GENERAL NOTES FOR WORK RELATED TO GPA:

1. COORDINATE WITH GPA ENGINEERING 48 HOURS IN ADVANCE FOR INSPECTION OF MANHOLE, HANDHOLE, CONDUIT INSTALLATION, TRANSFORMER PAD AND CONDUIT/DUCT TESTING WITH MANDREL PRIOR TO CONCRETE POURING.
2. OWNER SHALL GRANT UTILITY EASEMENT TO GPA FOR POWER LINE, HANDHOLE AND TRANSFORMER PRIOR TO FINAL CONNECTION.
3. APPLICATION FOR POWER SERVICE MUST BE SUBMITTED 12 MONTHS IN ADVANCE BEFORE FINAL CONNECTION/ENERGIZATION TO ALLOW FOR DELIVERY OF GPA MATERIALS AND EQUIPMENT.
4. ALL CONDUITS MUST BE CLEANED AND MANDRELLED IN THE PRESENCE OF A GPA INSPECTOR. ALL CONDUITS MUST BE PROVIDED WITH NYLON PULL ROPE OF 200 LBS. MINIMUM PULL STRENGTH.
5. GPA HANDHOLE, TRANSFORMER AND METER SHALL BE ACCESSIBLE 24 HOURS A DAY FOR MAINTENANCE AND METER READING.
6. ALL ABOVE GROUND GPA CONDUITS SHALL BE RIGID ALUMINUM CONDUIT. ALL BELOW GRADE GPA CONDUIT SHALL BE CONCRETE ENCASED PVC SCHEDULE 40.
7. ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST NATIONAL ELECTRICAL CODE. (NEC) AND NATIONAL ELECTRICAL SAFETY CODE. (NESC).
8. CONTRACTOR/OWNER SHALL IDENTIFY THE REGISTERED LAND SURVEYOR (RLS) PROPERTY MARKERS/POINTS TO THE GPA INSPECTOR AT THE JOB SITE.
9. PROVIDE 3 FEET MINIMUM CLEARANCE ALL AROUND HANDHOLES, TRANSFORMERS, AND METERING EQUIPMENT FROM FENCES, WALLS, AND STRUCTURES, ETC.
10. CONTRACTOR/OWNER SHALL OBTAIN A REGISTERED LAND SURVEYOR TO PROVIDE NEW POLE STAKEOUT AND DOWN-GUY LOCATIONS. COORDINATE WITH GPA ENGINEERING FOR SPECIFIC REQUIREMENTS.
11. CONTRACTOR/OWNER SHALL OBTAIN A REGISTERED LAND SURVEYOR TO PREPARE EASEMENT EXHIBITS FOR GPA POLES, HANDHOLES, TRANSFORMERS, OVERHEAD/UNDERGROUND POWER LINES AND OTHER ASSOCIATED POWER FACILITIES. COORDINATE WITH GPA ENGINEERING FOR SPECIFIC REQUIREMENTS.
12. ALL SURVEY STAKEOUTS, MAPS, AND EASEMENT DOCUMENTS SHALL BE FIELD VERIFIED BY GPA.
13. SHOULD ARCHAEOLOGICAL MONITORING AND MITIGATION BE REQUIRED BY THE DEPARTMENT OF PARKS AND RECREATION STATE HISTORIC PRESEVATION OFFICE (SHPO), THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING AN ARCHAEOLOGIST TO PERFORM MONITORING AND MITIGATION SERVICES SATISFACTORY TO SHPO. ALL COSTS FOR SUCH SERVICES SHALL BE THE RESPONSIBILITY OF THE OWNER.

GENERAL NOTES:

A. CONTRACTOR SHALL VERIFY ACTUAL LOCATION OF EXISTING EQUIPMENT AND UTILITIES INCLUDING CONNECTION POINT.

B. ALL PENETRATIONS THROUGH FIRE RATED WALLS AND FLOORS SHALL BE SEALED WITH UL LISTED FIREPROOFING MATERIAL.

C. ALL CONDUITS PASSING THRU AIR CONDITIONED AND NON- AIR CONDITIONED SPACE SHALL BE PROVIDED WITH CONDUIT SEAL FITTING FILLED WITH SEALING COMPOUND AFTER WIRING IS INSTALLED.

D. PROVIDE MINIMUM 12" SEPARATION BETWEEN NETWORKING/ TELECOM CONDUITS AND ELECTRICAL (POWER) CONDUITS AND EQUIPMENT INCLUDING LIGHT FIXTURES.

E. ELECTRICAL INSTALLATION FOUNDATION AND SUPPORTS SHALL CONFORM TO SEISMIC ZONE 4 REQUIREMENTS.

F. ALL OUTDOOR ELECTRICAL INSTALLATION SHALL WITHSTAND 170 MPH SUSTAINED WINDLOAD IN ACCORDANCE WITH IBC 2009 EXPOSURE C AND ASCE 7-05.

G. A COMMISIONING AGENT SHALL BE RETAINED BY THE CONTRACTOR TO CONFIRM THE FOLLOWING SYSTEM HAVE BEEN CORRECTLY INSTALLED AND TESTED FOR PROPER OPERATION:

   A. PV SYSTEM

   B. LIGHTING CONTROLS

ELECTRICAL SYMBOL LIST (CONT.)

—C—	COMMUNICATION RACEWAY
—F—	FIRE ALARM RACEWAY
—N—	DATA RACEWAY
—T/N—	TELEPHONE /DATA RACEWAY
—EM—	EMERGENCY POWER RACEWAY
——3	RACEWAY, STUBBED AND CAPPED
	CABLE TRAY
PS	DAYLIGHT PHOTO SENSOR
OS	DUAL TECHNOLOGY OCCUPANCY SENSOR
PP	POWER PACK FOR OCCUPANCY SENSOR
$	3-POSITION SWITCH MAINTAINED CONTACT
E1.0	INDICATOR, DETAIL : TOP HALF-DETAIL NUMBER BOTTOM HALF-SHEET NUMBER (DET. LOCATION)
A	INDICATOR, LIGHT FIXTURE TYPE
E1.0	INDICATOR, RACEWAY SECTION
1	NOTE INDICATOR
AF/AT	AMPERE FRAME/AMPERE TRIP
AFF/AFG	ABOVE FINISH FLOOR/GRADE
FO	FIBER OPTIC
GFI	GROUND FAULT INTERRUPTER
NFS	NON-FUSIBLE SWITCH
NL/CL	NIGHT LIGHT/CURFEW LIGHT
NO/NC	NORMALLY OPEN/NORMALLY CLOSED
OFOI	OWNER FURNISHED, OWNER INSTALLED
PFB	PROVISION FOR FUTURE BREAKER
SST	STAINLESS STEEL
WP	INDICATES WEATHERPROOF
WR	WEATHER RESISTANT LISTED

MOUNTING HEIGHT SCHEDULE
(UNLESS OTHERWISE INDICATED)

DEVICE ON PLAN	MOUNTING HEIGHT	REFERENCE POINT					REMARKS
		FLOOR	CEILING	TO	℄	TOP	
⊖, ⊖	15"	•			•		
K, K, K	15"	•			•		
$, $3	4'-0"	•			•		
HF	4'-0"	•			•		
HF, HF	6'-8" or 6"	•	•		•	•	WHICHEVER IS LOWER
,	5'-6"	•				•	
,	5'-6"	•				•	
	5'-6"	•				•	

ELECTRICAL SYMBOL LIST

/ /	LIGHT, FLUORESCENT RECESSED MOUNTED, SHADE INDICATES INTEGRAL EMERGENCY BATTERY PACK.
/	FLUORESCENT CEILING SURFACE OR PENDANT MOUNTED
	DOWNLIGHT, CEILING RECESSED MOUNTED
	LIGHT, CEILING SURFACE MOUNTED
	LIGHT, WALL MOUNTED
	LIGHT, FLUORESCENT, WALL MOUNTED
/ /	EXIT SIGN LIGHT, SHADED QUADRANT INDICATES SIGN LETTERED FACE, CHEVRON TYPE DIRECTIONAL ARROWS, CEILING/WALL MOUNTED
$a	SWITCH, FLUSH TUMBLER, WALL MOUNTED
$3	SWITCH, FLUSH TUMBLER, 3 WAY, WALL MOUNTED, 20A, 120/277 VOLTS
$T	TIMER SWITCH
$T3	TIMER SWITCH, 3-WAY
"a"	LETTER INDICATES FIXTURE OR DEVICE CONTROLLED BY SWITCH "a", OTHER LETTERS SAME
/	RECEPTACLE, DUPLEX, WALL/FLOOR MOUNTED, 20A, 125 VOLTS, NEMA 5-20R
/	COMPUTER TYPE OUTLET, DUPLEX, WALL/FLOOR MOUNTED, NEMA 5-20R
	FOURPLEX RECEPTACLE, COMPUTER TYPE, 4 WAY, 20A, 120V, 1Φ, 3W, NEMA 5-20R FLOOR MOUNTED
	SINGLE RECEPTACLE, 20A, 125 VOLTS, WALL MOUNTED, NEMA 5-20R
C	RECEPTACLE, DUPLEX, CEILING MOUNTED, NEMA 5-20R
	COMMUNICATION OUTLET (2-DATA) CEILING MOUNTED
/	COMBINATION TEL/DATA OUTLET, WALL/FLOOR MOUNTED, 4-POSITION (2-DATA, 1-VOICE & 1-SPARE)
/	DATA OUTLET, WALL/FLOOR MOUNTED, 2-POSITION (2-DATA)
	TELEPHONE OUTLET, 2 POSITION
W	WIFI LINK , CEILING MOUNTED
HF	FIRE ALARM MANUAL PULL STATION
HF	FIRE ALARM, AUDIO / VISUAL, WALL MOUNTED
DS	DUCT SMOKE DETECTOR
HD	HEAT DETECTOR
D	SMOKE DETECTOR, CEILING MOUNTED
H	HEATER CONNECTION
M	MOTOR CONNECTION
F	FAN CONNECTION
E	EQUIPMENT CONNECTION
	PHOTOCELL
	POWER POLE
	MOTOR STARTER FURNISHED BY MECHANICAL, INSTALLED & WIRED UNDER ELECTRICAL WORK
	EQUIPMENT DISCONNECT SWITCH, HP RATED
	ELECTRIC PANELBOARD
	TELEPHONE CABINET OR BACKBOARD
	FIRE ALARM CONTROL PANEL
	CABLE TV CABINET
	RACEWAY, CONCEALED BELOW FIN. FLOOR OR GROUND. NUMBER OF WIRES WITHIN AS REQUIRED INCLUDING GROUND
	RACEWAY, CONCEALED IN CEILING OR WALL. NUMBER OF WIRES WITHIN AS REQUIRED INCLUDING GROUND
	ARROW, HOMERUN TO CABINET OR PANEL AS INDICATED. NUMBER OF WIRES WITHIN AS REQUIRED INCLUDING GROUND

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

REVISIONS

TRMA
Taniguchi Ruth Makio Architects
100 Cliff Business Center, P.O. Box EA, Agana, GU 96910
Tel.: (671) 475-8772 • Fax : (671) 472-3381
Email: arch@traguam.com
Architecture
Planning
Interior Design

EMCE • Consulting Engineers
SUITE 201, 133 ANTONIA COURT
P.O. BOX 8888 TAMUNING, GUAM 96931
671 648-0188/7 Phone
671 648-EMCE (3623) Fax
Email: guam@emceconsulting.com
Website: www.emceconsulting.com

ALEX P. ANDRES CERTIFICATE No.938 (ELECTRICAL) EXP. April 30, 2014 GUAM PROFESSIONAL ENGINEER

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

DATE: _____

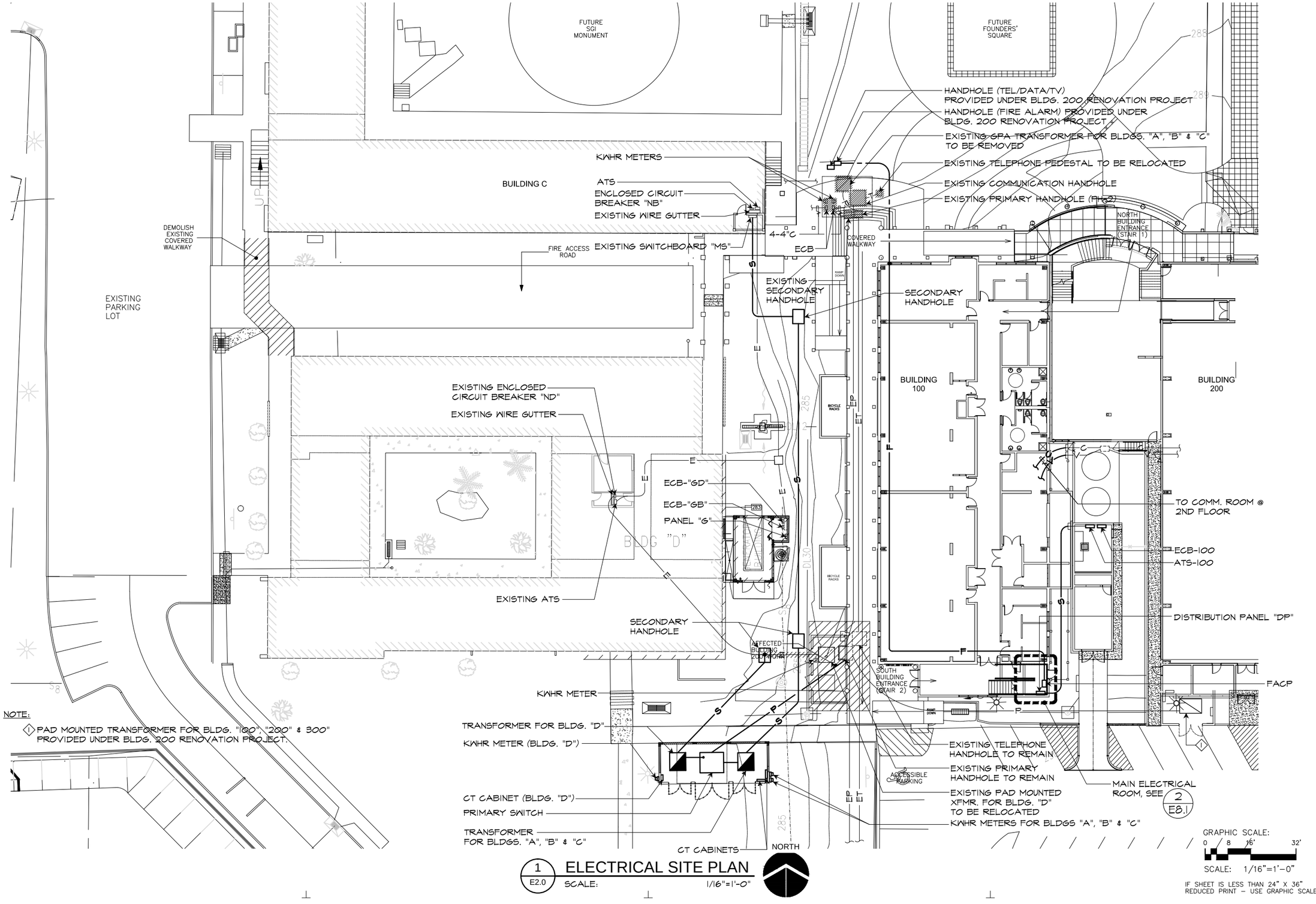
Project:
GCC
BLDG. 100 RENOVATION

Title:
GENERAL NOTES & ELECTRICAL SYMBOL LIST AND SCHEDULE

DESIGN DEVELOPMENT

Designed:	TM
Drawn:	RS/FC
Checked:	AA
Supv:	AA
Scale:	AS SHOWN
Date:	06/20/13
Project No. 24-11-390	File

Drawing No.
E1.0
Sheet No. _____ of _____



NOTE:

1. PAD MOUNTED TRANSFORMER FOR BLDG. "100", "200" & 300" PROVIDED UNDER BLDG. 200 RENOVATION PROJECT.

1 / E2.0 ELECTRICAL SITE PLAN

SCALE: 1/16"=1'-0"

GRAPHIC SCALE: 0 8 16 32

SCALE: 1/16"=1'-0"

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

REVISIONS

TRMA
Taniguchi Ruth Makio Architects
100 Cliff Business Center, P.O. Box EA, Agana, GU 96910
Tel.: (671) 475-8772 ▪ Fax : (671) 472-3381
Email: arch@traguam.com
Architecture
Planning
Interior Design

EMCE • Consulting Engineers
SUITE 201, 133 ANTONIA COURT
P.O. BOX 8888 TAMUNING, GUAM 96931
671 648-0188/7 Phone
671 648-EMCE (3623) Fax
Email: guam@emceconsulting.com
Website: www.emceconsulting.com

ALEX F. ANDRES CERTIFICATE No.938 (ELECTRICAL) EXP. April 30, 2014 GUAM PROFESSIONAL ENGINEER

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

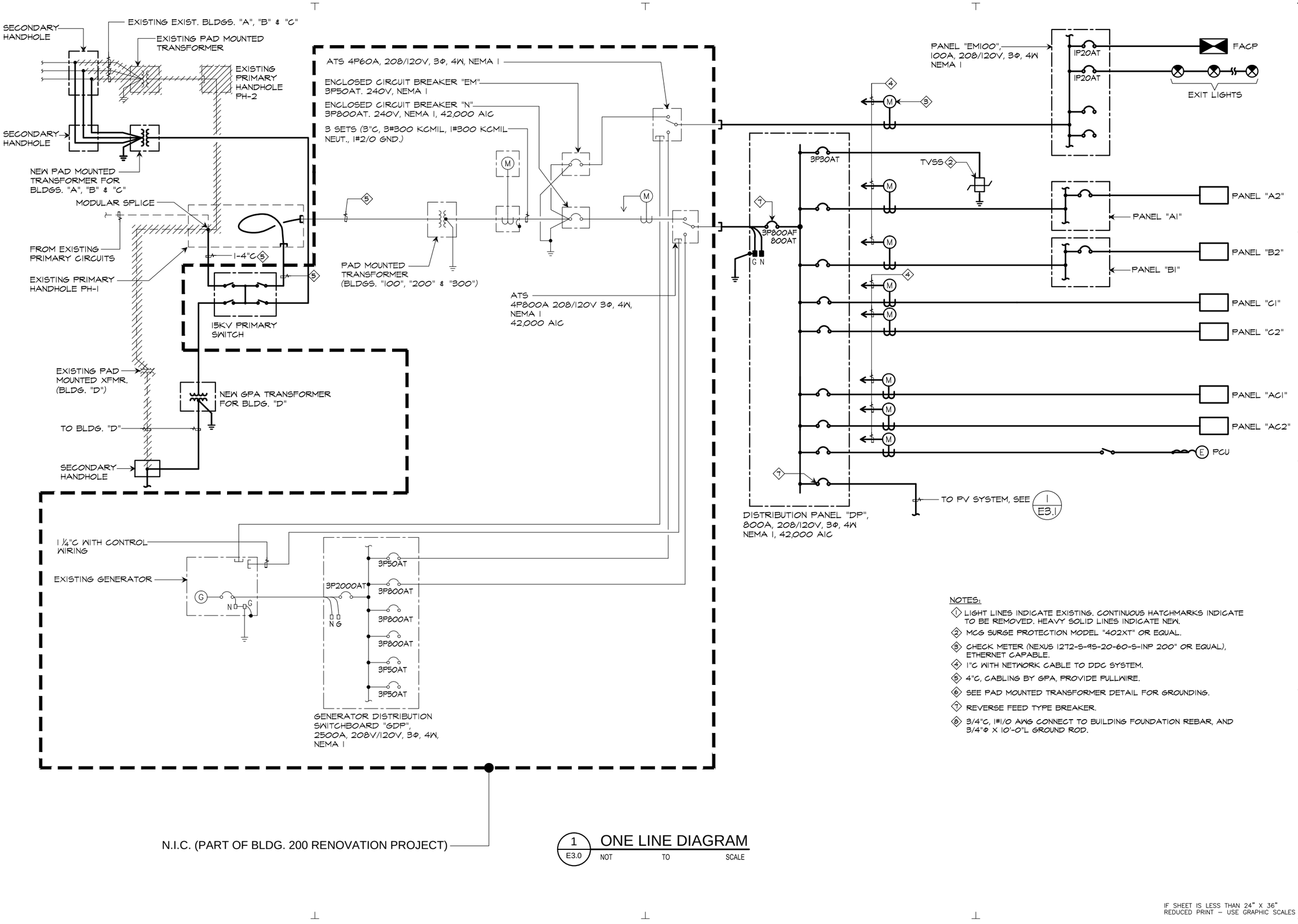
DATE:

Project:
GCC
BLDG. 100 RENOVATION

Title:
ELECTRICAL SITE PLAN
DESIGN DEVELOPMENT

Designed:	TM
Drawn:	RS/FC
Checked:	AA
Supv:	AA
Scale:	AS SHOWN
Date:	06/20/13
Project No. 24-11-390	File

Drawing No.
E2.0
Sheet No. _____ of _____



N.I.C. (PART OF BLDG. 200 RENOVATION PROJECT)

1/E3.0 ONE LINE DIAGRAM
NOT TO SCALE

NOTES:

1. LIGHT LINES INDICATE EXISTING. CONTINUOUS HATCHMARKS INDICATE TO BE REMOVED. HEAVY SOLID LINES INDICATE NEW.
2. MCG SURGE PROTECTION MODEL "402XT" OR EQUAL.
3. CHECK METER (NEXUS 1272-S-9S-20-60-S-INP 200" OR EQUAL), ETHERNET CAPABLE.
4. 1"C WITH NETWORK CABLE TO DDC SYSTEM.
5. 4"C, CABLING BY GPA, PROVIDE PULLWIRE.
6. SEE PAD MOUNTED TRANSFORMER DETAIL FOR GROUNDING.
7. REVERSE FEED TYPE BREAKER.
8. 3/4"C, 1#1/0 AWG CONNECT TO BUILDING FOUNDATION REBAR, AND 3/4"Φ X 10'-0"L GROUND ROD.

