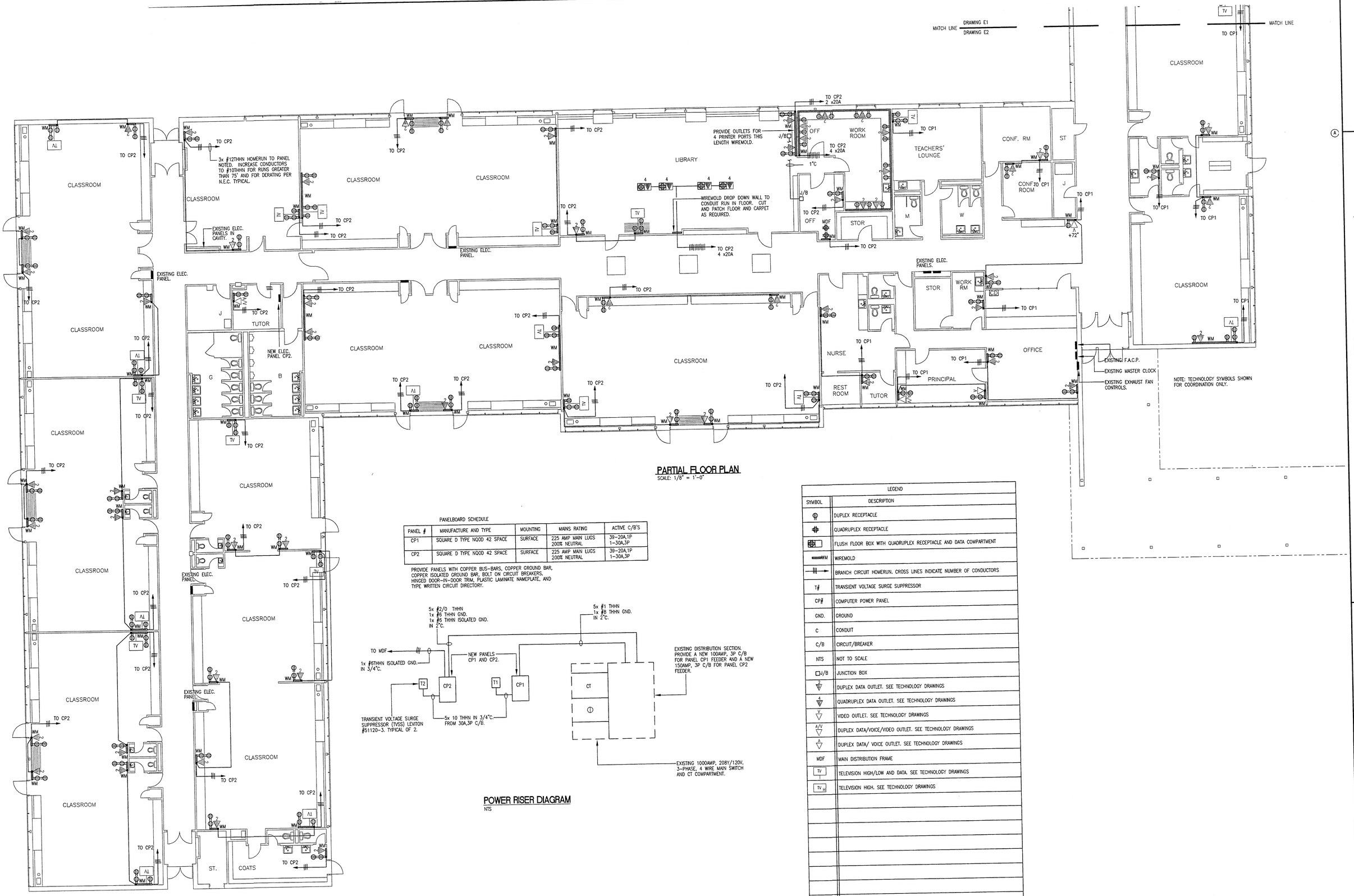


PARTIAL FLOOR PLAN

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

PANELBOARD SCHEDULE

PANEL #	MANUFACTURE AND TYPE	MOUNTING	MAINS RATING	ACTIVE C/B'S
CP1	SQUARE D TYPE NQOD 42 SPACE	SURFACE	225 AMP MAIN LUGS 200% NEUTRAL	39-20A,1P 1-30A,3P
CP2	SQUARE D TYPE NQOD 42 SPACE	SURFACE	225 AMP MAIN LUGS 200% NEUTRAL	39-20A,1P 1-30A,3P

PROVIDE PANELS WITH COPPER BUS-BARS, COPPER GROUND BAR, COPPER ISOLATED GROUND BAR, BOLT ON CIRCUIT BREAKERS, HINGED DOOR-IN-DOOR TRIM, PLASTIC LAMINATE NAMEPLATE, AND TYPE WRITTEN CIRCUIT DIRECTORY.

POWER RISER DIAGRAM

NTS

LEGEND	
SYMBOL	DESCRIPTION
	DUPLEX RECEPTACLE
	QUADRUPLEX RECEPTACLE
	FLUSH FLOOR BOX WITH QUADRUPLEX RECEPTACLE AND DATA COMPARTMENT
WM	WIREMOLD
	BRANCH CIRCUIT HOMERUN. CROSS LINES INDICATE NUMBER OF CONDUCTORS
T#	TRANSIENT VOLTAGE SURGE SUPPRESSOR
CP#	COMPUTER POWER PANEL
GND.	GROUND
C	CONDUIT
C/B	CIRCUIT/BREAKER
NTS	NOT TO SCALE
J/B	JUNCTION BOX
2	DUPLEX DATA OUTLET. SEE TECHNOLOGY DRAWINGS
4	QUADRUPLEX DATA OUTLET. SEE TECHNOLOGY DRAWINGS
V	VIDEO OUTLET. SEE TECHNOLOGY DRAWINGS
A/V	DUPLEX DATA/VOICE/VIDEO OUTLET. SEE TECHNOLOGY DRAWINGS
A	DUPLEX DATA/ VOICE OUTLET. SEE TECHNOLOGY DRAWINGS
MDF	MAIN DISTRIBUTION FRAME
TV	TELEVISION HIGH/LOW AND DATA. SEE TECHNOLOGY DRAWINGS
TV H	TELEVISION HIGH. SEE TECHNOLOGY DRAWINGS

REVISIONS

TECHNOLOGY IMPROVEMENTS FOR THE

AIKEN ELEMENTARY SCHOOL

212 KING PHILIP DRIVE
WEST HARTFORD, CONNECTICUT
TOWN PROJECT # 98001

BEMIS ASSOCIATES
CONSULTING ENGINE
FENN PLAZA 101 FENN ROA
NEWINGTON, CONN. 06111
(860) 667-3233

TITLE
ELECTRICAL PLAN

DATE: 9/8/98
SCALE: 1/8" = 1'- 0
DRAWN BY: W.A.B.

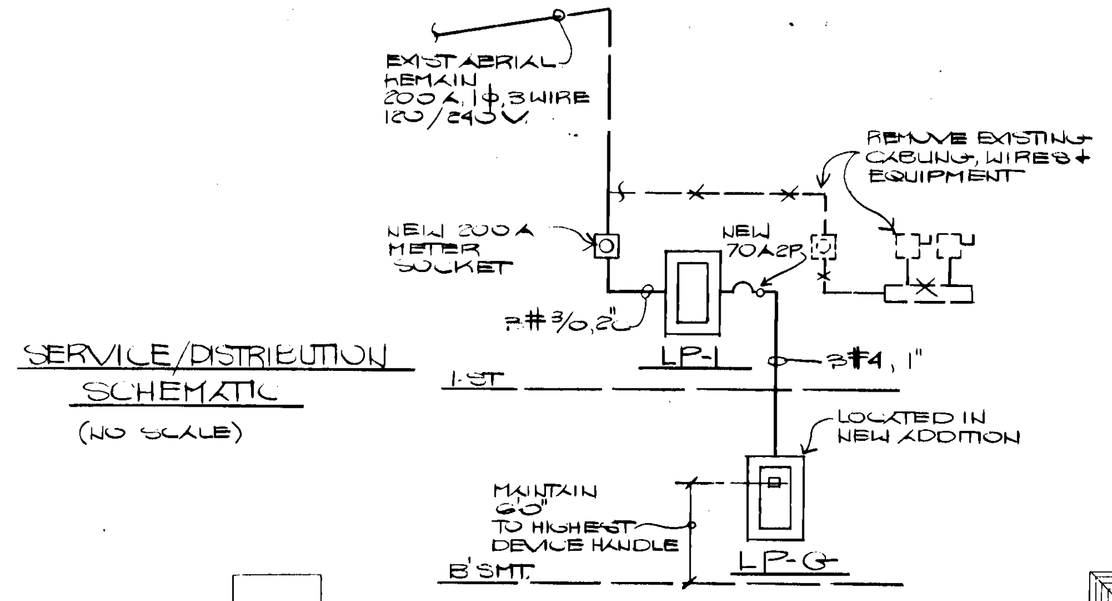
DWG. NO.
E2

NOTE:
THE INFORMATION SHOWN ON THIS DRAWING IS BASED UPON INFORMATION SHOWN ON THE EXISTING BUILDING PLANS AND LIMITED FIELD INVESTIGATIONS AND DO NOT NOT REFLECT ACTUAL CONDITIONS. THE ELECTRIC CONTRACTOR SHOULD VERIFY THE INFORMATION INDICATED ON THIS DRAWING AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES PRIOR TO SUBMITTING BID.

DOCUMENT OWNERSHIP
THESE DRAWINGS AND SPECIFICATIONS, THE DESIGNS DISCLOSED THEREIN AND THE TECHNICAL DATA AND ENGINEERING SERVICES REPRESENTED, AS INSTRUMENTS OF SERVICE ARE, AND SHALL REMAIN, THE EXCLUSIVE PROPERTY OF LUCHSINGER, WILFORT, GOODELL & ASSOCIATES WHETHER THE PROJECT FOR WHICH THEY ARE MADE IS EXECUTED OR NOT. THEY ARE NOT TO BE REPRODUCED IN WHOLE, OR IN PART, OR DISCLOSED ON OTHER PROJECTS, OR FOR DESIGN COMPLETION OF THIS PROJECT BY OTHERS, WITHOUT THE EXPRESS WRITTEN CONSENT OF THE ENGINEERS.

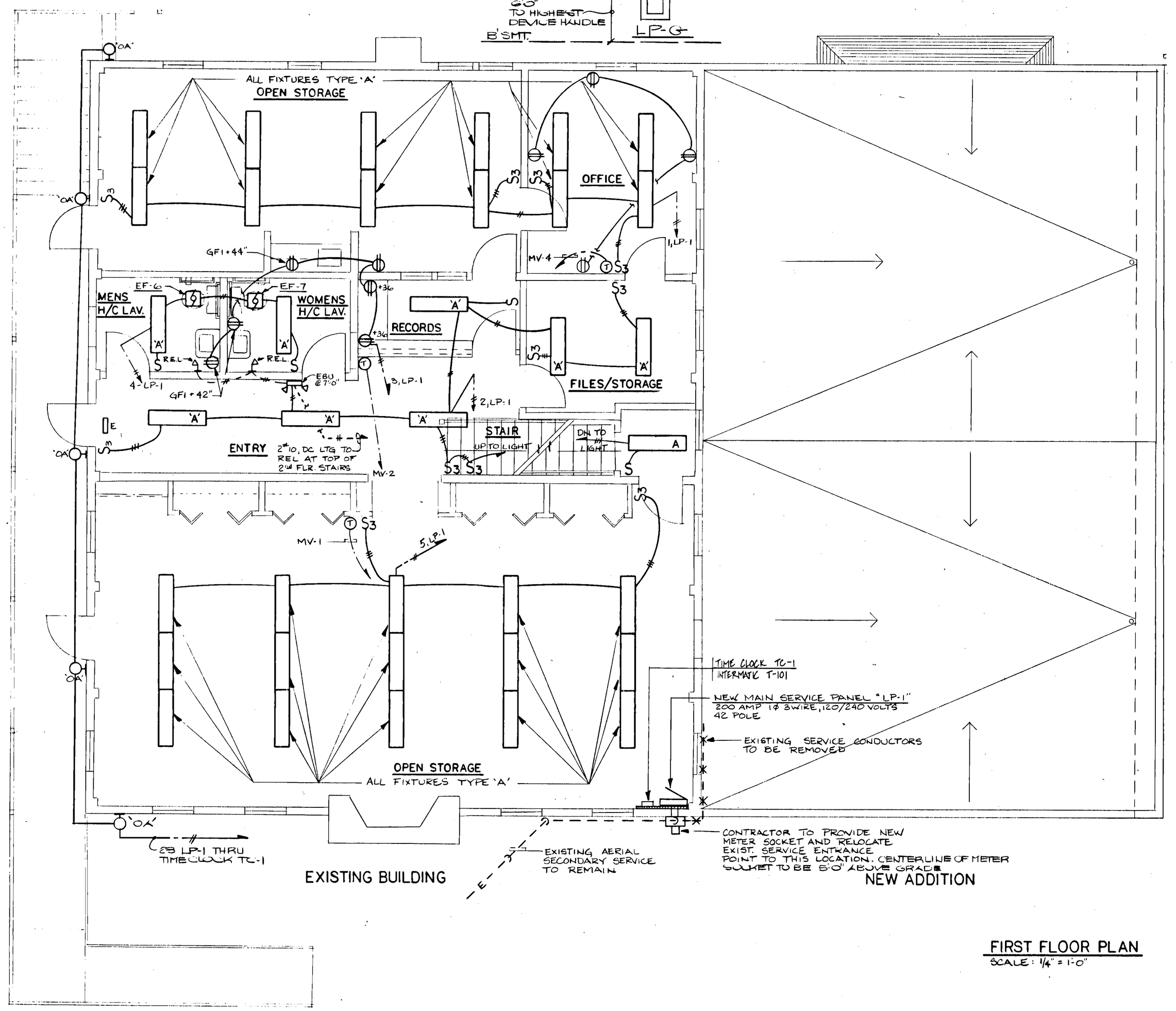
REVISIONS

SERVICE/DISTRIBUTION SCHEMATIC
(NO SCALE)



PANEL LP-1 (SURFACE MTD)
200 AMP 1Φ, 3W, 120/240 VOLT LOAD CENTER WITH 200 A MAIN SERVICE CIRCUIT BREAKER
42 CIRCUIT PANEL WITH FOLLOWING:
- 22 - 20 A 1 P ACTIVE
- 1 - 70 A 2 P ACTIVE
- 6 - 20 A 1 P SPARE C.B.'S
- 12 - 1 P SPACES.

PANEL LP-G (SURFACE MTD)
100 AMP 1Φ 3W, 120/240 V LOAD CENTER, M.L.O.
18 CIRCUIT PANEL WITH FOLLOWING:
- 11 - 20 A 1 P ACTIVE
- 3 - 20 A 1 P SPARES
- 4 - 1 P SPACES.



NORTH

FIRST FLOOR PLAN
SCALE: 1/4" = 1'-0"

LUCHSINGER WILFORT GOODELL & ASSOCIATES INC.
CONSULTING ENGINEERS
KLAE & TUTHILL ARCHITECTS
P.O. BOX 726
AVON PARK NORTH
AVON, CT 06001
(203) 677-0660

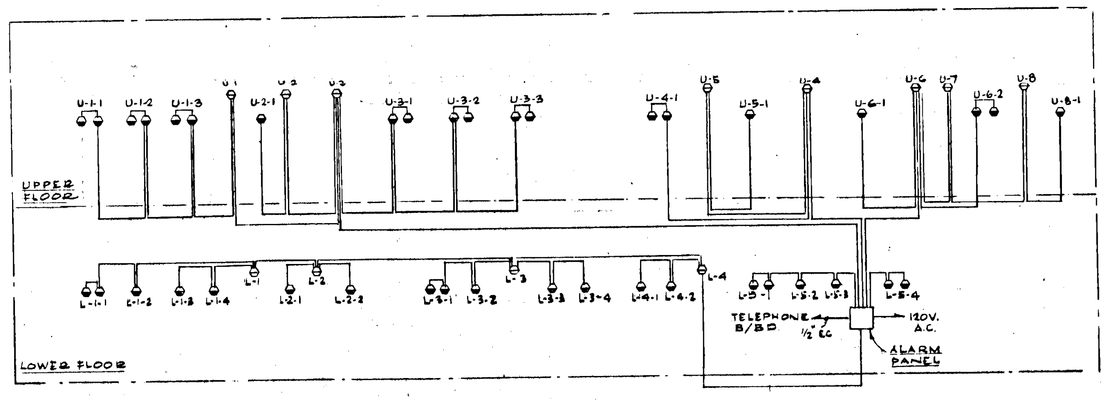
BEACHLAND PARK
SOUTH QUAKER LANE, WEST HARTFORD
CONNECTICUT

DRAWN G.R./R.M.
DATE
SCALE AS NOTED
JOB NUMBER
SHEET
E-2
OF

SCHEDULE OF PANELBOARDS

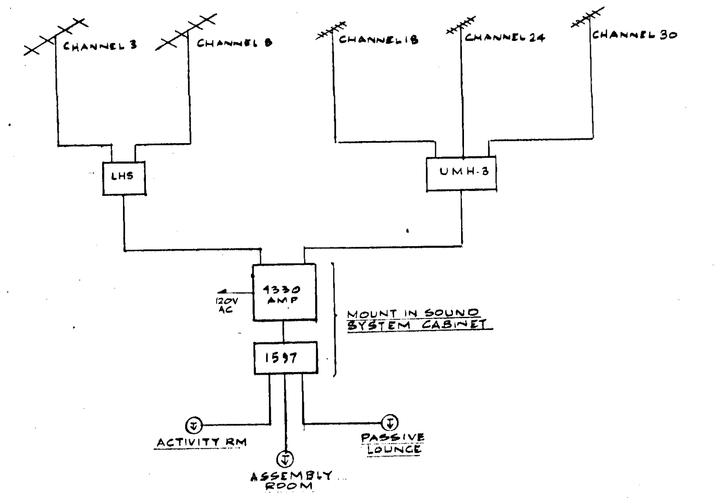
PANELBOARD						CIRCUIT BREAKERS							
#	VOLTAGE	FEEDER	MNTG	BUS	TYPE (SEE NOTE)	QUANTITIES ACTIVE	SPARE	SPACE	TRIP	POLES	I.C.	TYPE (SEE NOTE)	FEEDING
MDP	120/208 3φ 4W	(2)-SETS (4)-350MCM CU-USE-XLP EA.-4"C	SURF	600A	CCB	3	-	4	225	3	28,000	TFJ	PANELS "UA", "LB", AC CONDENSER UNIT
						2	-	-	150	3	18,000	TEDG	PANEL "UB & PANEL IN EXISTING IN MAIN POOL FILTER ROOM
						1	-	-	100	3	"	TEDG	PANEL "LA"
						2	-	-	60	3	"	"	" "UC", SL
						1	-	-	60	2	"	"	" " NEXISTING WADING POOL FILTER RM
						1	-	-	20	3	"	"	EMERGENCY LIGHTING CONSOLE.
LA	120/208 3φ 4W	(4) #3THW ~1¼"C	SURF	100A	NLAB	8	1	"	20	3	65000	TQOB	AC-1, P-1, P-2
						22	7	1	20	1	"	"	LTG, RECEPTS, MISC POWER.
LB	120/208 3φ 4W	(4) #4/0THW ~2½"C. (W/DUAL MAIN LUGS)	SURF (2)-SECT.	225A	NLAB	12	3	-	30	2	10,000	THQB	I.U.'S.
						3	1	"	20	2	"	"	"
						2	-	-	20	3	"	"	HV-1, EF-1
						8	4	15	20	1	"	"	P-3 EF'S MISC. POWER, RECEPTS
						1	"	"	20	1	"	THQB -GF	EXT. RECEPTS
UA	120/208 3φ 4W	4#4/0 THW ~2½"C (W/DUAL MAIN LUGS)	SURF (2) SECT	225A	NLAB	2	-	+	50	2	10,000	THQB	KILNS
						3	-	+	20	2	"	"	(120/208V RECEPTS, SPLIT WIRED RECEPTS
						48	8	7	20	1	"	"	LTG. RECEPTS, EF'S KILNS EWC'S
						1	+	-	20	1	"	THQB -GF	EXT. RECEPTS.
UB	120/208 3φ 4W	4# 1/0 THW ~2"C	FLUSH	225A	NLAB	1	+	+	50	3	10,000	THQB	BOOSTER
						1	-	-	50	2	"	"	RANGE
						1	-	-	40	3	"	"	OVEN
						1	-	-	30	3	"	"	DISHWASHER
						4	2	-	20	2	"	"	WET FOOD WELLS, DISPOSAL, MIXER
						11	3	3	20	1	"	"	MISC. EQ, SOUND EQ
UC	120/208 3φ 4W	4# 6THW ~ 1"C	FLUSH	100A*	NLAB	1	-	-	20	3	10,000	THQB	POWER SAW
						2	2	-	30	1	"	"	LATHE, DRILL
						2	2	2	20	1	"	"	MACHINES
	*NOTE:	BUS TO BE	CONT	COLLTO	BY	80A	8P	MECH	HELD	CONTACTOR		W/	FUSED COIL CKT. IN-LINE MNTG.
SL	120/208 3φ 4W	4 #6THW ~ 1"C	SURF	100A SPLIT TOP	NLAB	3	1	-	20	2	65000	TQOB	POLE MOUNTED EXT. LTG } PHOTOCELL ON TIME SWITCH OFF PROG.
						7	5	-	20	1	"	"	BLDG MTD EXT. LTG
				BOTT		1	"	1	20	2	65000	TQOB	POLE MOUNTED EXT LTG } PHOTOCELL ON TIME SWITCH OFF PROG
						3	"	-	20	1	"	"	BLDG MTD EXT. LTG

NOTES: ALL TYPE NUMBERS ARE GE APPROVED ALTERNATES ~ SQUARE D, ITE



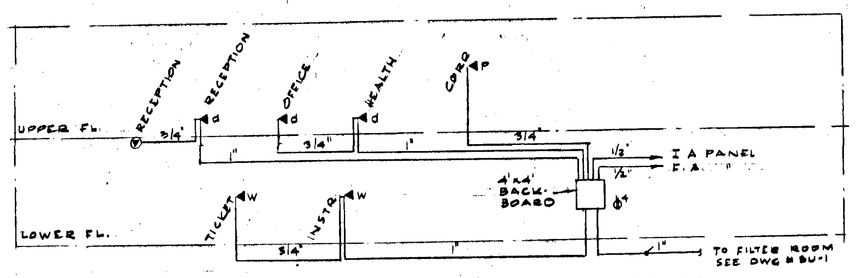
CONDUCTORS SHALL BE AS FOLLOWS:
EACH MICROPHONE TO PANEL (1)- BELDEN # SP 8425 (SEPARATE RUN)
SWITCHES LOOPED TO MICROPHONE: BELDEN # SP 8442 ~ 1/2"C (SWS. IN PARALLEL)
CONDUIT CAPACITY: SP 8425 (4) IN 1½", (10) IN 3/4"
STUB CONDUIT UP INTO DOOR FRAME (UPPER FLOOR), DROP INTO TOP OF FRAME LOWER FLOOR AND FISH THEREFROM.

RISER DIAGRAM ~ INTRUSION ALARM SYSTEM
(NO SCALE)

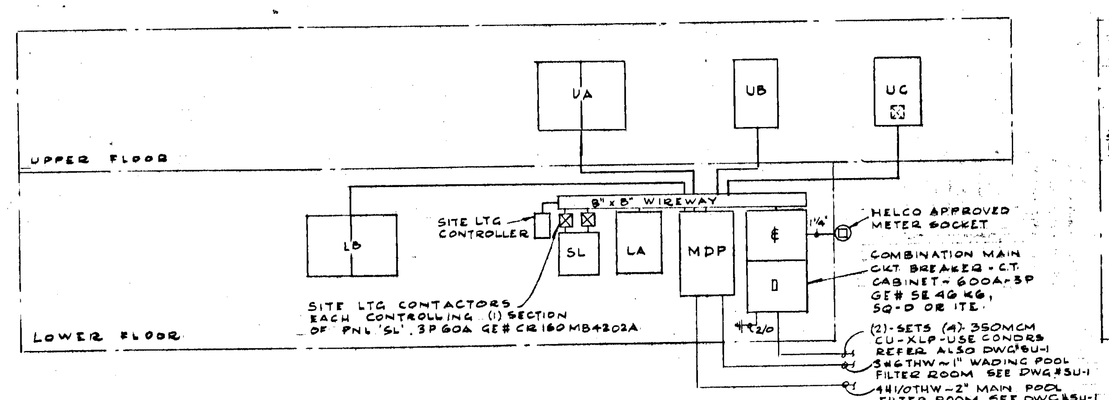


ALL WIRING TO BE 75Ω CO-AXIAL. SEE SPEC.

BLOCK DIAGRAM - MATV SYSTEM
(NO SCALE)

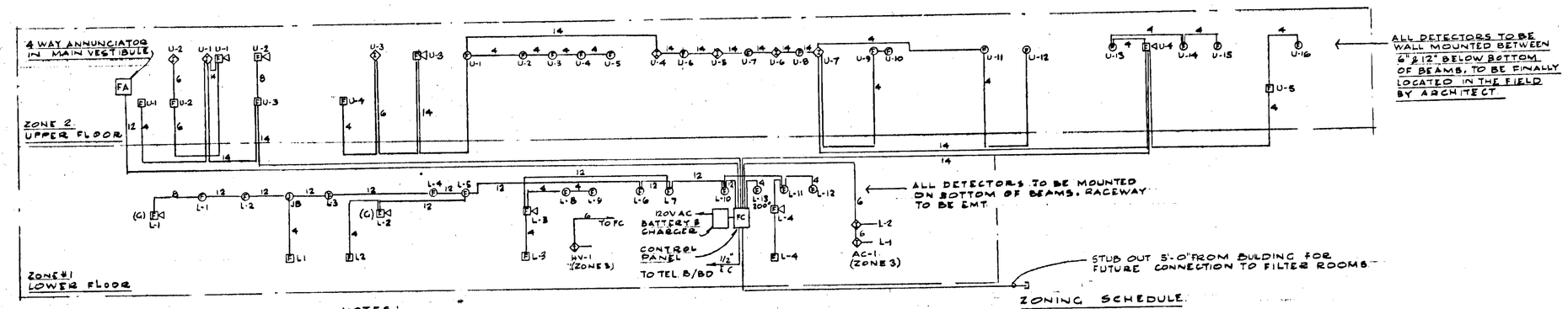


RISER DIAGRAM - TELEPHONES
(NO SCALE)



NOTES:
1. REFER TO HELCO FOR REQUIREMENTS IN RELATION TO METER SOCKET, C.T.'S, & ALL INTERCONNECTING WIRING. ENTIRE SET-UP TO BE TO HELCO REQUIREMENTS & SO APPROVED.
2. ALL CONDUCTOR SIZES SHOWN ARE BASED ON COPPER CONDUCTORS

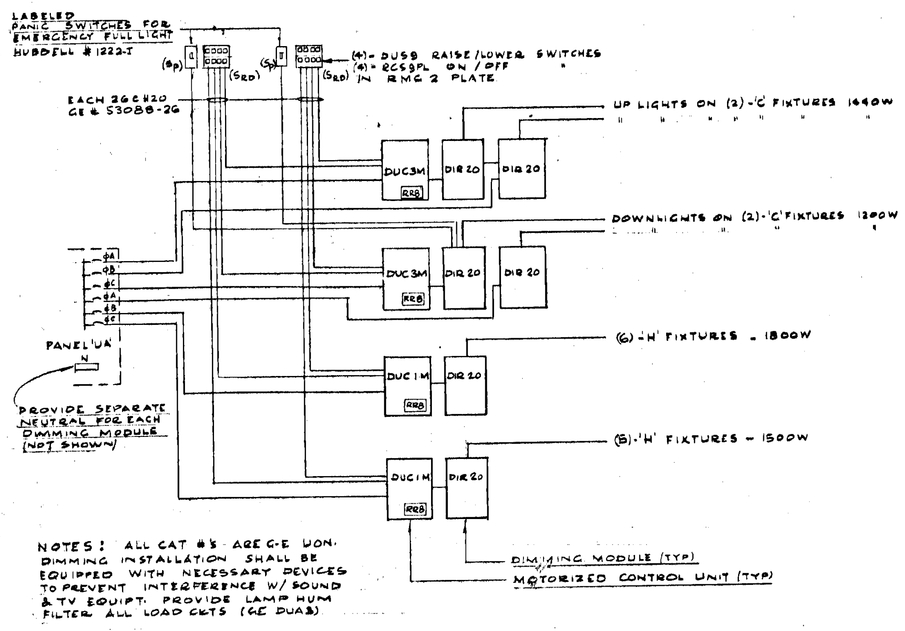
RISER DIAGRAM POWER DISTRIBUTION SYSTEM
(NO SCALE)



NOTES:
1. CONDUCTOR QUANTITIES ASSUME END-OF-LINE DEVICES FOR STATIONS, HORNS & LIGHTS ARE MOUNTED IN CONTROL PANEL. QUANTITIES CAN BE ADJUSTED AS NECESSARY FOR REMOTE E.O.L. DEVICES.
2. CONDUCTOR AMPACITIES TO BE IN ACCORDANCE W/ MANUFACTURERS REQUIREMENTS. BUT MINIMUM SHALL BE #14TW.
3. PROVIDE (2)#14 BETWEEN CONTROL PANEL (FAN SHUT-DOWN RELAYS) AND CONTROL CKTS. FOR HVAC UNITS # HV-1 & AC-1. REFER HVAC DWGS.

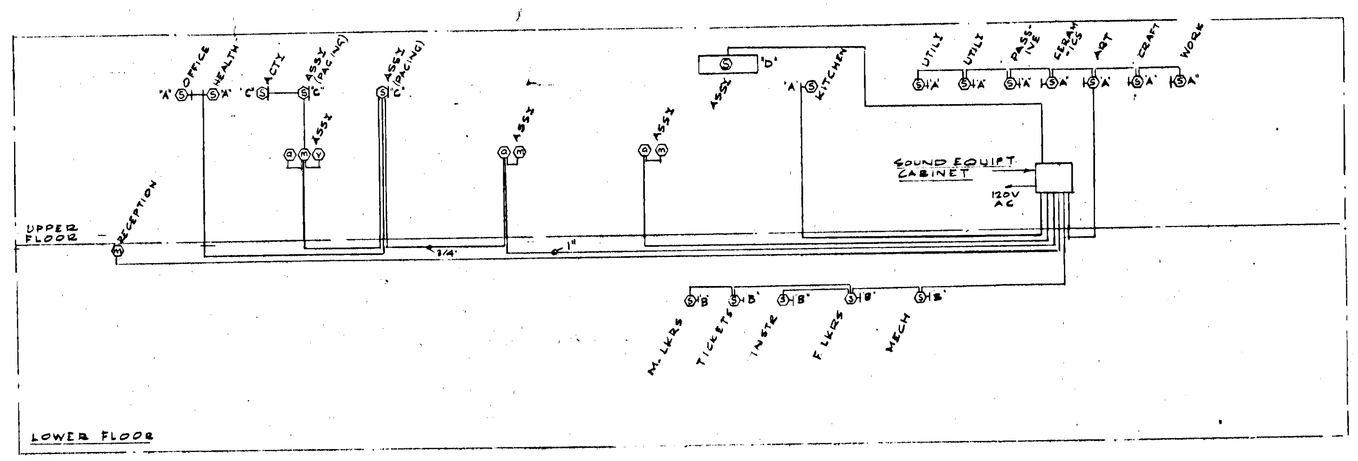
ZONING SCHEDULE
ZONE #1 - LOWER FLOOR
" #2 - UPPER "
" #3 - FANS
" #4 - SPARE

RISER DIAGRAM - FIRE ALARM SYSTEM
(NO SCALE)



NOTES: ALL CAT #'S ARE G-E UON. DIMMING INSTALLATION SHALL BE EQUIPPED WITH NECESSARY DEVICES TO PREVENT INTERFERENCE W/ SOUND & TV EQUIPT. PROVIDE LAMP HUM FILTER ALL LOAD CKTS (GE DUAL)

BLOCK DIAGRAM ~ REMOTE INCANDESCENT DIMMING SYSTEMS
NO SCALE



RISER DIAGRAM - SOUND SYSTEM
(NO SCALE)

NOTES
1. CONDUCTOR TYPES SHALL BE AS FOLLOWS:-
   a. TO PAGING MIC (RECEPTION) (1)-BELDEN # 8724
   " " SPKRS (LOOPED) (1)-BELDEN # 8442 * OR 8761 (SHLD)
   (ABOVE CONNECTED PAGING AMPLIFIER)
   b. TO ASSEMBLY RM: MICS (1)-BELDEN # 8761
   " " SPKR (1)-BELDEN # 8461 * OR 8760 (SHLD)
   " " PROJ (1)-BELDEN # 8761
   " " PHONO (1)-BELDEN # 8724
   " " VOL (1)-BELDEN # 8724
   * PROVIDE SHIELDED EQUIVALENTS WHERE NOT ENCLOSED IN GROUNDED RACEWAY AND ADJACENT TO DIMMERS
2. SPEAKER TYPES SHALL BE AS FOLLOWS.
   TYPE 'A' DUKANE # 58452/68525
   " 'B' DUKANE # 58452/420-B
   " 'C' SOUNDOLIER # T710-B/96-B
   " 'D' DUKANE # 6A515
3. ALL RACEWAY 1/2" U.O.N. OR EQ SURF METAL RACEWAY

e6

QUINN & ASSOCIATES
A.I.A.
ARCHITECTS
97 JEROME AVENUE
BLOOMFIELD, CONNECTICUT.

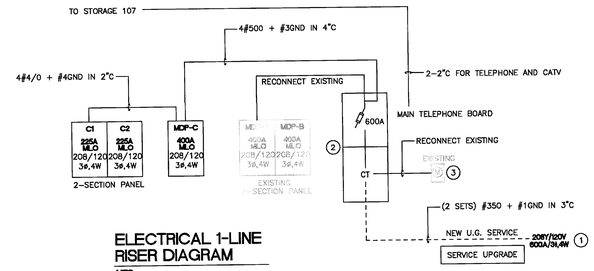
DATE	DRAWN
8.10.75	AD

SCHEDULES & DETAILS

SCALE: NONE

SENIOR CITIZEN CENTER AND POOL BATHHOUSE - BRACKLAND PARK
QUAKER LANE - WEST HARTFORD, CT.

