

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 MANDRELLING PRIOR TO CONCRETE POURING.
- 2
- OWNER SHALL GRANT A 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 MITIGATION BE REQUIRED BY DEPARTMENT OF PARKS AND RECREATION STATE HISTORIC PRESERVATION OFFICE (SHPO). THE OWNER SHALL BE RESPONSIBLE FOR OBTAINING AN ARCHEOLOGIST TO PERFORM MONITORING AND MITIGATION SERVICES SATISFACTORY TO SHPO. ALL COST FOR SERVICES SHALL BE THE RESPONSIBILITY OF THE OWNER.

GENERAL NOTES:

- 1
- ALL PENETRATIONS THROUGH FIRE RATED WALLS AND FLOORS SHALL BE SEALED WITH UL LISTED FIREPROOFING MATERIAL.
- 2
- 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.
- 3
- PROVIDE MINIMUM 12" SEPARATION BETWEEN NETWORKING AND TELECOM CONDUITS AND ELECTRICAL (POWER) CONDUITS AND EQUIPMENT INCLUDING LIGHT FIXTURES.
- 4
- ELECTRICAL INSTALLATION FOUNDATION AND SUPPORTS SHALL CONFORM TO SEISMIC ZONE 4 REQUIREMENTS.
- 5
- ALL OUTDOOR ELECTRICAL INSTALLATION SHALL WITHSTAND 170 MPH SUSTAINED WINLOAD COMPUTED IN ACCORDANCE WITH IBC 2004 EXPOSURE C AND ASCE 7-05.
- 6
- A COMMISIONING AGENT SHALL BE RETAINED BY CONTRACTOR TO CONFIRM THE FOLLOWING SYSTEM HAVE BEEN CORRECTLY INSTALLED AS DESIGNED.

A. PV SYSTEM

B. LIGHTING CONTROLS









ELECTRICAL SYMBOL LIST (CONT.)

	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
	FLEXIBLE CONDUIT, NUMBER OF WIRES WITHIN AS REQUIRED INCLUDING GROUND
	EXPOSED RACEWAY, NUMBER OF WIRES WITHIN AS REQUIRED INCLUDING GROUND
	INDICATOR, DETAIL : TOP HALF-DETAIL NUMBER
	INDICATOR, LIGHT FIXTURE TYPE
	COMMUNICATION RACEWAY
	FIRE ALARM RACEWAY
	SECURITY SYSTEM RACEWAY
	DATA RACEWAY
	TELEPHONE /DATA RACEWAY
	EMERGENCY POWER RACEWAY
	RACEWAY, STUBBED AND CAPPED
	CABLE TRAY
	DAYLIGHT SENSOR
	DUAL TECHNOLOGY OCCUPANCY SENSOR
	POWER PACK FOR OCCUPANCY SENSOR
	3-POSITION SWITCH MAINTAINED CONTACT
	INDICATOR, RACEWAY SECTION
	NOTE INDICATOR
	AMPERE FRAME/AMPERE TRIP
	ABOVE FINISH FLOOR/GRADE
	GROUND FAULT INTERRUPTER
	NON-FUSIBLE SWITCH
	NIGHT LIGHT/CURFEW LIGHT
	NORMALLY OPEN/NORMALLY CLOSED
	PROVISION FOR FUTURE BREAKER
	STAINLESS STEEL
	INDICATES WEATHERPROOF
	WEATHER RESISTANT LISTED

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
	LIGHT, FLUORESCENT, STRIP TYPE
	EXIT SIGN LIGHT, SHADED QUADRANT INDICATES SIGN LETTERED FACE, CHEVRON TYPE DIRECTIONAL ARROWS, CEILING/WALL MOUNTED
	SWITCH, FLUSH TUMBLER, WALL MOUNTED
	SWITCH, FLUSH TUMBLER, 3 WAY, WALL MOUNTED, 20A, 120/277 VOLTS
	LETTER INDICATES FIXTURE OR DEVICE CONTROLLED BY SWITCH "a", OTHER LETTERS SAME
	RECEPTACLE, DUPLEX, WALL MOUNTED, 20A, 125 VOLTS, NEMA 5-20R
	SINGLE RECEPTACLE, 20A, 125 VOLTS, WALL MOUNTED, NEMA 5-20R
	COMBINATION TEL/DATA OUTLET, WALL MOUNTED, 4-POSITION (2-DATA, 1-VOICE & 1-SPARE)
	DATA OUTLET, WALL/FLOOR MOUNTED, 2-POSITION (2-DATA)
	FIRE ALARM MANUAL PULL STATION
	FIRE ALARM AUDIBLE/VISUAL ALARM
	HEATER CONNECTION
	MOTOR CONNECTION
	FAN CONNECTION
	EQUIPMENT CONNECTION
	PHOTOCELL
	DUCT SMOKE DETECTOR
	HEAT DETECTOR
	SMOKE DETECTOR, CEILING MOUNTED
	JUNCTION BOX
	MAGNETIC 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
	TELEVISION CABINET
	PAD MOUNTED TRANSFORMER
	SWITCHBOARD OR DISTRIBUTION CABINET
	DURESS ALARM
	DURESS/PANIC ALARM
	DOOR ACCESS CONTROL
	DOOR STATUS MONITORING
	CCTV CAMERA
	MOTION DETECTOR
	KEY CARD ACCESS

MOUNTING HEIGHT SCHEDULE
(UNLESS OTHERWISE INDICATED)

DEVICE ON PLAN	MOUNTING HEIGHT	REFERENCE POINT					REMARKS
		FLOOR	CEILING	TO	CL	TOP	
	15"	•			•		
	15"	•			•		
	4'-0"	•			•		
	4'-0"	•			•		
	6'-8" or 6"	•	•		•	•	WHICHEVER IS LOWER
	5'-6"	•				•	
	5'-6"	•				•	
	5'-6"	•				•	

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No.	Description	Date

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DOCUMENTS



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Project:

GUAM COMMUNITY
COLLEGE
FORENSIC DNA LAB

Title:

ELEC'L. SYMBOL LIST,
GEN. NOTES, & GPA
NOTES

Designed: TM

Drawn: RS/FC

Checked: AA

Supv: AA

Scale: AS NOTED

Date: 12/17/12

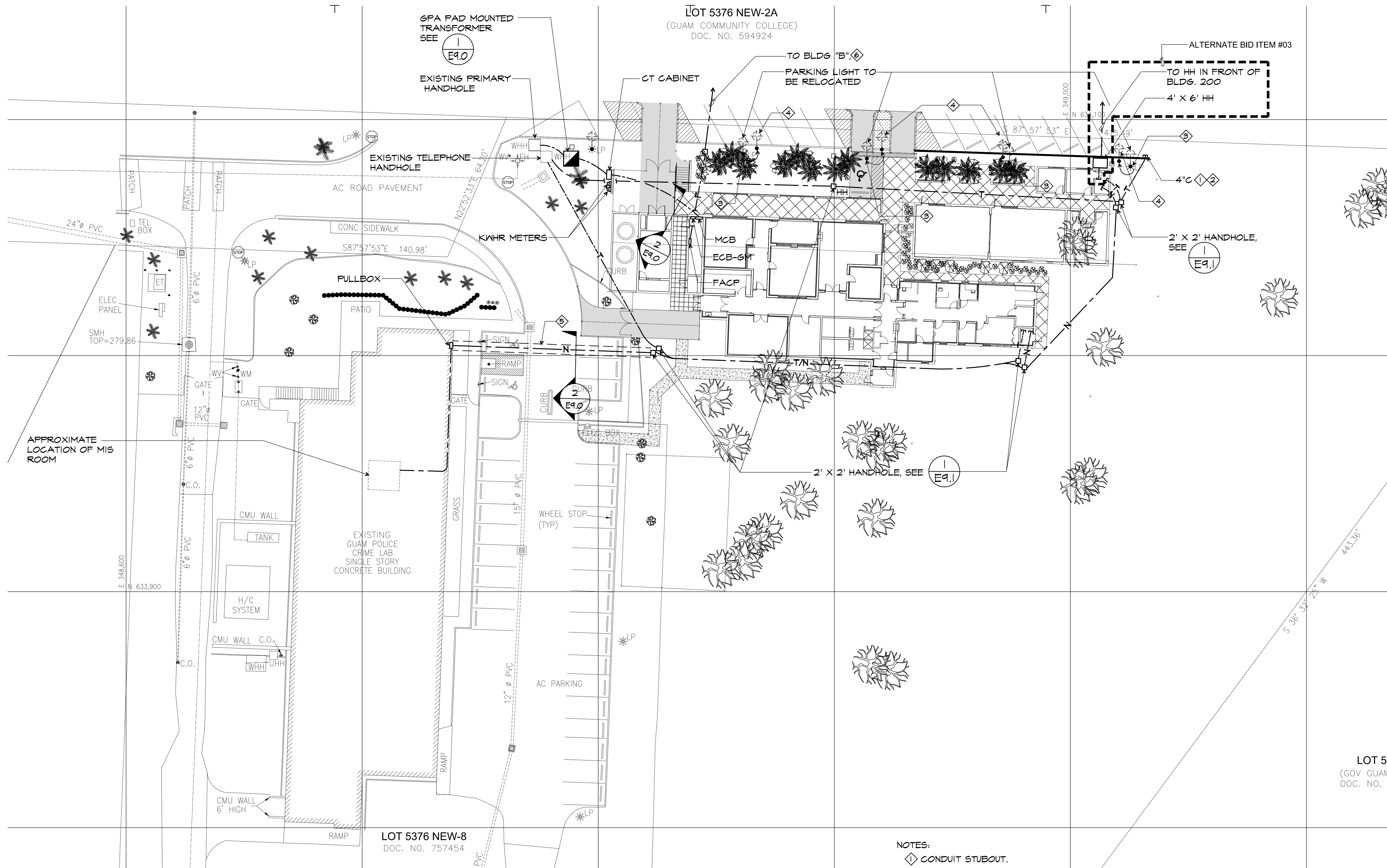
Project No. 24-11-383

File

Drawing No.

E1.0

Sheet No. _____ of _____

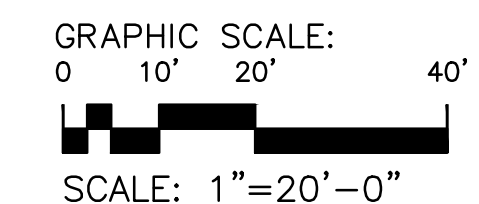


GENERAL NOTES:

1. VERIFY UNDERGROUND UTILITIES BEFORE START OF EXCAVATION. DAMAGED TO EXISTING UTILITIES AND LANDSCAPING SHALL BE REPAIRED BY THE CONTRACTOR AT NOT ADDITIONAL COST TO THE OWNER.

NOTES:

1. CONDUIT STUBOUT.
2. PROVIDE CONDUIT MARKER.
3. POLE FOUNDATION TO BE REMOVED.
4. RELOCATED LIGHT POLE.
5. SAW CUT EXISTING PAVEMENT. REPAIR TO MATCH EXISTING.
6. FIELD VERIFY ROUTING OF UNDERGROUND CONDUIT TO BLDG "B". PROVIDE 2' X 2' HANDHOLES.



IF SHEET IS LESS THAN 24" X 36"
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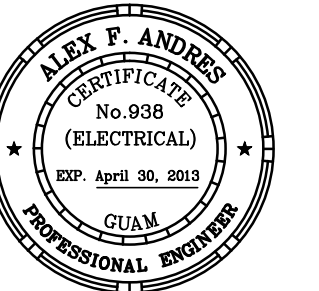
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FORENSIC DNA LAB

Title:

SITE ELECTRICAL
PLAN

LOT 53
(GOV. GUAM
DOC. NO. 4)

Designed:

TM

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RS/FC

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AA

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AA

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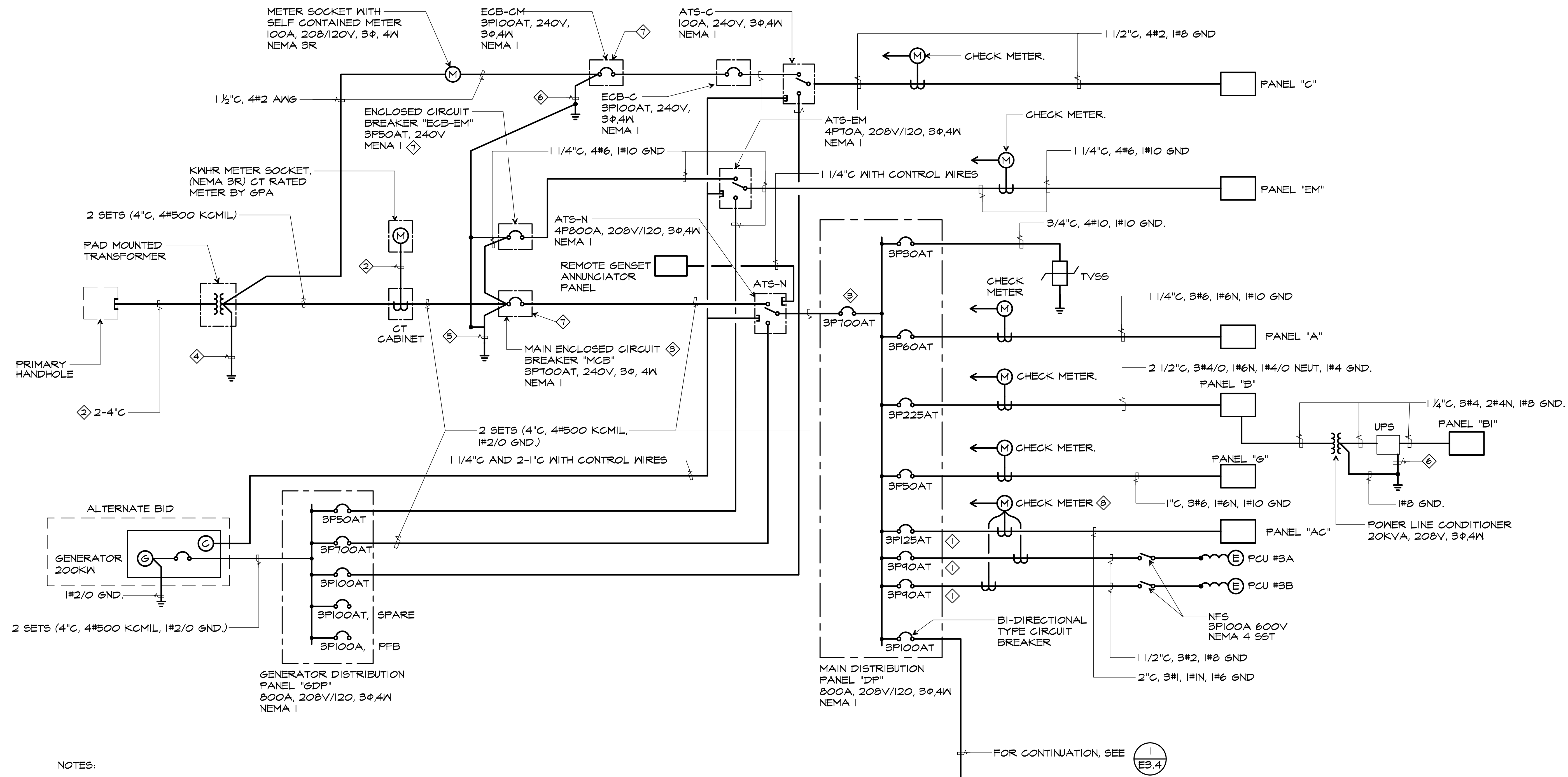
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E2.0

Sheet No. _____ of _____



NOTES:

- ① HACR TYPE CIRCUIT BREAKER.
- ② 3/4" C, T#12 AWG, COPPER, STRANDED, COLOR CODED.
- ③ BI-DIRECTIONAL TYPE CIRCUIT BREAKER.
- ④ SEE PAD MOUNTED TRANSFORMER DETAIL FOR SIZE.
- ⑤ 1#2/0 GROUND.
- ⑥ 1#8 GROUND.
- ⑦ UL LISTED FOR SERVICE EQUIPMENT USE.
- ⑧ UPS, 20KVA, 208V, 3Ø, 4W.

