START	PCU COOLING
PCU #3B		●	●	●	●	●	●	●	●	●	●
		●	●	●	●	●	●	●	●	●	●
		●	●	●	●	●	●	●	●	●	●
		●	●	●	●	●	●	●	●	●	●
		●	●	●	●	●	●	●	●	●	●
		●	●	●	●	●	●	●	●	●	●
		●	●	●	●	●	●	●	●	●	●
		●	●	●	●	●	●	●	●	●	●
		●	●	●	●	●	●	●	●	●	●
		●	●	●	●	●	●	●	●	●	●
		●	●	●	●	●	●	●	●	●	●
		●	●	●	●	●	●	●	●	●	●

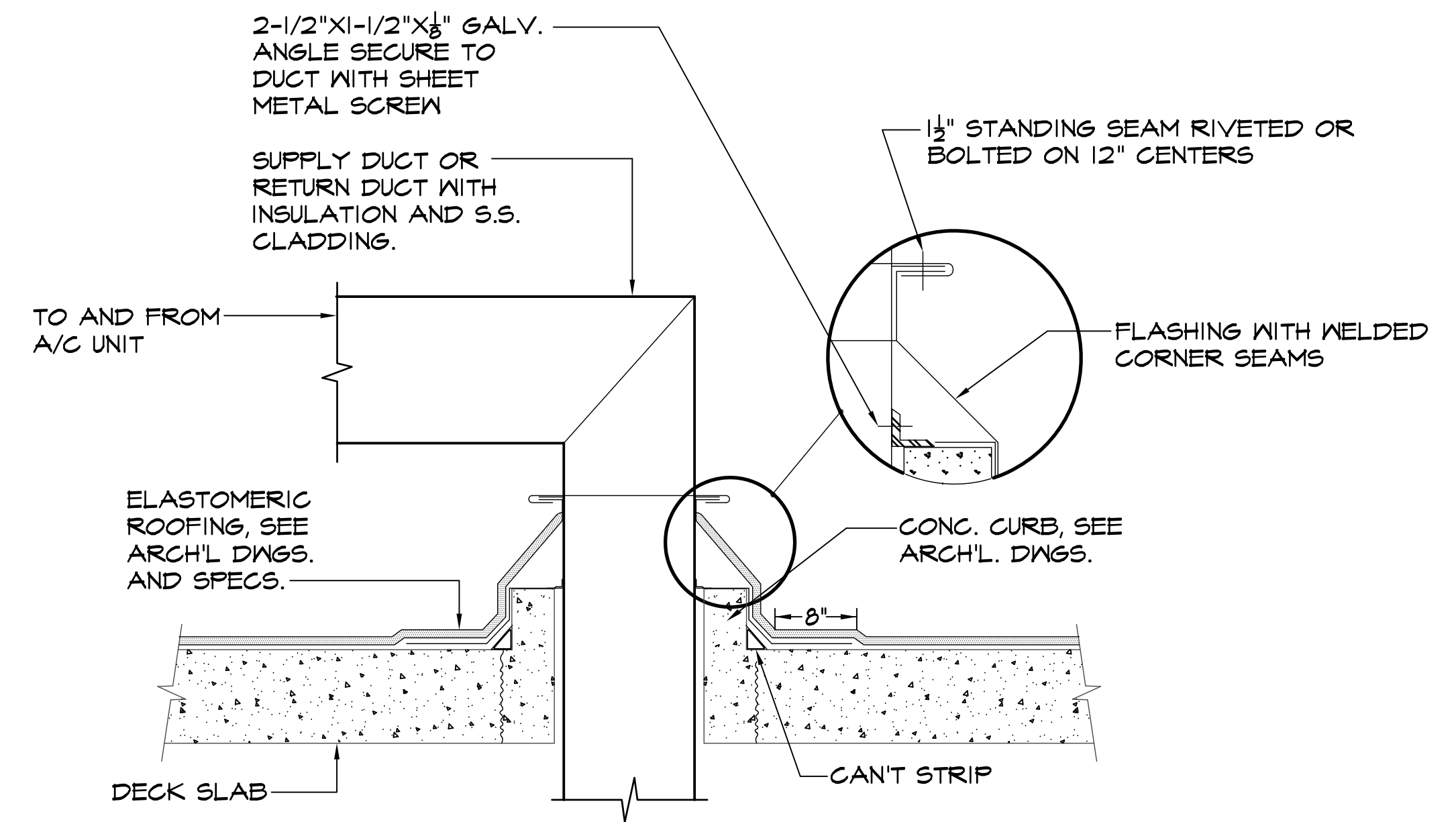
Sheet No. _____ of _____



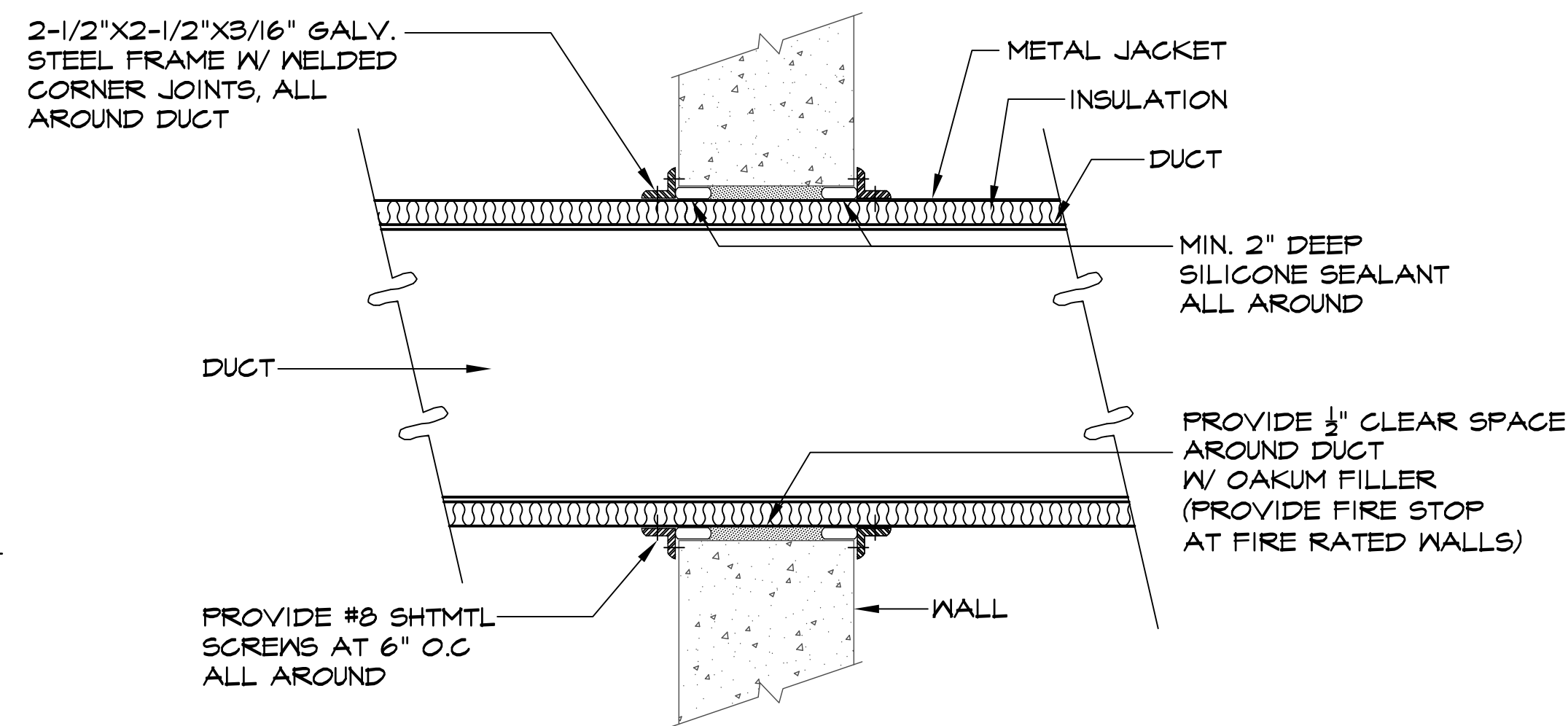
1 EXHAUST FAN DETAIL
NOT TO SCALE



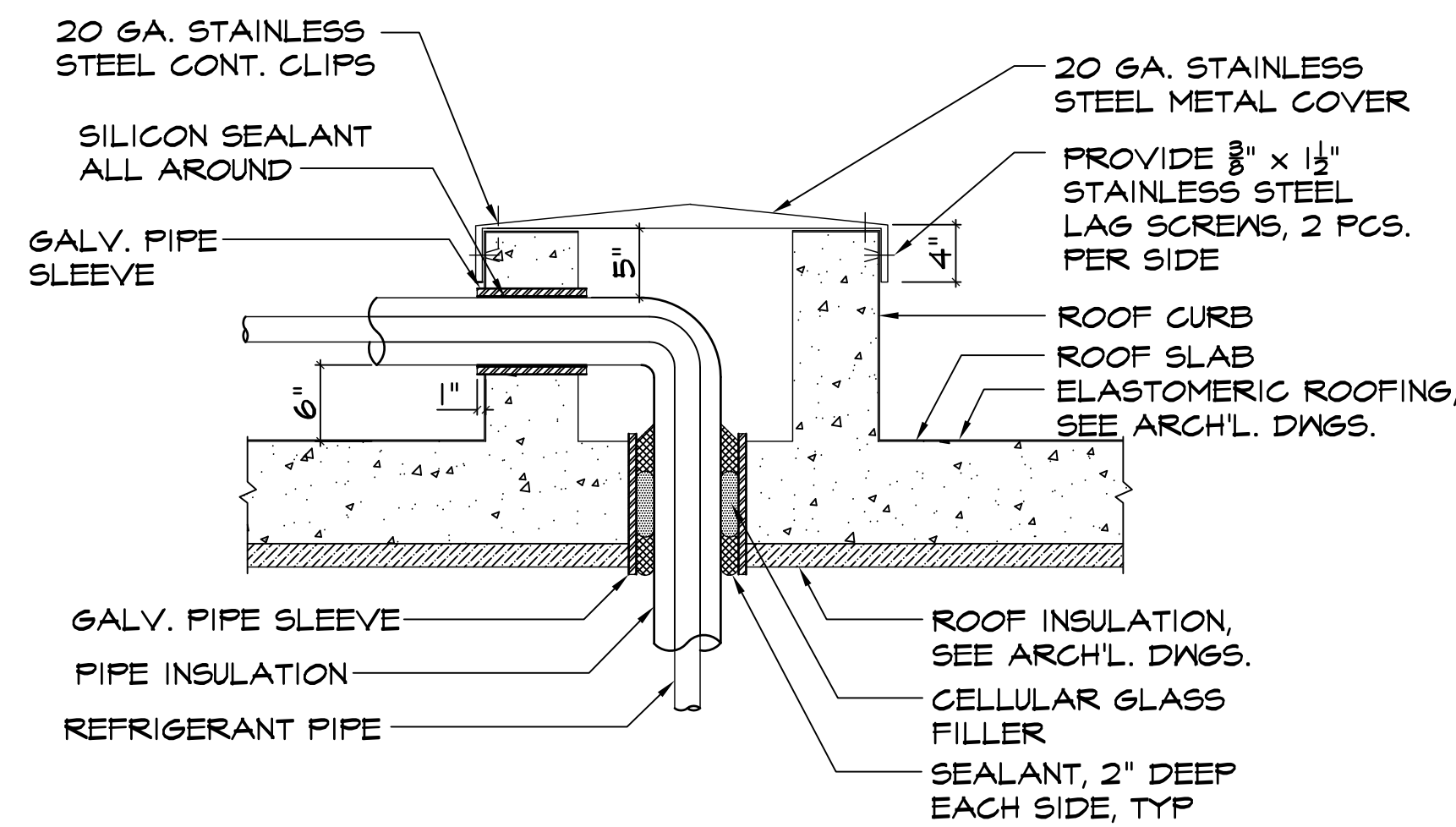
2 FIRE DAMPER INSTALLATION DETAIL
NOT TO SCALE



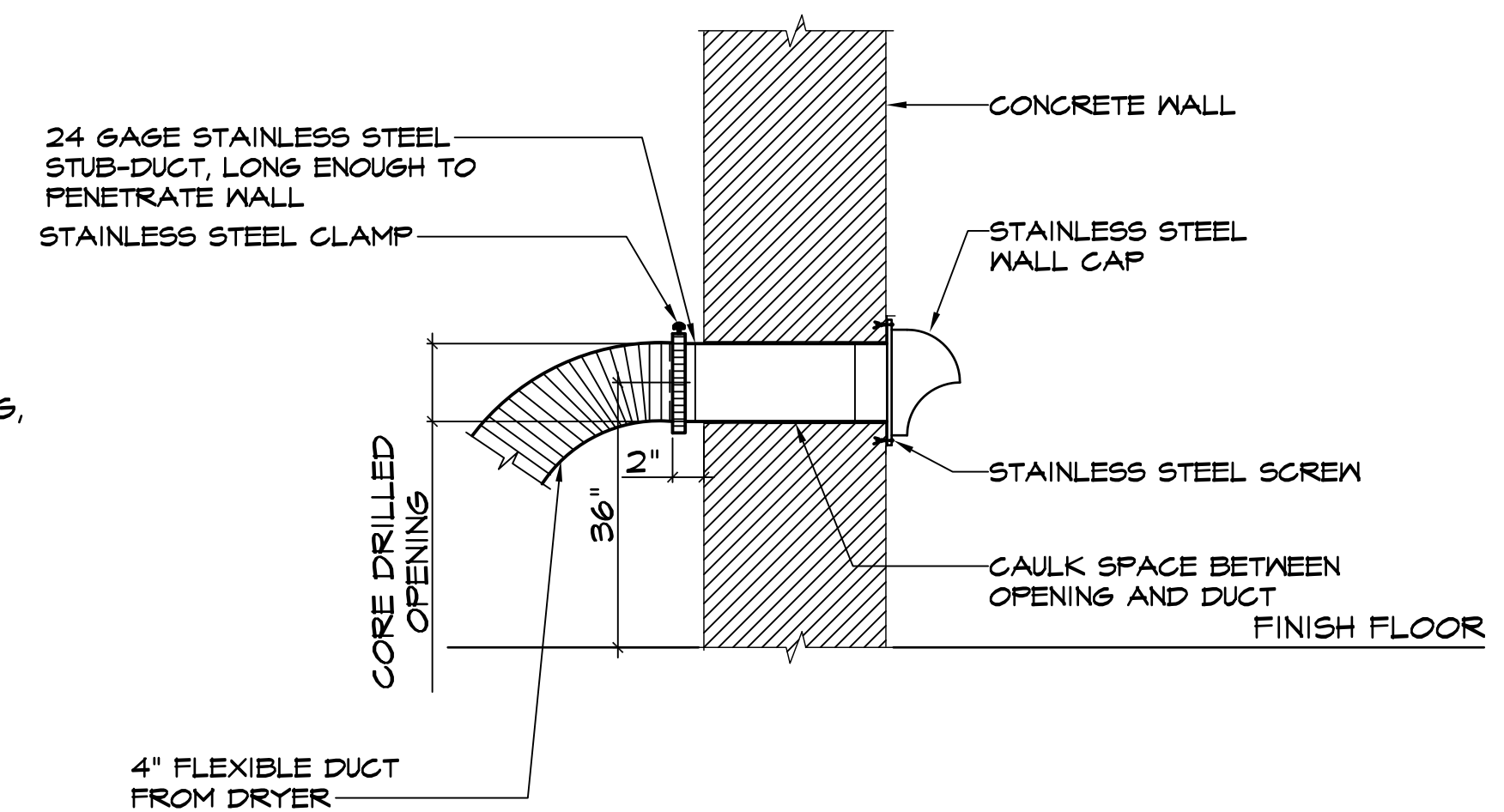
3 DUCT THRU ROOF DETAIL
NOT TO SCALE



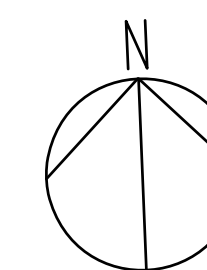
4 DUCT THRU WALL DETAIL
NOT TO SCALE



5 REFRIGERANT PIPE THRU ROOF
NOT TO SCALE



6 DRYER EXHAUST WALLCAP DETAIL
NOT TO SCALE



IF SHEET IS LESS THAN 24" x 36"
REDUCED PRINT - USE GRAPHIC SCALES

REVISIONS		
No.	Description	Date

TRMA

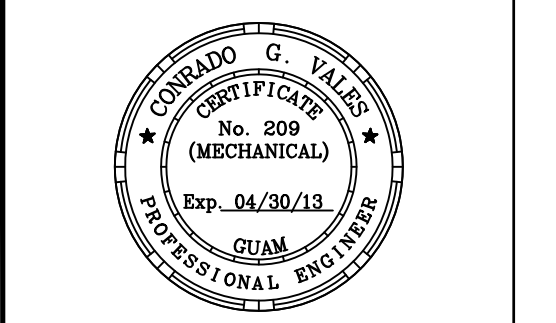
Taniguchi Ruth Makio Architects
100 Cliff Business Center, P.O. Box EA, Agaña, GU 96910
Tel.: (671) 475-8772 • Fax: (671) 472-3381