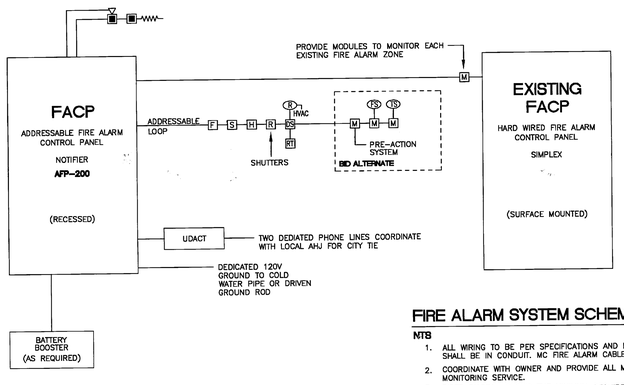
e6



ELECTRICAL 1-LINE RISER DIAGRAM

NTS

1. PROVIDE NEW 120V/208, 600A, 3ø UG ELECTRICAL SERVICE TO RISER POLE TO REPLACE EXISTING.
2. PROVIDE NEW 600A MAIN DISCONNECT SWITCH AND CT CABINET TO REPLACE EXISTING.
3. EXISTING UTILITY METER AND ENCLOSURE TO REMAIN.
4. REFER TO CONDUCTOR AND CONDUIT SIZING TABLE FOR FEEDER REQUIREMENTS. ALL CONDUIT AND WIRING BY ELECTRICAL CONTRACTOR.
5. SEAL ALL CONDUITS AS REQUIRED BY CODE.
6. PROVIDE PULL STRINGS AND CONDUIT END COVERS FOR ALL SPARE OR EMPTY CONDUITS.
7. PROVIDE BLACK PAINTED PLYWOOD BACKBOARD. ANCHOR AS REQUIRED FOR SEISMIC LOAD.
8. ELECTRICAL SERVICE TRANSFER SHALL BE CONDUCTED DURING WEEKEND OR AFTER BUSINESS HOURS. PROVIDE OWNER WITH MINIMUM OF 2 WEEKS NOTICE BEFORE PERFORMING ANY SHUT-DOWNS.



FIRE ALARM SYSTEM SCHEMATIC

NTS

1. ALL WIRING TO BE PER SPECIFICATIONS AND MANUFACTURER'S REQUIREMENTS. ALL WIRING SHALL BE IN CONDUIT. MC FIRE ALARM CABLE IS ACCEPTABLE.
2. COORDINATE WITH OWNER AND PROVIDE ALL MATERIALS REQUIRED FOR FIRE ALARM MONITORING SERVICE.
3. RISER DIAGRAM SHOWS THE MINIMUM REQUIREMENT AND IS FOR CONCEPT ONLY. EXACT LAYOUT OF 1-LINE DIAGRAM SHALL BE DESIGNED BY APPROVED FIRE ALARM MANUFACTURER'S AGENT/REP. TYPICAL DEVICES SHOWN, EXACT QUANTITY SHALL BE COORDINATED WITH DRAWINGS AND NOTES.
4. FURNISH DEVICES WITH ALL NECESSARY MATERIALS AND ACCESSORIES REQUIRED FOR COMPLETE INSTALLATION TO BE FULLY OPERATIONAL. SIZE OF CONTROL PANEL SHALL HAVE SUFFICIENT CAPACITY FOR ALL DEVICES. PROVIDE BATTERY BOOSTER WHERE REQUIRED.
5. PROVIDE END OF LINE RESISTORS.
6. ADJUST MODEL NUMBERS AS REQUIRED PER INSTALLATION REQUIREMENTS.
7. ALL STROBES SHALL BE SYNCHRONIZED. PROVIDE SYNC MODULES WHERE REQUIRED.
8. MOUNTING HEIGHTS TO CENTER OF BACK BOX:
   1. HORN/STROBES AND STROBE LIGHTS - 84" AFF OR 12" BELOW CEILING (WHICHEVER IS LOWER)
   2. PULL STATIONS - 48" AFF
9. EXACT LOCATIONS OF FIRE ALARM DEVICES SHALL BE COORDINATED IN FIELD AND SHALL NOT CONFLICT WITH ANY OTHER TRADES.
10. PAINT ANY EXPOSED SURFACE RACEWAYS TO MATCH WALL/CEILING COLOR RESPECTIVELY. PAINT ALL J-BOX COVERS IN RED AND LABEL AS "FIRE ALARM"
11. FURNISH DETECTORS WITH MANUFACTURER'S BASES.
12. PROVIDE 1-LINE DIAGRAM PRODUCED BY MANUFACTURER'S AGENT/REP.
13. ANY SURFACE MOUNTED DEVICES SHALL BE FURNISHED WITH MANUFACTURER'S SKIRT TRIM, BACK BOX AND SURFACE MOUNTING KIT.
14. CONTRACTOR SHALL COORDINATE THE QUANTITY AND LOCATION OF DUCT SMOKE DETECTORS WITH THE MECHANICAL CONTRACTOR AND DRAWINGS. PROVIDE RELAYS TO SHUT-OFF FAN FOR THAT EQUIPMENT IF DUCT SMOKE DETECTOR IS ACTIVATED. THE FAN SHALL THEN BE MANUALLY RESET. EXACT LOCATIONS OF REMOTE TEST STATIONS FOR DUCT SMOKE DETECTORS SHALL BE COORDINATED IN THE FIELD WITH FIRE MARSHAL. PROVIDE ALL CONDUIT AND WIRING TO INTERFACE WITH FACP, DEVICES AND EQUIPMENT. DUCT SMOKE DETECTORS SHALL BE FURNISHED BY DIV. 16, INSTALLED BY 15 AND WIRED BY DIV. 16. DIV. 16 SHALL INSTALL THE REMOTE TEST STATION.
15. CONTRACTOR SHALL COORDINATE THE QUANTITY AND LOCATION OF HVAC EQUIPMENT REQUIRING FIRE ALARM SHUT DOWN WITH MECHANICAL CONTRACTOR. PROVIDE HVAC EQUIPMENT SHUT DOWN RELAYS AND MODULES FOR EACH OF THESE EQUIPMENT TO BE WIRED TO THE FACP.
16. MAINTAIN FIRE ALARM COVERAGE IN LIBRARY BUILDING DURING CONSTRUCTION.
17. PROVIDE MODULES AND RELAYS AS REQUIRED TO MONITOR EXISTING FIRE ALARM CONTROL PANEL AND EXISTING DEVICES.
18. PROVIDE AMPLIFIERS AND BOOSTERS WHERE REQUIRED.

FIRE ALARM LEGEND

FACP	ADDRESSABLE FIRE ALARM CONTROL PANEL W/ RECESS BOX	AFP-200
UDACT	DIGITAL DIALER W/ TWO PHONE LINES	UDACT
	ADA WALL MOUNT HORN/STROBE	HS24-15/75WW
	ADA WALL MOUNT STROBE LIGHT	ST24-15/75WW
F	ADDRESSABLE DUAL ACTION PULL STATION W/ KEY RESET	NBG-12LX
S	ADDRESSABLE PHOTOELECTRIC SMOKE DETECTOR	FDS-851
H	ADDRESSABLE 135° FIX-TEMP & R-O-R DETECTOR	FST-851R
DS	DUCT SMOKE DETECTOR W/ SAMPLING TUBE	FSD-751P
RT	REMOTE TEST STATION	RTS451
R	INTELLIGENT RELAY MODULE	FRM-1/SMB500
M	INTELLIGENT MONITORING MODULE	FMM-1/SMB500
M2	INTELLIGENT DUAL MONITORING MODULE	FDM-1/SMB500
C	INTELLIGENT CONTROL MODULE	FMC-1/SMB500
R HVAC	HVAC SHUTDOWN RELAY	MR-101C
-WW-	END OF LINE RESISTOR	

GENERAL

1. THE INTENT OF THESE CONTRACT DOCUMENTS ARE FOR THE CONTRACTOR TO FURNISH AND INSTALL A COMPLETE ELECTRICAL SYSTEM. SYSTEM SHALL BE COMPLETE IN ALL RESPECTS, OPERATING, TESTED, ADJUSTED, APPROVED BY THE AUTHORITIES HAVING JURISDICTION AND READY FOR BENEFICIAL USE BY THE OWNER.
2. THE CONTRACTOR SHALL OBTAIN AND REVIEW ALL CONTRACT DOCUMENTS, INCLUDING PROJECT MANUALS, PLANS AND SPECIFICATIONS OF ALL TRADES BEFORE SUBMITTING THE BID. CONTRACTOR SHALL WALK THROUGH SITE/BUILDING PRIOR TO SUBMITTING BID.
3. CONTRACT DOCUMENTS AND SPECIFICATIONS ARE COMPLIMENTARY TO FORM A COMPLETE DESIGN PACKAGE. IT IS THE RESPONSIBILITY OF THE GENERAL CONTRACTOR/CONSTRUCTION MANAGER TO DETERMINE WHICH TRADE CONTRACTOR IS RESPONSIBLE FOR VARIOUS PORTIONS OF THE WORK.
4. ALL WORK AND ACTION DEPICTED AND DESCRIBED SHALL BE PERFORMED BY THE CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE.
5. PROVIDE SUPPORT/BRACING OF EQUIPMENT AND BUILDING SERVICES FOR SEISMIC RESTRAINT AS REQUIRED BY CODE.
6. OBTAIN AND PAY FOR ALL REQUIRED PERMITS AND INSPECTIONS.
7. ALL EQUIPMENT, MATERIALS AND RELATED SYSTEMS COMPONENTS SHALL BE NEW UNLESS SPECIFICALLY NOTED OTHERWISE.
8. REPAIR AND/OR REPLACE AT NO COST TO OWNER ALL EQUIPMENT AND MATERIALS DAMAGED DURING CONSTRUCTION.
9. THE DRAWINGS ARE DIAGRAMMATIC AND INDICATE THE GENERAL ARRANGEMENT OF SYSTEMS AND WORK INCLUDED IN THE CONTRACT. THE CONTRACTOR SHALL COORDINATE LOCATIONS OF EQUIPMENT WITH ALL TRADES BEFORE STARTING CONSTRUCTION. ANY MODIFICATIONS TO THE EQUIPMENT LAYOUT REQUIRED FOR INSTALLATION ARE TO BE PERFORMED AT NO ADDITIONAL COST TO THE OWNER.
10. ALL WORK SHALL BE PERFORMED IN COMPLIANCE WITH THE APPLICABLE CODES IN THE ORDINANCES AND THE REGULATORY AGENCIES HAVING JURISDICTION.
11. ALL EQUIPMENT SHALL BE LOCATED IN ACCESSIBLE LOCATIONS. WHEN A PIECE OF EQUIPMENT MUST BE LOCATED ABOVE AN INACCESSIBLE CEILING OR WALL THEN THE APPROPRIATE ACCESS DOOR SHALL BE PROVIDED. THESE SHALL BE COORDINATED WITH THE ARCHITECT.
12. WHEN CONFLICTS OCCUR BETWEEN THE DRAWINGS AND/OR SPECIFICATIONS IT SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER. THE CONTRACTOR SHALL CARRY AS PART OF THE BID THE LARGER QUANTITY AND/OR MORE EXPENSIVE ITEM(S).
13. CONTRACTORS SHALL COORDINATE THEIR WORK WITH ALL OWNER-FURNISHED EQUIPMENT, INCLUDING REQUIRED SERVICE CONNECTIONS, RECEPTACLES, ETC. BEFORE INSTALLATION.
14. CONTRACTORS SHALL PROVIDE ALL REQUIRED SLEEVES AND SEALS FOR PIPES OR CONDUIT PENETRATING WALLS OR FLOOR SLABS WITH UL LISTED FIRE STOPPING SEALANT WHERE REQUIRED.
15. ELECTRICAL CONDUITS AND BOXES TO BE CONCEALED IN WALLS OR ABOVE CEILING WHEREVER POSSIBLE.

RENOVATION

1. THIS PROJECT IS A RENOVATION OF AN EXISTING FACILITY. IT IS THE INTENT OF THE DEMOLITION DRAWING TO LEAVE ALL MATERIALS OUTSIDE THE LIMITS OF THIS CONTRACT IN EXISTING OPERATING CONDITION.
2. BEFORE SUBMITTING HIS BID THE CONTRACTOR SHALL VISIT THE SITE AND BECOME THOROUGHLY FAMILIAR WITH THE EXISTING CONDITIONS UNDER WHICH THE PROJECT IS TO BE COMPLETED.
3. THE CONTRACTOR SHALL BE HELD RESPONSIBLE FOR ANY ASSUMPTIONS, OMISSIONS OR ERRORS HE MAKES AS A RESULT ON HIS FAILURE TO BECOME FULLY FAMILIAR WITH THE EXISTING CONDITIONS.
4. IT IS NOT THE INTENT OF THESE DRAWINGS TO SHOW EVERY PIECE OF EQUIPMENT, PIPING OR CONDUIT TO BE REMOVED. EQUIPMENT NOT BEING USED SHALL BE REMOVED INCLUDING ALL ASSOCIATED HANGARS, SUPPORTS, PIPES, DUCTS, CONDUITS, WIRES AND CONTROLS BACK TO THE POINT OF ORIGIN.
5. NO EQUIPMENT, WIRING, PIPING OR CONDUIT SHALL BE ABANDONED IN PLACE UNLESS SPECIFICALLY NOTED.
6. PROPERLY DISPOSE OF ALL DEMOLISHED EQUIPMENT AND MATERIALS IN COMPLIANCE WITH CODES AND REGULATIONS.
7. RELOCATE EXISTING EQUIPMENT, PIPING, WIRING AND RELATED SYSTEMS TO REMAIN AS REQUIRED FOR CONSTRUCTION. EXTEND FEEDER/CONDUIT AND PROVIDE RECONNECTIONS FOR SYSTEM TO BE FULLY OPERATIONAL. ALL RELOCATED EQUIPMENT SHALL BE PROTECTED DURING CONSTRUCTION.
8. ALL NEW AND RELOCATED EQUIPMENT SHALL BE TESTED AFTER INSTALLATION TO CONFIRM PROPER SYSTEM OPERATION.
9. PROVIDE TEMPORARY CONNECTIONS AND SYSTEM MODIFICATIONS AS REQUIRED FOR CONSTRUCTION.
10. INCLUDE ALL WORK REQUIRED TO ALLOW PHASED CONSTRUCTION WHERE NECESSARY. COORDINATE WITH GENERAL CONTRACTOR/CONSTRUCTION MANAGER FOR PHASING REQUIREMENTS.
11. ALL EXISTING EQUIPMENT, FIXTURES AND DEVICES ASSOCIATED WITH ELECTRICAL ON WALLS AND CEILINGS TO BE DEMOLISHED SHALL BE REMOVED UNLESS OTHERWISE SPECIFIED. FIELD VERIFIED FOR EXACT LOCATIONS AND QUANTITY OF ITEMS BEING REMOVED. COORDINATE WITH ARCHITECTURAL PLANS FOR SCOPE AREA OF DEMOLITION AND CONSTRUCTION.
12. GENERAL CONTRACTOR IS RESPONSIBLE OF PATCHING, REPAIRING, CAPPING, ETC. PER DEMOLITION AND CONSTRUCTION.
13. ELECTRICAL DEMOLITION TO BE SUPERVISED BY LICENSED ELECTRICAL CONTRACTOR. EACH CIRCUIT TO BE VERIFIED "COLD" AND DISCONNECTED FROM ELECTRICAL SERVICE PRIOR TO COMMENCING REMOVAL.
14. ALL ELECTRICAL DEVICES BEING REMOVED SHALL INCLUDE REMOVAL OF THE ASSOCIATED WIRING AND CONDUIT BACK TO SOURCE. NO EQUIPMENT, PIPING OR CONDUIT SHALL BE ABANDONED IN PLACE UNLESS SPECIFICALLY NOTED.
15. CONTRACTOR SHALL REMOVE ALL LIGHT FIXTURE BALLASTS AND IDENTIFY THOSE CONTAINING PCB'S. PCB AND NON-PCB BALLASTS SHALL BE DISPOSED OF LEGALLY BY THE CONTRACTOR AND PAY ANY SPECIAL HAZARDOUS DISPOSAL FEES.

ELECTRICAL

1. CONTRACTOR SHALL COORDINATE THE LOCATION AND QUANTITY OF ALL MECHANICAL EQUIPMENT WITH THE MECHANICAL CONTRACTOR. PROVIDE POWER WIRING TO ALL NEW EQUIPMENT. REFER TO MECHANICAL DRAWINGS FOR EXACT LOCATIONS AND INFORMATION.
2. ALL FIXTURES SHALL BE SUPPORTED INDEPENDENTLY OF THE FINISHED CEILING/STRUCTURE AND SHALL BE SEISMICALLY SUPPORTED AS REQUIRED BY CODE AND THE AUTHORITY HAVING JURISDICTION.
3. ALL BRANCH CIRCUIT WIRING SHOWN IS DIAGRAMMATIC. EXACT ROUTING SHALL BE FIELD COORDINATED TO CLEAR THE WORK OF OTHER TRADES.
4. IT IS NOT THE INTENTION TO SHOW EVERY FITTING, HANGER, WIRE OR DEVICE. ALL SUCH ITEMS SHALL BE FURNISHED AND INSTALLED AS NECESSARY FOR A COMPLETE SYSTEM.
5. ALL RECEPTACLES LOCATED ABOVE COUNTER WITH SINKS AND AT ALL WET LOCATIONS SHALL BE GFI TYPE.
6. CONTRACTOR SHALL DETERMINE THE QUANTITY OF CONDUCTORS REQUIRED FOR PROPER OPERATION OF ALL SWITCHING SCHEMES.
7. NO CONDUIT SHALL BE ALLOWED IN CONCRETE SLABS, UNLESS SPECIFICALLY APPROVED BY THE STRUCTURAL ENGINEER.
8. LABEL ALL UNUSED BREAKERS AS SPARE AND TRIP TO THE OFF POSITION.
9. ALL DEVICES COLORS SHALL BE COORDINATED WITH ARCHITECT BE FOR PURCHASING.
10. EXISTING ITEMS TO REMAIN MAY NEED TO BE REMOVED AND RE-INSTALLED TO ACCOMPLISH ANY NEW WORK OR CONSTRUCTION.

PHASING NOTES

1. WORK SHALL BE PHASED TO ALLOW OWNER TO CONTINUE BUSINESS OPERATIONS DURING THE CONSTRUCTION PERIOD. COORDINATE WORK WITH OWNER AND GENERAL CONTRACTOR TO ALLOW SUFFICIENT TIME TO RELOCATE OPERATIONS WITHIN THE BUILDING PRIOR TO COMMENCING WORK IN AREAS AFFECTED BY DEMOLITION OR NEW CONSTRUCTION.
2. COORDINATE WITH OWNER FOR ANY POWER SHUT-DOWNS. GIVE OWNER A MINIMUM OF 5 DAYS NOTICE BEFORE DISCONNECTING ANY PANELS OR SERVICES THAT WILL AFFECT BUSINESS OPERATION. POWER SHUT-DOWNS MAY BE REQUIRED TO BE PERFORMED ON WEEKENDS AND/OR EVENING HOURS.
3. COORDINATE WITH ARCHITECTURAL PLANS FOR PHASING AND SCOPE OF WORK AREA.

EQUIPMENT SCHEDULE

SYM	DESCRIPTION	CIRCUIT	VOLTS/ø	DISCONNECT	STARTER	HP/WATTS	MCA
RTU-1	ROOFTOP UNIT (5000CFM)	MDPC/90A/3P	208V/3ø	FURNISHED W/ EQUIPMENT			70.6
RTU-2	ROOFTOP UNIT (3400CFM)	MDPC/50A/3P	208V/3ø	FURNISHED W/ EQUIPMENT			45.0
RTU-3	ROOFTOP UNIT (1200CFM)	MDPC/40A/2P	208V/1ø	FURNISHED W/ EQUIPMENT			23.9
RTU-4	ROOFTOP UNIT (1600CFM)	MDPC/45A/2P	208V/1ø	FURNISHED W/ EQUIPMENT			29.4
RTU-5	ROOFTOP UNIT (2000CFM)	MDPC/60A/2P	208V/1ø	FURNISHED W/ EQUIPMENT			39.5
EF-1	EXHAUST FAN	C2/20A/1P	120V/1ø	FURNISHED W/ EQUIPMENT		1/6 HP	4.4
CRU-1	COMP RM UNIT	MDPC/15A/2P	208V/1ø	NEMA 1, 20A NON-FUSED			12.0
CRCU-1	COMP RM UNIT	MDPC/20A/2P	208V/1ø	NEMA 3R, 20A 20A-FUSED			16.0
EH-1	ELECTRIC BASEBOARD	MDPC/20A/1P	120V/1ø	FURNISHED W/ EQUIPMENT			10.0
EH-2	ELECTRIC BASEBOARD	MDPC/20A/1P	120V/1ø	FURNISHED W/ EQUIPMENT			10.0
CUH-1	CABINET UNIT HEATER	MDPC/20A/2P	208V/1ø	FURNISHED W/ EQUIPMENT		2 KW	10.0
CUH-2	CABINET UNIT HEATER	MDPC/20A/2P	208V/1ø	FURNISHED W/ EQUIPMENT		2 KW	10.0
CUH-3	CABINET UNIT HEATER	MDPC/20A/2P	208V/1ø	FURNISHED W/ EQUIPMENT		2 KW	10.0
EUH-1	ELECTRIC UNIT HEATER	MDPC/20A/2P	208V/1ø	FURNISHED W/ EQUIPMENT		3 KW	14.5
WH-1	WATER HEATER	C2/20A/1P	120V/1ø	FURNISHED W/ EQUIPMENT			10.0
CP-1	CIRC PUMP	C2/20A/1P	120V/1ø	PLUG-IN			<1
AC-1	AIR COMPRESSOR	C2/20A/1P	120V/1ø	NEMA 1, 20A NON-FUSED		1/4 HP	5.8

NOTES:

1. ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING POWER TO ALL EQUIPMENT STATED ABOVE.
2. PROVIDE ALL NECESSARY MATERIALS, WIRING AND CONNECTIONS REQUIRED FOR COMPLETE INSTALLATION TO BE FULLY OPERATIONAL.
3. DISCONNECT SWITCHES, VOLTAGE BOOSTER TRANSFORMERS, RECEPTACLES AND MOTOR STARTERS SHALL BE FURNISHED AND INSTALLED BY ELECTRICAL CONTRACTOR UNLESS NOTED OTHERWISE.

* MORE THAN 1 EQUIPMENT SPECIFIED; REFER TO ELECTRICAL PLANS FOR CIRCUITING.

CONDUCTOR AND CONDUIT SIZING TABLE

CIRCUIT BREAKER	CONDUCTOR (THWN/THHN)	CONDUIT SIZE
20 AMP	#12 + #12 GND	3/4"
30 AMP	#10 + #10 GND	3/4"
40,45,50 AMP	#8 + #10 GND	1"
60,70,80 AMP	#6 + #10 GND	1 1/4"
90,100 AMP	#3 + #6 GND	1 1/2"
125 AMP	#1 + #6 GND	1 1/2"
150 AMP	#1/0 + #6 GND	1 1/2"
200 AMP	#3/0 + #6 GND	2"
225 AMP	#4/0 + #4 GND	2"
250 AMP	#250 + #4 GND	2 1/2"
400 AMP	#500 + #3 GND	4"
600 AMP	(2 SETS) #350 + #1 GND	(2) 3"

NOTE: 1. ALL VALUES BASED ON COPPER CONDUCTORS.
2. FEEDERS
UPGRADE WIRE TO MAINTAIN MAXIMUM OF 2% VOLTAGE DROP.
BRANCH CIRCUITS
UPGRADE WIRE TO MAINTAIN MAXIMUM OF 3% VOLTAGE DROP.
3. NUMBER OF WIRES SHALL BE DETERMINED WITH EQUIPMENT ELECTRICAL NAMEPLATE CHARACTERISTICS.
4. WHERE NEUTRALS ARE REQUIRED, IT SHALL MATCH FEEDER CONDUCTOR SIZE.

ELECTRICAL SYMBOLS

S	SWITCH, INSTALL AT 48" AFF
S3	3-WAY SWITCH, INSTALL AT 48" AFF
S4	4-WAY SWITCH, INSTALL AT 48" AFF
SMD	MOTION DETECTION SWITCH, INSTALL AT 48" AFF
SD	DIMMER SWITCH, INSTALL AT 48" AFF
	EXIT LIGHT, SHADED SIDE INDICATES FRONT FACE
	EMERGENCY DUAL HEAD LIGHTING UNITS, INSTALL AT 7'-0" AFF
C	LIGHTING CONTACTOR
	PHOTOCELL
J	JUNCTION BOX
	DUPLEX RECEPTACLE, INSTALL AT 18" AFF
	QUADPLEX RECEPTACLE, INSTALL AT 18" AFF
GFI	GROUND FAULT-CURRENT INTERRUPTER, INSTALL 6" ABOVE COUNTER BACKSPLASH
IG	ISOLATED GROUND
WP	WEATHERPROOF
	NON-FUSED DISCONNECT
	FUSED DISCONNECT
TV	CATV JACK, INSTALL AT 18" AFF UNLESS OTHERWISE SPECIFIED.
(#)	TELEPHONE/DATA JACK, INSTALL AT 18" AFF: (#/#) = NUMBER OF TELEPHONE/DATA DROPS RESPECTIVELY
(#)	WALL PHONE JACK, INSTALL AT 48" AFF: (#) = NUMBER OF DROPS
F	FIRE ALARM PULL STATION, INSTALL AT 48" AFF
S	FIRE ALARM SMOKE DETECTOR
DS	FIRE ALARM DUCT SMOKE DETECTOR
RT	FIRE ALARM REMOTE TEST STATION
	FIRE ALARM ADA STROBE, INSTALL AT 84" AFF
	FIRE ALARM ADA HORN/STROBE, INSTALL AT 84" AFF
	PANELBOARD
20A/1P	HOMERUN CIRCUITING: CIRCUIT BREAKER SIZE/ NO. OF POLES
EX	EXISTING TO REMAIN
RELOC	EXISTING TO BE RELOCATED

PANEL SCHEDULE

NOTES:

1. REFER TO ELECTRICAL SPECIFICATIONS FOR FURTHER INFORMATION.
2. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR LOADCENTERS, SIZES, QUANTITY AND TYPES OF C/Bs AS INDICATED ON THIS SCHEDULE AND ON THE DRAWINGS. REFER TO 1-LINE RISER FOR ADDITIONAL C/Bs.
3. UPGRADE FEEDER WIRE SIZE AS REQUIRED TO MAINTAIN 2% (MAXIMUM) VOLTAGE DROP.
4. AIC/RMS RATINGS SHALL BE NO LESS THAN UTILITY REQUIREMENT. COORDINATE WITH DOWN STREAM PROTECTION.
5. SCHEDULE DOES NOT INCLUDE C/B FOR ALTERNATES. INCORPORATE ACCORDINGLY.
6. PROVIDE TYPED CIRCUIT DIRECTORY.
7. FURNISH ALL ADDITIONAL MATERIALS AND ACCESSORIES REQUIRED FOR COMPLETE INSTALLATION TO BE FULLY OPERATIONAL.
8. PROVIDE ALL ASSEMBLY REQUIRED.
9. LOADCENTERS SHALL BE COMPLETE WITH COPPER BUS, ENCLOSURE AND LOCKABLE DOOR.

DESIGNATION	VOLTAGE	PHASE	MAINS	MOUNTING	BRANCH CIRCUITS AMPS	BRANCH CIRCUITS POLES	BRANCH CIRCUITS ACTIVE	BRANCH CIRCUITS SPARES	BRANCH CIRCUIT CAPACITY	LOCATION	REMARKS
MDP-C	208/120	3ø	400A MLO	SURFACE	225	3	1		42	STORAGE 107	225A/3P: PNL A1, A2 90A/3P: RTU-1 50A/3P: RTU-2 40A/2P: RTU-3 45A/2P: RTU-4 60A/2P: RTU-5 20A/2P: CUH-1,2,3 EHU-1, CRCU-1 15A/2P: CRU-1
					90	3	1				
					50	3	1				
					60	2	1				
					45	2	1				
					40	2	1				
					20	2	5				
					15	2	1				
					20	1	2				
2-SECTION C1	208/120	3ø	225A MLO	SURFACE	40	2	1		(4) 20A/1P	STORAGE 107	40A/2P: RANGE
					20	1	24				
2-SECTION C2	208/120	3ø	225A MLO	SURFACE	20	1	37		(5) 20A/1P	STORAGE 107	

LIGHTING FIXTURE SCHEDULE

DESIGNATION	DESCRIPTION	MANUFACTURER/ MODEL NUMBER	LAMP TYPE	LAMP COLOR TEMP	LAMP NO	ELECTRICAL BALLAST	ELECTRICAL VOLTAGE	ELECTRICAL WATTS	NOTES
A	ARIOSO TROFFER DIRECT/INDIRECT 2'x4', RECESSED, GRID, STATIC	DAY-BRITE LIGHTING 2AVG332-PWW-120-1/3EB-AVHD	32W T8	3000K	3	ELECTRONIC	120	90	
B	ACRYLIC LENS TROFFER, 125" LENS 2'x4', RECESSED, GRID, STATIC	DAY-BRITE LIGHTING 2TG8332-12-120-1/3EB	32W T8	3000K	3	ELECTRONIC	120	90	
C	SURFACE WRAPAROUND 4' LENGTH	DAY-BRITE LIGHTING OWN232-120-1/2EB	32W T8	3000K	2	ELECTRONIC	120	65	
D	FLUORESCENT DOWNLIGHT 6" ROUND, OPEN, VERTICAL	OMEGA LIGHTING S61H32PLIU-T61HCSS	32W TRIPLE	3000K	1	ELECTRONIC	120	30	
E	EXIT LIGHT - LED SELF-CONTAINED, UNIVERSAL FACE	MCPHILBEN CXXL3RW	LED				120	4	
F	EMERGENCY LIGHTING UNIT, REMOTE SELF-CONTAINED, DUAL HEADS	MCPHILBEN CT6H	6W HALOGEN		2		6	12	
G	EMERGENCY LIGHTING REMOTE HEAD WEATHERPROOF, CAST AL PLATE	MCPHILBEN MCM-MP1W	6W HALOGEN		1		6	6	
H	INCANDESCENT DOWNLIGHT 6" ROUND, OPEN	OMEGA LIGHTING OM625OPAR38-CSS-FB	120W PAR38		1		120	120	
I	INCANDESCENT GIMBAL 4" ROUND, ADJUSTABLE	CAPRI LIGHTING R139W-R5	75W PAR30		1		120	75	
J	WALL SCONCE ADA, ALABASTER, POLISHED BRASS	SEA GULL LIGHTING 4742-02	60W A19		2		120	120	
K	FLUORESCENT SURFACE SQUARE 10" SQUARE, LOW-PROFILE	RUUD LIGHTING SSQ238-1LW	38W 2D	3000K	1	ELECTRONIC	120	38	
L	PENDANT 21" DIA., ALABASTER, POLISHED BRASS	SEA GULL LIGHTING 6633-02	100W A19		3		120	300	
M	FLUORESCENT STRIP 4' LENGTH	DAY-BRITE LIGHTING N132-120-1/1EB	32W T8	3000K	1	ELECTRONIC	120	30	
N	POLE FIXTURE, 2 HEADS 15' POLE	EMCO LIGHTING AVA23150PSMH120BLP/RA4STB15D2BLP	150W PSMH		2	HPF	120	340	
	CLOSE-TO-CEILING 15" DIA., ALABASTER, POLISHED BRASS	SEA GULL LIGHTING 7787-02	60W A19		2		120	120	

NOTES:

1. FURNISH DOWNLIGHTS WITH REQUIRED CHANNEL BARS.
2. ALL EXTERIOR FIXTURES AND INTERIOR FIXTURES IN UNHEATED SPACES SHALL BE CAPABLE OF OPERATING IN COLD TEMP (0° F).
3. ELECTRONIC BALLAST SHALL HAVE MAXIMUM TOTAL HARMONIC DISTORTION OF TWENTY PERCENT (20%)
4. FURNISH ALL LIGHT FIXTURES, EXHAUST HOODS AND SHOWERS WITH REQUIRED LAMPS. FLUORESCENT LAMPS SHALL PASS THE FEDERAL TCLP TEST FOR MERCURY TOXICITY AND SHALL BE CLASSIFIED AS NON-HAZARDOUS WASTE. COLOR OF ALL FLUORESCENT LAMPS SHALL BE 3000K.
5. FURNISH ALL ADDITIONAL MATERIALS AND ACCESSORIES REQUIRED FOR COMPLETE INSTALLATION TO BE FULLY OPERATIONAL.
6. PROVIDE ALL ASSEMBLY REQUIRED.
7. FURNISH POLE FIXTURE WITH ALL REQUIRED ACCESSORIES, MOUNTING HARDWARE, ARMS, ADAPTERS, POLE, ETC FOR COMPLETE SYSTEM.