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

REVISIONS

TRMA
Taniguchi Ruth Makio Architects
100 Cliff Business Center, P.O. Box EA, Agana, GU 96910
Tel.: (671) 475-8772 • Fax : (671) 472-3381
Email: arch@traguam.com
Architecture
Planning
Interior Design

EMCE • Consulting Engineers
SUITE 201, 133 ANTONIA COURT
P.O. BOX 8888 TAMUNING, GUAM 96931
671 648-0188/7 Phone
671 648-EMCE (3623) Fax
Email: guam@emceconsulting.com
Website: www.emceconsulting.com

ALEX F. ANDRES CERTIFICATE No.938 (ELECTRICAL) EXP. April 30, 2014 GUAM PROFESSIONAL ENGINEER

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

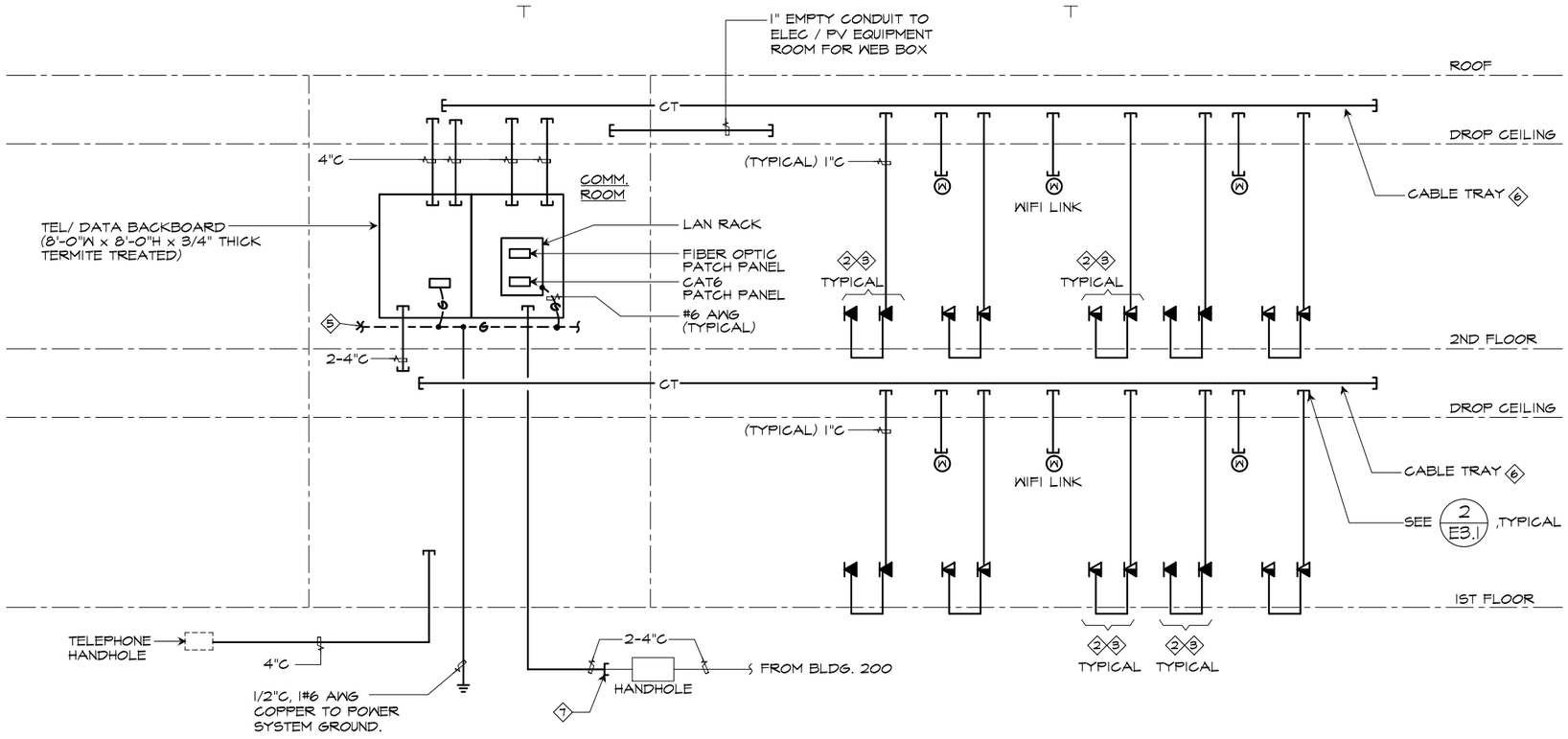
DATE: _____

Project:
GCC
BLDG. 100 RENOVATION

Title:
ONE LINE DIAGRAM
DESIGN DEVELOPMENT

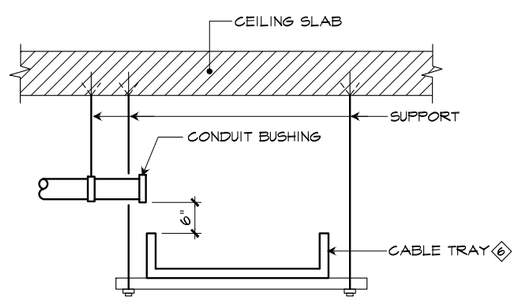
Designed:	TM
Drawn:	RS/FC
Checked:	AA
Supv:	AA
Scale:	AS SHOWN
Date:	06/20/13
Project No. 24-11-390	File

Drawing No.
E3.0
Sheet No. _____ of _____



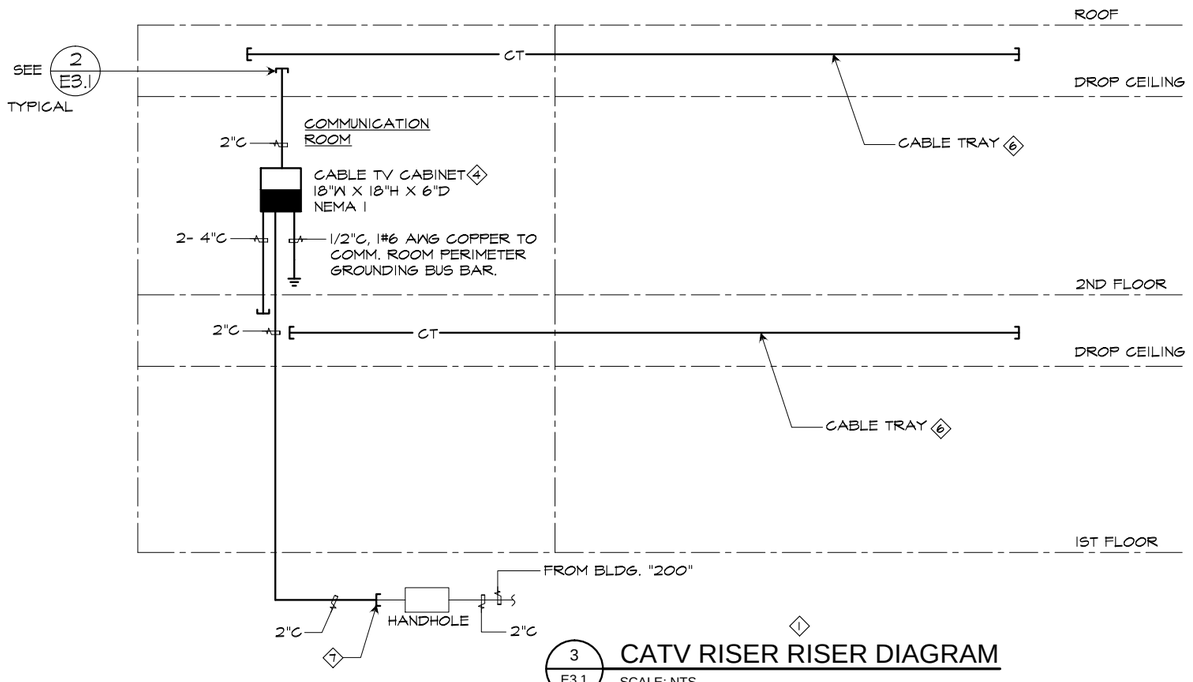
1 E3.1 TELEPHONE/DATA SYSTEM RISER DIAGRAM

SCALE: NTS



2 E3.1 DETAIL

SCALE: NTS



3 E3.1 CATV RISER RISER DIAGRAM

SCALE: NTS

NOTES (APPLICABLE FOR ENTIRE SHEET):

1. EMPTY CONDUIT SYSTEM ONLY EXCEPT AS NOTED FOR ELEVATOR. MINIMUM CONDUIT SIZE SHALL BE 1"C. LIMIT MAXIMUM NUMBER OF BENDS TO 2-90°. PROVIDE PULLWIRE IN ALL CONDUITS.
2. SEE PLANS FOR QUANTITY AND LOCATION OF DEVICES.
3. MAXIMUM OF 2 OUTLETS PER HOMERUN.
4. PROVIDE 3/4" THICK TERMITE TREATED BACKBOARD IN CABINET.
5. PERIMETER GROUNDING BUSBAR, COPPER (4"W X 1/4"THICK X LENGTH AS REQUIRED) COMPLETE WITH INSULATOR AND MOUNTING ACCESSORIES. SUBMIT SHOP DRAWING FOR APPROVAL.
6. CABLE TRAY, ALUMINUM, LADDER TYPE (12"W x 6" DEPTH x LENGTH AS REQUIRED). CABLE TRAY SHALL BE GROUNDED AS PER NEC REQUIREMENT. SUBMIT SHOP DRAWING FOR APPROVAL.
7. INTERCEPT EXISTING CONDUITS, EXTEND NEW CONDUITS TO BLDG. 100. SEE SITE PLAN FOR QUANTITY AND LOCATION.

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

REVISIONS

TRMA
Taniguchi Ruth Makio Architects
100 Cliff Business Center, P.O. Box EA, Agana, GU 96910
Tel.: (671) 475-8772 ▪ Fax : (671) 472-3381
Email: arch@traguam.com
Architecture
Planning
Interior Design

EMCE • Consulting Engineers
SUITE 201, 133 ANTONIA COURT
P.O. BOX 8888 TAMUNING, GUAM 96931
671 648-0188/7 Phone
671 648-EMCE (3623) Fax
Email: guam@emceconsulting.com
Website: www.emceconsulting.com

ALEX F. ANDRES CERTIFICATE No.938 (ELECTRICAL) EXP. April 30, 2014 GUAM PROFESSIONAL ENGINEER

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

DATE: _____

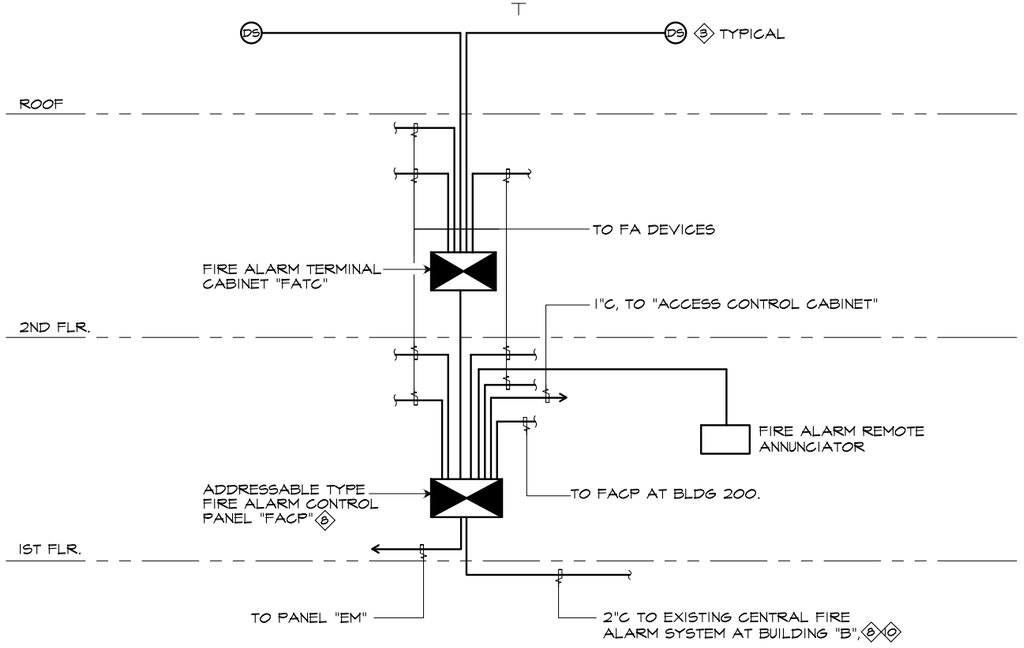
Project:
GCC
BLDG. 100 RENOVATION

Title:
TELEPHONE/DATA AND CABLE TV RISER DIAGRAM

DESIGN DEVELOPMENT

Designed:	TM
Drawn:	RS/FC
Checked:	AA
Supv:	AA
Scale:	AS SHOWN
Date:	06/20/13
Project No. 24-11-390	File

Drawing No.
E3.1
Sheet No. _____ of _____

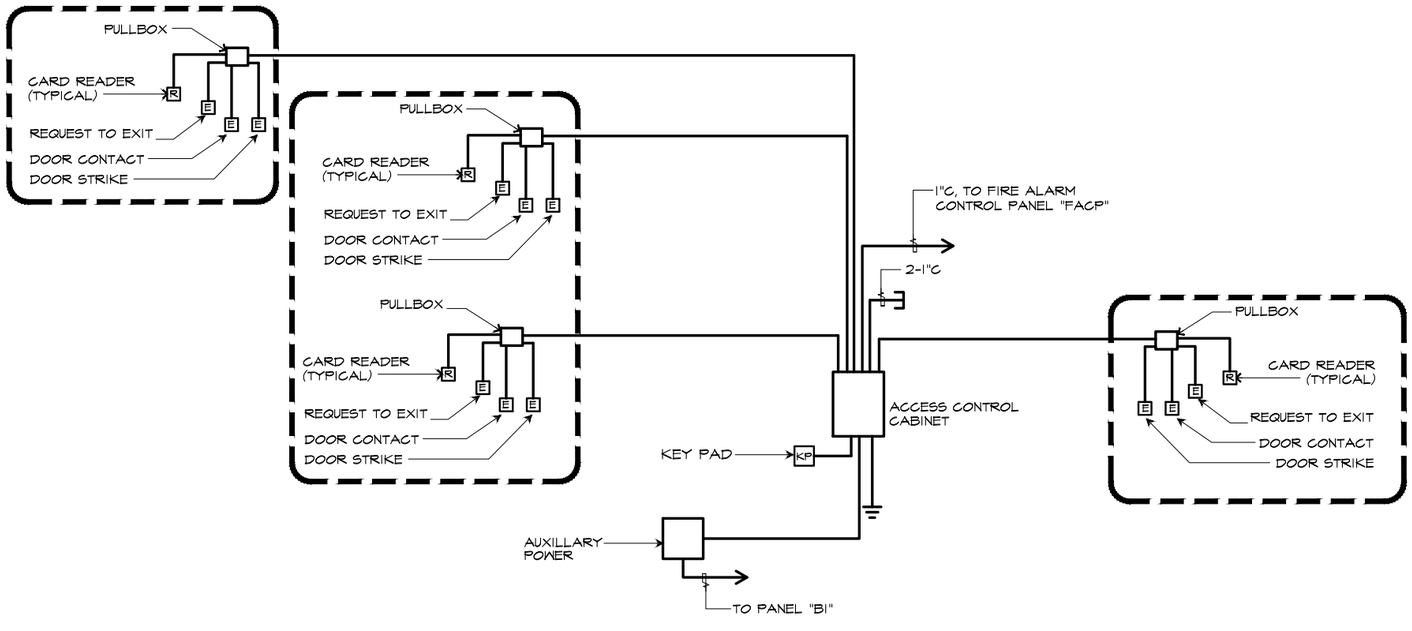


1 E3.2 FIRE ALARM RISER DIAGRAM

NOT TO SCALE

NOTES:

1. DEVICES ARE SHOWN IN SUGGESTED LOCATIONS. FINAL LAYOUT SHALL BE IN ACCORDANCE WITH THE APPLICABLE CODES (NFPA 72), MANUFACTURER'S RECOMMENDATION, SPECIFICATION, AND EQUIPMENT LISTING. CONDUIT AND WIRE SIZES SHALL BE AS PER MANUFACTURER'S RECOMMENDATION AND SPECIFICATIONS.
2. INITIATING DEVICE FIELD WIRING AND NOTIFICATION APPLIANCE CIRCUITS SHALL BE SEPARATE. WIRE SIZE SHALL BE SUFFICIENT TO PREVENT VOLTAGE DROP.
3. PROVIDED UNDER MECHANICAL WORK. COORDINATE QUANTITY AND LOCATION WITH MECHANICAL WORKS.
4. INSTALLATION OF FIRE ALARM SYSTEM SHALL NOT START UNTIL SHOP DRAWINGS ARE SUBMITTED AND APPROVED.
5. SUBMIT VOLTAGE DROP CALCULATION. INCLUDE THE FOLLOWING INFORMATION FOR THE WORST CASE:
   a. POINT TO POINT WIRING CALCULATION
   b. VOLTAGE DROP PERCENT. VOLTAGE DROP NOT TO EXCEED MANUFACTURER'S REQUIREMENTS.
6. MINIMUM CONDUIT SIZE SHALL BE 3/4"C UNLESS OTHERWISE INDICATED.
7. SEE PLAN FOR QUANTITY AND LOCATION OF DEVICES.
8. REPORTING SHALL BE COMPATIBLE WITH THE EXISTING CENTRAL FACITLITY FIRE ALARM SYSTEM. REPORTING TO CENTRAL FA SYSTEM SHALL BE BY DEVICE.
9. a. HEAT DETECTOR SHALL HAVE BOTH A LOW TEMPERATURE RATING AND A HIGHER SENSITIVITY AS COMPARED TO THE SPRINKLER HEAD INSTALLED IN THE SAME ROOM. HEAT DETECTOR SHALL SHUT DOWN ELEVATOR PRIOR TO SPRINKLER OPERATIONS AND SHALL BE PLACED WITHIN 2 FEET OF SPRINKLER HEAD.
   b. CONTROL CIRCUITS TO SHUT DOWN ELEVATOR POWER SHALL BE MONITORED FOR PRESENCE OF OPERATIONS VOLTAGE. LOSS OF VOLTAGE SHALL CAUSE A SUPERVISORY SIGNAL TO BE INDICATED AT THE CONTROL UNIT. ELEVATOR CONTRACTOR SHALL COORDINATE CONTROL AND SHUT DOWN REQUIREMENT WITH SPRINKLER AND FIRE ALARM CONTRACTOR.