1 ONE LINE DIAGRAM
E-3.0 SCALE: NTS

REVISIONS		
No.	Description	Date

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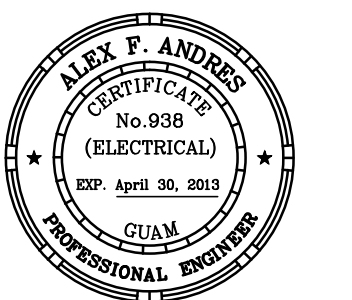
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Title:
ONE LINE DIAGRAM

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Scale: AS NOTED
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Project No. 24-11-383 File
Drawing No.

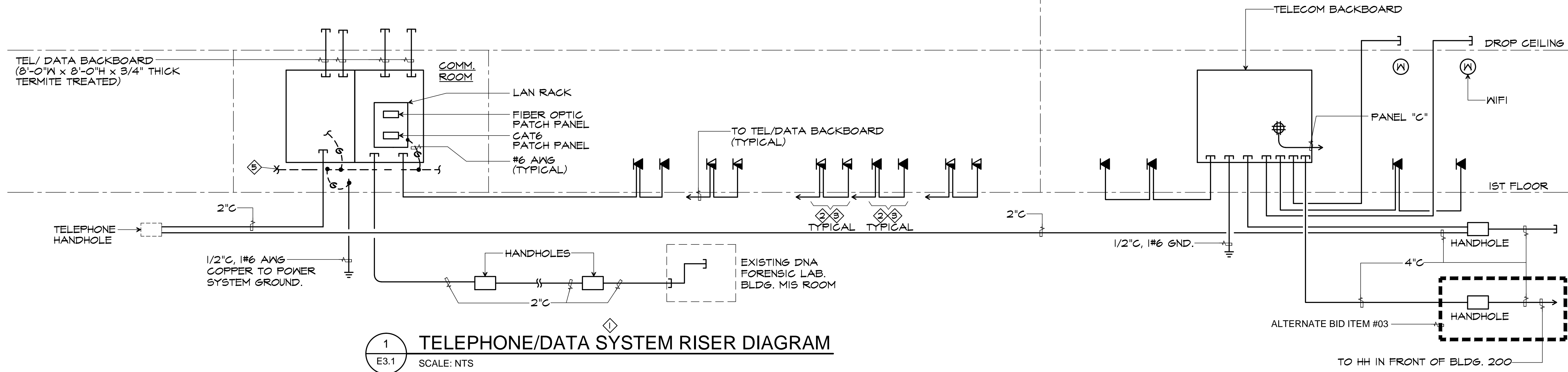
E3.0

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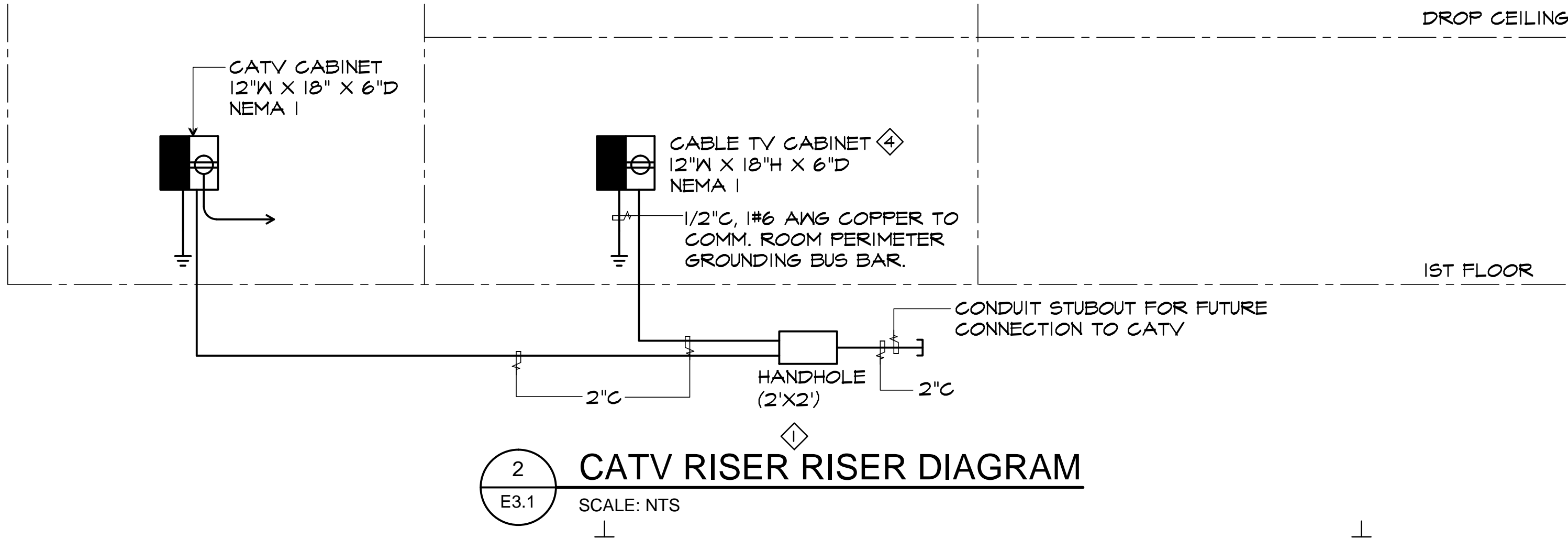
DNA FORENSIC LAB. BLDG

CLASSROOM BLDG



DNA FORENSIC LAB.

CLASSROOM BLDG.



NOTES (APPLICABLE FOR ENTIRE SHEET):

- 1 EMPTY CONDUIT SYSTEM ONLY. 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.

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BID DOCUMENTS

ALEX P. ANDRES
No. 938
(ELECTRICAL)
Exp. April 30, 2025
GUAM
PROFESSIONAL ENGINEER

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Project:
GUAM COMMUNITY COLLEGE
FORENSIC DNA LAB

Title:
TELEPHONE/DATA AND CABLE TV RISER DIAGRAM

Designed:	TM
Drawn:	RS/FC
Checked:	AA
Supv:	AA
Scale:	AS NOTED
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Project No.	24-11-383
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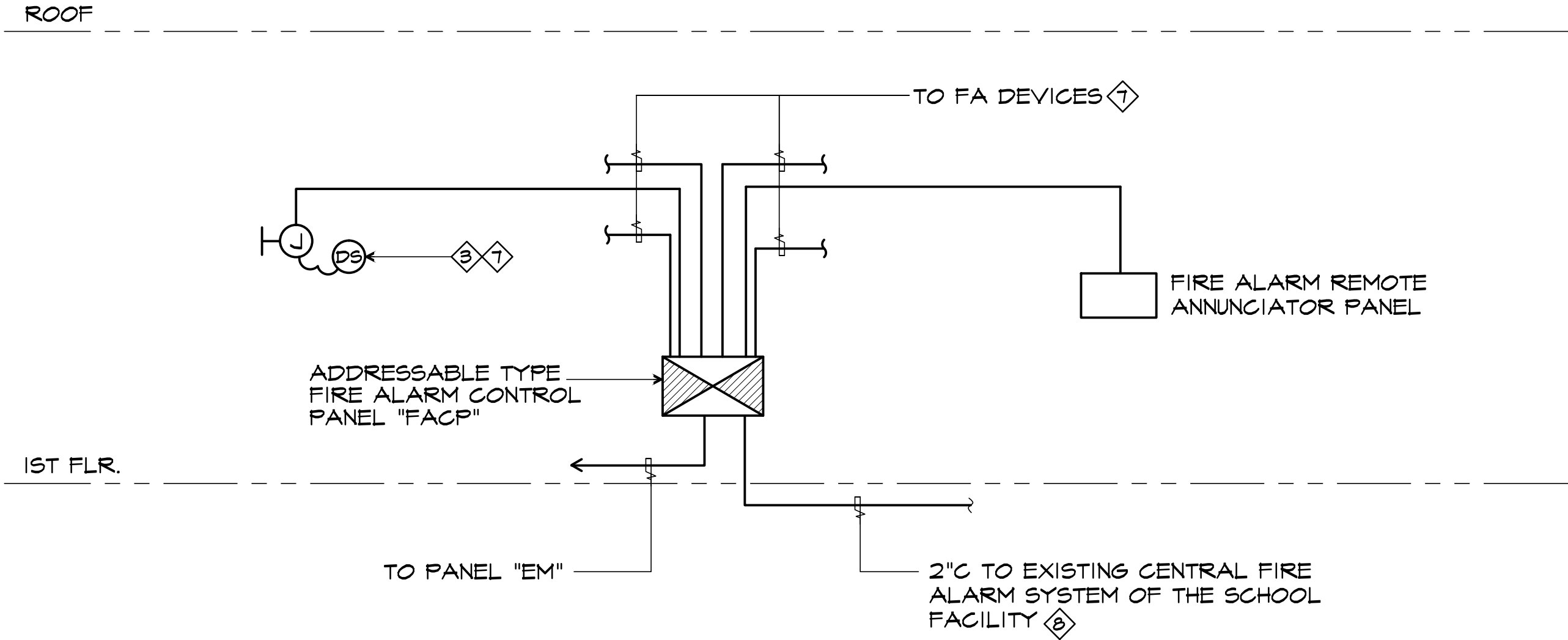
Project:
GUAM COMMUNITY COLLEGE
FORENSIC DNA LAB

Title:
RISER DIAGRAMS
(FIRE ALARM & SECURITY)

Designed: TM
Drawn: RS/FC
Checked: AA
Supv: AA
Scale: AS NOTED
Date: 12/17/12
Project No. 24-11-383 File
Drawing No.

E3.2

Sheet No. _____ of _____



1

FIRE ALARM RISER DIAGRAM

E3.2

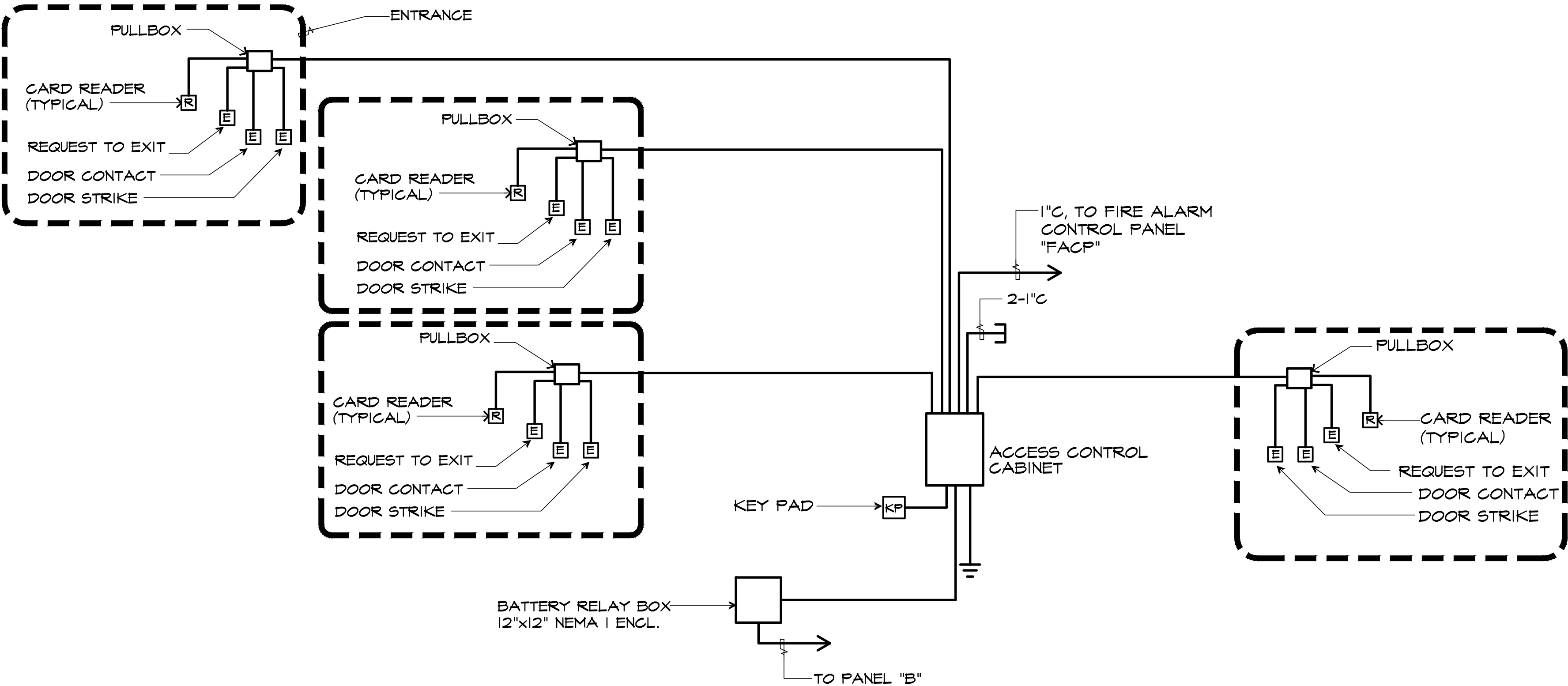
NOT

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 FACILITY FIRE ALARM SYSTEM. REPORTING TO CENTRAL FA SYSTEM SHALL BE BY DEVICE.



2

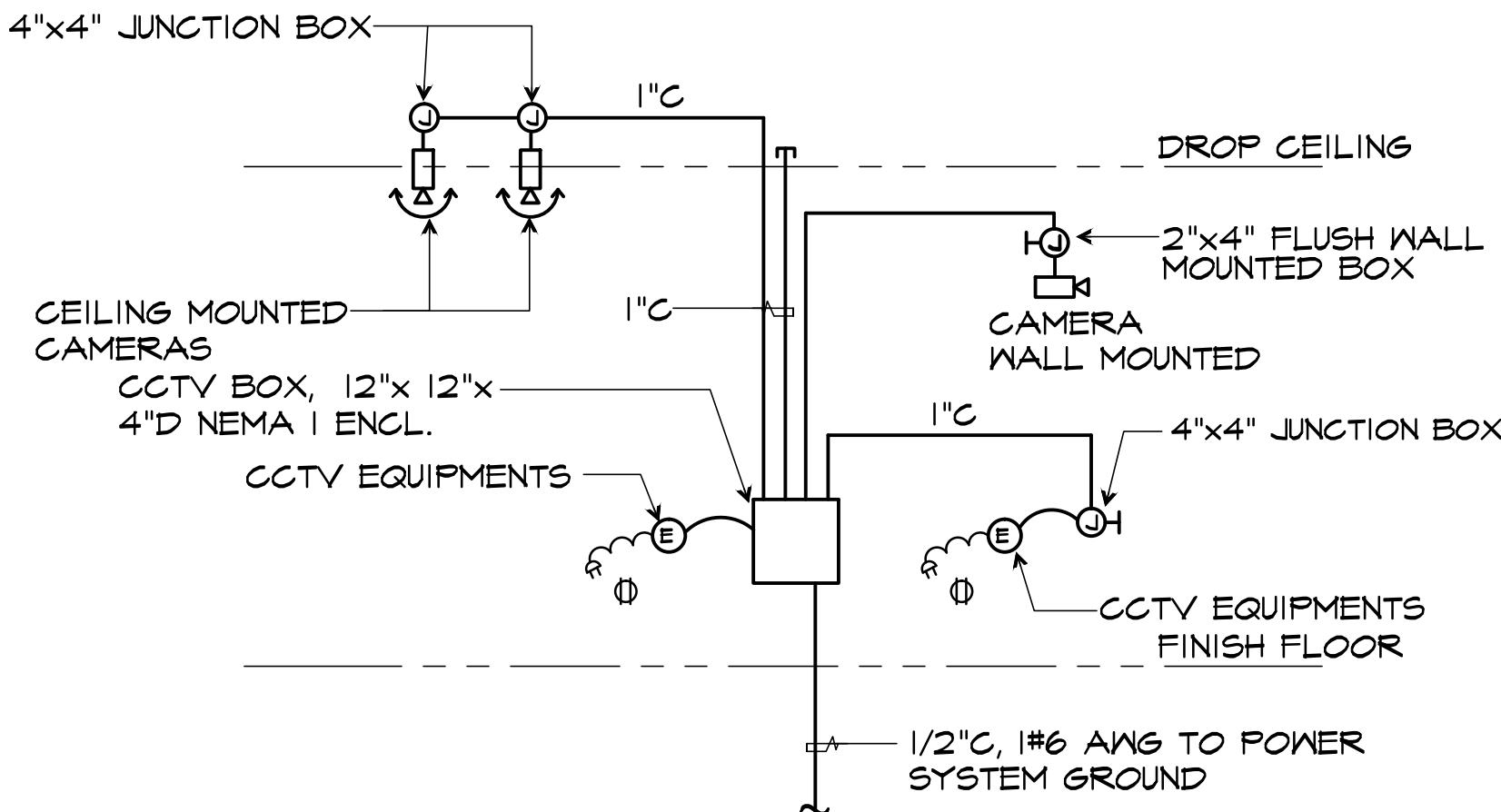
TYPICAL ACCESS CONTROL SYSTEM RACEWAY RISER DIAGRAM

E3.2

NOT

TO

SCALE



NOTES:

- 1. SECURITY ACCESS AND CCTV SYSTEM RISER DIAGRAMS ARE 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.