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Project Title:

WEST HARTFORD SENIOR CENTER

15 STARKEL ROAD
WEST HARTFORD, CONNECTICUT

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Revision:	Description:	Date:	Revised By:

Drawing Title:

ELECTRICAL NOTES AND SCHEDULES

Date: AUG. 16, 2005
Scale: NONE
Drawn By: GYC
Project Number: 04.166

Drawing Number: E3

FEEDER SCHEDULE

NOTE: ALL FEEDER IDENTIFICATIONS SHOWN MAY NOT BE UTILIZED

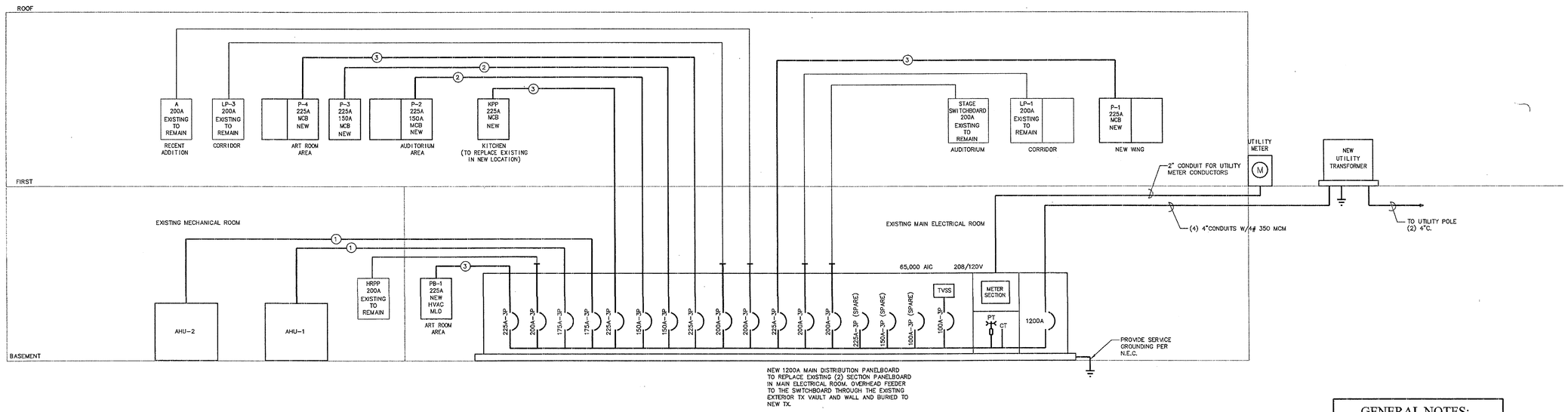
AMPS	FEEDER	WIRE/CABLE (THWN/THHN)	CONDUIT
175	1	3#2/0 & 1#6 GND.	2 1/2"
150	2	4#1/0 & 1#6 GND.	2"
225	3	4#4/0 & 1#4 GND.	3"

PANEL SCHEDULE

NOTES:

1. SEE SPECIFICATIONS FOR FURTHER INFORMATION.
2. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR SIZE, QUANTITY AND TYPES OF CIRCUIT BREAKERS INDICATED ON THE DRAWINGS.
3. SEE RISER FOR MCB OR MLO.
4. THE CONTRACTOR TO VERIFY ALL EXISTING BREAKERS TO BE RE-CONNECTED TO NEW PANELS BEFORE ORDERING NEW PANELS.

PANEL DESIGNATION	VOLTAGE	MAINS	MOUNTING	BRANCH CIRCUITS				BRANCH POLE CAPACITY	A.I.C. RATING MINIMUM	REMARKS
				AMPS	POLES	ACTIVE	SPARE			
P-1	208/120	225A	SURFACE	20	1	50	34	84	10 K	
P-2	208/120	225A	SURFACE	20	1	36	6	42	10 K	
P-3	208/120	225A 150A MCB	SURFACE	50 20	3 26	1 1	13	42	10 K	
P-4	208/120	225A 150A MCB	SURFACE	20 60	1 3	42 1	38	84	14 K	
KPP	208/120	225A	SURFACE	20 60 50	1 3 3	24 1 2	9	42	14 K	SHUNT TRIPS
PB-1	208/120	225A	SURFACE	60 40 20 20 20 20	2 3 3 1 2 3	1 2 4 11 1 1	1 1 2 34 1	84	14 K	
LP-1	208/120	200A	EXISTING	EXISTING TO REMAIN						
LP-3	208/120	200A	EXISTING							
A	208/120	200A	EXISTING	.	.	.	.	.	.	.
STAGE	208/120	200A	EXISTING	.	.	.	.	.	.	.



NEW 1200A MAIN DISTRIBUTION PANELBOARD TO REPLACE EXISTING (2) SECTION PANELBOARD IN MAIN ELECTRICAL ROOM. OVERHEAD FEEDER TO THE SWITCHBOARD THROUGH THE EXISTING EXTERIOR TX VAULT AND WALL AND BURIED TO NEW TX.

208/120V 3ϕ-4W POWER RISER DIAGRAM

GENERAL NOTES:

1. ALL WIRING IN EXISTING PANELS SHALL BE PROPERLY SUPPORTED. "MINI" CIRUIT BREAKERS SHALL BE REPLACED W/NEW CIRUIT BREAKERS.

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ADDITIONS AND RENOVATIONS TO BRAEBURN SCHOOL

WEST HARTFORD, CONNECTICUT

ELECTRICAL POWER RISER & SCHEDULES

PROJECT NUMBER:	
SDE PROJECT #:	155-179 EA/CV
SCALE:	NOT TO SCALE
DATE:	FEBRUARY 1, 1999
DRAWN BY:	IP
CHECKED BY:	ARA
BVH PROJECT NUMBER:	8998003.001
REVISED:	

E-3.1

21:24:07 05 MAY 1999 w:\98\8998003\dwgs\e_broeburn\8998003-br_e-3-1_riser_schedules.dgn

"RPB" 208/120 V 3ø, 4 WIRE	TYPE "AQ" SURFACE MOUNTED		20	2	THQB	4		LIFTS
GARAGE							42	
			20	3	THQB	4		EXH. FANS
"MEP" 208/120 V 3ø, 4 WIRE	GENERAL ELECTRIC SPECTRA SERIES SURFACE MOUNTED	400 AMP M.L.O.	30	3	THQB	1		A/C UNIT
			50	3	THQB	2		WELDERS, ROOF TOP UNIT
			100	3	THQB	3	1	NEW "RPA" AND "DP" SAND/SALT BLDG.
GARAGE	PROVIDE 1 X "THQD" 3 POLE SPACE PROVIDE 1 X "TFJ" 3 POLE SPACE		225	3	TFK	1	1	42 NEW "LPA"
"EP" 208/120 V 3ø, 4 WIRE	GENERAL ELECTRIC TYPE "AQ" SURFACE MOUNTED	200 AMP M.L.O.	20	1	THQB	21	6	EXISTING LTG & RECEPT
			60	3	THQB	1		EXISTING PANEL
			100	3	THQB	2		PANEL "DP" AND EXIST. PANEL
SERVICE ENTRANCE	PROVIDE 6-1/P SPACE							42
"MDP" 208/120 V 3ø, 4 WIRE	GENERAL ELECTRIC SPECTRA SERIES SURFACE MOUNTED	800 AMP M.L.O.	200	3	SFH	1	1	NEW "EP"
			400	3	SFH	2	1	EXISTING "MDP" AND NEW "MEP"
	PROVIDE 2 X "SEH150" 3 POLE SPACE PROVIDE 2 X "SFH" 3 POLE SPACE							
SERVICE ENTRANCE	NOTE: PANEL "MDP" SHALL BE FULLY RATED FOR 65Ka RMS SYMMETRICAL							

NOTE:

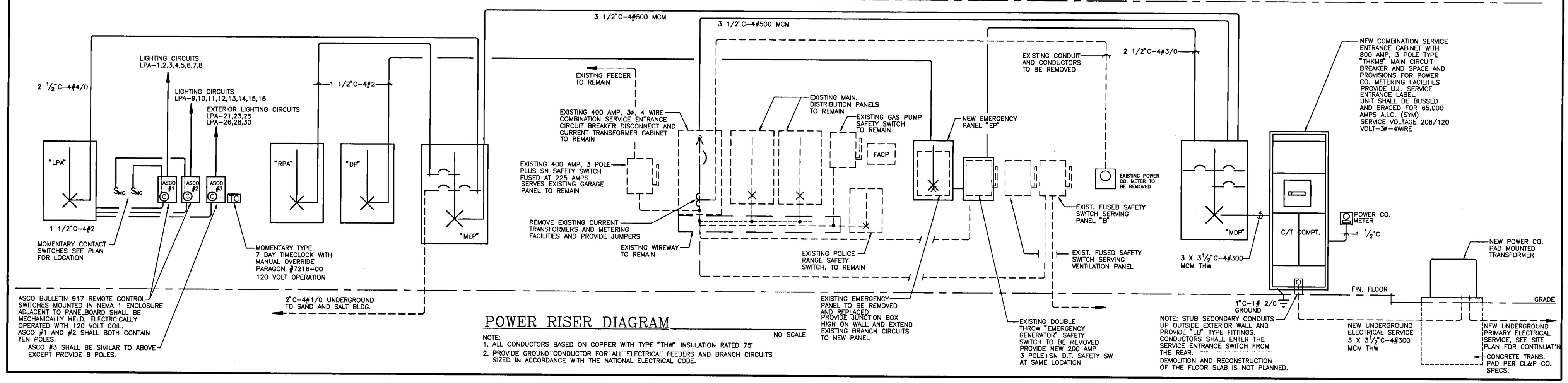
1. ALL PANELBOARDS SHALL BE PROVIDED WITH "DOOR ON DOOR" CONSTRUCTION AND COPPER BUSSING.
2. ALL NEW PANELBOARD INFORMATION BASED ON GENERAL ELECTRIC CO. CATALOGUE NUMBERS.
3. AT COMPLETION OF PROJECT PROVIDE TYPED PANELBOARD INDEXES FOR ALL PANELBOARDS.

"CE"	SIMILAR TO FIXTURE TYPE "C" EXCEPT PROVIDED WITH EMERGENCY BALLAST		
"D"	FLUORESCENT FIXTURE SUITABLE FOR CLASS I, DIVISION 2 LOCATION KILLARK #SSHZ-4240R-E1-120 VOLT WITH WALL BRACKETS, STAINLESS STEEL HOUSING, SILICONE GASKET AND HEAT AND IMPACT RESISTANT LENS	2 X 32 WATT T8 R.S.	SEE ARCHITECTURAL DETAIL FOR MOUNTING LOCATION
"E"	H.I.D. FIXTURE SUITABLE FOR WET LOCATION KILLARK #VMMC-2-70GG-120 VOLT WITH CONE TOP AND #VMPSD DOME REFLECTOR AND #VMAG-17 GUARD	1 X 250 WATT METAL HALIDE	SEE ARCHITECTURAL DETAIL "S" ON DRAWING A8 FOR MOUNTING ARRANGEMENT
"F"	1 FT. X 8 FT. INDUSTRIAL FLUORESCENT FIXTURE WITH WIRE GUARD DAY-BRITE #T1F-232-PP-120 VOLT-ESB WITH WIRE GUARD	4 X 32 WATT T8 R.S.	
"FE"	SIMILAR TO FIXTURE TYPE "F" EXCEPT PROVIDED WITH EMERGENCY BALLAST		
"EL"	1 FT X 4 FT ENCLOSED AND GASKETED FLUORESCENT FIXTURE WITH EMERGENCY BALLAST DAY-BRITE #CP-232-W-120 VOLT-ESB WITH EXTERNAL BODINE B30 BALLAST	2 X 32 WATT T8 R.S.	PENDANT MOUNT FIXTURE TO ACCOMODATE BALLAST INSTALLATION
"G"	EXTERIOR WALL BRACKET H.I.D. FIXTURE LBL LIGHTING (GEOFORM ROUND VISOR) #1V33-BLACK FINISH-120 VOLT PROVIDE WHITE POLYCARBONATE DIFFUSER AND BLACK DIE CAST ALUMINUM HOUSING	1 X 100 WATT METAL HALIDE	
"H"	SEE DRAWING SE1		
"J"	WALL MOUNTED H.I.D. FLOODLIGHT FIXTURE DAY-BRITE #FLI-40-208 VOLT-LP-YOLK MOUNT	1 X 400 WATT METAL HALIDE	MOUNT ON SAND/SALT BLDG 34'-0" A.F.F.
"K"	WALL MOUNTED H.I.D. FLOODLIGHT FIXTURE DAY-BRITE #WL-15MH-120 VOLT-HR WITH BLACK FINISH	1 X 150 WATT METAL HALIDE	MOUNT 8'-0" ABOVE ROOF
"X"	EXIT LIGHT FIXTURE WITH 6 VOLT BATTERY BACKUP EMERGI-LITE #LED-W-SRX-34-R-120 VOLT WITH UNIVERSAL MOUNT		SEE PLAN FOR DIRECTIONAL CHEVRONS

GENERAL NOTES:

1. ALL FLUORESCENT LAMPS INCLUDING COMPACT FLUORESCENT LAMPS SHALL HAVE A COLOR TEMPERATURE RATING OF 3500 DEGREES KELVIN WITH A C.R.I. OF 75 OR BETTER.
2. ALL FIXTURES SHALL BE SUPPORTED FROM BUILDING STRUCTURE AND SHALL BE IN COMPLIANCE WITH THE LOCAL BUILDING DEPARTMENT. LIGHTING FIXTURES SUPPORTED FROM THE CEILING SUSPENSION SYSTEM ALONE IS NOT ACCEPTABLE. PROVIDE INTERMEDIATE SUPPORTS AS REQUIRED.
3. THE CONTRACTORS SHALL VERIFY ALL CEILING TYPES, CONFIGURATIONS, FIXTURE VOLTAGE AND COORDINATE FIXTURE LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLANS.
4. ALL FLUORESCENT FIXTURES SHALL BE EQUIPPED WITH ELECTRONIC BALLASTS RATED AT 120V, AND SHALL QUALIFY FOR N.U. ENERGY CONSCIOUS CONSTRUCTION (E.C.C.) PROGRAM. SEE FIXTURE SCHEDULE FOR EXCEPTION TO VOLTAGE. INCANDESCENT LAMPS SHALL BE RATED 130 VOLTS.
5. PROVIDE "T-BAR" CLIPS FOR ALL RECESSED FLUORESCENT FIXTURES. ALL FLUORESCENT FIXTURES SHALL BE SUPPORTED INDEPENDENTLY FROM THE CEILING.
6. PROVIDE FIXTURE MOUNTING HARDWARE FOR ALL TYPES AS REQUIRED TO ACCOMMODATE THE CEILING SUSPENSION SYSTEM.
7. FINAL SELECTION OF ALL FIXTURE FINISHES SHALL BE BY THE ARCHITECT.
8. VERIFY THE MOUNTING HEIGHT OF ALL ELECTRICAL FIXTURES WITH ARCHITECTURAL ELEVATIONS.
9. EMERGENCY BALLASTS FOR FLUORESCENT FIXTURES ARE BASED ON BODINE SPECIFICATION GRADE MODEL B50 AND SHALL BE WARRANTED FOR FIVE (5) FULL YEARS (NOT PRO RATA).
   PROVIDE NO-MAINTENANCE NICKEL CADMIUM TYPE BATTERY WITH CHARGING INDICATING LIGHT AND TEST SWITCH.
10. PROVIDE WIRE GUARDS FOR ALL FIXTURES WITH EXPOSED LAMPS

●		EXIT LIGHT FIXTURE SEE PLAN FOR ARROWS SEE FIXTURE SCHEDULE	SEE PLAN
●	E	FLUORESCENT LIGHTING FIXTURE WITH EMERGENCY BALLAST SEE FIXTURE SCHEDULE	
●			
●	FE	SELF CONTAINED EMERGENCY LIGHTING FIXTURE SEE FIXTURE SCHEDULE	
●		DUPLEX RECEPTACLE SEE SPECIFICATIONS	1'-6" A.F.F.
●		DOUBLE DUPLEX RECEPTACLE SEE SPECIFICATIONS	1'-6" A.F.F.
●	WC	RECEPTACLE FOR WATER COOLER-SINGLE PHASE, 120 VOLT	1'-6" A.F.F.
●	GFI	RECEPTACLE WITH GROUND FAULT PROTECTION SEE SPECIFICATIONS	SEE PLAN
			1'-6" A.F.F.
●		WELDING OUTLET - THREE PHASE SEE SPECIFICATIONS	1'-6" A.F.F.
●		SURFACE METAL RACEWAY, MULTI-OUTLET TYPE	SEE PLAN
●	P	PUBLIC TELEPHONE WALL OUTLET (40" A.F.F. TO CENTERLINE OF COIN SLOT)	WALL
●		CLOCK OUTLET SEE SPECIFICATIONS	7'-6" A.F.F.
●	J	JUNCTION BOX	
●		ELECTRIC WALL HEATER	
●		MOTOR	
●		MAGNETIC MOTOR STARTER	WALL
●		DISCONNECT SWITCH	WALL
●		RACEWAY - CONCEALED IN THE SLAB OR BELOW GRADE	
●		RACEWAY - CONCEALED IN HUNG CEILING, WALL OR IS EXPOSED	
●	E	EMERGENCY CIRCUIT	
●		GROUND CONNECTION	
●	o	STUB-UP	
●	•	DROP	
●		FINAL CONNECTION	
●		HOMERUN	
●		PANELBOARD - 120/208 VOLT	
●	T	TRANSFORMER SEE PLAN AND SCHEDULE	
●	TC	TIMECLOCK SEE PLANS	
●	I	GROUND CONNECTION	
●	EF	EXHAUST FAN	
●	ES	ELECTRIC STRIKE, NOTE: COORDINATE WITH HARDWARE SUPPLIER, PROVIDE 24 VOLT D.C.	
	OHD	OVERHEAD DOOR	
●	A.F.F.	ABOVE FINISHED FLOOR	
●	W.P.	WEATHER PROOF	
●	RE	DENOTES REMOVE EXISTING	
●	E	DENOTES EXISTING TO REMAIN	



POWER RISER DIAGRAM NO SCALE

NOTE:
1. ALL CONDUCTORS BASED ON COPPER WITH TYPE "THW" INSULATION RATED 75°
2. PROVIDE GROUND CONDUCTOR FOR ALL ELECTRICAL FEEDERS AND BRANCH CIRCUITS SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.

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ELECTRICAL SCHEDULES AND POWER RISER

REVISIONS:	DATE: 12 FEBRUARY, 1996 SCALE: AS NOTED

C. PETER CHOW
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CONSULTING ENGINEERS
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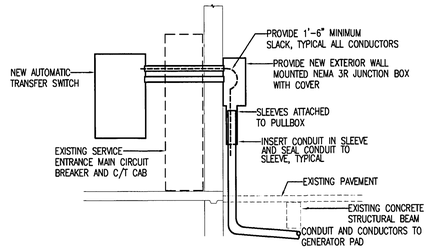
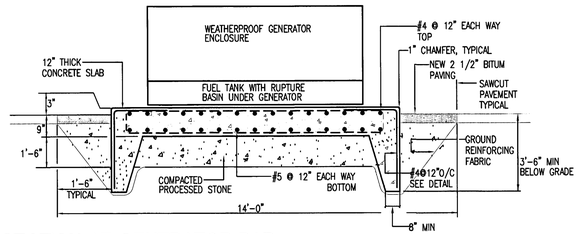


SECTION AT EXTERIOR WALL

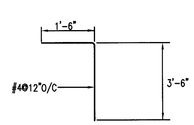
NO SCALE

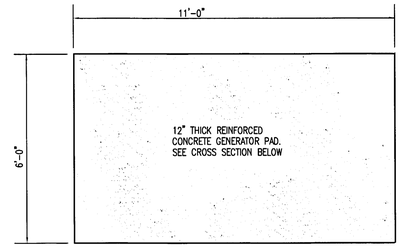


SECTION AT GENERATOR PAD

NO SCALE

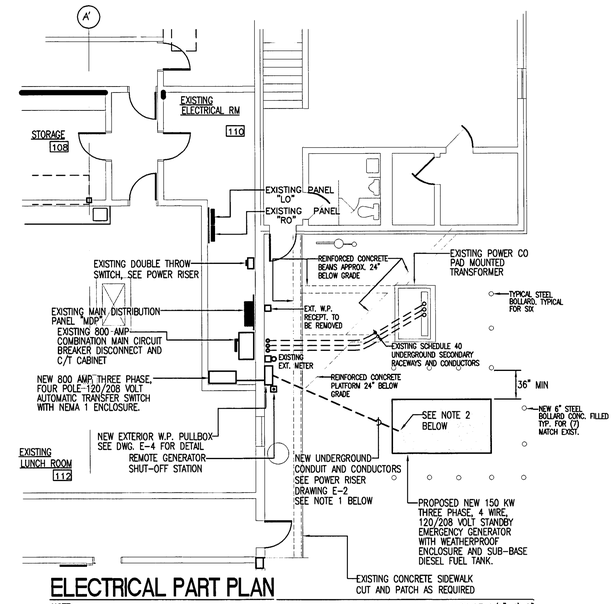
NOTE:
1. ALL CONCRETE TO HAVE MINIMUM COMPRESSION STRENGTH OF 4000# P.S.I. @ 28 DAYS; FURNISH AT 3" TO 5" SLUMP; 4% TO 6 % AIR AIR ENTRAPMENT; STEEL TROWEL FINISH; APPLY CURING AND SEALING COMPOUND (CURE-N-HAND) OR EQUAL. DO NOT SET GENERATOR UNTIL SLAB HAS BEEN IN PLACE 14 DAYS.
2. REINFORCING STEEL-A.S.T.M. GR. 60
   a. COVER TOP AND SIDES-1 1/4"
   b. COVER BOTTOM-3"
3. COMPACT EXCAVATION BEFORE PLACING GROUND REINFORCING FABRIC.
4. GROUND REINFORCING FABRIC SHALL BE "EXXON G.T.F. 300" OR EQUAL.
5. PROCESSED STONE BASE SHALL BE EQUAL TO C.D.O.T. SPECIFICATION 814, SECTIONS M.01 AND M.02.
   a. COMPACT TO 90% PROCTOR DENSITY USING VIBRATORY COMPACTOR





PLAN: CONCRETE GENERATOR PAD

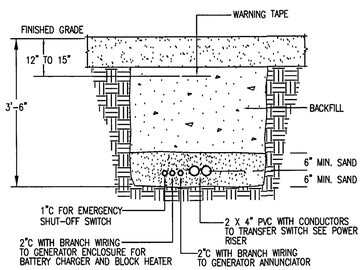
NOTE:
1. VERIFY ALL DIMENSIONS WITH APPROVED GENERATOR SHOP DRAWINGS.
2. VERIFY THE EXACT LOCATIONS OF ALL CONDUIT PENETRATIONS WITH THE APPROVED GENERATOR SHOP DRAWINGS PRIOR TO UNDERGROUND ROUGHING.



ELECTRICAL PART PLAN

SCALE 1/8"=1'-0"

NOTE:
1. EXCAVATE INCLUDING HAND DIGGING AS NECESSARY. INSTALL NEW CONDUIT BELOW CONCRETE BEAM SUPPORTING SIDEWALK. NINETY UP AT BUILDING WALL TO NEW JUNCTION BOX. BACKFILL, TAMP AND PATCH SIDEWALK TO MATCH EXISTING.
2. VERIFY THE EXACT LOCATION OF ALL STUB-UPS THRU CONCRETE PAD WITH THE APPROVED GENERATOR SHOP DRAWINGS.



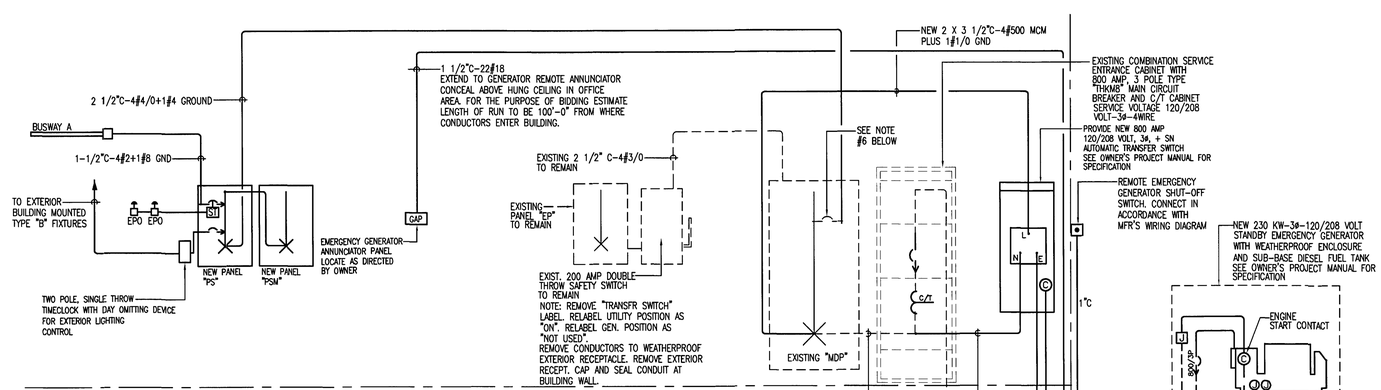
TRENCH DETAIL

NO SCALE

PANELBOARD SCHEDULE

PANEL & VOLTAGE	PANEL TYPE & MOUNTING	MAIN CIRCUIT BREAKER OR MAIN LUGS ONLY	CIRCUIT BREAKERS							REMARKS
			TRIP	POLES	FRAME	ACTIVE	SPARE	SHUNT TRIP BREAKER	TOTAL POLES	
"PS" 120/208 VOLT 3ø, 4 WIRE	SIEMENS TYPE "P1" SURFACE MOUNTED	225 M.L.O. PROVIDE THRU FEED LUGS	20	1	BLH	26	9			LIGHTING AND RECEPTACLES
			100	4	BLH	1		YES		BUSWAY
AREA A									42	
"PSM" 120/208 VOLT 3ø, 4 WIRE	SIEMENS TYPE "P1" SURFACE MOUNTED	225 M.L.O.	20	1	BLH	15	10			HVAC EQUIPMENT
			20	2	BLH	1				HVAC EQUIPMENT
			20	3	BLH	1				HVAC EQUIPMENT
			30	3	BLH	1				HVAC EQUIPMENT
AREA A	PROVIDE 9 ONE POLE PREPARED SPACES								42	

NOTE:
1. ALL PANELBOARDS SHALL BE PROVIDED WITH "DOOR ON DOOR" CONSTRUCTION AND COPPER BUSSING
2. PANELBOARD INFORMATION BASED ON SIEMENS CORPORATION
3. AT COMPLETION OF PROJECT PROVIDE TYPED PANELBOARD INDEXES FOR ALL PANELBOARDS WITHIN THE PROJECT SCOPE.



POWER RISER DIAGRAM

NO SCALE

NOTE:
1. ALL CONDUCTOR SIZES ABOVE BASED ON COPPER WITH 75' INSULATION TYPE "THW". THE USE OF ALUMINUM IS NOT ACCEPTABLE.
2. PROVIDE EQUIPMENT GROUND WIRE IN ADDITION TO PHASE CONDUCTORS AND NEUTRALS SIZED IN ACCORDANCE WITH THE N.E.C.
3. PROVIDE PERMANENT SIGNAGE FOR ALL ELECTRICAL EQUIPMENT, PANELS, ETC. SIGNAGE SHALL MATCH THE BUILDING STANDARD.
4. PROVIDE SIGNAGE AT BOTH THE NORMAL UTILITY SERVICE ENTRANCE SWITCHBOARD AND THE EMERGENCY GENERATOR AS SPECIFIED IN THE NATIONAL ELECTRICAL CODE INCLUDING REFERENCES TO GROUNDING AT THE GENERATOR.
6. PROVIDE A 3 POLE-225 AMP TYPE "FXD6" FRAME CIRCUIT BREAKER MANUFACTURED BY SIEMENS CORPORATION. BREAKER SHALL BE SUITABLE FOR 240 VOLT SERVICE WITH A INTERRUPT RATING OF 65,000 A.I.C. (SYM)

PLANT & FACILITIES RELOCATION

BRIXTON STREET MAINTENANCE FACILITY

PUBLIC WORKS DEPT.
WEST HARTFORD, CT

ELECTRICAL LEGENDS

CONSULTANTS

MECHANICAL/ELECTRICAL/PLUMBING ENGINEERS:

QUINLAN, GIANNONI & LIVINGSTON, INC.
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DO NOT SCALE THE DRAWING. USE THE DIMENSIONS GIVEN. IF THERE ARE ANY DISCREPANCIES OR QUESTIONS, CONTACT THE ARCHITECT.

REVISIONS:

DATE: SEPTEMBER 23, 2005

SCALE: AS NOTED

OakPark Architects LLC
312 Park Rd, W. Hartford, CT (860)232-6664

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PANELBOARD SCHEDULE

PANEL & VOLTAGE	PANEL TYPE & MOUNTING	MAIN CIRCUIT BREAKER OR MAIN LUGS ONLY	CIRCUIT BREAKERS TRIP	POLES	FRAME	ACTIVE	SPARE	TOTAL POLES	REMARKS
"LO" 208/120 V 3ø, 4 WIRE	SIEMENS TYPE "S1" SURFACE MOUNTED	200 AMP M.L.O. PROVIDE THRU FEED LUGS	20	1	BL	13	11		LIGHTING
			20	3	BL	3			A.H.U. (3)
	PROVIDE 9-ONE POLE SPACE							42	
"RO" 208/120 V 3ø, 4 WIRE (SECTION #1)	SIEMENS TYPE "S1" SURFACE MOUNTED	200 AMP M.L.O. PROVIDE THRU FEED LUGS	20	1	BL	20	12		RECEPTACLES, ELEC. RADIATION
	PROVIDE 10-ONE POLE SPACE							42	
"RO" 208/120 V 3ø, 4 WIRE (SECTION #2)	SIEMENS TYPE "S1" SURFACE MOUNTED	200 AMP M.L.O.	20	1	BL	19	10		RECEPTACLES, ELEC. RADIATION
			30	3	BL	1			A/C UNIT
			50	3	BL	1			A/C UNIT
			60	3	BL	1			A/C UNIT
	PROVIDE 4-ONE POLE SPACE							42	
"LG" 208/120 V 3ø, 4 WIRE	SIEMENS TYPE "S1" SURFACE MOUNTED	200 AMP M.L.O. PROVIDE THRU FEED LUGS	20	1	BL	31	11		LIGHTING
	PROVIDE 6-ONE POLE SPACE							42	
"RG" 208/120 V 3ø, 4 WIRE (SECTION #1)	SIEMENS TYPE "S1" SURFACE MOUNTED	200 AMP M.L.O. PROVIDE THRU FEED LUGS	20	1	BL	12	15		RECEPTACLES
			20	3	BL	5			EXISTING EXHAUST FANS
								42	
"RG" 208/120 V 3ø, 4 WIRE (SECTION #2)	SIEMENS TYPE "S1" SURFACE MOUNTED	200 AMP M.L.O.	20	1	BL	10	17		EXISTING CIRCUITS TO REMAIN
			20	3	BL	3			EXISTING CIRCUITS TO REMAIN
			30	3	BL	1			EXISTING CIRCUITS TO REMAIN
			50	3	BL	1			EXISTING CIRCUITS TO REMAIN
								42	
"GP" 208/120 V 3ø, 4 WIRE (SECTION #1)	SIEMENS TYPE "S1" SURFACE MOUNTED	200 AMP M.L.O. PROVIDE THRU FEED LUGS	20	1	BL	22	8		LIGHTING AND RECEPTACLES
			20	3	BL	3			DRILL PRESS, SAW, GRINDER
			30	3	BL	1			POWER WASHER
								42	
"GP" 208/120 V 3ø, 4 WIRE (SECTION #2)	SIEMENS TYPE "S1" SURFACE MOUNTED	200 AMP M.L.O.	20	2	BL	2	2		PLOW SHED LIGHTING
			30	3	BL	2	2		HOISTS
			70	3	BL	1			SPRAY BOOTH
			50	3	BL	1	1		WELDING OUTLETS
	PROVIDE 13-1 POLE SPACE							42	

NOTE:
1. ALL PANELBOARDS SHALL BE PROVIDED WITH "DOOR ON DOOR" CONSTRUCTION AND COPPER BUSSING.
2. ALL NEW PANELBOARD INFORMATION BASED ON SIEMENS ELECTRIC CO. CAT. NUMBERS.
3. AT COMPLETION OF PROJECT PROVIDE TYPED PANELBOARD INDEXES FOR ALL PANELBOARDS.

