COLEGIO PONCEÑO

ELECTRICAL POWER

CARR 14, PONCE, PUERTO RICO.

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CERTIFICATE

CERTIFICACION

Yo, MILDRED G. PEREZ ROSADO I, INGENIERO LICENCIADO 10287, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del Reglamento Conjunto y las disposiciones aplicables de los Reglamentos y Códigos de las Agencias, Juntas Reglamentadoras o Corporaciones Públicas con jurisdicción.

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COLEGIO PONCEÑO
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CARR 14, PONCE, PUERTO RICO

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PROPOSED SITE PLAN
SHEET TITLE

ES-100
SHEET NO.
1 OF 9

LEGEND:

- 4" x 1-1/2" OCTAGONAL OUTLET BOX WITH COVER TO BE INSTALLED AT CEILING OR AT 7'8" A.F.F.
- WALL LIGHTING OUTLET, 7'-6" A.F.F. UNLESS OTHERWISE INDICATED IN THE DRAWINGS.
- 2' X 2' LIGHTING FIXTURE, RECESSED MOUNTED CAPITAL LETTER DENOTES TYPE, SHALL DENOTES CONTROL.
- 2' X 4' LIGHTING FIXTURE, RECESSED MOUNTED CAPITAL LETTER DENOTES TYPE, SHALL DENOTES CONTROL.
- SURFACE OR PENDANT EXIT LIGHT ON CEILING WITH BATTERY PACK
- EXISTING EMERGENCY LIGHT WITH BATTERY PACK. N MEANS NEW
- EXIT & EMERGENCY COMBO LIGHT WITH BATTERY PACK
- DUPLEX CONVENIENCE RECEPTACLE, GROUND TYPE, NEMA 5-20R 20 AMP, 125V, AT 1'-6" A.F.F. UNLESS OTHERWISE INDICATED. W.P. MEANS WEATHER PROOF, (G.F. MEANS GROUND FAULT CIRCUIT INTERRUPTER.),
- SAME AS ABOVE BUT AT 42" A.F.F OR INDICATES
- 4" TELEPHONE OUTLET BOX WITH RAISED COVER CONDUIT TO BE PROVIDED WITH FISH WIRE OR TERMINATED IN A TELEPHONE TERMINAL CABINET (T.T.C.) AT 1'-6" A.F.F.
- 4" DATA OUTLET BOX WITH RAISED COVER CONDUIT TO BE PROVIDED WITH FISH WIRE OR TERMINATED IN A TELEPHONE TERMINAL CABINET (T.T.C.) AT 1'-6" A.F.F.
- 4" TELEPHONE/DATA OUTLET BOX WITH RAISED COVER CONDUIT TO BE PROVIDED WITH FISH WIRE OR TERMINATED IN A TELEPHONE TERMINAL CABINET (T.T.C.) AT 1'-6" A.F.F.
- 3/4" EMT CONDUIT IN WALLS OR FLOOR NUMBER OF CONDUCTORS INSIDE, NO CROSSHATCH INDICATES TWO CONDUCTORS.
- 3/4" EMT CONDUIT IN CEILING SLAB INSIDE PLENUM, NUMBER OF CONDUCTORS INSIDE, NO CROSSHATCH INDICATES TWO CONDUCTORS.
- HOMERUN TO PANELBOARD NUMBER OF ARROWS INDICATES NUMBER OF CIRCUITS INSIDE.
- PANELBOARD AT 5'-0" A.F.F. AS INDICATED IN SINGLE LINE DIAGRAM.
- $ HEAVY DUTY QUIET SWITCH, WALL TYPE 20A-120 VAC SINGLE POLE INSTALL FLUSH WITH WALL IN 2-1/8" x 4" GALVANIZED BOX OR GANGED TOGETHER AT 48" A.F.F. SW INDICATES THREE WAY, 4W MEANS FOUR WAY. SUBLETTER INDICATES LIGHT CONTROLLED K INDICATES KEY OPERATED.
- P$ SAME AS ABOVE EXCEPT 30 AMP, 250 VOLTS RATING WITH A PILOT LIGHT FOR WATER HEATER USE LEVITON OR SIMILAR.
- SAFETY SWITCH. SEE LEGEND FOR DETAILS IN ONE LINE DIAGRAM
- DISCONNECT SWITCH. SEE LEGEND FOR DETAILS IN ONE LINE DIAGRAM

ABBREVIATIONS:

L#	LIGHT FIXTURE- DESIGNATION
P#	ELECTRIC PANELBOARD- DESIGNATION
P#-#,#	CIRCUIT OF PANELABOARD- DESIGNATION
GFI	GROUND FAULT CIRCUIT INTERRUPTER
ATS	AUTOMATIC TRANSFER SWITCH
CU	CONDENSING UNIT
AHU	AIR HANDLING UNIT
RTU	PACKAGED ROOF TOP UNIT
FCU	FAN COILUNIT
EF	EXHAUST FAN
DT	DRY TYPE TRANSFROMER

GENERAL NOTES:

1. ALL ELECTRICAL OUTLETS INDICATED IN DRAWINGS SHALL BE INSTALLED AS INDICATED.
2. ALL WIRES AND CABLES SHALL BE THWN/THHN-600V. INSULATION.
3. UNLESS OTHERWISE INDICATED ALL WIRES AND CABLES SHALL BE COPPER.
4. PROVIDE GROUND WIRE IN ALL THE CONDUITS.
5. PROVIDE #12-AWG GREEN JUMPER BETWEEN RECEPTACLE GROUNDING SCREW AND OUTLET BOX GROUNDING SCREW.
6. UNLESS OTHERWISE INDICATED ALL CONDUITS SHALL BE 3/4" IN DIAMETER MINIMUM.
7. ALL UNDERGROUND CONDUIT COUPLING SHALL BE WATERTIGHT.
8. PROVIDE AN EXPANSION JOINT COUPLING OF THE REQUIRED TYPE AND SIZE WHENEVER A CONDUIT CROSSES AN EXPANSION JOINT.
9. PROVIDE PLASTIC CONDUIT DIVIDERS IN ALL UNDERGROUND CONDUIT RUNS. MAXIMUM DISTANCE BETWEEN DIVIDERS TO BE 4'-0'.
10. CONTRACTOR MUST MAKE SURE THAT THE ENTIRE ELECTRICAL SYSTEM HAS GROUND CONTINUITY.
11. ALL THE ELECTRICAL INSTALLATION SHALL BE DONE IN A NEAT & WORKMANLIKE MANNER, ACCORDING TO THE LAST EDITION OF THE NATIONAL ELECTRICAL CODE, THE PUERTO RICO ELECTRIC POWER AUTHORITY LATEST STANDARD & THE PUERTO RICO TELEPHONE CO. LATEST PRACTICES.
12. THE CONTRACTOR SHALL VISIT THE JOB SITE AND BECOME ACQUAINTED WITH THE EXISTING FIELD CONDITIONS. IT SHALL BE THE DIRECT RESPONSIBILITY OF THE CONTRACTOR TO BRING PROMPTLY TO THE ATTENTION OF THE ENGINEER ANY DISCREPANCIES BETWEEN THE EXISTING FIELD CONDITIONS AND THOSE THAT WERE USED FOR DESIGN PURPOSES. THIS SHALL BE DONE BEFORE THE CONTRACTOR SUBMITS HIS BID, SO THAT THE ENGINEER CAN RENDER A DECISION ON THE MATTER BEFORE THE BIDS ARE RECEIVED. THE SUBMITTAL OF THE BID BY THE CONTRACTOR WILL BE HELD AS PROOF THAT CONTRACTOR UNDERSTANDS THROUGHLY AND COMPLETELY THE SCOPE OF THE WORK INVOLVED, HAS FAMILIARIZED HIM/HERSELF WITH THE EXISTING FIELD CONDITIONS, AND HAS INCLUDED IN HIS BID ALL THE ITEMS NECESSARY TO PERFORM THE ELECTRICAL WORK. NO ALLOWANCE WILL BE PERMITTED ON THIS MATTER AFTER THE BIDS ARE RECEIVED.
13. UNLESS OTHERWISE INDICATED ALL OUTLETS SHALL BE FLUSH MOUNTED AND SHALL HAVE THEIR OWN INDEPENDENT OUTLET BOXES. MINIMUM SIZE OF OUTLET BOX TO BE 4" SQUARE & 1 1/2" DEEP. EXACT SIZE OF OUTLET BOX SHALL BE DETERMINED ACCORDING TO THE MAXIMUM NUMBER OF CONDUCTORS IN THE BOX PER N.E.C. ARTICLE 314-SECTION 16. NOT FOR A/V PURPOSES.
14. ALL INDICATED HEIGHTS ARE FROM CENTER OF BOX TO FINISHED FLOOR.
15. CONTRACTOR SHALL BALANCE ALL LOADS.
16. ROUTE OF CONDUITS SHOWN IN THE LAYOUT IS SCHEMATIC AND INTENDED ONLY TO INDICATE INTERCONNECTIONS BETWEEN OUTLETS. EXACT CONDUIT ROUTING SHALL BE DETERMINED AT THE JOB SITE TO CONFORM WITH THE STRUCTURAL CONDITIONS AND SHALL BE SUBJECT TO THE FINAL APPROVAL OF THE ARCHITECT/ENGINEER.
17. LEAVE A #12-AWG-TW FISHWIRE IN ALL EMPTY CONDUITS.
18. ALL PANELBOARDS AND LOAD CENTERS SHALL BE PROVIDED WITH A FACTORY INSTALLED GROUND BUS FOR CONNECTING TO GROUND ALL THE GROUND WIRES OR CABLES ENTERING OR LEAVING THE PANELBOARD. THE GROUND BUS SHALL BE SIMILAR IN SIZE AND CHARACTERISTICS TO THE NEUTRAL BUS. ALL PANELBOARDS SHALL HAVE A MONOFLAT FRONT AND KEY LOCK.
19. WHEN TWO OR MORE WIRING DEVICES ARE SHOWN TOGETHER IN ADJACENT POSITIONS AND AT THE SAME HEIGHT, THEY SHALL BE INSTALLED IN A MULTIPLE GANG OUTLET BOX OF THE PROPER SIZE SO THAT ONLY ONE RAISED COVER PLATE OF THE REQUIRED TYPE AND SIZE ARE USED. 120V AND 277V OUTLETS SHALL BE IN SEPARATE BOXES. SHOULD THAT BE INDICATING SWITCHES.
20. UNLESS OTHERWISE INDICATED, ALL WIRING DEVICES SHALL BE WHITE COLORED WITH 302 STAINLESS STEEL COVER PLATES, EXCEPT THE WEATHERPROOF OUTLETS WHICH SHALL HAVE THEIR STANDARD GRAY COVER PLATES.
21. WHEN TWO OR MORE PANELBOARDS OR CABINETS ARE SHOWN TOGETHER IN ADJACENT LOCATIONS, THE TOP OF ALL PANELBOARDS OR CABINETS SHALL BE ALIGNED WITH THE TOP OF THE BIGGEST ONE SO THAT ALL THE TOPS ARE AT EXACTLY THE SAME HEIGHT FROM THE FINISHED FLOOR.
22. IN CONDUIT RUNS, THE NUMBER OF ARROWS DESIGNATE THE NUMBER OF CIRCUITS IN THE CONDUIT (ONE POLE IN THE PANELBOARD PER EACH CIRCUIT), THE NUMBER OF LINES DESIGNATE THE NUMBER OF CONDUCTORS IN THE CONDUIT , THE LONGER LINE BEING A NEUTRAL CONDUCTOR AND " 1 " BEING THE GROUND CONDUCTOR.
23. TELEPHONE TERMINALS CABINET SHALL BE APPROVED EQUAL TO COLUMBIA METAL TYPE "PF" WITH THE DOOR HINGES, LOCK AND 3/4" PLYWOOD BACKBOARD COVER AT THE BOTTOM OF THE CABINET.
24. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE VOLTAGE CHARACTERISTICS AT THE SITE WITH LUMA AT THE TIME OF INSTALLATION BEFORE ORDERING ANY PRIMARY EQUIPMENT.
25. ALL WIRING DEVICES SHALL BE SPECIFICATION GRADE.
26. ALL THE SELF-STANDING AND SURFACE MOUNTED ELECTRICAL EQUIPMENT AS WELL AS THE RESTRAINT MANUAL GUIDELINES FOR MECHANICAL SYSTEMS. THE SAME APPLIES TO ALL THE CONDUIT WORK. THE DETAILS AND INSTALLATION METHODS IN SAID MANUAL SHALL BE MODIFIED AS REQUIRED TO FIT THE ELECTRICAL INSTALLATION OF THE PROJECT.
27. FOR FINAL LOCATION OF MECHANICAL EQUIPMENT SEE CORRESPONDING MECHANICAL AND ARCHITECTURAL DRAWINGS. CONTRACTOR TO RELOCATE ELECTRICAL ROUGH-IN ACCORDINGLY AT NO ADDITIONAL COST TO OWNER.
28. CONDUIT WORK:
    A. ALL CONDUITS INSTALLED UNDERGROUND SHALL BE PVC SCHEDULE 40.
    B. ALL CONDUITS INSTALLED EMBEDDED IN FLOOR SLABS WHICH ARE IN DIRECT CONTACT WITH THE EARTH SHALL BE PVC SCHEDULE 40.
    C. ALL CONDUITS INSTALLED EMBEDDED IN WALLS, CEILING SLABS AND IN FLOOR SLABS WHICH ARE NOT IN DIRECT CONTACT WITH THE EARTH SHALL BE RIGID.
    D. ALL CONDUITS INSTALLED IN THE AREA BETWEEN HUNG CEILINGS AND CEILING SLABS OR METAL DECKS SHALL BE RIGID.
    E. ALL CONDUITS INSTALLED EXPOSED IN INDOOR AREAS SHALL BE RIGID.
    F. ALL CONDUITS INSTALLED EXPOSED IN OUTDOOR AREAS SHALL BE RIGID GALVANIZED STEEL.
    G. FINAL CONNECTIONS TO ALL MOTORS AND ELECTRICAL EQUIPMENT SHALL BE DONE WITH LIQUIDTIGHT FLEXIBLE STEEL CONDUIT.
29. ALL WIRES AND CABLES SHALL BE #12-AWG, EXCEPT WHEN OTHERWISE INDICATED IN THE : DRAWINGS, OR AS INDICATED BELOW FOR 20 AMPERES CIRCUITS. WIRE SIZING.
    A. ALL 20 AMPERES, 120VOLT CIRCUIT RUNS SHALL BE AS FOLLOWS:
    - 5' TO 100' IN LENGTH, #12-AWG.
    - 100' TO 200' IN LENGTH, #10-AWG.
    - 200' TO 300' IN LENGTH, #8-AWG.
    - 300' TO 400' IN LENGTH, #6-AWG.