3

TYPICAL CCTV RISER DIAGRAM

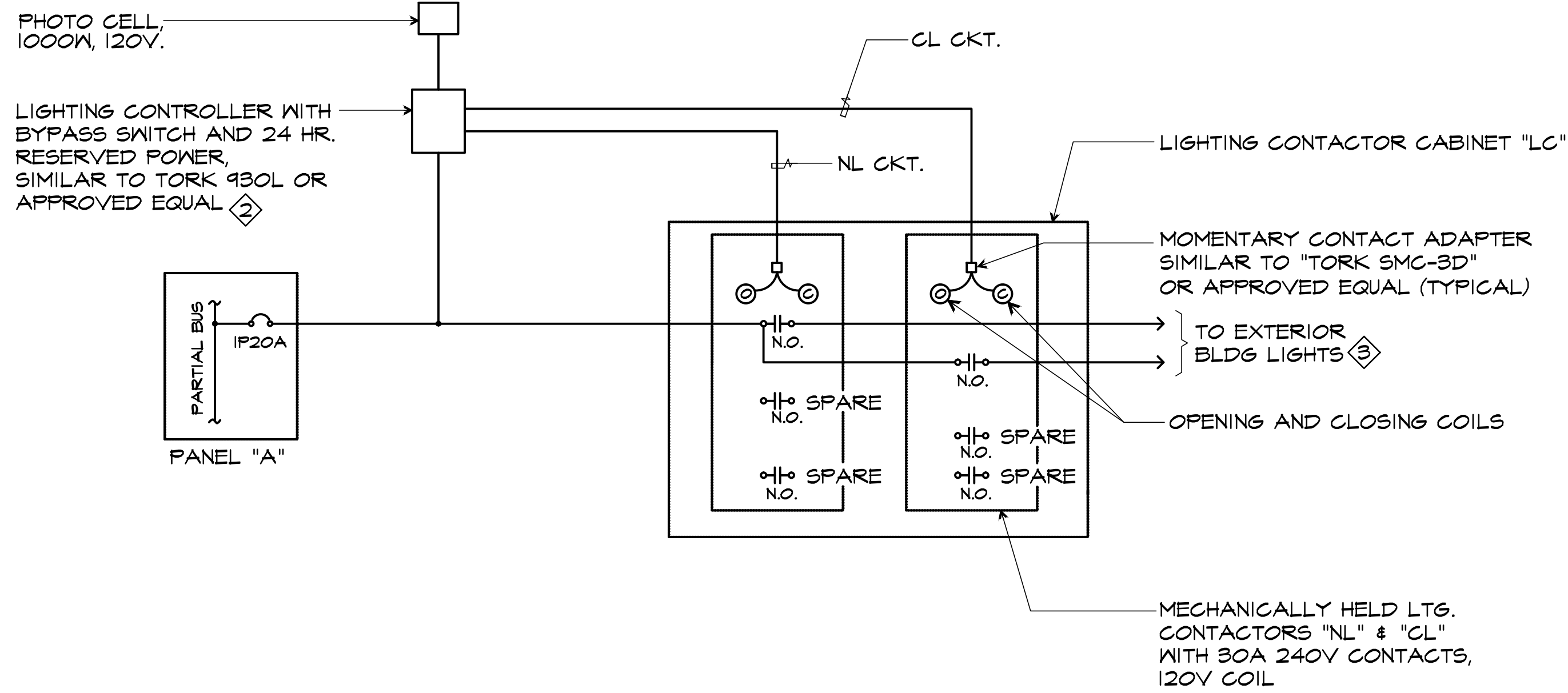
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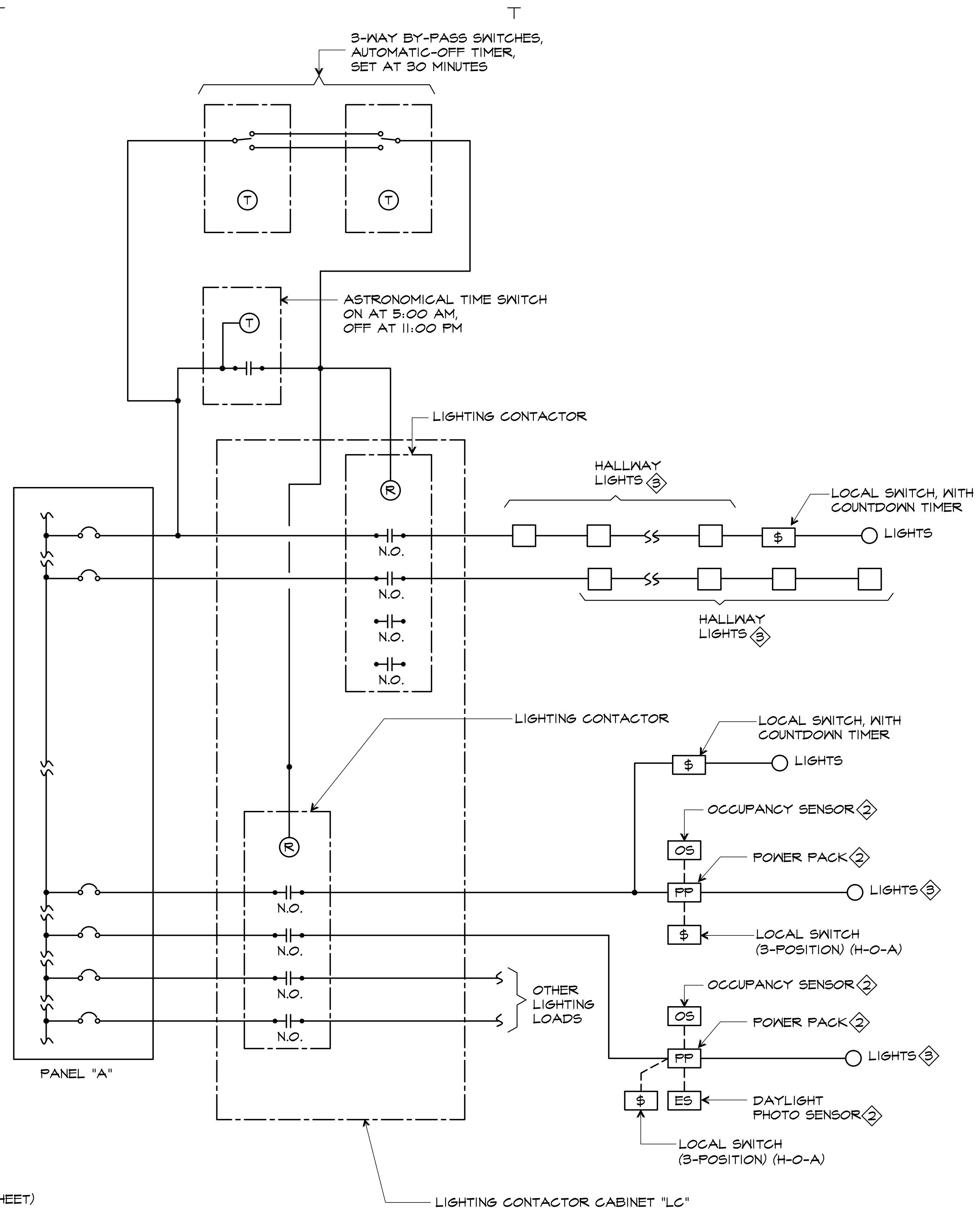
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1 LIGHTING CONTROL DIAGRAM (EXTERIOR)
E3.3 SCALE: NTS

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 TYPICAL INTERIOR LIGHTING CONTROL DIAGRAM
E3.3 SCALE: NTS

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DOCUMENTS

ALEX P. ANDRES
No. 938
(ELECTRICAL)
P.E.P. April 30, 2003
GUAM
PROFESSIONAL ENGINEER

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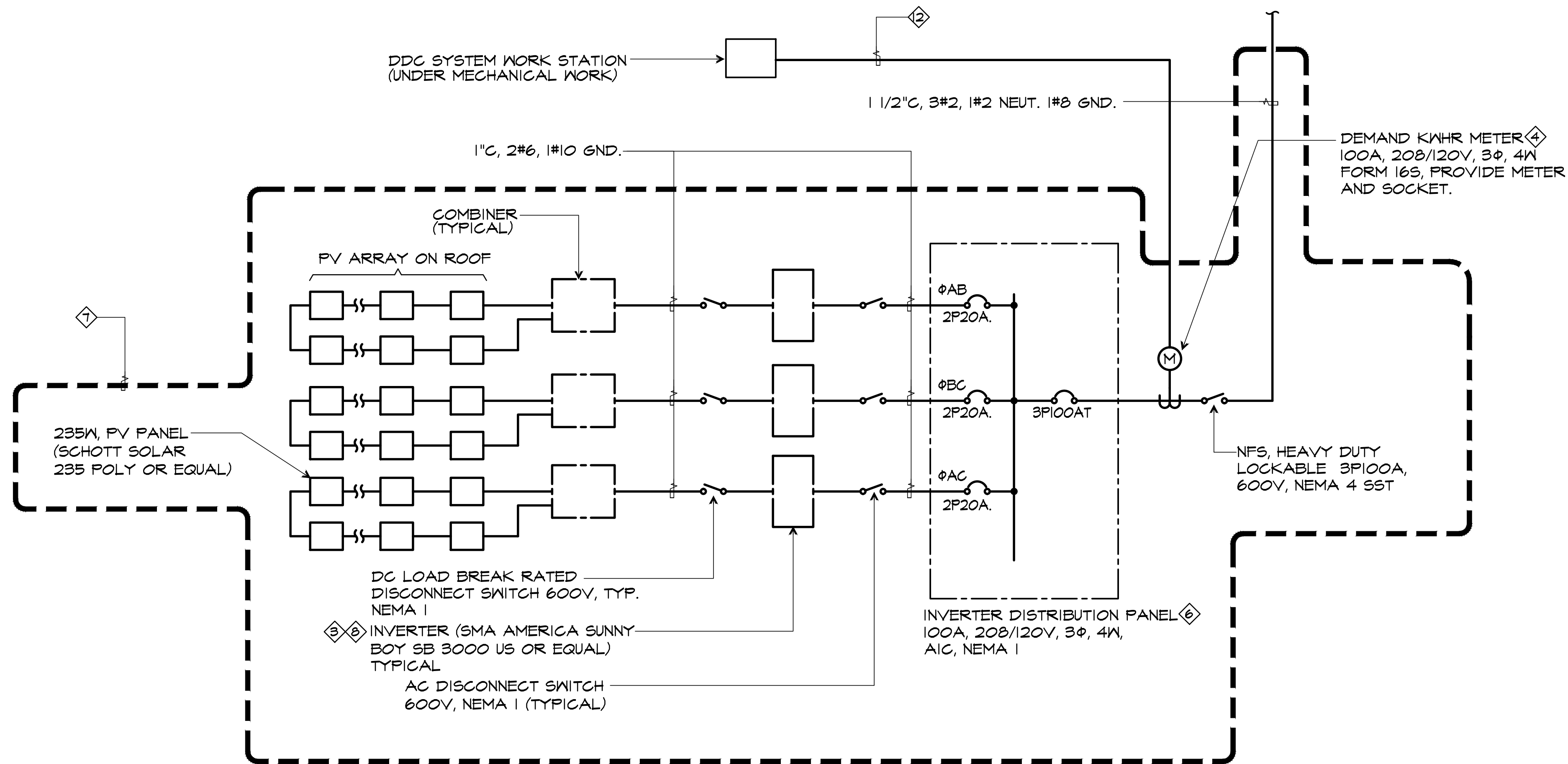
Project:
GUAM COMMUNITY
COLLEGE
FORENSIC DNA LAB

Title:
LIGHTING CONTROL
DIAGRAMS

Designed: TM
Drawn: RS/FC
Checked: AA
Supv: AA
Scale: AS NOTED
Date: 12/17/12
Project No. 24-11-383
File
Drawing No.