2 E3.2 ACCESS CONTROL SYSTEM RACEWAY RISER DIAGRAM

NOT TO SCALE

NOTES:

1. SECURITY SYSTEM RISER DIAGRAM IS FOR GENERAL GUIDELINE ONLY. COORDINATE ACTUAL REQUIREMENTS, BACKBOXES, PULLBOXES, WIRES AND CONDUIT SIZES WITH OWNER'S SECURITY SYSTEM CONTRACTOR. SUBMIT SHOP DRAWING FOR APPROVAL.

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

REVISIONS

TRMA
Taniguchi Ruth Makio Architects
100 Cliff Business Center, P.O. Box EA, Agana, GU 96910
Tel.: (671) 475-8772 ▪ Fax : (671) 472-3381
Email: arch@traguam.com
Architecture
Planning
Interior Design

EMCE • Consulting Engineers
SUITE 201, 133 ANTONIA COURT
P.O. BOX 8888 TAMUNING, GUAM 96931
671 646-0166/7 Phone
671 646-EMCE (3623) Fax
Email: guam@emceconsulting.com
Website: www.emceconsulting.com

ALEX F. ANDRES CERTIFICATE No.938 (ELECTRICAL) EXP. April 30, 2014 GUAM PROFESSIONAL ENGINEER

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

DATE: _____

Project:

GCC

BLDG. 100 RENOVATION

Title:

FIRE ALARM AND ACCESS CONTROL SYSTEM RACEWAY RISER DIAGRAMS

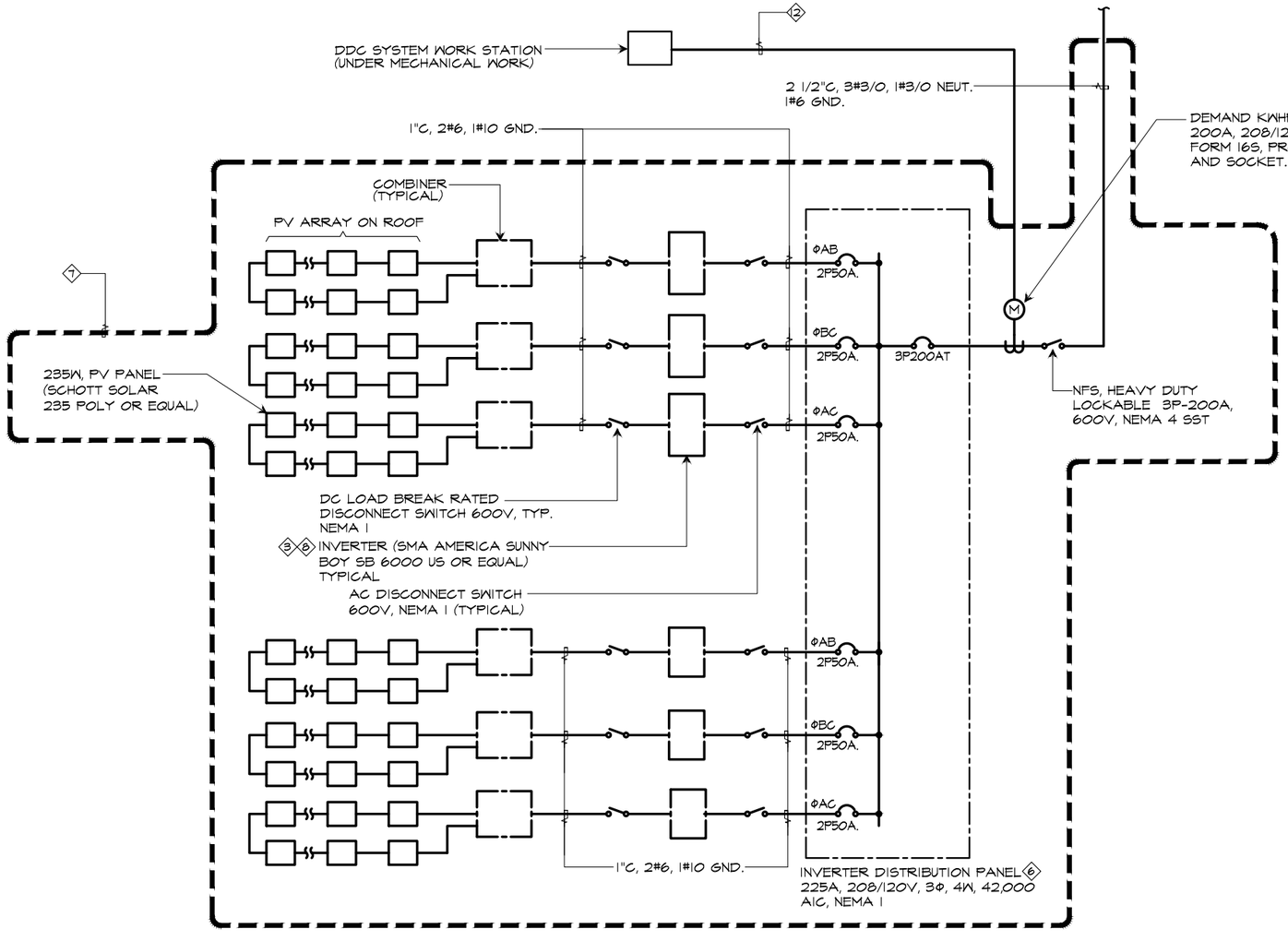
DESIGN DEVELOPMENT

Designed:	TM
Drawn:	RS/FC
Checked:	AA
Supv:	AA
Scale:	AS SHOWN
Date:	06/20/13
Project No. 24-11-390	File

Drawing No.

E3.2

Sheet No. _____ of _____



1 E3.3 ONE LINE DIAGRAM (PV SYSTEM)

NOT TO SCALE

NOTES:

1. A GRID-TIE PHOTO-VOLTAIC (PV) SYSTEM SHALL BE PROVIDED WITH A MINIMUM OUTPUT OF 20 KW RATED UNDER STANDARD TEST CONDITIONS (STC). PROVIDE 120 EACH 235 WATTS (SCHOTT SOLAR 235 POLY OR APPROVED EQUAL) PV MODULES CONFIGURED IN 12 ARRAYS WITH A STRING OF 10 PANELS MAY BE USED. REQUIRED AUXILIARY EQUIPMENT INCLUDING DISCONNECT SWITCHES, COMBINERS, INVERTERS, CIRCUIT BREAKERS, AND PANELBOARD SHALL BE PROVIDED. SYSTEM SHALL BE CONNECTED TO GROUND PER NEC REQUIREMENT.

2. PV MODULES SHALL BE MOUNTED ON THE ROOF USING MANUFACTURER STANDARD CORROSION RESISTANT CHANNELS. PANEL SHALL BE ORIENTED AND TILTED PER MANUFACTURER'S RECOMMENDATION FOR GUAM. INSTALLATION SHALL BE RATED TO WITHSTAND 170 MPH WINDLOAD IBC 2009 EXPOSURE C AND ASCE 7-05.

3. THE PV SYSTEM INVERTER OUTPUT SHALL CONNECT TO THE BUILDING ELECTRICAL SYSTEM. POWER GENERATED BY THE PV SYSTEM SHALL BECOME AVAILABLE FOR UTILIZATION BY THE BUILDING LOAD. PROVIDE SURGE PROTECTION AND INTEGRAL GROUND FAULT PROTECTION. PROVIDE ANTI-ISLANDING, OVER AND UNDER VOLTAGE TRIP FUNCTION, OVER AND UNDER FREQUENCY TRIP FUNCTION, AND VOLTAGE AND FREQUENCY SENSING AND TIME DELAY FUNCTIONS PER IEEE STD 929-2000. PROVIDE WEB BOX CONNECTION FOR REMOTE MONITORING. LOCATION TO BE DETERMINED BY THE OWNER.

4. A REVERSING KILO-WATTHOUR METER SHALL BE PROVIDED TO TRACK ENERGY PRODUCED BY THE PV SYSTEM.

5. PROVIDE NAMEPLATE INDICATING "PHOTOVOLTAIC INVERTER PANELBOARD: DO NOT CONNECT ADDITIONAL LOAD TO THIS PANEL".

6. BOLT-ON TYPE.

7. PROVIDE CONDUIT AND WIRING, PER MANUFACTURER'S RECOMMENDATION.

8. INVERTER SHALL HAVE INTEGRAL GROUND FAULT DETECTION, INTERRUPTION AND ARRAY DISCONNECT (GFPD) DEVICE.

9. REFER TO 4/E8.1 FOR SCHEMATIC DIAGRAM.

10. THIS DIAGRAM IS FOR GENERAL GUIDELINES. SUBMIT SHOP DRAWING FOR APPROVAL BY ENGINEER SHOWING THE FOLLOWING:
    1. POINT TO POINT WIRING DIAGRAM.
    2. COMPLETE EQUIPMENT CATALOG CUTS.
    3. EQUIPMENT MOUNTING DETAILS.
    4. PV PANEL MOUNTING DETAILS, CERTIFIED BY GUAM REGISTERED STRUCTURAL ENGINEER.

11. CONTRACTOR SHALL OBTAIN BUILDING PERMIT AND GPA APPROVAL ON BEHALF OF THE OWNER.

12. 1"C, WITH NETWORK CABLE TO DC SYSTEM.

13. PROVIDE MARKING "PHOTOVOLTAIC POWER SOURCE" ON RACEWAYS NO LESS THAN EVERY 10 FEET, AT EVERY TURN, ABOVE AND BELOW PENETRATIONS AND ON ALL EXPOSED RACEWAYS. MINIMUM TEXT HEIGHT SHALL BE 3/8" USING WHITE LETTERING ON A RED BACKGROUND. LABELS MUST HAVE REFLECTIVE PROPERTIES AND SHALL MEET UL969 REQUIREMENTS. PROVIDE OTHER LABELS AS REQUIRED BY NEC 2011 SECTION 690.

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

REVISIONS

TRMA
Taniguchi Ruth Makio Architects
100 Cliff Business Center, P.O. Box EA, Agana, GU 96910
Tel.: (671) 475-8772 • Fax : (671) 472-3381
Email: arch@traguam.com
Architecture
Planning
Interior Design

EMCE • Consulting Engineers
SUITE 201, 133 ANTONIA COURT
P.O. BOX 8888 TAMUNING, GUAM 96931
671 648-0188/7 Phone
671 648-EMCE (3623) Fax
Email: guam@emceconsulting.com
Website: www.emceconsulting.com

ALEX F. ANDRES CERTIFICATE No.938 (ELECTRICAL) EXP. April 30, 2014 GUAM PROFESSIONAL ENGINEER

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

DATE:

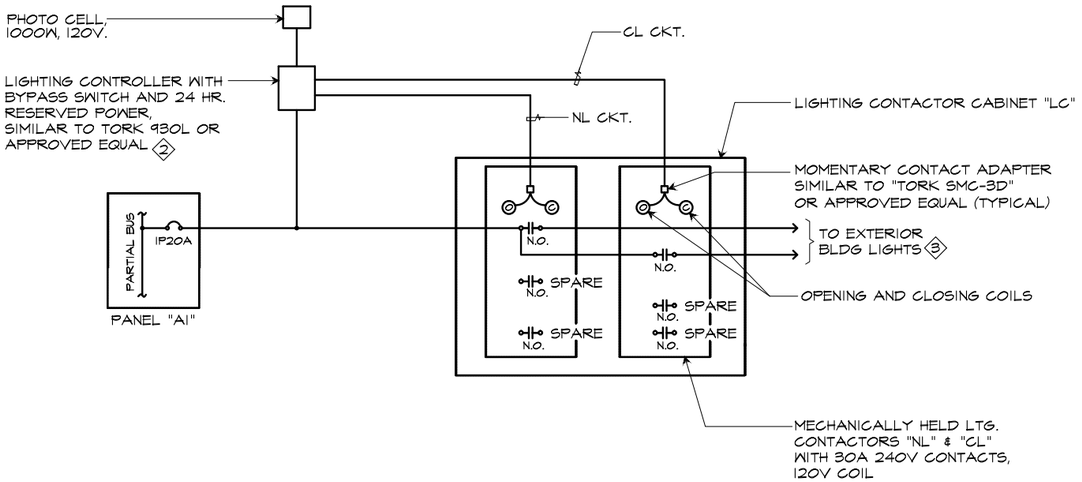
Project:
GCC
BLDG. 100 RENOVATION

Title:
ONE LINE DIAGRAM
(PV SYSTEM)

DESIGN DEVELOPMENT

Designed:	TM
Drawn:	RS/FC
Checked:	AA
Supv:	AA
Scale:	AS SHOWN
Date:	06/20/13
Project No. 24-11-390	File

Drawing No.
E3.3
Sheet No. _____ of _____

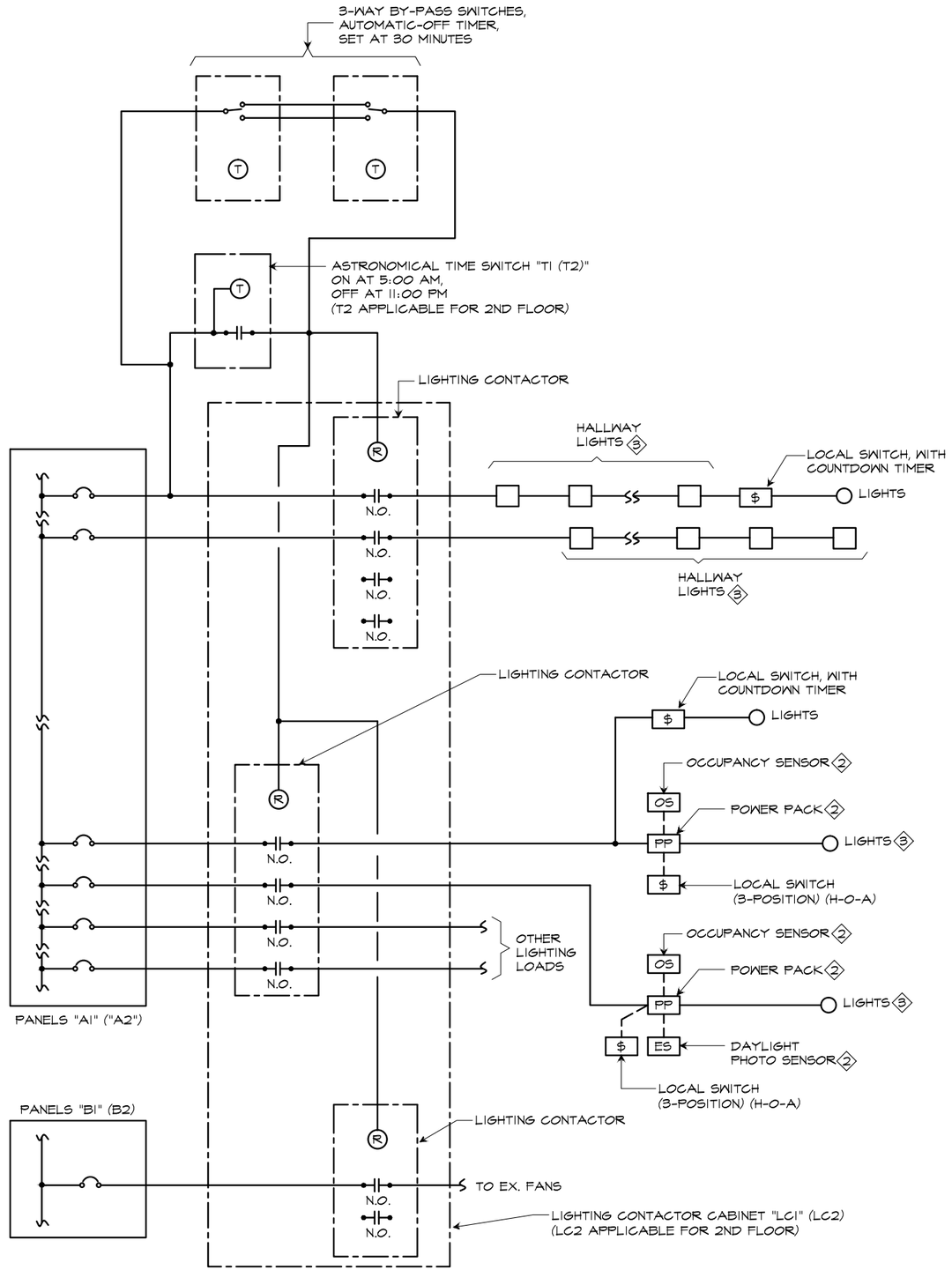


1 E3.4 LIGHTING CONTROL DIAGRAM (EXTERIOR)

NOT TO SCALE

NOTES: (APPLICABLE TO ENTIRE SHEET)

1. OPERATION SHALL BE AS FOLLOWS:
   NIGHT LIGHT (NL) = ON BY PHOTOCELL, OFF BY PHOTOCELL
   CURFEW LIGHTS (CL) = ON BY PHOTOCELL, OFF BY TIME SWITCH (OBTAIN SETTING FROM OWNER)
2. VERIFY MANUFACTURER'S WIRING REQUIREMENT.
3. SEE PLAN FOR QUANTITY AND LOCATION OF LIGHT FIXTURES.