Architecture
Planning
Interior Design

emc2

MECHANICAL, INC.
565-A NORTH MARINE DRIVE,
TAMUNING, GUAM 96911
P.O. BOX 23156, GMF, GUAM 96921
TEL: (671) 646-1558/5363
FAX: (671) 646-8606
e-mail: engineer@emc2mechanical.com

BID
DOCUMENTS

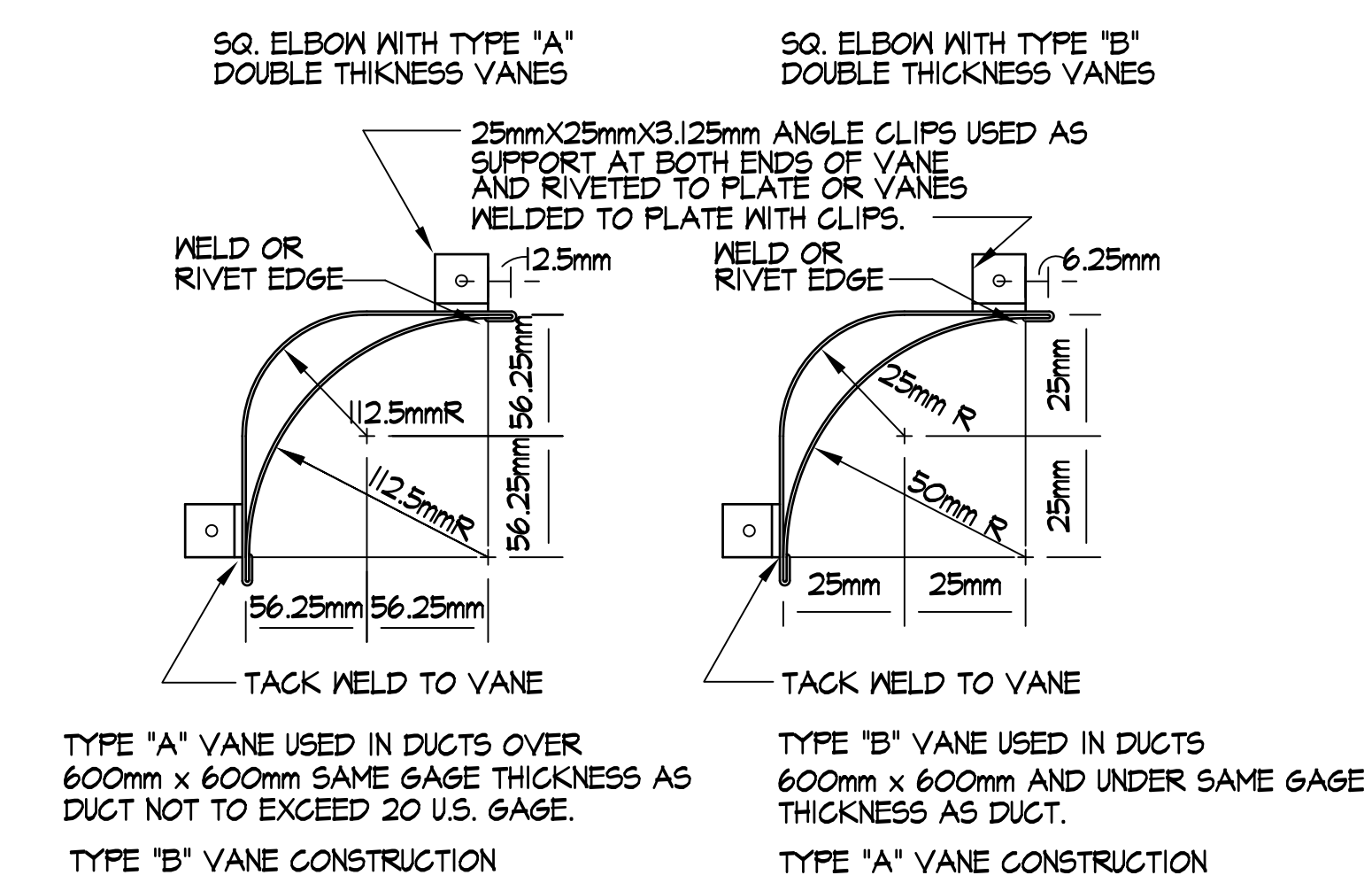


Project:
GUAM COMMUNITY
COLLEGE
FORENSIC DNA LAB

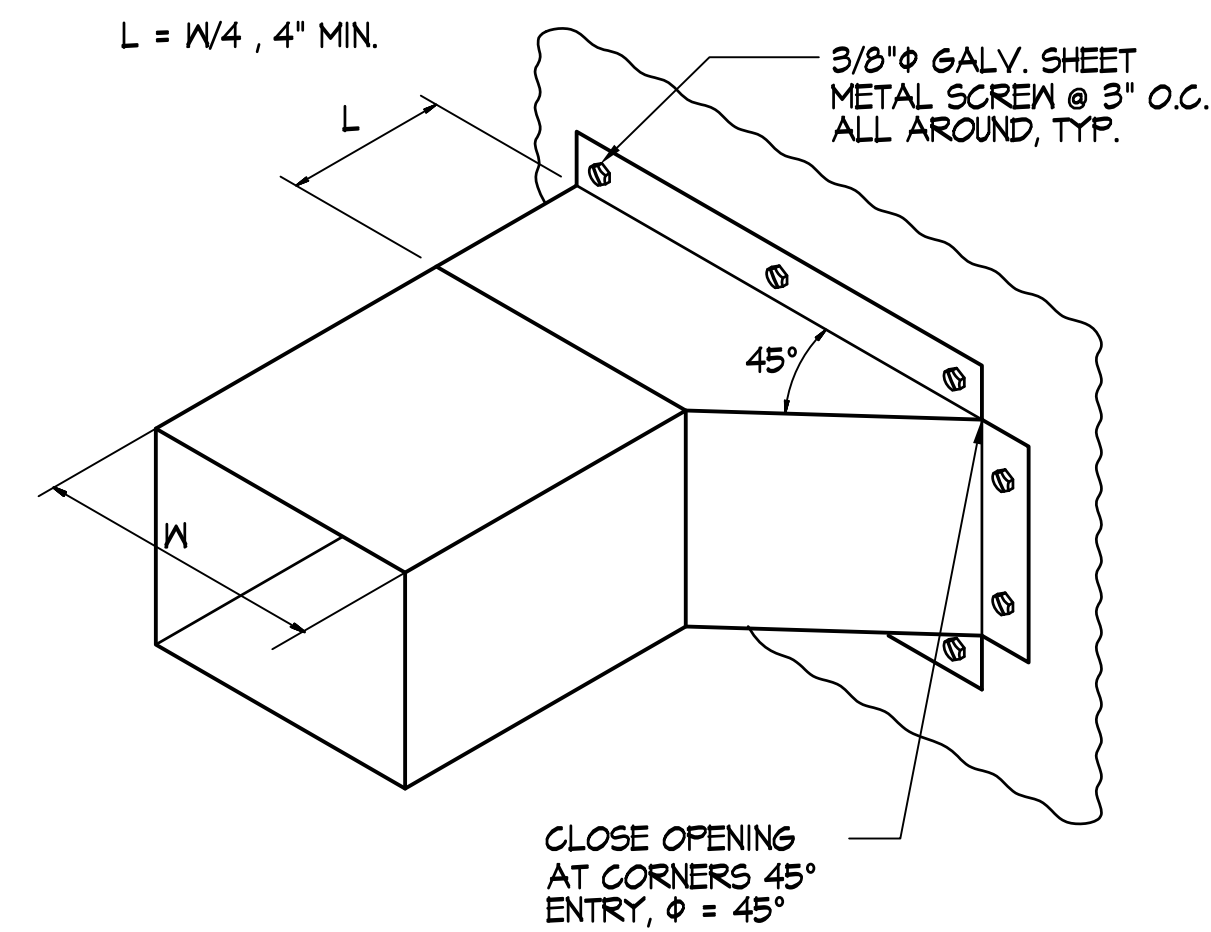
Title:
DETAILS

Designed: RPS
Drawn: VSA/RPS
Checked: CSV
Supv: CSV
Scale: AS SHOWN
Date: 12/19/12
Project No. File
Drawing No.