E3.3



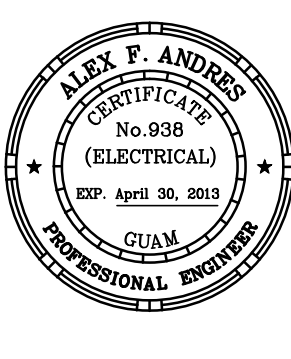
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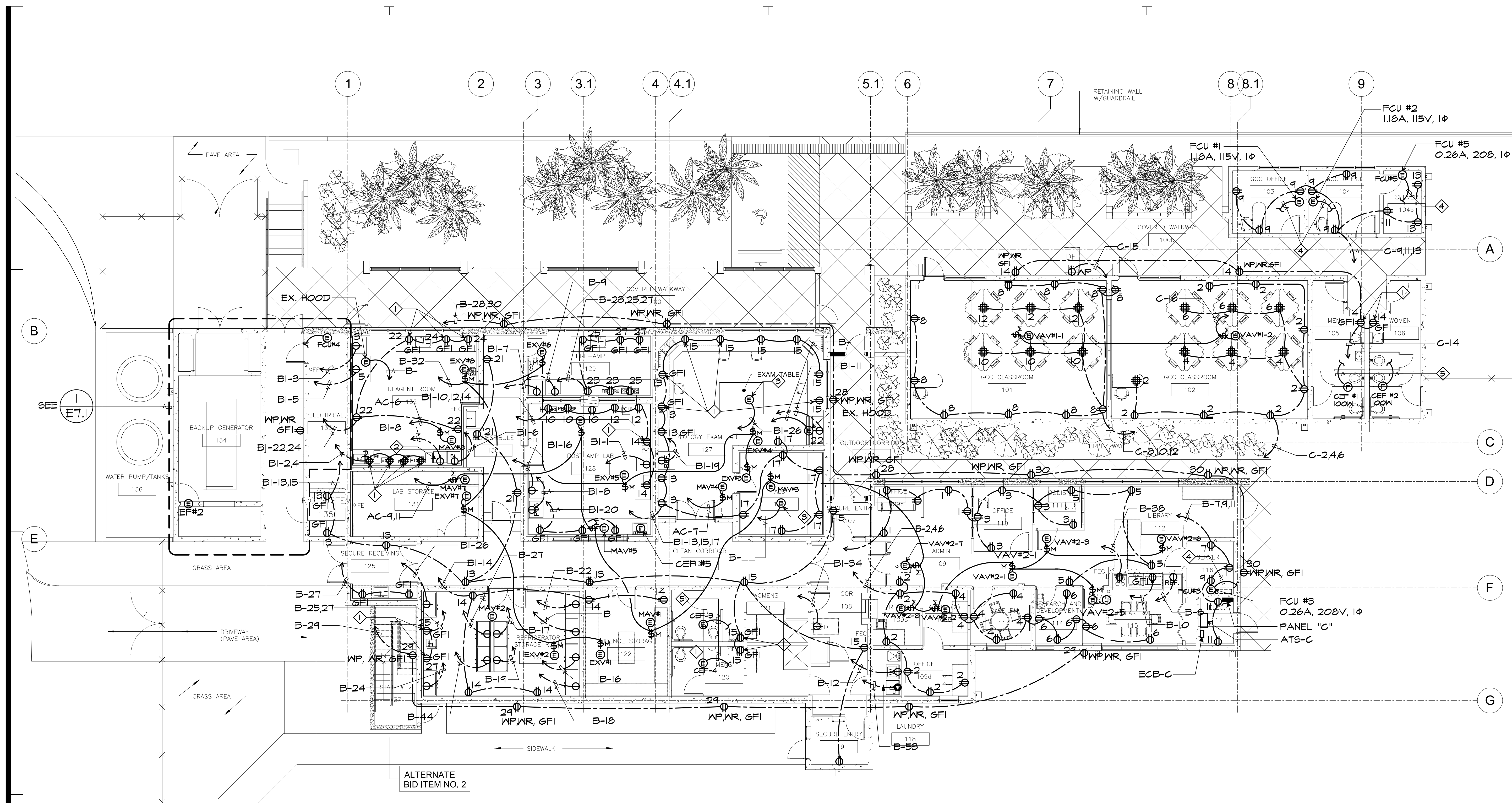


NOTES:

- A GRID-TIE PHOTO-VOLTAIC (PV) SYSTEM SHALL BE PROVIDED WITH A MINIMUM OUTPUT OF 5 KW RATED UNDER STANDARD TEST CONDITIONS (STC). PROVIDE 30 EACH 235 WATTS (SCHOTT SOLAR 235 POLY OR APPROVED EQUAL) PV MODULES CONFIGURED IN 3 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.
- 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.
- 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.
- A REVERSING KILO-WATTHOUR METER SHALL BE PROVIDED TO TRACK ENERGY PRODUCED BY THE PV SYSTEM.
- PROVIDE NAMEPLATE INDICATING "PHOTOVOLTAIC INVERTER PANELBOARD: DO NOT CONNECT ADDITIONAL LOAD TO THIS PANEL".
- BOLT-ON TYPE.
- PROVIDE CONDUIT AND WIRING, PER MANUFACTURER'S RECOMMENDATION.
- INVERTER SHALL HAVE INTEGRAL GROUND FAULT DETECTION, INTERRUPTION AND ARRAY DISCONNECT (GFPD) DEVICE.
- REFER TO (E3.4) FOR SCHEMATIC DIAGRAM.
- THIS DIAGRAM IS FOR GENERAL GUIDELINES. SUBMIT SHOP DRAWING FOR APPROVAL BY ENGINEER SHOWING THE FOLLOWING:
 - POINT TO POINT WIRING DIAGRAM.
 - COMPLETE EQUIPMENT CATALOG CUTS.
 - EQUIPMENT MOUNTING DETAILS.
 - PV PANEL MOUNTING DETAILS, CERTIFIED BY GUAM REGISTERED STRUCTURAL ENGINEER.
- CONTRACTOR SHALL OBTAIN BUILDING PERMIT AND GPA APPROVAL ON BEHALF OF THE OWNER.
- 1" C, WITH NETWORK CABLE TO DC SYSTEM.
- 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.

1 ONE LINE DIAGRAM (PV SYSTEM) - ALTERNATE BID ITEM #02
E3.4 NOT TO SCALE

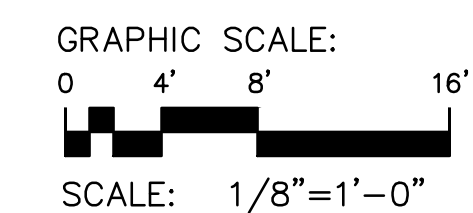
REVISIONS		
No.	Description	Date
TRMA 		
Taniguchi Ruth Makio Architects 100 Cliff Business Center, P.O. Box 84, Agaña, GU 96910 Tel.: (671) 475-8772 • Fax : (671) 472-3381 Email: arch@trmguam.com		
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BID DOCUMENTS		
		
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION DATE: _____		
Project: GUAM COMMUNITY COLLEGE FORENSIC DNA LAB		
Title: ONE LINE DIAGRAM (PV SYSTEM)		
Designed: TM		
Drawn: RS/FC		
Checked: AA		
Supv: AA		
Scale: AS NOTED		
Date: 12/17/12		
Project No. 24-11-383	File	
Drawing No. E3.4		
Sheet No. _____ of _____		




NOTES:

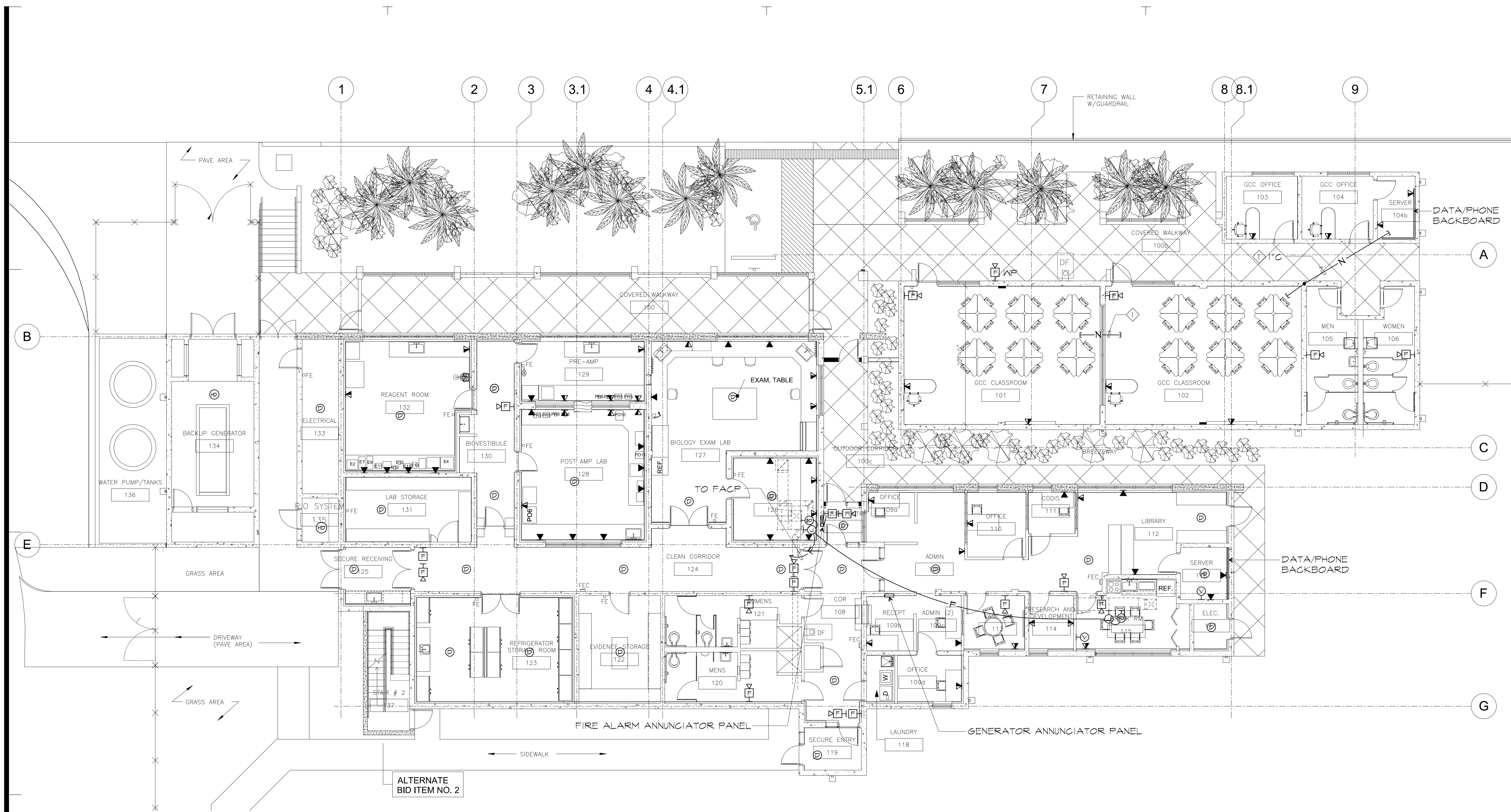
- ① MOUNTED +8" ABOVE SINK/COUNTER.
- ② MOUNTED UNDER COUNTER.
- ③ SNORKEL EQUIPMENT.
- ④ CONNECT TO A/C OUTDOOR UNIT.
- ⑤ CONNECT TO EXHAUST FAN SWITCH.

1 POWER PLAN
E5.0 SCALE: 1/8"=1'-0"



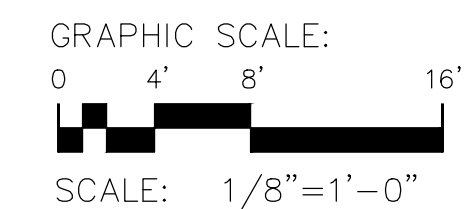
IF SHEET IS LESS THAN 24" X 36"
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DOCUMENTS		
		
I HEREBY CERTIFY THAT THIS PLAN WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION		
DATE: _____		
Project:		
GUAM COMMUNITY COLLEGE		
FORENSIC DNA LAB		
Title:		
POWER PLAN		
Designed: TM		
Drawn: RS/FC		
Checked: AA		
Supv: AA		
Scale: AS NOTED		
Date: 12/17/12		
Project No. 24-11-383	File	
Drawing No.		
E5.0		
Sheet No. _____ of _____		



NOTE:
◇ CONDUIT CONNECTION STUBOUT FOR FUTURE WIFI.

1 FA & COMMUNICATION SYSTEM PLAN
E6.0 SCALE: 1/8"=1'-0"



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

REVISIONS		
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DOCUMENTS**

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

Project:
**GUAM COMMUNITY
COLLEGE
FORENSIC DNA LAB**

Title:
**FIRE ALARM &
COMMUNICATION
SYSTEM PLAN**

Designed: TM
Drawn: RS/FC
Checked: AA
Supv: AA
Scale: AS NOTED
Date: 12/17/12
Project No. 24-11-383
File
Drawing No.

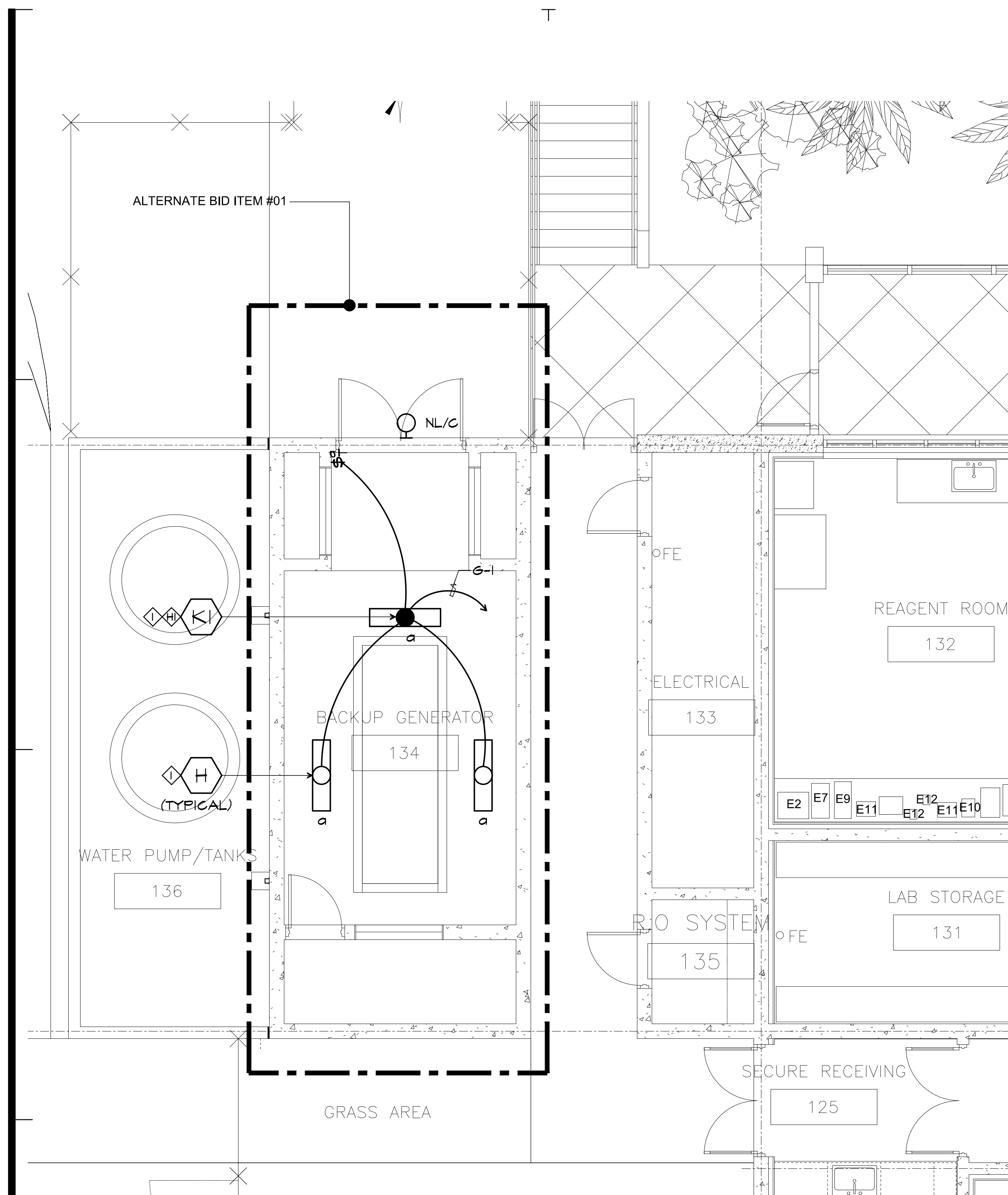
E6.0
Sheet No. _____ of _____



IF SHEET IS LESS THAN 24" X 36"
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E6.1