    B. ALL 20 AMPERES, 277VOLT CIRCUIT RUNS SHALL BE AS FOLLOWS:
    - 5' TO 175' IN LENGTH, #12-AWG.
    - 176' TO 300' IN LENGTH, #10-AWG.
    - 301' TO 450' IN LENGTH, #8-AWG.
    - 451' TO 600' IN LENGTH, #6-AWG.
30. ALL PENDANT MOUNTED LUMINARIES SHALL BE INSTALLED USING STEMS, 2 STEMS PER EACH 4' LUMINARY. STEMS SHALL BE PAINTED OF THE COLOR REQUIRED BY THE ARCHITECT.
31. ALL PENETRATIONS THROUGH THE FLOORS, CONNECTING TWO OR MORE LEVELS SHALL BE FIRE RATED AND SMOKE TIGHT-SEALED IN ACCORDANCE WITH THE REQUIREMENTS OF IBC WITH APPROVED FIRE STOPPING MATERIALS.
32. THE CONTRACTOR SHALL CONSIDER IF THERE EXIST ANY ELECTRICAL DEVICE OR EQUIPMENT INSIDE THE WALL OR WALLS IN CONTRACT TO BE DEMOLSHED AND SHALL CONNECT THEM TO THE NEAREST ELECTRICAL FACILITY, BUT BEFORE THAT, THE CONTRACTOR SHALL VERIFY IF CIRCUITS DONT HAVE ANY PROBLEMS OF POSSIBLE OVERLOAD.
33. NO "UF" TYPE CONDUCTOR ALLOWED. ALL DROPS TO FIXTURES AND EQUIPMENT TO BE DONE IN FLEXIBLE METALLIC CONDUIT, SIZE, MAXIMUM LENGTH AND TYPE AS PER NEC AND TO OTHER EQUIPMENT AS REQUIRED BY CODES.
34. ALL EQUIPMENT AND MATERIAL TO BE NEW, THROUGHOUT AND AS PER NEMA AND U.S. STANDARDS AND APPROXIMATELY LABELED ALSO FOR EXISTING EQUIPMENT.
35. CONTRACTOR SHALL COORDINATE ALL OF HIS WORK, SHIPPING OR CUTTING, ETC. WITH EXISTING SERVICES AND UTILITIES AND WITH OWNER, OWNER'S ENGINEER, LANDLORD OR REPRESENTATIVE. THE CONTRACTOR IS REQUIRED TO VISIT THE PROJECT AND REPORT HIS COMMENTS BEFORE BIDDING. OWNER'S GENERAL CONDITIONS SHALL FORM PART OF THIS PHASE.
36. EQUIPMENT TO BE SUPPLIED AND INSTALLED BY OWNER AND OTHER TRADES OR CONTRACTORS TO HAVE INTEGRAL OVERLOAD PROTECTION, DISCONNECTING MEANS AND GROUND FAULT PROTECTION WHERE REQUIRED. POWER FACTOR FOR ALL EQUIPMENT TO BE ABOVE REQUIRED BY THE PUERTO RICO ENERGY CODE.
37. CONTRACTOR TO SUBMIT FOR APPROVAL ALL EQUIPMENT, LIGHTING FIXTURES, BUS DUCTS, TRANSFORMERS, PANELS, CONDUITS, FITTINGS, RECEPTACLES AND ANY OTHER ELECTRICAL MATERIALS REQUIRED FOR THE WORK TO BE PERFORMED.
38. THE ELECTRICAL INSTALLATION, MATERIALS AND METHOD OF WORK SHALL BE IN COMPLETE ACCORDANCE WITH LATEST PREPA, NEC OF P.R., PRLD, OSHA, ARPE AND OTHER AGENCIE'S APPLICABLE CODES AND REGULATIONS FOR SAID TYPE OF WORK AND SHALL BE SUBMITTED TO OWNER FOR APPROVAL. COORDINATION WITH OWNER'S REPRESENTATIVE IS MANDATORY
39. ALL RECEPTACLES AND SWITCHES SHALL BE HEAVY DUTY SPECIFICATION GRADE OF THE COLOR TO BE CHOSEN BY ARCHITECT. ALL WALL PLATES TO BE HEAVY DUTY STAINLESS STEEL.
40. ALL CONDUITS SHALL BE SECURELY FASTENED TO OUTLET BOXES OR CABINETS WITH ONE BUSHING AND TWO LOCKNUTS, ONE INSIDE AND THE OTHER OUTSIDE THE BOX OR CABINET OR FIXTURE AND INSULATED BUSHING ON CONDUITS 1-1/4" DIAMETER AND LARGER SHALL BE USED.
41. CONTRACTOR TO COLOR CODE ALL WIRING AS SHOWN:
    A. ALL FEEDERS AT 277/480 VOLTS TO BE ORANGE, YELLOW, BROWN.
    B. ALL FEEDERS AT 120/208 VOLTS TO BE RED, BLUE, BLACK.
    C. ALL SWITCH RETURNS TO BE PURPLE, VIOLET, LIGHT BLUE.
    D. ALL NEUTRAL CONDUCTORS TO BE WHITE.
    E. ALL GROUND CONDUCTORS TO BE GREEN.
42. COORDINATION IS MANDATORY IN THIS PROJECT. CONTRACTOR MUST COORDINATE ALL HIS WORK WITH ARCHITECT/ENGINEER AND OWNER'S REPRESENTATIVE.
43. CONTRACTOR TO SUPPLY ALL 120 VOLTS CONTROL NEEDS TO AIR CONDITIONING VALVES, CONTROL PANELS, DAMPERS VARIABLE VOLUME BOXES AND ANY AND ALL CONTROL VOLTAGE NEEDS AS PART OF THIS CONTRACT WHETHER SHOWN OR NOT ON THIS PLANS.
44. ALL DUCT SMOKE DETECTORS SHALL BE SUPPLIED BY ELECTRICAL CONTRACTOR AND INSTALLED IN DUCT BY DUCT SUPPLIER/INSTALLER. CONNECTION TO FIRE ALARM SYSTEM OF DUCT DETECTORS BY ELECTRICAL CONTRACTOR.
45. CONTRACTOR SHALL COMPLY WITH UNIFORM BUILDING CODE (UBC) FOR LIGHTING FIXTURE INSTALLATION IN HUNG CEILINGS FOR SEISMIC ZONE 3 COMPLIANCE. ALL FIXTURES TO HAVE CALIFORNIA CLIPS TO HOLD FIXTURES TO HUNG CEILING AND ALL FIXTURES TO BE INDEPENDENTLY SUPPORTED FROM THE STRUCTURE AS REQUIRED. UNIFORM BUILDING CODE STANDARD 25-2 DRESCRIBES CONSTRUCTION METHODS THAT MAY BE USED FOR LIGHT HEIGHT SUSPENDED CEILINGS. THESE STANDARDS SHALL BE USED AS GUIDE FOR SUPPORTING OF BOTH THE SUSPENDED CEILING AND THE LIGHTING FIXTURES.
46. REMOTE PHONE IN LOCKABLE CABINET. CABINET TO BE RED WITH SILK SCREENED DOOR WITH "LOCAL FIRE EMERGENCY PHONE". UNIT TO BE SIMPLEX 2084 - 9002. BOX TO BE 15" HIGH, 11-11/16" WIDE, 3-1/2" DEEP. ALL TO BE MOUNTED BOTTOM 42" AFF.
47. ADDRESSABLE DUCT SENSOR HOUSING WITH PHOTOELECTRIC SENSOR. ALL TO HAVE REMOTE STATUS/ALARM INDICATOR AND TEST STATION. CONTRACTOR TO COORDINATE WITH AIR CONDITIONING CONTRACTOR FOR DUCT WIDTH SIMPLEX 4098 - 9756. SEE GENERAL NOTE #18.
48. LAMPS TEMPERATURE COLOR MUST BE "4100 K".

EXCAVATION AND TRENCH NOTES:

1. APPLICABLE PERMITS
   BEFORE STARTING ANY OPERATION IN THE JOB SITE, THE CONTRACTOR SHALL OBTAIN THE PERMITS DOCUMENTATION FROM CONCERNED GOVERNMENTAL AGENCIES. THE CONTRACTOR WILL ALSO BE RESPONSIBLE OF COORDINATING THE NECESSARY JOINT OPERATION, WITH OTHER PUBLIC AND PRIVATE COMPANIES SUCH AS. P. R. E. P. A., AQUEDUCT AND SEWER AUTHORITY, PRTC, CABLE T.V., GAS COMPANY, ETC..., WHICH CAN BE AFFECTED WITH THE PROPOSED WORK.
2. ALL PARTIES ASSOCIATED WITH EXCAVATIONS FOR THE CONDUIT AND MANHOLE SYSTEM SHALL FOLLOW WELL-ESTABLISHED SAFETY RULES AND REGULATIONS TO SAFEGUARD THE PUBLIC AND WORKMEN.
3. THE CONTRACTOR SHALL PROVIDE ADEQUATE SHORING, WARNING SIGNS, LIGHTS, NO PARKING SIGNS, BARRICADES, AND REMOVAL OF EXCESS WATER AND EXCAVATED MATERIAL. FLAGMEN AND GUARDS SHALL BE PROVIDED WHERE REQUIRED TO MAINTAIN SAFE CONDITION FOR THE WORKMEN AND THE PUBLIC.
4. EXCAVATION SHALL BE CLOSED AND/OR BARRICADE FOR PUBLIC PROTECTION PRIOR TO LEAVING THE JOB SITE AT NIGHT WITH WARNING LIGHTS AND GUARDS.
5. NOT MORE THAN 200 FEET OF TRENCH IS TO BE OPEN AT ONE TIME (OR AS SPECIFIED BY THE "CENTRO DE EXCAVACIONES" OR THE DEPARTMENT OF PUBLIC WORKS OR THE MUNICIPAL AUTHORITY.)
6. THE CONTRACTOR SHALL BE COMPLETELY RESPONSIBLE FOR DAMAGES CAUSED BY HIS OPERATION TO STRUCTURES AND SUB-STRUCTURES, TELEPHONE PLANT, BUILDING FOOTINGS, ETC., ON PUBLIC OR PRIVATE PROPERTY. IF THE ORNAMENTAL GRASS, PLANTS OR PRODUCE PLANTS SUFFER ANY DAMAGE THE CONTRACTOR HAS TO REPLACE THEM AT HIS OWN COST.
7. THE CONTRACTOR SHALL IMMEDIATELY NOTIFY THE RESIDENT ENGINEER IF OBSTRUCTIONS OR OTHER CONDITIONS ARE A COUNTERED IN THE EXCAVATION WHICH COULD AFFECT THE SIZE OR SHAPE OF THE MANHOLE OR SPLICING BOX FROM THAT SHOWN IN THE DETAILED PLANS OR WHICH WOULD HINDER THE PROPER INSTALLATION OF CABLES. A WRITTEN PERMISSION FROM THE UTILITY COMPANY AND FROM THE DESIGNER ENGINEERING OFFICE IS REQUIRED BEFORE DEVIATIONS FROM THE DETAILED PLANS ARE PERMITTED.
8. ALL MANHOLE CONSTRUCTION MUST BE SUPERVISED AND/OR UNDER THE DIRECTION OF A REGISTERED CIVIL ENGINEER, ACTIVE MEMBER OF THE C.I.A.P.R.
9. CONTRACTOR'S BID SHALL INCLUDE ALL COST FOR DEWATERING TRENCH AND SPLICING BOX EXCAVATIONS, AS NO ADDITIONAL PREMIUM WILL BE PAID FOR THIS ITEM.
10. IN PAVED AREAS, THE SURFACE SHOULD BE CAREFULLY CUT MECHANICALLY TO PREVENT UNNECESSARY WIDTHS AT THE TOP OF THE TRENCH AND THUS REDUCE THE AMOUNT OF SURFACE THAT MUST BE REPAIRED.
11. THE TRENCH ROUTE AND MANHOLE LOCATION WILL BE CLEARLY MARKED BY THE ENGINEER BEFORE EXCAVATION IS STARTED, WHEN CONSIDERED NECESSARY.
12. IN PREPARING THE TRENCH BED FOR THE CONDUIT INSTALLATION, LEVEL THE TRENCH BED TO FORM AN EVEN BASE. IN SOME CASES IT MAY BE NECESSARY TO PROVIDE SAND OR FINE EARTH TO ESTABLISH AN EVEN BASE. IF, UPON EXCAVATION, THE TRENCH BED APPEARS TO BE INCAPABLE OF FIRMLY SUPPORTING THE CONDUIT, THE ENGINEER WILL DETERMINE WHETHER A CONCRETE BASE IS REQUIRED.
13. THE BASE SPACER SHOULD BE SPACED ALONG THE TRENCH BOTTOM AT NOT MORE THAN 5 FEET ON CENTER. SET THE FIRST TIER OF DUCTS INTO THE SPACER GROOVES, THEN A TIER OF INTERMEDIATE SPACERS, THEN THE SECOND TIER OF DUCTS, ETC, AND FINALLY THE SPACER OVER THE TOP TIER, MAKING CERTAIN THAT EACH TIER OF SPACERS IS SECURELY LOCKED TO THE NEXT LOWER TIER. IF THE FORMATION WILL EXCEED 10 TIERS, PLACE APPROXIMATELY ONE HALF THE TOTAL NUMBER OF TIERS BUT NO MORE THAT 1 SO THAT THE CONCRETE CAN BE POURED IN SUCCESSIVE STAGES.
14. BACK FILLING NEXT TO THE CONDUIT SHALL BE FREE FROM STONES OR OTHER MATERIAL WHICH MIGHT INJURE THE CONDUIT OR CONDUIT JOINTS. LARGE BOULDERS SHALL NOT BE INCLUDED IN ANY PART OF THE BACKFILL. IN TAMPING THE BACKFILL AT THE SIDES OF THE CONDUIT, USE EXTREME CARE NOT TO DAMAGE THE JOINTS OR SHIFT THE CONDUIT STRUCTURE. BACK FILLING AND TAMPING ALONGSIDE THE CONDUIT SHALL BE DONE IN LAYERS ONLY AN INCH OR TWO IN THICKNESS UNTIL THE LEVEL OF THE TOP OF THE CONDUIT IS REACHED. ABOVE THE CONDUIT, TAMP ALL BACKFILL THOROUGHLY IN 6-INCH LAYERS. BACKFILLING AROUND CONDUIT JOINED WITH MORTAL BANDAGES CAN PROCEED AS SOON AS THE JOINTS ARE COMPLETED. TROWELED JOINTS SHALL BE ALLOWED TO SET LEAST 24 HOURS BEFORE BACKFILLING.
15. UPON COMPLETION OF CONDUIT SECTIONS, A TEST MANDREL 3/8-INCH SMALLER IN DIAMETER THAT THE INSIDE DIAMETER OF THE CONDUIT SHALL BE PULLED THROUGH ALL SINGLE DUCT CONDUIT AND THROUGH TWO DIAGONALLY OPPOSITE DUCTS IN MULTIDUCT CONDUIT FORMATION TO ENSURE PROPER ALIGNMENT. IN ADDITION, ALL CONDUITS SHALL BE CLEANED OF LOOSE MATERIALS SUCH AS CONCRETE, MUD, DIRT, STONES, ETC. PULL WIRE (TYPE AS SPECIFIED BY THE ENGINEER) SHALL BE PLACED IN CONDUIT IF SO INDICATED BY THE ENGINEER ON THE CONSTRUCTION DRAWINGS. THE ENDS OF THE CONDUIT SHALL BE SEALED TO PREVENT THE ENTRANCE OF FOREIGN MATTER AND TO PROTECT AGAINST WATER OR GAS FROM ENTERING MANHOLES ALL CONDUIT ENTERING CENTRAL OFFICES OR OTHER IF THE WORK EXTENDS OVER SEVERAL DAYS, THE CONDUITS SHALL BE PLUGGED AT NIGHT TEMPORARILY AND PERMANENTLY UPON COMPLETION OF THE WORK.
16. ALL CEMENT USED IN UNDERGROUND CONSTRUCTION SHALL CONFORM TO THE SPECIFICATION OF THE AMERICAN SOCIETY FOR TESTING AND MATERIALS.
17. AGGREGATES USED IN PREPARATION OF CONCRETE SHALL CONFORM TO THE REQUIREMENTS FOR FINE AGGREGATE AND COARSE AGGREGATE FROM 3/8" TO 1/4".
18. IF CONCRETE HAS BEEN DAMAGED BY CRACKING THE CRACKED CONCRETE SHALL BE REMOVE AND REPLACED IN ACCORDANCE WITH THE INSTRUCTIONS OF THE ENGINEER AND THE CONST. INSPECTOR.
19. WHEN MANHOLES ARE CONSTRUCTED IN FLUID SOIL, ADEQUATE DRAINAGE SHALL BE PROVIDED TO PREVENT STATIC WATER PRESSURE ON CONCRETE UNTIL THE CONCRETE HAS PROPERLY HARDENED.
20. EACH MANHOLE,PULL BOX OR SPLICING BOX SHALL BE PROVIDED WITH HARDWARE AND EQUIPMENT AS SPECIFIED BELOW AND SHOWN IN THE CONSTRUCTION DRAWINGS.
21. PULLING-IN IRONS SHALL BE PLACED SO AS TO EXTEND INTO THE MANHOLE FARENOUGH TO PERMIT A CLEAR OPENING OF APPROXIMATELY 3 INCHES IN THE EYE.
22. IT IS THE CONTRACTOR'S RESPONSIBILITY TO PERFORM TEST EXCAVATIONS TO LOCATE AND PROTECT ALL SUBSURFACE STRUCTURES. LOCATIONS OF SUCH STRUCTURES SHOWN ON THE PLANS ARE FROM AVAILABLE INFORMATION AND THE EXACT LOCATION SHALL BE VERIFY ON FIELD.
23. ACCESSIBILITY TO FIRE HYDRANTS, FIRE ALARMS BOXES, AND PRIVATE DRIVEWAYS SHALL BE MAINTAINED USING TEMPORARY BRIDGES OVER TRENCH AS REQUIRED.
24. FIRE HYDRANTS, ALARM BOXES AND PRIVATE DRIVEWAYS SHALL REMAIN ACCESSIBLE AT ALL TIMES. STREET AND ROAD CLOSURES MUST BE COORDINATED WITH THE APPROPRIATE AGENCY.
25. ALL MEASUREMENTS ARE APPROXIMATE, FINAL MEASUREMENTS MUST BE POSTED ON A FIELD COPY OF THE DRAWINGS AND RETURNED TO THE DESIGNER ENGINEER UPON COMPLETION OF THE WORK.
26. THE USE OF CURVES IN THE CONDUIT RUN SHALL BE DONE ACCORDING TO THE STANDARD UTILIES PRACTICES.
27. CONCRETE TO BE USED IN THE INSTALLATION OF CONDUIT SHALL BE 3,000 P.S.I. WITH A SLUMP 0-9.
28. CONCRETE TO BE USED IN THE CONSTRUCTION OF SPLICING BOX, MANHOLES AND PULL BOXES SHALL BE 4,000 P.S.I.
29. WHEN THE JOB IS FINISHED, ALL SURPLUS MATERIAL AND DEBRIS SHALL BE CLEARED FROM THE JOB SITE.
30. THE NECESSARY MEANS TO CARRY STORM WATER AWAY FROM THE WORK SHALL BE PROVIDED AND KEPT FROM OBSTRUCTIONS.