2 E3.4 TYPICAL INTERIOR LIGHTING CONTROL DIAGRAM

NOT TO SCALE

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

REVISIONS

TRMA
Taniguchi Ruth Makio Architects
100 Cliff Business Center, P.O. Box EA, Agana, GU 96910
Tel.: (671) 475-8772 ▪ Fax : (671) 472-3381
Email: arch@traguam.com
Architecture
Planning
Interior Design

EMCE • Consulting Engineers
SUITE 201, 133 ANTONIA COURT
P.O. BOX 8888 TAMUNING, GUAM 96931
671 648-0188/7 Phone
671 648-EMCE (3623) Fax
Email: guam@emceconsulting.com
Website: www.emceconsulting.com

ALEX F. ANDRES CERTIFICATE No.938 (ELECTRICAL) EXP. April 30, 2014 GUAM PROFESSIONAL ENGINEER

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

DATE: _____

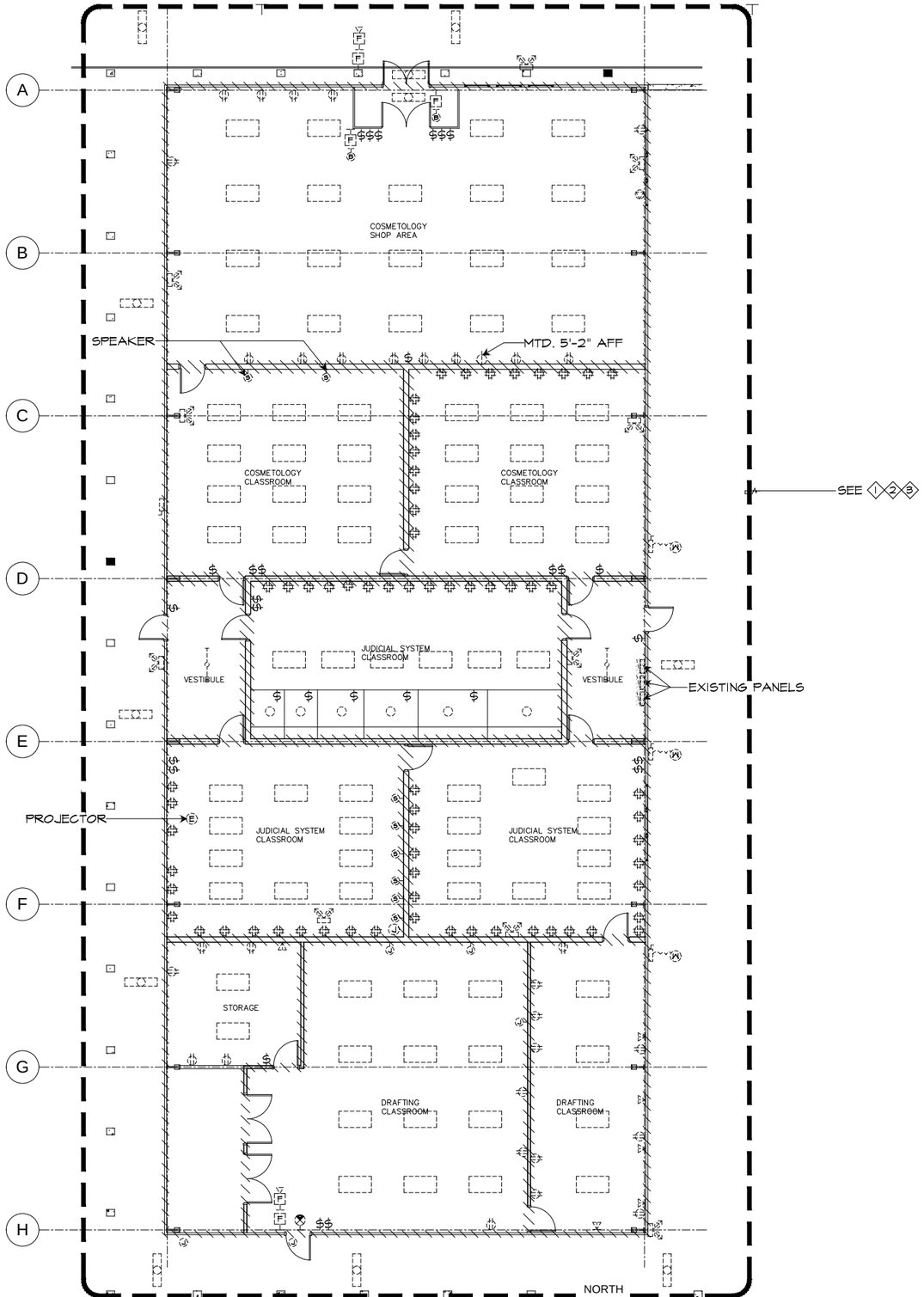
Project:
GCC
BLDG. 100 RENOVATION

Title:
LIGHTING CONTROL DIAGRAMS

DESIGN DEVELOPMENT

Designed:	TM
Drawn:	RS/FC
Checked:	AA
Supv:	AA
Scale:	AS SHOWN
Date:	06/20/13
Project No. 24-11-390	File

Drawing No.
E3.4
Sheet No. _____ of _____



1 E4.0 ELECTRICAL REMOVAL PLAN

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

NOTES:

1. ALL ELECTRICAL EQUIPMENT, LIGHT FIXTURES AND DEVICES WITHIN THE BOUNDARY SHALL BE REMOVED INCLUDING ASSOCIATED CONDUIT AND WIRING UNLESS OTHERWISE INDICATED.
2. ALL REUSABLE FLUORESCENT LIGHT FIXTURES, OUTLETS AND SWITCHES SHALL BE SALVAGED AND DELIVERED TO A LOCATION ON CAMPUS AS DIRECTED BY THE CONTRACTING OFFICER.
3. ALL DEBRIS AND TRASH FROM CONSTRUCTION SHALL BE SORTED AND REMOVED FROM THE SITE IN ACCORDANCE WITH THE CONSTRUCTION WASTE MANAGEMENT PLAN.

GRAPHIC SCALE:
0 4' 8' 16'
SCALE: 1/8"=1'-0"

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

REVISIONS

TRMA
Taniguchi Ruth Makio Architects
100 Cliff Business Center, P.O. Box EA, Agana, GU 96910
Tel.: (671) 475-8772 • Fax : (671) 472-3381
Email: arch@traguam.com
Architecture
Planning
Interior Design

EMCE • Consulting Engineers
SUITE 201, 133 ANTONIA COURT
P.O. BOX 8888 TAMUNING, GUAM 96931
671 648-0188/7 Phone
671 648-EMCE (3623) Fax
Email: guam@emceconsulting.com
Website: www.emceconsulting.com

ALEX F. ANDRES CERTIFICATE No.938 (ELECTRICAL) EXP. April 30, 2014 GUAM PROFESSIONAL ENGINEER

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

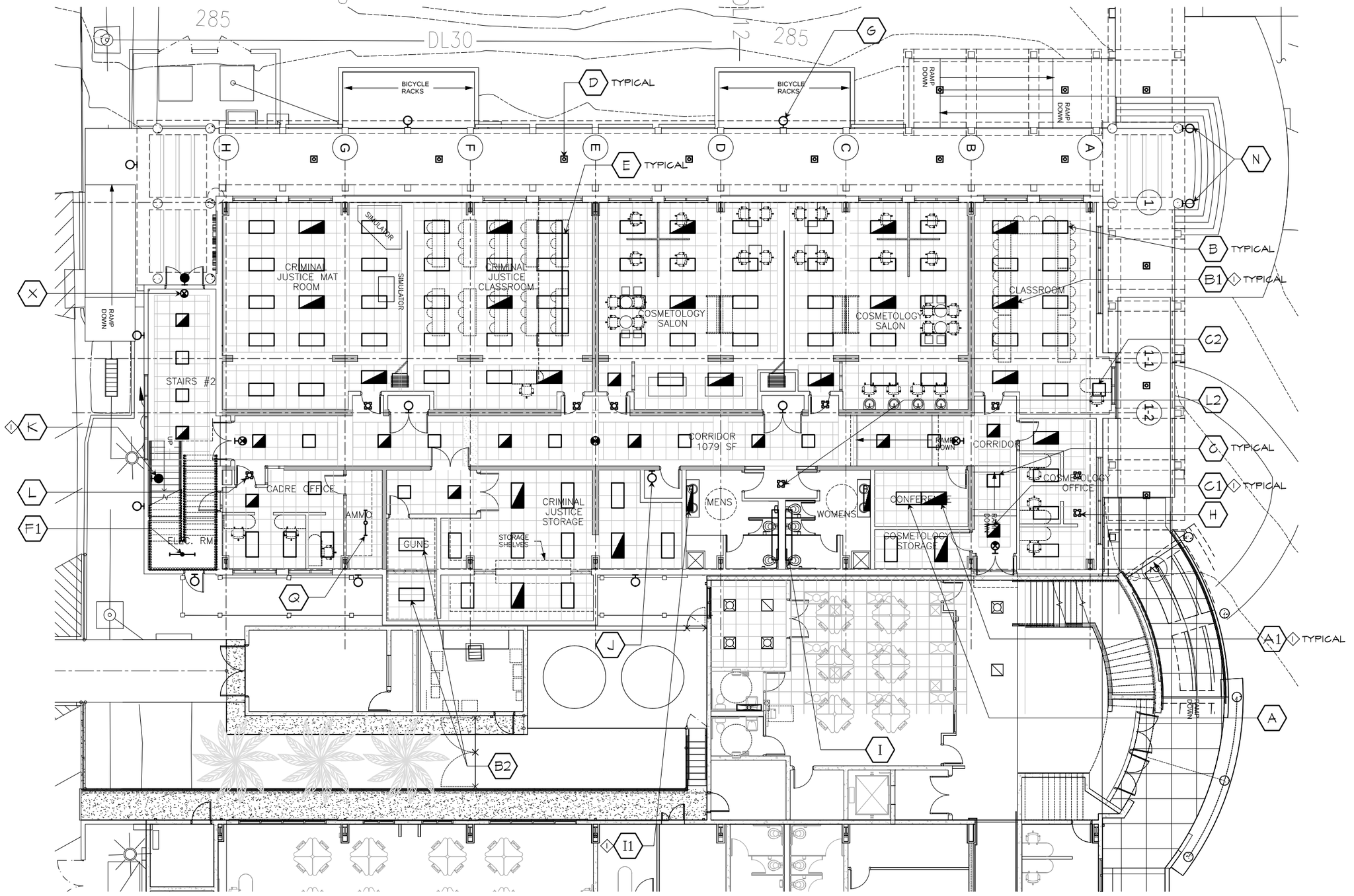
DATE:

Project:
GCC
BLDG. 100 RENOVATION

Title:
ELECTRICAL REMOVAL PLAN
DESIGN DEVELOPMENT

Designed:	TM
Drawn:	RS/FC
Checked:	AA
Supv:	AA
Scale:	AS SHOWN
Date:	06/20/13
Project No. 24-11-390	File

Drawing No.
E4.0
Sheet No. _____ of _____



NOTE:

1 CONNECT EMERGENCY BATTERY PACK TO UNSWITHED CIRCUIT.

1 E5.0 LIGHTING PLAN - FIRST FLOOR

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

NORTH

GRAPHIC SCALE:
0 4' 8' 16'
SCALE: 1/8"=1'-0"

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

REVISIONS

TRMA
Taniguchi Ruth Makio Architects
100 Cliff Business Center, P.O. Box EA, Agana, GU 96910
Tel.: (671) 475-8772 ▪ Fax : (671) 472-3381
Email: arch@traguam.com
Architecture
Planning
Interior Design

EMCE • Consulting Engineers
SUITE 201, 133 ANTONIA COURT
P.O. BOX 8888 TAMUNING, GUAM 96931
671 648-0188/7 Phone
671 648-EMCE (3623) Fax
Email: guam@emceconsulting.com
Website: www.emceconsulting.com

ALEX F. ANDRES CERTIFICATE No.938 (ELECTRICAL) EXP. April 30, 2014 GUAM PROFESSIONAL ENGINEER

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

DATE:

Project:
GCC
BLDG. 100 RENOVATION

Title:
LIGHTING PLAN - FIRST FLOOR

DESIGN DEVELOPMENT

Designed:	TM
Drawn:	RS/FC
Checked:	AA
Supv:	AA
Scale:	AS SHOWN
Date:	06/20/13
Project No. 24-11-390	File

Drawing No.
E5.0
Sheet No. _____ of _____

NOTE:

1 CONNECT EMERGENCY BATTERY PACK TO UNSWITCHED CIRCUIT.

1 / E5.1 LIGHTING PLAN - SECOND FLOOR

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

NORTH

GRAPHIC SCALE:
0 4' 8' 16'
SCALE: 1/8"=1'-0"

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

REVISIONS

TRMA
Taniguchi Ruth Makio Architects
100 Cliff Business Center, P.O. Box EA, Agana, GU 96910
Tel.: (671) 475-8772 ▪ Fax : (671) 472-3381
Email: arch@traguam.com
Architecture
Planning
Interior Design

EMCE • Consulting Engineers
SUITE 201, 133 ANTONIA COURT
P.O. BOX 8888 TAMUNING, GUAM 96931
671 648-0188/7 Phone
671 648-EMCE (3623) Fax
Email: guam@emceconsulting.com
Website: www.emceconsulting.com

ALEX F. ANDRES CERTIFICATE No.938 (ELECTRICAL) EXP. April 30, 2014 GUAM PROFESSIONAL ENGINEER

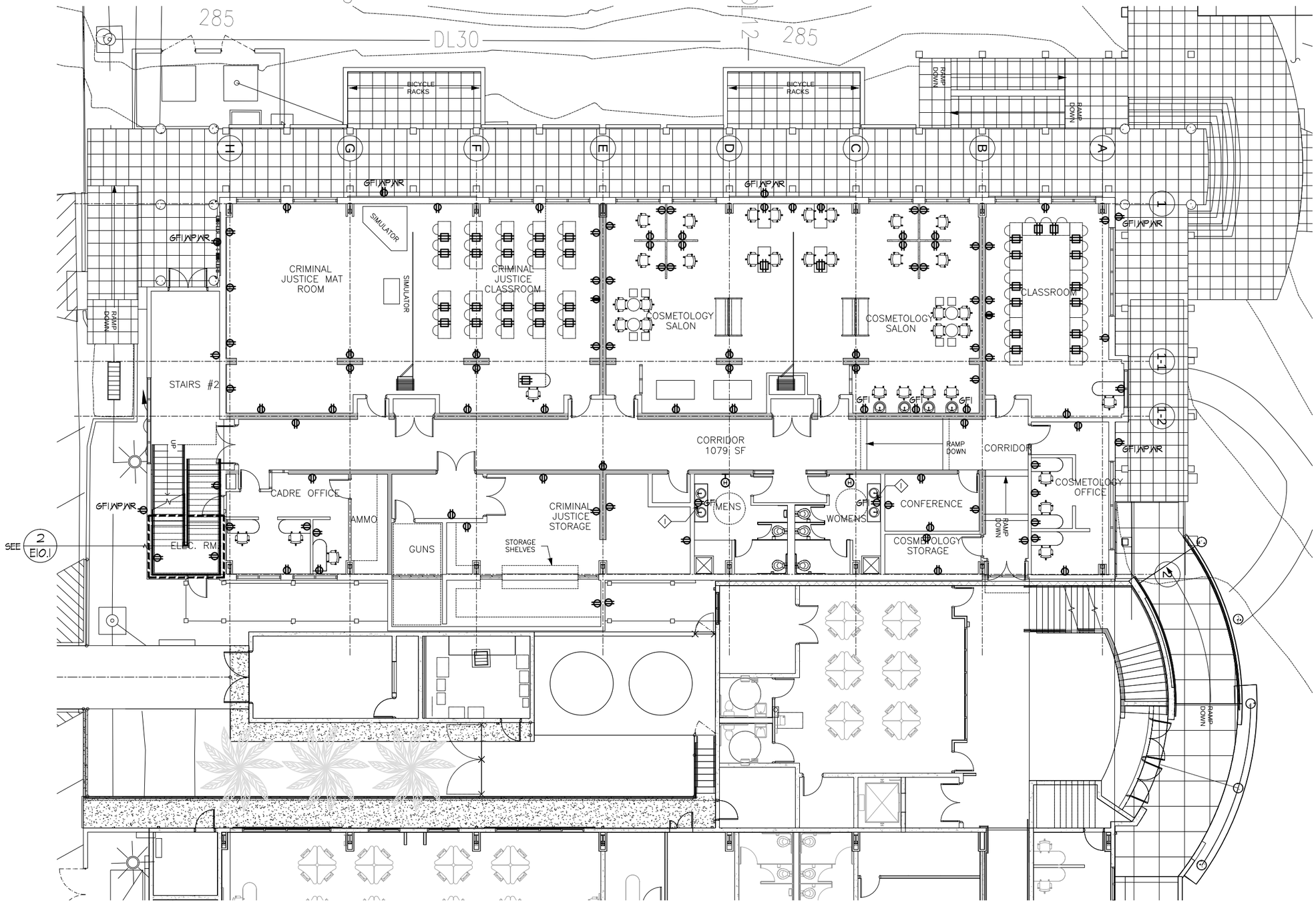
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION
DATE:

Project:
GCC
BLDG. 100 RENOVATION

Title:
LIGHTING PLAN - SECOND FLOOR
DESIGN DEVELOPMENT

Designed:	TM
Drawn:	RS/FC
Checked:	AA
Supv:	AA
Scale:	AS SHOWN
Date:	06/20/13
Project No. 24-11-390	File

Drawing No.
E5.1
Sheet No. _____ of _____



NOTE:

◇1 MOUNTED +8" ABOVE COUNTER/SINK.

1 E6.0 POWER PLAN - FIRST FLOOR

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

NORTH

GRAPHIC SCALE:

0 4' 8' 16'

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

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

REVISIONS

TRMA

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

Architecture
Planning
Interior Design

EMCE • Consulting Engineers
SUITE 201, 133 ANTONIA COURT
P.O. BOX 8888 TAMUNING, GUAM 96931
671 648-0188/7 Phone
671 648-EMCE (3623) Fax
Email: guam@emceconsulting.com
Website: www.emceconsulting.com

ALEX F. ANDRES CERTIFICATE No. 938 (ELECTRICAL) EXP. April 30, 2014 GUAM PROFESSIONAL ENGINEER

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

DATE: _____

Project:

GCC

BLDG. 100 RENOVATION

Title:

POWER PLAN
- FIRST FLOOR

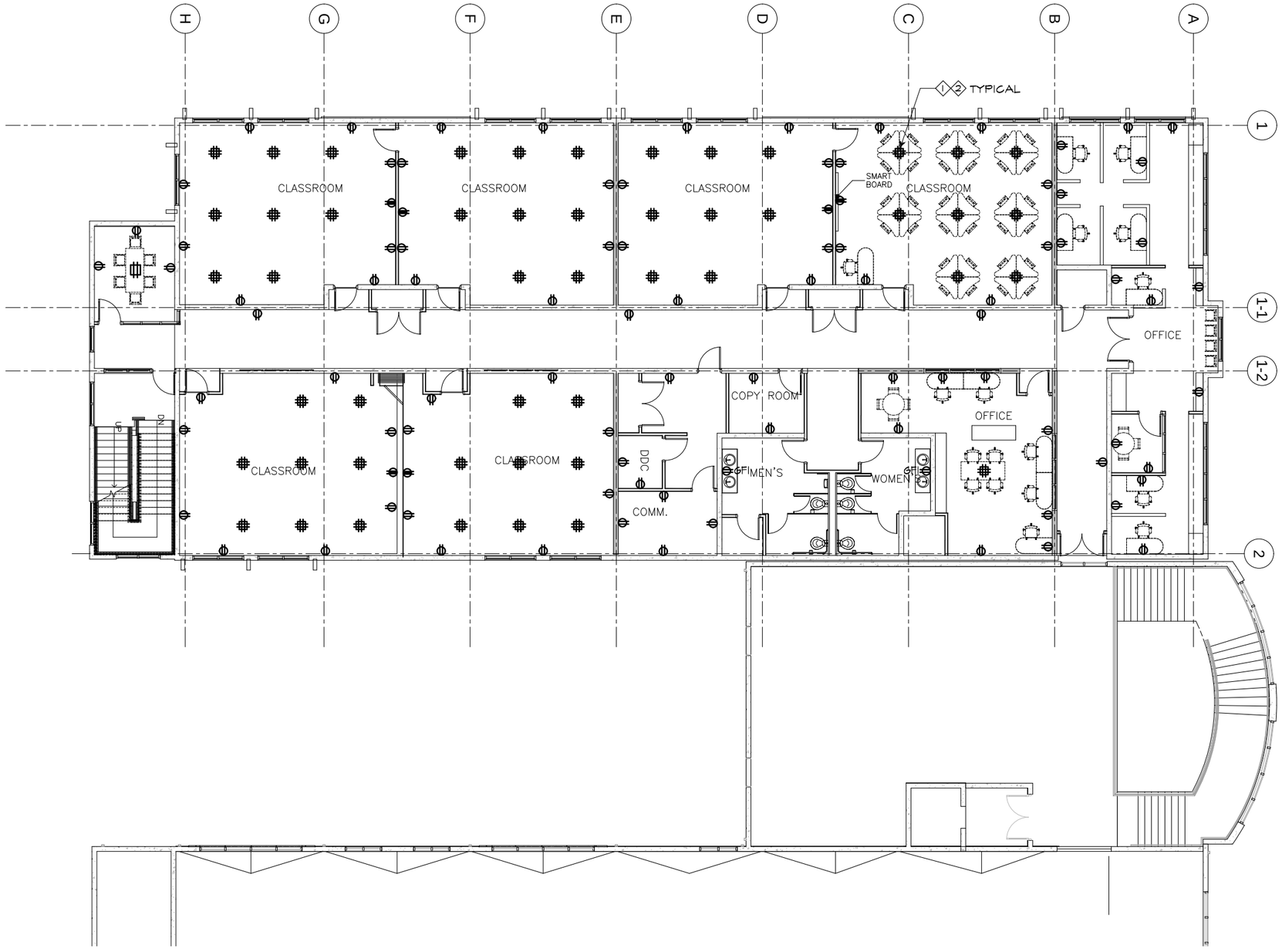
DESIGN DEVELOPMENT

Designed:	TM
Drawn:	RS/FC
Checked:	AA
Supv:	AA
Scale:	AS SHOWN
Date:	06/20/13
Project No. 24-11-390	File

Drawing No.