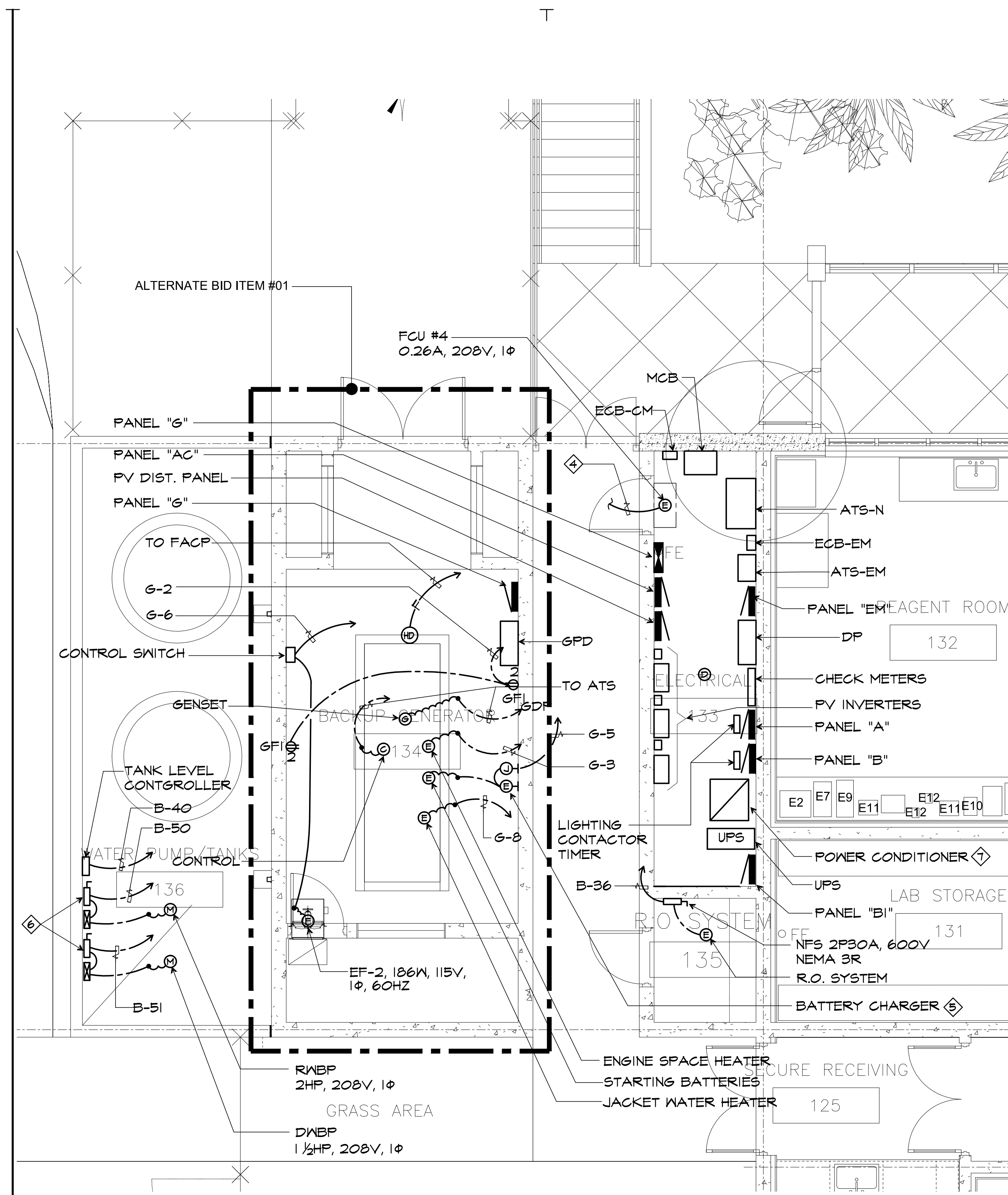
Sheet No. _____ of _____



1 LIGHTING PLAN (GENERATOR ROOM)
E7.1 SCALE: 1/4"=1'-0"

NOTES:

- ① MOUNTED 9'-0" AFF. FROM BOTTOM OF FIXTURE.
- ② MOUNTED 6" ABOVE DOOR FROM BOTTOM OF FIXTURE.
- ③ CONNECT EMERGENCY BATTERY PACK TO UNSWITCHED CIRCUIT.
- ④ CONNECT TO ACQU #4 ON THE ROOF.
- ⑤ MOUNTED 5'-0" AFF.
- ⑥ NFS, 2P30A, 600V, NEMA 4 SST.



2 POWER & F.A. PLAN (GENERATOR/ELEC'L. ROOMS)
E7.1 SCALE: 1/4"=1'-0"

- ◇ POWER CONDITIONER SIMILAR TO SOLA "HD" OR APPROVED EQUAL.

GRAPHIC SCALE:
0 2' 4' 8'
SCALE: 1/4"=1'-0"

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

REVISIONS		
No.	Description	Date

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BID DOCUMENTS

Project:
GUAM COMMUNITY COLLEGE
FORENSIC DNA LAB

Title:
LIGHTING, POWER & FIRE ALARM PLAN (GENERATOR/ELEC'L. ROOMS)

Designed: TM
Drawn: RS/FC
Checked: AA
Supv: AA
Scale: AS NOTED
Date: 12/17/12
Project No. 24-11-383
File
Drawing No.

E7.1
Sheet No. _____ of _____

LIGHT FIXTURE SCHEDULE						GENERAL NOTE: ALL LAMP COLOR TEMPERATURE SHALL BE 4100°K
FIXTURE TYPE	LAMP DATA		MOUNTING		DESCRIPTION	MANUFACTURER'S CAT. NO. OR APPROVED EQUAL
NO.	WATTS	CEILING	WALL			
A	LED	RECESS			LED, 2' X 4' FIXTURE WITH DIMMING BALLAST, 120V.	LITHONIA 2TL4-46L-FX-A12-D50- LP840-NX
A1	LED	RECESS			SIMILAR AS TYPE "B" EXCEPT WITH EMERGENCY BATTERY PACK.	LITHONIA 2TL4-46L-FX-A12-D50- LP840-NX-EL14L
B	2	20.8 LED	SURFACE		LED, SUITABLE FOR WET LOCATION, 120V.	BESA 6420LED
C	LED	RECESS			LED, 2'X2' FIXTURE WITH DIMMING BALLAST, 120V.	LITHONIA 2TL2-39L-FX-A12-MVOLT- D38-LP840
C1	LED	RECESS			SIMILAR AS TYPE "C" EXCEPT WITH EMERGENCY BATTERY PACK.	LITHONIA 2TL2-39L-FX-A12-MVOLT- D38-LP840-EL14L
D	LED	RECESS			LED, LINEAR LIGHTING, WITH DIMMING BALLAST, 120V.	LITHONIA TL4-43L-FX-A12-D46- LP840-NX
D1	LED	RECESS			SIMILAR TO FIXTURE TYPE "D" EXCEPT WITH EMERGENCY BATTERY PACK.	LITHONIA TL4-43L-FX-A12-D46- LP840-N50-EL14L
E	1	12 LED		SURFACE	LED, FULL CUT-OFF, SUITABLE FOR USE IN WET LOCATIONS, 120V.	HUBBELL LIGHTING LCC-12LU-4LP
F	LED			SURFACE	LED, WALL MOUNTED., 120V.	OCL LIGHTING UA1-010A-2TMH-ILD16/40K -120-DMO
G	2	LED	SURFACE		LED, 46" STRIPLIGHT, WITH LENS, 120V.	LITHONIA ZL2L46-2300L-LP840
G1	2	LED	SURFACE		SIMILAR AS TYPE "F" EXCEPT WITH EMERGENCY BATTERY PACK.	LITHONIA ZL2L46-2300L-LP840-B5LT22
H	1	40.9 LED		PENDANT	LED, ENCLOSED FIBERGLASS HOUSING, SUITABLE FOR WET LOCATION, 120V.	LIGHTOLIER STT4MA23A-40U-MKB
H1	1	40.9 LED		PENDANT	SIMILAR TO TYPE "H" EXCEPT WITH EMERGENCY BATTERY PACK	LIGHTOLIER STT4MA23A-40U-MKB
I	1	32 T8		RECESS	FLUORESCENT, WALL WASH, ELECTRONIC BALLAST, 120V.	LITHONIA MM-1-32-120-1RLS -SEB10
J	1	10 LED		REC.	LED, SHOWER LIGHT, 120V.	CONTRAST LIGHTING NWLEP300LU-LEP354B
K	LED	RECESS			LED, 4" APERTURE DOWNLIGHT, 600 LUMENS, 120V.	LITHONIA ALEP
L	LED		GROUND		LED BOLLARD LIGHT, ONE PIECE ALUMINUM. POWDER COAT FINISH.	KIM LIGHTING 6EM1-60LED120-VH
M	LED			WALL	LED WALL FORM. DIE CAST LOW COPPER ALUMINUM HOUSING. MOLDED AND HEAT TREATED GLASS LENS.	KIM LIGHTING WF39C-30LED120-VH
X	LED		UNIVERSAL		EXIT SIGN, 120V.	DUAL LITE LRP-*RM-*120/2T1-ELN
Z	1	1 LED		DESK	TASK LIGHT, Z-BAR HIGH POWER LED DESK LAMP, 120V.	KONCEPT HL3001A

EQUIPMENT SCHEDULE			
EQUIPMENT INDICATOR	DESCRIPTION	ELECTRICAL RATING	REMARKS
POST AMP LAV ROOM 31			
P01	GENERAL ANALYZER 3500	110V	
P02	DUCTLESS CHEM. HOOD FE 2620		
P03	GENERAL ANALYZER 9100		
P04	UNDER COUNTER FREEZER 5.6 CU. FT.		
P05	FREEZER 20.7 CU. FT.		
P06	REFREGERATOR		
P07	GEN. AMPLIFIER T500		
P08	MINI CENTRIFUGE HF 120		
P09	MINI VORTEXT 6560		
P010	WELL PLATE CENTRIFUGE		
P011	UV CROSSLINKER C11000		
PRE AMP LAV ROOM 30			
PR1	PCR SEUP CABINET	110V	
PR2	UNDER COUNTER FREEZER 5.6 CU. FT.		
PR3	FREEZER		
PR4	REFREGERATOR		
PR5	MINI CENTRIFUGE HF 120		
PR6	MINI VORTEX 6560		
PRE AMP LAV ROOM 30			
E1	BIROBOT EZI-ADVANCED XL 9001442	110V	
E2	AUTOClave 8000		
E3	BIO. SAFETY CABINET/HOOD PURIFIER CLASS II	115V	
E4	LARGE REF. CENTRIFUGE CL31R	120V	
E5	UNDER COUNTER FREEZER 5.6 CU. FT.	110V	
E6	FREEZER 20.7 CU.FT.	110V	
E7	REF. MICROCENTRIFUGE 541TR	120V	
E8	UV CROSSLINKER, C11000		
E9	VACUUM CONCENTRATOR DNA 120		
E10	VORTEMP 56 HEAT & ORBITAL SHAKER, S2056-A	120V	
E11	MINI CENTRIFUGER HF 120	110V	
E12	MINI VORTEX ROCKING PLATFORM 6 560	110V	

REVISIONS		
No.	Description	Date

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BID
DOCUMENTS

ALEX P. ANDERSON
No. 938
(ELECTRICAL)
Exp. April 30, 2025
GUAM
PROFESSIONAL ENGINEER

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

DATE: _____

Project:
GUAM COMMUNITY
COLLEGE
FORENSIC DNA LAB

Title:
SCHEDULES

Designed: TM
Drawn: RS/FC
Checked: AA
Supv: AA
Scale: AS NOTED
Date: 12/17/12
Project No. 24-11-383 File
Drawing No.

E8.0
Sheet No. _____ of _____

PANEL: "A"				VOLTS: 208/120				PHASE: 3				WIRE: 4				AIC RATING: 10000			
LOCATION: <input type="checkbox"/> INDOOR <input type="checkbox"/> OUTDOOR <input type="checkbox"/> DRY <input type="checkbox"/> WET				ENCL. TYPE: NEMA 1				MTG: <input type="checkbox"/> SURF. <input type="checkbox"/> FLUSH				AMPERE: 60A.				MAINS: <input type="checkbox"/> BREAKER <input type="checkbox"/> LUGS ONLY			
<input type="checkbox"/> NEUTRAL BUS				<input type="checkbox"/> GROUND BUS				<input type="checkbox"/> ISOLATED GROUND BUS				NEUTRAL BUS GND. BONDING: <input type="checkbox"/> YES <input type="checkbox"/> NO							
BRANCH CIRCUIT DESCRIPTION				WIRE SIZE	POLE BKR	CKT NO.	LOAD - BUS						CKT NO.	POLE BKR	WIRE SIZE	BRANCH CIRCUIT DESCRIPTION			
							8A		9B		9C								
LIGHTS				12	1/20	1	1.1	1.0						2	1/20	12	LIGHTS		
						3			1.0	1.0				4	12				
						5						1.5	1.0	6	12				
						7	1.5	1.0						8	10		-EXTERIOR		
						9								10	12		-EXTERIOR		
						11			1.4	1.0				12			SPARE		
SPARE						13	1.0	1.0				1.8	1.0	14			LIGHTING CONTROLLER		
						15			1.0	1.0				16			SPARE		
						17					1.0	1.0	18						
PFB					1/-	19	-	-						20	1/-		PFB		
						21								22					
						23								24					

PANEL: "AC"			VOLTS: 208/120			PHASE: 3			WIRE: 4			AIC RATING: 10,000				
LOCATION: <input checked="" type="checkbox"/> INDOOR <input type="checkbox"/> OUTDOOR <input checked="" type="checkbox"/> DRY <input type="checkbox"/> WET			ENCL. TYPE: NEMA 1			MTG: <input type="checkbox"/> SURF. <input type="checkbox"/> FLUSH			AMPERE: 125A.			MAINS: <input type="checkbox"/> BREAKER <input type="checkbox"/> LUGS ONLY				
<input checked="" type="checkbox"/> NEUTRAL BUS		<input checked="" type="checkbox"/> GROUND BUS		<input type="checkbox"/> ISOLATED GROUND BUS				NEUTRAL BUS GND. BONDING: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO								
BRANCH CIRCUIT DESCRIPTION		WIRE SIZE	POLE/BKR	CKT. NO.	LOAD - KVA						CKT. NO.	POLE/BKR	WIRE SIZE	BRANCH CIRCUIT DESCRIPTION		
					ØA		ØB		ØC							
ACCU #4/FCU #4		12	① 2/20	1	0.9	1.0			0.9	1.0		2	① 2/40	8	FCU #5	
FCU #4		6	① 3/50	3	3.2	2.7			3.2	2.7		4	① 3/40	8	FCU #2	
ACCU #3		12	① 2/20	5	0.9	1.5			0.9	1.5		6	2/20	12	MAV #3	
MAV #4		12	2/20	7			1.5	1.0			1.5	1.0	8	2/20	-	SPARE
MAV		12	1/20	9	1.0	1.0						10	1/20			
VAV		12	1/20	11			1.0	1.0				12				
SPARE		-		13					1.0	1.0		14				
PFB				15	-	-						16			PFB	
				17			-	-				18				
				19			-	-				20				
					12.2	12.3		12.8		REMARKS:						
CONNECTED KVA:					37		KVA		① HACR TYPE CIRCUIT BREAKER.							
DEMAND FACTOR:					1.00				I = 104A.							
DEMAND LOAD:					37		KVA									

PANEL: "C"			VOLTS: 208/120			PHASE: 3			WIRE: 4			AIC RATING: 10000		
LOCATION: <input type="checkbox"/> INDOOR <input type="checkbox"/> OUTDOOR <input type="checkbox"/> DRY <input type="checkbox"/> WET			ENCL. TYPE: NEMA 1			MTG: <input type="checkbox"/> SURF. <input type="checkbox"/> FLUSH			AMPERE: 100A.			MAINS: <input type="checkbox"/> BREAKER <input type="checkbox"/> LUGS ONLY		
<input type="checkbox"/> NEUTRAL BUS		<input type="checkbox"/> GROUND BUS		<input type="checkbox"/> ISOLATED GROUND BUS				NEUTRAL BUS GND. BONDING: <input type="checkbox"/> YES <input type="checkbox"/> NO						
BRANCH CIRCUIT DESCRIPTION		WIRE SIZE	POLE/BKR	CKT. NO.	LOAD - KVA						CKT. NO.	POLE/BKR	WIRE SIZE	BRANCH CIRCUIT DESCRIPTION
					ØA		ØB		ØC					
LIGHTS		12	1/20	1	1.2	1.0					2	1/20	12	RECEPTACLES
				3			1.2	1.0			4			
				5					1.2	1.0	6			
				7	0.8	1.0					8			
RECEPTACLES				9			1.0	1.0			10			
				11					1.0	1.0	12			
				13	1.0	1.0					14			
↓		↓		15			1.2	0.2			16			RECEPTACLE-ROOF
SPARE		-	↓	17					1.0	0.2	18	↓		RECEPTACLE-ROOF
ACCU #1/FCU #1		10	1/25	① 19	1.3	1.3					20	1/25	10	① ACCU #2/FCU #2
ACCU #5/FCU #5		12	2/20 ①	21			0.9	1.0			22	2/20	-	SPARE
					3.2	1.0								
FCU #1		6	3/50	23			3.2	1.0			24	3/20	-	SPARE
SPARE		-	1/20	25	1.0	1.0					26	1/20	12	FUME HOOD
			↓	27			1.0	1.0			28	-		SPARE
			↓	29					1.0	1.0	30	↓		
PFB		1/-		31	-	-	-	-			32	1/-		PFB
				33							34			
↓		↓		35					-	-	36	↓	↓	↓
TOTAL KVA/Ø:					14.8		13.7		13.5		REMARKS: ① HACR TYPE CIRCUIT BREAKER.			
CONNECTED KVA:					42		KVA							
DEMAND FACTOR:					0.43									
DEMAND LOAD:					18		KVA							
							I = 50A.							