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CERTIFICATE

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PROFESSIONAL / CONSULTANT

COLEGIO PONCEÑO
STRUCTURAL EVALUATION
CARR 14, PONCE, PUERTO RICO

COLEGIO PONCEÑO
OWNER

31-2023
PROJECT NUMBER

JULY 23, 2024
PRINTING DATE

CJQ
DRAWN / APPROVED

CONCEPTUAL PHASE
PROJECT DESIGN PHASE

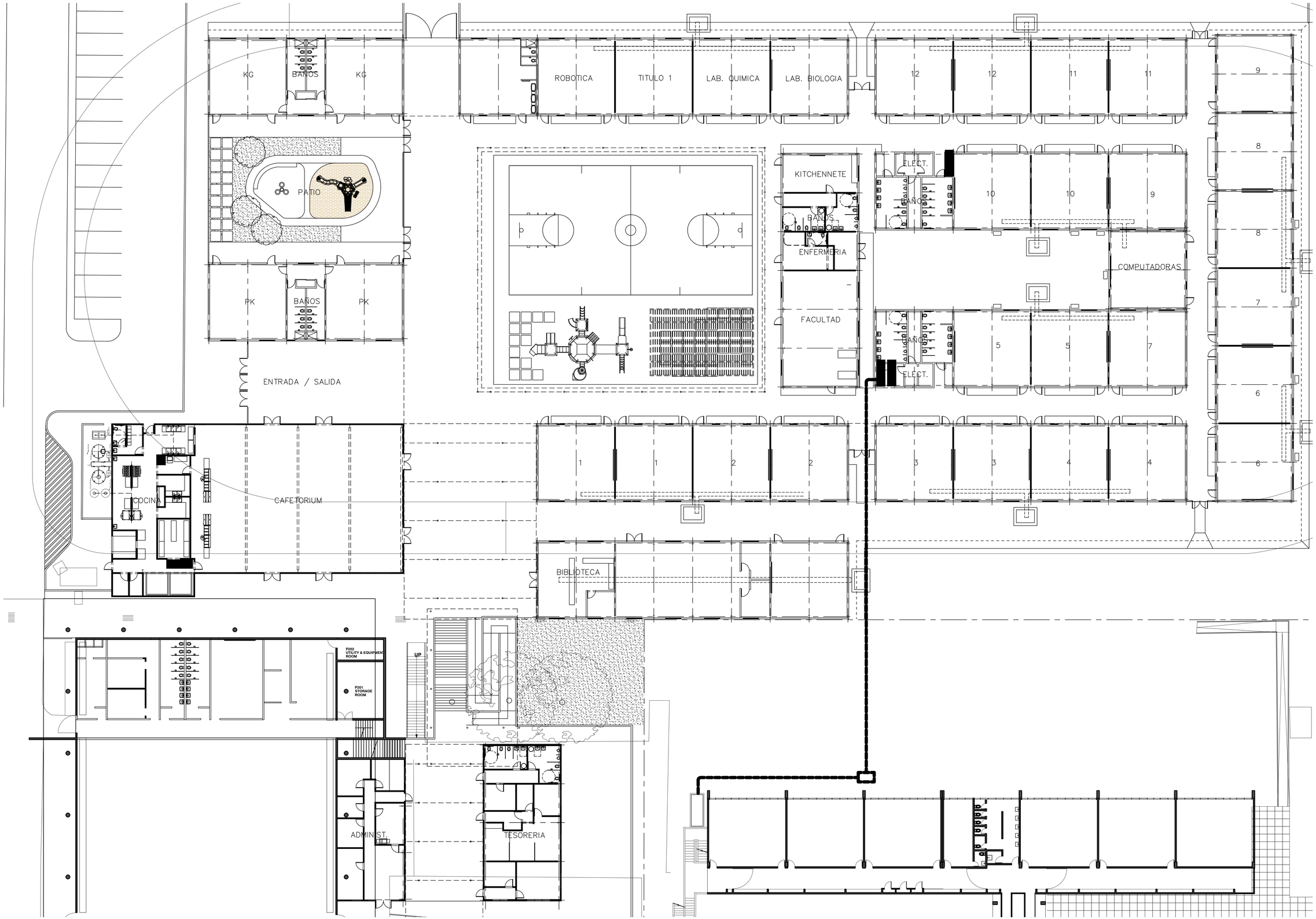
DESIGN REVISION

NOT FOR CONSTRUCTION
STATUS

LEGENDS & NOTES
SHEET TITLE

E-100
SHEET NO.

2 OF 9



PROPOSED SITE PLAN

SCALE 1/16 = 1'-0"

visura csp
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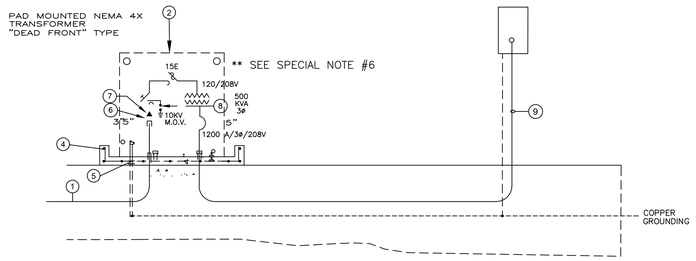
SHEET TITLE

ES-101
SHEET NO.

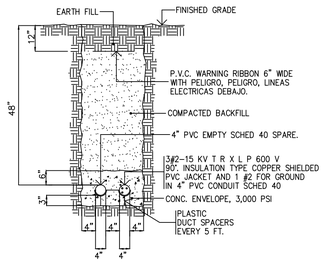


SUBSTATION ELECTRICAL ONE LINE DIAGRAM

NTS

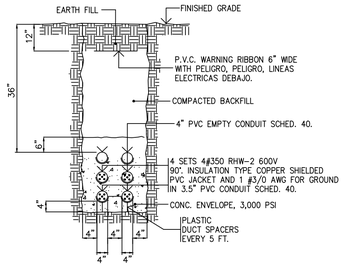
ELECTRICAL RISER DIAGRAM SUBSTATION LEGEND:

1. UNDERGROUND PRIMARY LINE CONSISTING OF 3#2 AWG–15KV, COPPER, TRXLP, SHIELDED AND PVC JACKETED AND 1 NO. 2 THW COPPER GROUND WIRE IN NEW 4" SCHED 40. 1–4" SPARE CONDUIT. SEE SECTION A–A IN ES–102.
2. NEW 1–500 KVA–3ø, PAD MOUNTED TRANSFORMER NON PCB, DELTA PRIMARY WYE SECONDARY, 120/208V. 3 WIRE–N/S AS LUMA. STDS. URD–36,URD–37 & 38 (BY CONTRACTOR) ALL EXPOSED CONDUIT SHALL BE PVC SCHED 80 AS PER LUMA REQUIREMENTS
3. TRANSFER SWITCH. SEE DETAILS IN E–6
4. #2 H.D. BARE COPPER GROUNDING CONDUCTOR.
5. 5/8" X 8'–0" COPPERWELD GROUND ROD & CLAMP (TYPICAL)
6. INDOOR TYPE SEALING BUSHING.
7. INDOOR TYPE 15KV PREFAB STRESS RELIEF CONE.
8. INDOOR TYPE LIGHTNING ARRESTERS.
9. NEW SECONDARY LINE CONSISTING OF 3# SETS (4#350 RHW–2 AND 1 #3/0 AWG FOR GROUND IN 3–1/2" CONDUIT). ONE (1) SPARE.