ELECTRICAL FIXTURE SCHEDULE

TYPE	DESCRIPTION	LAMPS	REMARKS
"A"	1 FT. X 8 FT. INDUSTRIAL FLUORESCENT FIXTURE WITH WIRE GUARD PROVIDE 10 PERCENT UPLIGHT DAY-BRITE #1F-296-VHO-PP-120 VOLT-ESB WITH WIRE GUARD	2 X 115 WATT T12 VHO 1500 MA.	
"B"	2 FT. X 2 FT. RECESSED FLUORESCENT FIXTURE WITH ACRYLIC DIFFUSER DAYBRITE #2TG-331-U1-01-ESB-120 VOLT-NFG FIXTURE SHALL BE SUITABLE FOR INSTALLATION IN NARROW FACE GRID CEILING SUSPENSION SYSTEM	3 X 31 WATT T8 R.S.	
"C"	4'-0" SURFACE MOUNTED FLUORESCENT STRIP FIXTURE WITH WIRE GUARD DAY-BRITE #T-240-WG-120 VOLT	2 X 31 WATT T8 R.S.	
"D"	4'-0" SURFACE MOUNTED FLUORESCENT FIXTURE WITH ACRYLIC WRAP AROUND DIFFUSER DAY-BRITE #CAN-232-120 VOLT	2 X 31 WATT T8 R.S.	
"E"	EXTERIOR WALL MOUNTED H.I.D. DIXTURE LIGHTING BUG, INC. (GEOFORM ROUND VISOR) #1VS33-BLACK-120 VOLT PROVIDE WHITE POLYCARBONATE DIFFUSER AND BLACK DIE CAST ALUMINUM HOUSING	1 X 100 WATT METAL HALIDE	
"F"	EXTERIOR WALL MOUNTED C.F.L. FLOODLIGHT FIXTURE STONCO #TLW28NFL-120 VOLT	1 X 28 WATT CFL	MOUNT 1'-0" BELOW TOP OF ROOF SCREEN CONFIRM PRIOR TO ROUGHING
"G"	UNDERCABINET FLUORESCENT LIGHTING FIXTURE 42" LONG ALKCO #HP 116-120 VOLT	2 X 13 WATT T5	
"G1"	UNDERCABINET FLUORESCENT LIGHTING FIXTURE 24" LONG ALKCO #HP 116-120 VOLT	2 X 13 WATT T5	
"H"	EXTERIOR WALL MOUNTED H.I.D. FLOODLIGHT FIXTURE MCPHILBEN #102-WT-175 MH-120 VOLT-BLP-BLACK FINISH	1 X 175 WATT METAL HALIDE	INSTALL AT SAME LOCATION AS EXISTING FLOODLIGHTS
"J"	EXTERIOR WALL MOUNTED H.I.D. FLOODLIGHT FIXTURE DAY-BRITE #WL15MH-MT-LT-208 WITH BLACK FINISH	1 X 150 WATT METAL HALIDE	MOUNT FIXTURE 12'-0" A.F.F. ON STRUCT. COLUMNS
E	FULLY-RECESSED EMERGENCY LIGHTING FIXTURE WITH POLYCARBONATE DIFFUSER EMERGI-LITE #PSM9-FR-PL-120 VOLT		
ES	SURFACE MOUNTED 6 VOLT EMERGENCY LIGHTING FIXTURE WITH LEAD CALCIUM BATTERIES AND CHARGER EMERGI-LITE #USM18-2-120 VOLT		
"X"	CEILING MOUNTED SINGLE FACE EXIT LIGHT FIXTURE WITH 6 VOLT BATTERY BACKUP AND UNIVERSAL MOUNT EMERGI-LITE #LED-W-SMX-34-R-E1-120 VOLT		SEE PLAN FOR DIRECTIONAL CHEVRONS

GENERAL NOTES:
1. ALL FLUORESCENT LAMPS INCLUDING COMPACT FLUORESCENT LAMPS SHALL HAVE A COLOR TEMPERATURE RATING OF 3500 DEGREES KELVIN WITH A C.R.I. OF 75 OR BETTER.
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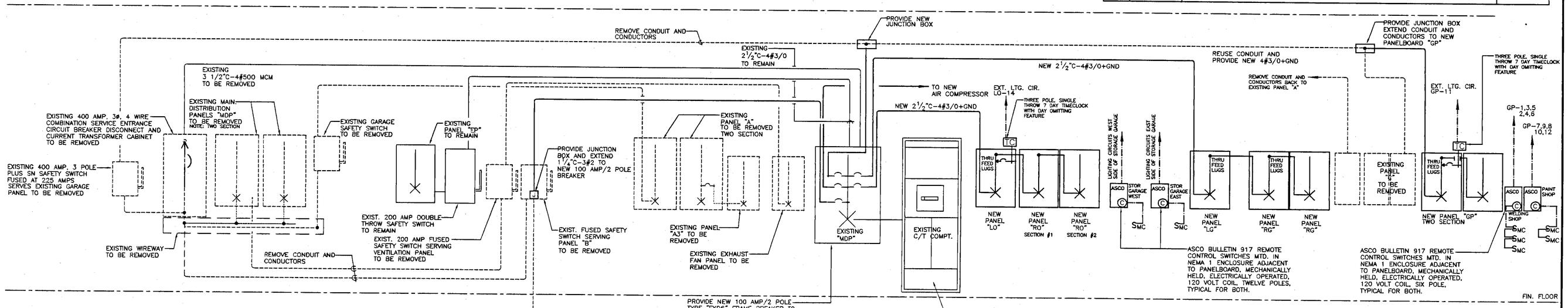
PROVIDE NO-MAINTENANCE NICKEL CADMIUM TYPE BATTERY WITH CHARGING INDICATING LIGHT AND TEST SWITCH.
10. PROVIDE WIRE GUARDS FOR ALL FIXTURES WITH EXPOSED LAMPS

ELECTRICAL SYMBOLS

SYMB USED	SYMBOL	DESCRIPTION		MOUNTING
●	S	SINGLE POLE SWITCH	SEE SPECIFICATIONS	4'-0" A.F.F.
●	S_3	THREE WAY SWITCH	SEE SPECIFICATIONS	4'-0" A.F.F.
●	S_4	FOUR WAY SWITCH	SEE SPECIFICATIONS	4'-0" A.F.F.
●	S_P	SWITCH WITH PILOT LIGHT	SEE SPECIFICATIONS	4'-0" A.F.F.
●	S_T	MANUAL MOTOR STARTER WITH THERMAL PROTECTION	SEE SPECIFICATIONS	
●	S_F	FAN CONTROL SWITCH WITH PILOT LIGHT	SEE SPECIFICATIONS	4'-0" A.F.F.
●	S_{OS}	OCCUPANCY SENSOR~SWITCHBOX MOUNTED	SEE SPECIFICATIONS	4'-0" A.F.F.
●	S_E	EMERGENCY SHUTOFF SWITCH	SEE SPECIFICATIONS	4'-0" A.F.F.
●		RAISE LOWER SWITCH	SEE SPECIFICATIONS	4'-0" A.F.F.
●	S_{MC}	MOMENTARY CONTACT SWITCH	SEE SPECIFICATIONS	4'-0" A.F.F.
●		FLUORESCENT LIGHT FIXTURE	SEE FIXTURE SCHEDULE	CEILING
●		CEILING FIXTURE	SEE FIXTURE SCHEDULE	CEILING
●		WALL BRACKET FIXTURE	SEE FIXTURE SCHEDULE	WALL
●		EXIT LIGHT FIXTURE SEE PLAN FOR ARROWS	SEE FIXTURE SCHEDULE	SEE PLAN
●	E	FLUORESCENT LIGHTING FIXTURE WITH EMERGENCY BALLAST	SEE FIXTURE SCHEDULE	
●				
●	ES	SELF CONTAINED EMERGENCY LIGHTING FIXTURE	SEE FIXTURE SCHEDULE	
●		DUPLEX RECEPTACLE	SEE SPECIFICATIONS	1'-6" A.F.F.
●		DOUBLE DUPLEX RECEPTACLE	SEE SPECIFICATIONS	1'-6" A.F.F.
●	WC	RECEPTACLE FOR WATER COOLER-SINGLE PHASE, 120 VOLT		1'-6" A.F.F.
●	GFI	RECEPTACLE WITH GROUND FAULT PROTECTION	SEE SPECIFICATIONS	SEE PLAN
				1'-6" A.F.F.
●		WELDING OUTLET - THREE PHASE	SEE SPECIFICATIONS	1'-6" A.F.F.
●		SURFACE METAL RACEWAY, MULTI-OUTLET TYPE		SEE PLAN
●	P	PUBLIC TELEPHONE WALL OUTLET (40" A.F.F. TO CENTERLINE OF COIN SLOT)		WALL
●		CLOCK OUTLET	SEE SPECIFICATIONS	7'-6" A.F.F.
●	J	JUNCTION BOX		
●		ELECTRIC WALL HEATER		
●		MOTOR		
●		MAGNETIC MOTOR STARTER		WALL
●		DISCONNECT SWITCH		WALL
●		RACEWAY - CONCEALED IN THE SLAB OR BELOW GRADE		
●		RACEWAY - CONCEALED IN HUNG CEILING, WALL OR IS EXPOSED		
●	E	EMERGENCY CIRCUIT		
●		GROUND CONNECTION		
●		STUB-UP		
●		DROP		
●		FINAL CONNECTION		
●		HOMERUN		
●		PANELBOARD - 120/208 VOLT		
●	T	TRANSFORMER	SEE PLAN AND SCHEDULE	
●	TC	TIMECLOCK	SEE PLANS	
		GROUND CONNECTION		
●	EF	EXHAUST FAN		
●	ES	ELECTRIC STRIKE, NOTE: COORDINATE WITH HARDWARE SUPPLIER. PROVIDE 24 VOLT D.C.		
	OHD	OVERHEAD DOOR		
●	A.F.F.	ABOVE FINISHED FLOOR		
●	W.P.	WEATHER PROOF		
●	RE	DENOTES REMOVE EXISTING		
●	E	DENOTES EXISTING TO REMAIN		



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NO SCALE

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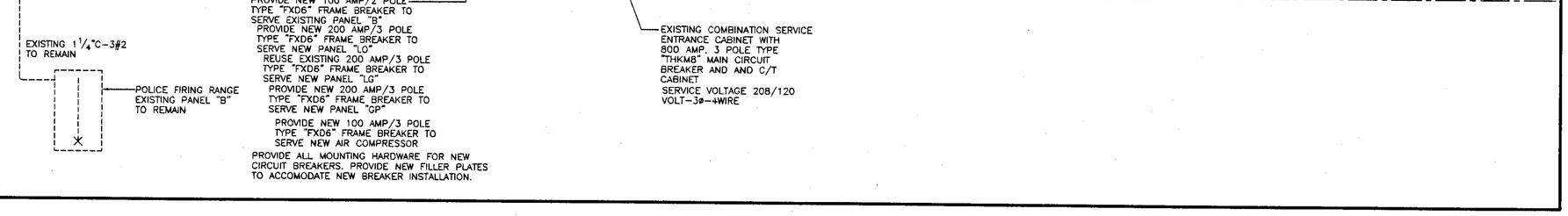
1. ALL CONDUCTORS BASED ON COPPER WITH TYPE "THW" INSULATION RATED 75° ALUMINUM NOT ACCEPTABLE.
2. PROVIDE GROUND CONDUCTOR FOR ALL ELECTRICAL FEEDERS AND BRANCH CIRCUITS SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.



RENOVATIONS

BRIXTON STREET MAINTENCE FACILITY

PUBLIC WORKS DEPT.
WEST HARTFORD, CT

ELECTRICAL SCHEDULES RISERS AND DETAILS

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DO NOT SCALE THE DRAWING. USE THE DIMENSIONS GIVEN. IF THERE ARE ANY DISCREPANCIES OR QUESTIONS, CONTACT THE ARCHITECT.

REVISIONS:

DATE: 10 NOVEMBER 1997

SCALE: AS NOTED

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ARCHITECTS
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CONSULTING ENGINEERS
2074 PARK STREET
HARTFORD, CT. 06106
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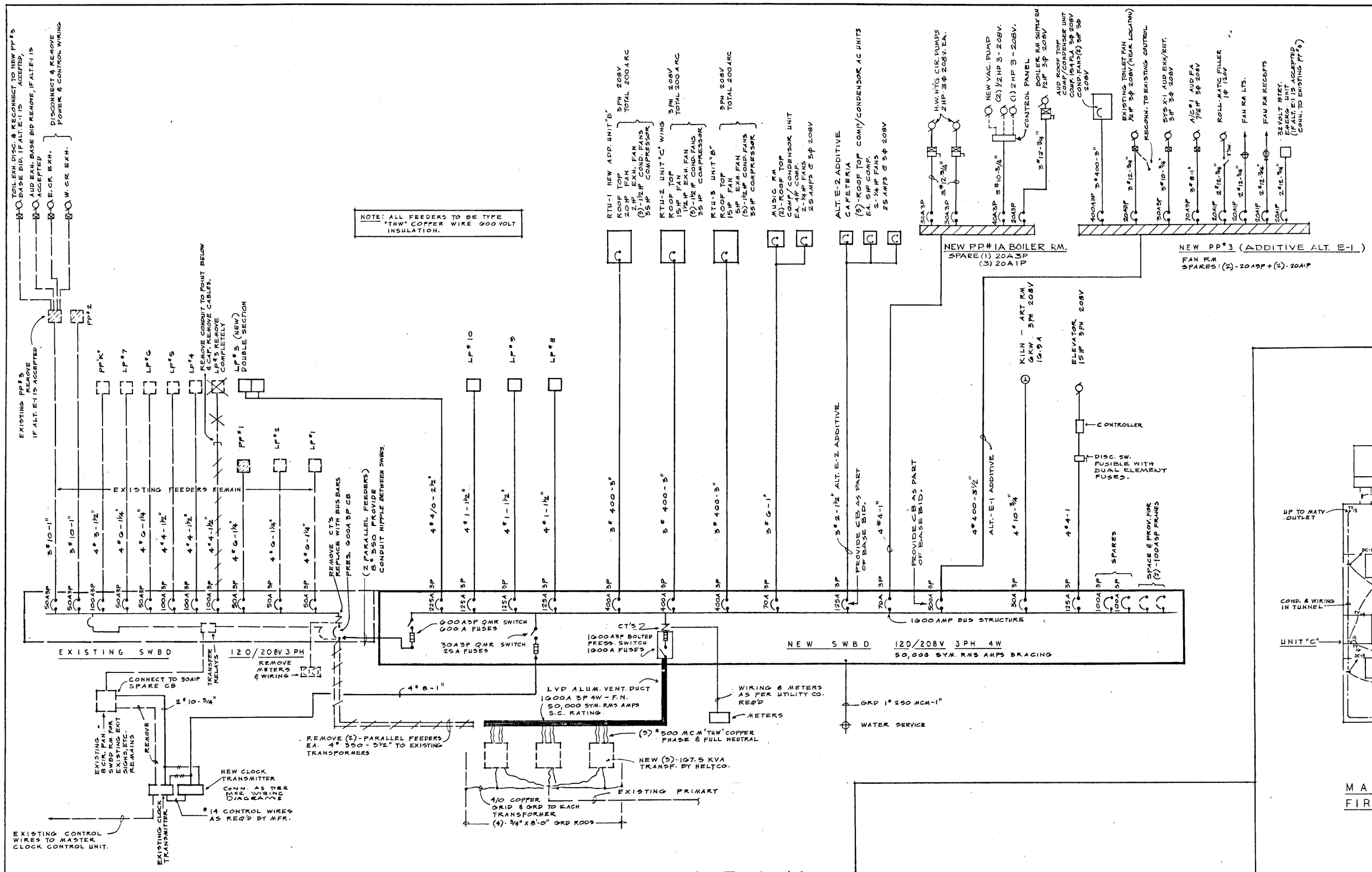
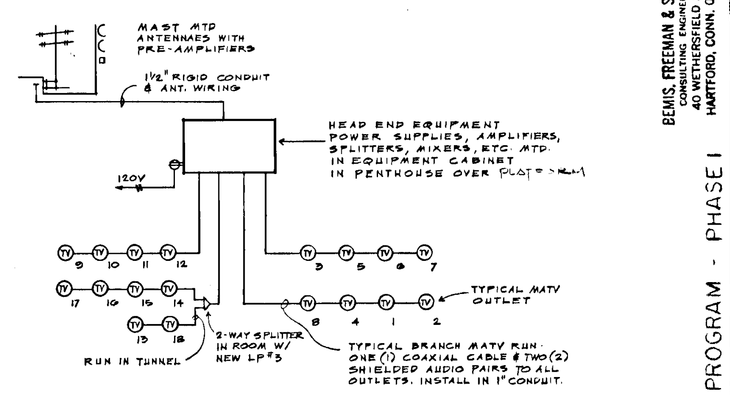
FAX (203) 232-9641

E-5



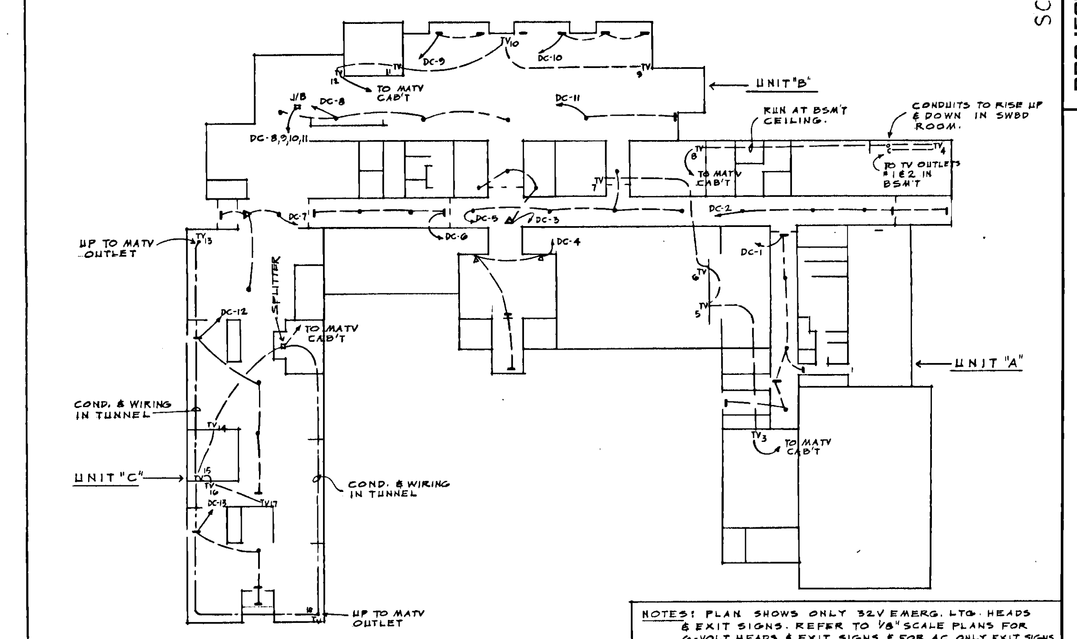
MAIN RISER DIAGRAM

NO SCALE



MASTER TELEVISION ANTENNA SYSTEM RISER DIAGRAM

NO SCALE



NOTES: PLAN SHOWS ONLY 32V EMERG. LTG. HEADS & EXIT SIGNS. REFER TO 1/8" SCALE PLANS FOR 0-VOLT HEADS & EXIT SIGNS & FOR AC ONLY EXIT SIGNS.

CONDUIT RUNS ARE SCHEMATIC ONLY & FINAL ROUTING WILL BE DETERMINED ON THE JOB SITE.

REFER TO 1/8" SCALE PLANS FOR LOCATIONS OF TV OUTLETS & EMERGENCY LIGHTING HEADS & EXIT SIGNS.

MATV & 32V. EMERG LTG SYSTEMS FIRST FLOOR DISTRIBUTION PLAN

NO SCALE

CIRCUIT BREAKER SCHEDULE MAIN SWITCHBOARD

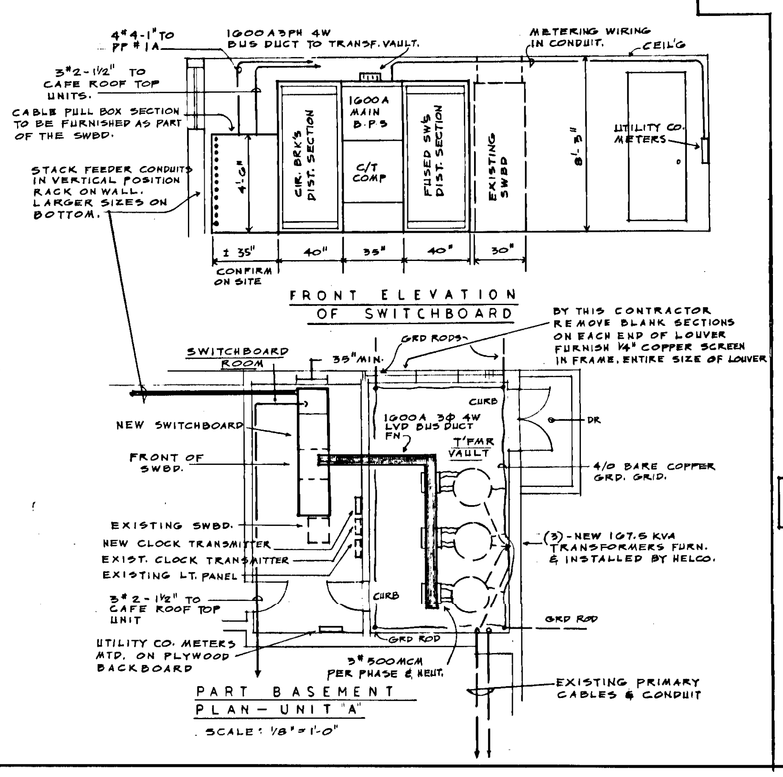
FRAME RATING AMPERE	TYPE	MIN. IC RATING @ 240V SYM
15 - 100	THED	42,000
125 - 400	TJK-4	42,000
450 - 600	TJK-6	42,000

FUSE SCHEDULE MAIN SWBD.

AMP	BUSS FUSE TYPE	CLASS	I.C. RATING	DESCRIPTION
25	FRN	K-5	200,000	CURRENT LIMITING TIME DELAY
600	KTN	K-1	200,000	CURRENT LIMITING
1600	KRP-C	L	200,000	CURRENT LIMITING TIME DELAY

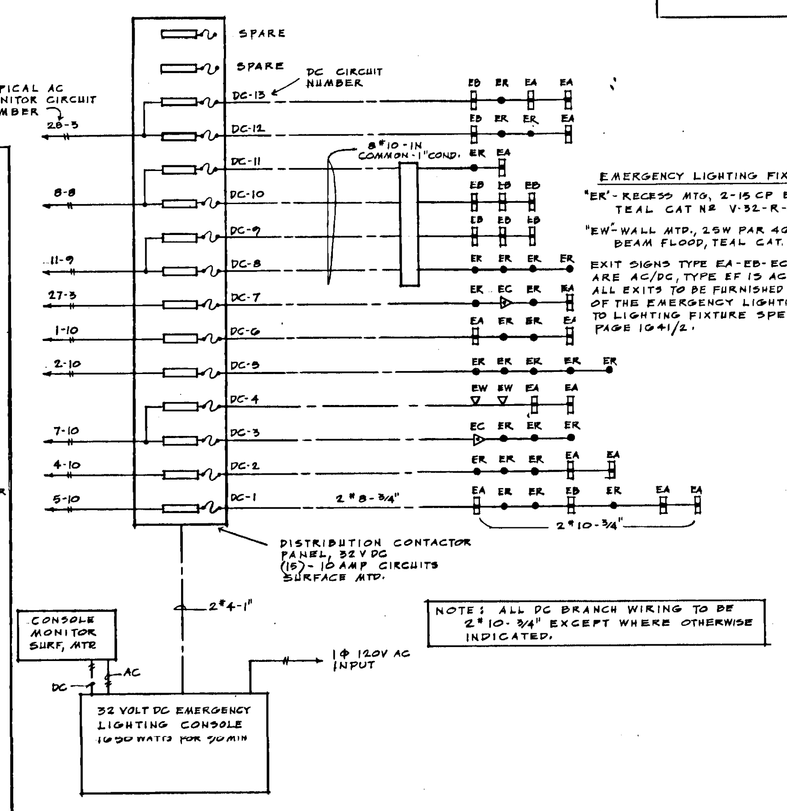
PANEL SCHEDULE

PAN NR	TYPE	MTG.	BUS RATING	BRANCH CIRCUIT BKRS.
3	NLAB	S	225A (EA. SECT)	DOUBLE SECTION PNL. - COMMON TRIM 66-20A1P, 1-50A2P, 3-20A2P, 1-30A2P
8	NLAB	F	225A	30-20A1P
9	NLAB	F	225A	34-20A1P, 1-20A 2P
10	NLAB	S	225A	42-20A1P
PP#3	CCB	S	600A	REFER TO RISER DIAGRAM



PART BASEMENT PLAN - UNIT "A"

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



EMERGENCY LIGHTING FIXTURES

"ER" - RECESS MTD. 2-15 CP BULBS, TEAL CAT NR V-32-R-15-2.

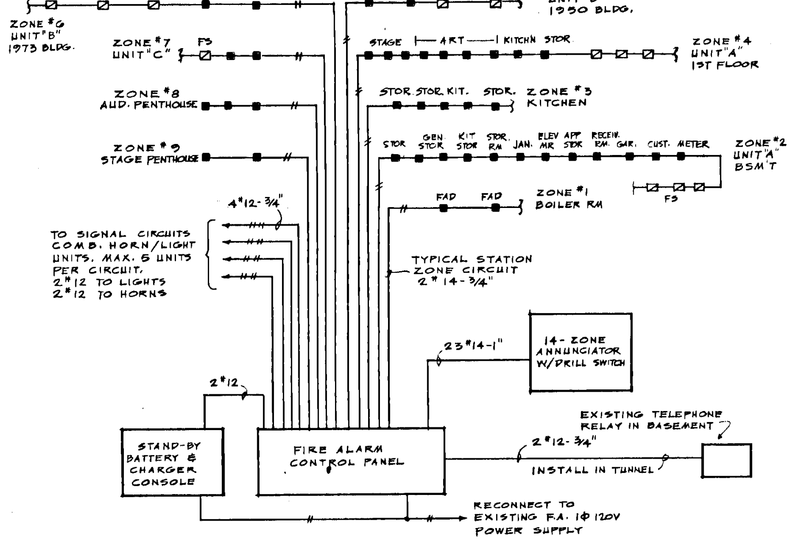
"EW" - WALL MTD. 25W PAR 46 SEALED BEAM FLOOD, TEAL CAT. NR "I".

EXIT SIGNS TYPE EA-EB-EC-ED-EE ARE AC/DC, TYPE EF IS AC ONLY. ALL EXITS TO BE FURNISHED AS PART OF THE EMERGENCY LIGHTING. REFER TO LIGHTING FIXTURE SPEC. PAGE 1041/2.

NOTE: ALL DC BRANCH WIRING TO BE 2"10-¾" EXCEPT WHERE OTHERWISE INDICATED.

EMERGENCY LIGHTING RISER DIAGRAM

NO SCALE



FIRE ALARM RISER DIAGRAM

NO SCALE

BEMIS, FREEMAN & SIRILLA CONSULTING ENGINEERS 40 WETHERSFIELD AVE. HARTFORD, CONN. 06114

SCHOOL RENEWAL PROGRAM - PHASE I

PROJECT NO. RIDGE ELEMENTARY SCHOOL ADDITION AND RENOVATIONS

WEST HARTFORD, CONNECTICUT

DATE MAY 1, 1973

STECKER AND COLAVECCHIO, INC.

800 COTTAGE GROVE ROAD

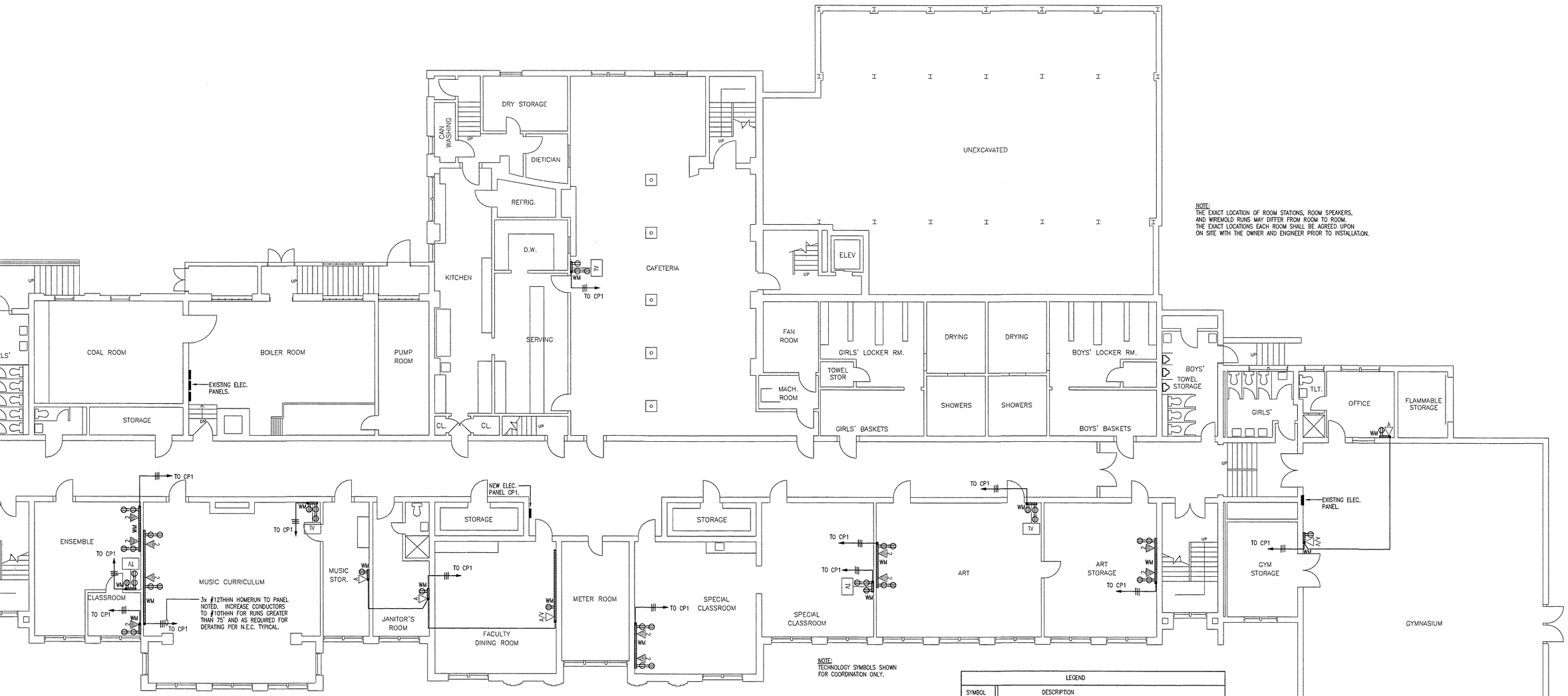
BLOOMFIELD, CONNECTICUT 06002

SHEET TITLE ELECTRICAL

SCALE AS SCALE

DRAWN BY RL

E-7.



NOTE:
THE EXACT LOCATION OF ROOM STATIONS, ROOM SPEAKERS, AND WIREMOLD RUNS MAY DIFFER FROM ROOM TO ROOM. THE EXACT LOCATIONS EACH ROOM SHALL BE AGREED UPON ON SITE WITH THE OWNER AND ENGINEER PRIOR TO INSTALLATION.

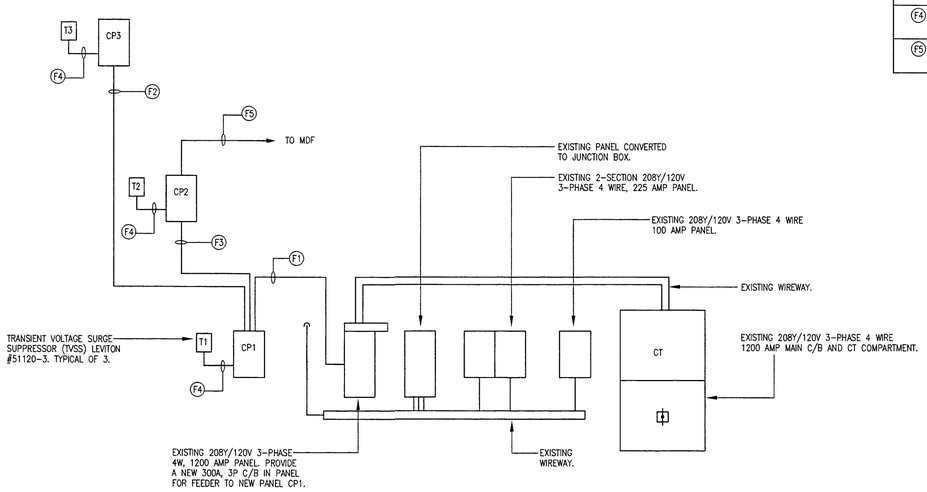
NOTE:
TECHNOLOGY SYMBOLS SHOWN FOR COORDINATION ONLY.

BASEMENT FLOOR PLAN
SCALE: 1/8"=1'-0"

PANELBOARD SCHEDULE				
PANEL	MANUFACTURER AND TYPE	MOUNTING	MAINS RATING	MAINS RATING
CP1	SQUARE D TYPE NQOD 42 SPACE	SURFACE	400 AMP MAIN LUGS 200% NEUTRAL	33-20A,1P 1-30A,3P 2-100A,3P
CP2	SQUARE D TYPE NQOD 42 SPACE	SURFACE	225 AMP MAIN LUGS 200% NEUTRAL	39-20A,1P 1-30A,3P
CP3	SQUARE D TYPE NQOD 42 SPACE	SURFACE	225 AMP MAIN LUGS 200% NEUTRAL	39-20A,1P 1-30A,3P

PROVIDE PANELS WITH COPPER BUS-BARS, COPPER GROUND BAR, COPPER ISOLATED GROUND BAR, BOLT ON CIRCUIT BREAKERS, HINGED DOOR-IN-DOOR TRIM, PLASTIC LAMINATE NAMEPLATE, AND TYPE WRITTEN CIRCUIT DIRECTORY.