PANEL: "B"			VOLTS: 208/120			PHASE: 3			WIRE: 4			AIC RATING: 10000		
LOCATION: <input type="checkbox"/> INDOOR <input type="checkbox"/> OUTDOOR <input type="checkbox"/> DRY <input type="checkbox"/> WET			ENCL. TYPE: NEMA 1			MTG: <input type="checkbox"/> SURF. <input type="checkbox"/> FLUSH			AMPERE: 225A.			MAINS: <input type="checkbox"/> BREAKER <input type="checkbox"/> LUGS ONLY		
<input type="checkbox"/> NEUTRAL BUS		<input type="checkbox"/> GROUND BUS		<input type="checkbox"/> ISOLATED GROUND BUS				NEUTRAL BUS GND. BONDING: <input type="checkbox"/> YES <input type="checkbox"/> NO						
BRANCH CIRCUIT DESCRIPTION		WIRE SIZE	POLE/ BKR	CKT NO.	LOAD - KVA						CKT NO.	POLE/ BKR	WIRE SIZE	BRANCH CIRCUIT DESCRIPTION
					øA		øB		øC					
RECEPTACLES		10	1/20	1	1.2	1.0					2	1/20	10	RECEPTACLES
				3			1.2	1.0			4			
				5						1.2	1.0			
				7	1.0	1.2								RECEPTACLES-REF
				9			1.0	1.0			10			RECEPTACLE
				11					0.2	1.2	12			RECEPTACLE-WASHER
				13	1.0	1.0					14			RECEPTACLES
				15			1.2	1.5			16			RECEPTACLE-FREEZER
-FREEZER				17					1.5	1.5	18			
				19	1.5	1.5					20			
				21			1.5	1.5			22			
				23					1.5	1.5	24			
				25	0.4	1.5					26			
				27			1.0	1.0			28			-EXTERIOR
-EXTERIOR		10		29					1.0	1.0	30		12	-EXTERIOR
EXHAUST HOOD		12		31	1.0	1.0					32		12	EXV
EXHAUST HOOD		12		33			1.0	1.0			34		12	RECEP-DRINKING FOUNTAIN
SOLAR WATER HEATER		10	2/20	35	1.5	1.5			1.0	1.4	36	2/30	10	RWBP
DRYER		10	2/30	37			2.5	4.0			38	2/50	12	RANGE
RECEPTACLES-ROOF		10	1/20	39	1.0	1.0					40	1/20	12	TANK LEVEL CONTROLLER
RECEPTACLES-TEL/TV		12	1/20	41			1.0	1.0			42	1/20	12	RECEPTACLES
SPARE		-	2/20	43	1.0	1.2			1.0	1.2	44	2/30	10	DWBP
SPARE		-	3/20	45			1.0	2.7			46	3/40	③	UPS
					3.2	2.7			1.0	2.7				
EF-1		10	3/30	47			1.6	1.6			48	3/30	10	EF-1
					1.6	1.6			1.6	1.6				
SNORKEL		10	1/30	49			1.8	1.8			50	1/30	10	SNORKEL
SPARE		-	1/20	51					1.0	1.0	52	1/20	-	SPARE
				53	1.0	1.0					54			
				55			1.0	1.0			56			
				57					1.0	1.0	58			
PFB			1/-	59	-	-					60	1/-		PFB
				61			-	-			62			
				63					-	-	64			
				65	-	-					66			
				67			-	-			68			
				69					-	-	70			
TOTAL KVA/Ø:					28.8		34.9		39.6		REMARKS:			
CONNECTED KVA:					97.3 KVA						① USE #10 FOR HOMERUN ONLY.			
DEMAND FACTOR:					0.6						USE #12 BETWEEN DEVICES.			
DEMAND LOAD:					62 KVA		I = 170A.				② SEE ONE LINE DIAGRAM FOR SIZES.			

PANEL: "6"			VOLTS: 208/120			PHASE: 3			WIRE: 4			AIC RATING: 10,000		
LOCATION: <input type="checkbox"/> INDOOR <input type="checkbox"/> OUTDOOR <input type="checkbox"/> DRY <input type="checkbox"/> WET			ENCL. TYPE: NEMA 1			MTG: <input type="checkbox"/> SURF. <input type="checkbox"/> FLUSH			AMPERE: 50A.			MAINS: <input type="checkbox"/> BREAKER <input type="checkbox"/> LUGS ONLY		
<input type="checkbox"/> NEUTRAL BUS		<input type="checkbox"/> GROUND BUS		<input type="checkbox"/> ISOLATED GROUND BUS				NEUTRAL BUS GND. BONDING: <input type="checkbox"/> YES <input type="checkbox"/> NO						
BRANCH CIRCUIT DESCRIPTION		WIRE SIZE	POLE/BKR	CKT. NO.	LOAD - KVA						CKT. NO.	POLE/BKR	WIRE SIZE	BRANCH CIRCUIT DESCRIPTION
					ØA		ØB		ØC					
LIGHTS		#12	1/20	1	0.6	0.7					2	1/20	#12	RECEPTACLES
ENGINE SPACE HEATER				3			1.0	0.5			4			RECEPTACLES
BATTERY CHARGER		✓	✓	5				1.4	0.7		6	✓	✓	EXHAUST FAN
SPARE		-	2/20	7	1.0	1.5		1.5			8	2/30	#10	JACKET WATER HEATER
SPARE			1/20	9	1.0	1.0			1.0	1.0	10	1/20	-	SPARE
				11							12			
		✓	✓	13			1.0	1.0			14			
				15					1.0	1.0	16	✓	✓	✓
TOTAL KVA/Ø: CONNECTED KVA: DEMAND FACTOR: DEMAND LOAD:					5.8		6.0		6.1		REMARKS:			
					17.9 KVA									
					0.4									
					7.64 KVA		I = 21A.							

PANEL: "B1"			VOLTS: 208/120			PHASE: 3			WIRE: 4			AIC RATING: 10000		
LOCATION: <input type="checkbox"/> INDOOR <input type="checkbox"/> OUTDOOR <input type="checkbox"/> DRY <input type="checkbox"/> WET			ENCL. TYPE: NEMA 1			MTG: <input type="checkbox"/> SURF. <input type="checkbox"/> FLUSH			AMPERE: 70A.			MAINS: <input type="checkbox"/> BREAKER <input type="checkbox"/> LUGS ONLY		
<input type="checkbox"/> NEUTRAL BUS			<input type="checkbox"/> GROUND BUS			<input type="checkbox"/> ISOLATED GROUND BUS			NEUTRAL BUS GND. BONDING: <input type="checkbox"/> YES <input type="checkbox"/> NO					
BRANCH CIRCUIT DESCRIPTION		WIRE SIZE	POLE / BKR	CKT. NO.	LOAD - KVA						CKT. NO.	POLE / BKR	WIRE SIZE	BRANCH CIRCUIT DESCRIPTION
					#A		#B		#C					
RECEP- POST AMP.	12	1/20	1	1.0	1.0					2	1/20	12	RECEP-REAGENT EQUIP.	
RECEP- FREEZER	12		3				1.2	1.0		4	12		RECEP-REAGENT EQUIP.	
RECEP- BIOLOGICAL SAFETY CABINET	12		5						1.2	1.0	6		RECEP-REF CENTIFUGE-E4	
RECEP- PRE-AMP ROOM EQUIP.	10		7	1.0	1.0						8		RECEP-FREEZER	
RECEP- PRE-AMP ROOM EQUIP.	10		9			1.0	0.6			10		↓	RECEP-POST AMP LAB	
RECEP- PRE-AMP ROOM EQUIP.	10		11					1.0	0.4	12		10	RECEP-POST AMP LAB	
RECEP- BIOLOGY EXAM LAB	① 10		13	1.0	0.4					14		↓	RECEP-POST AMP LAB	
RECEP- BIOLOGY EXAM LAB	① 10		15			1.2	1.2			16		↓	RECEP-POST AMP LAB	
RECEP- ALS	① 10		17					1.2	1.2	18		↓	RECEP-POST AMP LAB	
RECEP- BIOLOGY EXAM LAB (REF)	① 10		19	1.2	0.6					20	12		RECEPTACLES	
SPARE	-		21			1.0	0.6			22		↓		
RECEPTACLES	① 10		23					1.0	0.4	24		↓		
RECEPTACLES	① 10		25	1.0	1.0					26	-	SPARE		
RECEPTACLES	① 10		27			1.0	1.0			28		↓		
SPARE	-	1/20	29					1.0	1.0	30		↓		
TOTAL KVA/Ø:					9.2					9.4				
CONNECTED KVA:					28.4 KVA					REMARKS: ① USE #10 FOR HOMERUN ONLY. USE #12 BETWEEN DEVICES.				
DEMAND FACTOR:					0.8									
DEMAND LOAD:					23 KVA									
					I = 64A.									

REVISIONS		
No.	Description	Date

TRMA

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DATE: _____

Project:
GUAM COMMUNITY COLLEGE
FORENSIC DNA LAB

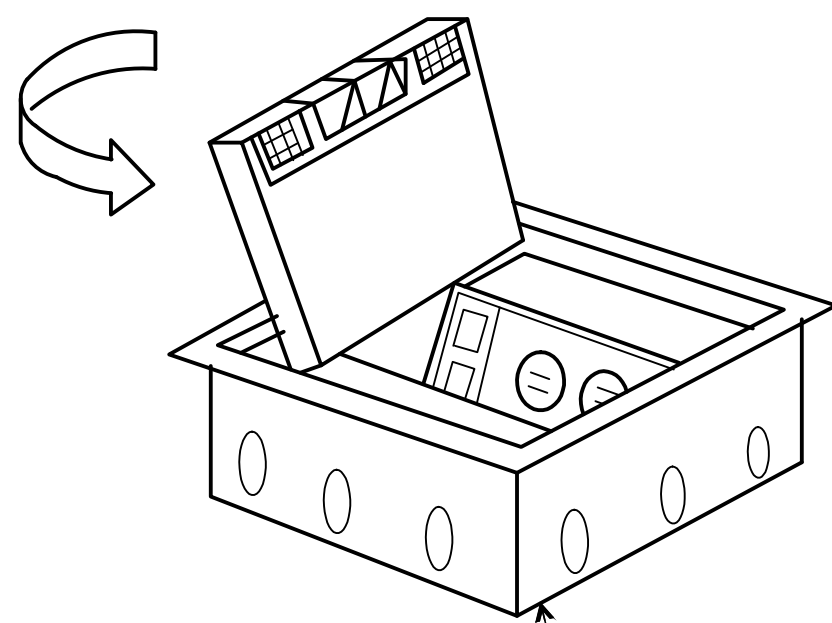
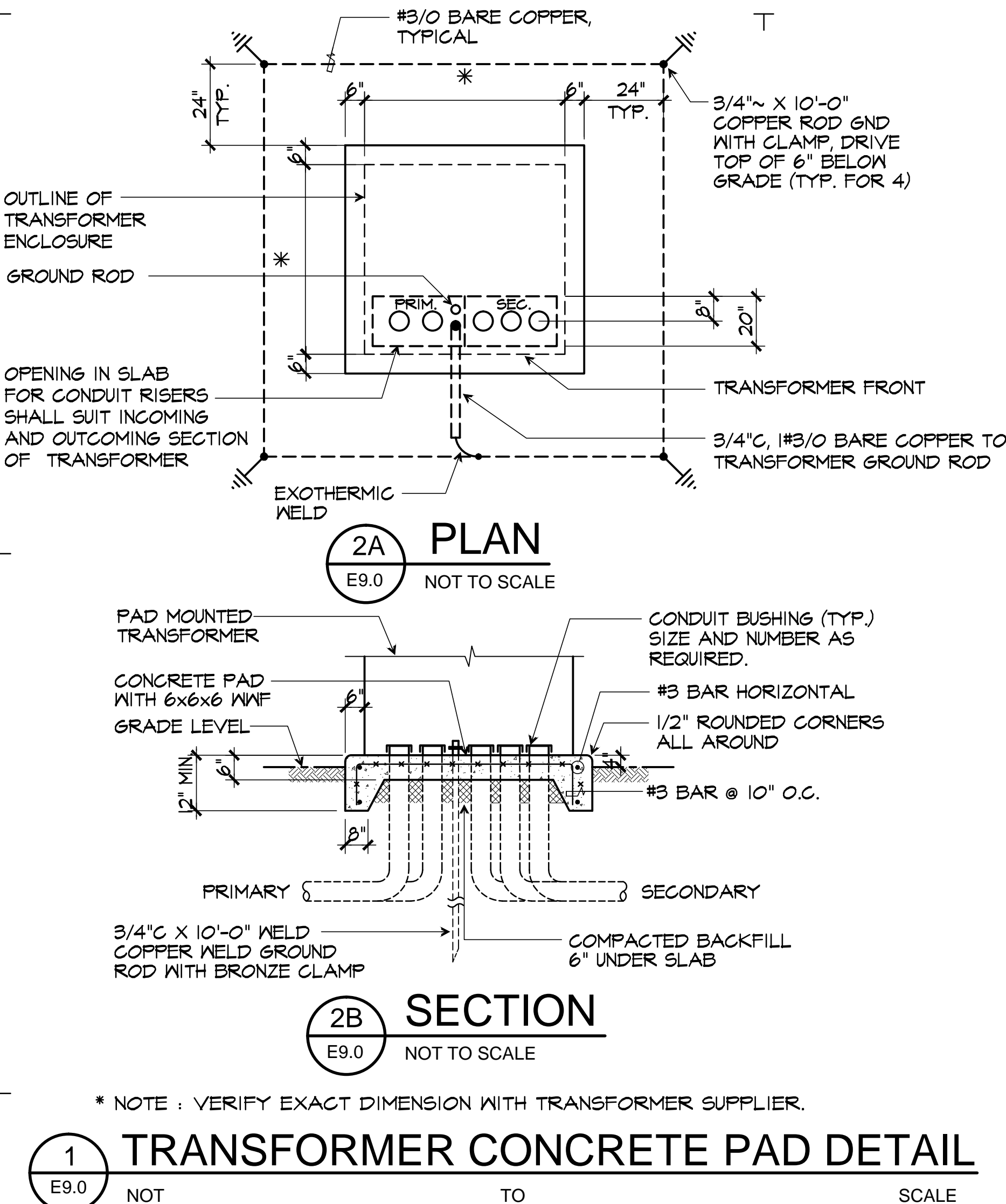
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Scale: AS NOTED
Date: 12/17/12
Project No. File
24-11-383
Drawing No.