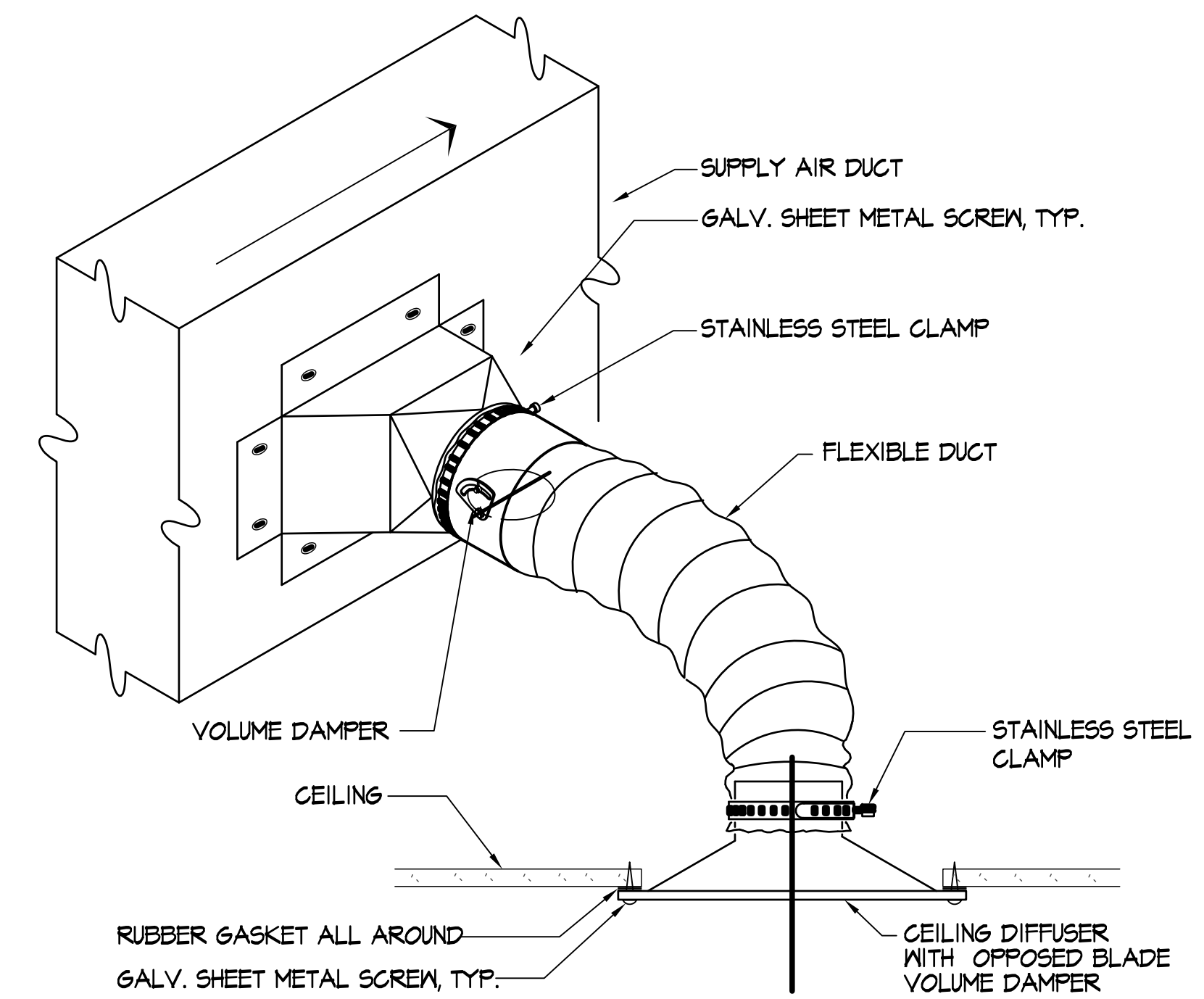
M4.1
Sheet No. of



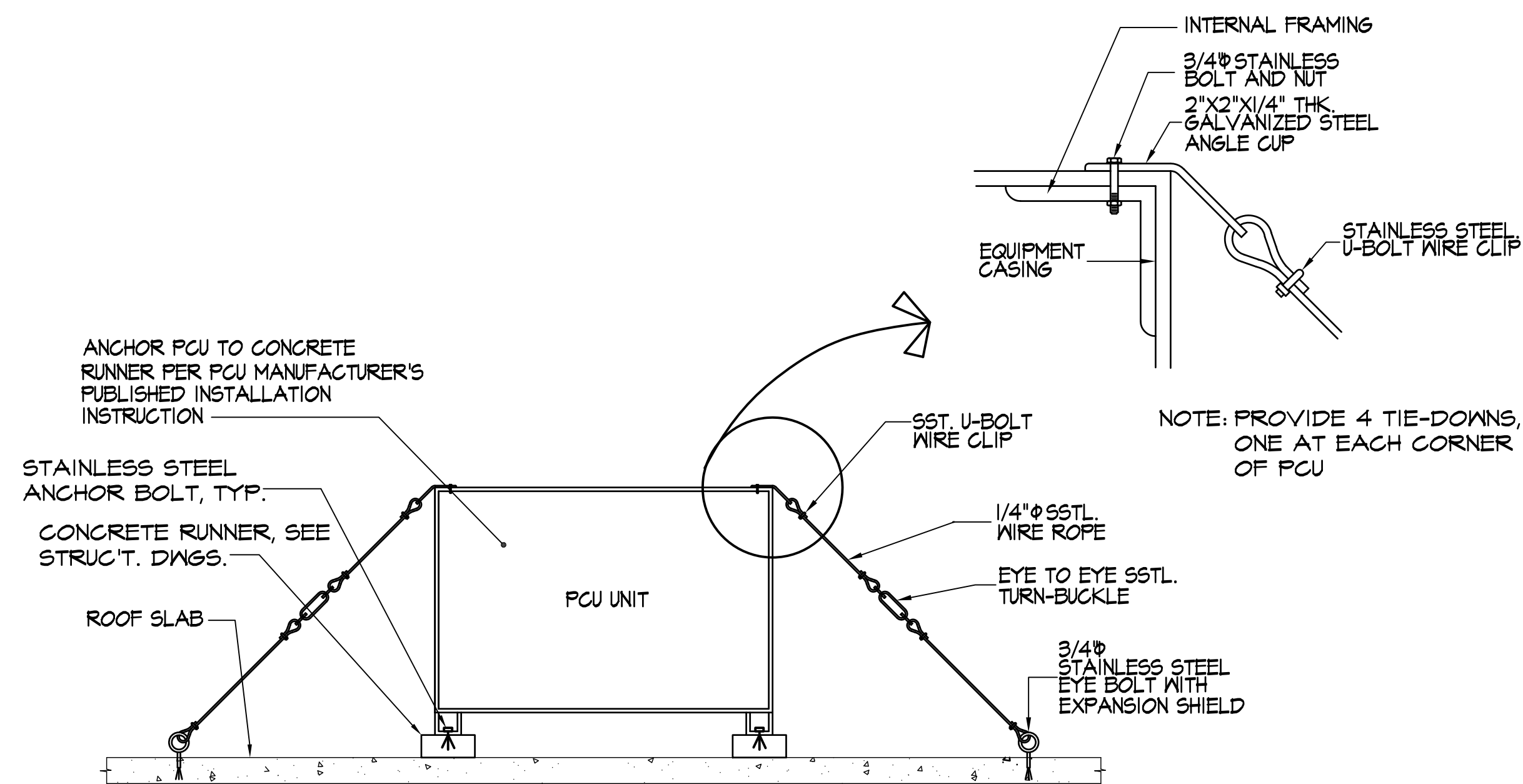
1 TYPICAL TURNING VANES DETAIL



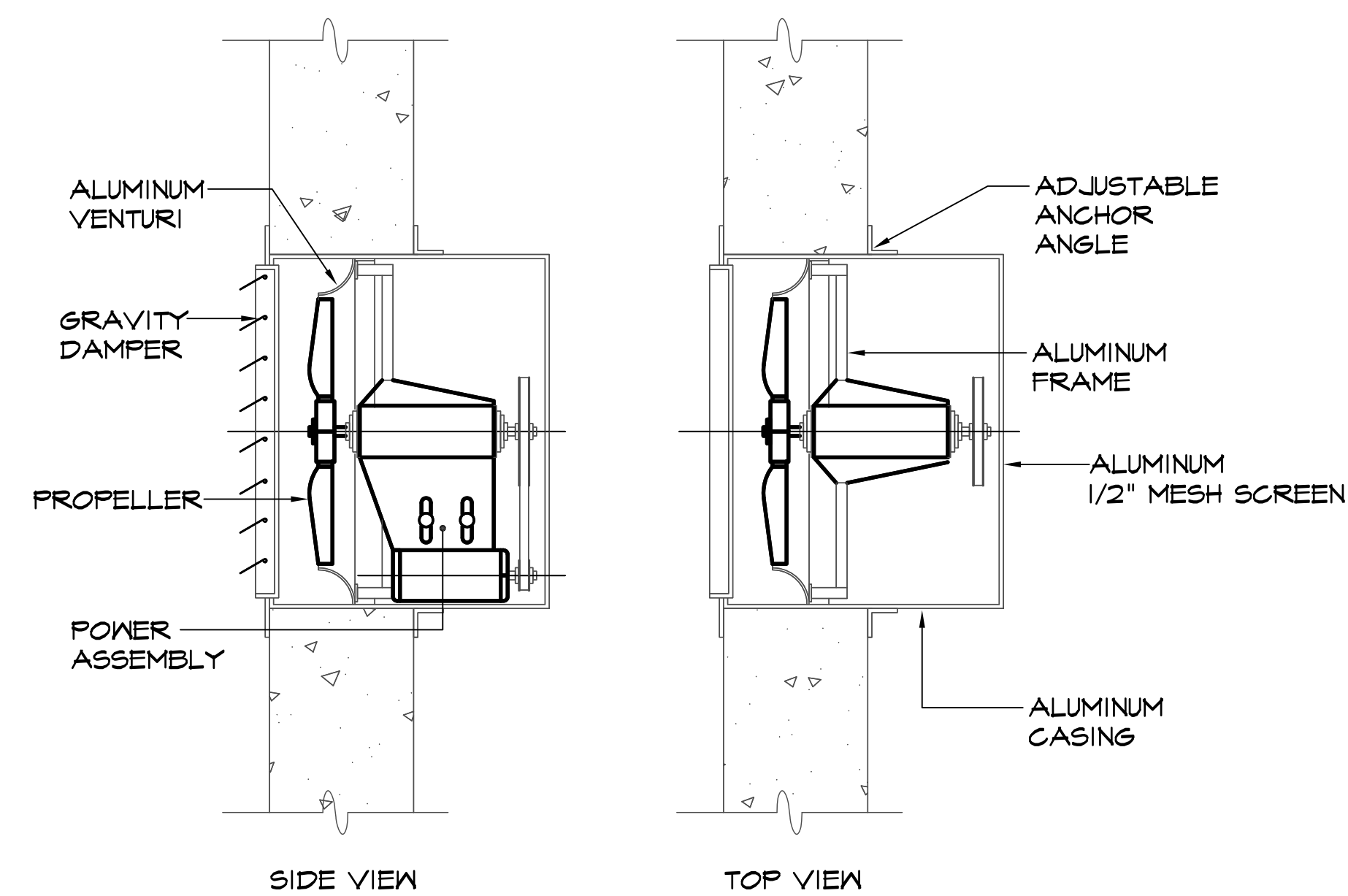
2 RECTANGULAR BRANCH DUCT TAKE-OFF DETAIL



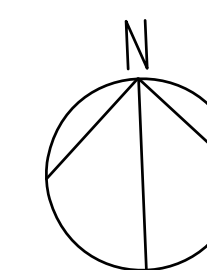
3 CEILING DIFFUSER INSTALLATION DETAIL



4 PCU UNIT TIE-DOWN DETAIL



5 SIDEWALL EXHAUST FAN
INSTALLATION DETAIL



IF SHEET IS LESS THAN 24" X 36"
REDUCED PRINT - USE GRAPHIC SCALES

[illegible]TRMA 

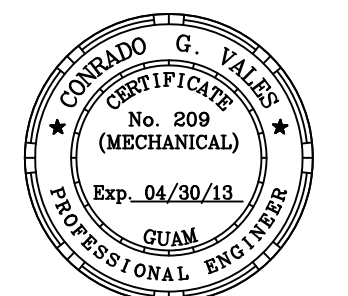
Taniguchi Ruth Makio Architects
100 Cliff Business Center, P.O. Box EA, Agana, GU 96910
Tel.: (671) 475-8772 • Fax.: (671) 472-3381

Architecture
Planning
Interior Design



MECHANICAL, INC.
565-A NORTH MARINE DRIVE,
TAMUNING, GUAM 96911
P.O. BOX 23156, GMF, GUAM 96921
TEL: (671)646-1558/5363
FAX: (671)646-8606
e-mail: engineer@cmc2mechanical.com

BID DOCUMENTS



I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED
BY ME OR UNDER MY DIRECT SUPERVISION

Project:

GUAM COMMUNITY

FORENSIC DNA LAB

Title:

DETAILS

Designed:

Drawn:

Checked:

Checked.

Supv: _____

Scale:

Date:

Project No.	
-------------	--

Drawing No.

Drawing No. 111

LM

IV

Sheet No. _____

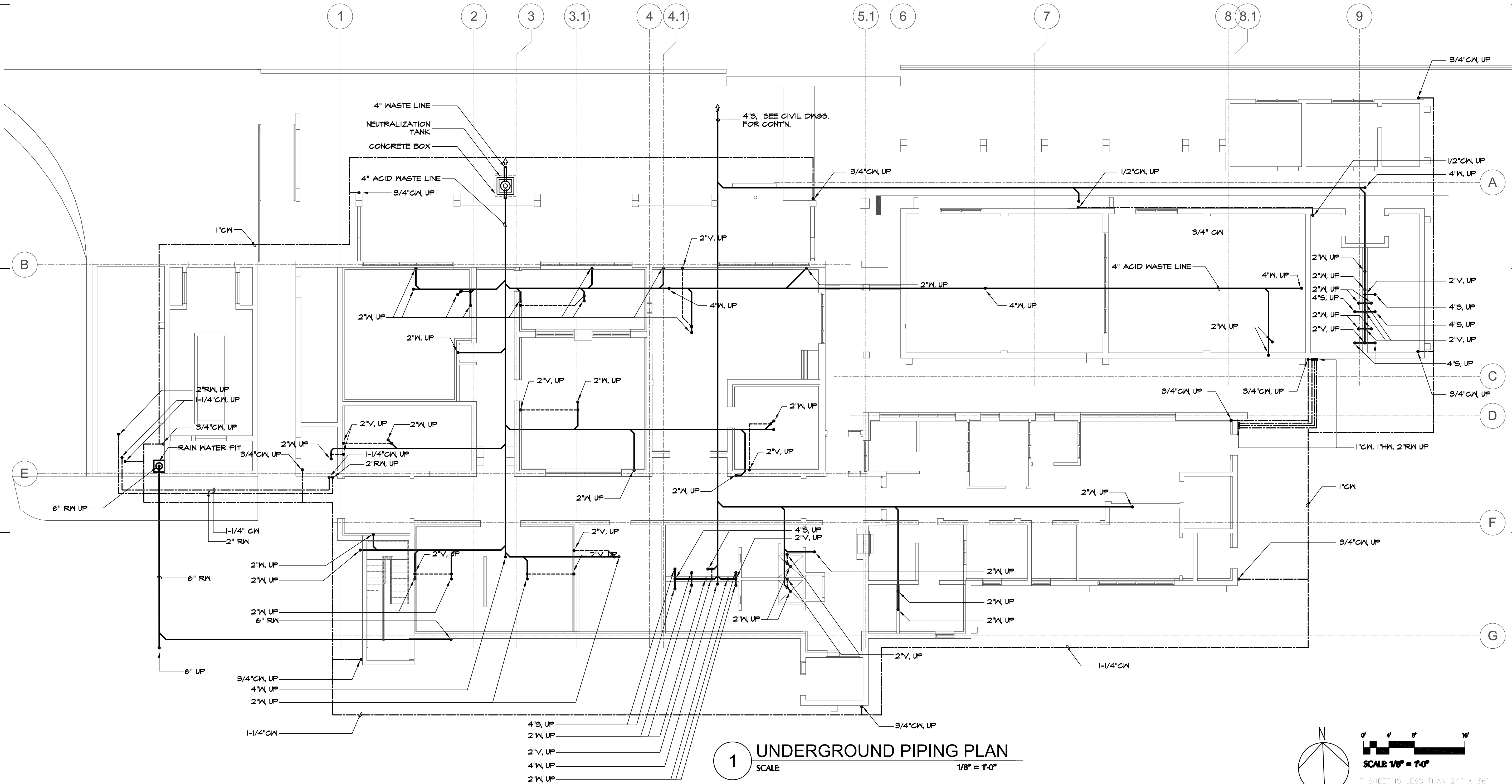
LEGEND:

SYMBOL	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION	ABBREVIATION	DESCRIPTION
		PIPE ELBOW DOWN	BT	BATHTUB	PTRV	PRESSURE-TEMPERATURE RELIEF VALVE
		PIPE ELBOW UP	BLDG	BUILDING		
		PIPE TEE DOWN	CONTN.	CONTINUATION	RPM	REVOLUTION PER MINUTE
	CW	COLD WATER LINE	DIA.	DIAMETER	RM	RAIN WATER
	HW	HOT WATER LINE	DN	DOWN	SHO	SHOWER
	S OR W	SOIL OR WASTE LINE	DWGS.	DRAWINGS	SK	SINK
	V	VENT LINE	EWL	ELECTRIC WATER HEATER	SSTL	STAINLESS STEEL
	BV	BALL VALVE	GAL	GALLON	STO.	STORAGE
	CV	CHECK VALVE	HZ	HERTZ	TYP.	TYPICAL
	AV	ANGLE VALVE	HB	HOSE BIBB	UR	URINAL
	FCO/YCO	FLOOR CLEANOUT / YARD CLEANOUT	HP	HORSEPOWER	V	VOLTS
	FD/SHO. D.	FLOOR DRAIN / SHOWER DRAIN	KW	KILOWATT	VTR	VENT THRU ROOF
	FUN. D.	FUNNEL DRAIN	LAV	LAVATORY	WC	WATER CLOSET
	HB	HOSE BIBB	PH	PHASE	WHA	WATER HAMMER ARRESTER
			PSI	POUNDS PER SQUARE INCH		

PLUMBING FIXTURE & EQUIPMENT SCHEDULE						
MARK	DESCRIPTIONS	WATER LINES		SOIL OR WASTE	VENT	FLUSH VALVE / FAUCET REMARKS
		CW	HW			
EWL	ELECTRIC WATER HEATER	3"	3"	-	-	-
FD	FLOOR DRAIN	-	-	2"	2"	-
HB	HOSE BIBB	1/2"	-	-	-	-
SK	SINK	1/2"	1/2"	2"	2"	1.5
LAV	LAVATORY	1/2"	1/2"	2"	2"	0.5
UR	URINAL	1"	-	2"	2"	(0.125)
WC-1	WATER CLOSET	1"	-	4"	2"	(1.1/0.8)
WC-2	WATER CLOSET (ADA)	1"	-	4"	2"	(1.1/0.8)

GEPA PLUMBING NOTES:

- CONTRACTOR MUST DISINFECT/CHLORINATE ALL POTABLE WATER PIPING SYSTEM PRIOR TO USE OF WATER FOR HUMAN CONSUMPTION OR TO OCCUPY THE BUILDING.
- DISINFECTION AND CHLORINATION MUST BE COORDINATED WITH GEPA STAFF. NOTIFY GEPA OF DISINFECTION AND CHLORINATION SCHEDULE AT LEAST 4 WORKING DAYS BEFORE DISINFECTION AND CHLORINATION DATE.
- SUBMIT BACTERIOLOGICAL AND LEAD ANALYTICAL TEST RESULT TO GEPA FOR EVALUATION.
- CHLORINATION AND DISINFECTION METHOD MUST COMPLY WITH ANWA C651-86 STANDARD.
- USE LEAD-FREE MATERIALS AND/OR SOLDER FLUX TO ALL POTABLE WATER PIPING SYSTEM.
- FAUCETS AND FIXTURE FITTINGS THAT SUPPLY DRINKING WATER FOR HUMAN INGESTION SHALL CONFORM TO THE REQUIREMENTS OF ANSI/NSF 61, SECTION 9.