E6.0

Sheet No. _____ of _____



NOTES:

1. PROVIDE POKE THROUGH FLOOR MOUNTED RECEPTACLE OUTLET SIMILAR TO STEEL CITY "FPT4" OR APPROVED EQUAL.
2. LOCATE FLOOR OUTLETS OUTSIDE OF DOUBLE TEE LEGS. COORDINATE BLOCK-OUTS WITH DOUBLE TEE FABRICATION.

1 / E6.1 POWER PLAN - SECOND FLOOR

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

NORTH

GRAPHIC SCALE:

0 4' 8' 16'

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

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

REVISIONS

TRMA

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

Architecture
Planning
Interior Design

EMCE • Consulting Engineers
SUITE 201, 133 ANTONIA COURT
P.O. BOX 8888 TAMUNING, GUAM 96931
671 648-0188/7 Phone
671 648-FAXE (3923) Fax
Email: guam@emceconsulting.com
Website: www.emceconsulting.com

ALEX F. ANDRES CERTIFICATE No.938 (ELECTRICAL) EXP. April 30, 2014 GUAM PROFESSIONAL ENGINEER

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

DATE:

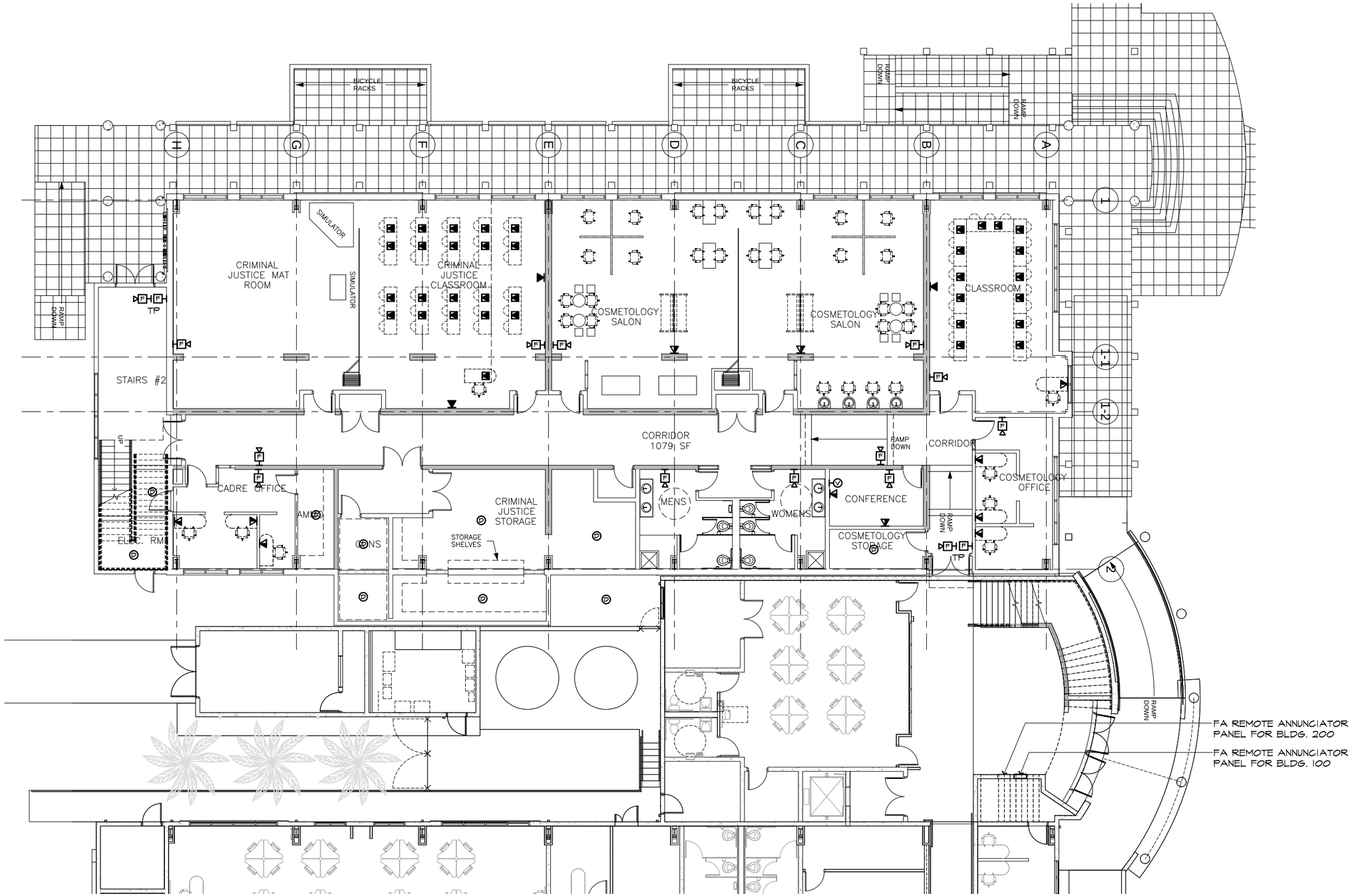
Project:
GCC
BLDG. 100 RENOVATION

Title:
POWER PLAN - SECOND FLOOR

DESIGN DEVELOPMENT

Designed:	TM
Drawn:	RS/FC
Checked:	AA
Supv:	AA
Scale:	AS SHOWN
Date:	06/20/13
Project No. 24-11-390	File

Drawing No.
E6.1
Sheet No. _____ of _____



1 / E7.0 FIRE ALARM AND COMMUNICATION PLAN - FIRST FLOOR

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

NORTH

GRAPHIC SCALE:
0 4' 8' 16'
SCALE: 1/8"=1'-0"

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

REVISIONS

TRMA
Taniguchi Ruth Makio Architects
100 Cliff Business Center, P.O. Box EA, Agana, GU 96910
Tel.: (671) 475-8772 ▪ Fax : (671) 472-3381
Email: arch@traguam.com
Architecture
Planning
Interior Design

EMCE • Consulting Engineers
SUITE 201, 133 ANTONIA COURT
P.O. BOX 8888 TAMUNING, GUAM 96931
671 648-0188/7 Phone
671 648-EMCE (3623) Fax
Email: guam@emceconsulting.com
Website: www.emceconsulting.com

ALEX F. ANDRES CERTIFICATE No.938 (ELECTRICAL) EXP. April 30, 2014 GUAM PROFESSIONAL ENGINEER

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

DATE: _____

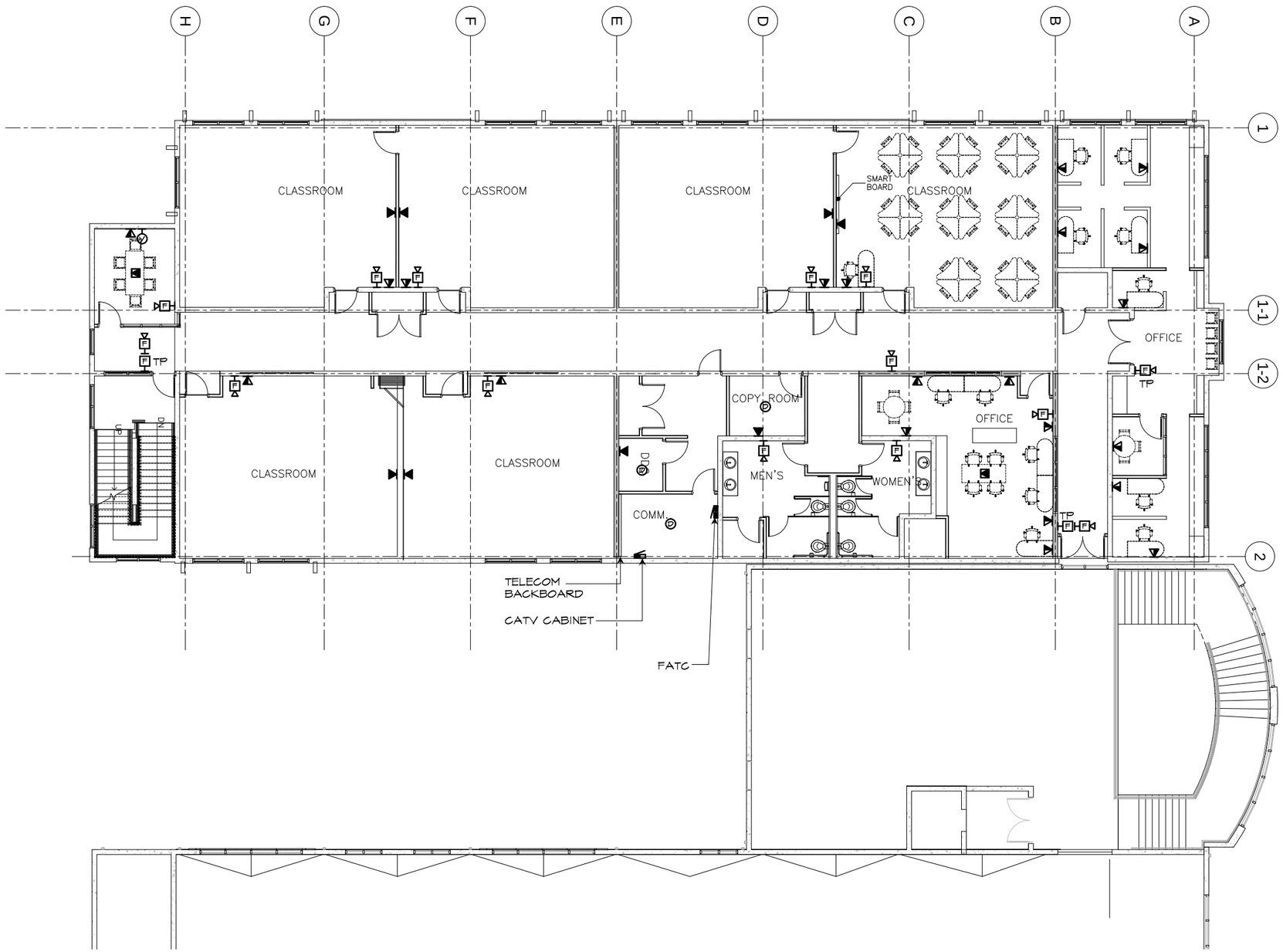
Project:
GCC
BLDG. 100 RENOVATION

Title:
FIRE ALARM AND COMMUNICATION PLAN - FIRST FLOOR

DESIGN DEVELOPMENT

Designed:	TM
Drawn:	RS/FC
Checked:	AA
Supv:	AA
Scale:	AS SHOWN
Date:	06/20/13
Project No. 24-11-390	File

Drawing No.
E7.0
Sheet No. _____ of _____



1 / E7.1 FIRE ALARM AND COMM PLAN - SECOND FLOOR

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

NORTH

GRAPHIC SCALE:
0 4' 8' 16'
SCALE: 1/8"=1'-0"

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

REVISIONS

TRMA
Taniguchi Ruth Makio Architects
100 Cliff Business Center, P.O. Box EA, Agana, GU 96910
Tel.: (671) 475-8772 • Fax : (671) 472-3381
Email: arch@traguam.com
Architecture
Planning
Interior Design

EMCE • Consulting Engineers
SUITE 201, 133 ANTONIA COURT
P.O. BOX 8888 TAMUNING, GUAM 96931
671 648-0188/7 Phone
671 648-EMCE (3623) Fax
Email: guam@emceconsulting.com
Website: www.emceconsulting.com

ALEX F. ANDRES
No.938
(ELECTRICAL)
EXP. April 30, 2014
GUAM
PROFESSIONAL ENGINEER

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

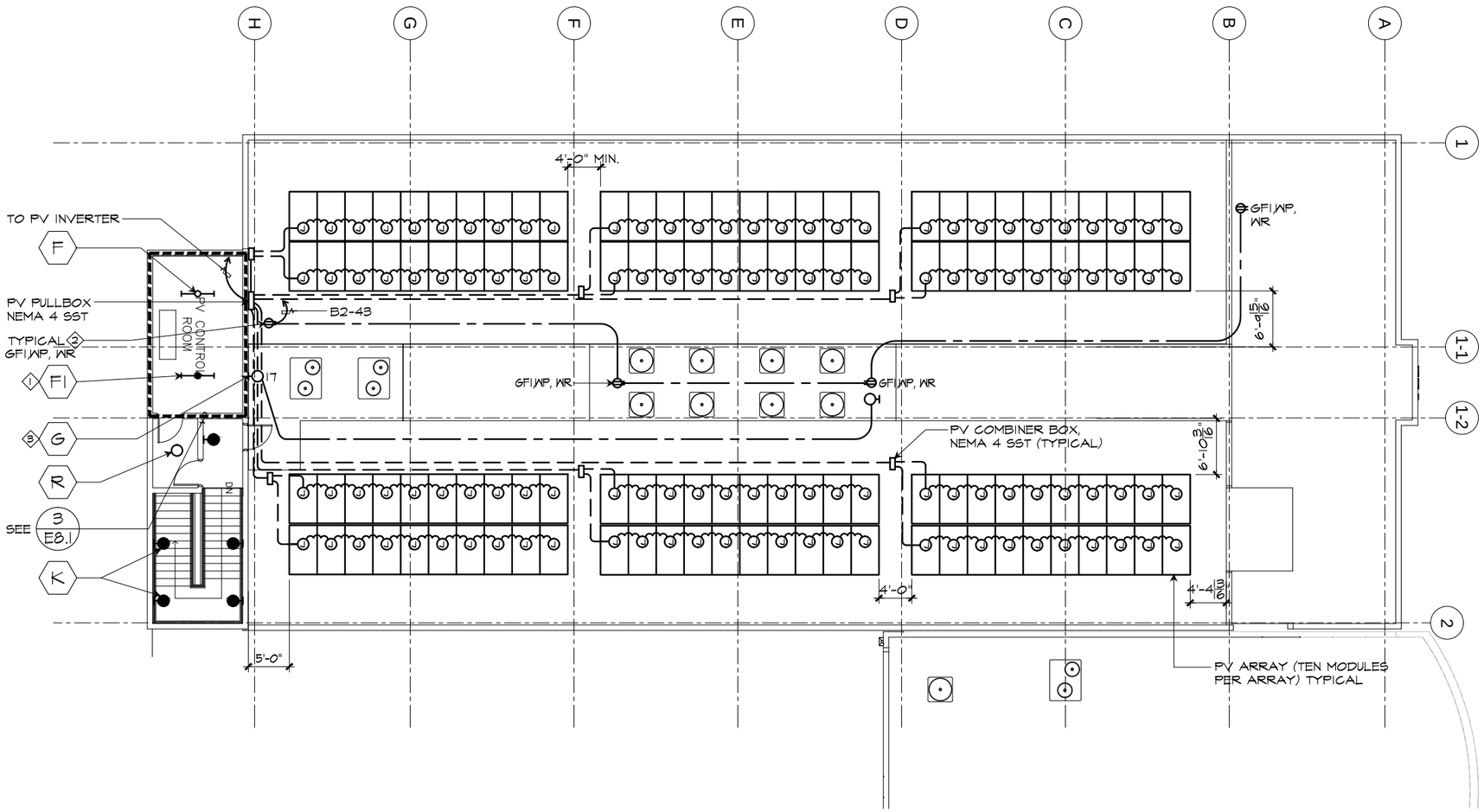
Project:
GCC
BLDG. 100 RENOVATION

Title:
FIRE ALARM AND COMM PLAN - SECOND FLOOR

DESIGN DEVELOPMENT

Designed:	TM
Drawn:	RS/FC
Checked:	AA
Supv:	AA
Scale:	AS SHOWN
Date:	06/20/13
Project No. 24-11-390	File

Drawing No.
E7.1
Sheet No. _____ of _____



NOTE:

1. CONNECT EMERGENCY BATTERY PACK TO UNSWITCHED CIRCUIT.

1 E8.0 ROOF ELECTRICAL PLAN

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

NORTH

GRAPHIC SCALE:
0 4' 8' 16'
SCALE: 1/8"=1'-0"

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

REVISIONS

TRMA
Taniguchi Ruth Makio Architects
100 Cliff Business Center, P.O. Box EA, Agana, GU 96910
Tel.: (671) 475-8772 • Fax : (671) 472-3381
Email: arch@traguam.com
Architecture
Planning
Interior Design

EMCE • Consulting Engineers
SUITE 201, 133 ANTONIA COURT
P.O. BOX 8888 TAMUNING, GUAM 96931
671 648-0188/7 Phone
671 648-EMCE (3623) Fax
Email: guam@emceconsulting.com
Website: www.emceconsulting.com

ALEX F. ANDRES CERTIFICATE No.938 (ELECTRICAL) EXP. April 30, 2014 GUAM PROFESSIONAL ENGINEER

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

DATE:

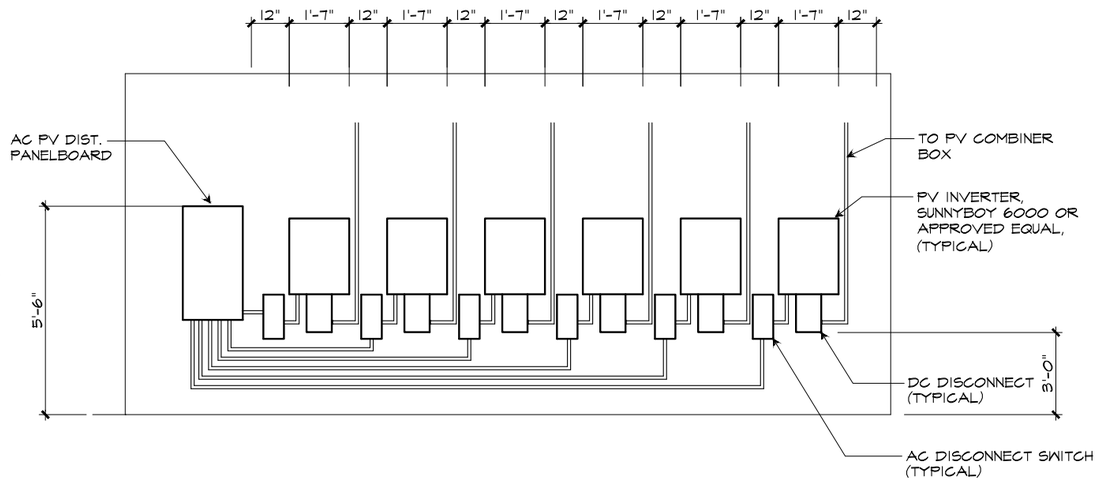
Project:
GCC
BLDG. 100 RENOVATION

Title:
ROOF ELECTRICAL PLAN

DESIGN DEVELOPMENT

Designed:	TM
Drawn:	RS/FC
Checked:	AA
Supv:	AA
Scale:	AS SHOWN
Date:	06/20/13
Project No. 24-11-390	File