SECTION A–A

NOT TO SCALE



SECTION B–B

NOT TO SCALE

LUMA NOTES :

1 – ALL WORK ON EXISTING LINES SHALL BE DONE BY LUMA. AT CONTRACTOR EXPENSE.
2 – COORDINATE POINT OF CONNECTION AT LUMA. LOCAL OFFICE BEFORE COMMENCEMENT OF CONSTRUCTION.
3 – THE ELECTRICAL CONTRACTOR SHALL NOTIFY TO LUMA. AREA OFFICE THE BEGINNING OF THE PROJECT.
4 – METER SHALL BE, BY ALL MEANS, ACCESSIBLE TO LUMA. METER READER. NO LOCKED DOOR SHALL BE PERMITTED. USE CLOSET LATCH. NO STORAGE SHALL BE PERMITTED IN METER LOCK.
5 – OPEN BLADE OR FUSE OF PRIMARY SWITCH SHALL BE DE–ENERGIZED.
6 – BLADE OR FUSES RUN SHALL ALWAYS BE CLEARED AT LEAST SIX INCHES (6) FROM METAL PARTS.
7 – ALL EQUIPMENT SHALL BE CONSTRUCTED ACCORDING TO ANSI, NEMA AND LUMA. STANDARDS.
8 – INSTALL APPROVED PRE–FABRICATED RELIEF STRESS CONES AT ALL PRIMARY CABLES TERMINATION.
9 – CONTRACTOR SHALL SUPPLY ONE SPARE FUSE FOR EACH PRIMARY FUSE HOLDER.
10 – CONTRACTOR SHALL SUBMIT SPECIFICATIONS OF MATERIALS PREVIOUSLY APPROVED BY DESIGNER OR PROJECT SUPERVISOR OR OWNER REPRESENTATIVE. (LICENSE ENGINEER).
11 – APPROVAL OF THIS DRAWINGS BY LUMA. DOES NOT INCLUDE STRUCTURAL AND FOUNDATIONS DETAILS.
12 – ALL CONSTRUCTION WORK SHALL BE DONE IN A THOROUGH AND WORKMANLIKE MANNER IN ACCORDANCE WITH THE PLANS, SPECIFICATIONS, AND CONSTRUCTION DRAWINGS, THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE SHALL BE FOLLOWED EXCEPT WHERE LOCAL REGULATIONS ARE MORE STRINGENT, IN WHICH CASE, LOCAL REGULATIONS SHALL GOVERN.
13 – GROUND SYSTEM FOR PEDESTAL VAULTS, TRANSFORMER AND SWITCHING UNITS SHALL HAVE A MAXIMUM RESISTANCE OF TEN (10) OHMS. THE CONTRACTOR SHALL VERIFY THIS CONDITION IN THE FIELD.
14 – AT ONE MILE FROM SEA SHORE ALL EQUIPMENT SHALL BE STAINLESS STEEL.
15 – THE RESISTANT BETWEEN GROUND, A ABSOLUTE EARTH NOT EXCEED TEN (10) OHMS. THIS TEST SHALL BE MADE IN THE PRESENCE OF THE ENGINEER'S REPRESENTATIVE. SHOULD THE RESISTANCE EXCEED THE REQUIRED VALUE, THEN ADDITIONAL GROUND MATS SHALL BE PROVIDE UNTIL THE REQUIRED VALVE IS OBTAINED.
16 – THE ENTIRE CONDUIT SYSTEM SHALL BE THOROUGHLY GROUNDED CONTINUITY OF CONDUIT SYSTEM, THAT IS TO SERVED AS GROUNDING CONDUCTOR SHALL BE ASSURED AT THE POINTS OF CONNECTION TO CABINETS, BOXES, ECT. BY USING APPROVED BONDING FITTINGS OR PROCEEDING APPROVED FOR THE PURPOSE, IN ACCORDANCE ARTICLE 250 OF THE N.E.G.
17 – TRANSFORMER WITH P.C.B OIL SHALL NOT BE ACCEPTED.
18 – CONTRACTOR SHALL VERIFY EXISTING ELECTRICAL UTILITIES IN THE FIELD AND SHALL NOTIFY THE ENGINEER OF ANY MAYOR DISCREPANCIES ASKING FOR WRITTEN INSTRUCTIONS BEFORE PROCEEDING WITH WORKS.
19– THE PROJECT'S OWNER SHALL PAY LUMA. THE AMOUNT OF $2,475.00 FOR IMPROVEMENTS TO LUMA'S ELECTRICAL SYSTEM.
20– ALL PAYMENTS TO LUMA. SHALL BE MADE AT LEAST TWO MONTH IN ADVANCE FROM THE CONSTRUCTION START DATE.
21– CONTRACTOR SHALL COORDINATE ALL WORKS AT LUMA LOCAL OFFICE ON SAN JUAN.
22– ALL TRANSFORMER MUST COMPLY WITH THE LUMA. STANDARD FOR IMPROVED TRANSFORMER LOSSES AS INDICATED IN THE TABLE FOR SINGLE PHASE TRANSFORMER CORE AND WINDING OF 1/1/2010 AND SHALL COMPLY WITH D.O.E REQUIREMENTS.
23– THE ENDORSEMENT OF THIS DRAWINGS BY PREPA DOES NOT RELIEVE THE CONTRACTOR TO COMPLY WITH PREPA AND NEC LATEST STANDARDS.

GENERAL NOTES :

1. THESE PLANS COINCIDE WITH THE INSCRIPTION PLANS SUBMITTED IN THE "OFICINA DE GERENCIA DE PERMISOS" (OGPE).
2. BEFORE BEGINNING THE ELECTRICAL WORKS, THE PROJECT?S OWNER IS RESPONSIBLE OF OBTAINING ALL THE ENDORSEMENTS, PERMITS, AND RIGHT OF WAYS REQUIRED BY GOVERNMENTAL, STATE, MUNICIPAL, FEDERAL AND PRIVATE ENTITIES, WITH REGARD TO THE TYPE OF PROJECT PROPOSED.
3. THE PROJECT'S OWNER SHALL CONTRACT THE SERVICES OF A LICENSED AND COLLEGIATE ENGINEER, WHO INSPECTS THE CONSTRUCTION OF THE ELECTRICAL WORKS ACCORDING TO LAW # 7 OF JULY 19, 1985, AS AMENDED, AND WITH PREPA'S "REGLAMENTO DE CERTIFICACIÓN DE PLANOS DE PROYECTOS DE CONSTRUCCIÓN ELÉCTRICA". BEFORE STARTING THE PROJECT, THE OWNER SHALL NOTIFY PREPA THE DESIGNATION OF THIS PRIVATE INSPECTOR.
4. THE EXECUTION OF THE ELECTRICAL WORKS, AS DESIGNED IN THESE PLANS, SHALL OBSERVE THE BEST PRACTICE OF THE ELECTRIC AND CONSTRUCTION INDUSTRY, IN ACCORDANCE TO THE NORMS AND REGULATIONS ADOPTED BY PREPA AND CONCERNING AGENCIES. THEY SHOULD ALSO COMPLY WITH NEC AND NESC CODES, AND OTHER ADOPTED STANDARDS OF IEEE, NFPA, NEMA Y ANSI.
5. THE CONTRACTOR IS NOT AUTHORIZED TO MAKE VARIATIONS IN THIS DESIGN. THE CONTRACTOR IS RESPONSIBLE OF CONSULTING WITH THE DESIGNER OR DESIGNATED INSPECTOR OF THIS PROJECT, ANY DOUBT CONCERNING THE INTERPRETATION OF THE DRAWINGS, THE EXECUTION OF THE PROPOSED WORKS, TECHNICAL SPECIFICATIONS, OR DISCREPANCIES BETWEEN THE FIELD'S EXISTING CONDITION AND THOSE USED FOR DESIGN PURPOSES.
6. THE OWNER OR ELECTRICAL CONTRACTOR SHALL NOTIFY PREPA THE BEGINNING OF THE CONSTRUCTION OF THE PROJECT BY SUBMITTING THE "NOTIFICACIÓN DE COMIENZO DE PROYECTO" DOCUMENT TO THE ENGINEERING OF DISTRIBUTION DEPARTMENT OF THE CORRESPONDING REGION, WITH AT LEAST FIFTEEN DAYS OF ANTICIPATION OF THE PROPOSED DATE.
7. THE PRIVATE INSPECTOR AND THE ELECTRIC CONTRACTOR ARE RESPONSIBLE OF ASSISTING TO THE PRECONSTRUCTION MEETING, WHICH SHOULD BE COORDINATED WITH THE ENGINEERING OF DISTRIBUTION DEPARTMENT OF THE CORRESPONDING REGION. CORRESPONDING REGION, WITH AT LEAST FIFTEEN DAYS OF ANTICIPATION OF THE PROPOSED DATE.
8. EVERY JOB TO BE REALIZED ON ENERGIZED LINES, INCLUDING THE CONNECTION OF THIS PROJECT, SHALL BE REALIZED BY PREPA. THE PROPONENT SHALL ASSUME ALL COSTS INCLUDING EQUIPMENT, MATERIALS AND LABOR. THE PROPONENT SHALL SOLICIT PREPA AN ESTIMATE FOR THESE JOBS, WHICH WILL BE VALID FOR THREE MONTHS AFTER ITS' EXPEDITION.
9. WITHOUT A WRITTEN AUTHORIZATION BY PREPA, IT IS PROHIBITED TO REALIZE ANY TYPE OF JOBS IN THE RIGHT OF WAY'S STRIPS. PREPA WILL NOT APPROVE THE CONNECTIONS OF PROJECTS WITH INVASION CONDITIONS OR THAT NOT COMPLY WITH ALL THE SECURITY STANDARDS.

MATERIALS:

1. ALL EQUIPMENT TO BE USED IN THE CONSTRUCTION, SHALL COMPLY WITH IEEE, ANSI, NEMA AND ASTM STANDARDS.
2. THE CONTRACTOR IS RESPONSIBLE OF VERIFYING WITH PREPA THAT ALL MATERIAL AND EQUIPMENT TO BE USED IS APPROVED BY PREPA, PREVIOUS TO ITS INSTALLATION. PREPA RESERVES THE RIGHT OF ACCEPTING ANY EQUIPMENT TO BE TRANSFERRED.
3. ALL EQUIPMENT AND MATERIAL (INCLUDING TRANSFORMERS AND SUBSTATION CABINETS) TO BE INSTALLED AT ONE MILE OR LESS OF DISTANCE FROM A BODY OF SALT WATER SHALL BE CONSTRUCTED IN STAINLESS STEEL, WITH EXCEPTION OF THE METER BASES.
4. IN UNDERGROUND SYSTEMS, PRIMARY CABLES WITH TERMINATIONS OF 15 KV SHALL BE USED FOR DISTRIBUTION VOLTAGES AND OF 46 KV FOR LINES OF 38 KV.
5. IN AERIAL SYSTEMS, POLYMER INSULATORS OF 15 KV SHALL BE USED FOR DISTRIBUTIONS VOLTAGES AND OF 46 KV FOR LINES OF 38 KV.
6. THE CONTRACTOR IS RESPONSIBLE OF LABELING ALL TRANSFORMERS TO BE TRANSFERRED TO PREPA, WITH A PROPERTY

SPECIAL NOTES:

1. THE PROJECT'S OWNER WILL CONTRIBUTE PREPA WITH: THE SUM OF $2,475.00
2. THIS CONTRIBUTION IS MADE ACCORDING TO THE PROPOSED LOAD, IN ACCORDANCE TO "REGLAMENTO PARA DETERMINAR Y COBRAR LAS APORTACIONES DE PERSONAS O INSTITUCIONES EN PROYECTOS DE DESARROLLO".
3. PREPA WILL NOT CONNECT THE PROJECT TO ITS ELECTRICAL SYSTEM, UNTIL THE OWNER CONSTITUTES THE RIGHT OF WAYS REQUIRED BY THE "REGLAMENTO DE SERVIDUMBRES PARA LA AUTORIDAD DE ENERGÍA ELÉCTRICA". THIS NOTE APPLIES TO ALL RIGHT OF WAYS REQUIRED, INSIDE OR OUTSIDE THE LIMITS OF THE PROJECT.
4. THE INSTALLATION OF MEASUREMENT SYSTEMS SHALL BE COORDINATED WITH THE "OFICINA DE MEDICIÓN" OF THE CORRESPONDING REGION. THE DESIGNER OR THE ELECTRICAL CONTRACTOR SHALL CONSULT WITH PREPA ABOUT THE EQUIPMENT AND MATERIALS TO BE USED, THE LOCATION OF THE EQUIPMENT SHALL BE CONSULTED TOO.
5. THE INSTALLATION OF SUBSTATIONS, TRANSFORMERS, OR OTHER ELECTRICAL EQUIPMENT REGARDING THE SEWAGE SYSTEM, WATER LINES OR OTHER UTILITIES IS PROHIBITED.
6. A STRUCTURAL ENGINEER SHALL CERTIFY THAT THE EXISTING ROOF WILL SUPPORT THE TOTAL WEIGHT OF THE 150 KVA PAD MOUNTED.
7. THE OWNER OF THE PROJECT OR HIS REPRESENTATIVE MUST NOTIFY THE DISTRIBUTION ENGINEERING OFFICE OF THE SAN JUAN REGION OF THE START OF THE CONSTRUCTION AFTER THE APPROVAL OF THE PLANS AND PRIOR TO THE START OF THE ELECTRICAL WORK OF THE PROJECT FOR THE REQUIRED INSPECTION, APPROVAL AND COORDINATION.
8. THIS PROJECT REQUIRES A "AL POR MAYOR" ACCOUNT AGREEMENT, WHICH IS REQUIRED TO BE SIGNED PRIOR ENERGIZING THE PROJECT. THE TYPE OF METERING, THE EQUIPMENT TO BE USED AND THE LOCATION OF THE METERING EQUIPMENT SHALL BE COORDINATED WITH THE LOW VOLTAGE OPERATIONS SUPERVISOR/SERVICE ORDER SUPERVISOR OF THE ARECIBO REGION.

SYSTEMS :

1 – THE PROJECT OWNER IS RESPONSIBLE FOR TESTING THE PRIMARY AND SECONDARY CABLES WITH THEIR TERMINATIONS. THE RESULTS OF THESE TEST MUST BE IN ACCORDANCE WITH THE PARAMETERS ESTABLISHED BY LUMA FOR THEM. THESE TEST MUST BE CARRIED OUT IN COORDINATION WITH THE REPRESENTATIVE OF THE INSPECTION OFFICE OF THE CORRESPONDING DISTRIBUTION ENGINEERING DEPARTMENT.
2 – DURING THE INSTALLATION OF THE CABLE, IT MUST BE PROTECTED FROM MOISTURE AND ABRASION. THE CONTRACTOR IS RESPONSIBLE FOR INSTALLING THE CABLE USING RECOMMENDED PULLING PRACTICES. TO NOT EXCEED THE TENSION SPECIFIED FOR THE CABLE.
3 – THE REGISTER COVERS (MANHOLES) TO BE INSTALLED IN THE PLANTING AREA MUST BE PROTECTED BY A REINFORCED CONCRETE SLAB, AS SPECIFIED IN THE URD–52 STANDARD.
4 – IN THOSE CASES WHERE THE PROJECT IS LOCATED ONE MILE FROM SALT WATER, THE RISING PIPES MUST BE SCHEDULE 80 OR FIBERGLASS, AS APPROVED BY LUMA
5 – THE FOUNDATION OF THE UNDERGROUND SYSTEM WILL BE INSPECTED BY LLUMA BEFORE BEING COVERED AND COMPACTED.
6 – EVERY UNDERGROUND INSTALLATION TO VEHICULAR TRAFFIC WILL HAVE TO BE PROTECTED WITH CONCRETE. THOSE THAT ARE NEAR OTHER UTILITY INSTALLATIONS WILL HAVE A MINIMUM CLEARANCE OF 13 INCHES FROM THEM.
7 – THE AMOUNT OF REPLACEMENT FUSES THAT THE CONTRACTOR WILL PROVIDE WILL BE THE SAME AMOUNT AS THOSE INSTALLED IN EACH SUBSTATION.
8 – THE CONNECTOR THAT WILL BE USED FOR GROUNDING ANTENNAS AND SUBSTATION WILL BE THERMO–WELD OR COMPRESSION.
9 – THE CONTRACTOR WILL PROVIDE FISHWIRE IN EACH SPARE CONDUITS.
10 –EVERY DISTRIBUTION SYSTEM WILL HAVE A MAXIMUM GROUND RESISTANCE OF 10 OHM. A NEUTRAL GROUNDING ROD SHALL BE INSTALLED ON EVERY FOUR POLES OR EVERY 1000 FT AND ON ALL TRANSFORMERS.
11 –EACH CONCRETE POLE BASE MUST INCLUDE TWO CONDUITS FOR FUTURE USE, AS REQUIRED BY LUMA.
12 –THE BASES FOR THE POLES HAVE TO BE INSPECTED BY LUMA DURING THEIR CONSTRUCTION PHASES.