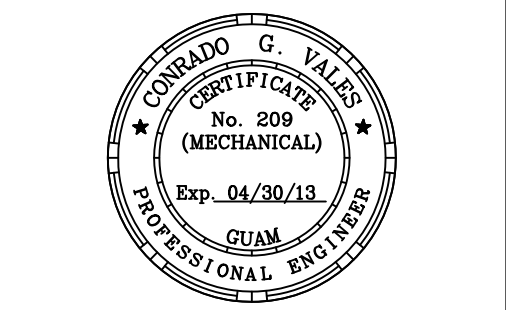
REVISIONS		
No.	Description	Date

TRMA
Taniguchi Ruth Makio Architects
100 Cliff Business Center, P.O. Box EA, Agaña, GU 96910
Tel.: (671) 475-8772 • Fax: (671) 472-3381

Architecture
Planning
Interior Design

emc2
MECHANICAL, INC.
565-A NORTH MARINE DRIVE,
TAMUNING, GUAM 96911
P.O. BOX 23156, GUMF, GUAM 96921
TEL: (671) 646-1558/5363
FAX: (671) 646-8606
e-mail: engineer@emc2mechanical.com

BID
DOCUMENTS

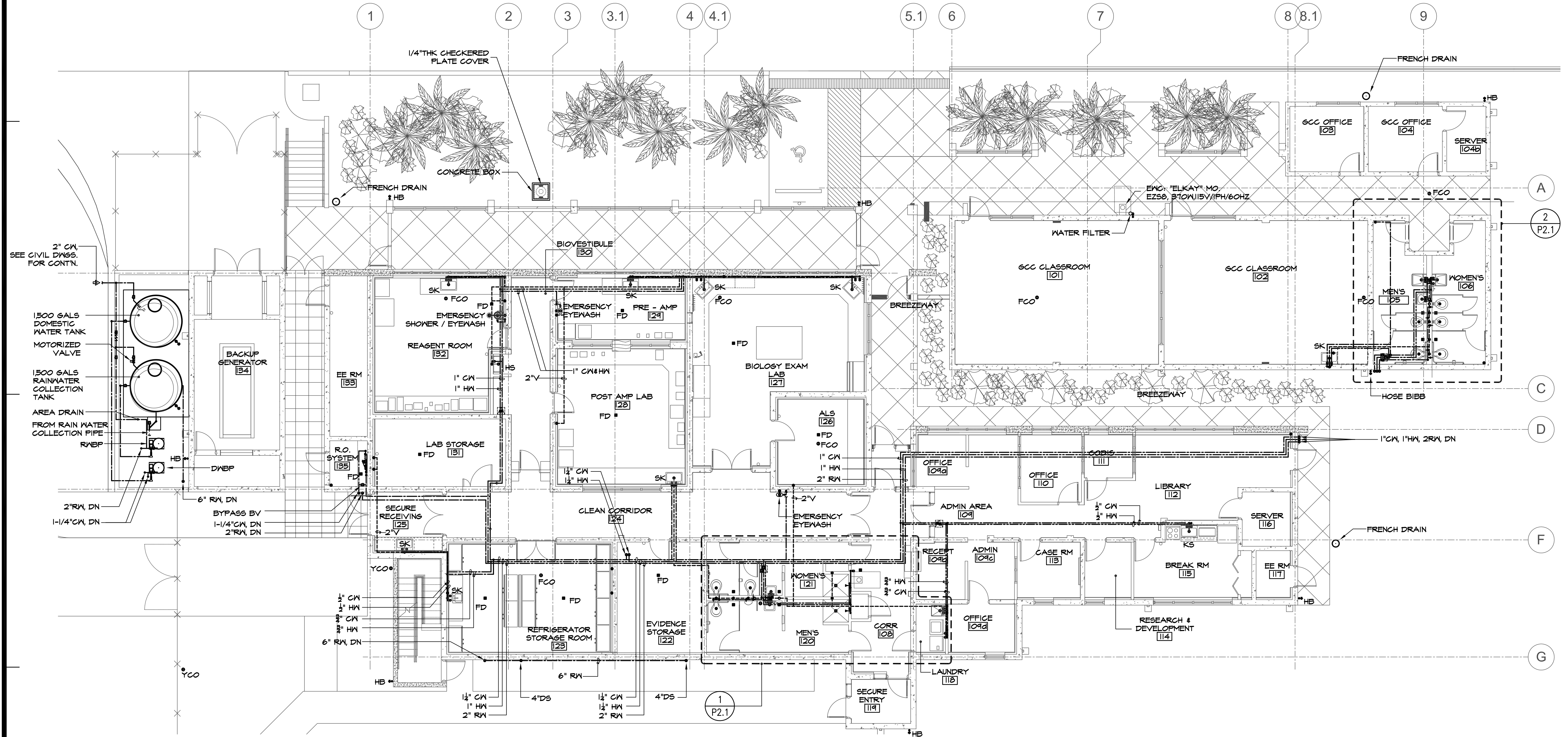


Project:
GUAM COMMUNITY
COLLEGE
FORENSIC DNA LAB

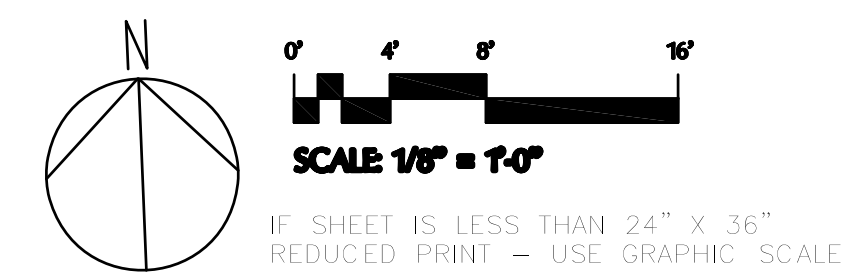
Title:
LEGEND, NOTES,
PLUMBING FIXTURE
SCHEDULES,
UNDERGROUND
PIPING PLAN

Designed: RPS
Drawn: VSA/RPS
Checked: C&V
Supv: C&V
Scale: AS SHOWN
Date: 12/19/12
Project No: File
Drawing No:

P1.0
Sheet No. of



1 FIRST FLOOR PLUMBING PLAN
SCALE 1/8" = 1'-0"



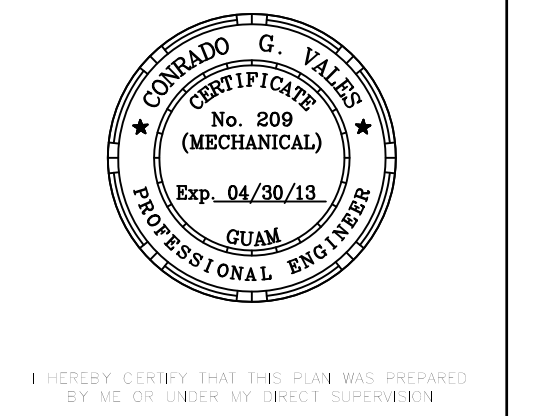
REVISIONS		
No.	Description	Date

TRMA
Taniguchi Ruth Makio Architects
100 Cliff Business Center, P.O. Box EA, Agaña, GU 96910
Tel.: (671) 475-8772 • Fax: (671) 472-3381

Architecture
Planning
Interior Design

emc2
MECHANICAL, INC.
565-A NORTH MARINE DRIVE,
TAMUNING, GUAM 96911
P.O. BOX 23156, GFM, GUAM 96921
TEL: (671) 646-1558/5363
FAX: (671) 646-8606
e-mail: engineer@emc2mechanical.com

BID DOCUMENTS

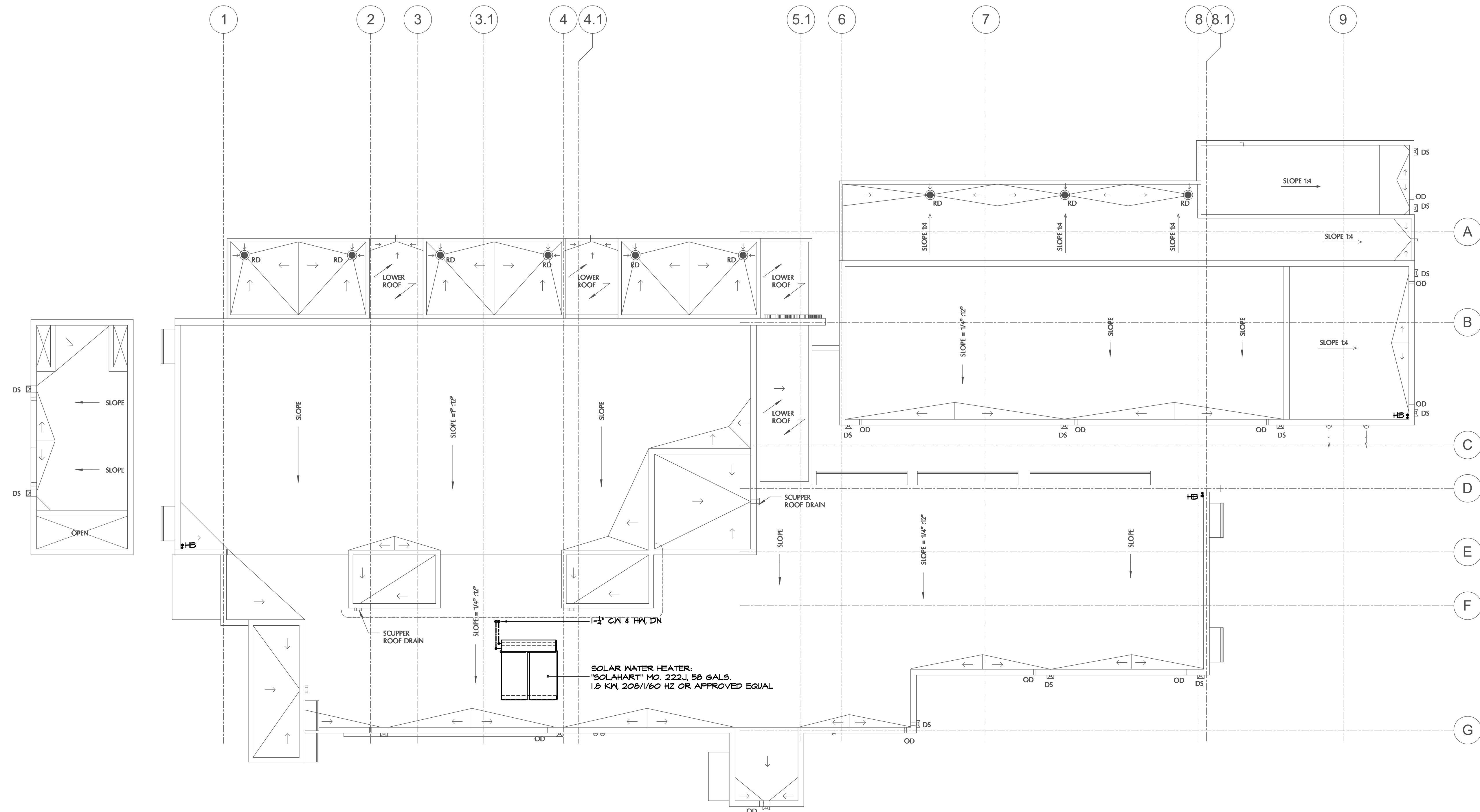


Project:
GUAM COMMUNITY COLLEGE
FORENSIC DNA LAB

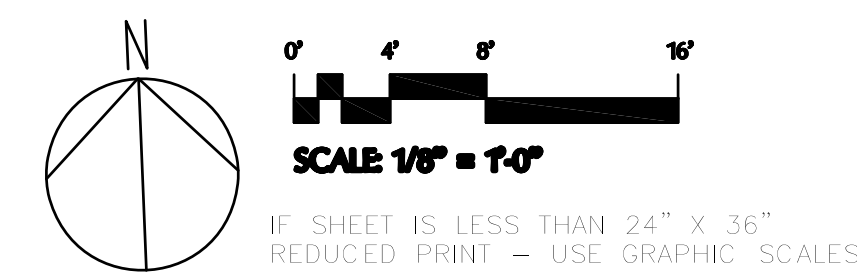
Title:
FIRST FLOOR PLUMBING PLAN

Designed: RPS
Drawn: VSA/RPS
Checked: C&V
Supv: C&V
Scale: AS SHOWN
Date: 12/19/12
Project No. File
Drawing No.

P1.1
Sheet No. of



1 ROOF PLUMBING PLAN
SCALE 1/8" = 1'-0"



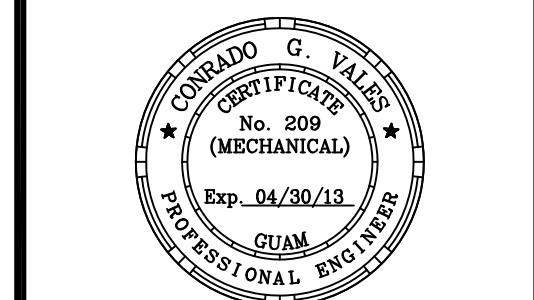
REVISIONS		
No.	Description	Date

TRMA
Taniguchi Ruth Makio Architects
100 Cliff Business Center, P.O. Box EA, Agaña, GU 96910
Tel.: (671) 475-8772 • Fax.: (671) 472-3381

Architecture
Planning
Interior Design

emc2
MECHANICAL, INC.
565-A NORTH MARINE DRIVE,
TAMUNING, GUAM 96911
P.O. BOX 23156, GMA, GUAM 96921
TEL: (671) 646-1558/5363
FAX: (671) 646-8606
e-mail: engineer@emc2mechanical.com

**BID
DOCUMENTS**



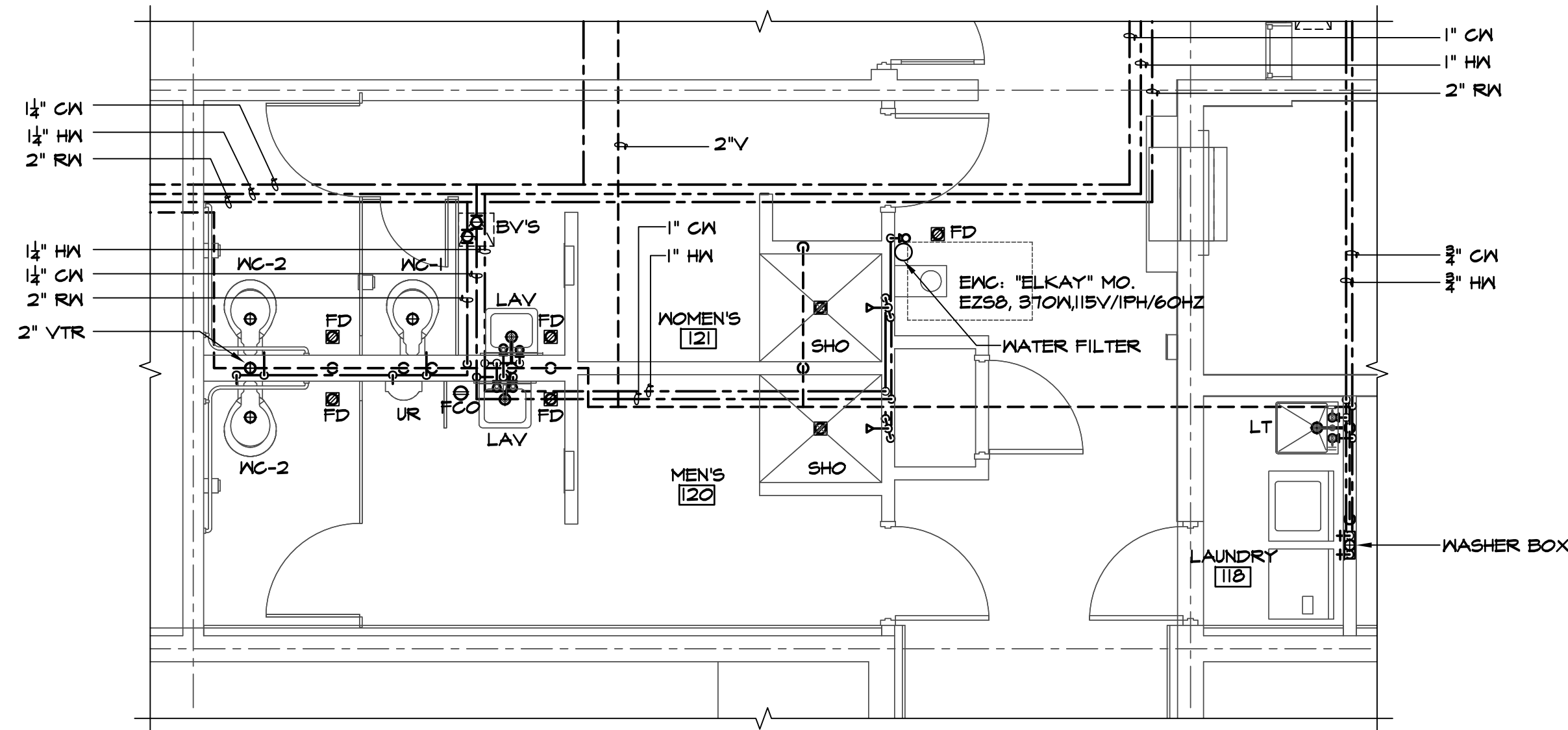
I HEREBY CERTIFY THAT THE PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION

Project:
GUAM COMMUNITY COLLEGE
FORENSIC DNA LAB

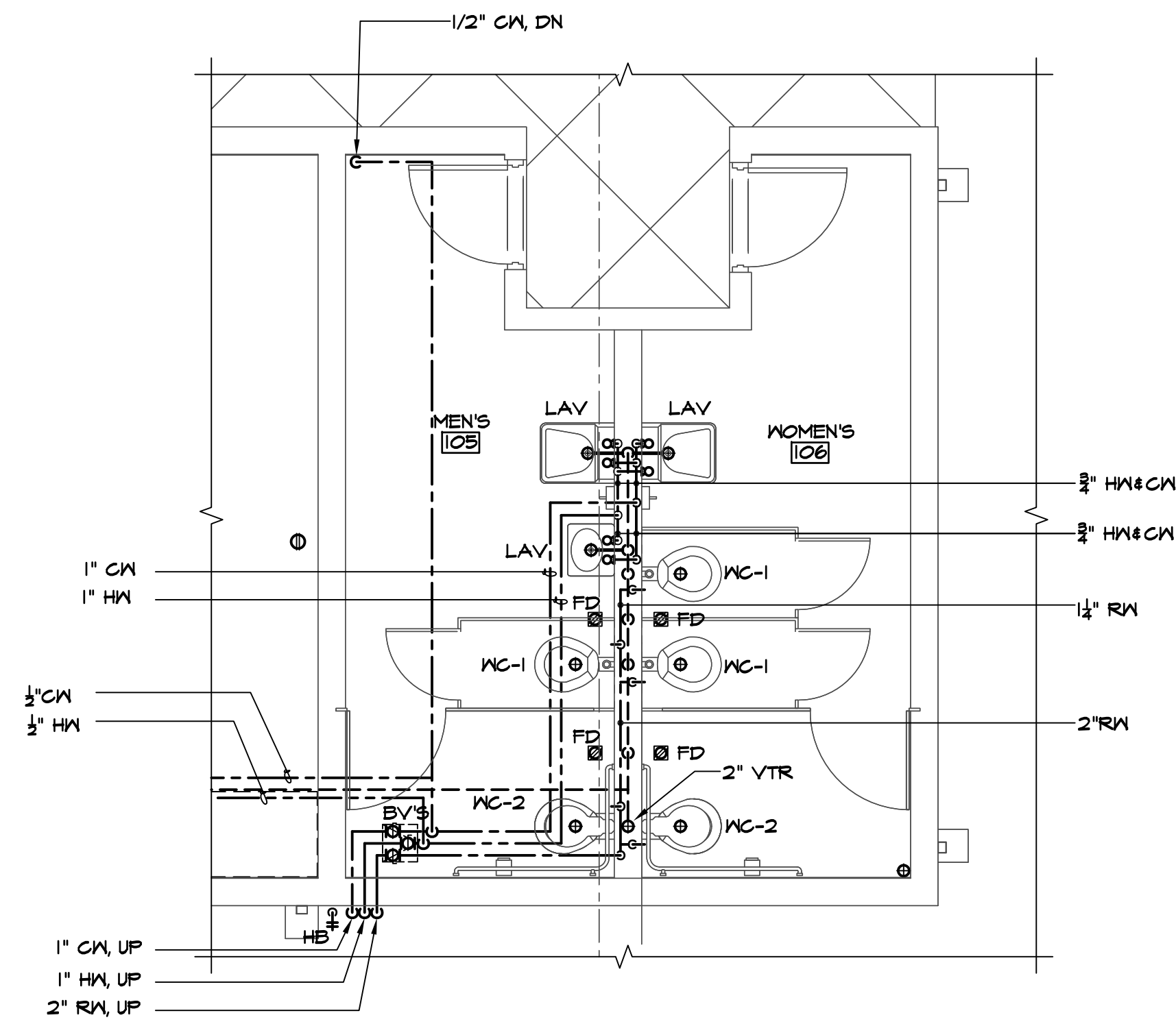
Title:
ROOF PLUMBING PLAN

Designed: RPS
Drawn: VSA/RPS
Checked: CSV
Supv: CSV
Scale: AS SHOWN
Date: 12/19/12
Project No. File
Drawing No.

P1.2
Sheet No. of



1 MENS / WOMENS TOILET 120 & 121 ENLARGE PLAN
SCALE 1/4" = 1'-0"



2 MENS / WOMENS TOILET 105 & 106 ENLARGE PLAN
SCALE 1/4" = 1'-0"

REVISIONS		
No.	Description	Date

TRMA
Taniguchi Ruth Makio Architects
100 Cliff Business Center, P.O. Box EA, Agaña, GU 96910
Tel.: (671) 475-8772 • Fax: (671) 472-3381

Architecture
Planning
Interior Design

emc2
MECHANICAL, INC.
565-A NORTH MARINE DRIVE,
TAMUNING, GUAM 96911
P.O. BOX 23156, GUMF, GUAM 96921
TEL: (671) 646-1558/5363
FAX: (671) 646-8606
e-mail: engineer@emc2mechanical.com

BID
DOCUMENTS



I HEREBY CERTIFY THAT THE PLAN WAS PREPARED
BY ME OR UNDER MY DIRECT SUPERVISION
DATE: _____

Project:
GUAM COMMUNITY
COLLEGE
FORENSIC DNA LAB

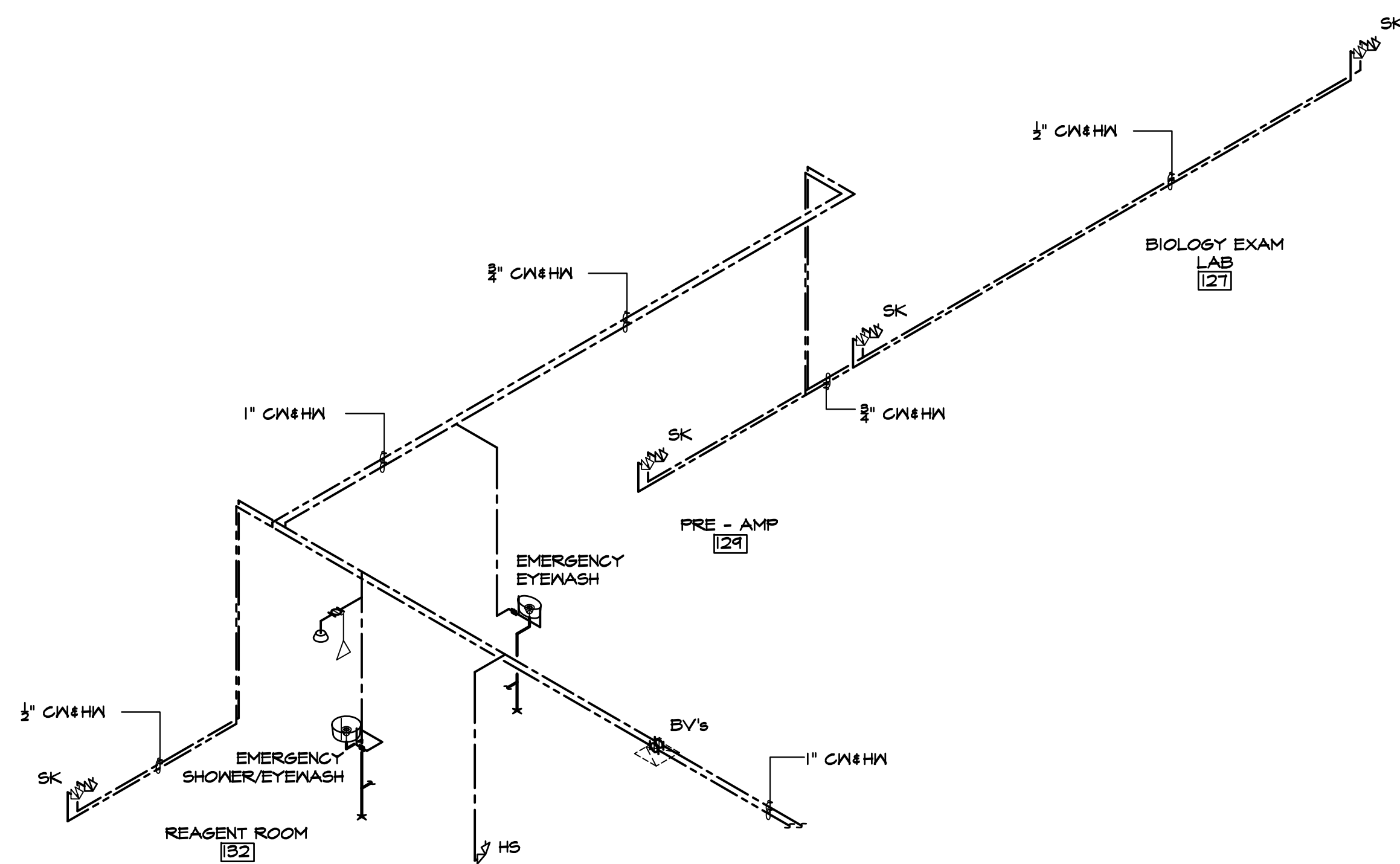
Title:
MENS / WOMENS
TOILET 105 & 106,
120 & 121 - ENLARGE
PLAN

Designed: RPS
Drawn: VSA/RPS
Checked: CSV
Supv: CSV
Scale: AS SHOWN
Date: 12/19/12
Project No. File
Drawing No.

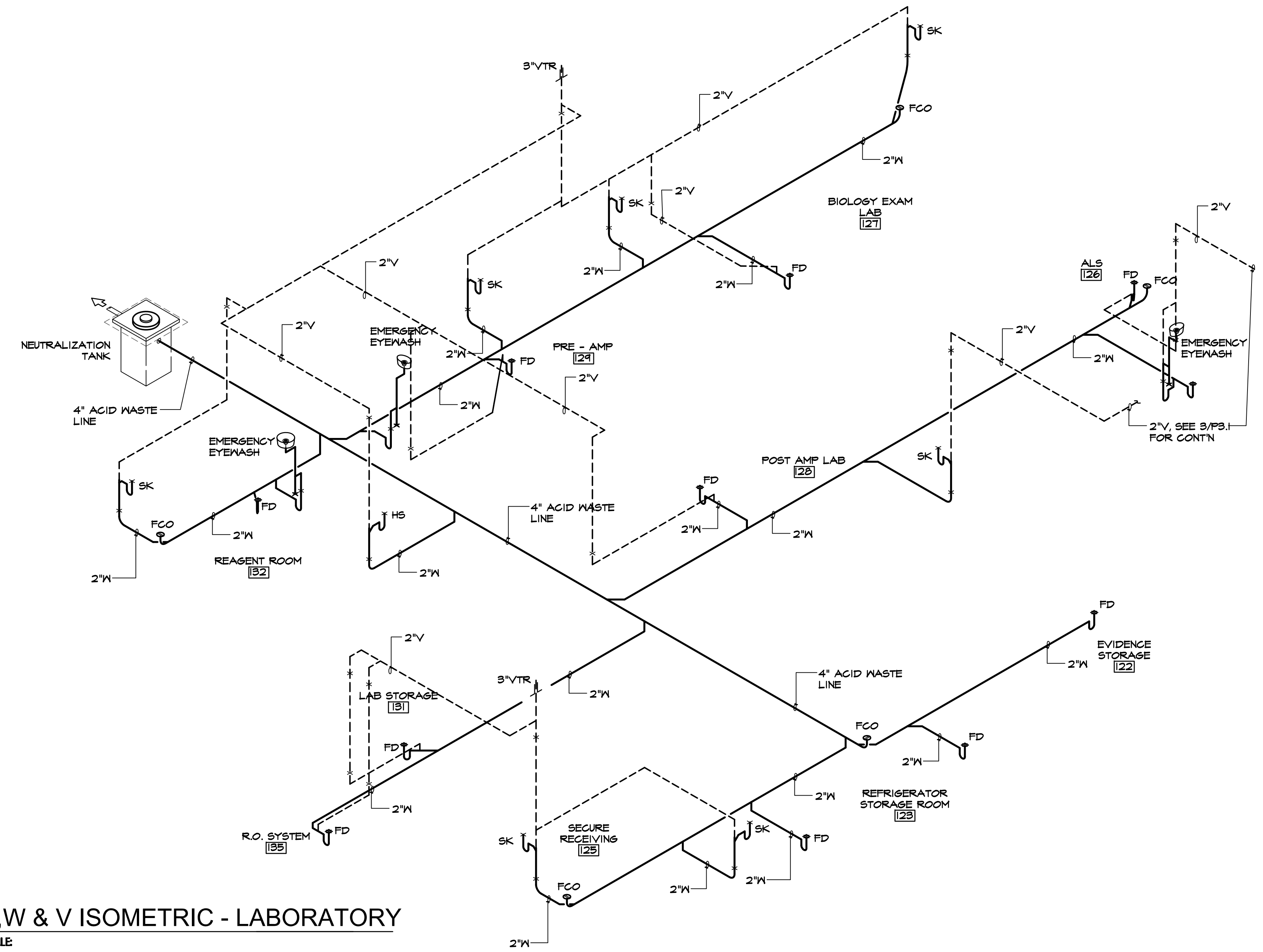
P2.1

Sheet No. _____ of _____





1 CW & HW ISOMETRIC - LABORATORY
SCALE NOT TO SCALE



2 S, W & V ISOMETRIC - LABORATORY
SCALE

IF SHEET IS LESS THAN 24" X 36"
REDUCED PRINT - USE GRAPHIC SCALES

REVISIONS		
No.	Description	Date



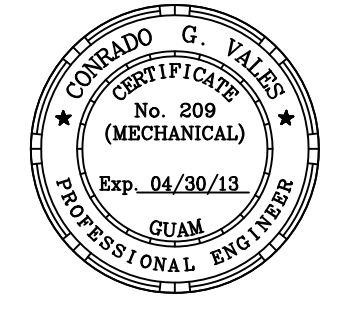
TRMA
Taniguchi Ruth Makio Architects
100 Cliff Business Center, P.O. Box EA, Agaña, GU 96910
Tel.: (671) 475-8772 • Fax.: (671) 472-3381

Architecture
Planning
Interior Design



MECHANICAL, INC.
565-A NORTH MARINE DRIVE,
TAMUNING, GUAM 96911
P.O. BOX 23156, GMP, GUAM 96921
TEL: (671) 646-1558/5363
FAX: (671) 646-8606
e-mail: engineer@emc2mechanical.com

BID
DOCUMENTS



Professional Engineer

I HEREBY CERTIFY THAT THE PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION

Project:
GUAM COMMUNITY COLLEGE
FORENSIC DNA LAB

Title:
S, W & V & HW & CW
PIPING ISOMETRIC -
LABORATORY

Designed: RPS
Drawn: VSA/RPS
Checked: C&V
Supv: C&V
Scale: AS SHOWN
Date: 12/19/12
Project No. File
Drawing No.