PANELBOARD FEEDER SCHEDULE		
TAG	DESCRIPTION	AMPACITY
F1	2-4"C 5x #500MCM THHN 1x #4 THHN GND. AND 1x #6 THHN ISO. GND. IN 4"C.	300A
F2	5x #1THHN AND 1x #8THHN GND IN 2"C.	100A
F3	5x #1THHN 1x #6THHN ISOL. GND. AND 1x #6THHN GND. IN 2"C.	100A
F4	5x #10THHN IN 3/4"C.	30A
F5	1x #6THHN ISOL. GND. IN 3/4"C.	N/A



POWER RISER DIAGRAM
NTS

LEGEND	
SYMBOL	DESCRIPTION
	DUPLEX RECEPTACLE
	QUADRUPLEX RECEPTACLE
	FLUSH FLOOR BOX WITH QUADRUPLEX RECEPTACLE AND DATA COMPARTMENT
WM	WIREMOLD
	BRANCH CIRCUIT HOMERUN. CROSS LINES INDICATE NUMBER OF CONDUCTORS
T#	TRANSIENT VOLTAGE SURGE SUPPRESSOR
CP#	COMPUTER POWER PANEL
GND.	GROUND
C	CONDUIT
C/B	CIRCUIT/BREAKER
NTS	NOT TO SCALE
J/B	JUNCTION BOX
D	DUPLEX DATA OUTLET. SEE TECHNOLOGY DRAWINGS
4	QUADRUPLEX DATA OUTLET. SEE TECHNOLOGY DRAWINGS
V	VIDEO OUTLET. SEE TECHNOLOGY DRAWINGS
A/V	DUPLEX DATA/VOICE/VIDEO OUTLET. SEE TECHNOLOGY DRAWINGS
A	DUPLEX DATA/ VOICE OUTLET. SEE TECHNOLOGY DRAWINGS
MDF	MAIN DISTRIBUTION FRAME
TV	TELEVISION HIGH/LOW AND DATA. SEE TECHNOLOGY DRAWINGS
TV H	TELEVISION HIGH. SEE TECHNOLOGY DRAWINGS

REVISIONS

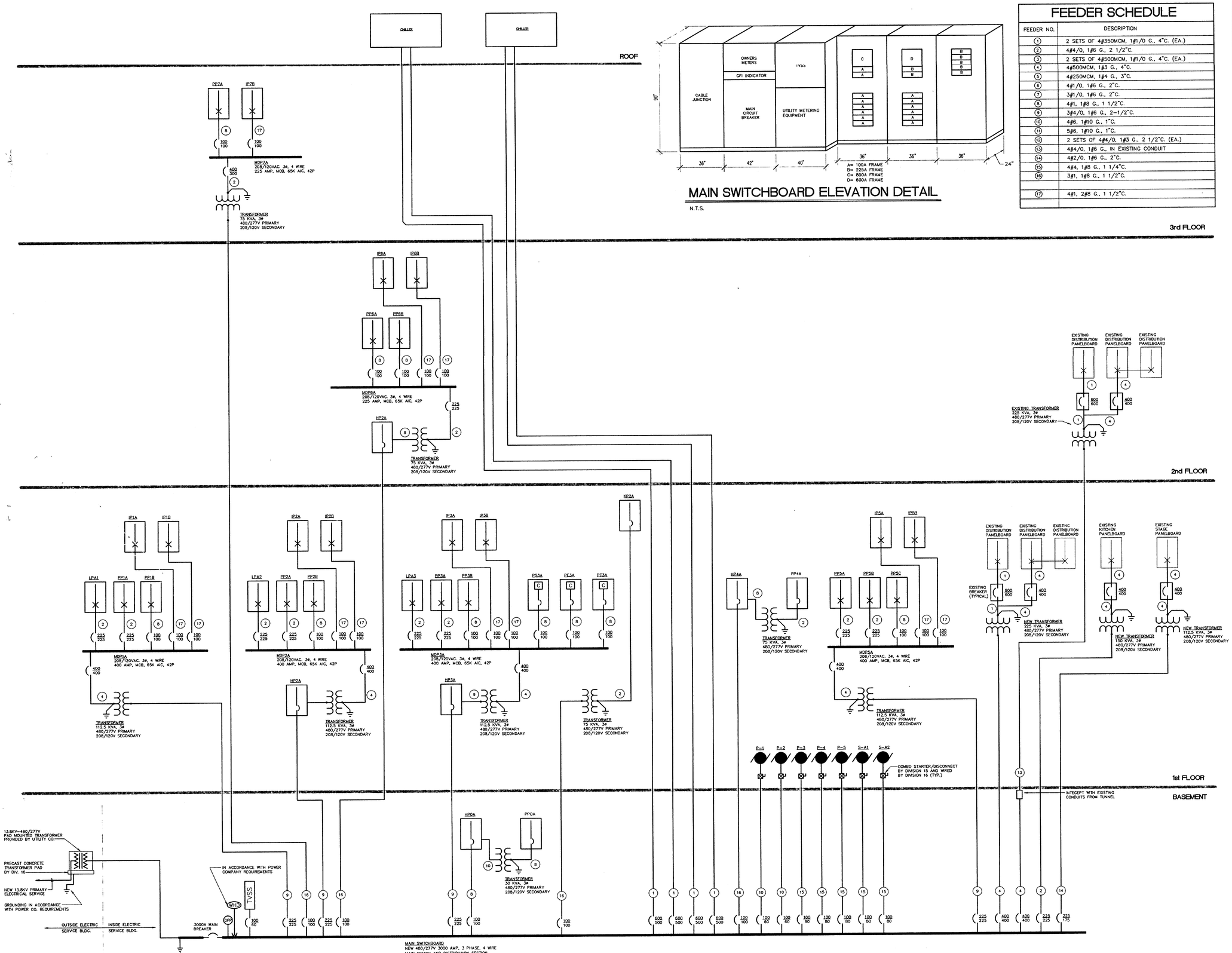
TECHNOLOGY IMPROVEMENTS FOR THE
CHARTER OAK ELEMENTARY SCHOOL
30 PARKER STREET
WEST HARTFORD, CONNECTICUT
TOWN PROJECT # 980601

BEMIS ASSOCIATES LLC
CONSULTING ENGINEERS
FENN PLAZA 101 FENN ROAD
NEWINGTON, CONN. 06111
(860) 667-3233

TITLE
ELECTRICAL PLAN-BASEMENT

DATE: 9/8/98
SCALE:1/8" = 1'- 0"
DRAWN BY: WAB

DWG. NO.
E2



ELECTRICAL POWER ONE-LINE RISER DIAGRAM

N.T.S.

MAIN SWITCHBOARD ELEVATION DETAIL

N.T.S.

FEEDER SCHEDULE

FEEDER NO.	DESCRIPTION
1	2 SETS OF 4#350MCM, 1#1/0 G., 4"C. (EA.)
2	4#4/0, 1#6 G., 2 1/2"C.
3	2 SETS OF 4#500MCM, 1#1/0 G., 4"C. (EA.)
4	4#500MCM, 1#3 G., 4"C.
5	4#250MCM, 1#4 G., 3"C.
6	4#1/0, 1#6 G., 2"C.
7	3#1/0, 1#6 G., 2"C.
8	4#1, 1#8 G., 1 1/2"C.
9	3#4/0, 1#6 G., 2-1/2"C.
10	4#6, 1#10 G., 1"C.
11	5#6, 1#10 G., 1"C.
12	2 SETS OF 4#4/0, 1#3 G., 2 1/2"C. (EA.)
13	4#4/0, 1#6 G., IN EXISTING CONDUIT
14	4#2/0, 1#6 G., 2"C.
15	4#4, 1#8 G., 1 1/4"C.
16	3#1, 1#8 G., 1 1/2"C.
17	4#1, 2#8 G., 1 1/2"C.

GENERAL NOTES:

1. REFER TO DRAWING #E0.00 FOR SYMBOL AND ABBREVIATION DESCRIPTIONS.

NOTES:

1. ALL FEEDERS BETWEEN SWITCHBOARDS LOCATED IN ELECTRIC SERVICE BUILDING AND DISTRIBUTION PANELBOARDS LOCATED WITHIN THE SCHOOL ARE TO BE UNDERGROUND.

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300 YORK STREET NEW HAVEN, CONNECTICUT 06511 (203) 772-2960

STATE OF CONNECTICUT
No. 9760
REGISTERED PROFESSIONAL ENGINEER

CONARD HIGH SCHOOL ALTERATIONS & ADDITIONS

SDE PROJECT 96185-90
110 BERKSHIRE ROAD
WEST HARTFORD, CONNECTICUT

ST. DEPT. OF ED.
SCHOOL FACILITIES UNIT

KEY PLAN

NORTH

Drawing Title
ELECTRICAL RISER DIAGRAM AND DETAILS

Scale N.T.S.
Project No. 9612.00
Date 03/18/97

REVISIONS

NO.	DATE	DESC.

Sheet No.
EP9.03

DRAWING NAME: EPDET3
PLOT SCALE: 1/8" = 1'
DRAWN BY: MAM PROJECT No.: 96181.00
PLOT DATE: 03-27-97, at 21:52 by AFP

SYMBOLS

FLUORESCENT LIGHTING FIXTURE OUTLET	SEE LTG FIXTURE SCHEDULE
INCAND./SCENT OR FLUORESCENT DOWNLIGHT FIXTURE	SEE LTG FIXTURE SCHEDULE
H.I.D. FIXTURE LOCATED IN GYM	SEE LTG FIXTURE SCHEDULE
WALL BRACKET	SEE LTG FIXTURE SCHEDULE
EXIT LIGHT FIXTURE OUTLET	WALL OR CEILING
SINGLE POLE SWITCH - HUBBELL #1221	48" A.F.F.
THREE WAY SWITCH - HUBBELL #1223	48" A.F.F.
DUPLEX CONVENIENCE OUTLET - NEMA 5-20R HUBBELL 5362I	18" A.F.F.
DUPLEX CONVENIENCE OUTLET - W/GROUND FAULT PROTECTION - HUBBELL GF52621	
FIRE ALARM MANUAL STATION	
FIRE ALARM HORN/LIGHT	
MOTOR	
MAGNETIC MOTOR STARTER	
NON-FUSED HEAVY DUTY DISCONNECT SWITCH	
POWER PANELBOARD	
LIGHTING PANELBOARD	
RECESSED PANELBOARD	
RACEWAY CONCEALED IN CEILING OR WALL	
HOMERUN BACK TO PANEL	
JUNCTION BOX	
TELEPHONE OUTLET	
AFF ABOVE FINISHED FLOOR TO CENTERLINE IF ITEM INDICATED	
S_X SOUND SPHERE - MOUNTING AS PER MFG. APPROVED SHOP DWGS	
M SOUND SYSTEM MICROPHONE JACK	
TELEVISION JACK - C/W EMPTY 1/2" EMT BACK TO TELEPHONE SERVICE BACKBOARD	
h HAND DRYER = 3 KW, 1φ, 120V.	
H HAIR DRYER - 1φ, 120V. PLUG-IN.	
S_T MANUAL/THERMAL/MOTOR STARTER. COMPLETE FOR 1φ, 120V MOTORS.	
AS ABOVE BUT MOUNTED ABOVE COUNTER AT HEIGHT DESIGNATED IN THE FIELD. (Sub 1.)	
WP WEATHER PROOF - NEMA 3R	
S SOUND SYSTEM RECESSED OR SURFACE MTD. SPEAKER, COMPLETE.	
J_Z OUTLET BOX FOR SECURITY SYSTEM. MOUNT AS DIRECTED. RUN 1/2" EMT (WITH PULL WIRE) TO AND TERMINATE ABOVE TELEPHONE BACKBOARD	
J_X SOUND SYSTEM TRANSFER JACK. FOR USE OF PORTABLE SOUND SYSTEM EQUIP.	
C CLOCK - OUTLET ONLY. 1φ, 120V. PWR ONLY. MTD. AT 6'-4" A.F.F.	
CLOCK - 1φ, 120V. PWR ONLY MTD AT 7'-6" A.F.F.	
SJ SOUND SYSTEM SOUND JACK	
V SOUND SYSTEM VOLUME CONTROL	

LIGHTING FIXTURE SCHEDULE

A = 2' X 2' TROFFER 'WILLIAMS' #EPG-S262-RWKA110- MOD-ELEC. WITH LAMPS - T8 WITH 1/2" X 1/2" X 1/2" PARABOLIC LOUVER

A_X = 2' X 2' TROFFER/DAMP LOCATION 'WILLIAMS' #EPG-S262-RNKA-125-ABC - MOD - ELEC. WITH LAMPS T8

B = RECESSED D.L. 75W INCANDESCENT FIXTURE. KURT VERSEN C7310-75W PAR-38 SPOT

C = 2' X 4' TROFFER 'WILLIAMS' #EPG-S223-RWKA110- MOD-ELEC. WITH LAMPS - T8 WITH 1/2" X 1/2" X 1/2" PARABOLIC LOUVER

C_X = 2' X 4' TROFFER/DAMP LOCATION 'WILLIAMS' #EPG-S223-RNKA-125-ABC - MOD - ELEC. WITH LAMPS T8

D = ABOLITE #SM-400-MH-208-C73HR-PES-CTBS 208V

D_X = ABOLITE #SM-400-MH-208-C73HR-PES-CTBS W/QUARTZ 250W EMERGENCY LIGHT/SEP. CKT. TO INVERTER PACK 208V

⊗ = EXIT FIXTURE/DAMP LOCATION/EMERGENCY. 'DUAL-LITE' #EX-2100-4X LAMPS - BATTERY CHARGER.

E = WHEN ADJACENT TO FIXTURE DUAL-LITE #UFO-2X EM. PWR. 1-LAMP. NOTE: MODIFY UNIT AS NECESSARY FOR USE WITH INCANDESCENT FIXTURES

F = WALL MOUNTED FORWARD THROW WALL BRKT. 250W METAL HALIDE. NATATORIUM CONSTRUCTION. KURT VERSEN #MH985-250120/250-E-28.

G = SURFACE MTD 175W METAL HALIDE CYLINDER NATATORIUM CONSTRUCTION. KURT VERSEN #S31-175120-175-E-28DX.

G_X = SURFACE MTD 175W METAL HALIDE CYLINDER NATATORIUM CONSTRUCTION. KURT VERSEN #S31-175120-175-E-208X W/QUARTZ 250W EMERGENCY LIGHT/SEP. CIRCUIT TO INVERTER PACK

H = DAMP LOCATION ENCLOSED SURFACE MTD. FLUOR. FIXTURE 4' 2 LAMP 'COLUMBIA #T8-4714-52-742-ELECTRONIC BALLAST

H_1 = DAMP LOCATION ENCLOSED SURFACE MTD. FLUOR. 4' 2 LAMP, 'LITE CONTROL' #TX6892-T8 120Y. ELECTRONIC BALLAST.

J = RECESSED 100W INCANDESCENT, KURT VERSEN A7140-19.

K = COVE LIGHT FLUORESCENT 4' STRIPS 1-LAMP 'KEYSTONE' #CS140-T8-ELEC.

L = 4' WET LOCATION ENCLOSED SURFACE MTD FLUOR. FIXTURE - 1 LAMP COLUMBIA #T8-4714-52-741-ELEC-WET

M = SHOWER LT. INC. DROP LENS 40W LAMP 'PRESCOLITE' #TL-40.

N = RECESSED D.L. 100W METAL HALIDE PEWTER REFLECTOR. KURT VERSEN #R7330-100120-DL-PEWTER.

P = PORC. KEYLESS SOCKET A.H. #111 - 100 W/ IF. LAMP

O = RECESSED WATER PROOF SHOWER LIGHT. PRESCOLITE 13W FLUORESCENT CRXTL30 ENCLOSED AND GASKETED FOR SHOWER USE.

R = INDUSTRIAL FLUORESCENT FIXTURE, SURFACE OR CHAIN HUNG. WIRE GUARD ON BOTTOM. 2-LAMP-T8 KEYSTONE #KL240-T8-ELEC.

S = WALL MOUNTED URN. 250W METAL HALIDE KURT VERSEN #MH985-250120

T = PENDANT MOUNTED FLUORESCENT. LINEAR E2242/6XIC/E224013-MOD T8

SA = POLE MOUNTED OUTDOOR FIXTURE. 25' ALUMINUM POST. 400W METAL HALIDE HE-A-400-MH-DA-208V-BLK-PC. LIGHTING SYSTEMS INC.

SB = WALL PACK. 150W METAL HALIDE EG-WB-150-MH-PG-208V-BRZ-PVS-PC. LIGHTING SYSTEMS INC.

SD = RECESSED WALL STEP AND WALL LIGHT PRESCOLITE 9314753 75W E-17MV. 208V. MOUNTING INSTRUCTIONS: SEE ARCHITECTS DETAILS.

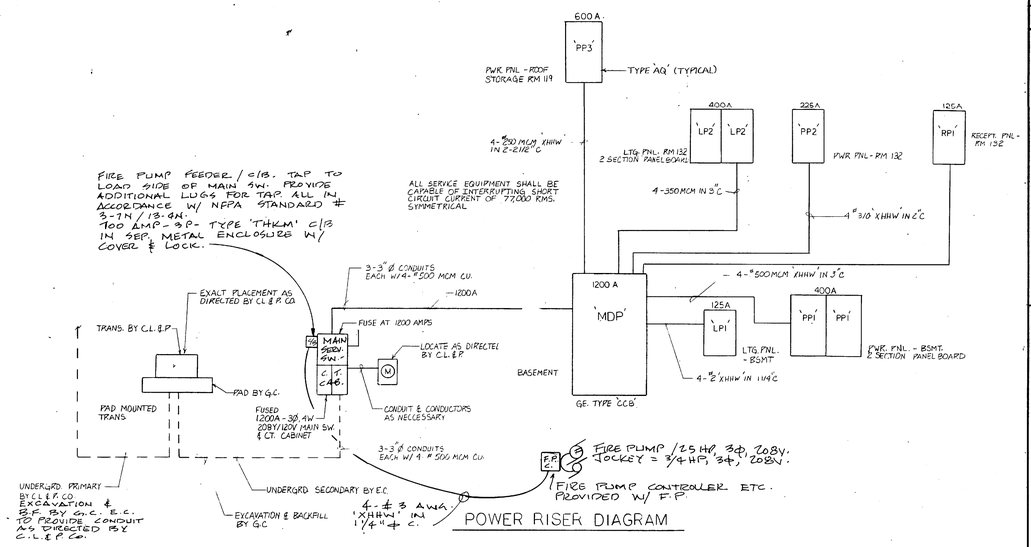
SF = INCANDESCENT SURFACE MOUNTED CYLINDER. MOLDCAST CAT. #530FCR-11 DK BRNZ.

SG = WALL SIGN LIGHT KIM CAT. #ALFI-LS/70HPS20A/DB-E/A-31 208V.

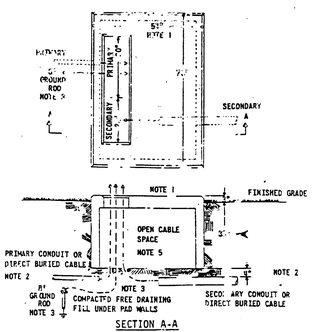
NOTE:
ALL FLUORESCENT LAMPS SHALL BE "OSTRON" T8, 3100°K., ALL H.I.D. LAMPS SHALL BE OF THE MAX. COLOR CORRECTION TYPE.

PANELBOARD SCHEDULE

PANEL	CIRCUIT BREAKERS QUANTITIES ACTIVE	SPARE	TOTAL	AMPS	POLES	FRAME	MAINS	TYPE & MOUNTING
LP1	14	4	18	20	1	TEB	125 AMP LUGS	GE TYPE 'AQ' SURFACE
	4	1	5	20	2	TEB		
LP2	29	8	37	20	1	TEB	400 AMP LUGS	TWO SECTION PANELBOARD GE TYPE 'AQ' RECESSED
	9	3	12	20	2	TEB		
RP1	24	6	30	20	1	TEB	125 AMP LUGS	GE TYPE 'AQ' RECESSED
PP1	25	–	25	20	1	TEB	400 AMP LUGS	TWO SECTION PANELBOARD GE TYPE 'AQ' RECESSED 84-POLE.
	4	–	4	20	2	TEB		
	9	–	9	20	3	TEB		
	4	–	4	40	3	TEB		
	2	–	2	50	3	TEB		
	2	–	2	70	3	TEB		
PP2	17	4	15	20	1	TEB	225 AMP LUGS	GE TYPE 'AQ' RECESSED
	6	1	7	25	1	TEB		
	1	1	2	20	3	TEB		
	2	–	2	40	3	TEB		
	1	–	1	45	3	TEB		
PP3	5	2	7	20	1	TEB	600 AMP LUGS	GE TYPE 'AQ' SURFACE
	2	–	2	20	3	TEB		
	1	–	1	25	3	TEB		
	2	–	2	40	3	TEB		
	2	–	2	50	3	TEB		
	1	–	1	70	3	TEB		
	2	–	2	80	3	TEB		
MDP	2	–	2	100	3	TEB	1200 AMP LUGS	-LP1 PNL, RP1 PNL -PRU-1 THRU PRU-4 -PEERLESS POOL PUMPS -PP2 PNL -LP2 PNL -PP1 PNL -PP3 PNL GE TYPE 'CCB'
	4	–	4	150	3	TJK		
	2	–	2	175	3	TJK		
	1	–	1	225	3	TJK		
	1	–	1	300	3	TJK		
	1	–	1	350	3	TJK		
	1	–	1	500	3	TJK		



POWER RISER DIAGRAM



SECTION A-A

NOTES:
1. 76" x 54" x 36" pad as per SPC P-013 for 75-500 KVA three phase transformer is shown.
2. Conduits must be installed 4" below pad wall to protect cables. Conduits must extend two feet minimum outside the wall. Primary conduit terminates at inside face of wall. Secondary conduits terminate 18" inside the wall. Free cable movement both horizontally and vertically is necessary for connections to transformer.
3. Drive galvanized ground rod in trench near pad with #2 copper conductor from rod thru open cable space and extended 5' above pad. Connect grounds as per DTR 56.509.
4. a. 4-Wire Secondary - On wye or delta secondary system having a grounded neutral conductor the neutral shall have a connection to a grounding electrode at the customer's main switch and at the transformer.
5. Leave slack in primary and secondary cables in open cable space.
6. See also DTR 12.061.

TRANSFORMER PAD DETAIL

ISSUE FOR PERMIT

ISSUE FOR CONSTRUCTION

REVISIONS

GENERAL NOTES

DONOVAN HAMMICK & ERLANDSON ASSOCIATES, INC. CONSULTING ENGINEERS
120 MOUNTAIN AVE.
BLOOMFIELD, CT. 06002 (203) 243-2436

CORNERSTONE POOL
ADDITION / RENOVATION
TOWN OF WEST HARTFORD

SCHEDULES & DETAILS ELECTRICAL

HUGHES GROUP ARCHITECTS
45666 WILLOW POND PLAZA
STERLING, VIRGINIA 22170
703-437-6800

SEPT 5 1990

E-5

ELECTRIC EQUIPMENT SCHEDULE

			EQUIPMENT RATING						DISCONNECT						MOTOR CONTROLLER									
Equipment Designation	Equipment Name	Room Location	H. P.	Load (VA/W)	Voltage	Phase	FLA	MCA	MOCP	# REQUIRED	VOLTAGE	# OF POLES	RATING (AMPS)	ENCLOSURE (NEMA)	O. C.	# REQUIRED	TYPE (NOTE 1)	VOLTAGE	# OF POLES	RATING	ENCLOSURE (NEMA)	O. L. (Y/N)	CONTROL TRANSFORMER	WIRING DETAILS	REMARKS
P-1	SECONDARY PUMP #1	BOILER ROOM	15.00	18625	208	3	46.2	69.3	115.5							DIV.15	VFD							DETAIL 1/E-2	15 HP VFD FURNISHED BY DIV.15
P-2	SECONDARY PUMP #2	BOILER ROOM	15.00	18625	208	3	46.2	69.3	115.5							DIV.15	VFD							DETAIL 1/E-2	15 HP VFD FURNISHED BY DIV.15
P-3	PRIMARY PUMP #1	BOILER ROOM	1.50	2051	208	3	5.7	8.6	14.3							1	ATL	208	3	NEMA 0	NEMA 1	Y	120 Volts	DETAIL 2/E-2	
P-4	PRIMARY PUMP #2	BOILER ROOM	1.50	2051	208	3	5.7	8.6	14.3							1	ATL	208	3	NEMA 0	NEMA 1	Y	120 Volts	DETAIL 2/E-2	
P-5	PRIMARY PUMP #3	BOILER ROOM	1.50	2051	208	3	5.7	8.6	14.3							1	ATL	208	3	NEMA 0	NEMA 1	Y	120 Volts	DETAIL 2/E-2	
P-6	PRIMARY PUMP #4	BOILER ROOM	1.50	2051	208	3	5.7	8.6	14.3							1	ATL	208	3	NEMA 0	NEMA 1	Y	120 Volts	DETAIL 2/E-2	
P-7	RUN-AROUND PUMP	FAN ROOM	0.25	1154	115	1	5.8	8.7	14.5	1	120	1	FRACT.	NEMA 1	N	1	ATL	120	1	NEMA 00	NEMA 1	N		DETAIL 3/E-2	
B-1	BOILER #1	BOILER ROOM	0.75	1587	115	1	13.8	20.7	34.5							DIV.15								DETAIL 4/E-2	
B-2	BOILER #2	BOILER ROOM	0.75	1587	115	1	13.8	20.7	34.5							DIV.15								DETAIL 4/E-2	
B-3	BOILER #3	BOILER ROOM	0.75	1587	115	1	13.8	20.7	34.5							DIV.15								DETAIL 4/E-2	
B-4	BOILER #4	BOILER ROOM	0.75	1587	115	1	13.8	20.7	34.5							DIV.15								DETAIL 4/E-2	
RP-1	RECIRCULATOR PUMP	BOILER ROOM	1/8	506	115	1	4.4	6.6	11.0							1	CONT.	120	1	NEMA 00	NEMA 1	Y		DETAIL 5/E-2	
RP-2	RECIRCULATOR PUMP	BOILER ROOM	1/8	506	115	1	4.4	6.6	11.0							1	CONT.	120	1	NEMA 00	NEMA 1	Y		DETAIL 5/E-2	
RP-3	RECIRCULATOR PUMP	BOILER ROOM	-	ETR	-	-	-	-	-	-	-	-	-	-	-	ETR	-	-	-	-	-	-	-	-	EXISTING TO REMAIN
FOP-1	FUEL OIL PUMP	BOILER ROOM	0.33	828	115	1	7.2	10.8	18.0	1	120	1	30 AMP	NEMA 1	N	DIV.15								DETAIL 6/E-2	
CAF-1	COMBUSTION AIR FAN #1	BOILER ROOM	0.33	828	115	1	7.2	10.8	18.0	DIV.15						1	ATL	120	1	NEMA 00	NEMA 1	N		DETAIL 7/E-2	
CAF-2	COMBUSTION AIR FAN #2	BOILER ROOM	0.33	828	115	1	7.2	10.8	18.0	DIV.15						1	ATL	120	1	NEMA 00	NEMA 1	N		DETAIL 7/E-2	
HWH	HOT WATER HEATER	BOILER ROOM	-	ETR	-	-	-	-	-	-	-	-	-	-	-	ETR	-	-	-	-	-	-	-	-	EXISTING TO REMAIN
ACP-1	COMPRESSOR	BOILER ROOM	1	1586	208	3	4.4	5.5	11.0	1	208	3	30 AMP	NEMA 1	N	ETR	-	-	-	-	-	-	-	-	

NOTE 1:

MOTOR CONTROL TYPE:	
Abbreviation	Description
ATL	Across The Line Motor Starter
D/Y	DELTA/Wye
CONT	Contactor
2S	Two Speed Motor Starter
SWITCH	20 amp light switch
VFD	Variable Frequency Drive, Furnished and Installed by Div. 15, Wired by Div. 16.
ETR	Existing To Remain

PANELBOARD SCHEDULE PP-A
SCHEDULE FOR PANELBOARD PP-A LOCATED IN BOILER ROOM

CKT	DESCRIPTION	VA	VOLTS	PH	WIRE	CONDUIT	AMPS	POLES	REMARKS
1	MAIN BREAKER		208	3			100	3	
2	P-2	16,225	208	3	#3 AWG	1 1/4" EMT	100	3	
3	P-5	2,051	208	3	#10 AWG	3/4" EMT	30	3	
4	P-6	2,051	208	3	#10 AWG	3/4" EMT	30	3	
5	B-3	1,587	120	1	#10 AWG	3/4" EMT	30	1	
6	B-4	1,587	120	1	#10 AWG	3/4" EMT	30	1	
7	RP-2	506	120	1	#12 AWG	3/4" EMT	20	1	
8	CAF-2	828	120	1	#12 AWG	3/4" EMT	20	1	
9	DIV. 15 CONTROLS	1,000	120	1	#12 AWG	3/4" EMT	20	1	
10	LIGHTS	1,000	120	1	#12 AWG	3/4" EMT	20	1	
11	FOP-1	828	120	1	#12 AWG	3/4" EMT	20	1	
12	SPARE BREAKER						20	1	
13	SPARE BREAKER						20	1	
14-24	SPARE SPACE							2	

PANELBOARD SCHEDULE PP-FAN ROOM
SCHEDULE FOR PANELBOARD PP-FAN ROOM LOCATED IN PENTHOUSE

CKT	DESCRIPTION	VA	VOLTS	PH	WIRE	CONDUIT	AMPS	POLES	REMARKS
1	MAIN BREAKER		208	3	ETR	ETR	60	3	
2	AIR SUPPLY FAN #4		208	3	#10 AWG	3/4" EMT	30	3	EXISTING BRANCH CIRCUIT TO REMAIN
3	GEN. EXHAUST FAN #1		208	3	#10 AWG	3/4" EMT	30	3	EXISTING BRANCH CIRCUIT TO REMAIN
4	TOILET EXHAUST FAN #2		208	3	#10 AWG	3/4" EMT	30	3	EXISTING BRANCH CIRCUIT TO REMAIN
5	TIMESWITCH		120	1	#10 AWG	3/4" EMT	30	3	EXISTING BRANCH CIRCUIT TO REMAIN
6	DIV. 15 CONTROLS	1,000	120	1	#12 AWG	3/4" EMT	20	1	
7	P-7	1,154	120	1	#12 AWG	3/4" EMT	20	1	
8	SPARE BREAKER						20	1	
9	SPARE BREAKER						20	1	
	SPARE SPACE							4	

SWITCHGEAR EQUIPMENT SCHEDULE

EQUIPMENT	LOCATION	RATINGS					FEEDER SIZE			BASED ON SIEMENS			Vibration Isolation and/or Seismic Restraint		REMARKS
		VOLTAGE	PHASE	MAIN BUS	MAIN BREAKER	AIC RATING	CONDUCTORS	CONDUIT	LENGTH	PRODUCT	MOUNTING	DIMENSIONS	Isolation/Restraint Type (per Specification 16193, 2.02)	Static Deflection	
MDP-A	ELECTRICAL ROOM	120/208	3	400 AMPS		ETR	ETR	ETR	ETR						EXISTING TO REMAIN
PP-BR	BOILER ROOM	120/208	3	150 AMPS	125 AMPS	22,000	4 - #1 AWG	1-1 1/2" EMT	260 FT		WALL				
PP-B	BOILER ROOM	120/208	3	50 AMPS	50 AMPS	22,000	4 - #8 AWG	1-3/4" EMT	260 FT		WALL				EXISTING TO REMAIN
PP-C	BOILER ROOM	120/208	3	100 AMPS	100 AMPS		4 - #3 AWG	1-1 1/4" EMT	260 FT		WALL				EXISTING TO REMAIN
PP-A	BOILER ROOM	120/208	3	100 AMPS	100 AMPS	22,000	4 - #3 AWG	1-1 1/4" EMT	260 FT	SERIES S1	WALL	20"Wx44"Hx5.75"D	3, 18, 19		
PP-FAN ROOM	FAN ROOM	120/208	3	100 AMPS	60 AMPS	22,000	ETR	ETR		SERIES S1	WALL	20"Wx44"Hx5.75"D	3, 18, 19		

LENGTH OF FEEDER SPECIFIED HERE WAS USED FOR VOLTAGE DROP AND SHORT CIRCUIT CALCULATIONS.
LENGTH OF FEEDER SHALL NOT BE USED FOR BIDDING.

PANEL PP-BR SCHEDULE
SCHEDULE FOR PANEL PP-BR LOCATED IN BOILER ROOM

CKT	DESCRIPTION	VA	VOLTS	PH	WIRE	CONDUIT	AMPS	POLES	REMARKS
1	MAIN BREAKER		208	3	ETR	ETR	125	3	
2	P-1	16,225	208	3	#3 AWG	1 1/4" EMT	100	3	
3	P-3	2,051	208	3	#10 AWG	3/4" EMT	30	3	
4	P-4	2,051	208	3	#10 AWG	3/4" EMT	30	3	
5	B-1	1,587	120	1	#10 AWG	3/4" EMT	30	1	
6	B-2	1,587	120	1	#10 AWG	3/4" EMT	30	1	
7	RCP-1	506	120	1	#12 AWG	3/4" EMT	20	1	
8	CAF-1	828	120	1	#12 AWG	3/4" EMT	20	1	
9	CONF. HEATER		120	1	#12 AWG	3/4" EMT	20	1	EXISTING BRANCH CIRCUIT TO REMAIN
10	CONF. HEATER		120	1	#12 AWG	3/4" EMT	20	1	EXISTING BRANCH CIRCUIT TO REMAIN
11	CONF. HEATER		120	1	#12 AWG	3/4" EMT	20	1	EXISTING BRANCH CIRCUIT TO REMAIN
12	COPY MACHINE		120	1	#12 AWG	3/4" EMT	20	1	EXISTING BRANCH CIRCUIT TO REMAIN
13	SPARE BREAKER						20	1	EXISTING BRANCH CIRCUIT TO REMAIN
14	SPARE BREAKER						20	1	
15	SPARE BREAKER						20	1	
16	SPARE BREAKER						20	1	
17	SPARE BREAKER						20	1	
18	SPARE BREAKER						20	1	
19	SPARE BREAKER						20	1	
20-42	SPARE SPACE							13	

LIGHTING FIXTURE SCHEDULE

Type A - 9' x 4' fluorescent wraparound
Mounting - Pendant
Lens - .125 Acrylic Prismatic
Lamps - 2 - T-8 Fluorescent 41K
Ballast - 1 electronic octron

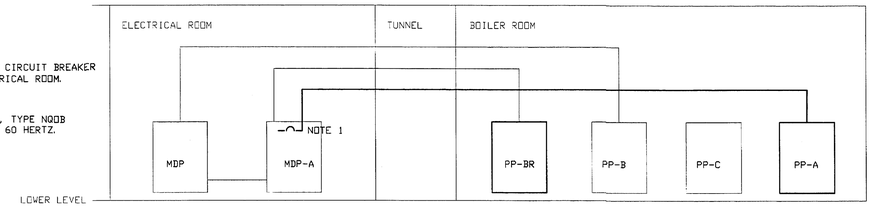
Daybrite - DWN-232-1/2-EB-21
Columbia - WC4-232-EBB120
Metalux - W-232A-120-EBB1
Lithonia - SB232-A-120-GEB
Lightolier - WA240120SD-ASC
Sinkar - SY950-232B11

LIGHTING FIXTURE STATUS LEGEND	
A	NEW FIXTURE, PENDANT MOUNTED

NOTES:

NOTE 1 PROVIDE 100 AMP, 3 POLE CIRCUIT BREAKER IN PANEL MDP-A IN ELECTRICAL ROOM.

MDP-A PANEL INFORMATION:
SQUARE D, 400 AMP PANEL, TYPE NQOB
208 V / 120 V, 3 PHASE, 60 HERTZ.