Drawing No.
E8.0
Sheet No. _____ of _____

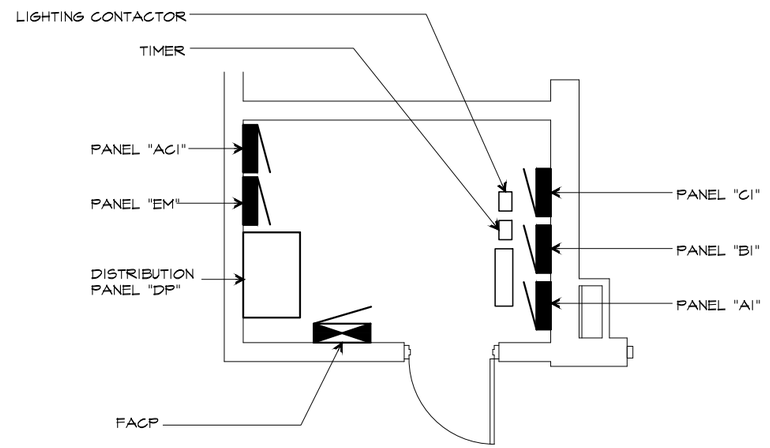


1 / E8.1 **ELEVATION**

SCALE: 1/2"=1'-0"

GRAPHIC SCALE: 0 1' 2' 4'

SCALE: 1/2"=1'-0"

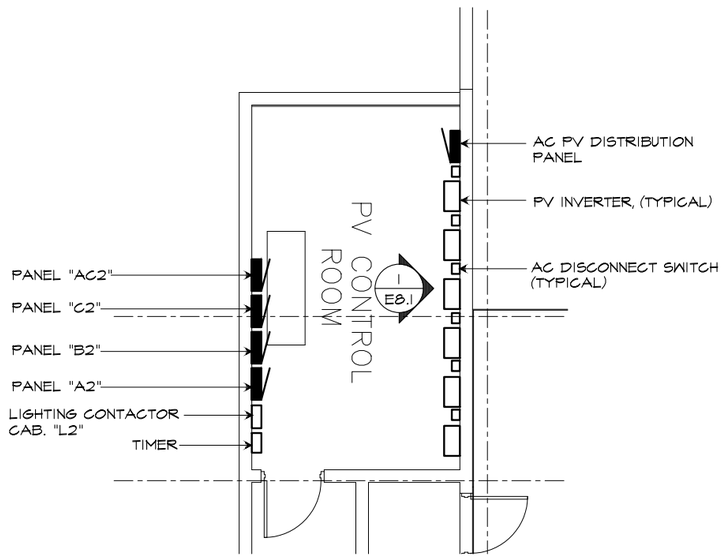


2 / E8.1 **ENLARGED ELECTRICAL PLAN**

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

GRAPHIC SCALE: 0 1' 2' 4' 6'

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

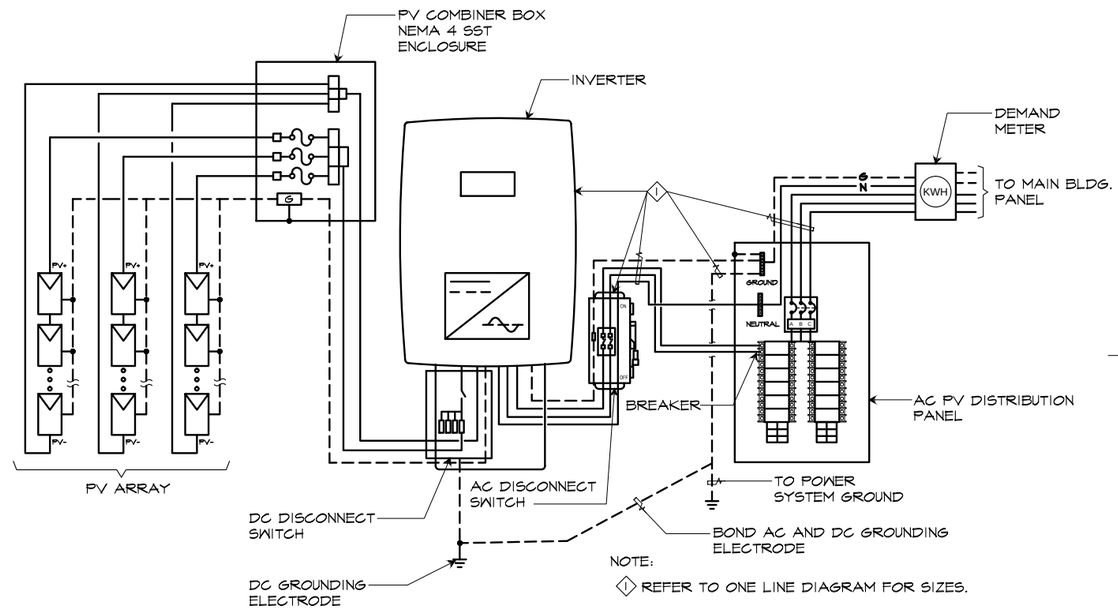


3 / E8.1 **PV EQUIPMENT ROOM POWER PLAN**

SCALE: 1/4"=1'-0"

GRAPHIC SCALE: 0 2' 4' 8'

SCALE: 1/4"=1'-0"



4 / E8.1 **TYPICAL PV SYSTEM SCHEMATIC DIAGRAM**

NOT TO SCALE

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

REVISIONS

TRMA
Taniguchi Ruth Makio Architects
100 Cliff Business Center, P.O. Box EA, Agana, GU 96910
Tel.: (671) 475-8772 • Fax : (671) 472-3381
Email: arch@traguam.com
Architecture
Planning
Interior Design

EMCE • Consulting Engineers
SUITE 201, 133 ANTONIA COURT
P.O. BOX 8888 TAMUNING, GUAM 96931
671 648-0188/7 Phone
671 648-EMCE (3623) Fax
Email: guam@emceconsulting.com
Website: www.emceconsulting.com

ALEX F. ANDRES CERTIFICATE No.938 (ELECTRICAL) EXP. April 30, 2014 GUAM PROFESSIONAL ENGINEER

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

DATE: _____

Project:

GCC

BLDG. 100 RENOVATION

Title:

ELEVATION, ENLARGED ELECTRICAL PLAN, PV EQUIPMENT ROOM POWER PLAN AND SCHEMATIC DIAGRAM

DESIGN DEVELOPMENT

Designed:	TM
Drawn:	RS/FC
Checked:	AA
Supv:	AA
Scale:	AS SHOWN
Date:	06/20/13
Project No. 24-11-390	File

Drawing No.

E8.1

Sheet No. _____ of _____

LIGHT FIXTURE SCHEDULE

GENERAL NOTE:
ALL LAMP COLOR TEMPERATURE SHALL BE 4100°k

FIXTURE TYPE	LAMP DATA NO.	LAMP DATA WATTS	MOUNTING CEILING	MOUNTING WALL	DESCRIPTION	MANUFACTURER'S CAT. NO. OR APPROVED EQUAL
A	1	52.3 LED	RECESS		LED, INDIRECT / DIRECT, WITH DIMMING BALLAST, 120V.	
A1	1	52.3 LED	RECESS		SIMILAR AS TYPE "A" EXCEPT WITH EMERGENCY BATTERY PACK.	
B	LED		RECESS		LED, 2 'X 4' FIXTURE WITH DIMMING BALLAST, 120V.	
B1	LED		RECESS		SIMILAR AS TYPE "B" EXCEPT WITH EMERGENCY BATTERY PACK.	
C	1	31.7 LED	RECESS		LED, 2'X2' FIXTURE, INDIRECT / DIRECT, WITH DIMMING BALLAST, 120V.	
C1	1	31.7 LED	RECESS		SIMILAR AS TYPE "C" EXCEPT WITH EMERGENCY BATTERY PACK.	
C2	1	31.7 LED	RECESS		SIMILAR AS TYPE "C" EXCEPT FLANGE MOUNTING.	
C3	1	31.7 LED	RECESS		SIMILAR AS TYPE "C2" EXCEPT WITH EMERGENCY BATTERY PACK.	
D	2	28.8 LED	SURFACE		LED, SUITABLE FOR WET LOCATION, 120V.	
E	1	32 T8	RECESS		FLUORESCENT, WALL WASH, ELECTRONIC BALLAST, 120V.	
F	2	LED	SURFACE		LED, 46" STRIPLIGHT, WITH LENS, 120V.	
F1	2	LED	SURFACE		SIMILAR AS TYPE "F" EXCEPT WITH EMERGENCY BATTERY PACK.	
G	1	12 LED		SURFACE	LED, FULL CUT-OFF, SUITABLE FOR USE IN WET LOCATIONS, 120V.	
H	LED			SURFACE	LED, WALL MOUNTED., 120V.	
H1	LED			SURFACE	SIMILAR AS TYPE "H" EXCEPT WITH EMERGENCY BATTERY PACK.	
I	LED		RECESS		LED, LINEAR LIGHTING, WITH DIMMING BALLAST, 120V.	
I1	LED		RECESS		SIMILAR AS TYPE "I" EXCEPT WITH EMERGENCY BATTERY PACK.	
J	1	13 DTT		SURFACE	COMPACT FLUORESCENT, ELECTRONIC BALLAST, 120V.	
K	1	42		SURFACE	COMPACT FLUORESCENT, INDIRECT/DIRECT WITH REMOTE EMERGENCY BATTERY PACK, 120V.	
L	LED		RECESS		LED, 4" APERTURE DOWNLIGHT, 600 LUMENS, 120V.	
L1	LED		RECESS		SIMILAR AS TYPE "L" EXCEPT WITH EMERGENCY BATTERY PACK, PILOT LIGHT AND TEST SWITCH MOUNTED ADJACENT TO FIXTURE.	
M	1	10 LED	REC.		LED, SHOWER LIGHT, 120V.	
N	1	11.2 LED		SURFACE	LED, SUITABLE FOR USE IN WET LOCATIONS, 120V.	
P	1	9 LED	DESK		TASK LIGHT, Z-BAR HIGH POWER LED DESK LAMP, 120V.	
Q					AMMUNITION ROOM LIGHT.	
R			SURFACE		LED	
X	LED		UNIVERSAL		EXIT SIGN, 120V.	

PANEL: "AC1"

VOLTS: 208/120V | PHASE: 3 | WIRE: 4 | AIC RATING: 10,000

LOCATION: ■ INDOOR ☐ OUTDOOR ■ DRY ☐ WET | ENCL. TYPE: NEMA 1 | MTG: ■ SURF. ☐ FLUSH | AMPERE: | MAINS: ☐ BREAKER ■ LUGS ONLY

■ NEUTRAL BUS | ■ GROUND BUS | ☐ ISOLATED GROUND BUS | NEUTRAL BUS GND. BONDING: ☐ YES ■ NO

BRANCH CIRCUIT DESCRIPTION	WIRE SIZE	POLE/BKR	CKT NO.	LOAD – KVA ØA	ØB	ØC	CKT NO.	POLE/BKR	WIRE SIZE	BRANCH CIRCUIT DESCRIPTION
			1				2			
			3				4			
			5				6			
			7				8			
			9				10			
			11				12			
			13				14			
			15				16			
			17				18			
			19				18			

PROVIDE PERMANENT LABEL INDICATING THE FOLLOWING "POWER SUPPLY ORIGINATES IN _____."

TOTAL KVA/Ø:
CONNECTED KVA:
DEMAND FACTOR:
DEMAND LOAD: I =

REMARKS:

PANEL: "AC2"

VOLTS: 208/120V | PHASE: 3 | WIRE: 4 | AIC RATING: 10,000

LOCATION: ■ INDOOR ☐ OUTDOOR ■ DRY ☐ WET | ENCL. TYPE: NEMA 1 | MTG: ■ SURF. ☐ FLUSH | AMPERE: | MAINS: ■ BREAKER ☐ LUGS ONLY

■ NEUTRAL BUS | ■ GROUND BUS | ☐ ISOLATED GROUND BUS | NEUTRAL BUS GND. BONDING: ☐ YES ■ NO

BRANCH CIRCUIT DESCRIPTION	WIRE SIZE	POLE/BKR	CKT NO.	LOAD – KVA ØA	ØB	ØC	CKT NO.	POLE/BKR	WIRE SIZE	BRANCH CIRCUIT DESCRIPTION
			1				2			
			3				4			
			5				6			
			7				8			
			9				10			
			11				12			
			13				14			
			15				16			
			17				18			
			19				20			
			21				22			
			23				24			
			24				26			

PROVIDE PERMANENT LABEL INDICATING THE FOLLOWING "POWER SUPPLY ORIGINATES IN _____."

TOTAL KVA/Ø:
CONNECTED KVA:
DEMAND FACTOR:
DEMAND LOAD: I =

REMARKS:

PANEL: "B1"

VOLTS: 208/120 | PHASE: 3 | WIRE: 4 | AIC RATING: 10,000

LOCATION: ■ INDOOR ☐ OUTDOOR ■ DRY ☐ WET | ENCL. TYPE: NEMA 1 | MTG: ■ SURF. ☐ FLUSH | AMPERE: | MAINS: ☐ BREAKER ■ LUGS ONLY

■ NEUTRAL BUS | ■ GROUND BUS | ☐ ISOLATED GROUND BUS | NEUTRAL BUS GND. BONDING: ☐ YES ■ NO

BRANCH CIRCUIT DESCRIPTION	WIRE SIZE	POLE/BKR	CKT NO.	LOAD – KVA ØA	ØB	ØC	CKT NO.	POLE/BKR	WIRE SIZE	BRANCH CIRCUIT DESCRIPTION
	#12	1/20	1				2			
			3				4			
			5				6			
			7				8			
			9				10			
			11				12			
			13				14			
			15				16			
			17				18			
			19				20			
			21				22			
			23				24			
			25				26			
			27				28			
			29				30			
			31				32			
			33				34			
			35				36			
			37				38			
			39				40			
			41				42			

PROVIDE PERMANENT LABEL INDICATING THE FOLLOWING "POWER SUPPLY ORIGINATES IN _____."

TOTAL KVA/Ø:
CONNECTED KVA:
DEMAND FACTOR:
DEMAND LOAD: I =

REMARKS:

PANEL: "B2"

VOLTS: 208/120 | PHASE: 3 | WIRE: 4 | AIC RATING: 10,000

LOCATION: ■ INDOOR ☐ OUTDOOR ■ DRY ☐ WET | ENCL. TYPE: NEMA 1 | MTG: ■ SURF. ☐ FLUSH | AMPERE: | MAINS: ■ BREAKER ☐ LUGS ONLY

■ NEUTRAL BUS | ■ GROUND BUS | ☐ ISOLATED GROUND BUS | NEUTRAL BUS GND. BONDING: ☐ YES ■ NO

BRANCH CIRCUIT DESCRIPTION	WIRE SIZE	POLE/BKR	CKT NO.	LOAD – KVA ØA	ØB	ØC	CKT NO.	POLE/BKR	WIRE SIZE	BRANCH CIRCUIT DESCRIPTION
			1				2	1/20		
			3				4			
			5				6			
			7				8			
			9				10			
			11				12			
			13				14			
			15				16			
			17				18			
			19				20			
			21				22			
			23				24			
			25				26			
			27				28			
			29				30			
			31				32			
			33				34			
			35				36			
			37				38			
			39				40			
			41				42			

PROVIDE PERMANENT LABEL INDICATING THE FOLLOWING "POWER SUPPLY ORIGINATES IN _____."

TOTAL KVA/Ø:
CONNECTED KVA:
DEMAND FACTOR:
DEMAND LOAD: I =

REMARKS:

PANEL: "C1"

VOLTS: 208/120 | PHASE: 3 | WIRE: 4 | AIC RATING: 10,000

LOCATION: ■ INDOOR ☐ OUTDOOR ■ DRY ☐ WET | ENCL. TYPE: NEMA 1 | MTG: ■ SURF. ☐ FLUSH | AMPERE: | MAINS: ■ BREAKER ☐ LUGS ONLY

■ NEUTRAL BUS | ■ GROUND BUS | ☐ ISOLATED GROUND BUS | NEUTRAL BUS GND. BONDING: ☐ YES ■ NO

BRANCH CIRCUIT DESCRIPTION	WIRE SIZE	POLE/BKR	CKT NO.	LOAD – KVA ØA	ØB	ØC	CKT NO.	POLE/BKR	WIRE SIZE	BRANCH CIRCUIT DESCRIPTION
	#12	1/20	1				2			
			3				4			
			5				6			
			7				8			
			9				10			
			11				12			
			13				14			
			15				16			
			17				18			
			19				20			
			21				22			
			23				24			
			25				26			
			27				28			
			29				30			
			31				32			
			33				34			
			35				36			
			37	-	-		38			

PROVIDE PERMANENT LABEL INDICATING THE FOLLOWING "POWER SUPPLY ORIGINATES IN _____."

TOTAL KVA/Ø:
CONNECTED KVA:
DEMAND FACTOR:
DEMAND LOAD: I =

REMARKS:

PANEL: "C2"

VOLTS: 208/120 | PHASE: 3 | WIRE: 4 | AIC RATING: 10,000

LOCATION: ■ INDOOR ☐ OUTDOOR ■ DRY ☐ WET | ENCL. TYPE: NEMA 1 | MTG: ■ SURF. ☐ FLUSH | AMPERE: | MAINS: ■ BREAKER ☐ LUGS ONLY

■ NEUTRAL BUS | ■ GROUND BUS | ☐ ISOLATED GROUND BUS | NEUTRAL BUS GND. BONDING: ☐ YES ■ NO

BRANCH CIRCUIT DESCRIPTION	WIRE SIZE	POLE/BKR	CKT NO.	LOAD – KVA ØA	ØB	ØC	CKT NO.	POLE/BKR	WIRE SIZE	BRANCH CIRCUIT DESCRIPTION
	#12	1/20	1				2			
			3				4			
			5				6			
			7				8			
			9				10			
			11				12			
			13				14			
			15				16			
			17				18			
			19				20			
			21				22			
			23				24			
			25				26			
			27				28			
			29				30			
			31				32			
			33				34			
			35				36			
			37				38			
			39				40			
			41				42			

PROVIDE PERMANENT LABEL INDICATING THE FOLLOWING "POWER SUPPLY ORIGINATES IN _____."

TOTAL KVA/Ø:
CONNECTED KVA:
DEMAND FACTOR:
DEMAND LOAD: I =

REMARKS:

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

REVISIONS

TRMA
Taniguchi Ruth Makio Architects
100 Cliff Business Center, P.O. Box EA, Agana, GU 96910
Tel.: (671) 475-8772 • Fax : (671) 472-3381
Email: arch@traguam.com
Architecture
Planning
Interior Design

EMCE • Consulting Engineers
SUITE 201, 133 ANTONIA COURT
P.O. BOX 8888 TAMUNING, GUAM 96931
671 648-0188/7 Phone
671 648-EMCE (3623) Fax
Email: guam@emceconsulting.com
Website: www.emceconsulting.com

ALEX F. ANDRES CERTIFICATE No.938 (ELECTRICAL) EXP. April 30, 2014 GUAM PROFESSIONAL ENGINEER

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

Project:
GCC
BLDG. 100 RENOVATION

Title:
SCHEDULES
DESIGN DEVELOPMENT

Designed:	TM
Drawn:	RS/FC
Checked:	AA
Supv:	AA
Scale:	AS SHOWN
Date:	06/20/13
Project No.	File
24-11-390	

Drawing No.
E9.0
Sheet No. _____ of _____

PANEL: "A1" | VOLTS: 208/120 | PHASE: 3 | WIRE: 4 | AIC RATING: 10,000

LOCATION: ■ INDOOR ☐ OUTDOOR ■ DRY ☐ WET | ENCL. TYPE: NEMA __ | MTG: ■ SURF. ☐ FLUSH | AMPERE: | MAINS: ☐ BREAKER ■ LUGS ONLY

■ NEUTRAL BUS | ■ GROUND BUS | ☐ ISOLATED GROUND BUS | NEUTRAL BUS GND. BONDING: ☐ YES ☐ NO

BRANCH CIRCUIT DESCRIPTION	WIRE SIZE	POLE/BKR	CKT NO.	LOAD – KVA øA	LOAD – KVA øB	LOAD – KVA øC	CKT NO.	POLE/BKR	WIRE SIZE	BRANCH CIRCUIT DESCRIPTION
		1/20	1				2	1/20		
			3				4			
			5				6			
			7				8			
			9				10			
			11			0.8	12			
			13				14			
			15				16			
			17				18			
			19				20			
			21				22			
		↓	23				24	↓		
			25				26			

PROVIDE PERMANENT LABEL INDICATING THE FOLLOWING "POWER SUPPLY ORIGINATES IN A1"

TOTAL KVA/ø:
CONNECTED KVA:
DEMAND FACTOR:
DEMAND LOAD:

REMARKS:
① USE #10 FOR HOMERUN ONLY. USE #12 BETWEEN DEVICES.
② SEE ONE LINE DIAGRAM FOR SIZE.