P3.2

Sheet No. of

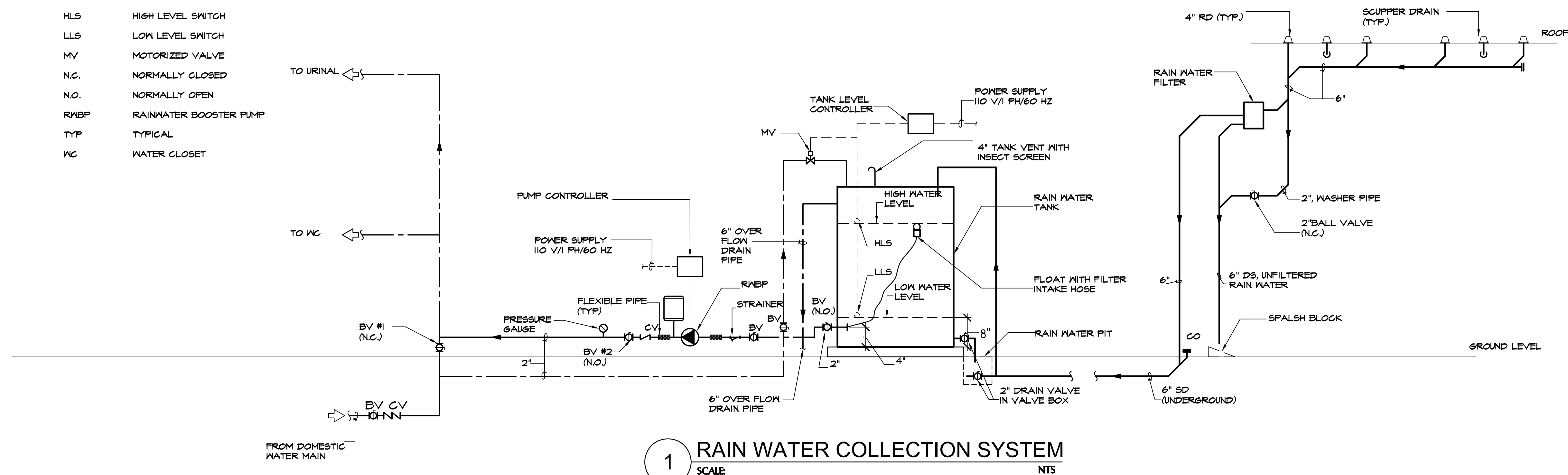
MARK	DESCRIPTION	MANUFACTURER & MODEL OR APPROVED EQUAL	CAPACITY	POWER	VOLTS	PHASE	CYCLE	REMARKS
RMBP	RAIN WATER BOOSTER PUMP	"Goulds Pumps" M0, 2AB21MC1G2A2	40 GPM @ 60 FT HEAD	2 HP	208	1	60	-
DWBP	DOMESTIC WATER BOOSTER PUMP	"Goulds Pumps" M0, 2AB22HMIF2E0	30 GPM @ 60 FT HEAD	1.5 HP	208	1	60	-

NOTES:

1. MOTORIZED VALVES SHALL BE UL LISTED, KELE B2 SERIES, 2-WAY BALL VALVES COMPLETE WITH ASSEMBLED DIRECT COUPLED BELIMO ELECTRIC ACTIVATOR WITH SPRING RETURN, 200 PSIG. PROVIDE WEATHERPROOF ENCLOSURE.
2. LEVEL SWITCHES SHALL BE HERMETICALLY SEALED FLOAT LEVEL SWITCHES, KELE F-1-S/S OR APPROVED EQUAL, 120/240 VAC.
3. SUBMIT CONTROL WIRING DIAGRAM TO OPERATE RAINWATER SYSTEM AS SHOWN.

1. RAINWATER WILL BE USED TO FLUSH WATER CLOSETS AND URINALS.
2. RAIN WATER WILL BE COLLECTED THRU ROOF RAIN WATER COLLECTOR LINE.
3. DURING HEAVILY RAINS, RAIN WATER WILL FILL UP ROOF WASHER PIPE FOR INITIAL FILTERING.
4. AFTER FILLING UP ROOF WASHER PIPE, RAIN WATER WILL BE DIVERTED TO RAIN WATER FINE FILTER WHICH WILL SEPARATE FILTERED WATER FROM UNFILTERED WATER. FILTERED WATER WILL BE STORED IN RAIN WATER STORAGE TANK AND UNFILTERED WATER WILL BE DRAINED THROUGH SURFACE RUN OFF.
5. RAINWATER BOOSTER PUMP (RWBP), SET TO MAINTAIN 60 FEET DISCHARGE PRESSURE WILL DELIVER RAINWATER TO WATER CLOSETS AND URINALS FOR FLUSHING.
6. WITHOUT ADEQUATE RAINFALL, RAINWATER LEVEL AT THE RAINWATER TANK WILL GO DOWN. WHEN WATER LEVEL IS DOWN TO LOW WATER LEVEL, LLS WILL OPEN NORMALLY CLOSED MV. WATER FROM DOMESTIC WATER MAIN WILL FILL RAIN WATER TANK HIGH WATER LEVEL. HLS SWITCH WILL CLOSE MV.
7. WHEN RWBP IS DOWN FOR MAINTENANCE OR REPAIR, DOMESTIC WATER CAN BE USED FOR FLUSHING TOILET AND URINAL BY CLOSING BY #2 AND OPENING BV#1.

<u>ABBREVIATION</u>	<u>DESCRIPTION</u>
BV	BALL VALVE
HLS	HIGH LEVEL SWITCH
LLS	LOW LEVEL SWITCH
MV	MOTORIZED VALVE
N.C.	NORMALLY CLOSED
N.O.	NORMALLY OPEN
RWB	RAINWATER BOOSTER PUMP
TFP	TYPICAL
WC	WATER CLOSET



IF SHEET IS LESS THAN 24" X 36"
REDUCED PRINT - USE GRAPHIC SCALES

[illegible]

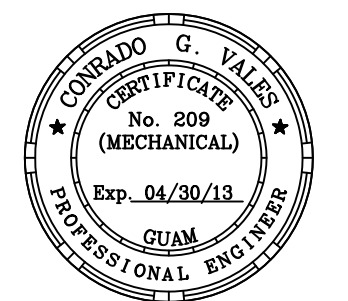
TRMA 
Taniguchi Ruth Makio Architects
 100 Cliff Business Center, P.O. Box EA, Agaña, GU 96910
 Tel.: (671) 475-8772 • Fax.: (671) 472-3381

Architecture
Planning
Interior Design

emc2

MECHANICAL, INC.
565-A NORTH MARINE DRIVE,
TAMUNING, GUAM 96911
P.O. BOX 23156, GMF, GUAM 96921
TEL: (671)646-1558/5363
FAX: (671)646-8606
e-mail: engineer@emc2mechanical.com

BID DOCUMENTS



DOI: 10.1002/for

Project:

GUAM COMMUNITY
COLLEGE

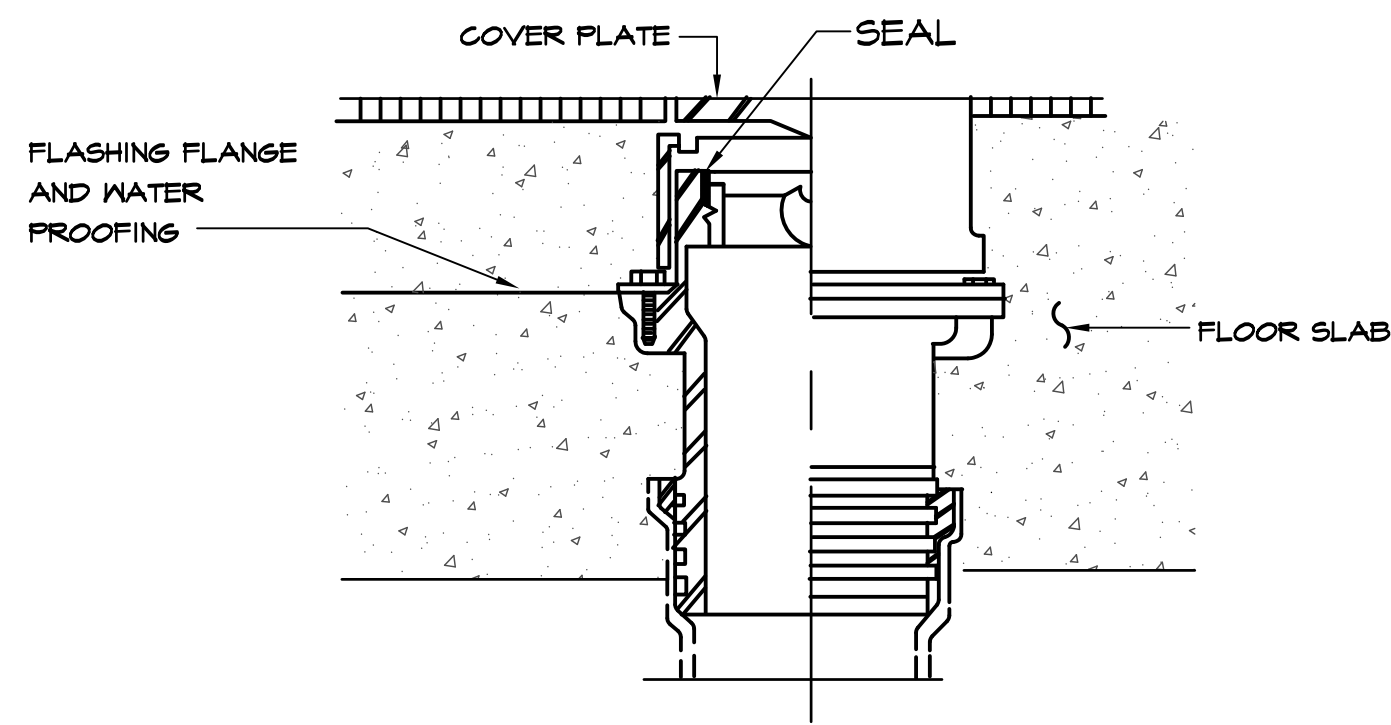
FORENSIC DNA LAB

Title:
RAIN WATER
COLLECTION SYSTEM
RAIN WATER SYSTEM
OPERATION

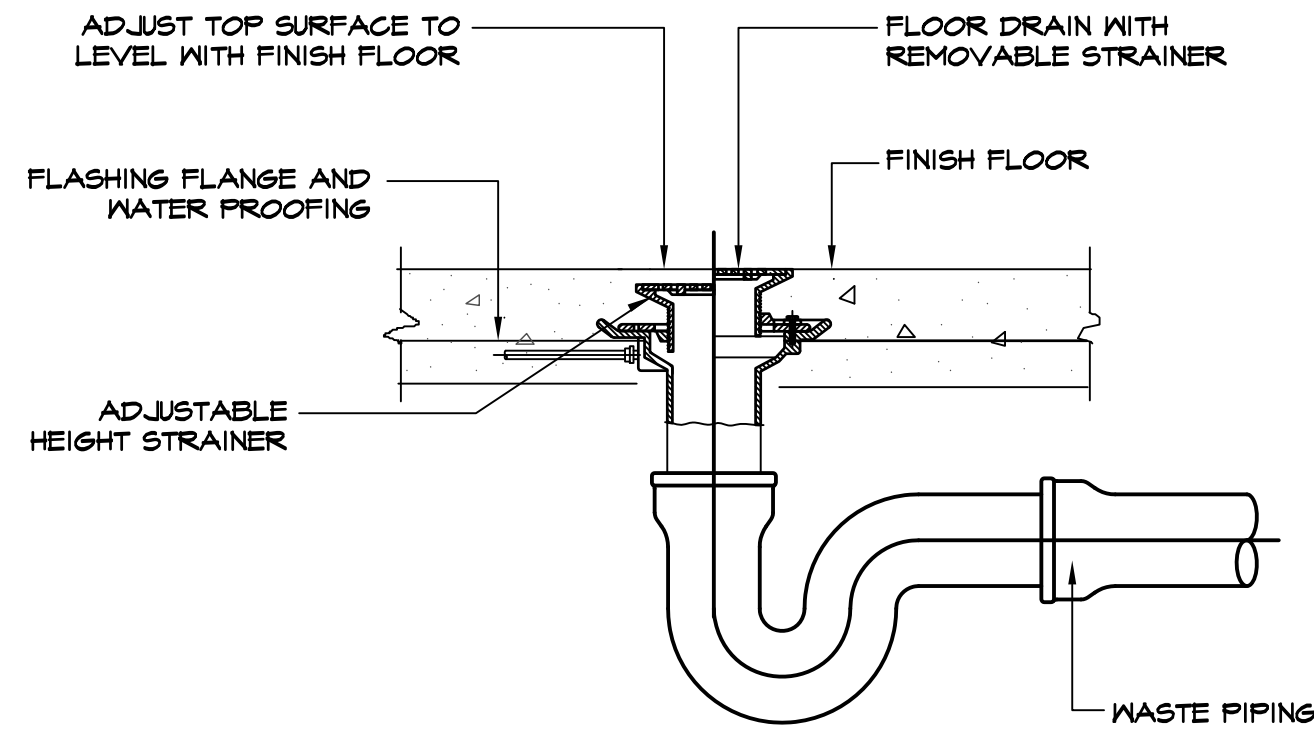
Designed:	RPS
Drawn:	VSA/RPS
Checked:	CGV
Supv:	CGV
Scale:	AS SHOWN
Date:	12/19/12
Project No.	File
Drawing No.	