8 / E-2 PARTIAL POWER RISER
N. T. S

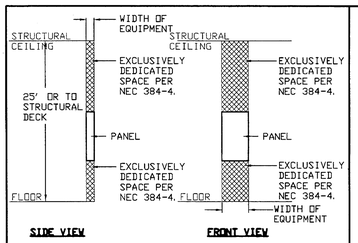
ELECTRCIAL LEGEND

POWER CONNECTIONS

	EQUIPMENT PROVIDED BY DIVISION 15 UNLESS OTHERWISE NOTED.
	RECEPTACLE COMPATIBLE WITH EQUIPMENT INSTALLED. COORDINATE LOCATION WITH OTHER TRADES.
FRAC	--(FRAC) FRACTIONAL HORSEPOWER SWITCH MOUNTED WITHIN 5' OF EQUIPMENT SERVED
	MANUAL DISCONNECT SAFETY SWITCH FOR HEATING EQUIPMENT MOUNTED AT 72" AFF TO CENTER OF BOX. WIRE IN SERIES WITH CONTROL CIRCUIT.
(1)	MANUAL DISCONNECT SAFETY SWITCH FOR HEATING EQUIPMENT MOUNTED ADJACENT TO FURNACE. WIRE IN SERIES WITH EQUIPMENT.
	FIREMATIC MOUNTED ON CEILING ABOVE HEATING EQUIPMENT. WIRE IN SERIES WITH CONTROL CIRCUIT.
	FUSE
	CIRCUIT BREAKER
	PANELBOARD SURFACE MOUNTED AT 54" TO CENTER OF BOX.
	CONTACTOR
	MANUAL DISCONNECT SWITCH
	FUSED DISCONNECT SWITCH
	JUNCTION BOX
	MAGNETIC MOTOR STARTER
	NOTES: 1) NUMBER ADJACENT TO ELECTRICAL DEVICES INDICATES CIRCUIT NUMBER.

LIGHTING

$	SWITCH TO EQUIPMENT SERVED MOUNTED 48" AFF TO CENTER OF BOX UNLESS OTHERWISE SHOWN ON DRAWING. PROVIDE WHERE SHOWN:



9 / E-2 WORKING CLEARANCE DETAIL
NOT TO SCALE

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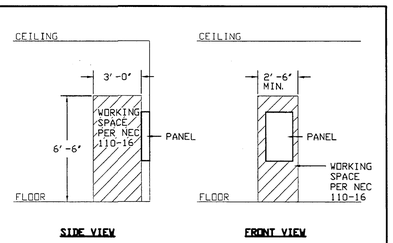
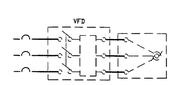


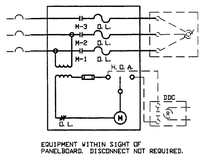
10 / E-2 WORKING CLEARANCE DETAIL
NOT TO SCALE

ATA REF: N:\DETWORK 05/07/96 20:04

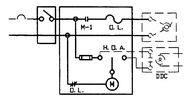
WIRING DIAGRAM LEGEND	
- - - -	DEVICES/EQUIPMENT/WIRING BY DIV. 15
———	POWER WIRING BY DIV. 16
———	DEVICES PROVIDED BY DIV. 16



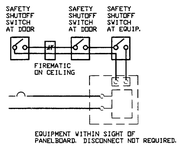
1 / E-2 WIRING DIAGRAMS
N. T. S



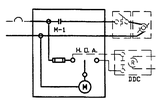
2 / E-2 WIRING DIAGRAMS
N. T. S



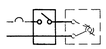
3 / E-2 WIRING DIAGRAMS
N. T. S



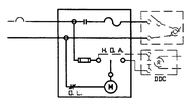
4 / E-2 WIRING DIAGRAMS
N. T. S



5 / E-2 WIRING DIAGRAMS
N. T. S



6 / E-2 WIRING DIAGRAMS
N. T. S



7 / E-2 WIRING DIAGRAMS
N. T. S

APPLIED THERMODYNAMICS ASSOCIATES, INC.
CONSULTING ENGINEERS
860-742-5377
1129 MAIN STREET COVENTRY, CT 06238

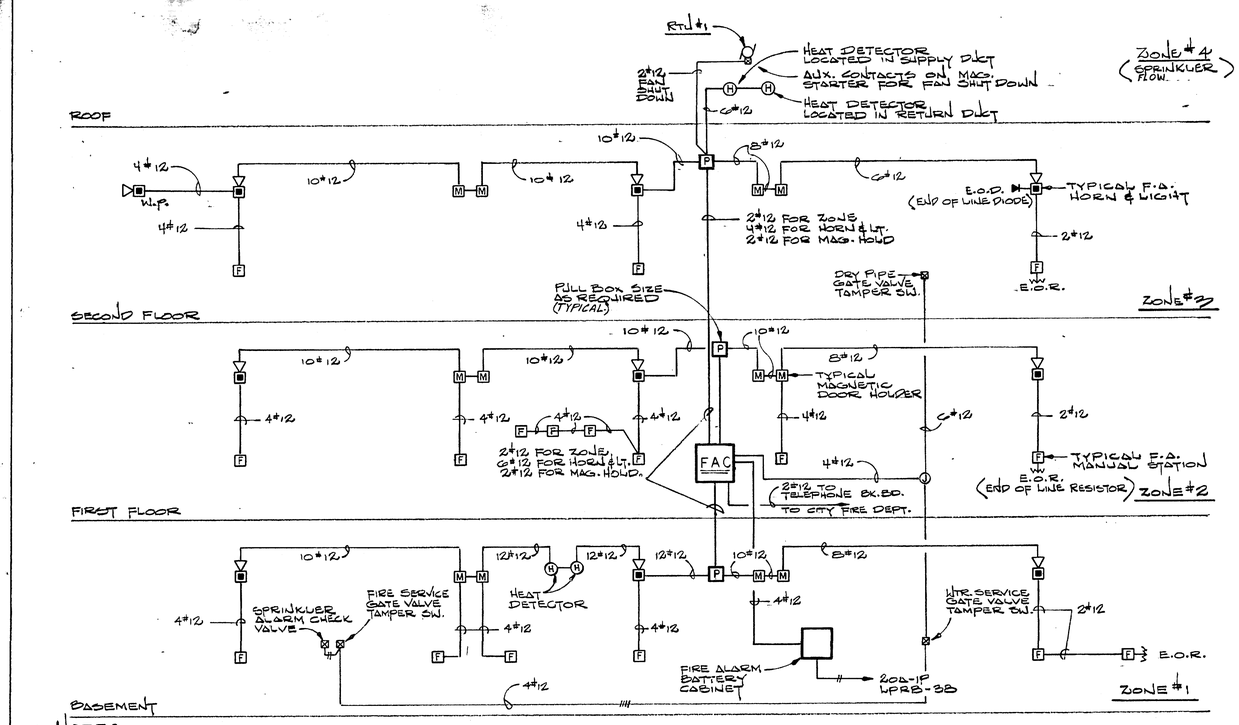
ATA NUMBER 9999
PROJECT

BOILER REPLACEMENT
DUFFY ELEMENTARY SCHOOL
WEST HARTFORD, CT

DRAWING TITLE: ELECTRICAL DETAILS AND SCHEDULES

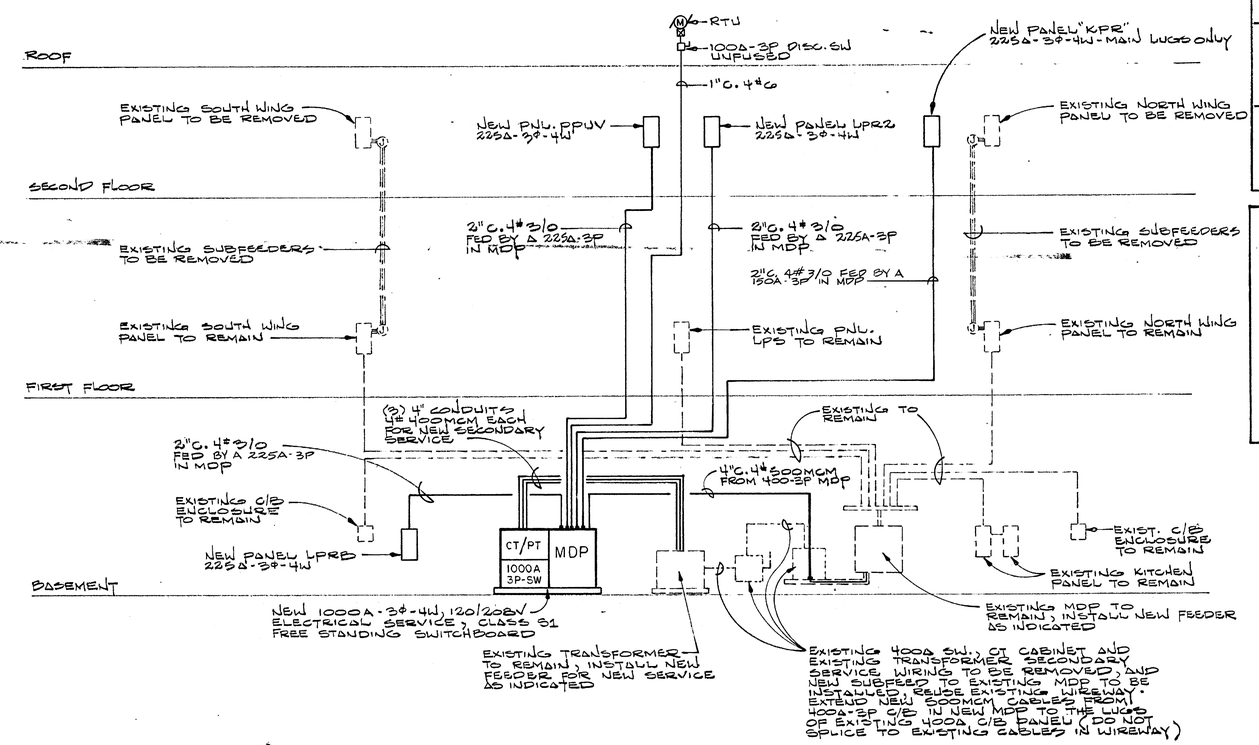
NO.	REVISION	DATE	APPR.

DRAWN BY: DJ
APPROVED BY: D. R. J.
ISSUE DATE: APRIL 21, 1999
SCALE: AS NOTED
DRAWING NUMBER: E-2



NOTE:
ELECTRICAL CONTRACTOR SHALL VERIFY ALL WIRING WITH F.A. EQUIPMENT MANUFACTURER, FOR EXACT NUMBER & LOCATIONS SEE ELECTRICAL FLOOR PLANS

FIRE ALARM RISER DIAGRAM
NOT TO SCALE



ELECTRICAL POWER RISER DIAGRAM
NOT TO SCALE

LIGHTING FIXTURE SCHEDULE

All fluorescent lamps to be warm white, rapid start. All fluorescent and mercury vapor ballast to be 120 Volt. Fluorescent ballast to be Class "P", ETL-CBM ceritfied. All incandescent lamps to be 125 Volt.

TYPE	DESCRIPTION	LAMPS	MFG. & CAT. No.	MOUNTING
A	2' x 4' recessed fluorescent troffer; air handling type - air return and heat extract with acrylic prismatic lens, regressed door, black reveal on four sides and baked white enamel finish. Maximum depth of fixture to be 5". 120 Volt.	4-F40T12/RS/WW	Columbia Lighting, Inc. 2000 Series Cat. #2446G-S2-244, or equal by Westinghouse	Ceiling recessed
A_1	Same as type 'A', except to be 2' x 2' with U lamps. 120 Volt.	2-F40T12/RS/WW/U	Columbing Lighting, Inc. 5400 Series Cat. #5446G-S2-222U, or equal by Westinghouse	Ceiling recessed
B	Nominal 16" x 48". Surface mounted, fluorescent with wraparound acyrlic prismatic lens, black end caps. 120 Volt.	2-F40T12/RS/WW	Sylvania, Carolina Series Cat. #NDW-2404-34188, or equal by Westinghouse	Ceiling surface
B_1	Same as type 'B', except to be pendant mounted. 120 Volt.	2-F40T12/RS/WW	Sylvania - Carolina Series Cat. #NDW-2404-334188, equal by Westinghouse	Pendant mounted as high as possible in corridors. Verify mounting height with Engineer and Architect
C	Surface mounted incandescent round drum type, with 12" diameter, white opal glass bowl. 120 Volt.	2-60 Watt A-19	Kurt Versen Cat. #L834, or approved equal	Ceiling surface
D	Wall mounted fluorescent with red oak shield with clear matte lacquer finish. Provide end caps where end of fixtures is exposed. Sizes as indicated on Drawings. 120 Volt.	2 per fixture, sizes as needed for length of fixture	Lam Profile FB-240, or approved equal	Wall surface
E	Recessed incandescent downlight with splayed lens ring, fresnel lens and matte white enamel finish on exposed parts. 120 Volt.	1-100 Watt A-19	Kurt Versen Cat. #F5671, or approved equal	Ceiling recessed
F	Pendant mounted incandescent with 36" diameter globe, closed bottom, matte white stem. Provide ceiling canopy. 120 Volt.	1-300 Watt PS-30 and 3-100 Watt A-19	Habitat, Cat. #32148 with stem Cat. #32195, or approved equal	Ceiling pendant with bottom of fixture 14'-0" A.F.F.
G	Surface mounted incandescent with nominal 12-3/8" diameter opal glass diffuser. 120 Volt.	2-75 Watt A-19	Lightolier - Opalux Cat. #4365, or approved equal	Ceiling surface
H	Outdoor mercury vapor wall bracket, gasketed, approved for wet locations with guard and prismatic refractor. 120 Volt.	1-175 Watt Mercury Vapor	Holophane - Wall-packette. Cat. #417-120, or approved equal	Wall surface
X	Wall back mounted Exit Sign with 3/4" stroke 6" high red lettering. Metal stencil face black housing. Provide arrows as indicated on Floor Plans. 120 Volt.	As provided	Dual-Lite Exquisite Sign - Lite 2 Series SRG, or approved equal	Surface Wall back mounted
X_1	Same as type 'X', except to be wall end mounted. 120 Volt	As provided	Dual-Lite Exquisite Sign - Lite 2 Series SRG, or approved equal.	Surface Wall end mounted
X_2	Same as type 'X', except to be ceiling mounted. 120 Volt.	As provided	Dual-Lite Exquisite Sign - Lite 2 Series SRG, or approved equal	Ceiling surface or pendant mounted
Master Emergency Lighting Unit	Square semi-recessed type, self contained with capabilities to power exit signs and/or remote emergency lighting unit with acrylic prismatic lens, test switch. 120 Volt.	Miniature High output Halogen Lamp	Dual-Lite - Lite 2 Series SRG, or approved equal	Ceiling surface or recessed
Remote Emergency Lighting Unit	Square semi-recessed type with acrylic prismatic lens. 120 Volt	Miniature High output Halogen Lamp	Dual Lite - Lite 2 Series SRG, or approved equal	Ceiling surface or recessed

MAIN DISTRIBUTION PANEL

MDP shall be General Electric Type AV Class S1 Switchboard. MDP shall be arranged with Class S cubicle on the left as you face the front of MDP. Class S cubicle shall be top fed, with main circuit breaker, and space and bussing for Heloco C/B's and P/T's for metering. Main circuit breaker shall be molded case type TKM-12, 1,000 Ampere, 3-pole. Class 1 cubicle shall contain distribution circuit breakers for feeds to panels and equipment. Feeder circuits shall be top exit. Class 1 cubicle shall be bus-connected to the main circuit breaker cubicle. S1 cubicles shall consist of not less than 12 gauge steel panels secured to steel frames bolted together and mounted against wall. Cubicles shall be finished with rust inhibiting paint and finished coat of gray paint. All front panels shall be removable and all equipment and connections shall be accessible from the front. Channels shall be provided under cubicles to raise unit a minimum of 1-1/2" above floor, and be securely fastened to floor

MDP bussing shall be rated for 1,000 amperes, 208 wye/120 Volt, 3-phase, 4-wire, 100% neutral. Provide continuous ground bus, with common connection to neutral, and suitable grounding to building and transformer. Bussing shall be braced for 50,000 amperes, asymmetric I.C. All bussing in cubicles shall be insulated. Feeder circuit breakers shall be:

150A-3P — Kitchen Panel ——— KPR
225A-3P — 2nd Floor Power Panel — LPR2
225A-3P — 2nd Floor Unit Ventilator Panel — PPUV
225A-3P — Basement Power Panel ——— LPRB

Space and bussing for two (2) future 225A-3P. - All feeder C/B's to be rated for 25,000 amperes, symmetrical, interrupting.

CONTRACTOR TAKE NOTE

DISPOSITION AND REMOVAL FROM SITE OF ALL EQUIPMENT AND MATERIAL SHOWN ON PLANS TO BE REMOVED IS TO BE THE RESPONSIBILITY OF THE CONTRACTOR, WITH THE EXCEPTION OF THE FOLLOWING, WHICH ARE TO BE TURNED OVER TO THE TOWN OF WEST HARTFORD

1. LIGHTING FIXTURES
2. DISCONNECT SWITCHES, STARTERS
3. EMERGENCY LIGHTING UNITS
4. MOTORS

SEE DRAWING E-2 FOR PANEL SCHEDULE

ELECTRICAL LEGEND

	Incandescent or H.I.D. lighting fixture, ceiling mounted, recessed. Letter indicates type. See Lighting Fixture Schedule.
	Incandescent or H.I.D. lighting fixture, ceiling mounted, surface. Letter indicates type. See Lighting Fixture Schedule.
	Incandescent or H.I.D. lighting fixture, mounted on wall surface. Letter indicates type. See Lighting Fixture Schedule.
	Keyless porcelain lamp holder with grounded receptacle P&S #37.
	Fluorescent lighting fixtures, letter indicates type. See Lighting Fixture Schedule.
	Existing Lighting Fixtures to be removed.
	Master Emergency lighting unit. See Lighting Fixture Schedule.
	Remote Emergency lighting unit. See Lighting Fixture Schedule.
	Exit sign with directional arrows and mounting as required. See Lighting Fixture Schedule.
	Indicates existing exit sign to be removed.
S	Wall switch, SPST, Mount 4'-0" AFF. Color by Architect.
S_3	Wall switch, SPDT, Mount 4'-0" AFF. Color by Architect.
S_4	Wall switch, DPDT, Mount 4-0" AFF. Color by Architect.
S S3 S4	Existing wall switches to be removed.
S_T	TT Switch with termal overload element, current rated, with pilot light.
S_{BE}	Boiler emergency shut-off switch single pole, Arrow-Hart #293.
	20A. duplex receptacle, Mount 18" AFF.
WP	20A. weatherproof duplex receptacle and plate.
	Combination 120V/208V receptacle, Mount 18" AFF. Color by Architect.
	Existing power outlets to be removed.
	Disconnect switch sized as indicated on floor plan.
	Motor controller supplied by others, to be installed and wired by Electrical Contractor.
M	Motor as noted on Plans, by others. To be wired by Electrical Contractor.
J	Junction Box
	Breaker panel surface mounted 120/208V-3Φ-4W.
	Existing breaker panel recessed or surface mounted 120/208V-3Φ.
	Concealed conduit with conductors, above ceiling, in walls, in or under the floor.
	Schematic Switching.
	Home run to distribution panel as indicated.
	Control wiring.
	D.C. wiring to remote emergency lighting units and exit signs.
	Indicates existing wiring to be removed.
	Existing homerun to panelboard, switch or lighting fixture as indicated on floor plans to be removed. Verify in field.
	Multioutlet raceway as indicated on floor plans.
T	Thermostat by others wiring by Electric Contractor.
S	Solenoid valve by others. Wiring by Electrical Contractor.
T	0-5 HOUR MARK TIME SWITCH BY OTHERS, WIRING BY ELECT. CONTR.
	FIRE ALARM SYSTEM
H	Heat Detector low temperature.
E	Manual Station.
M	Magnetic door holder.
FA	Control Cabinet.
	Horn and light combination.
	Existing fire alarm devices to be removed.
	Existing emergency lighting battery unit to be removed.
	Existing telephone or communication handset to be removed.
	Telephone outlet with 3/4" conduit stub extended to above ceiling area.
	Existing clock to be removed and reinstalled - Relocate as necessitated by structural renovation. See Floor Plans.
	Reinstalled or relocated clock.
A	Ampere
AFF	Above Finished Floor
AFG	Above Finished Grade
F:	Fused as Indicated
FA	Fire Alarm
P	Pole
PGFI	Personnel Ground Fault Interrupter
UF	Unfused
W	Wire
WP	Weather Proof
EF	Exhaust Fan
WEF	Wall Exhaust Fan
EWC	Electric Water Cooler
IEF	Inline Exhaust Fan
MD	Motorized Damper
REE	Roof Exhaust Fan
CUH	Cabinet Unit Heater
U.V.	Unit Ventilator

RISER DIAGRAMS & SCHEDULES

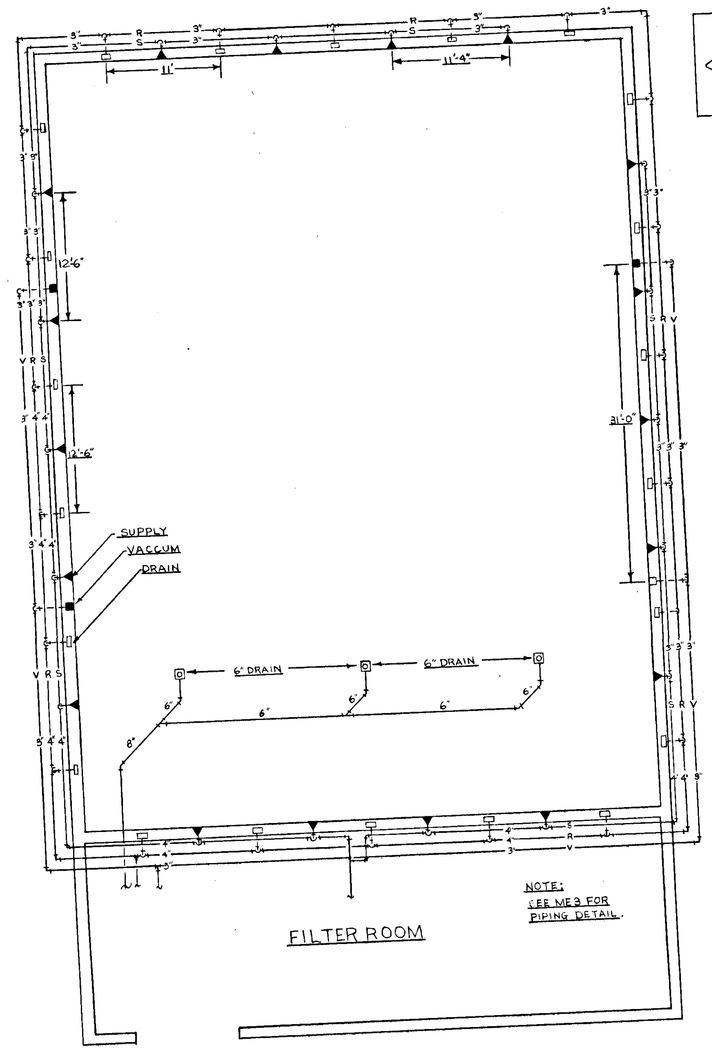
CONTRACTOR TO TAKE AND VERIFY ALL DIMENSIONS AND CONDITIONS ON THE JOB AND SHALL BE HELD RESPONSIBLE FOR SAME.

BURTON AND VAN HOUTEN
ENGINEERS INC.
10 N. MAIN ST. WEST HARTFORD, CONN. 06107

ELMWOOD COMMUNITY CENTER
WEST HARTFORD, CONNECTICUT

KAESTLE BOOS ASSOCIATES
ARCHITECTS INC.
30 BANK ST. NEW BRITAIN
CONNECTICUT 06051
(203) 229-0391

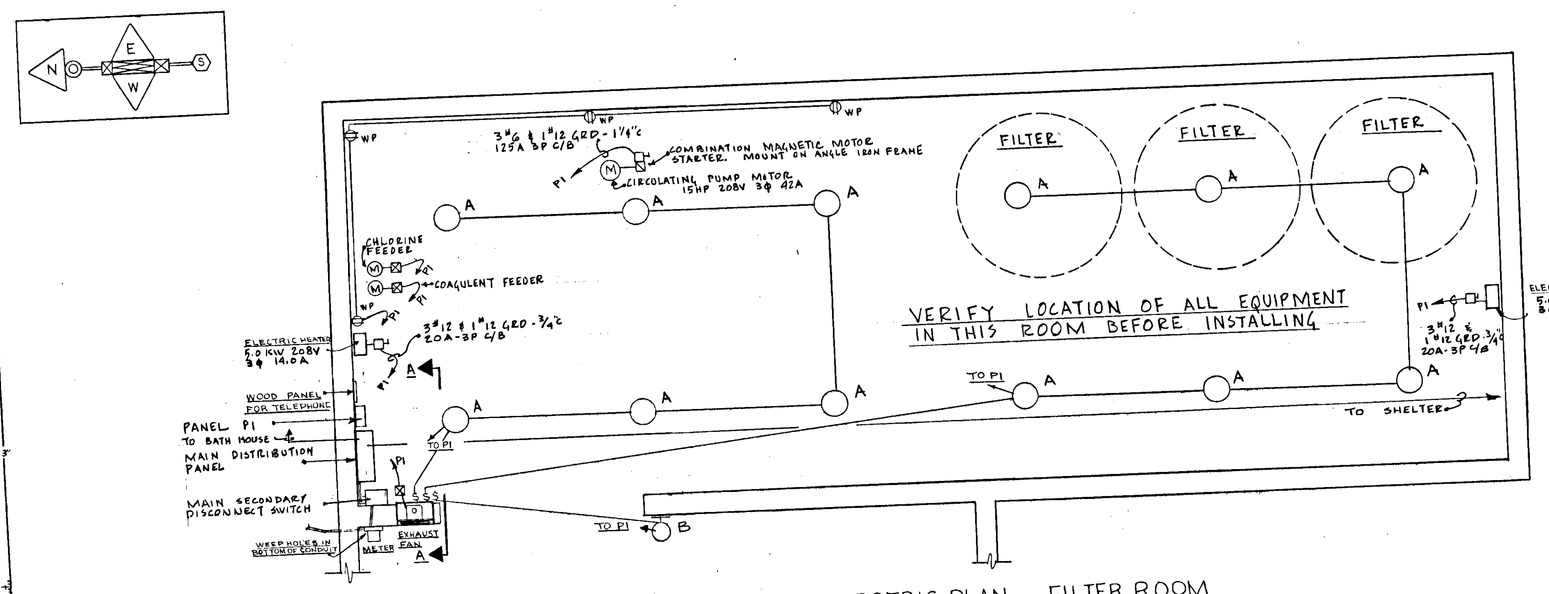
DATE AUG. 12, 1977
SHEET NO. E-4



NOTE:
SEE ME3 FOR PIPING DETAIL.

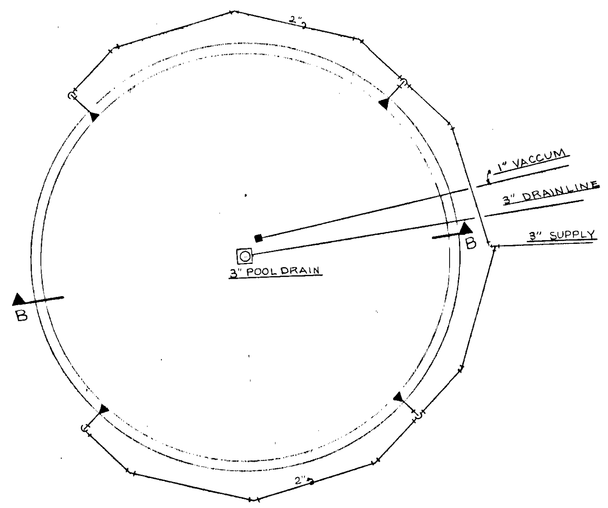
FILTER ROOM

POOL PLUMBING DETAIL
SCALE: 1/8" = 1'-0"

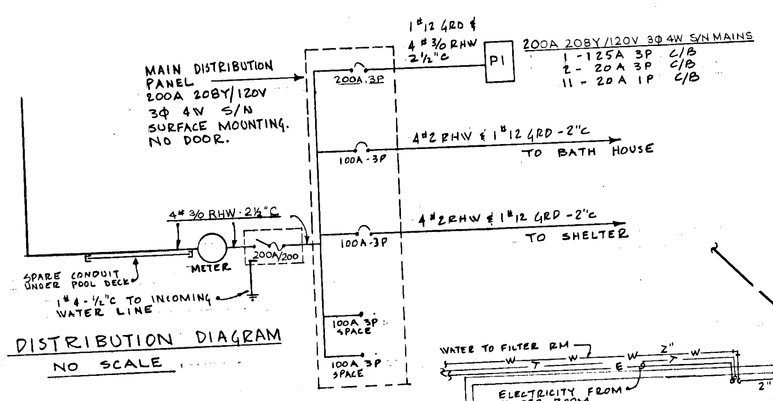


VERIFY LOCATION OF ALL EQUIPMENT IN THIS ROOM BEFORE INSTALLING

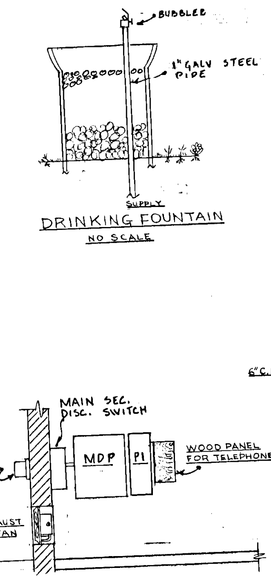
ELECTRIC PLAN - FILTER ROOM
SCALE: 1/4" = 1'-0"



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

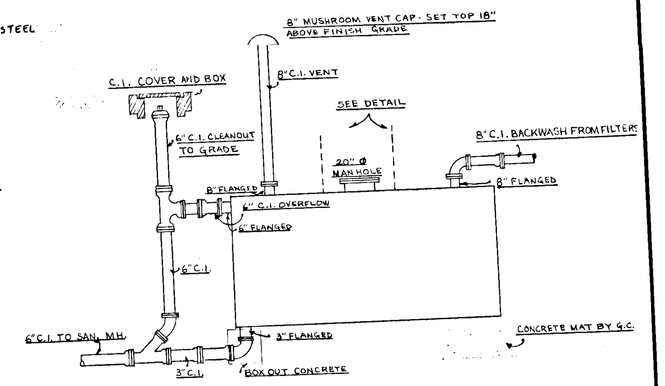


DISTRIBUTION DIAGRAM
NO SCALE

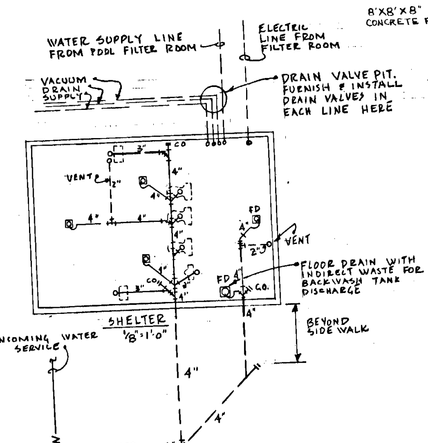


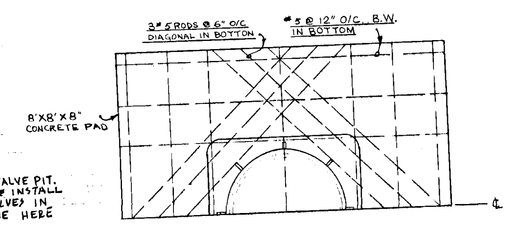
DRINKING FOUNTAIN
NO SCALE

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

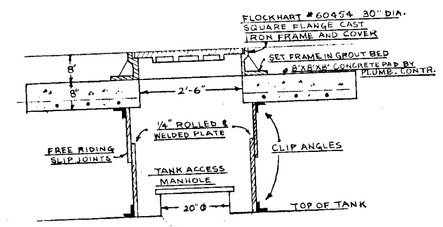


BACKWASH TANK AND PIPING
NO SCALE

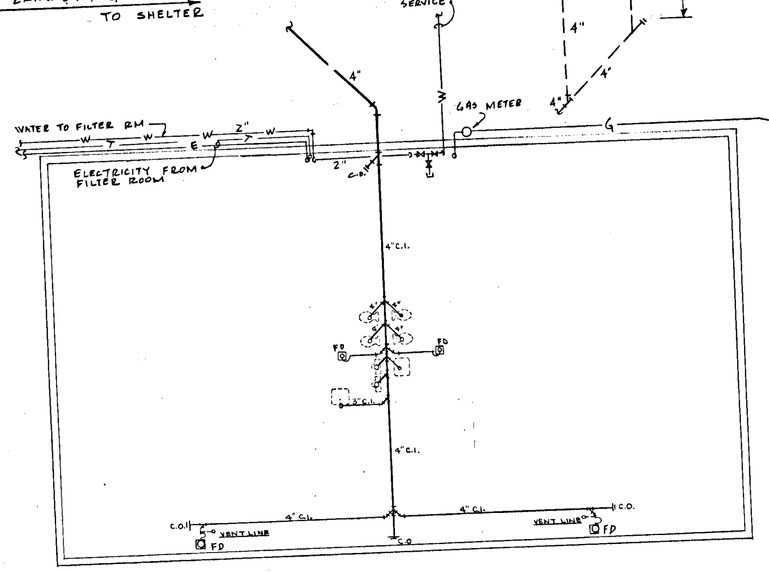




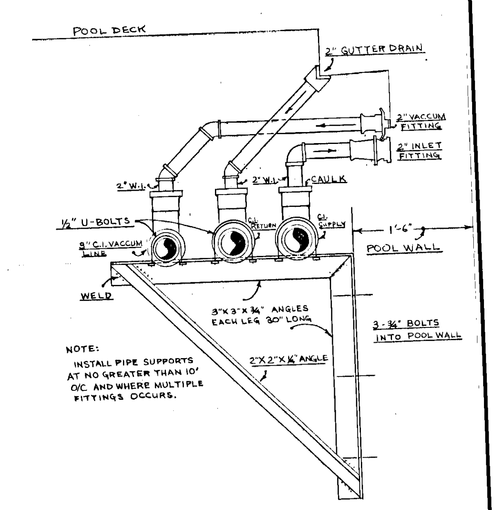
HALF PLAN



SECTION
DETAIL
BACKWASH TANK ACCESS MANHOLE
SCALE: 1/2" = 1'-0"

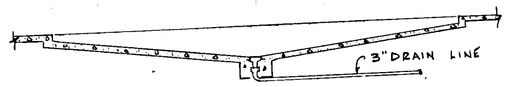


BATH HOUSE
SCALE: 1/8" = 1'-0"



NOTE:
INSTALL PIPE SUPPORTS AT NO GREATER THAN 10' O/C AND WHERE MULTIPLE FITTINGS OCCURS.