E8.1

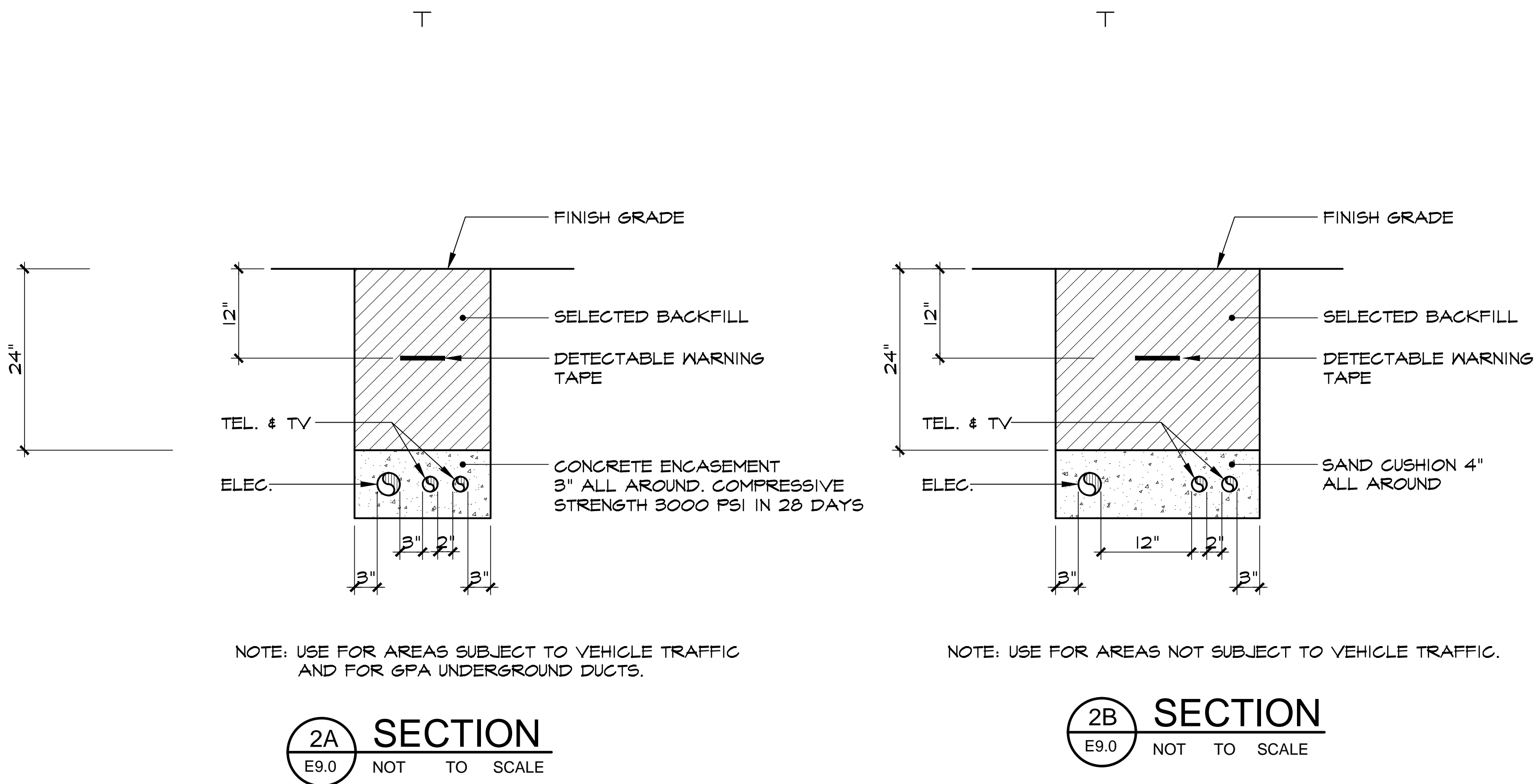
Sheet No. _____ of _____

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



- 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.

3 FLOOR MOUNTED JUNCTION BOX DETAIL
E9.0 NOT TO SCALE



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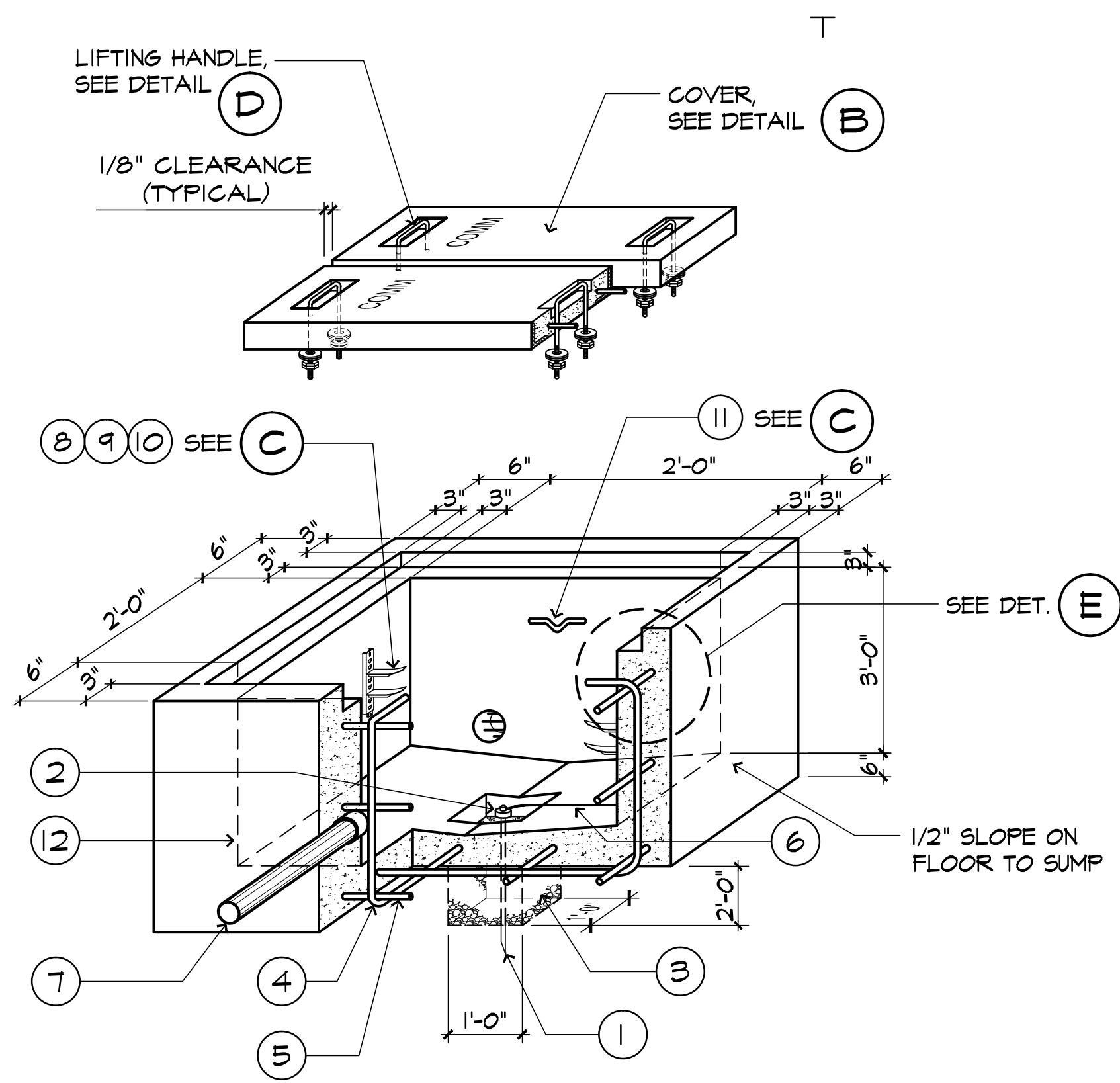
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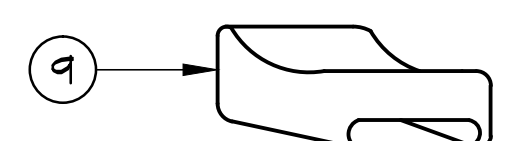
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Title:
MISCELLANEOUS DETAILS

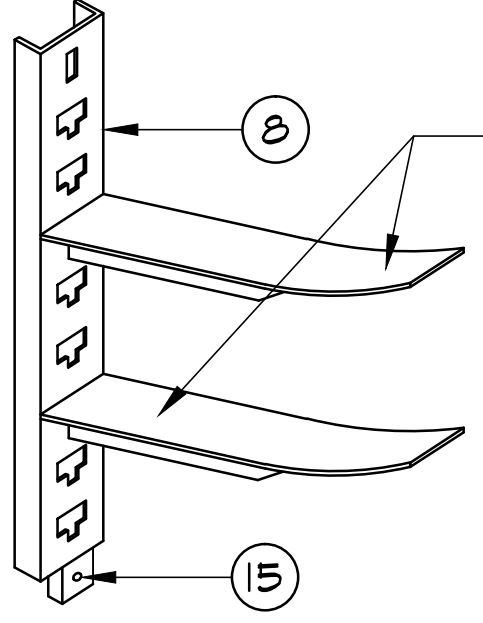
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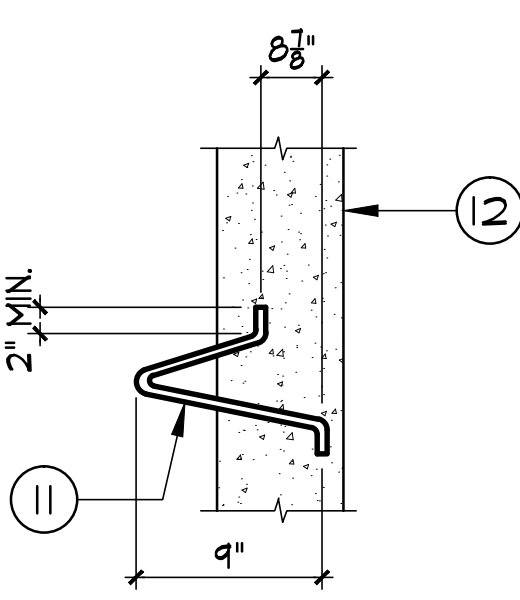
(A) HANDHOLE DETAIL
NOT TO SCALE