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SHEET TITLE

ES–102
SHEET NO.

LIGHTING FIXTURE SCHEDULE

DESIGNATION	SYM.	MANUFACTURER	DESCRIPTION	LAMPS		
				VOLTS	WATTS	TYPE
L1		LITHONIA LIGHTING	CPANL SWITCHABLE LUMEN LED FLAT PANEL, 2X2, 24/33/44LM, 4000K CCT, -33LM	120-277	39	RECESSED LED
L1A		LITHONIA LIGHTING	CPANL SWITCHABLE LUMEN LED FLAT PANEL, 2X2, 24/33/44LM, 4000K CCT, -33LM WITH BATTERY	120-277	39	RECESSED LED
L2		JUNO	WF8 LED WAFER DOWNLIGHT PLANO CONMUTABLE 4000K	120-277	19	RECESSED LED
L2A		JUNO	WF8 LED WAFER DOWNLIGHT PLANO CONMUTABLE 4000K WITH BATTERY	120-277	19	RECESSED LED
L3		LITHONIA LIGHTING	4FT RECTANGULAR CLX LED STRIP LIGHT 4000K	120-277	36	RECESSED LED
L4		LITHONIA LIGHTING	SEÑAL SALIDA BE CUADRADO	120-277	3.6	RECESSED LED
L5		LITHONIA LIGHTING	DSX1 LED P2 50K 80CRI - POLE RST/DS2 WITH POTOCELL POLE: RTA 15 6E DM19 (1 OR 2) DSX0	208	68	POLE LIGHT
L6		LITHONIA LIGHTING	DSX1 LED P1 50K 80CRI - POLE RST/DS2 WITH POTOCELL POLE: RTA 15 6E DM19 (1 OR 2) DSX0	208	51	POLE LIGHT

PROPOSED MODULAR SYSTEM LIGHTING FLOOR PLAN

SCALE 1/16 = 1'-0"

visura csp

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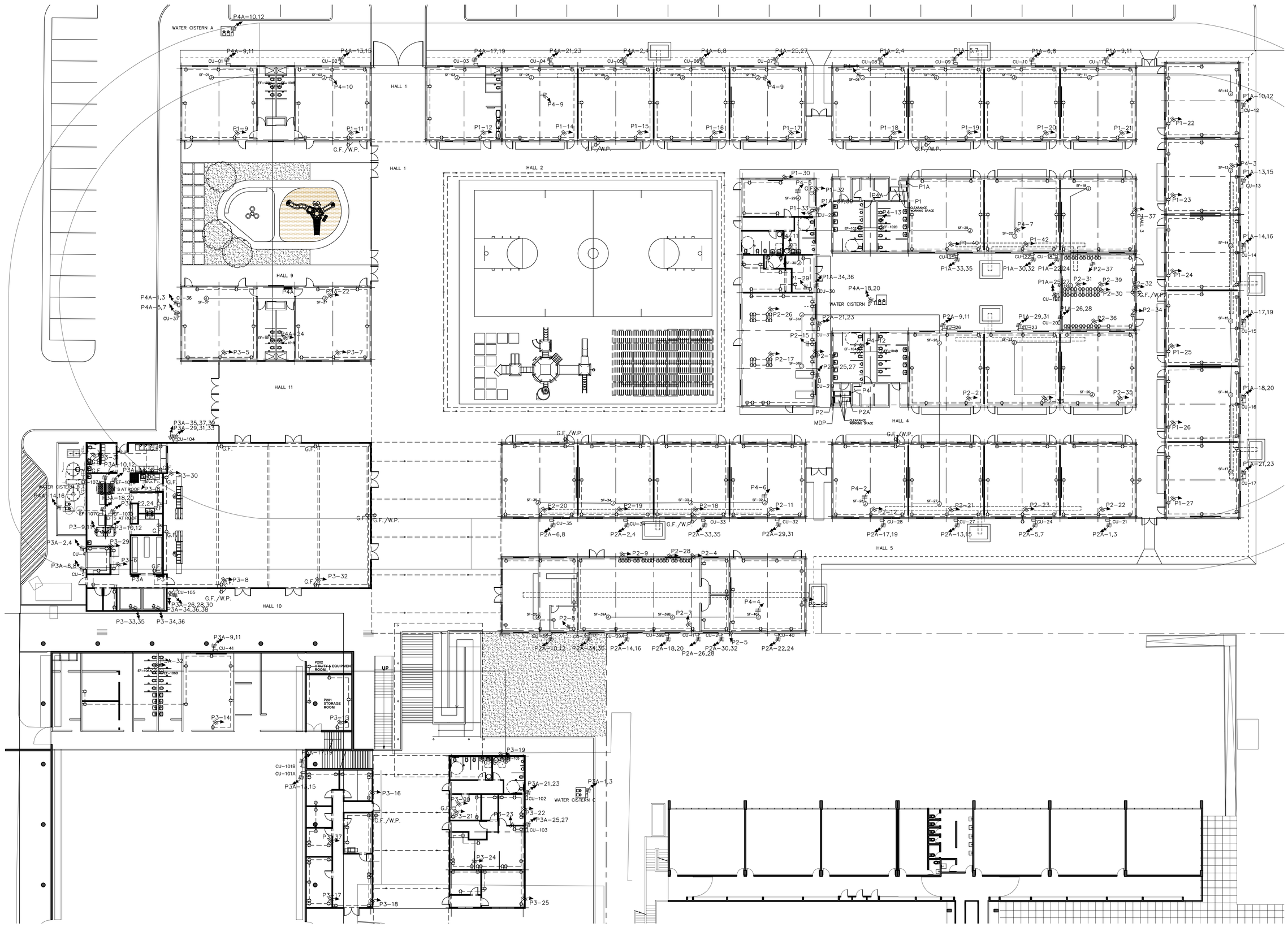
E-101
SHEET NO.


WATER CISTERN A
HALL 1
HALL 2
HALL 9
HALL 11
HALL 10
HALL 4
HALL 5
G.F./W.P.
MDP
CLEARANCE WORKING SPACE
WATER CISTERN B
WATER CISTERN C
WATER CISTERN D
P202 UTILITY & EQUIPMENT ROOM
P201 STORAGE ROOM
UP
TYP.
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FIRE ALARM SYSTEM GENERAL NOTES:

1. THE CONTRACTOR IS RESPONSIBLE FOR COORDINATION OF SYSTEM REQUIREMENTS WITH ALL CONDITIONS OF THE BUILDING AND SITE INCLUDING, BUT NOT LIMITED TO, BLIND SPACES, SHELVING, LIGHTS, GRILLES AND DIFFUSERS, PIPING,DUCT WORK, DOORS, WINDOWS, EQUIPMENT PLATFORMS, WALLS (FIRE RATED AND NON-FIRE- RATED), BEAMS, JOISTS,COLUMNS, HVAC EQUIPMENT, ELECTRICAL PANELS AND EQUIPMENT, CEILINGS,AREAS WITHOUT CEILINGS, WALL CONSTRUCTION, FLOORS AND ALL CONSTRUCTION, EQUIPMENT AND BUILDING APPURTENANCES.

2. A.C.POWER CONDUCTORS SUPPLYING POWER TO THE FACP, SUBPANELS, POWER EXTENDERS, ETC. SHALL BE LABELED, MECHANICALLY SECURED, AND RED-MARKED IN ACCORDANCE WITH NFPA 72 g 12.2.3 (2019). A MACHINE-PRODUCED LABEL SHALL BE PROVIDED INSIDE THE DOOR OF EACH ENCLOSURE INDICATING THE LOCATION OF THE CIRCUIT DISCONNECTING MEANS (PANEL LOCATION, PANEL IDENTIFICATION, AND CIRCUIT IDENTIFICATION). COORDINATE THE LOCATION AND QUANTITY OF DEDICATED A.C. POWER CIRCUITS WITH THE ELECTRICAL CONTRACTOR.

3. FIRE ALARM EVACUATION SIGNAL INTELLIGIBILITY SHALL BE TESTED UTILIZING A METHOD(S) DESCRIBED IN ANNEX D OF NFPA 72.

4. WITH RESPECT TO BOTH VISUAL COVERAGE AND AUDIBLE SIGNAL INTELLIGIBILITY, THE LOCATION AND QUANTITY OF NOTIFICATION DEVICES INDICATED ON THE FIRE PROTECTION DESIGN DRAWINGS ARE FOR SCHEMATIC /BIDDING PURPOSES ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ENSURING ADEQUATE COVERAGE, REGARDLESS IF ADDITIONAL DEVICES ARE NECESSARY.

5. END-OF-LINE DEVICES ARE NOT SHOWN AND SHALL BE PROVIDED AS REQUIRED BY THE SYSTEM MANUFACTURER.

6. AN INTELLIGENT /ANALOG FIRE ALARM SIGNALING SYSTEM AND INTEGRATED MASS NOTIFICATION SYSTEM SHALL BE PROVIDED AS INDICATED. THE FIREALARM SYSTEM SHALL BE SITE PROGRAMMABLE. THE SYSTEM SHALL MONITOR ALL MANUAL PULL STATION(S),SMOKE DETECTOR(S), WATER FLOW SWITCHES, VALVE TAMPER SUPERVISORY SWITCHES, ETC.AND PROVIDE NOTIFICATION IN ACCORDANCE WITH THE DRAWINGS, SPECIFICATIONS, AND APPLICABLE CODES AND STANDARDS.

7. THE FIRE ALARM SYSTEM SHALL BE UL-LISTED FOR CENTRAL STATION SERVICE.

8. ALL INITIATING DEVICES SHALL BE INTELLIGENT / ANALOG WHERE POSSIBLE. SEPARATE ADDRESSABLE MONITOR MODULES SHALL BE PROVIDED FOR EACH CONVENTIONAL INPUT DEVICE SUCH THAT EACH DEVICE IS INDIVIDUALLY INDICATED AT THE FACP AS A DISTINCT INPUT.

9 THE CIRCUIT CONFIGURATIONS SHALL COMPLY WITH THE NFPA 72 REQUIREMENTS FOR THE FOLLOWING:
1.1. THE SLC SHALL BE CLASS B
1.2. THE NAC SHALL BE CLASS B
1.3. THE IDC SHALL BE CLASS B

10. T-TAPPING IN SPEAKER AND STROBE CABLES IS PROHIBITED. ALL SPEAKER AND ALL STROBE CABLES ARE TO BE PULLED, UN-SPLICED, FROM SPEAKER/STROBE TO SPEAKER/STROBE.ELECTRICAL

11. ALL WIRES SHALL BE CHECKED FOR GROUNDS, SHORTS, OPENS, AND CORRECT RESISTANCE, CAPACITANCE, AND OTHER APPLICABLE PARAMETERS PRIOR TO INSTALLATION OF DEVICES AND PRIOR TO TERMINATION OF THE CIRCUITS AT THE FACP OR SUBPANELS.

12. ALL WIRING SHALL BE IN METALLIC CONDUIT. ALL CONDUIT SHALL BE 3/4-IN. MINIMUM. IDENTIFY ALL CONDUCTORS INDIVIDUALLY WITH PERMANENT MARKINGS. PAINT ALL FIRE ALARM JUNCTION BOXES AND COVERS RED IN UNFINISHED AREAS. ALL CONDUIT SHALL HAVE 0.75-INCH WIDE PAINTED RED BANDS AT MINIMUM 25-FOOT INTERVALS AND ON BOTH SIDES OF FLOOR, WALL, CEILING, SLAB PENETRATIONS.

13. PULL ALL CONDUCTORS SPLICE FREE. THE USE OF WIRE NUTS, CRIMPED CONNECTORS, OR TWISTING OF CONDUCTORS IS PROHIBITED.ALL TERMINATIONS MUST BE AT A TERMINAL STRIP OR DEVICE SCREW TERMINAL. RUN ALL WIRING TO CONTROL PANELS AND OTHER CABINETS INTHE VERTICAL OR HORIZONTAL PLANE, MAKE ALL TURNS AT 90-DEGREE ANGLES, AND TIGHTLY BUNDLE AND WRAP ALL WIRE.ALL WIRING MUST BE SOLID COPPER, EXCEPT FOR SPEAKER CIRCUITS OR CIRCUITS REQUIRING SHIELDING. ALL SLC AND IDC SHALL BE MINIMUM 16-GAUGE. UNDER NO CIRCUMSTANCES SHALL CONDUCTORS BE SIZED SMALLER THAN THE MANUFACTURERS' REQUIREMENTS.

14. ALL VISUAL NOTIFICATION APPLIANCES (STROBES) SHALL BE SYNCHRONIZED ON A MINIMUM PER-FLOOR BASIS.ALL VISUAL NOTIFICATION APPLIANCES SHALL BE MARKED "ALERT" AND SHALL BE PROVIDED WITH CLEAR LENSES. ANY SUSPENDED CEILING- MOUNTED NOTIFICATION APPLIANCES SHALL BE CENTERED IN THE TILE. CEILING-MOUNTED NOTIFICATION APPLIANCES SHALL BE UTILIZED IN AREAS WITH SUSPENDED TILE CEILINGS, UNO.

15. SCROLLING TEXT SIGNS SHALL BE INSTALLED IN ACCORDANCE WITH NFPA 72.

16.MANUAL PULL STATIONS SHALL BE FLUSH-MOUNTED IN FINISHED AREAS AND SURFACE- MOUNTED OTHERWISE.