P3.3

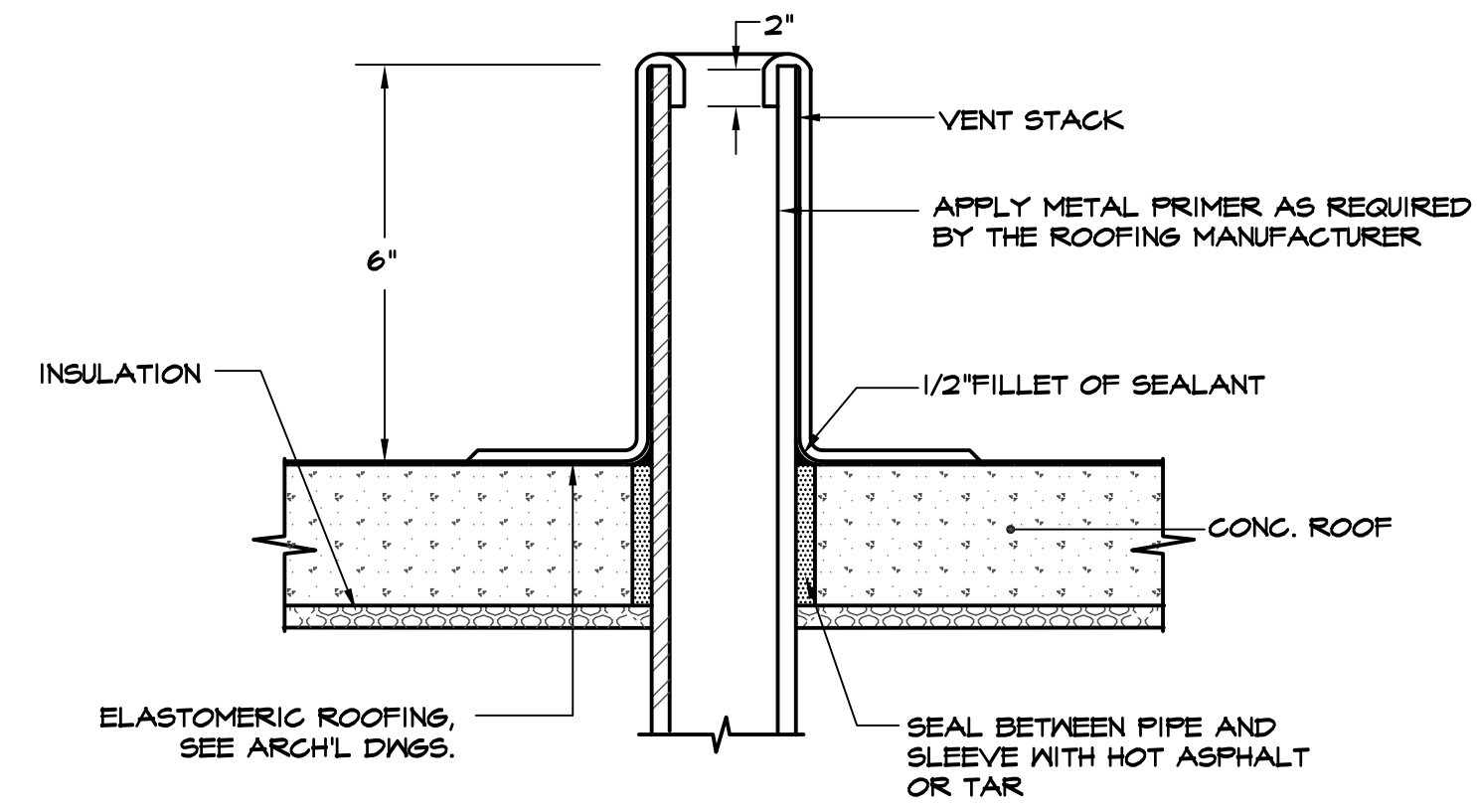
Sheet No. _____ of _____



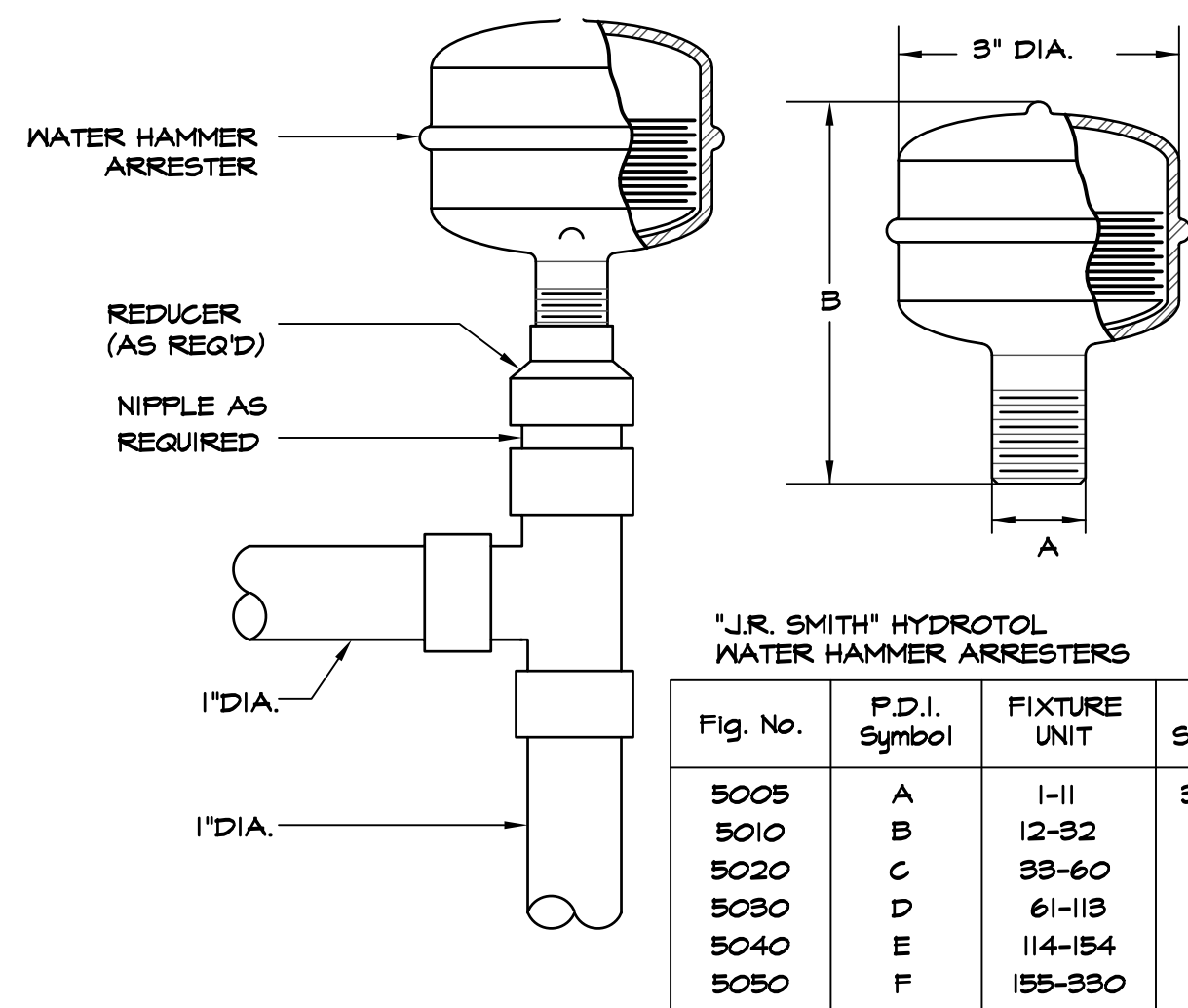
1 FLOOR CLEANOUT DETAIL
NOT TO SCALE



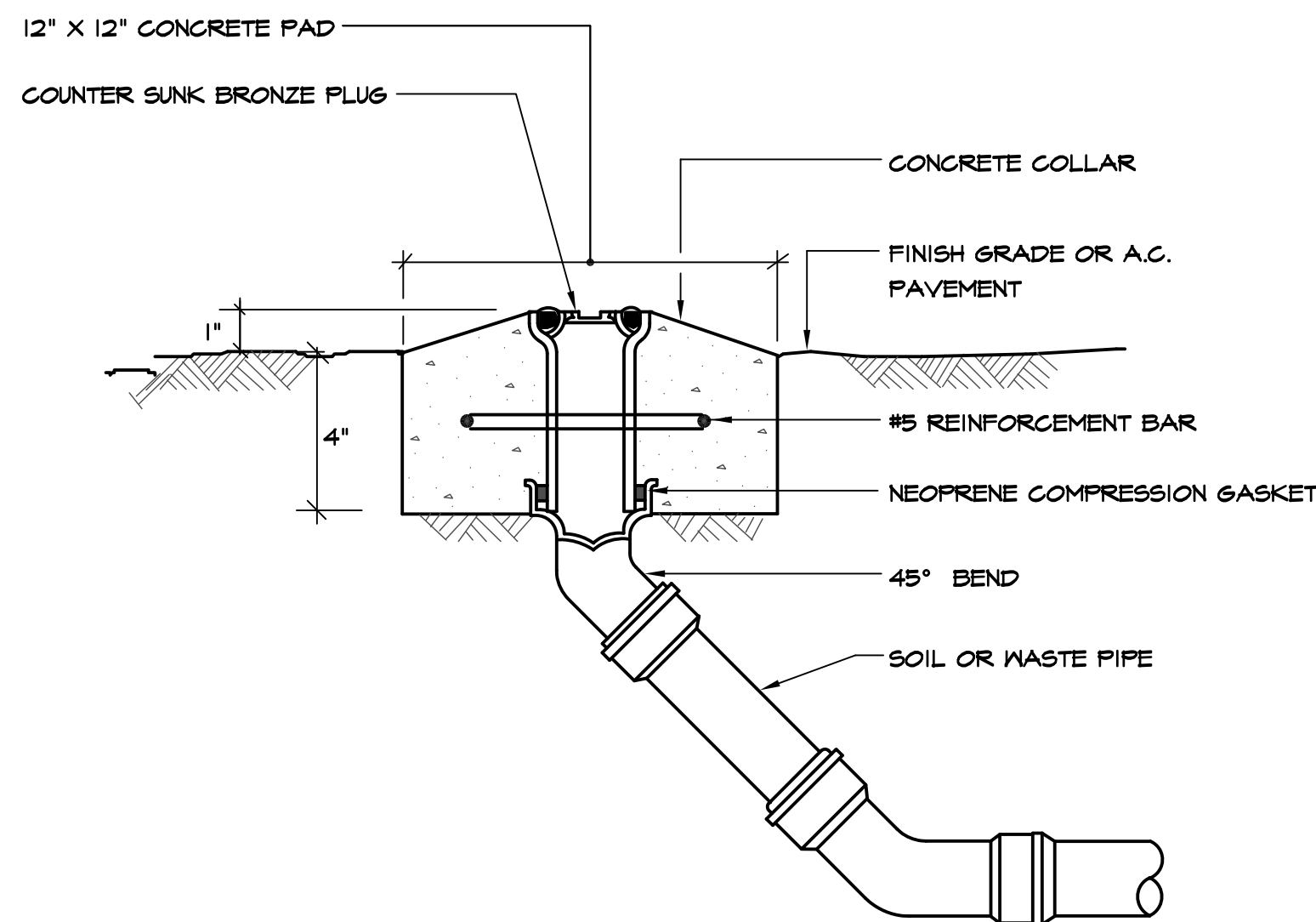
2 FLOOR DRAIN DETAIL
NOT TO SCALE



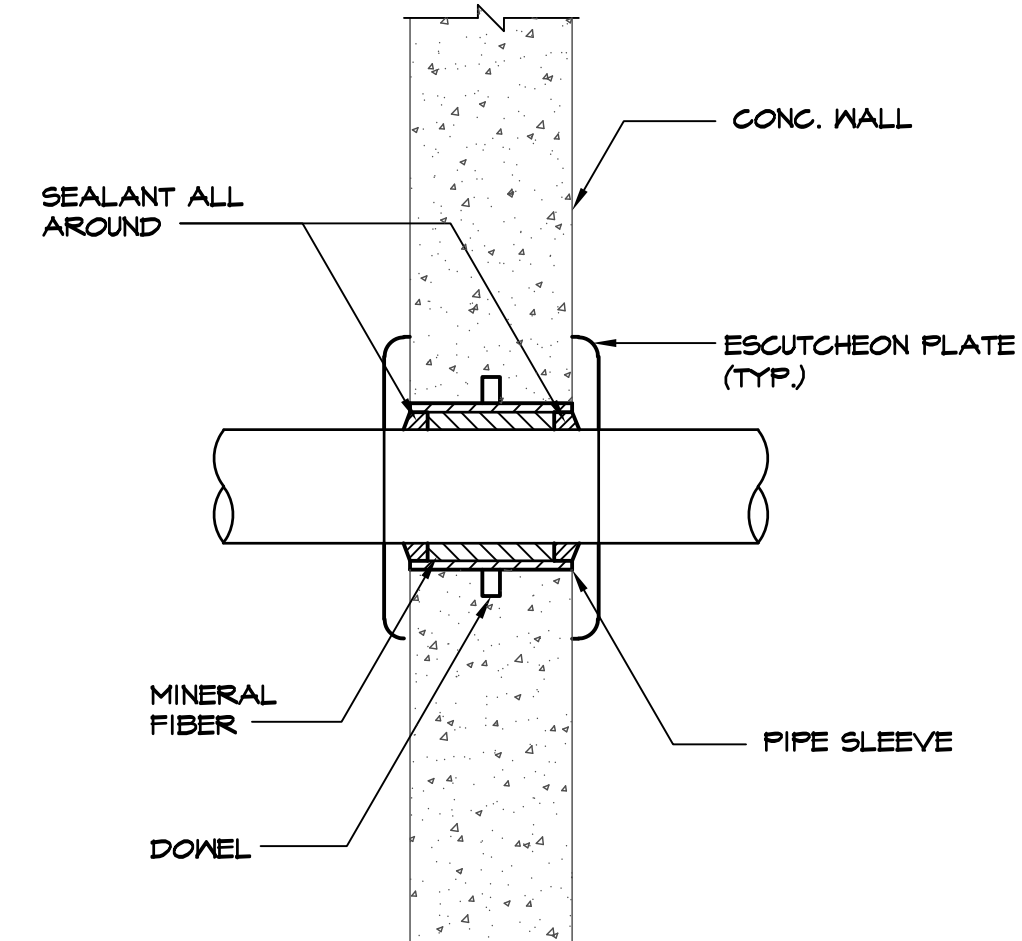
3 VENT THRU ROOF DETAIL
NOT TO SCALE



5 WATER HAMMER ARRESTER DETAIL
NOT TO SCALE



6 YARD CLEANOUT DETAIL
NOT TO SCALE



7 PIPE THRU WALL DETAIL
NOT TO SCALE

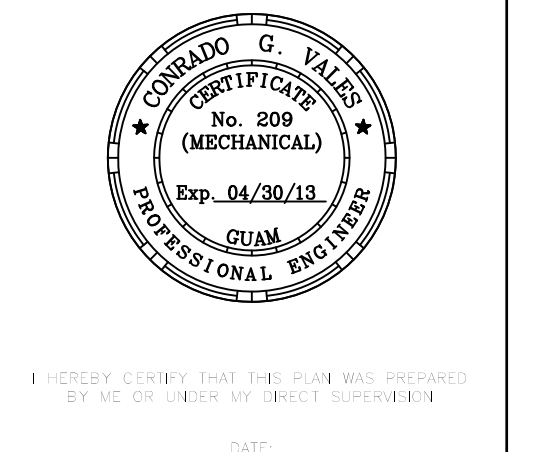
REVISIONS		
No.	Description	Date

TRMA
Taniguchi Ruth Makio Architects
 100 Cliff Business Center, P.O. Box EA, Agaña, GU 96910
 Tel.: (671) 475-8772 • Fax: (671) 472-3381

Architecture
 Planning
 Interior Design

emc2
MECHANICAL, INC.
 565-A NORTH MARINE DRIVE,
 TAMUNING, GUAM 96911
 P.O. BOX 23156, GUMF, GUAM 96921
 TEL: (671) 646-1558/5363
 FAX: (671) 646-8606
 e-mail: engineer@emc2mechanical.com