HOOK TYPE INSULATOR

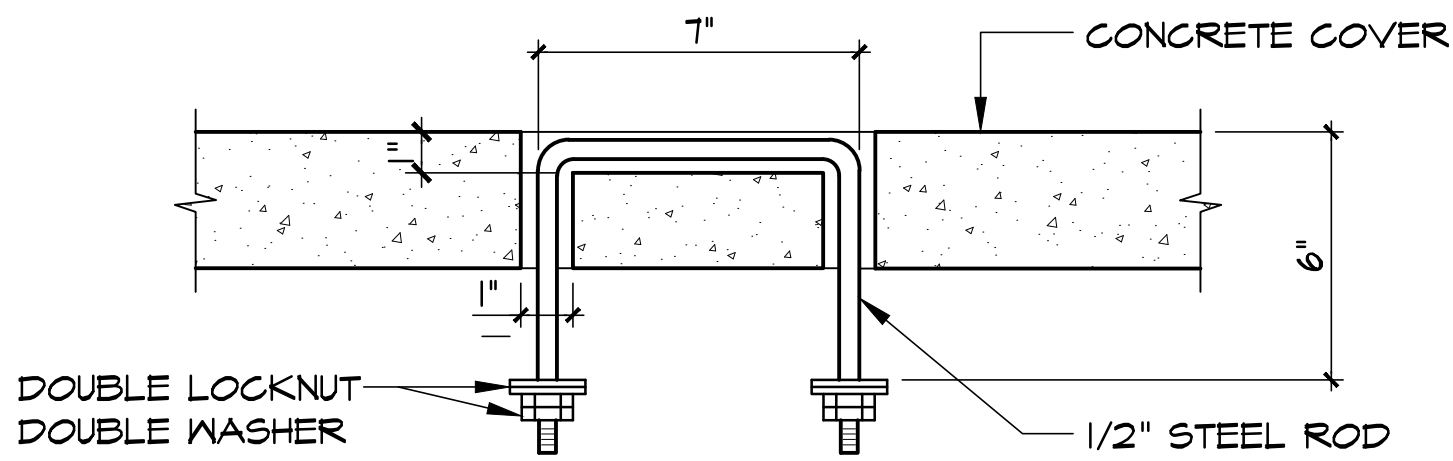


CABLE RACK



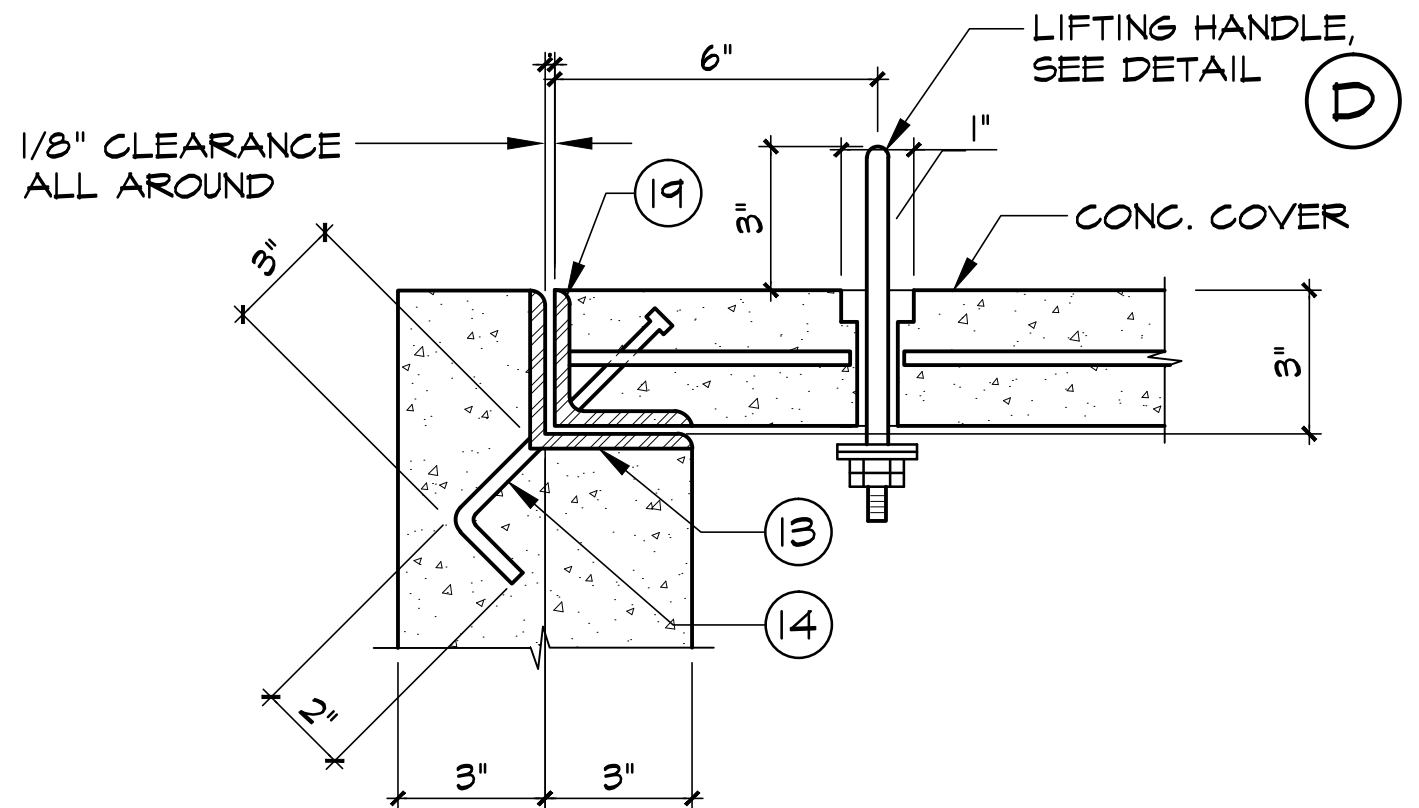
PULLING IRON

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



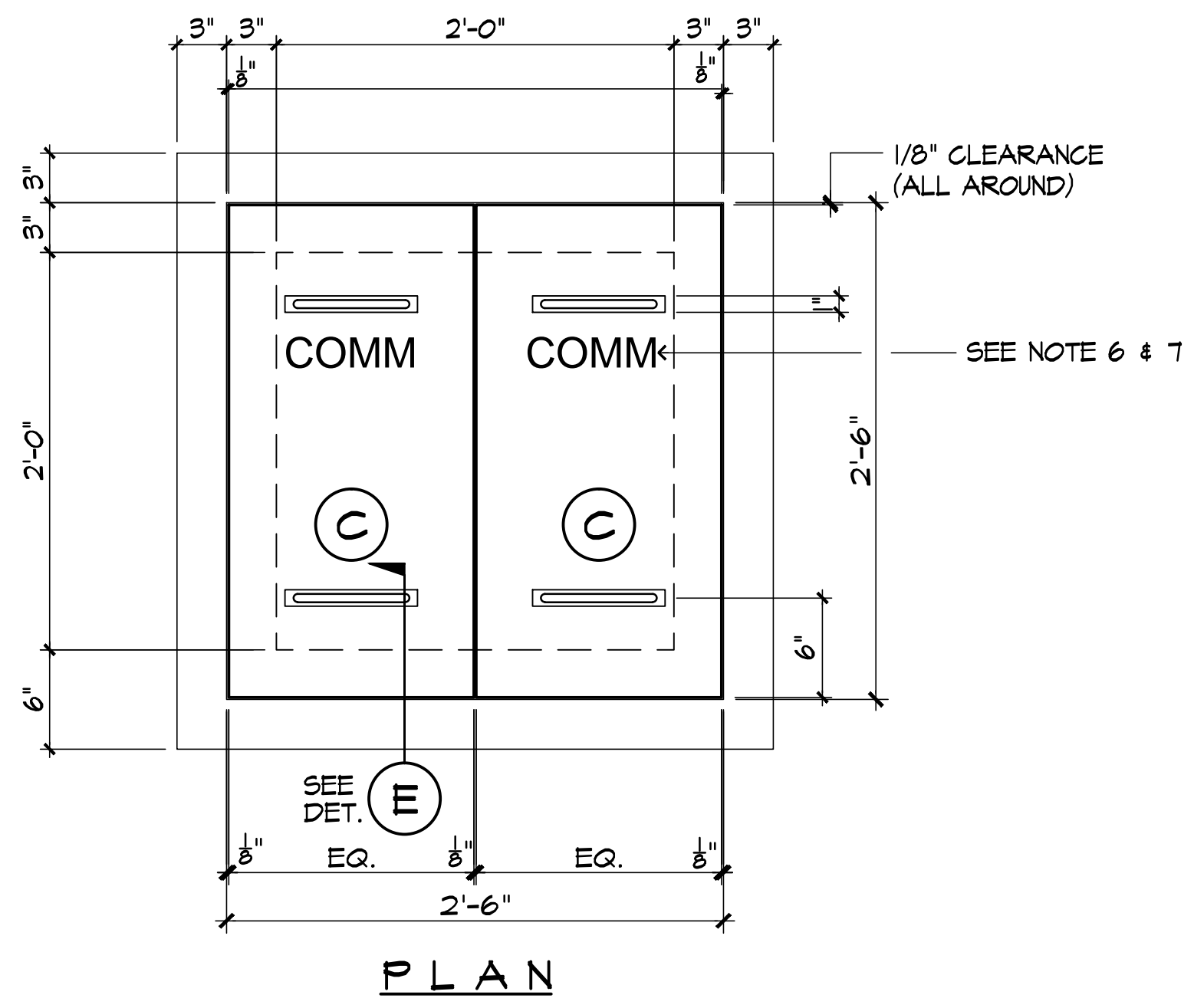
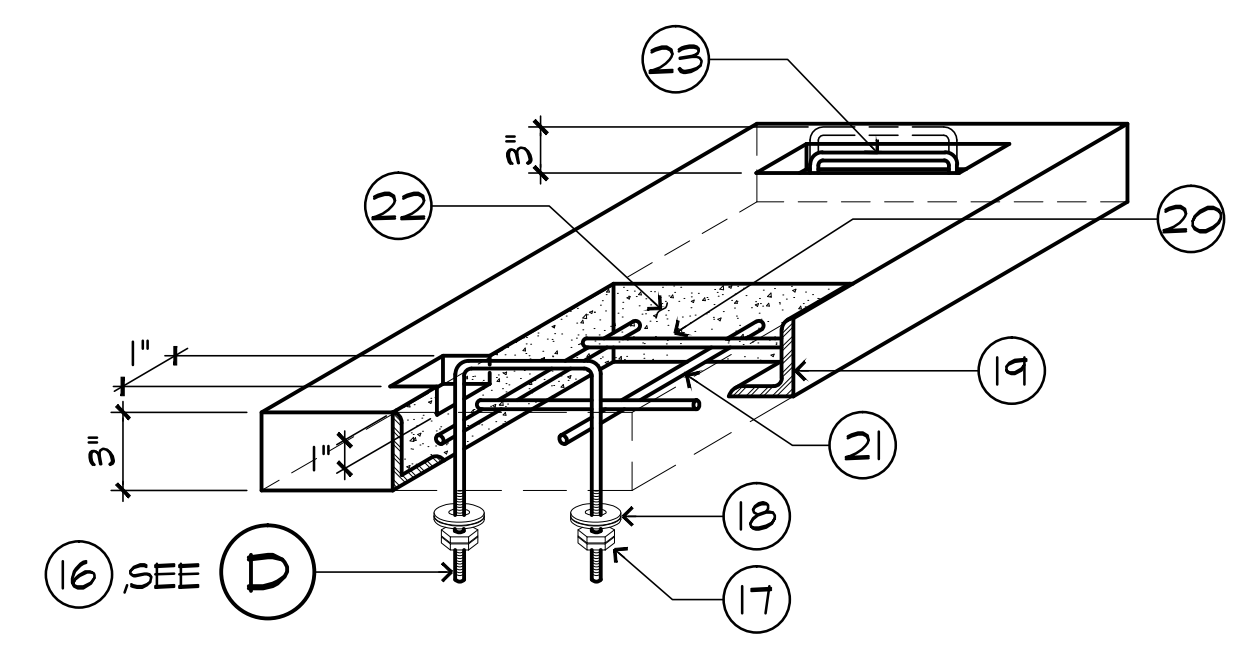
(D) LIFTING HANDLE DETAIL
NOT TO SCALE

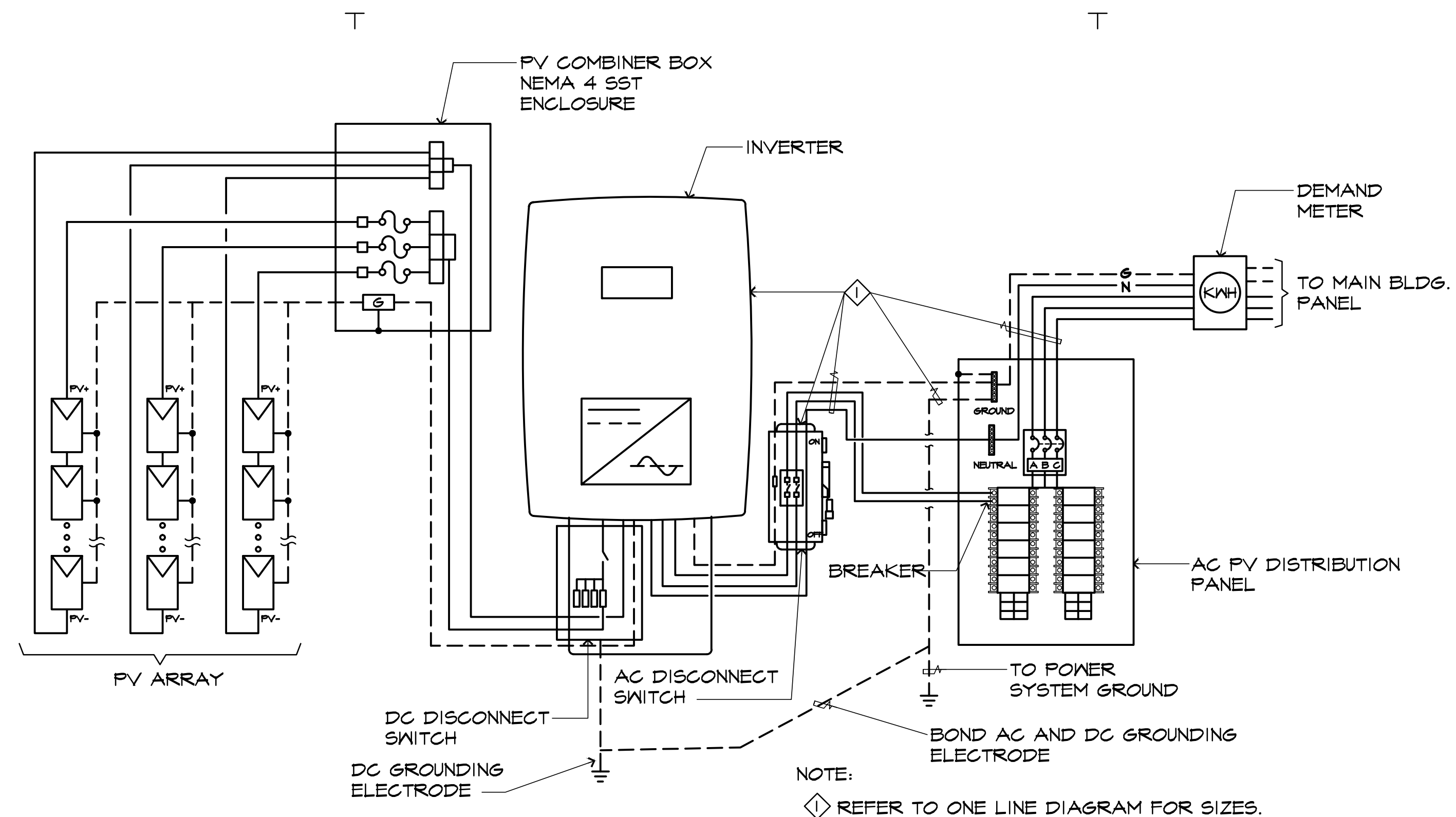
ITEM	BILL OF MATERIALS
1	5/8" ϕ X 8'-0" COPPER WELD GROUND ROD
2	5/8" ϕ COPPER GROUND ROD CLAMP
3	3/4" ϕ MAXIMUM GRAVEL SIZE, FILL TO FINISH FLOOR
4	#4 REBAR @ 10" O.C. VERTICAL
5	#4 REBAR @ 10" O.C. HORIZONTAL
6	#6 COPPER WIRE (SOLID) FOR GROUNDING HARDWARE
7	CONDUIT WITH END BELL 6" FROM FLOOR SLAB, SIZE AND QUANTITY AS REQUIRED
8	CABLE RACK HOT DIP GALVANIZED
9	HOOK TYPE INSULATOR
10	INSULATOR WELDED SUPPORT
11	PULLING IRON 1/8" 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 5/8" 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 3/8" 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



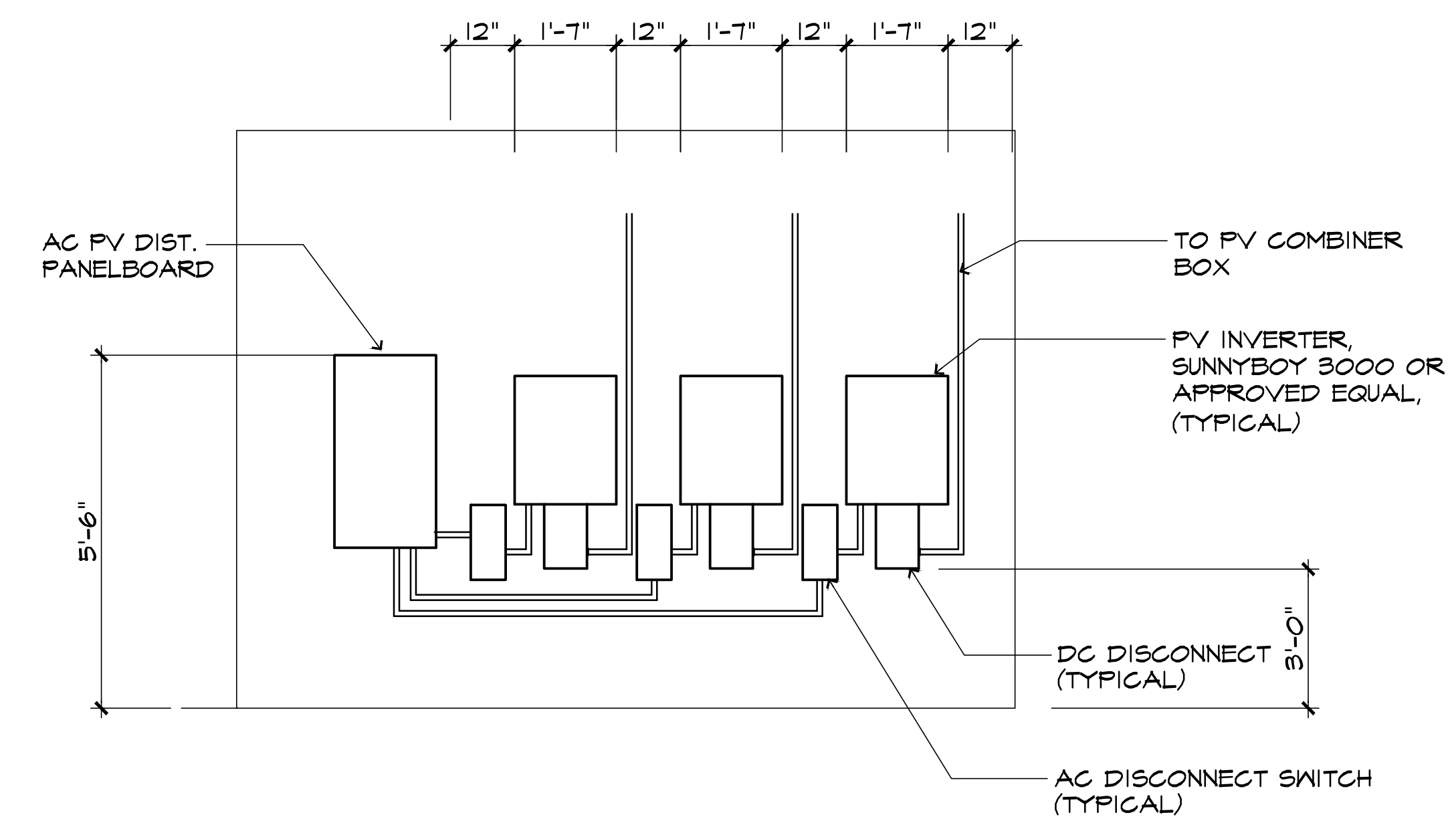
(E) COVER SEAT MOUNTING DETAIL
NOT TO SCALE

(I) 2' X 2' X 3' HANDHOLE DETAIL
NOT TO SCALE

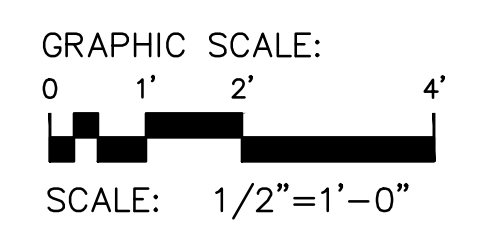




1 TYPICAL PV SYSTEM SCHEMATIC DIAGRAM
E9.2 NOT TO SCALE



2 ELEVATION
E9.2 SCALE: 1/2"=1'-0"



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REVISIONS		
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No. 938
(ELECTRICAL)
Exp. April 30, 2013
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PROFESSIONAL ENGINEER

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Project:
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COLLEGE
FORENSIC DNA LAB

Title:
PV SYSTEM ELEVATION,
AND SCHEMATIC DIAGRAM

Designed: TM
Drawn: RS/FC
Checked: AA
Supv: AA
Scale: AS NOTED
Date: 12/17/12
Project No. 24-11-383
File
Drawing No.

E9.2
Sheet No. _____ of _____