17. FIRE ALARM SYSTEM INPUT (MONITORING) AND OUTPUT (CONTROL) MODULES SHALL BE LOCATED WITHIN 3FT.OF THE MONITORED / CONTROLLED EQUIPMENT WHERE POSSIBLE.

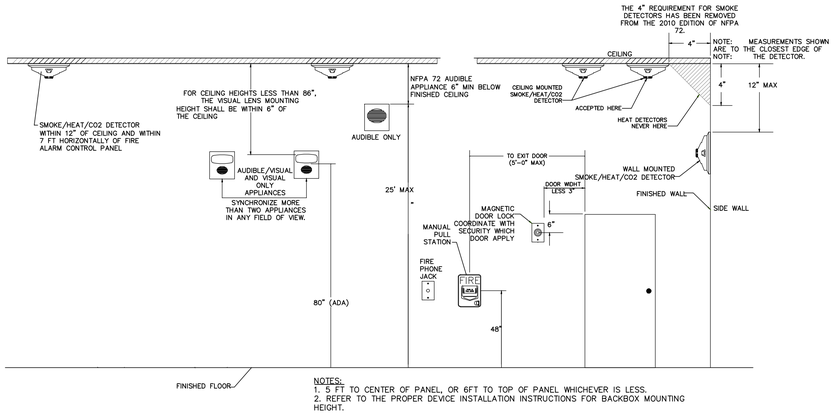
18. COORDINATE THE LOCATION OF CEILING MOUNTED SMOKE DETECTORS WITH HVAC DIFFUSERS. DETECTORS SHALL NOT BE CLOSER THAN 3 FT.TO ANY AIR SUPPLY DIFFUSER OR RETURN AIR OPENING. SUSPENDED CEILING-MOUNTED DETECTORS SHALL BE CENTERED IN THE TILE.

19. SYSTEM SMOKE DETECTOR HEADS SHALL NOT BE INSTALLED UNTIL AFTER FINAL CLEAN UP BY ALLTRADES. ALL SYSTEM SMOKE DETECTORS SHALL BE PROTECTED BY DUST COVERS UP UNTIL THE TIME OF FINAL ACCEPTANCE TESTING.

20. LOCATE THE FAS NAC POWER SUPPLIES AS NEEDED, COORDINATE THE AC POWER FOR THE NAC POWER SUPPLIES WITH THE ELECTRICAL CONTRACTOR.

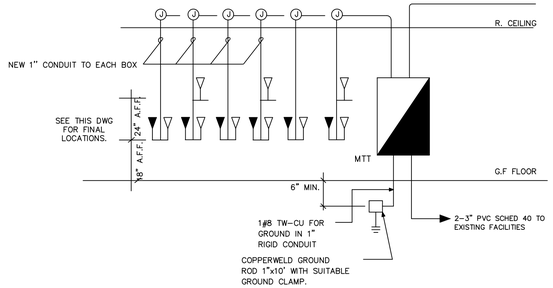
21. SEE ARCHITECTURAL EXTERIOR ELEVATIONS FOR INSTALLATION OF ANY EXTERIOR FAS NOTIFICATION APPLIANCES.

22. FOR DUCT-TYPE SMOKE DETECTION, THE DETECTORAND APPROPRIATE SAMPLE TUBING SHALL BE FURNISHED BY THE FIRE ALARM CONTRACTOR, INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S REQUIREMENTS AND LISTING BY THE MECHANICAL CONTRACTOR, AND CONNECTED TO THE FAS BY THE FIRE ALARM CONTRACTOR. FOR DAMPER CLOSURE ASSOCIATED WITH THE DETECTOR, THE OUTPUT MODULE (AND RELAY, IF NECESSARY) SHALL BE FURNISHED, INSTALLED, AND CONNECTED TO THE FAS BY THE FIRE ALARM CONTRACTOR; POWER SHALL BE CONNECTED BY THE ELECTRICAL CONTRACTOR; AND DAMPER CONNECTION SHALL BE MADE BY THE MECHANICAL CONTRACTOR. IT SHALL BE THE RESPONSIBILITY OFTHE FAS CONTRACTOR TO ENSURE THAT THERE IS NO DAMAGE TO THE FAS AS A RESULT OF CONNECTION TO AC POWER.



NOTES:
1. 5 FT TO CENTER OF PANEL, OR 6FT TO TOP OF PANEL WHICHEVER IS LESS.
2. REFER TO THE PROPER DEVICE INSTALLATION INSTRUCTIONS FOR BACKBOX MOUNTING HEIGHT.

TYPICAL FIRE ALARM MOUNTIG HEIGTHTS
NOT TO SCALE



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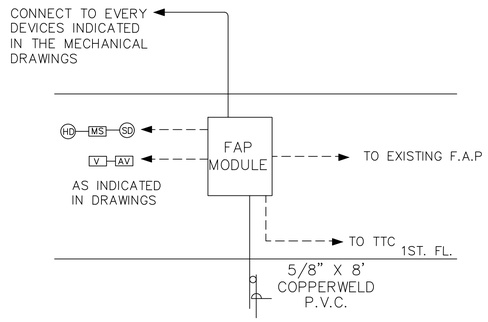

SIGNALING LEGEND:

MS	WALL MOUNTED MANUAL FIRE ALARM STATION 48" A.F.F. SHALL HAVE PROTECTION COVER.
HD SD	SURFACE MOUNTED PHOTOELECTRIC SMOKE DETECTOR.
AV	WALL MOUNTED COMBINATION STROBE/HORN 7'-0" A.F.F. 110 CANDELA
V	VISUAL DEVICE
HD	SURFACE MOUNTED HEAT DETECTOR
F.A.M	FIRE ALARM MODULE
	4" TELEPHONE OUTLET BOX WITH RAISED COVER CONDUIT TO BE PROVIDED WITH FISH WIRE OR TERMINATED IN A TELEPHONE TERMINAL CABINET (T.T.C.) AT 1'-6" A.F.F.
	4" DATA OUTLET BOX WITH RAISED COVER CONDUIT TO BE PROVIDED WITH FISH WIRE OR TERMINATED IN A TELEPHONE TERMINAL CABINET (T.T.C.) AT 1'-6" A.F.F.
	EXIT LIGHT QUANTUM
	LED STATIC EMERGENCY EXIT SIGN 4600K QUANTUM
TTC	MAIN TELECOMMUNICATION TERMINAL CABINET 36" X 24" X 6" WITH PAINTED PLYWOOD
	JUNCTION BOXES FOR SOUND SYSTEM. CONNECT BETWEEN EACH OTHER WITH 1" CONDUIT AND TAKE THEM TO THE CONTROL ROOM

FIRE ALARM NOTES

1. CONDUIT SHALL BE 3/4" RIGID CONDUIT
2. ALL WIRES SHALL BE #12 THHN
3. OUTLET BOX SHALL BE 4" X 4" X 1-1/2"
4. ALL WIRING AND WORK SHALL BE DONE ACCORDING TO MANUFACTURER RECOMMENDATION.
5. FIRE ALARM SYSTEM SHALL MEETS THE REQUIREMENTS OF N.F.P.A. 72A, 72B, 72C, 72D, UL 864 AND N.E.C. 760.
6. CONTRACTOR SHALL INSTALL A RELAY TO THE AC SYSTEM SO IN CASE OF FIRE THE AC MACHINES STOP AUTOMATICALLY.
7. ALL EQUIPMENT SHALL BE U.L. APPROVED
8. MINIMUM DISTANCE BETWEEN SMOKE DETECTOR AND A/C RETURN SHALL BE 36".
9. SEE FIRE ALARM SYSTEM GENERAL NOTES IN E100.

FIRE ALARM SYSTEM

FURNISH AND INSTALL A MICROPROCESSOR BASED ADDRESSABLE FIRE ALARM SYSTEM. THE SYSTEM SHALL BE UL, FACTORY MUTUAL APPROVED AND ELECTRICALLY SUPERVISED.

I. TESTING AND TRAINING
THE SYSTEM SHALL BE TESTED AND ADJUSTED ACCORDING TO NFPA 72. PROVIDE TRAINING TO OWNER'S AUTHORIZED PERSONNEL.

II. ACEPTABLE MANUFACTURERS:

COMPATIBLE WITH EXISTING FIRE ALARM PANEL

III. SUBMITTALS:

A. CONTRACTOR SHALL SUBMIT A COMPLETE SYSTEM LAYOUT OF THE FIRE DETECTION SYSTEM FOR APPROVAL PRIOR THE INSTALLATION.

visura csp
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SAN JUAN, PR - TEL / FAX (787) 998-4493

CERTIFICATE

CERTIFICACION

Yo, MILDRED G. PÉREZ ROSADO I, INGENIERO LICENCIADO 10287, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del Reglamento Conjunto y las disposiciones aplicables de los Reglamentos y Códigos de las Agencias, Juntas Reglamentadoras o Corporaciones Públicas con jurisdicción.

Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPe y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPe.

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MILDRED GISELA PEREZ ROSADO TEL. 787.690.6582

PROFESSIONAL / CONSULTANT

COLEGIO PONCEÑO
STRUCTURAL EVALUATION
CARR 14, PONCE, PUERTO RICO

COLEGIO PONCEÑO
OWNER

31-2023
PROJECT NUMBER

JULY 23, 2024
PRINTING DATE

CJQ
DRAWN / APPROVED

CONCEPTUAL PHASE
PROJECT DESIGN PHASE

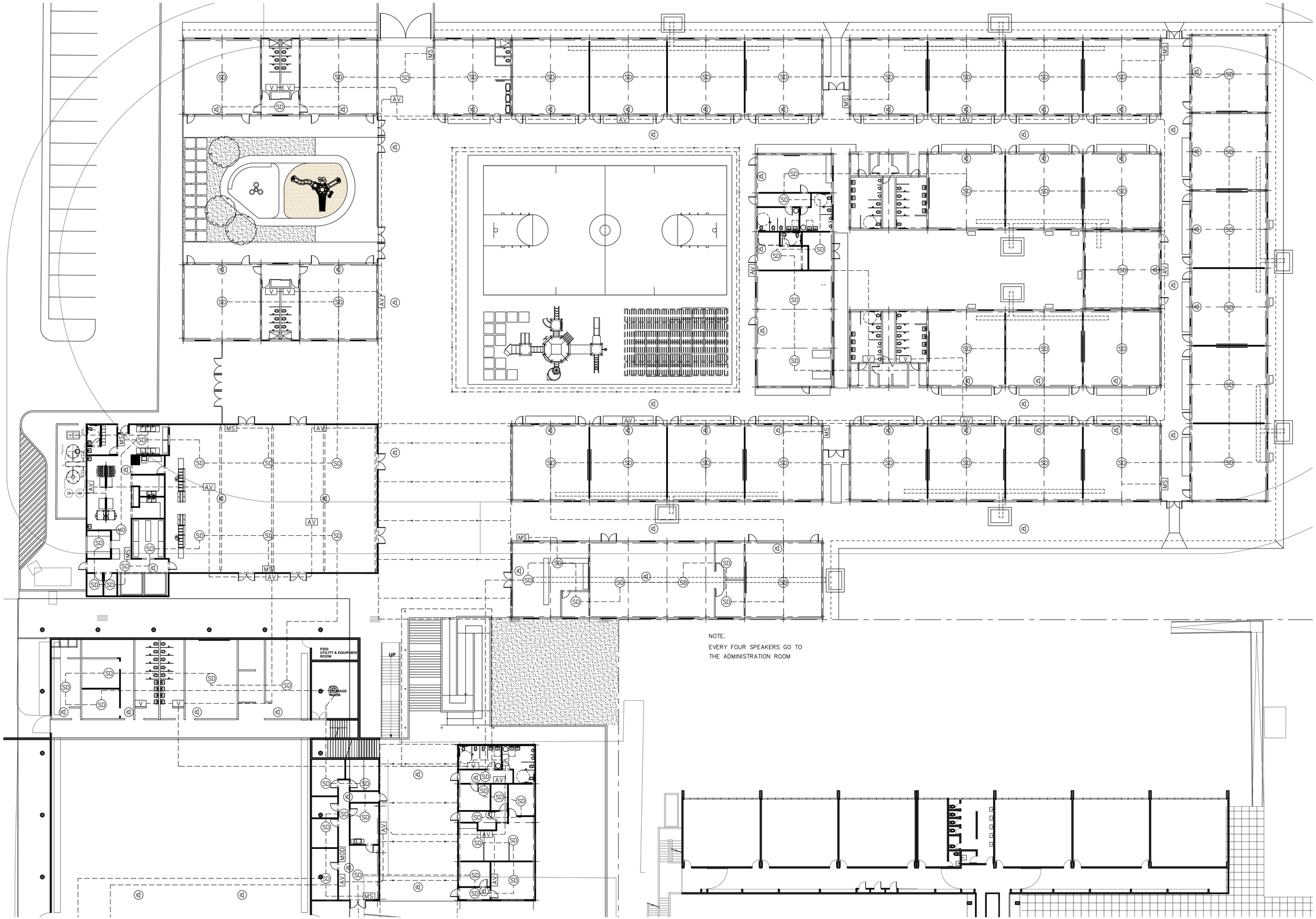
DESIGN REVISION

NOT FOR CONSTRUCTION
STATUS

SIGNALING LEGENDS, DATAILS & NOTES
SHEET TITLE

E-103
SHEET NO.