PANEL: "A2" | VOLTS: 208/120 | PHASE: 3 | WIRE: 4 | AIC RATING: 10,000

LOCATION: ■ INDOOR ☐ OUTDOOR ■ DRY ☐ WET | ENCL. TYPE: NEMA 1 | MTG: ■ SURF. ☐ FLUSH | AMPERE: | MAINS: ■ BREAKER ☐ LUGS ONLY

■ NEUTRAL BUS | ■ GROUND BUS | ☐ ISOLATED GROUND BUS | NEUTRAL BUS GND. BONDING: ☐ YES ■ NO

BRANCH CIRCUIT DESCRIPTION	WIRE SIZE	POLE/BKR	CKT NO.	LOAD – KVA øA	LOAD – KVA øB	LOAD – KVA øC	CKT NO.	POLE/BKR	WIRE SIZE	BRANCH CIRCUIT DESCRIPTION
		1/20	1				2	1/20		
			3				4			
			5				6			
			7				8			
			9				10			
			11				12			
			13				14			
			15				16			
			17				18			
			19				20			
			21				22			
			23				24	↓		
		-	25				26	-		
			27				28			
		↓	29				30			

PROVIDE PERMANENT LABEL INDICATING THE FOLLOWING "POWER SUPPLY ORIGINATES IN A2"

TOTAL KVA/ø:
CONNECTED KVA:
DEMAND FACTOR:
DEMAND LOAD:

REMARKS:

PANEL: EM100 | VOLTS: 208/120 | PHASE: 3 | 4 | AIC RATING: 10,000

LOCATION: ■ INDOOR ☐ OUTDOOR ■ DRY ☐ WET | ENCL. TYPE: NEMA 1 | MTG: ■ SURF. ☐ FLUSH | AMPERE: | MAINS: ☐ BREAKER ■ LUGS ONLY

■ NEUTRAL BUS | ■ GROUND BUS | ☐ ISOLATED GROUND BUS | NEUTRAL BUS GND. BONDING: ☐ YES ■ NO

BRANCH CIRCUIT DESCRIPTION	WIRE SIZE	POLE/BKR	CKT NO.	LOAD – KVA øA	LOAD – KVA øB	LOAD – KVA øC	CKT NO.	POLE/BKR	WIRE SIZE	BRANCH CIRCUIT DESCRIPTION
		1/20	1	1.0	1.0		2	1/20	12	FACP
			3		1.0	1.0	4		-	SPARE
			5			1.0	6		-	SPARE
			7	1.0	1.0		8			
			9		1.0	1.0	10			
		↓	11			1.0	12	↓	↓	
		1/-	13	-	-		14	1/-		FFB
			15		-	-	16			
		↓	17			-	18	↓	↓	

PROVIDE PERMANENT LABEL INDICATING THE FOLLOWING "POWER SUPPLY ORIGINATES IN EM200"

TOTAL KVA/ø:
CONNECTED KVA:
DEMAND FACTOR:
DEMAND LOAD:

REMARKS:

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

REVISIONS

TRMA
Taniguchi Ruth Makio Architects
100 Cliff Business Center, P.O. Box EA, Agana, GU 96910
Tel.: (671) 475-8772 ▪ Fax : (671) 472-3381
Email: arch@traguam.com
Architecture
Planning
Interior Design

EMCE • Consulting Engineers
SUITE 201, 133 ANTONIA COURT
P.O. BOX 8888 TAMUNING, GUAM 96931
671 648-0188/7 Phone
671 648-EMCE (3623) Fax
Email: guam@emceconsulting.com
Website: www.emceconsulting.com

ALEX F. ANDRES CERTIFICATE No.938 (ELECTRICAL) EXP. April 30, 2014 GUAM PROFESSIONAL ENGINEER

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

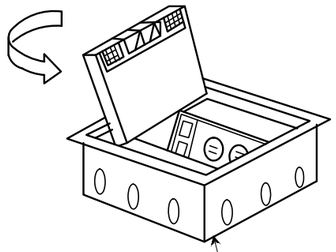
DATE: _____

Project:
GCC
BLDG. 100 RENOVATION

Title:
SCHEDULES
DESIGN DEVELOPMENT

Designed:	TM
Drawn:	RS/FC
Checked:	AA
Supv:	AA
Scale:	AS SHOWN
Date:	06/20/13
Project No. 24-11-390	File

Drawing No.
E9.1
Sheet No. _____ of _____

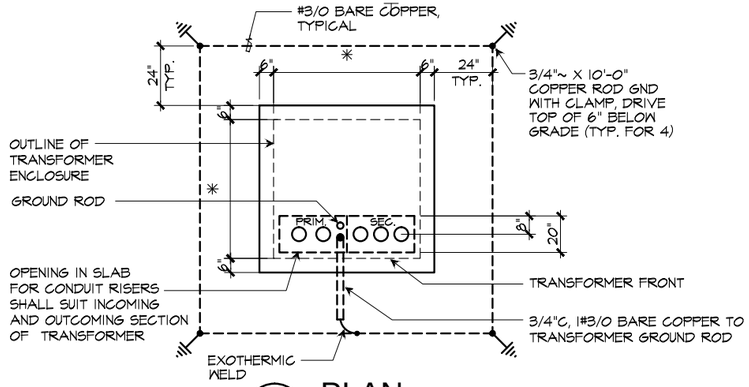


WATERTIGHT ADJUSTABLE, CAST IRON FLUSH FLOOR MOUNTED JUNCTION BOX WITH COVER, MODULAR DEVICES, AND MATCHING FACEPLATES

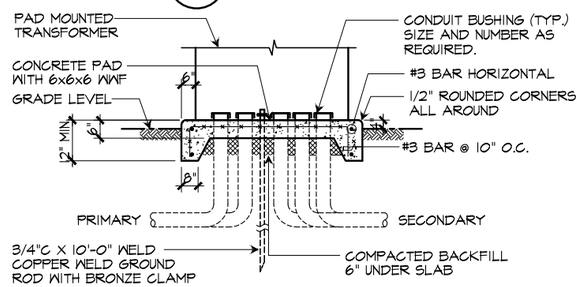
NOTES:

1. BOX SHALL BE BONDED TO GROUND.
2. FOR QUANTITY OF GANG, SEE POWER PLAN.
3. SUBMIT SHOP DRAWING FOR APPROVAL.
4. APPLICABLE FOR 1ST FLOOR ONLY.

1 / E10.0 — FLOOR MOUNTED JUNCTION BOX DETAIL
NOT TO SCALE



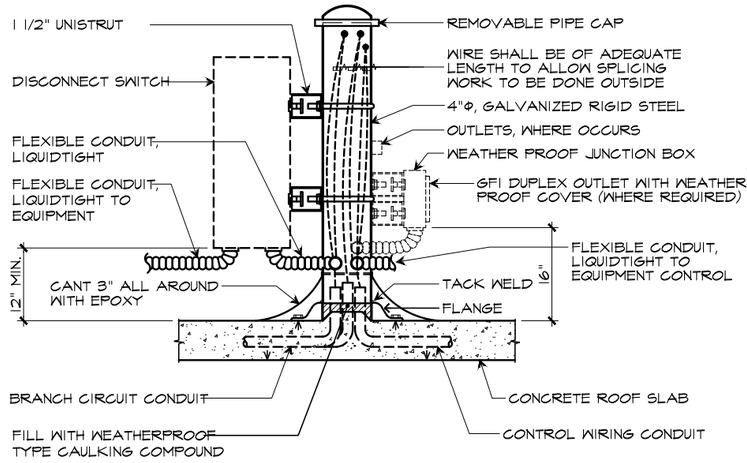
2A / E10.0 — PLAN
NOT TO SCALE



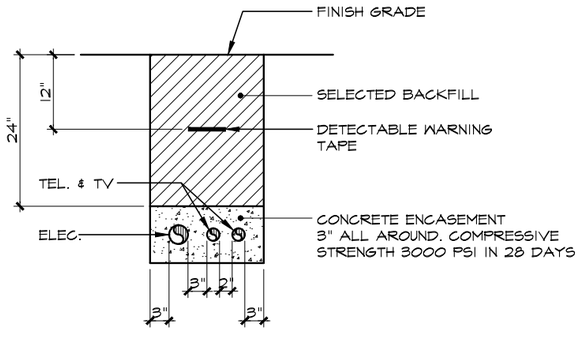
2B / E10.0 — SECTION
NOT TO SCALE

* NOTE : VERIFY EXACT DIMENSION WITH TRANSFORMER SUPPLIER.

2 / E10.0 — TRANSFORMER CONCRETE PAD DETAIL
NOT TO SCALE

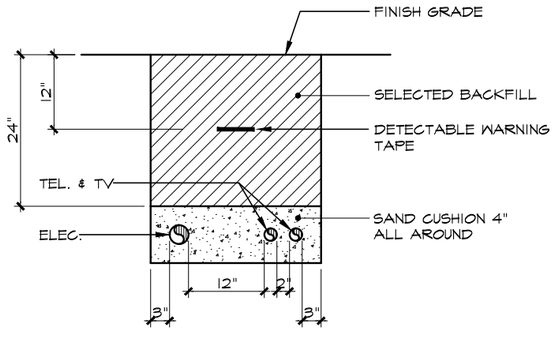


4 / E10.0 — ROOF MOUNTED DISCONNECT SWITCH MOUNTING DETAIL
NOT TO SCALE



NOTE: USE FOR AREAS SUBJECT TO VEHICLE TRAFFIC AND FOR GPA UNDERGROUND DUCTS.

3A / E10.0 — SECTION
NOT TO SCALE



NOTE: USE FOR AREAS NOT SUBJECT TO VEHICLE TRAFFIC.

3B / E10.0 — SECTION
NOT TO SCALE

3 / E10.0 — TYPICAL DUCT SECTIONS
NOT TO SCALE

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

REVISIONS

TRMA
Taniguchi Ruth Makio Architects
100 Cliff Business Center, P.O. Box EA, Agana, GU 96910
Tel.: (671) 475-8772 • Fax : (671) 472-3381
Email: arch@traguam.com
Architecture
Planning
Interior Design

EMCE • Consulting Engineers
SUITE 201, 133 ANTONIA COURT
P.O. BOX 8888 TAMUNING, GUAM 96931
671 648-0188/7 Phone
671 648-EMCE (3623) Fax
Email: guam@emceconsulting.com
Website: www.emceconsulting.com

ALEX F. ANDRES — CERTIFICATE OF — No.938 (ELECTRICAL) — EXP. April 30, 2014 — GUAM — PROFESSIONAL ENGINEER

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

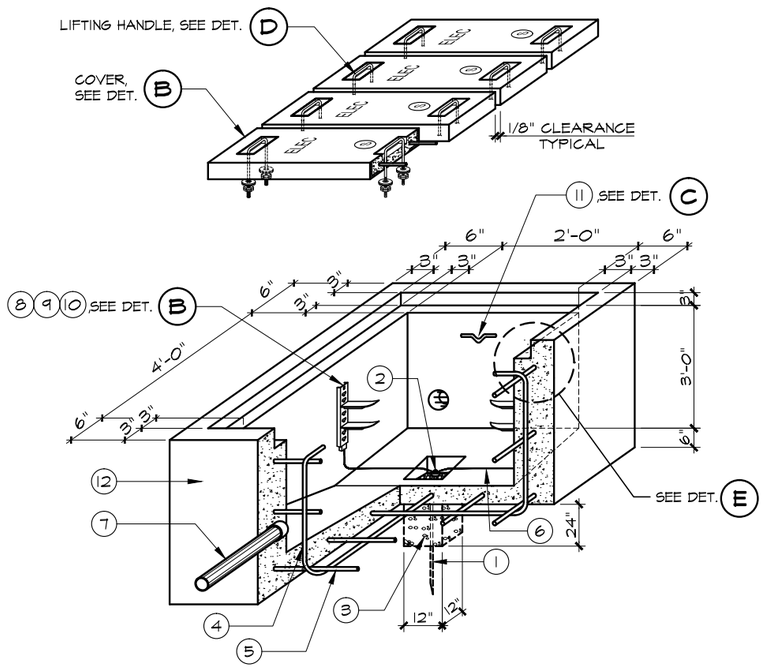
Project:
GCC
BLDG. 100 RENOVATION

Title:
MISCELLANEOUS DETAILS

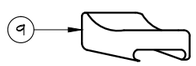
DESIGN DEVELOPMENT

Designed:	TM
Drawn:	RS/FC
Checked:	AA
Supv:	AA
Scale:	AS SHOWN
Date:	06/20/13
Project No. 24-11-390	File

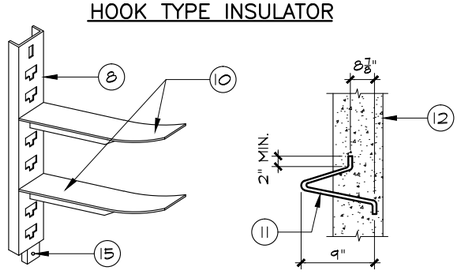
Drawing No.
E10.0
Sheet No. _____ of _____



A HANDHOLE DETAIL
NOT TO SCALE



HOOK TYPE INSULATOR



CABLE RACK

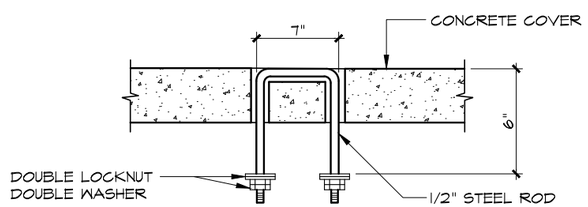
PULLING IRON

C CABLE RACK, INSULATOR AND PULLING IRON DETAILS
NOT TO SCALE

ITEM	BILL OF MATERIALS
1	5/8"Φ X 8'-0" COPPER WELD GROUND ROD
2	5/8"Φ COPPER GROUND ROD CLAMP
3	3/4"Φ MAXIMUM GRAVEL SIZE, FILL TO FINISH FLOOR
4	#4 REBAR @ 10" O.C. VERTICAL
5	#4 REBAR @ 10" O.C. HORIZONTAL
6	#6 COPPER WIRE (SOLID) FOR GROUNDING HARDWARE
7	CONDUIT WITH END BELL 6" FROM FLOOR SLAB, SIZE AND QUANTITY AS REQUIRED
8	CABLE RACK HOT DIP GALVANIZED
9	HOOK TYPE INSULATOR
10	INSULATOR WELDED SUPPORT
11	PULLING IRON 7/8"Φ GALVANIZED, LOCATED AT OPPOSITE END OF EACH CONDUIT ENTRANCE
12	6" THICK CONCRETE FLOOR SLAB AND WALL AT 3000 PSI YIELD STRENGTH OF GRADE 40 FOR REBARS
13	3" X 3" X 3/8" ANGLE IRON HOT DIP GALVANIZED
14	3/8"Φ STEEL ROD WELDED TO FRAME EVERY 12" O.C.
15	SLOT FOR 1/2" BOLT AND LEAD ANCHOR
16	1/2"Φ STEEL LIFTING DEVICE GALVANIZED
17	DOUBLE LOCKNUT, 1/2"Φ HOLE
18	DOUBLE ROUND WASHER 2"Φ WITH 5/8"Φ HOLE
19	3" X 3" X 1/4" ANGLE IRON, HOT DIP GALVANIZED ALL AROUND
20	#4 HOR. REBAR WELDED TO ANGLE FRAME
21	#4 VERT. REBAR WELDED TO ANGLE FROM AND OTHER REBAR
22	3" THICK CONCRETE AT 3000 PSI
23	1/2"Φ STEEL ROD LIFTING HANDLE

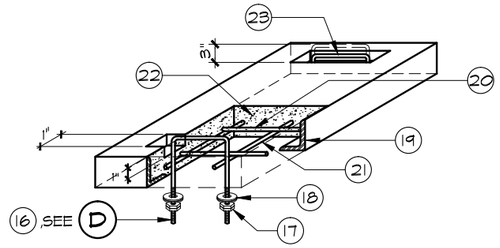
NOTES:

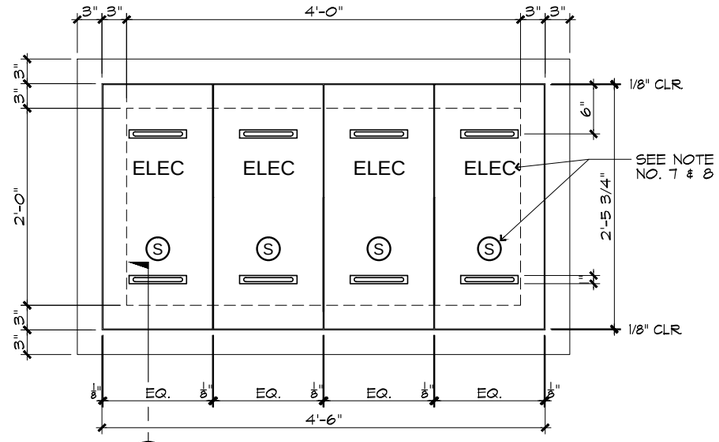
1. THIS HANDHOLE IS TO BE USED IN LOCATIONS WHERE NOT MORE THAN 3 JUNCTIONS OF SECONDARY WILL BE INSTALLED.
2. GROUND ALL HARDWARE IN THE HANDHOLE.
3. TOP OF THE HANDHOLE SHALL BE FLUSH WITH THE SIDEWALK SURFACE, OTHERWISE THERE SHOULD BE A 2" CLEARANCE FROM THE FINISHED GROUND SURFACE.
4. AREA OF CONDUIT ENTRANCES SHOULD BE 6" MINIMUM FROM THE FLOOR SLAB, 10" MINIMUM FROM THE LEFT OR RIGHT SIDE WALL, AND 15" MINIMUM FROM THE TOP OF THE HANDHOLE.
5. PROVIDE APPROXIMATE 1/8" CLEARANCE BETWEEN HANDHOLE COVERS AND BETWEEN COVERS AND LEDGE SIDES.
6. ALL LETTERING SHALL BE 3" WITH A 1/4" EMBEDMENT.
7. INDICATE "ELEC" OR COMMUNICATION ON EVERY HANDHOLE COVER WITH THE LETTER "S" FOR SECONDARY OR "C" FOR COMMUNICATION AND CENTERED AS SHOWN.