BID DOCUMENTS



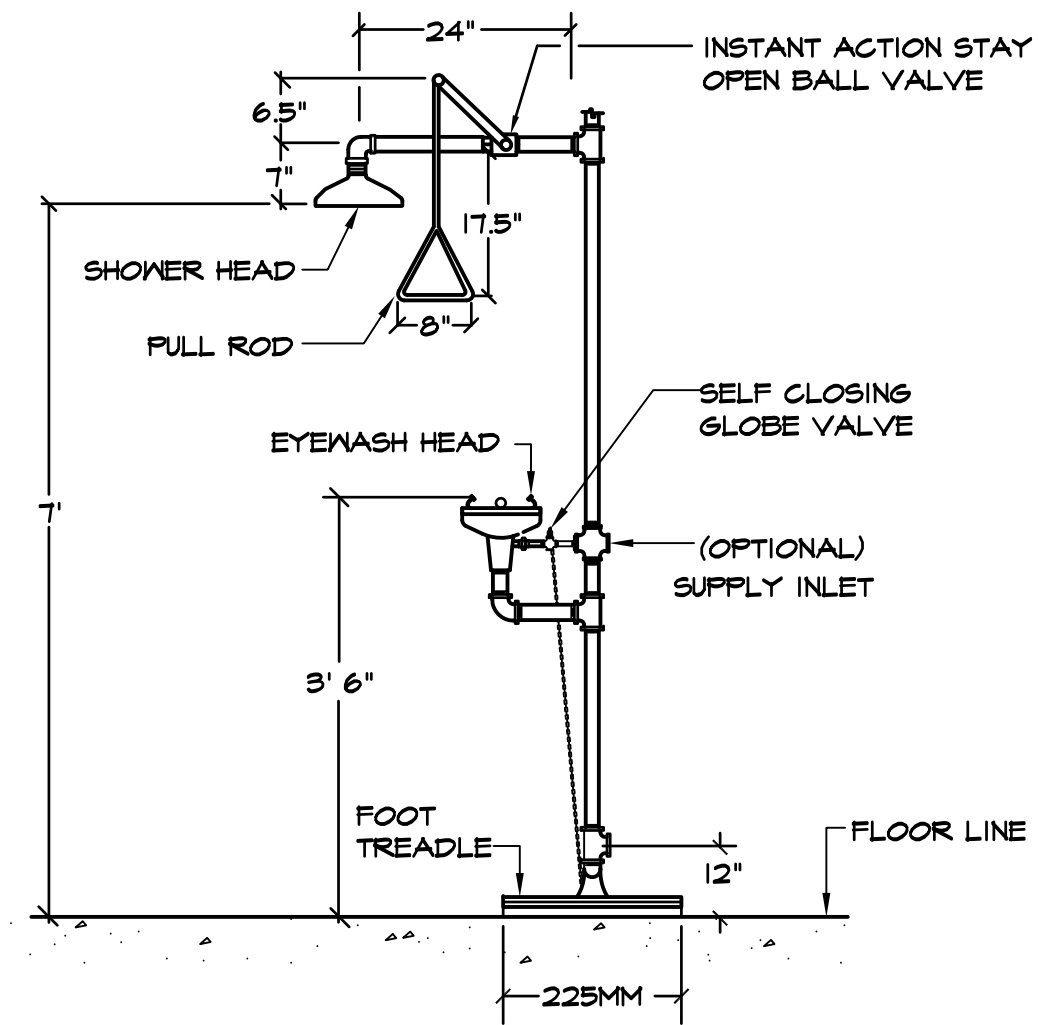
Project:
 GUAM COMMUNITY COLLEGE
 FORENSIC DNA LAB

Title:
 DETAILS

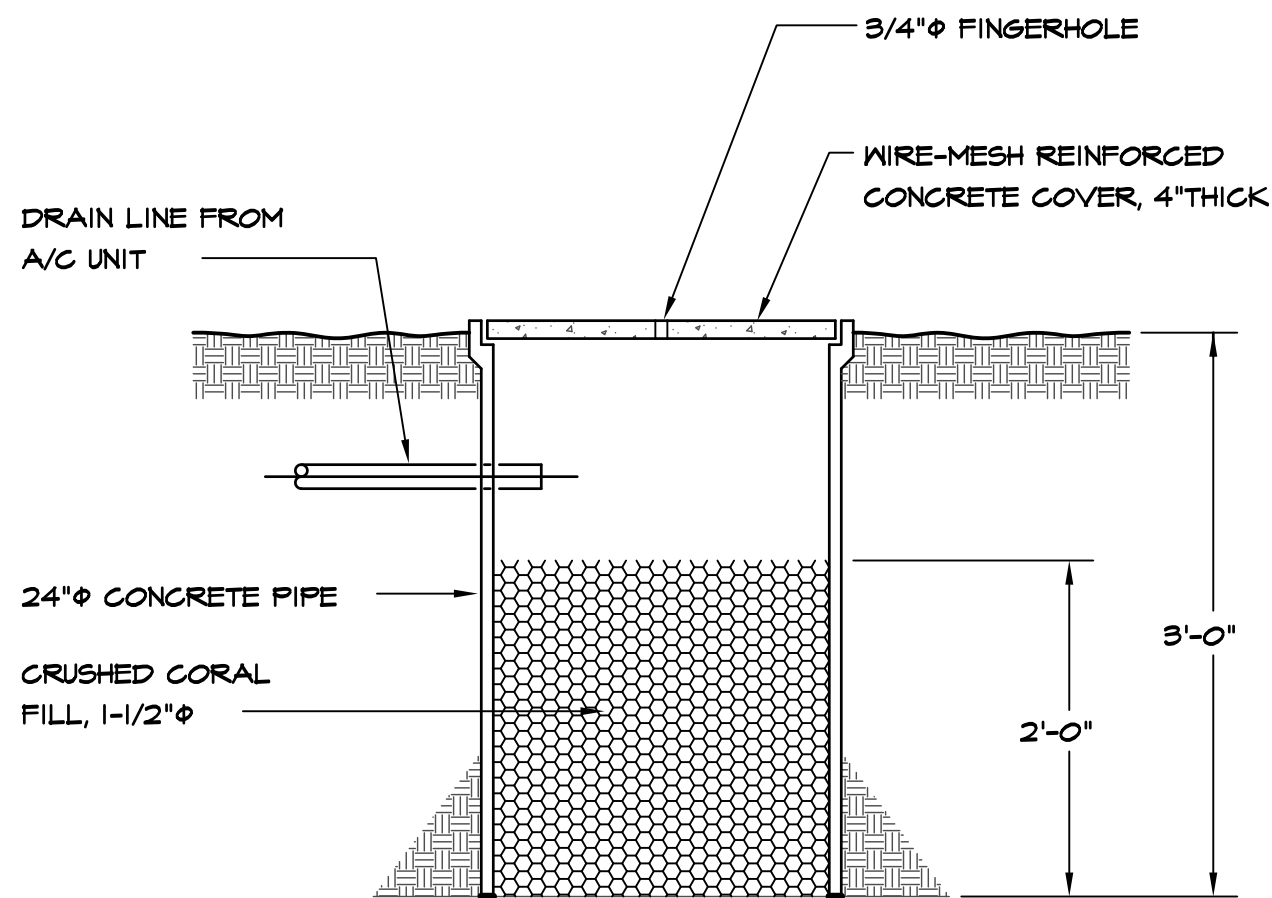
Designed: RPS
 Drawn: VSA/RPS
 Checked: CSV
 Supv: CSV
 Scale: AS SHOWN
 Date: 12/19/12
 Project No. File
 Drawing No.

P4.1
 Sheet No. of

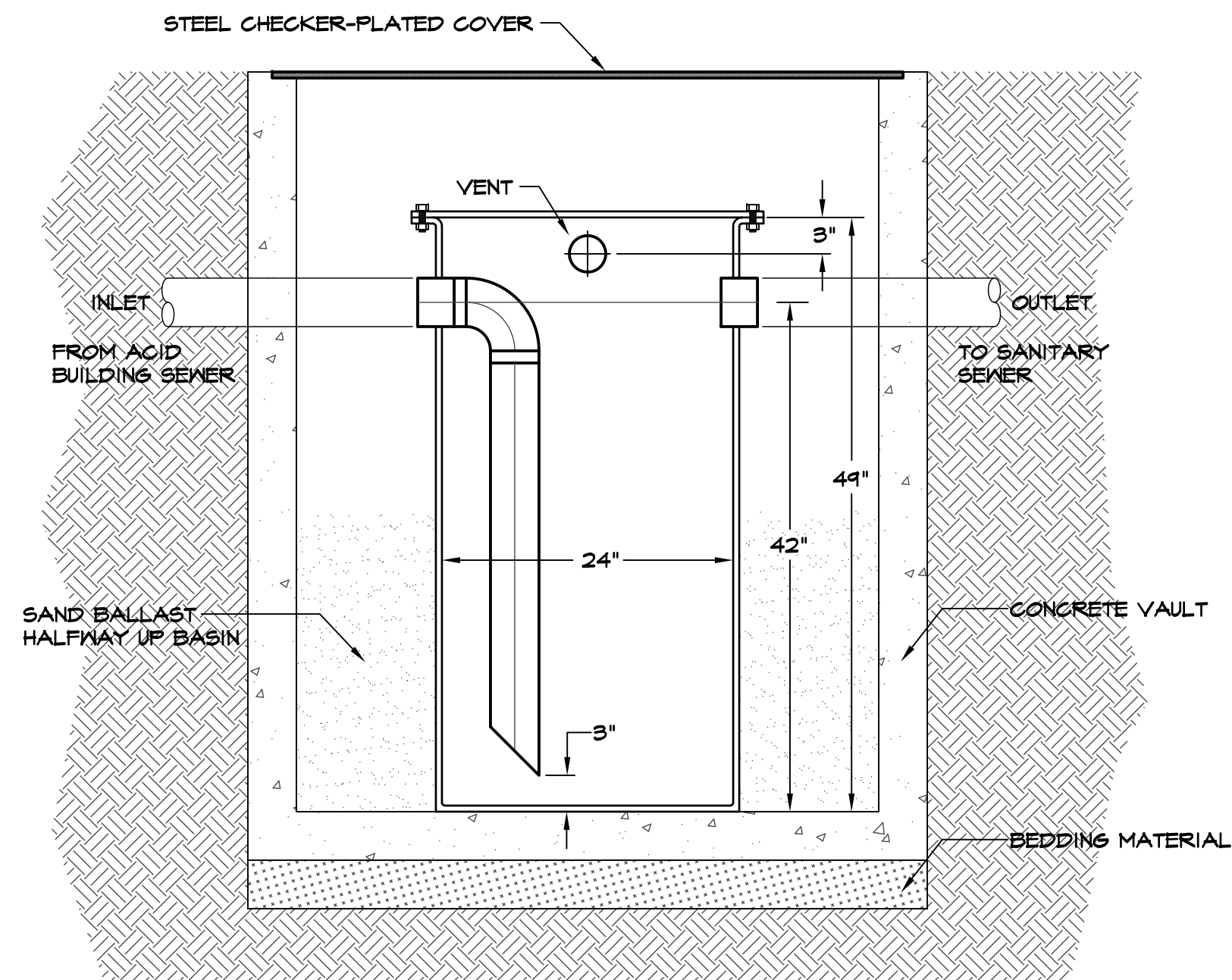
IF SHEET IS LESS THAN 24" X 36"
 REDUCED PRINT - USE GRAPHIC SCALES



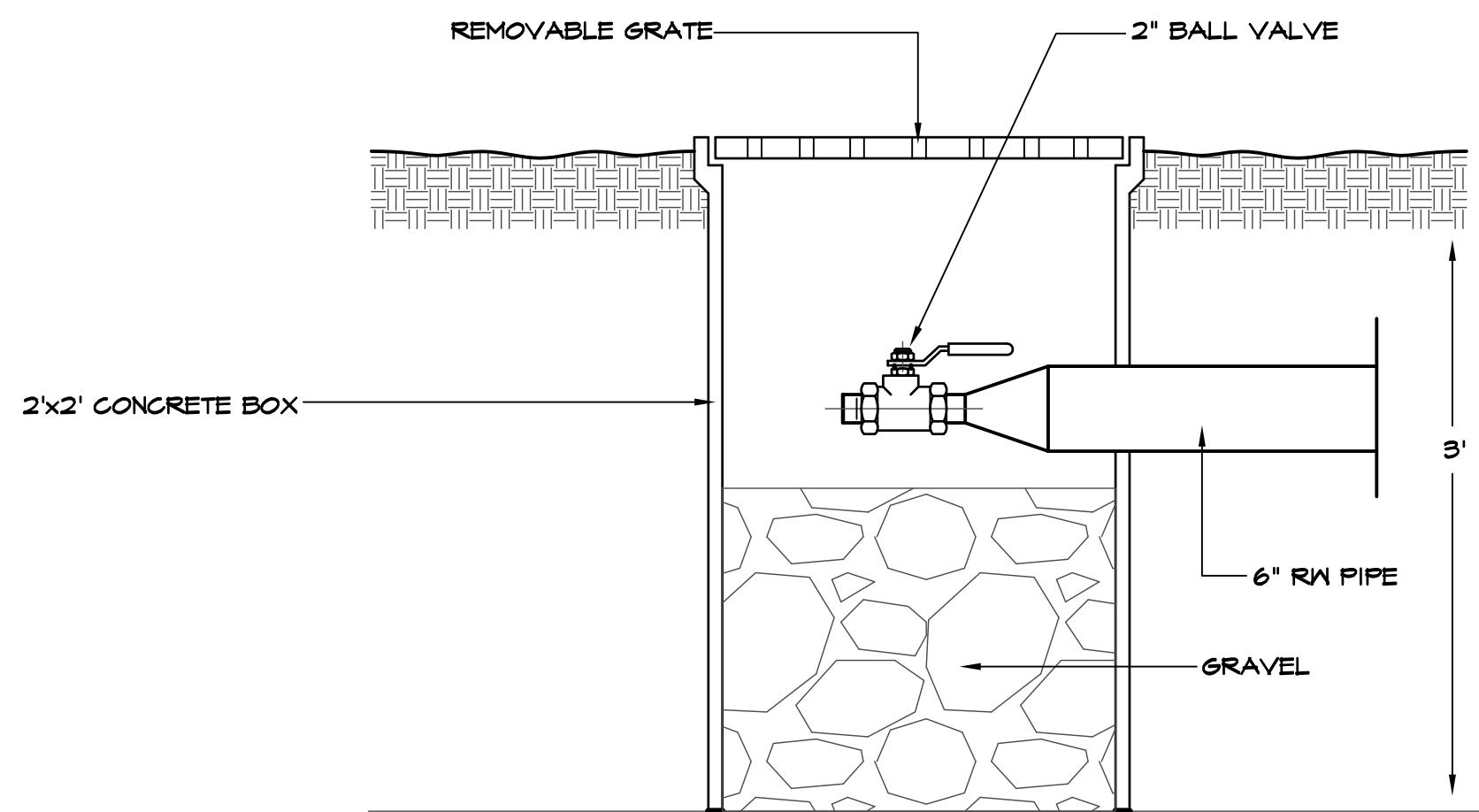
1 EMERGENCY SHOWER / EYEWASH DETAIL
NOT TO SCALE



2 FRENCH DRAIN DETAIL
NOT TO SCALE



3 NEUTRALIZING TANK DETAIL
NOT TO SCALE



4 RAIN WATER PIT DETAIL
NOT TO SCALE

REVISIONS		
No.	Description	Date

TRMA
Taniguchi Ruth Makio Architects
 100 Cliff Business Center, P.O. Box EA, Agaña, GU 96910
 Tel.: (671) 475-8772 • Fax: (671) 472-3381

Architecture
 Planning
 Interior Design

emc2
MECHANICAL, INC.
 565-A NORTH MARINE DRIVE,
 TAMUNING, GUAM 96911
 P.O. BOX 23156, GUMF, GUAM 96921
 TEL: (671) 646-1558/5363
 FAX: (671) 646-8606
 e-mail: engineer@emc2mechanical.com

BID DOCUMENTS



Project:
 GUAM COMMUNITY COLLEGE
 FORENSIC DNA LAB

Title:
 DETAILS

Designed:	RPS
Drawn:	VSA/RPS
Checked:	CSV
Supv:	CSV
Scale:	AS SHOWN
Date:	12/19/12
Project No.	File
Drawing No.	

P4.2
 Sheet No. _____ of _____