6 OF 10



PROPOSED MODULAR SYSTEM SIGNALING FLOOR PLAN

SCALE 1/16 = 1'-0"

visura csp

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PROJECT DESIGN PHASE

DESIGN REVISION

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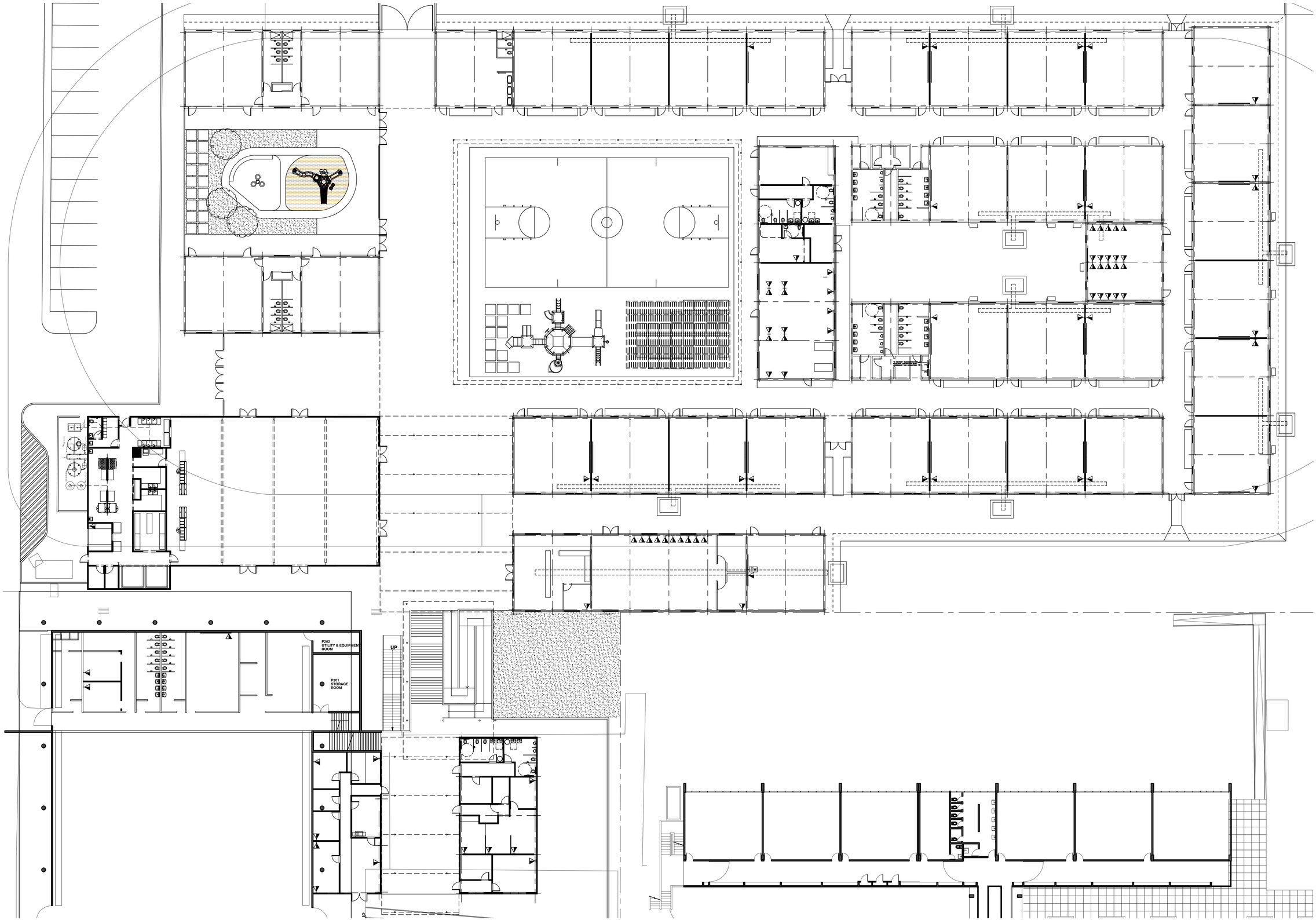
STATUS

PROPOSED SIGNALING FLOOR PLAN
SHEET TITLE

E-104
SHEET NO.

7 OF 10



SIGNALING PROPOSED DATA PLAN

SCALE 1/16 = 1'-0"

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COLEGIO PONCEÑO
STRUCTURAL EVALUATION
CARR 14, PONCE, PUERTO RICO

COLEGIO PONCEÑO
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CONCEPTUAL PHASE
PROJECT DESIGN PHASE

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STATUS

SIGNALING PROPOSED DATA PLAN
SHEET TITLE

E-105
SHEET NO.

ELECTRICAL PANELS SCHEDULE - MDP

DESCRIPTION	TRIP AMPS	POLE	A B C	POLE	TRIP AMPS	DESCRIPTION
P1	225	3	1 2 / 3 4 / 5 6	3	30	DPS
P2	125	3	7 8 / 9 10 / 11 12	3	200	P3
P1A	350	3	13 14 / 15 16 / 17 18	3	450	P3A
P2A	350	3	19 20 / 21 22 / 23 24	3	300	P4
			25 26 / 27 28 / 29 30			
			31 32 / 33 34 / 35 36			
			37 38 / 39 40 / 41 42			

INDICATES THIS CIRCUIT TO RECEIVE
HANDLE LOCK-ON CLIP.
SQUARE-D TYPE NOOD OR SIMILAR
126K AIC-NEMA 1

PANEL MDP 3 PHASE 4 WIRE
120/208 VOLTS GROUND BUS - FLUSH MTD.
2500A A MAIN BREAKER

ELECTRICAL PANELS SCHEDULE - P1

DESCRIPTION	TRIP AMPS	POLE	A B C	POLE	TRIP AMPS	DESCRIPTION
BATHROOM, KI LIGHTING	20	1	1 2	1	20	DINNER 1, ROBOTICS, TITULO 1 LIGHTING
CHEMICAL LAB., BIOLOGY LAB., CLASSROOM 12 LIGHTING	20	1	3 4	1	20	CLASSROOM 11,11,12 LIGHTING
CLASSROOM 8,8,9 LIGHTING	20	1	5 6	1	20	CLASSROOM 6,6,7
HALL 1 LIGHTING	20	1	7 8	1	20	HALL 2 LIGHTING
KG RECEPTACLES	20	1	9 10	1	20	CLASSROOM 9,9,10 LIGHTING
KG RECEPTACLES	20	1	11 12	1	20	DINNER 1 RECEPTACLES
BATHROOM, KITCHENETTE, NURSING LIGHTING	20	1	13 14	1	20	ROBOTICS RECEPTACLES
TITULO 1 RECEPTACLES	20	1	15 16	1	20	CHEMICAL LAB. RECEPTACLES
BIOLOGY LAB. RECEPTACLES	20	1	17 18	1	20	CLASSROOM 12 RECEPTACLES
CLASSROOM 12 RECEPTACLES	20	1	19 20	1	20	CLASSROOM 11 RECEPTACLES
CLASSROOM 11 RECEPTACLES	20	1	21 22	1	20	CLASSROOM 9 RECEPTACLES
CLASSROOM 8 RECEPTACLES	20	1	23 24	1	20	CLASSROOM 8 RECEPTACLES
CLASSROOM 7 RECEPTACLES	20	1	25 26	1	20	CLASSROOM 6 RECEPTACLES
CLASSROOM 6 RECEPTACLES	20	1	27 28	1	20	HALL 3 LIGHTING
NURSING RECEPTACLES	20	1	29 30	1	20	KITCHENETTE RECEPTACLES
BATHROOM RECEPTACLES	20	1	31 32	1	20	KITCHENETTE RECEPTACLES
ENTRANCE HALL1, HALL 5 LIGHTING	20	1	33 34	1	20	COMPUTER LIGHTING
CLASSROOM 5 RECEPTACLES	20	1	35 36	1	20	CLASSROOM 10 RECEPTACLES
CLASSROOM 9 RECEPTACLES	20	1	37 38	1	20	CLASSROOM 10 RECEPTACLES
SPARE	20	1	39 40	1	20	SPARE
SPARE	20	1	41 42	1	20	SPARE

INDICATES THIS CIRCUIT TO RECEIVE
HANDLE LOCK-ON CLIP.
SQUARE-D TYPE NOOD OR SIMILAR
33K AIC-NEMA 1

PANEL P1 3 PHASE 4 WIRE
120/208 VOLTS GROUND BUS - FLUSH MTD.
225A A MAIN BREAKER

ELECTRICAL PANELS SCHEDULE - P2

DESCRIPTION	TRIP AMPS	POLE	A B C	POLE	TRIP AMPS	DESCRIPTION
CLASSROOM1,1 LIGHTING	20	1	1 2	1	20	CLASSROOM 5 RECEPTACLES
CLASSROOM 5, BATHROOMS, FACULTY LIGHTING	20	1	3 4	1	20	COMPUTER 1 RECEPTACLES
OFFICE COMPUTER 1 RECEPTACLES	20	1	5 6	1	20	HALL 7,8 LIGHTING
COMPUTER 1 RECEPTACLES	20	1	7 8	1	20	LIBRARY RECEPTACLES
COMPUTER 1 RECEPTACLES	20	1	9 10	1	20	CLASSROOM 3,4,4, LIGHTING
CLASSROOM 2 RECEPTACLES	20	1	11 12	1	20	CLASSROM 3 RECEPTACLES
CLASSROOM 2,2,3 LIGHTING	20	1	13 14	1	20	BATHROOM RECEPTACLES
FACULTY RECEPTACLES	20	1	15 16	1	20	FACULTY RECEPTACLES
FACULTY RECEPTACLES	20	1	17 18	1	20	CLASSROOM 2 RECEPTACLES
CLASSROOM 1 RECEPTACLES	20	1	19 20	1	20	CLASSROOM 1 RECEPTACLES
CLASSROOM 3 RECEPTACLES	20	1	21 22	1	20	CLASROOM 4 RECEPTACLES
CLASSROOM 4 RECEPTACLES	20	1	23 24	1	20	AUDIOVISUAL, COMPUTER 1, LIBRARY LIGHTING
HALL 4 LIGHTING	20	1	25 26	1	20	FACULTY RECEPTACLES
HALL 5 LIGHTING	20	1	27 28	1	20	COMPUTER 1 RECEPTACLES
AUDIOVISUAL RECEPTACLE	20	1	29 30	1	20	COMPUTER RECEPTACLES
COMPUTER RECEPTACLES	20	1	31 32	1	20	COMPUTER RECEPTACLES
CLASSROOM 5 RECEPTACLES	20	1	33 34	1	20	COMPUTER RECEPTACLES
CLASSROOM RECEPTACLES	20	1	35 36	1	20	COMPUTER RECEPTACLES
COMPUTER RECEPTACLES	20	1	37 38	1	20	SPARE
COMPUTER RECEPTACLES	20	1	39 40	1	20	SPARE
SPARE	20	1	41 42	1	20	SPARE

INDICATES THIS CIRCUIT TO RECEIVE
HANDLE LOCK-ON CLIP.
SQUARE-D TYPE NOOD OR SIMILAR
33K AIC-NEMA 1

PANEL P2 3 PHASE 4 WIRE
120/208 VOLTS GROUND BUS - FLUSH MTD.
125A A MAIN BREAKER

ELECTRICAL PANELS SCHEDULE - P3

DESCRIPTION	TRIP AMPS	POLE	A B C	POLE	TRIP AMPS	DESCRIPTION
CAFETORIUM LIGHTING	20	1	1 2	1	20	P201,P202, CLASSROOMA, BATHROOMS LIGHTING
ADMINISTRATION, 204,205,206,207,208 LIGHTING	20	1	3 4	1	20	TESORERY LIGHTING
PK RECEPTACLES	20	1	5 6	1	20	VERTICAL FREEZER
PK RECEPTACLES	20	1	7 8	1	20	ICE MAKER MACHINE, FLOOR FREEZER
KITCHEN	20	2	9 10 / 11 12	2	20	KITCHEN
SPARE	20	1	13 14	1	20	CLASSROOM A RECEPTACLES
201,202 REEPTACLES	20	1	15 16	1	20	ADMINISTRATION RECEPTACLES
OFFICE ADMINISTRATION RECEPTACLES	20	1	17 18	1	20	ADMINISTRATION RECEPTACLES
BATHROOM TRASURY RECEPTACLES	20	1	19 20	1	20	SMALL APLIANCES
REFRIGERATOR TREASURY	20	1	21 22	1	20	OFFICE TREASURY RECEPTACLES
OFFICE TREASURY RECEPTACLES	20	1	23 24	1	20	OFFICE TREASURY RECEPTACLES
DINNER TREASURY RECEPTACLES	20	1	25 26	1	20	HALL TREASURY LIGHTING
KITCHEN LIGHTING	20	1	27 28	1	20	LOBBY P205 LIGHTING
OFFICE OF KITCHEN, JANITOR RECEPTACLES	20	1	29 30	1	20	ICE, MEATS, SINK RECEPTACLE
BATHROOM KITCHEN RECEPTACLE	20	1	31 32	1	20	RESTAURANT RECEPTACLE
FREEZER	20	2	33 34 / 35 36	2	20	REFRIGERATOR
DIRECTOR, VAUL WAREHOUSE, PPAL ELEMENTAL RECEPT.	20	1	37 38	1	20	HALL 1 LIGHTING
HALL 8 LIGHTING	20	1	39 40	1	20	BATHROOMS, PK,PK LIGHTING
SPARE	20	1	41 42	1	20	SPARE

INDICATES THIS CIRCUIT TO RECEIVE
HANDLE LOCK-ON CLIP.
SQUARE-D TYPE NOOD OR SIMILAR
33K AIC-NEMA 1

PANEL P3 3 PHASE 4 WIRE
120/208 VOLTS GROUND BUS - FLUSH MTD.
200A A MAIN BREAKER

ELECTRICAL PANELS SCHEDULE - P4

DESCRIPTION	TRIP AMPS	POLE	A B C	POLE	TRIP AMPS	DESCRIPTION
SF-08,09,10,11,12	20	1	1 2	1	20	SF-26,27,28,31A,31B
SF-13,14,15,16,17	20	1	3 4	1	20	SF-39A,39B,40
SF-25,29,30	20	1	5 6	1	20	SF-32,33,34,35,38
SF-18,19,20,22,23	20	1	7 8	1	20	SF-102A,102B,103,104A,104B
SF-3,4,5,6,7	20	1	9 10	1	20	SF-1,2
EF-103	20	1	11 12	1	20	EF-104A,104B
EF-102A,102B	20	1	13 14	2	20	EXTERIOR LIGHTS
EXIT LIGHTING	20	1	15 16			
SPARE	20	1	17 18	1	20	SPARE
SPARE	20	1	19 20	1	20	SPARE
SPARE	20	1	21 22	1	20	SPARE
SPARE	20	1	23 24	1	20	SPARE
SPARE	20	1	25 26	1	20	SPARE
SPARE	20	1	27 28	1	20	SPRE
SPARE	20	1	29 30	1	20	SPARE
SPARE	20	1	31 32	1	20	SPARE
SPARE	20	1	33 34	1	20	SPARE
SPARE	20	1	35 36	1	20	SPARE
SPARE	20	1	37 38	1	20	SPARE
SPARE	20	1	39 40	1	20	SPARE
SPARE	20	1	41 42	1	20	SPARE