DETAIL OF POOL FITTINGS AND POOL PIPING SUPPORT
SCALE: 1" = 1'-0"



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

ELECTRICAL LEGEND

- DUPLEX RECEPTACLE, WEATHER PROOF
- SINGLE POLE SWITCH
- MOTOR
- HOME RUN TO PANELBOARD
- INCANDESCENT LIGHT
- BRACKET LIGHT
- FUSIBLE DISCONNECT SWITCH
- MANUAL MOTOR STARTER
- COMBINATION MAGNETIC MOTOR STARTER

PLUMBING LEGEND

S	SUPPLY TO POOL INLET
R	RETURN FROM GUTTER DRAIN
V	VACUUM CLEANING LINE
V	AIR VENT
F.D.	FLOOR OR SHOWER DRAIN
C.O.	CLEANOUT
C.I.	CAST IRON
C.W.	COLD WATER
	BUTTERFLY VALVE
	CHECK VALVE
	THERMOMETER
	PRESSURE GAUGE
	SANITARY LINE
	POOL INLET
	VACUUM FITTING
	GUTTER DRAIN

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MOUNTING	LAMP
A	SHALLOW DOME REFLECTOR, WHITE PORCELAIN STEEL, 16" DIAMETER. CEILING FITTER FOR RECESSED OUTLET BOX, BENJAMIN C1814	CEILING SURFACE	200 IF
B	ALUMINUM WALL FITTER, LOW BRIGHTNESS GLASS REFRACTING LENS. HOLOPHANE WALL PACKETTE, CAT NO 400	WALL SURFACE	150 A

STATE OF CONNECTICUT
DONALD M. KEITHER
NO. 6111
REGISTERED PROFESSIONAL ENGINEER

REVISIONS

DATE	ITEM	APPROVED

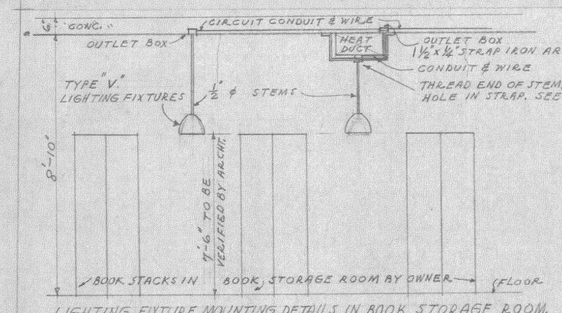
SCALE _____ DATE _____
DRAWN BY _____ CHKD. BY _____

E. H. LORD-WOOD ASSOCIATES
2 LINCOLN STREET — EAST HARTFORD — CONNECTICUT

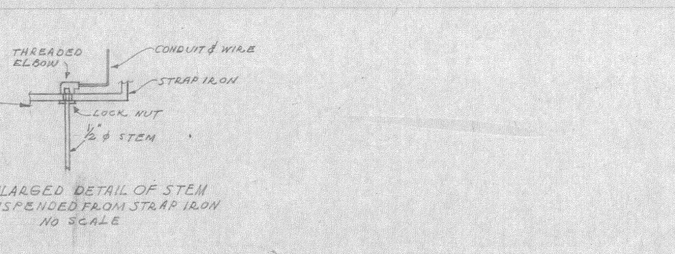
NORTH END PARK
TOWN OF WEST HARTFORD, CONN.

PLUMBING AND ELECTRICAL
POOL PLAN AND DETAILS

DRAWING NO.
ME-2

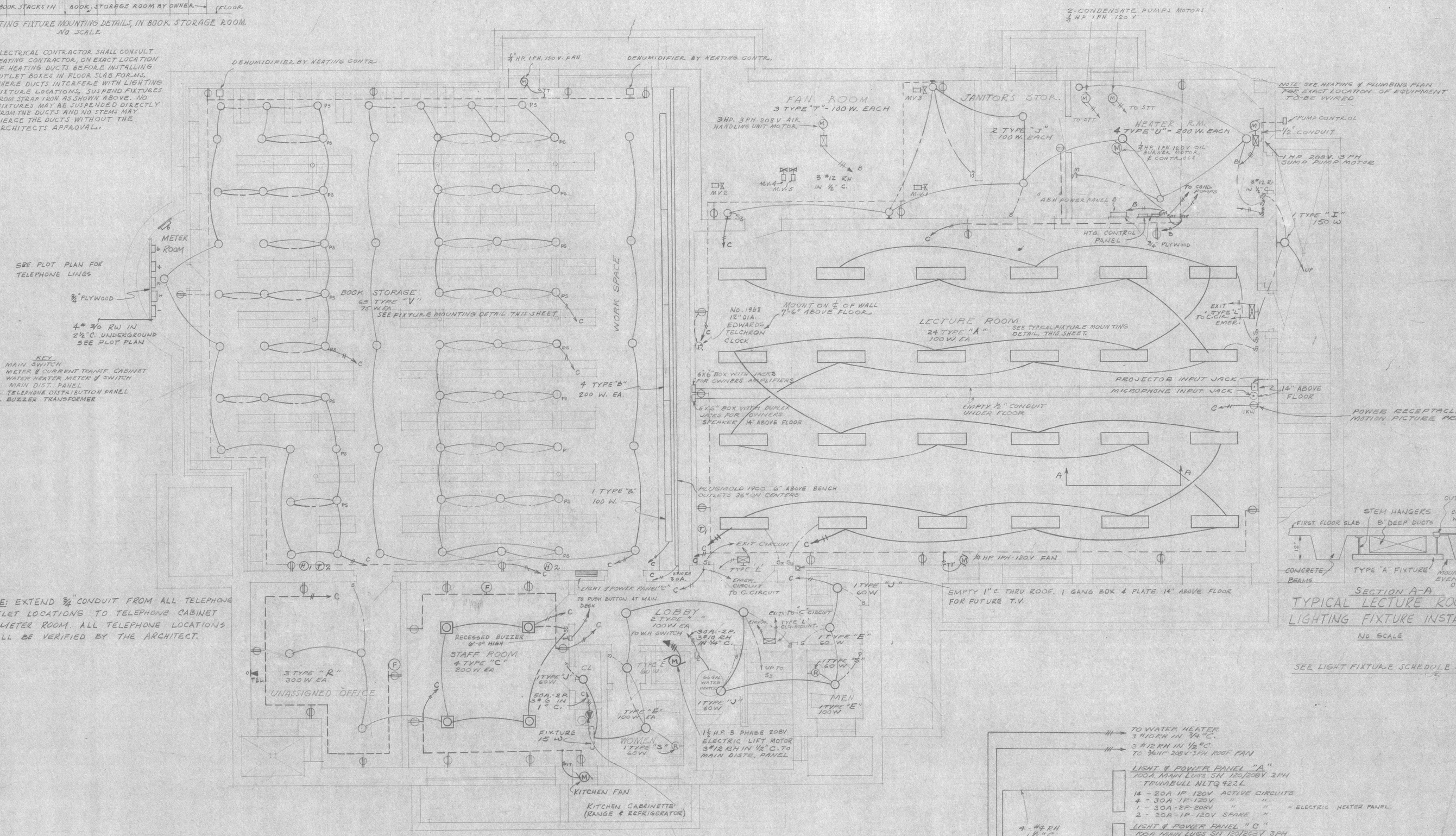


LIGHTING FIXTURE MOUNTING DETAILS, IN BOOK STORAGE ROOM.
NO SCALE

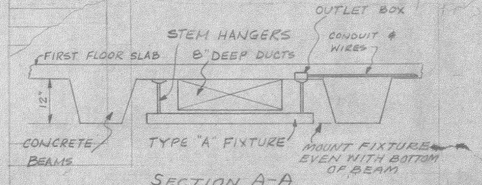


ENLARGED DETAIL OF STEM
SUSPENDED FROM STRAP IRON
NO SCALE

NOTE: ELECTRICAL CONTRACTOR SHALL CONSULT HEATING CONTRACTOR, ON EXACT LOCATION OF HEATING DUCTS BEFORE INSTALLING OUTLET BOXES IN FLOOR SLAB FORMS. WHERE DUCTS INTERFERE WITH LIGHTING FIXTURE LOCATIONS, SUSPEND FIXTURES FROM STRAP IRON AS SHOWN ABOVE. NO FIXTURES MAY BE SUSPENDED DIRECTLY FROM THE DUCTS AND NO STEMS MAY PIERCE THE DUCTS WITHOUT THE ARCHITECTS APPROVAL.



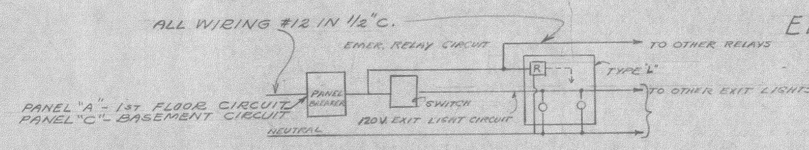
NOTE: EXTEND ¾" CONDUIT FROM ALL TELEPHONE OUTLET LOCATIONS TO TELEPHONE CABINET IN METER ROOM. ALL TELEPHONE LOCATIONS SHALL BE VERIFIED BY THE ARCHITECT.



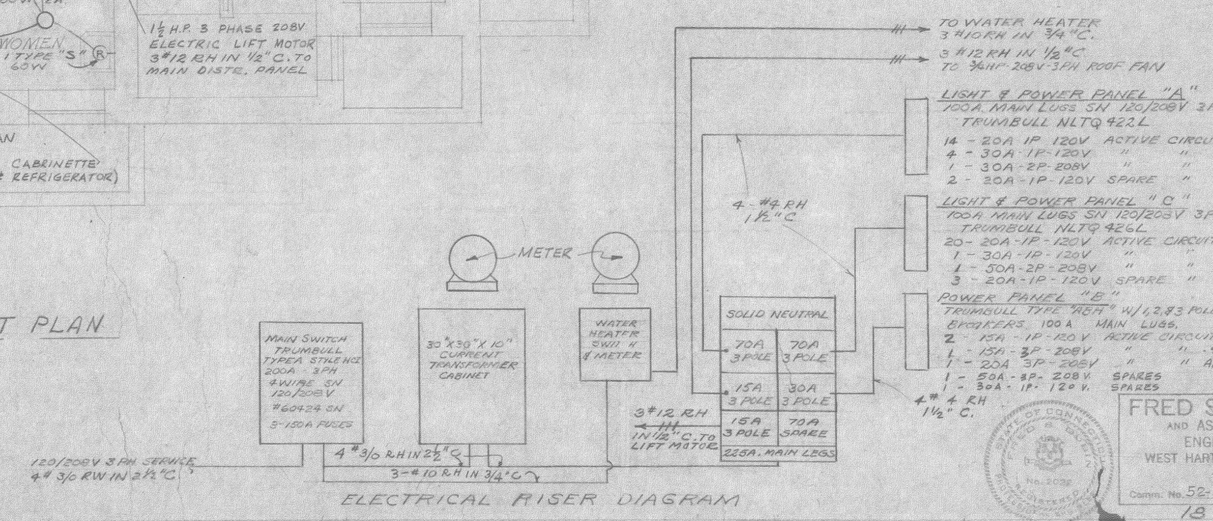
SECTION A-A
TYPICAL LECTURE ROOM
LIGHTING FIXTURE INSTALLATION
NO SCALE

SEE LIGHT FIXTURE SCHEDULE SHEET E-2

ELECTRICAL BASEMENT PLAN
SCALE ¼" = 1'-0"
DO NOT SCALE DRAWINGS



DETAIL EMERGENCY LIGHTING SYSTEM



ELECTRICAL RISER DIAGRAM

SCHUTZ & GOODWIN
ARCHITECTS
12 HAYNES STREET HARTFORD, CONN.
JOB NO. 53-3 DATE 8-20-53
SHEET NO. E-1 DRAWN BY
TRACED BY
CHECKED BY

FRED S. DUBIN AND ASSOCIATES
ENGINEERS
WEST HARTFORD, CONN.
Comm. No. 52-53 Date 8-12-53

ELMWOOD BRANCH
WEST HTFD PUBLIC LIBRARY
WEST HARTFORD, CONN.

18 of 19

PANELBOARD SCHEDULE

PANEL & VOLTAGE	PANEL TYPE & MOUNTING	MAIN CIRCUIT BREAKER OR MAIN LUGS ONLY	CIRCUIT BREAKERS TRIP	POLES	FRAME	ACTIVE	SPARE	TOTAL POLES	REMARKS
"L1" 208/120 V 3ø-4 WIRE	GENERAL ELECTRIC CO. TYPE "AQ" SERIES SURFACE MOUNTED	100 AMP-3 POLE TYPE "THQB" FRAME CIRCUIT BKR.	20	1	THQB	25	6		LIGHTING AND RECEPTACLES
			30	2	THQB	1			CLOTHES DRYER
	PROVIDE 9-1 POLE SPACE ONLY							42	
"L2" 208/120 V 3ø-4 WIRE	GENERAL ELECTRIC CO. TYPE "AQ" SERIES SURFACE MOUNTED	100 AMP-3 POLE TYPE "THQB" FRAME CIRCUIT BKR.	20	1	THQB	11	10		LIGHTING AND RECEPTACLES
			20	3	THQB	2	1		AIR HANDLING UNITS IN ATTIC
	PROVIDE 12-1 POLE SPACE ONLY							42	
"BL" 208/120 V 3ø-4 WIRE	GENERAL ELECTRIC CO. TYPE "AQ" SERIES SURFACE MOUNTED	100 AMP-3 POLE TYPE "THQB" FRAME CIRCUIT BKR.	20	1	THQB	18	5		LIGHTING AND RECEPTACLES, DIESEL FUEL DISP.
			20	2	THQB	2	1		ELECTRIC HEATER , SITE FIXT. "SL"
			20	3	THQB	2	1		CIRC. PUMPS
			30	2	THQB	1			DWYER KITCHENETTE
			60	2	THQB	1			MAKO AIR COMPRESSOR
								42	
"AR" 208/120 V 3ø-4 WIRE	GENERAL ELECTRIC CO. TYPE "AQ" SERIES SURFACE MOUNTED	100 AMP-3 POLE TYPE "THED" FRAME CIRCUIT BKR. 65,000 AIC	20	1	THQB	18	2		LIGHTING AND RECEPTACLES
			20	3	THQB	6			OVERHEAD DOORS
			30	2	THQB	2			HOSE DRYING CABINETS
"MDP" 208/120 V 3ø-4 WIRE	GENERAL ELECTRIC CO. TYPE "CCB" SERIES SURFACE MOUNTED	400 AMP MAIN LUGS ONLY	40	3	THED	1			A/C COND. UNITS
			50	3	THED	1			A/C COND. UNITS
			100	3	TEL	4			PANELS "L1", "L2", "BL", "AR"
			20	1	THED	3	5		HEAT TRACING
	PROVIDE ??-1 POLE SPACE ONLY							36	

NOTE:

1. ALL PANELBOARDS SHALL BE PROVIDED WITH "DOOR ON DOOR" CONSTRUCTION AND COPPER BUSSING.
2. PANELBOARD "MDP" SHALL BE FULLY RATED FOR 28,000 AIC. (SYM) MINIMUM
3. ALL PANELBOARDS SHALL BE SERIES RATED IN CONJUNCTION WITH "MDP" FOR A MINIMUM OF 28,000 AIC.

ELECTRICAL FIXTURE SCHEDULE

TYPE	DESCRIPTION	LAMPS/ WATTAGE	REMARKS
"A"	8'-0" INDUSTRIAL TYPE FLUORESCENT FIXTURE WITH 25% UPLIGHT, PROVIDE POLYESTER PAINT FINISH, #CEN600 TOP SWIVEL CANOPY WITH BOTTOM LEVELER AND 12" STEMS, PROVIDE WIRE GUARDS (#FL-173), TYPICAL. PROVIDE TRIAD MAGNE TEK #B2105R-120 VOLT ELECTRONIC BALLAST~ DAY-BRITE #FLB-2125-8U-120 VOLT/FL-173/CEN600	2 X 95 WATT T12 800 MA HIGH OUTPUT "SUPERSAVER"	APPARATUS ROOM FIXTURES SHALL BE SUSPENDED 12" BELOW SHEETROCK CEILING~PROVIDE SWIVEL TYPE CANOPY
"B"	2 FT X 4 FT RECESSED FLUORESCENT FIXTURE WITH ALUMINUM FRAMED DOOR AND (.125) DB-12 VIRGIN ACRYLIC DIFFUSER, PROVIDE T8 "OCTRON LAMPS" AND ELECTRONIC BALLASTS (ONE SINGLE LAMP BALLAST AND ONE 2 LAMP BALLAST)~ DAY-BRITE #SG2430-SFA12D-120 VOLT	3 X 32 WATT T8 OCTRON 3100 KELVIN	PROVIDE ONE SINGLE LAMP BALLAST AND ONE 2 LAMP BALLAST, TYPICAL 2 FT X 4 FT RECESSED FIXTURE GRID TYPE CEILING
"B1"	FIXTURE SHALL BE SIMILAR TO FIXTURE TYPE "B" EXCEPT PROVIDE 2 FT X 2 FT RECESSED FIXTURE, PROVIDE ONE SINGLE LAMP ELECTRONIC BALLAST AND ONE 2 LAMP ELECTRONIC BALLAST AND "CURVALUME" LAMPS~ DAY-BRITE #SG2230-SFA12C-120 VOLTS	3 X 31 WATT	2 FT X 2 FT RECESSED FIXTURE GRID TYPE CEILING
"B2"	FIXTURE SHALL BE SIMILAR TO TYPE "B" FIXTURE ABOVE EXCEPT PROVIDE SURFACE MOUNTED 2 FT X 4 FT, THREE LAMP FIXTURE WITH TWO ELECTRONIC BALLASTS~ DAY-BRITE #SB243-MFS02D-120 VOLTS	3 X 32 WATT T8 OCTRON 3100 KELVIN	2 FT X 4 FT SURFACE MOUNTED FIXTURE
"B3"	FIXTURE SHALL BE SIMILAR TO FIXTURE TYPE "B1" ABOVE EXCEPT PROVIDE SURFACE MOUNTED 2 FT X 2 FT, THREE LAMP FIXTURE WITH TWO ELECTRONIC BALLASTS~ DAY-BRITE #SB225-MFS02C-DB-12 (.125) LENS-120 VOLTS	3 X 31 WATT	2 FT X 2 FT SURFACE MOUNTED FIXTURE
"C"	SURFACE MOUNTED FLUORESCENT FIXTURE WITH ROUND ACRYLIC LENS~ STAFF #1431-120 VOLTS, PROVIDE TWO SINGLE LAMP BALLASTS WIRED SEPARATELY	2 X 13 WATT PL FLUOR LAMPS	SURFACE MOUNTED FLUORESCENT FIXTURE
"D"	1 FT X 4 FT SURFACE MOUNTED FLUORESCENT FIXTURE WITH VIRGIN ACRYLIC WRAP AROUND DIFFUSER~DAY-BRITE #SW242-120 VOLT WITH ELECTRONIC BALLAST AND T8 OCTRON LAMPS	2 X 32 WATT T8 OCTRON 3100 KELVIN	
"E"	EXIT LIGHT FIXTURE WITH DIE CAST ALUMINUM BODY AND FACEPLATE, PROVIDE 2 X 7 WATT "PL" FLUORESCENT LAMPS, WHITE FINISH FOR BODY AND FACEPLATE AND RED LETTERS~EMERGI-LITE #WW-TP-1-R-120 VOLT CEILING MOUNTED PROVIDE KNOCKOUT ARROWS	2 X 7 WATT "PL" FLUOR LAMPS	
"E1"	FIXTURE SIMILAR TO ABOVE EXCEPT WALL MOUNTED, LEFT ARROW	2 X 7 WATT "PL" FLUOR LAMPS	MOUNT FIXTURE 7-6" AFF TO CENTERLINE
"F"	FLUORESCENT STRIP LIGHTING FIXTURE, 8'-0" LONG, DAY-BRITE #T-240-8-120, OCTRON ELECTRONIC, PROVIDE WIRE GUARD	4 X 32 WATT T8 OCTRON	
"F1"	FIXTURE SIMILAR TO TYPE "F" EXCEPT 4'-0" FLUORESCENT STRIP, OCTRON/ELECTRONIC/WIRE GUARD	2 X 32 WATT T8 OCTRON	
"G"	RECESSED H.I.D. FIXTURE MOUNTED IN BUILDING OVERHANG, PROVIDE WET LOCATION LABEL~ MCPHILBEN #43A-6261P-120 VOLT WITH FLAT FRESNEL LENS	1 X 50 WATT H.P. SODIUM	
"H"	FLUORESCENT WALL BRACKET FIXTURE WITH ONE LAMP UPKIGHT AND ONE LAMP DOWNLIGHT~ALKCO #6740-1SW-120 VOLT WITH OPTIONAL SEPARATE LAMP SWITCHING, MATTE WHITE FINISH AND ALKCORYLIC DIFFUSER	2 X 32 WATT T8 OCTRON	OCTRON/ELECTRONIC BALLASTS MOUNT FIXTURE 2" ABOVE MIRROE SEE ARCHITECTURAL WALL ELEVATION
"J"	WALL MOUNTED EXTERIOR FIXTURE WITH WET LOCATION LABEL LOCATED BETWEEN APPARATUS ROOM OVERHEAD DOORS MCPHILBEN #22A1202-120 VOLT-DB (DARK BRONZE)-WET LOCATION	1 X 100 WATT A19 "RED LAMP"	MOUNT FIXTURE 10'-0" ABOVE FIN. FIRST FLOOR
"K"	RECESSED SHOWER ROOM LIGHT FIXTURE PROGRESS #P6916-TG UL LISTED FOR DAMP LOCATION-120 VOLT	1 X 60 WATT A19	
"L"	RECESSED INCANDESCENT DOWNLIGHT FIXTURE WITH ALZAK CONE AND REFLECTOR~CAPRI #AE11X-TO42-120 VOLT	1 X 100 WATT A19	
"M"	WALL MOUNTED FLUORESCENT FIXTURE WITH WHITE OPAL DIFFUSER~ DAY-BRITE #WB230-WO-120 VOLT NOTE: 36" FIXTURE	2 X 25 WATT T8 OCTRON 36" LAMP	MOUNT FIXTURE ABOVE HEAD OF STANLEY MAGIC DOOR~WALL BRACKET FIXTURE
"N"	UNDER CABINET FLUORESCENT LIGHTING FIXTURE WITH "ALKCORYLIC" PLIABLE DIFFUSER~ALKCO #215-S-120 VOLT "SUPERINCH"	1 X 30 WATT T8	MOUNT TO UNDERSIDE OF KITCHEN WALL CABINET
"P"	SURFACE MOUNTED ENCLOSED AND GASKETED FLUORESCENT FIXTURE PROVIDED WITH DAMP LOCATION LABEL. PROVIDE OCTRON LAMPS AND ELECTRONIC BALLASTS, 120 VOLT. DAY-BRITE #VR2-8D-120 VOLT/OCTRON/ELECTRONIC/HI-IMPACT ACRYLIC LENS (.125)	4 X 32 WATT T8 OCTRON	OCTRON/ELECTRONIC BALLASTS SURFACE MOUNTED/DAMP LOCATION

GENERAL NOTES:

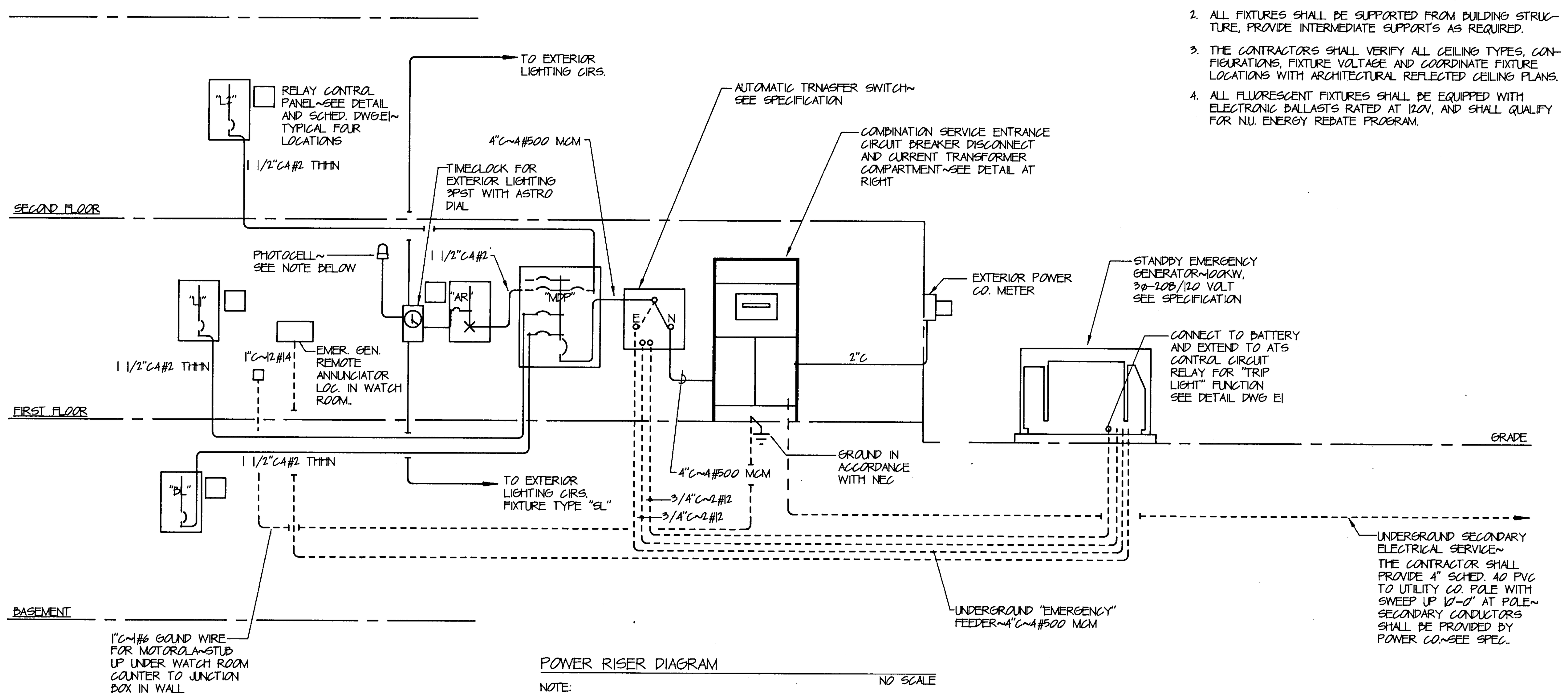
1. ALL FLUORESCENT LAMPS SHALL BE 32 WATT, T8 OCTRON RATED AT 3200°KELVIN. SLYVANIA # F032/35K.
2. ALL FIXTURES SHALL BE SUPPORTED FROM BUILDING STRUCTURE, PROVIDE INTERMEDIATE SUPPORTS AS REQUIRED.
3. THE CONTRACTORS SHALL VERIFY ALL CEILING TYPES, CONFIGURATIONS, FIXTURE VOLTAGE AND COORDINATE FIXTURE LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLANS.
4. ALL FLUORESCENT FIXTURES SHALL BE EQUIPPED WITH ELECTRONIC BALLASTS RATED AT 120V, AND SHALL QUALIFY FOR N.U. ENERGY REBATE PROGRAM.
5. PROVIDE "T-BAR" CLIPS FOR ALL RECESSED FLUORESCENT FIXTURES. ALL FLUORESCENT FIXTURES SHALL BE SUPPORTED INDEPENDENTLY FROM THE CEILING.
6. PROVIDE FIXTURE MOUNTING HARDWARE FOR ALL TYPES AS REQUIRED TO ACCOMODATE THE CEILING SUSPENSION SYSTEM.
7. FINAL SELECTION OF ALL FIXTURE FINISHES SHALL BE BY THE ARCHITECT.

ELECTRICAL SYMBOL LIST

SYMBOL	DESCRIPTION		MOUNTING
S	SINGLE POLE SWITCH	SEE SPECIFICATIONS	4'-0" AFF.
S_3	THREE WAY SWITCH	SEE SPECIFICATIONS	4'-0" AFF.
S_4	FOUR WAY SWITCH	SEE SPECIFICATIONS	4'-0" AFF.
S_P	SWITCH WITH PILOT LIGHT		4'-6" AFF.
S_T	MANUAL MOTOR STARTER WITH HEATERS AND PILOT LIGHT		
S_F	FAN CONTROL SWITCH WITH PILOT LIGHT		4'-6" AFF.
	DUPLEX RECPTACLE	SEE SPECIFICATIONS	1'-6" AFF.
	DOUBLE DUPLEX RECEPTACLE	SEE SPECIFICATIONS	1'-6" AFF.
1	DUPLEX RECPTACLE	SEE SPECIFICATIONS	3'-8" AFF.
WC	RECEPTACLE FOR WATER COOLER - SINGLE PHASE, 120 VOLT		
GFI	RECEPTACLE WITH GROUND FAULT PROTECTION	SEE SPECIFICATIONS	SEE PLAN
	SURFACE METAL RACEWAY, MULTI-OUTLET TYPE		SEE PLAN
	POWER OUTLET	SEE SPECIFICATIONS	
	CLOCK OUTLET	SEE SPECIFICATIONS	7-6" AFF.
	TELEPHONE WALL OUTLET WITH STUB-UP	SEE DETAIL	
	JUNCTION BOX		
--H--	RACEWAY - CONCEALED IN THE SLAB OR BELOW GRADE		
	RACEWAY - CONCEALED IN HUNG CEILING, WALL OR IS EXPOSED		
— E —	EMERGENCY CIRCUIT		
	GROUND CONNECTION		
	STUB-UP		
	DROP		
	FINAL CONNECTION		
	HOMERUN		
	CEILING FIXTURE	SEE FIXTURE SCHEDULE	
	WALL BRACKET FIXTURE	SEE FIXTURE SCHEDULE	
	EXIT LIGHT FIXTURE	SEE FIXTURE SCHEDULE	
	FLUORESCENT LIGHT FIXTURE	SEE FIXTURE SCHEDULE	
E	EMERGENCY LIGHT FIXTURE	SEE FIXTURE SCHEDULE	
	MOTOR	SEE PLAN AND SCHEDULE	
	MAGNETIC MOTOR STARTER		
	DISCONNECT SWITCH		
	PANELBOARD - 277/480 VOLT		
	PANELBOARD - 120/208 VOLT		
T	TRANSFORMER	SEE PLAN AND SCHEDULE	
A.F.F.	ABOVE FINISHED FLOOR		
W.P.	WEATHER PROOF		
TC	TIMECLOCK	SEE PLANS	
	ELECTRIC WALL HEATER	SEE PLANS	
K	CARD READER		
ES	ELECTRIC STRIKE		
S	PAGING SPEAKER **PROVIDED BY SNET CO. COORDINATION BY CONTR.**		
	DATA/TELEPHONE OUTLET		
TL	DENOTES "TRIP" LIGHTING CIRCUIT~SEE PLANS AND DETAIL		
	OUTLET FOR MOTOROLA ANTENNA CONNECTION		
	TELEVISION OUTLET~SINGLE GANG BOX, STAINLESS STEEL COVER PLATE AND COAXIAL CABLE CONNECTOR		

RUSSELL GIBSON von DOHLEN
INC * ARCHITECTS * AIA
281 FARMINGTON AVE. BOX H
FARMINGTON, CT. 06034

QUINLAN, GIANNONI & LIVINGSTON, INC.
CONSULTING ENGINEERS
2074 PARK STREET
HARTFORD, CT. 06106
(203) 236-4288

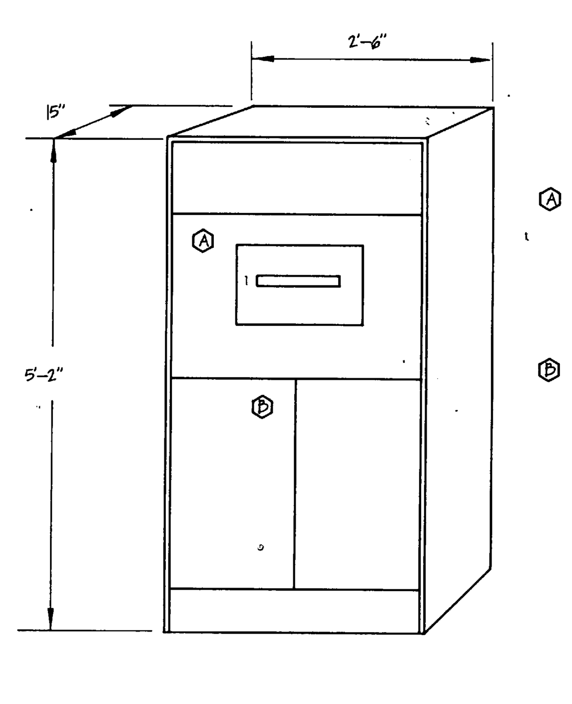


POWER RISER DIAGRAM

NO SCALE

NOTE:

1. ALL CONDUCTOR SIZES ABOVE BASED ON COPPER; ALUMINUM CONDUCTORS "NOT" ACCEPTABLE.
2. PHOTOCELL AND TIMECLOCK BASED ON TORK. TIMECLOCK SHALL BE 3 POLE SINGLE THROW WITH ASTRONOMIC DIAL AND RESERVE POWER TORK #7300ZL. PHOTOCELL SHALL BE COMPATIBLE WITH TIMECLOCK TORK #3010 FLUSH MOUNTED IN WEATHERPROOF CAST BOX AND LOCATED ON EXTERIOR WALL OF ELECTRIC CLOS.