D LIFTING HANDLE DETAIL
NOT TO SCALE

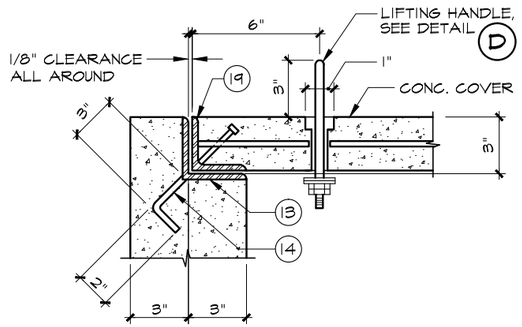
1 / E10.1 2' X 4' X 3' HANDHOLE DETAIL
NOT TO SCALE





PLAN

B HANDHOLE COVER DETAIL
NOT TO SCALE



E COVER SEAT MOUNTING DETAIL
NOT TO SCALE

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

REVISIONS

TRMA
Taniguchi Ruth Makio Architects
100 Cliff Business Center, P.O. Box EA, Agana, GU 96910
Tel.: (671) 475-8772 ▪ Fax : (671) 472-3381
Email: arch@traguam.com
Architecture
Planning
Interior Design

EMCE • Consulting Engineers
SUITE 201, 133 ANTONIA COURT
P.O. BOX 8888 TAMUNING, GUAM 96931
671 648-0188/7 Phone
671 648-EMCE (3623) Fax
Email: guam@emceconsulting.com
Website: www.emceconsulting.com

ALEX F. ANDRES CERTIFICATE No.938 (ELECTRICAL) EXP. April 30, 2014 GUAM PROFESSIONAL ENGINEER

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

DATE: _____

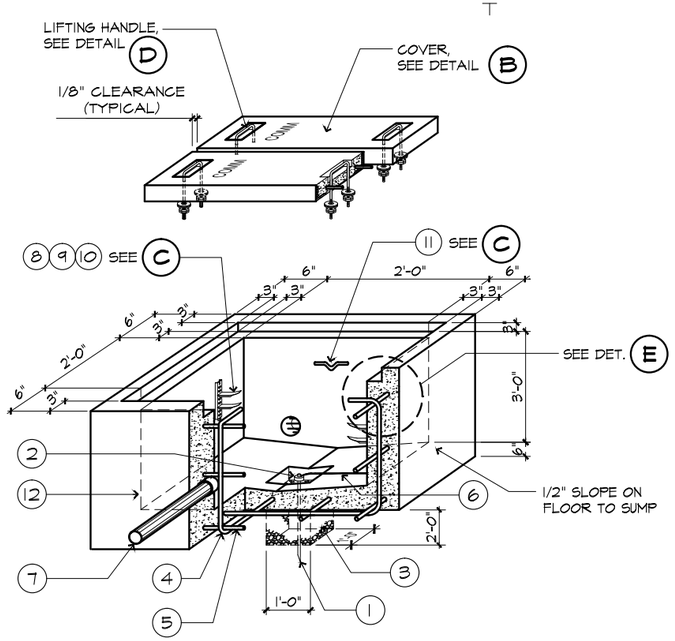
Project:
GCC
BLDG. 100 RENOVATION

Title:
2'X4' HANDHOLE DETAILS

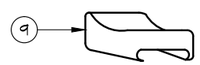
DESIGN DEVELOPMENT

Designed:	TM
Drawn:	RS/FC
Checked:	AA
Supv:	AA
Scale:	AS SHOWN
Date:	06/20/13
Project No. 24-11-390	File

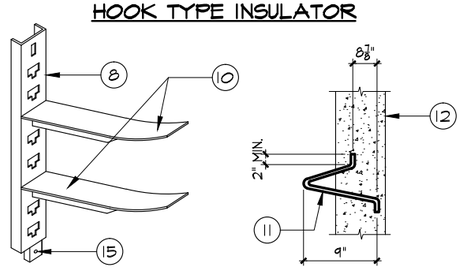
Drawing No.
E10.1
Sheet No. _____ of _____



A HANDHOLE DETAIL
NOT TO SCALE

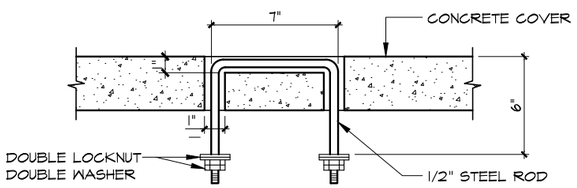


HOOK TYPE INSULATOR



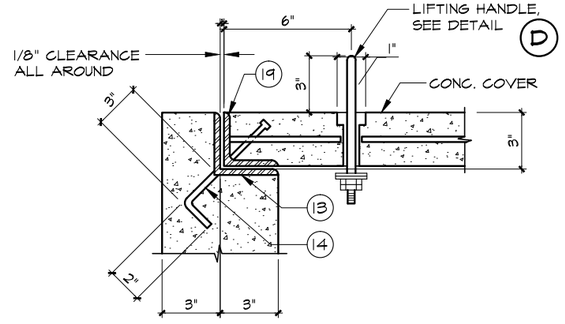
CABLE RACK PULLING IRON

C CABLE RACK, INSULATOR AND PULLING IRON DETAILS
NOT TO SCALE



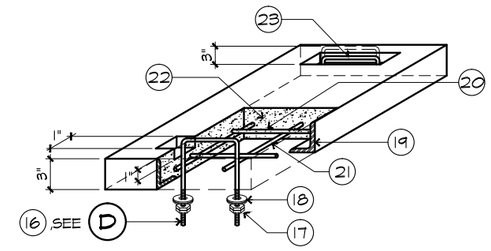
D LIFTING HANDLE DETAIL
NOT TO SCALE

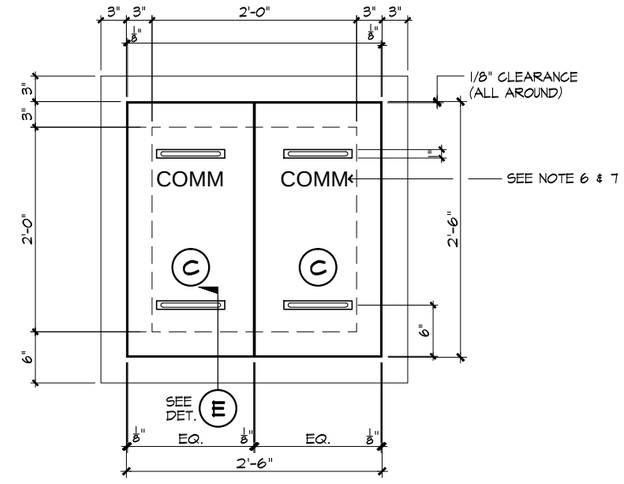
ITEM	BILL OF MATERIALS
1	5/8"Φ X 8'-0" COPPER WELD GROUND ROD
2	5/8"Φ COPPER GROUND ROD CLAMP
3	3/4"Φ MAXIMUM GRAVEL SIZE, FILL TO FINISH FLOOR
4	#4 REBAR @ 10" O.C. VERTICAL
5	#4 REBAR @ 10" O.C. HORIZONTAL
6	#6 COPPER WIRE (SOLID) FOR GROUNDING HARDWARE
7	CONDUIT WITH END BELL 6" FROM FLOOR SLAB, SIZE AND QUANTITY AS REQUIRED
8	CABLE RACK HOT DIP GALVANIZED
9	HOOK TYPE INSULATOR
10	INSULATOR WELDED SUPPORT
11	PULLING IRON 7/8"Φ GALVANIZED, LOCATED AT OPPOSITE END OF EACH CONDUIT ENTRANCE
12	6" THICK CONCRETE FLOOR SLAB AND WALL AT 3000 PSI YIELD STRENGTH OF GRADE 40 FOR REBARS
13	3" X 3" X 3/8" ANGLE IRON HOT DIP GALVANIZED
14	3/8"Φ STEEL ROD WELDED TO FRAME EVERY 12" O.C.
15	SLOT FOR 1/2" BOLT AND LEAD ANCHOR
16	1/2"Φ STEEL LIFTING DEVICE GALVANIZED
17	DOUBLE LOCKNUT, 1/2"Φ HOLE
18	DOUBLE ROUND WASHER 2"Φ WITH 5/8"Φ HOLE
19	3" X 3" X 1/4" ANGLE IRON, HOT DIP GALVANIZED ALL AROUND
20	#4 HORIZONTAL REBAR WELDED TO ANGLE FRAME
21	#4 VERTICAL REBAR WELDED TO ANGLE FROM AND OTHER REBAR
22	4" THICK CONCRETE AT 3000 PSI
23	1/2"Φ STEEL ROD LIFTING HANDLE



E COVER SEAT MOUNTING DETAIL
NOT TO SCALE

1/E10.2 2' X 2' X 3' HANDHOLE DETAIL
NOT TO SCALE





PLAN

B HANDHOLE COVER DETAIL
NOT TO SCALE

NOTES:

1. THIS HANDHOLE IS TO BE USED IN LOCATIONS WHERE NOT MORE THAN 3 JUNCTIONS OF SECONDARY WILL BE INSTALLED.
2. GROUND ALL HARDWARE IN THE HANDHOLE.
3. TOP OF THE HANDHOLE SHALL BE FLUSH WITH THE SIDEWALK SURFACE, OTHERWISE THERE SHOULD BE A 2" CLEARANCE FROM THE FINISHED GROUND SURFACE.
4. AREA OF CONDUIT ENTRANCES SHOULD BE 6" MINIMUM FROM THE FLOOR SLAB, 10" MINIMUM FROM THE LEFT OR RIGHT SIDE WALL, AND 15" MINIMUM FROM THE TOP OF THE HANDHOLE.
5. PROVIDE APPROXIMATE 1/8" CLEARANCE BETWEEN HANDHOLE COVERS AND BETWEEN COVERS AND LEDGE SIDES.
6. ALL LETTERING SHALL BE 3" WITH A 1/4" EMBEDMENT.
7. INDICATE "COM" OR "ELEC" ON EVERY HANDHOLE COVER WITH THE LETTER (C) FOR COMMUNICATION OR (S) FOR ELECTRICAL AND CENTER AS SHOWN.

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

REVISIONS

TRMA
Taniguchi Ruth Makio Architects
100 Cliff Business Center, P.O. Box EA, Agana, GU 96910
Tel.: (671) 475-8772 • Fax : (671) 472-3381
Email: arch@traguam.com
Architecture
Planning
Interior Design

EMCE • Consulting Engineers
SUITE 201, 133 ANTONIA COURT
P.O. BOX 8888 TAMUNING, GUAM 96931
671 648-0188/7 Phone
671 648-EMCE (3623) Fax
Email: guam@emceconsulting.com
Website: www.emceconsulting.com

ALEX F. ANDRES CERTIFICATE No.938 (ELECTRICAL) EXP. April 30, 2014 GUAM PROFESSIONAL ENGINEER

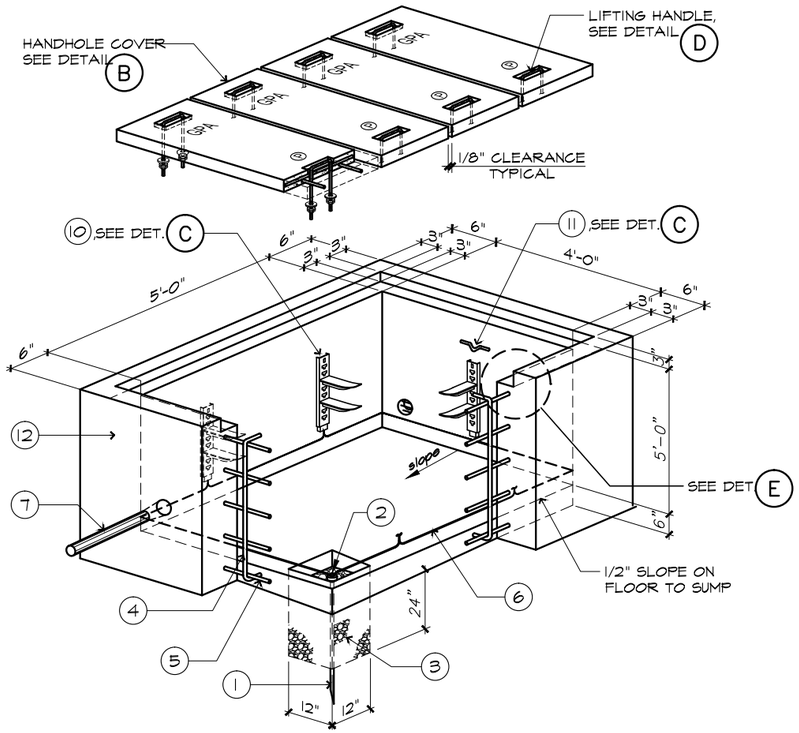
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION
DATE: _____

Project:
GCC
BLDG. 100 RENOVATION

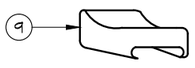
Title:
2'X2' HANDHOLE DETAILS
DESIGN DEVELOPMENT

Designed:	TM
Drawn:	RS/FC
Checked:	AA
Supv:	AA
Scale:	AS SHOWN
Date:	06/20/13
Project No. 24-11-390	File

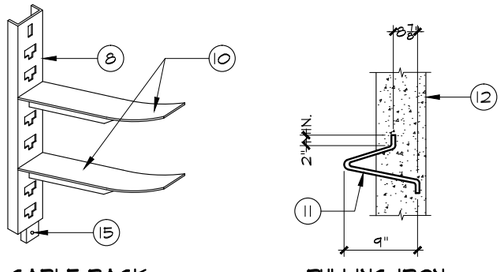
Drawing No.
E10.2
Sheet No. _____ of _____



A HANDHOLE DETAIL
NOT TO SCALE



HOOK TYPE INSULATOR



CABLE RACK

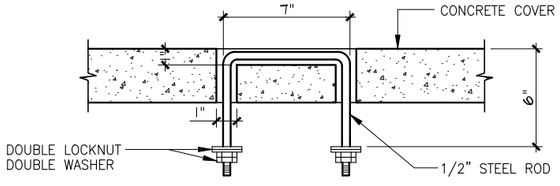
PULLING IRON

C CABLE RACK, INSULATOR AND PULLING IRON DETAILS
NOT TO SCALE

ITEM	BILL OF MATERIALS
1	5/8"Φ X 8'-0" COPPER WELD GROUND ROD
2	5/8"Φ COPPER GROUND ROD CLAMP
3	3/4"Φ MAXIMUM GRAVEL SIZE, FILL TO FINISH FLOOR
4	#4 REBAR @ 10" O.C. VERTICAL
5	#4 REBAR @ 10" O.C. HORIZONTAL
6	#6 COPPER WIRE (SOLID) FOR GROUNDING HARDWARE
7	CONDUIT WITH END BELL 6" FROM FLOOR SLAB, SIZE AND QUANTITY AS REQUIRED
8	CABLE RACK HOT DIP GALVANIZED
9	HOOK TYPE INSULATOR
10	INSULATOR WELDED SUPPORT
11	PULLING IRON 7/8"Φ GALVANIZED, LOCATED AT OPPOSITE END OF EACH CONDUIT ENTRANCE
12	6" THICK CONCRETE FLOOR SLAB AND WALL AT 3000 PSI YEILD STRENGTH OF GRADE 40 FOR REBARS
13	3" X 3" X 3/8" ANGLE IRON HOT DIP GALVANIZED
14	3/8"Φ STEEL ROD WELDED TO FRAME EVERY 12" O.C.
15	SLOT FOR 1/2" BOLT AND LEAD ANCHOR
16	1/2"Φ STEEL LIFTING DEVICE GALVANIZED
17	DOUBLE LOCKNUT, 1/2"Φ HOLE
18	DOUBLE ROUND WASHER 2"Φ WITH 5/8"Φ HOLE
19	3" X 3" X 1/4" ANGLE IRON, HOT DIP GALVANIZED ALL AROUND
20	#4 HOR. REBAR WELDED TO ANGLE FRAME
21	#4 VERT. REBAR WELDED TO ANGLE FROM AND OTHER REBAR
22	3" THICK CONCRETE AT 3000 PSI
23	1/2"Φ STEEL ROD LIFTING HANDLE

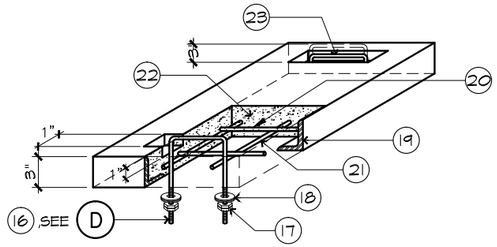
NOTES:

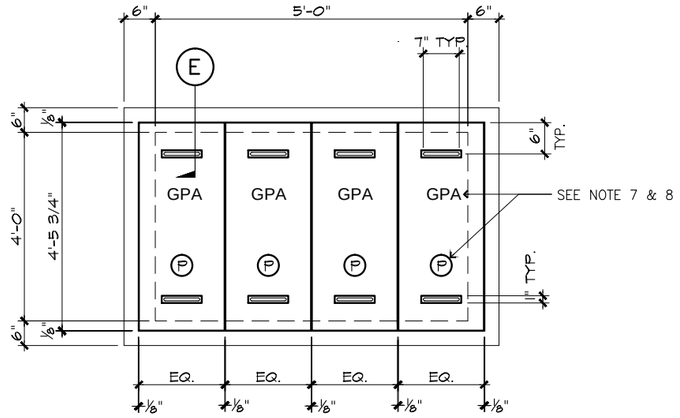
1. COORDINATE LAYOUT AND EXACT DIMENSIONS WITH CUC ENGINEERING PRIOR TO INSTALLATION.
2. THIS HANDHOLE IS TO BE USED IN LOCATIONS WHERE NOT MORE THAN 3 JUNCTIONS OF SECONDARY WILL BE INSTALLED.
3. GROUND ALL HARDWARE IN THE HANDHOLE.
4. TOP OF THE HANDHOLE SHALL BE FLUSH WITH THE SIDEWALK SURFACE, OTHERWISE THERE SHOULD BE A 2" CLEARANCE FROM THE FINISHED GROUND SURFACE.
5. AREA OF CONDUIT ENTRANCES SHOULD BE 6" MINIMUM FROM THE FLOOR SLAB, 10" MINIMUM FROM THE LEFT OR RIGHT SIDE WALL, AND 15" MINIMUM FROM THE TOP OF THE HANDHOLE.
6. PROVIDE APPROXIMATE 1/8" CLEARANCE BETWEEN HANDHOLE COVERS AND BETWEEN COVERS AND LEDGE SIDES.
7. ALL LETTERING SHALL BE 3" WITH A 1/4" EMBEBMENT.
8. INDICATE "GPA" ON EVERY HANDHOLE COVER WITH THE LETTER "S" FOR SECONDARY OR "P" FOR PRIMARY AND CENTERED AS SHOWN.



D LIFTING HANDLE DETAIL
NOT TO SCALE

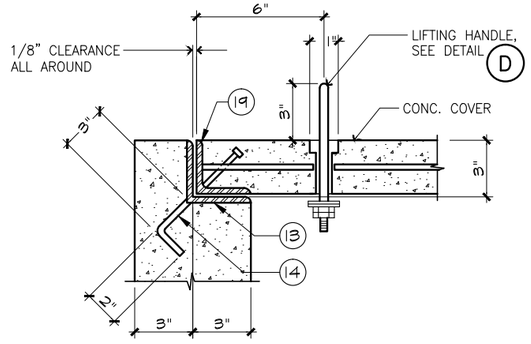
1 / E10.3 4' X 5' X 5' HANDHOLE DETAIL
NOT TO SCALE





PLAN

B HANDHOLE COVER DETAIL
NOT TO SCALE



E COVER SEAT MOUNTING DETAIL
NOT TO SCALE

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

REVISIONS

TRMA
Taniguchi Ruth Makio Architects
100 Cliff Business Center, P.O. Box EA, Agana, GU 96910
Tel.: (671) 475-8772 • Fax : (671) 472-3381
Email: arch@traguam.com
Architecture
Planning
Interior Design

EMCE • Consulting Engineers
SUITE 201, 133 ANTONIA COURT
P.O. BOX 8888 TAMUNING, GUAM 96931
671 648-0188/7 Phone
671 648-EMCE (3623) Fax
Email: guam@emceconsulting.com
Website: www.emceconsulting.com

ALEX F. ANDRES CERTIFICATE No.938 (ELECTRICAL) EXP. April 30, 2014 GUAM PROFESSIONAL ENGINEER

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

DATE: _____

Project: GCC
BLDG. 100 RENOVATION

Title: 4'X5' HANDHOLE DETAILS
DESIGN DEVELOPMENT

Designed:	TM
Drawn:	RS/FC
Checked:	AA
Supv:	AA
Scale:	AS SHOWN
Date:	06/20/13
Project No. 24-11-390	File

Drawing No. E10.3

Sheet No. _____ of _____