INDICATES THIS CIRCUIT TO RECEIVE
HANDLE LOCK-ON CLIP.
SQUARE-D TYPE NOOD OR SIMILAR
33K AIC-NEMA 1

PANEL P4 3 PHASE 4 WIRE
120/208 VOLTS GROUND BUS - FLUSH MTD.
50A A MAIN BREAKER

ELECTRICAL PANELS SCHEDULE - P1A

DESCRIPTION	TRIP AMPS	POLE	A B C	POLE	TRIP AMPS	DESCRIPTION
SPARE	20	1	1 2	2	40	CU-08
SPARE	20	1	3 4			
CU-09	40	2	5 6 / 7 8	2	40	CU-10
CU-11	40	2	9 10 / 11 12	2	40	CU-12
CU-13	40	2	13 14 / 15 16	2	40	CU-14
CU-15	40	2	17 18 / 19 20	2	40	CU-16
CU-17	40	2	21 22 / 23 24	2	40	CU-18
CU-19	40	2	25 26 / 27 28	2	40	CU-20
CU-23	40	2	29 30 / 31 32	2	40	CU-22
CU-25	40	2	33 34 / 35 36	2	30	CU-30
CU-29	30	2	37 38 / 39 40	1	20	SPARE
SPARE	20	1	41 42	1	20	SPARE

INDICATES THIS CIRCUIT TO RECEIVE
HANDLE LOCK-ON CLIP.
SQUARE-D TYPE NOOD OR SIMILAR
33K AIC-NEMA 1

PANEL P1A 3 PHASE 4 WIRE
120/208 VOLTS GROUND BUS - FLUSH MTD.
350A A MAIN BREAKER

ELECTRICAL PANELS SCHEDULE - P2A

DESCRIPTION	TRIP AMPS	POLE	A B C	POLE	TRIP AMPS	DESCRIPTION
CU-21	40	2	1 2 / 3 4	2	40	CU-34
CU-24	40	2	5 6 / 7 8	2	40	CU-35
CU-26	40	2	9 10 / 11 12	2	40	CU-38
CU-27	40	2	13 14 / 15 16	2	40	CU-39A
CU-28	40	2	17 18 / 19 20	2	40	CU-39B
CU-31A	40	2	21 22 / 23 24	2	40	CU-40
CU-31B	40	2	25 26 / 27 28	2	20	CU-1
CU-32	40	2	29 30 / 31 32	2	20	CU-2
CU-33	40	2	33 34 / 35 36	2	20	CU-3
SPARE	20	1	37 38	1	20	SPARE
SPARE	20	1	39 40	1	20	SPARE
SPARE	20	1	41 42	1	20	SPARE

INDICATES THIS CIRCUIT TO RECEIVE
HANDLE LOCK-ON CLIP.
SQUARE-D TYPE NOOD OR SIMILAR
33K AIC-NEMA 1

PANEL P2A 3 PHASE 4 WIRE
120/208 VOLTS GROUND BUS - FLUSH MTD.
350A A MAIN BREAKER

ELECTRICAL PANELS SCHEDULE - P3A

DESCRIPTION	TRIP AMPS	POLE	A B C	POLE	TRIP AMPS	DESCRIPTION
WATER CISTERN C	40	2	1 2 / 3 4	2	20	CU-4
SPARE	40	2	5 6 / 7 8	2	20	CU-5
CU-41	30	2	9 10 / 11 12	2	20	EF-107A
CU-101A	40	2	13 14 / 15 16	2	20	EF-107B
CU-101B	40	2	17 18 / 19 20	2	20	EF-107C
CU-102	40	2	21 22 / 23 24	2	20	EF-107D
CU-103	40	2	25 26 / 27 28	3	60	CU-105
CU-104	60	3	29 30 / 31 32 / 33 34	1	20	EF- 106A,106B,105
CU-104A	60	3	35 36 / 37 38 / 39 40	3	60	CU-105A
SPARE	20	2	41 42	1	20	SPARE

INDICATES THIS CIRCUIT TO RECEIVE
HANDLE LOCK-ON CLIP.
SQUARE-D TYPE NOOD OR SIMILAR
33K AIC-NEMA 1

PANEL P3A 3 PHASE 4 WIRE
120/208 VOLTS GROUND BUS - FLUSH MTD.
450A A MAIN BREAKER

ELECTRICAL PANELS SCHEDULE - P4A

DESCRIPTION	TRIP AMPS	POLE	A B C	POLE	TRIP AMPS	DESCRIPTION
CU-36	40	2	1 2 / 3 4	2	40	CU-05
CU-37	40	2	5 6 / 7 8	2	40	CU-06
CU-01	40	2	9 10 / 11 12	2	40	WATER CISTERN A
CU-02	40	2	13 14 / 15 16	2	40	WATER CISTERN B
CU-03	40	2	17 18 / 19 20	2	40	WATER CISTERN D
CU-04	40	2	21 22 / 23 24	1	20	SF 36,37
CU-07	40	2	25 26 / 27 28	1	20	EF 101A,101B,100A,100B
SPARE	30	3	29 30 / 31 32 / 33 34	1	20	SPARE
SPARE	20	2	35 36 / 37 38	1	20	SPARE
SPARE	20	2	39 40 / 41 42	2	20	SPARE

INDICATES THIS CIRCUIT TO RECEIVE
HANDLE LOCK-ON CLIP.
SQUARE-D TYPE NOOD OR SIMILAR
33K AIC-NEMA 1

PANEL P4A 3 PHASE 4 WIRE
120/208 VOLTS GROUND BUS - FLUSH MTD.
300A A MAIN BREAKER

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SAN JUAN, PR - TEL / FAX (787) 998-4493

CERTIFICATE

CERTIFICACION

Yo, MILDRED G. PÉREZ ROSADO I, INGENIERO LICENCIADO 10287, certifico que soy el profesional que diseño estos planos y las especificaciones complementarias. También certifico que entiendo que dichos planos y especificaciones cumplen con las disposiciones aplicables del Reglamento Conjunto y las disposiciones aplicables de los Reglamentos y Códigos de las Agencias, Juntas Reglamentadoras o Corporaciones Públicas con jurisdicción.

Reconozco que cualquier declaración falsa o falsificación de los hechos que se haya producido sin conocimiento o por negligencia ya sea por mí, mis agentes o empleados, o por otras personas con mi conocimiento, me hacen responsable de cualquier acción judicial y disciplinaria por la OGPe y otras autoridades competentes, incluyendo, pero sin limitarse, a la terminación de la participación en los procedimientos de certificación profesional en la OGPe.

MG PÉREZ ENGINEERING PR LLC
ELECTRO-ENGINEERING SOLUTIONS
MILDRED GISELA PEREZ ROSADO TEL. 787.470.4382

PROFESSIONAL / CONSULTANT

COLEGIO PONCEÑO
STRUCTURAL EVALUATION
CARR 14, PONCE, PUERTO RICO

COLEGIO PONCEÑO
OWNER

31-2023
PROJECT NUMBER

JULY 23, 2024
PRINTING DATE

CJQ
DRAWN / APPROVED

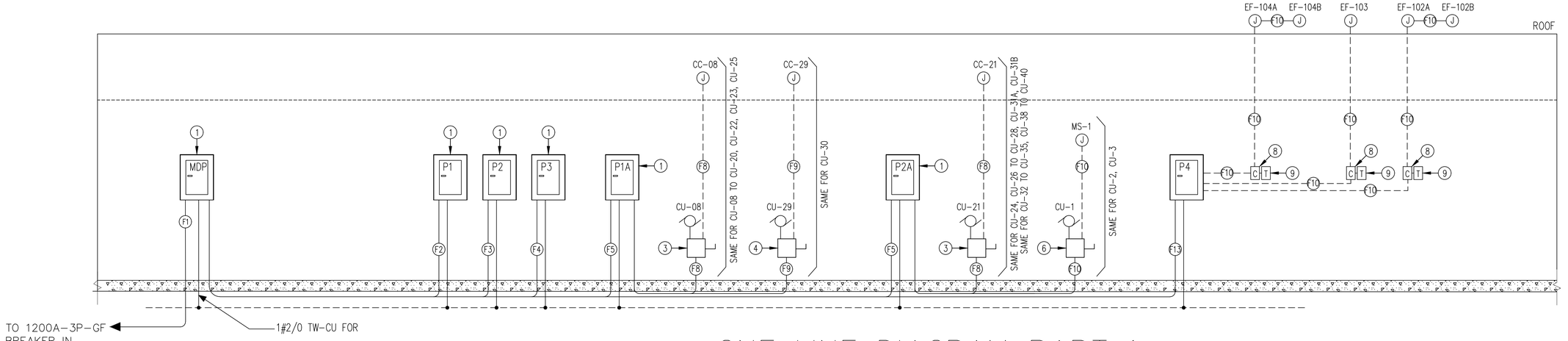
CONCEPTUAL PHASE
PROJECT DESIGN PHASE

DESIGN REVISION

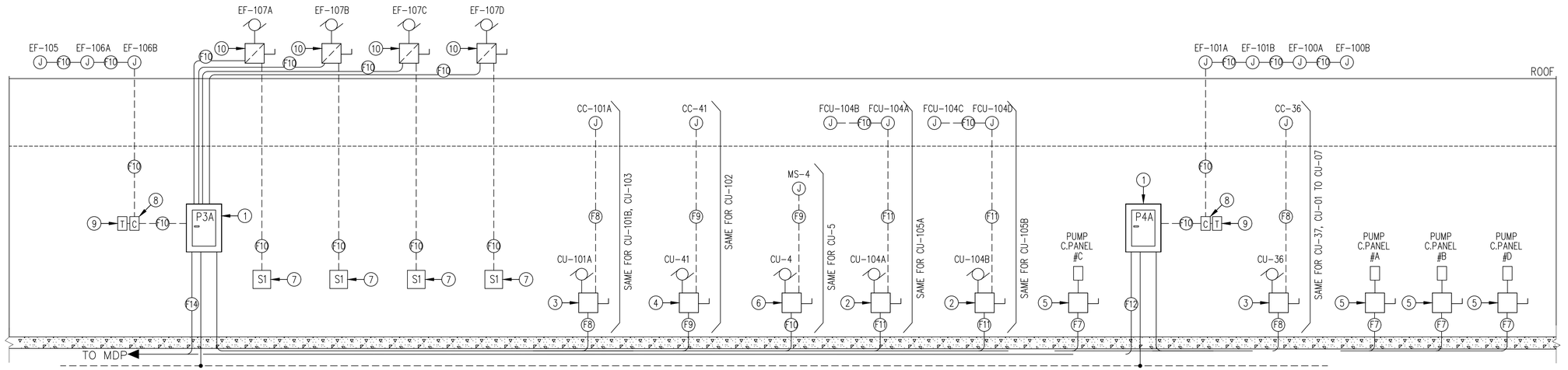
NOT FOR CONSTRUCTION
STATUS

PANEL SCHEDULES
SHEET TITLE

E-106
SHEET NO.



ONE LINE DIAGRAM PART 1



ONE LINE DIAGRAM PART 2

RISER DIAGRAM LEGEND:

1. PANEL AS PER SCHEDULE
2. 60 A S.S, 208V, 2P, FUSE: 60A OR AS PER MANUFACTURER RECOMMENDATION
3. 60 A S.S, 208V, 2P, FUSE: 40A OR AS PER MANUFACTURER RECOMMENDATION
4. 30 A S.S, 480V, 3P, FUSE: 30A OR AS PER MANUFACTURER RECOMMENDATION
5. 60 A S.S, 208V, 2P, FUSE: 40A OR AS PER MANUFACTURER RECOMMENDATION
6. 30 A S.S, 480V, 3P, FUSE: 20A OR AS PER MANUFACTURER RECOMMENDATION
7. MANUAL STARTER 20A – 208V – 2 POLES OR AS PER MANUFACTURER RECOMMENDATION
8. 20A – 120V CONTACTOR
9. 120V TIMER SWITCH. TIME "ON" SELECTED 6:30 A.M. TO 6:30 P.M. OR AS OWNER REQUIREMENTS.
10. 30 A S.S, 208V, 2P, FUSE: 20A OR AS PER MANUFACTURER RECOMMENDATION

FEEDERS SCHEDULE:

- F1 3 SETS (4#350 RHW-2 & 1#1/0 AWG IN 3-1/2" C) & 2-3-1/2" SPARE
- F2 4#250 RHW-2 & 1#4 AWG IN 3.5" C
- F3 4#1/0 RHW-2 & 1#6 AWG IN 2" C
- F4 4#3/0 RHW-2 & 1#6 AWG IN 2-1/2" C & 1-2-1/2" SPARE
- F5 2 SETS (4#2/0 RHW-2 & 1#2 AWG IN 2-1/2" C)
- F6 2 SETS (4#3/0 RHW-2 & 1#2 AWG IN 2-1/2" C)
- F7 3#8 THHN & 1#10 AWG IN 1" C
- F8 2#8 THHN & 1#10 AWG IN 3/4" C
- F9 2#10 THHN & 1#10 AWG IN 3/4" C
- F10 2#12 THHN & 1#12 AWG IN 3/4" C
- F11 2#4 THHN & 1#8 AWG IN 3/4" C
- F12 4#350 RHW-2 & 1#4 AWG IN 3.5" C
- F13 4#6 THHN & 1#10 AWG IN 1-1/4" C
- F14 2 SETS (4#4/0 RHW-2 & 1#2 AWG IN 3" C)

VERY IMPORTANT NOTES:

- SEE NOTE #37 IN DRAWING E-100
- SEE NOTE #29 IN DRAWING E-100
- ALL EXTERIOR EQUIPMENTS SHALL BE STAINLESS STEEL. (NEMA 3R).
- CONTRACTOR SHALL COORNINATE THE STARTING OPERATION SYSTEM WITH MECHANICAL DRAWINGS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROVIDING THE LABEL AT THE TIME OF INSTALLATION WITH THE CORRESPONDING INFORMATION, APPLIES FOR SERVICE AND FEEDER EQUIPMENTS RATED 1000A OR MORE.

WARNING

Arc Flash and Shock Hazard
Appropriate PPE Required

NOMINAL SYSTEM VOLTAGE:	208/120 VOLTS
AVAILABLE FAULT CURRENT:	126,000 AMPERES
SERVICE OCPD CLEARING TIME:	0.03 SECONDS
DATE LABEL APPLIED:	

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