(A) MAIN CIRCUIT BREAKER DISCONNECT GENERAL ELECTRIC CO. TYPE "TJJ" FRAME; 400 AMP-3ø-4 WIRE, 60 HZ., 208/120 VOLTS. MAIN CIRCUIT BREAKER RATED 42,000 AMPS (A.I.C.) SYMMETRICAL

(B) CURRENT TRANSFORMER COMPARTMENT WITH PROVISIONS FOR NORTHEAST UTILITIES CURRENT TRANSFORMERS.

DETAIL~MAIN SERVICE ENTRANCE CIRCUIT BREAKER DISCONNECT AND CURRENT TRANSFORMER COMPARTMENT

NO SCALE

NOTE:

1. SERVICE ENTRANCE CUBICLE SHALL BE LABELED FOR "SERVICE ENTRANCE".
2. SERVICE ENTRANCE CUBICLE SHALL BE BUSSED AND BRACED FOR 42,000 AMPS (A.I.C.) SYM.
3. ABOVE DETAIL BASED ON GENERAL ELECTRIC CO. #SE46JA SERVICE ENTRANCE CUBICLE.

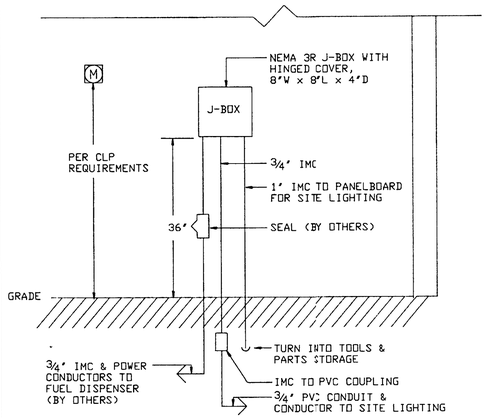
No.	Description	Date
REVISIONS		

FIRE STATION NO.2

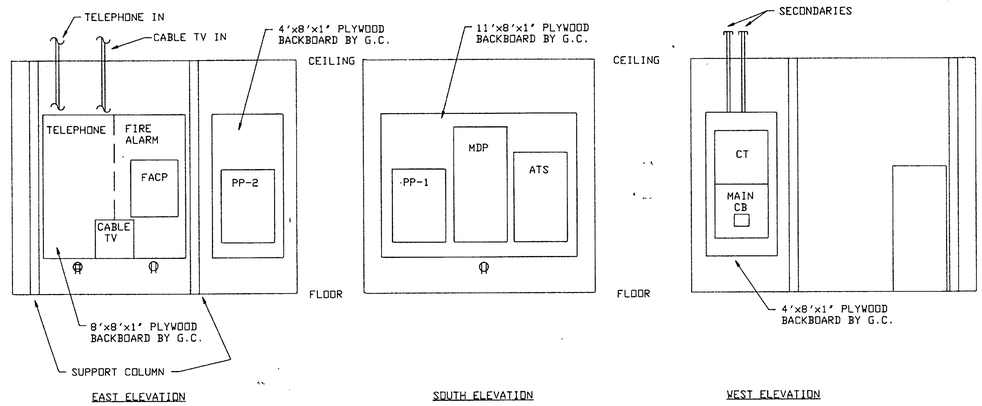
WEST HARTFORD CT.

ELECTRICAL
POWER RISER DIAGRAM
PANELBOARD SCHEDULE
FIXTURE SCHEDULE

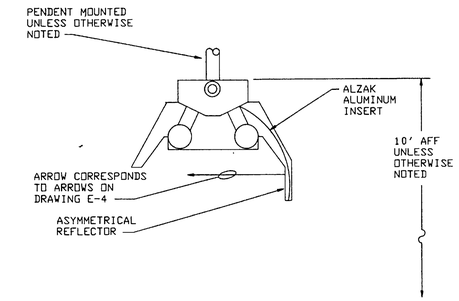
Job #: 9122	Sheet No.
Drawn: PFP	E5
Checked:	
Date: 10/7/91	5 OF 5



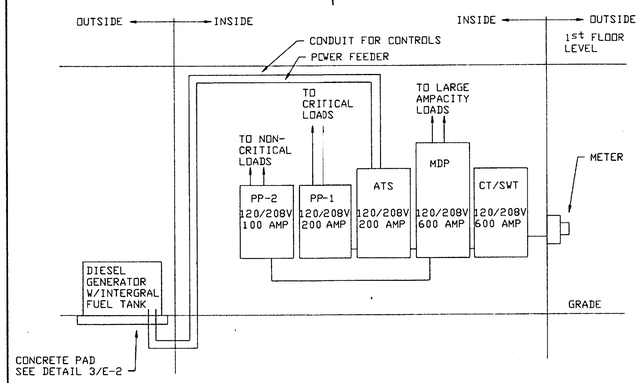
1 E-6 ELEVATION FOR C L & P METER & EXTERIOR J-BOX
NOT TO SCALE



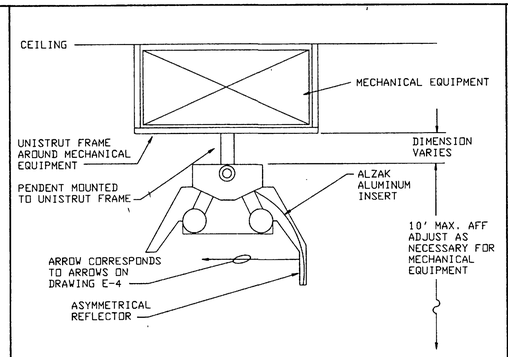
2 E-6 ELECTRICAL EQUIPMENT LAYOUT
SCALE: 1/4" = 1'-0"



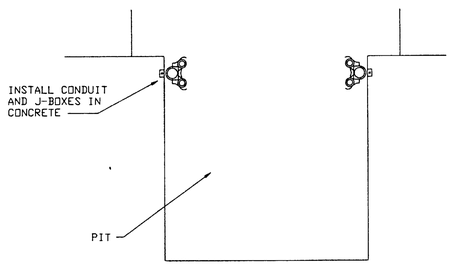
3 E-6 MOUNTING DETAIL FOR TYPE "D" FIXTURE
NOT TO SCALE



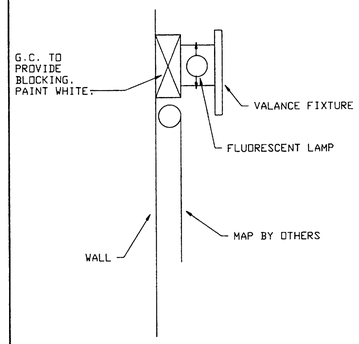
4 E-6 ELECTRICAL POWER RISER DIAGRAM
NOT TO SCALE



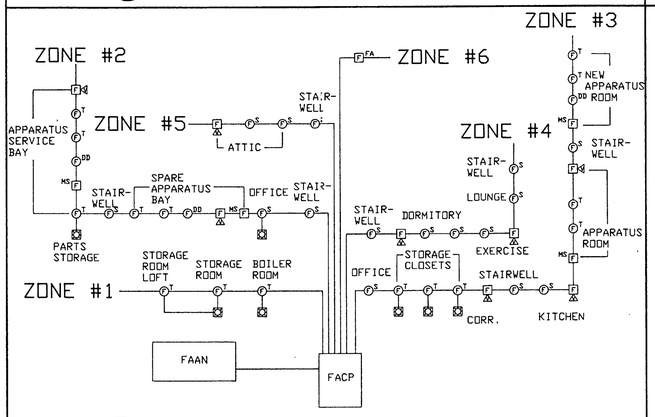
5 E-6 MOUNTING DETAIL AROUND MECHANICAL EQUIPMENT FOR TYPE "D" FIXTURES
NOT TO SCALE



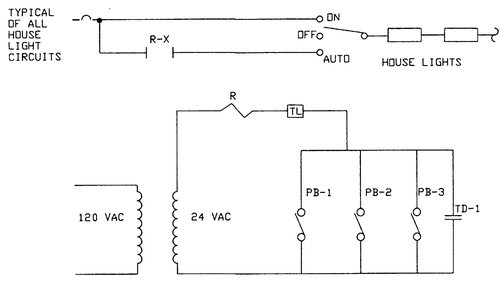
6 E-6 MOUNTING LOCATION FOR TYPE "L" FIXTURE
NOT TO SCALE



7 E-6 MOUNTING OF TYPE "B" FIXTURE OVER MAPS
NOT TO SCALE

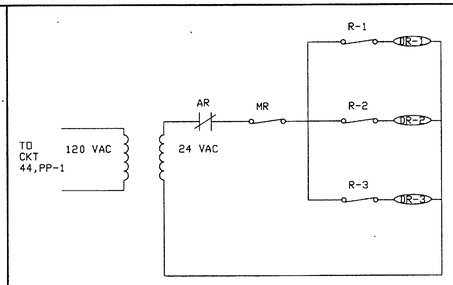


8 E-6 FIRE ALARM RISER DIAGRAM
NOT TO SCALE



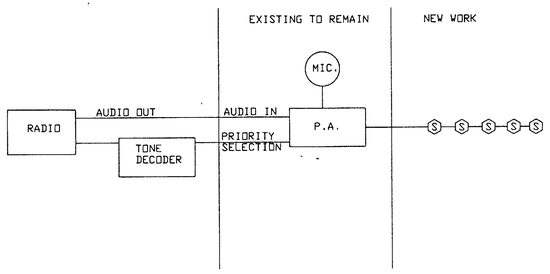
R - RELAY
PB-1 - PUSH BUTTON #1
PB-2 - PUSH BUTTON #2
PB-3 - PUSH BUTTON #3
TD-1 - TONE DECODER
TL - TIME DELAY MODULE
R-X - RELAY CONTACTOR

9 E-6 HOUSE LIGHTS CONTROL
NOT TO SCALE



AR - AUTO RELEASE CONTACTS FROM TONE DECODER
MR - MASTER RELEASE N.C. PUSHBUTTON LOCATED IN WATCHROOM
R-1 - RELEASE ONE: LOCATED ADJACENT TO DOOR
R-2 - RELEASE TWO: LOCATED ADJACENT TO DOOR
R-3 - RELEASE THREE: LOCATED ADJACENT TO DOOR

10 E-6 CONTROL SCHEMATIC FOR SLIDE POLE DOOR HOLDERS
NOT TO SCALE



11 E-6 P.A./DECODER SCHEMATIC
NOT TO SCALE

ADDITIONS AND ALTERATIONS
STATION NUMBER THREE
1068 NEW BRITAIN AVE.
WEST HARTFORD, CONNECTICUT

APPLIED THERMODYNAMICS ASSOCIATES, INC.
CONSULTING ENGINEERS
SUITE #10, 10 HIGGINS HIGHWAY
MANSFIELD CENTER, CT 06250
(203) 456-4554

DATE: 9/26/90
DRAWN BY: ALP
PROJECT NUMBER: 9021

ELECTRICAL DETAILS AND RISER DIAGRAMS
SCALE: AS NOTED
E-6

SCHOENHARDT ARCHITECTS
ONE MASSACO PLACE · SIMSBURY · CT 06070

9021

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	LAMPS	REMARKS
"A"	2 FT. X 2 FT. RECESSED FLUORESCENT LIGHTING FIXTURE WITH STEEL FRAMED DOOR AND VIRGIN ACRYLIC PRISMATIC DIFFUSER~ HUBBELL #6P24BG (2)T8U-EL-120 VOLT	2 X 31 WATT T8 RS U LAMP	NOTE: FIXTURE DEPTH 3 3/4"
"AE"	SIMILAR TO FIXTURE TYPE "A" EXCEPT PROVIDED WITH EMERGENCY BALLAST "EM" FEATURE	2 X 31 WATT T8 RS U LAMP	NOTE: FIXTURE DEPTH 3 3/4"
"B"	WALL MOUNTED FLUORESCENT FIXTURE~3'-0" LONG HUBBELL #PMI-032S-OYAL-S1-120 VOLT	2 X 25 WATT T8 RS	NOTE: FIXTURE DEPTH 3 3/4"
"C"	2 FT. X 4 FT. RECESSED FLUORESCENT LIGHTING FIXTURE WITH STEEL FRAMED DOOR AND VIRGIN ACRYLIC PRISMATIC DIFFUSER~ HUBBELL #6P34BG EL-120 VOLT	3 X 32 WATT T8 RS	NOTE: FIXTURE DEPTH 3 3/4"
"D"	4'-0" FLUORESCENT STRIP FIXTURE WITH WIIRE GUARD~ HUBBELL #SW42R-B1/SW4WG-120 VOLT	2 X 32 WATT T8 RS	
"E"	EXIT LIGHT FIXTURE WITH UNIVERSAL MOUNTING HARDWARE AND ARROW INSERTS HUBBELL #PUPRW-FS-120 VOLT		
"F"	RECESSED INCANDESCENT FIXTURE~ HUBBELL #HM/1201P-120 VOLT	1 X 100 WATT A19	
"G"	SURFACE MOUNTED COMPACT FLUORESCENT FIXTURE WITH ACRYLIC OPAL DIFFUSER~ HUBBELL #CF11-2-13-120 VOLT	2 X 13 WATT T4 QUAD	
"H"	WALL MOUNTED HIGH INTENSITY DISCHARGE FIXTURE WITH CUTOFF OPTICAL SYSTEM~ HUBBELL "PERIMASHIELD" #PRS-0150S-118-120 VOLT-WET LABEL	1 X 150 WATT H.P. SODIUM	MOUNT FIXTURE BETWEEN O.H. DOORS 12'-0" A.F.F~SEE ARCH ELEVATION
"J"	EXISTING WALL MOUNTED INCANDESCENT LIGHTING FIXTURE TO BE REFURBISHED AND RELOCATED AS SHOWN ON PLAN~PROVIDE NEW LAMPS TO MATCH EXISTING AND PROVIDE BRANCH CIRCUIT WIRING TO MATCH THE EXISTING SWITCH FUNCTIONS	2 X 100 WATT A19	PROVIDE ONE RED LAMP LAMP CONNECTED TO EXTERIOR LTG CIRCUIT AND ONE WHITE LAMP CONNECTED TO "TRIP LTG CIRCUIT
"K"	RECESSED INCANDESCENT WALL MOUNTED NITE LIGHT FIXTURE~ HUBBELL #SR07-120 VOLT	1 X 7 WATT PL	MOUNT FIXTURE 12" AFF TO CENTERLINE
"L"	WALL MOUNTED COMPACT FLUORESCENT FIXTURE WITH IMPACT RESISTANT OPAL LENS~ KENNALL #3700 -120 VOLT TO MATCH EXISTING FIXTURES WITH WET LOCATION LABEL	2 X 7 WATT TT FLUOR.	MOUNT FIXTURE AT SAME ELEVATION AS EXISTING NITE LIGHT FIXTURES
"M"	WALL MOUNTED INCANDESCENT FIXTURE PROVIDED WITH RED LAMP AND CONNECTED TO CONTROL CIRCUIT OF HOSE DRYING CABINETS~ KENNALL #3600-120 VOLT WITH WET LOCATION LABEL	1 X 100 WATT A19 RED	MOUNT FIXTURE OVER DOOR TO STOR. ROOM
"N"	CEILING MOUNTED INCANDESCENT FIXTURE CONNECTED TO "NITE LIGHTING CIRCUIT" KIRLIN #3206-11-120 VOLT WITH WET LOCATION LABEL	1 X 200 WATT A23	MOUNT FIXTURE AT CEILING OF APPARATUS ROOM SIMILAR TO EXISTING FIXTURES
"P"	1 FT X 4 FT SURFACE MOUNTED FLUORESCENT WITH ACRYLIC WRAP AROUND DIFFUSER~ HUBBELL #WIM42-WAC-E1-120 VOLT	2 X 32 WATT T8 RS	PROVIDE INTERMEDIATE SUPPORTS AS REQUIRED AND MOUNT TO BOTTOM OF CONC. CEILING BEAMS
"R"	1 FT X 4 FT SURFACE MOUNTED INDUSTRIAL FLUORESCENT TO MATCH EXISTING~ HUBBELL #IG-08-2-H-PA 1D-E-SA-120 VOLT	2 X 95 WATT T12 HO/SS	FIELD VERIFY THE LAMP TYPE AND WATTAGE PRIOR TO ORDERING

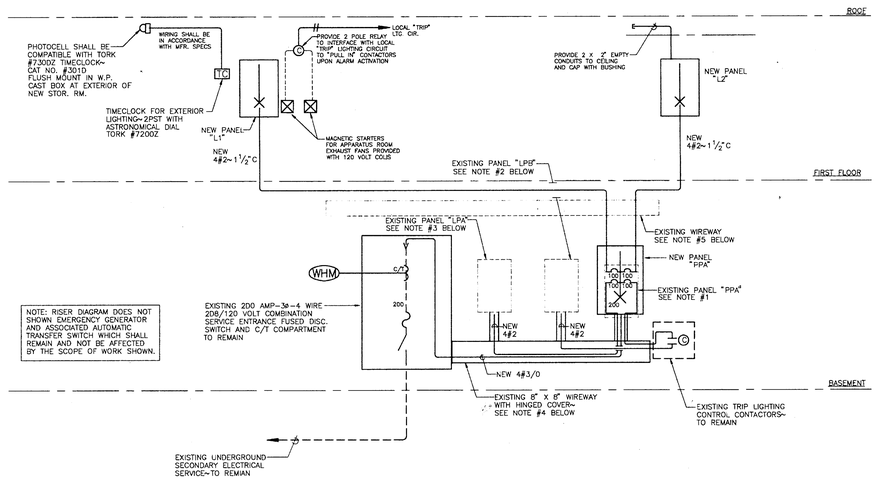
GENERAL NOTES:

1. ALL FLUORESCENT LAMPS INCLUDING COMPACT FLUORESCENT LAMPS SHALL HAVE A COLOR TEMPERATURE RATING OF 3500 DEGREES KELVIN WITH A C.R.I. OF 75 OR BETTER. METAL HAJIDE LAMP SOURCES SHALL HAVE A COLOR TEMPERATURE RATING OF 3500 DEGREES KELVIN WITH A C.R.I. OF 75 OR BETTER.
2. ALL FIXTURES SHALL BE SUPPORTED FROM BUILDING STRUCTURE AND SHALL BE IN COMPLIANCE WITH THE WEST HARTFORD BUILDING DEPARTMENT. LIGHTING FIXTURES SUPPORTED FROM THE CEILING SUSPENSION SYSTEM ALONE IS NOT ACCEPTABLE. PROVIDE INTERMEDIATE (CHAIN) SUPPORTS AS REQUIRED.
3. THE CONTRACTORS SHALL VERIFY ALL CEILING TYPES, CONFIGURATIONS, FIXTURE VOLTAGE AND COORDINATE FIXTURE LOCATIONS WITH ARCHITECTURAL REFLECTED CEILING PLANS.
4. ALL FLUORESCENT FIXTURES SHALL BE EQUIPPED WITH ELECTRONIC BALLASTS RATED AT 120V, AND SHALL QUALIFY FOR N.U. ENERGY CONSCIOUS CONSTRUCTION (E.C.C.) PROGRAM. SEE FIXTURE SCHEDULE FOR EXCEPTION TO VOLTAGE. INCANDESCENT LAMPS SHALL BE RATED 130 VOLTS.
5. PROVIDE "T-BAR" CLIPS FOR ALL RECESSED FLUORESCENT FIXTURES. ALL FLUORESCENT FIXTURES SHALL BE SUPPORTED INDEPENDENTLY FROM THE CEILING.
6. PROVIDE FIXTURE MOUNTING HARDWARE FOR ALL TYPES AS REQUIRED TO ACCOMMODATE THE CEILING SUSPENSION SYSTEM.
7. FINAL SELECTION OF ALL FIXTURE FINISHES SHALL BE BY THE ARCHITECT.
8. VERIFY THE MOUNTING HEIGHT OF ALL ELECTRICAL FIXTURES WITH ARCHITECTURAL ELEVATIONS.
9. EMERGENCY BALLASTS FOR FLUORESCENT FIXTURES ARE BASED ON BODINE SPECIFICATION GRADE MODEL B50 AND SHALL BE WARRANTED FOR FIVE (5) FULL YEARS (NOT PRO RATA). PROVIDE NO-MAINTENANCE NICKEL CADMIUM TYPE BATTERY WITH CHARGING INDICATING LIGHT AND TEST SWITCH. PROVIDE ADDITIONAL HOT LEG FROM LOAD SIDE OF BREAKER TO SERVE BALLAST

PANELBOARD SCHEDULE

PANEL & VOLTAGE	PANEL TYPE & MOUNTING	MAIN CIRCUIT BREAKER OR MAIN LUGS ONLY	CIRCUIT BREAKERS TRIP	POLES	FRAME	ACTIVE	SPARE	TOTAL POLES	REMARKS
EXISTING "LPA" 208/120 V 3Ø-4 WIRE	SEE NOTE ON RISER BELOW	100 AMP M.L.O.							SEE NOTE ON RISER BELOW
EXISTING "LPB" 208/120 V 3Ø-4 WIRE	SEE NOTE ON RISER BELOW	100 AMP M.L.O.							SEE NOTE ON RISER BELOW
NEW "PPA" 208/120 V 3Ø-4 WIRE REPLACES EXISTING PANEL	GENERAL ELECTRIC CO. TYPE "AQ" SURFACE MOUNTED	200 AMP M.L.O.	100	3	THQB	2			PANEL "L1" AND "L2"
			100	3	THQB	2			PANEL "LPA" AND LPB"
								30	
NEW "L1" 208/120 V 3Ø-4 WIRE	GENERAL ELECTRIC CO. TYPE "AQ" SURFACE MOUNTED	100 AMP M.L.O.	20	1	THQB	6	10		LIGHTING AND RECEPTACLES
			20	3	THQB	4	1		OVERHEAD DOORS, EXHAUST FANS (APPARATUS RM.
			30	2	THQB	2			HOSE DRYING CABINETS
			35	2	THQB	1			A/C #1; OVERHEAD DOORS
	PROVIDE 5-1 POLE SPACE ONLY							42	
NEW "L2" 208/120 V 3Ø-4 WIRE	GENERAL ELECTRIC CO. TYPE "AQ" FLUSH MOUNTED	100 AMP M.L.O.	20	1	THQB	12	10		LIGHTING AND RECEPTACLES, EXHAUST FAN
			45	3	THQB	1			A/C #2
			50	2	THQB	1			ELECTRIC RANGE
	PROVIDE 15-1 POLE SPACE ONLY							42	

NOTE:
1. ALL PANELBOARD DATA ABOVE BASED ON GENERAL ELECTRIC CO. PROVIDE "DOOR ON DOOR" CONSTRUCTION AND COPPER BUSSING.



NOTE: RISER DIAGRAM DOES NOT SHOWN EMERGENCY GENERATOR AND ASSOCIATED AUTOMATIC TRANSFER SWITCH WHICH SHALL REMAIN AND NOT BE AFFECTED BY THE SCOPE OF WORK SHOWN.

POWER RISER DIAGRAM

NO SCALE

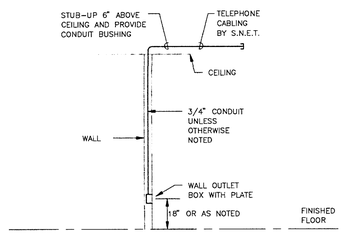
NOTE:
1. EXISTING PANEL "PPA" CONTAINS TEN 3 POLE CIRCUIT BREAKERS~REMOVE PANELBOARD COMPLETE AND INSTALL NEW PANELBOARD "PPA" AS SHOWN. PROVIDE NEW CIRCUIT BREAKERS AS SHOWN IN PANEL SCHEDULE ABOVE TO SERVE LOADS AS INDICATED.
2. EXISTING PANEL "LPB" CONTAINS ELEVEN 20A/1P CIRCUIT BREAKERS SERVING "TRIP LIGHTING" CIRCUITS. IN ADDITION ONE 20A/3P BREAKER SERVES ALARM HORN CONNECTED TO INCOMMING ALARM CIRCUIT. THE ALARM CIRCUIT REQUIRES A 20A/1P BREAKER WITHIN NEW PANEL. THE FUNCTION OF THIS PANEL WILL REMAIN EXACTLY THE SAME AND SERVE THE "TRIP LTG." BRANCH CIRCUITS.
3. EXISTING PANEL "LPA" CONTAINS TWENTY FOUR 20A/1P CIRCUIT BREAKERS SERVING LIGHING AND RECEPTACLE CIRCUITS THROUGHOUT THE EXISTING BUILDING. THE PANEL SHALL REMAIN AND SERVE EXISTING CIRCUITS NOT AFFECTED BY NEW CONSTRUCTION
4. EXISTING WIREWAY CONTAINS A FEEDER SERVING THE THREE EXISTING PANELBOARDS. REMOVE ALL EXISTING ELECTRICAL WIRING EXCEPT FOR THOSE BRANCH CIRCUITS TO REMAIN AND BE CONNECTED TO NEW PANELS. PROVIDE NEW FEEDERS AS SHOWN.
5. EXISTING WIREWAY WITH EXISTING LIGHTING AND RECEPTACLE BRANCH CIRCUITS SERVING THE FIRST FLOOR. REMOVE ALL EXISTING BRANCH CIRCUITS NOT TO BE REUSED DUE TO DEMOLITION AND RENOVATIONS.

ELECTRICAL SYMBOLS

SYMBOL	DESCRIPTION		MOUNTING
S	SINGLE POLE SWITCH	SEE SPECIFICATIONS	4'-0" A.F.F.
S_3	THREE WAY SWITCH	SEE SPECIFICATIONS	4'-0" A.F.F.
S_4	FOUR WAY SWITCH	SEE SPECIFICATIONS	4'-0" A.F.F.
S_P	SWITCH WITH PILOT LIGHT		4'-0" A.F.F.
S_T	MANUAL MOTOR STARTER WITH THERMAL PROTECTION		
S_F	FAN CONTROL SWITCH WITH PILOT LIGHT		
	NITE LIGHTING FIXTURE~SEE FIXTURE SCHEDULE		
	FLUORESCENT LIGHT FIXTURE	SEE FIXTURE SCHEDULE	CEILING
	CEILING FIXTURE	SEE FIXTURE SCHEDULE	CEILING
	WALL BRACKET FIXTURE	SEE FIXTURE SCHEDULE	WALL
	EXIT LIGHT FIXTURE SEE PLAN FOR ARROWS	SEE FIXTURE SCHEDULE	SEE PLAN
E	EMERGENCY LIGHT FIXTURE	SEE FIXTURE SCHEDULE	SEE PLAN
	DUPLEX RECEPTACLE	SEE SPECIFICATIONS	1'-6" A.F.F.
	DOUBLE DUPLEX RECEPTACLE	SEE SPECIFICATIONS	1'-6" A.F.F.
WC	RECEPTACLE FOR WATER COOLER - SINGLE PHASE, 120 VOLT		1'-6" A.F.F.
GFI	RECEPTACLE WITH GROUND FAULT PROTECTION	SEE SPECIFICATIONS	SEE PLAN
	POWER OUTLET~SEE PLAN FOR RATING		1'-6" A.F.F.
	POWER OUTLET~SEE PLAN FOR RATING		1'-6" A.F.F.
	HANDI-CAP "CALL FOR AID" LIGHT FIXTURE~SEE DETAIL		
	EMERGENCY CALL FOR AID PULL STATION~SEE DETAIL		
	SURFACE METAL RACEWAY, MULTI-OUTLET TYPE		SEE PLAN
J	JUNCTION BOX		
	ELECTRIC WALL HEATER		
	MOTOR		
	MAGNETIC MOTOR STARTER		WALL
	DISCONNECT SWITCH		WALL
	RACEWAY - CONCEALED IN THE SLAB OR BELOW GRADE		
	RACEWAY - CONCEALED IN HUNG CEILING, WALL OR IS EXPOSED		
— E —	EMERGENCY CIRCUIT		
	GROUND CONNECTION		
	STUB-UP		
	DROP		
	FINAL CONNECTION		
	HOMERUN		
	PANELBOARD - 120/208 VOLT		
T	TRANSFORMER	SEE PLAN AND SCHEDULE	FLOOR
TC	TIMECLOCK	SEE PLANS	WALL
ES	ELECTRIC STRIKE, NOTE: COORDINATE WITH HARDWARE SUPPLIER, PROVIDE 24 VOLT D.C.		
	TELEPHONE/DATA OUTLET~PROVIDE 4 11/16" BOX WITH RAISED COVER FINISH WALL PLATE TO BE PROVIDED BY OWNER'S VENDOR SEE ROUGHING DETAIL LOWER LEFT		
	FLUORESCENT LIGHTING FIXTURE WITH EMERGENCY BALLAST		
A.F.F.	ABOVE FINISHED FLOOR		
W.P.	WEATHER PROOF		
	GROUND CONNECTION		
	RAISE LOWER SWITCH~FURNISHED BY DOOR MFR.; INSTALLED BY THE CONTRACTOR		
S_{MC}	MOMENTARY CONTACT SWITCH		
E	EXISTING~SEE PLAN		
RE	REMOVE EXISTING~SEE PLAN		
EQ	STATION "CALL" BELL~PROVIDE BELL TO MATCH EXISTING AND PROVIDE BRANCH WIRING. CONNECT TO EXISTING CIRCUIT		
EQ	DOOR BELL~PROVIDE BELL TO MATCH EXISTING AND PROVIDE BRANCH CIRCUIT WIRING CONNECT TO EXISTING DOOR BELL CIRCUIT		
	CLOCK OUTLET~SIMPLEX 12"~CAT. NO. 6310 SERIES TO OPERATE ON 120 VOLT SURFACE MOUNTED CLOCK WITH 1-12/00-24 DIAL ANALOG TYPE CLOCK NOT CONNECTED TO CENTRAL SYSTEM		7'-6" A.F.F.
S	PAGING SPEAKER~THE CONTRACTOR SHALL PROVIDE PAGING SPEAKERS AND ALL ASSOCIATED BRANCH CIRCUIT WIRING FOR THE EXTENSION OF THE EXISTING PAGING SYSTEM. EXTEND WIRING TO CONTROL ROOM AMPLIFIER~FINAL CONNECTIONS SHALL BE BY THE OWNER'S TELEPHONE VENDOR~WIRING SHALL BE SUITABLE FOR PLENUM CEILING CONCEAL WIRING IN RACEWAY WITHIN APPARATUS ROOM~SEE SPEC.		

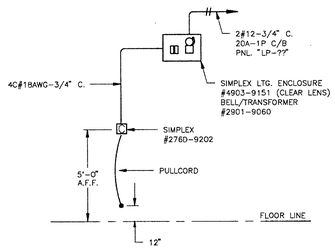
FIRE ALARM INITIATING AND DETECTION SYMBOLS

SYMBOL	DESCRIPTION	MOUNTING
S	FIRE ALARM - SMOKE DETECTOR	CEILING
H	FIRE ALARM - HEAT DETECTOR, RATE OF RISE	CEILING
H 135	FIRE ALARM - HEAT DETECTOR, FIXED TEMPERATURE @ 135'	CEILING
F	FIRE ALARM - MANUAL PULL STATION	4'-0" AFF
F	FIRE ALARM - COMBINATION SPEAKER/STROBE	
F	FIRE ALARM FLASHING LIGHT	
F	FIRE ALARM - INTERIOR HORN	7'-0" AFF
TS	SPRINKLER TAMPER SWITCH	
FS	SPRINKLER FLOW SWITCH	
EOLD	END OF LINE DIODE	



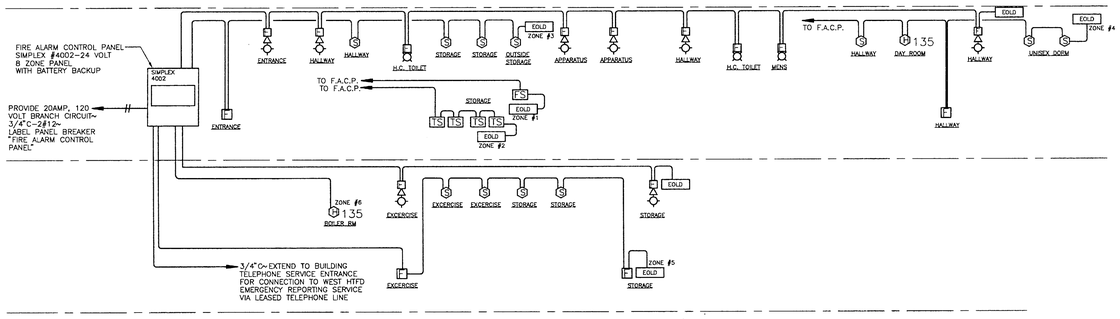
TELEPHONE STUB-UP DETAIL

NO SCALE



DETAIL: HANDI-CAP TOILET ROOM "CALL FOR AID" STATION

NO SCALE



FIRE ALARM RISER DIAGRAM

NO SCALE

NOTE:
1. PROVIDE 2#12 THW FOR BOTH ALARM INITIATING CIRCUITS AND ALARM SIGNALING CIRCUITS.
2. PROVIDE 3/4" RACEWAYS FOR FIRE ALARM SYSTEM CONDUCTORS.
3. ALL SYSTEM EQUIPMENT AND DEVICES SHALL BE INSTALLED IN STRICT ACCORDANCE WITH THE SYSTEM SUPPLIERS APPROVED SHOP DRAWINGS AND RECOMMENDATIONS. ALL ABOVE EQUIPMENT BASED ON SIMPLEX.
4. THE EQUIPMENT SUPPLIER SHALL SUBMIT ALONG WITH SHOP DRAWINGS A COMPLETE ONE LINE DIAGRAM INCLUDING WIRING SPECIFICATIONS FOR THE COMPLETE FIRE ALARM AND SMOKE DETECTION SYSTEM.
5. VERIFY LOCATION AND QUANTITY OF TAMPER AND FLOW SWITCHES WITH SPRINKLER CONTRACTOR PRIOR TO SHOP DRAWING SUBMISSION.

REVISIONS

DATE	MARK	DESCRIPTION
7.1.94	1	

ADDITIONS AND ALTERATIONS TO

FIRE HOUSE NO. 4

2458 ALBANY AVE.

WEST HARTFORD, CT.

QUINLAN, GIANNONI & LIVINGSTON, INC.
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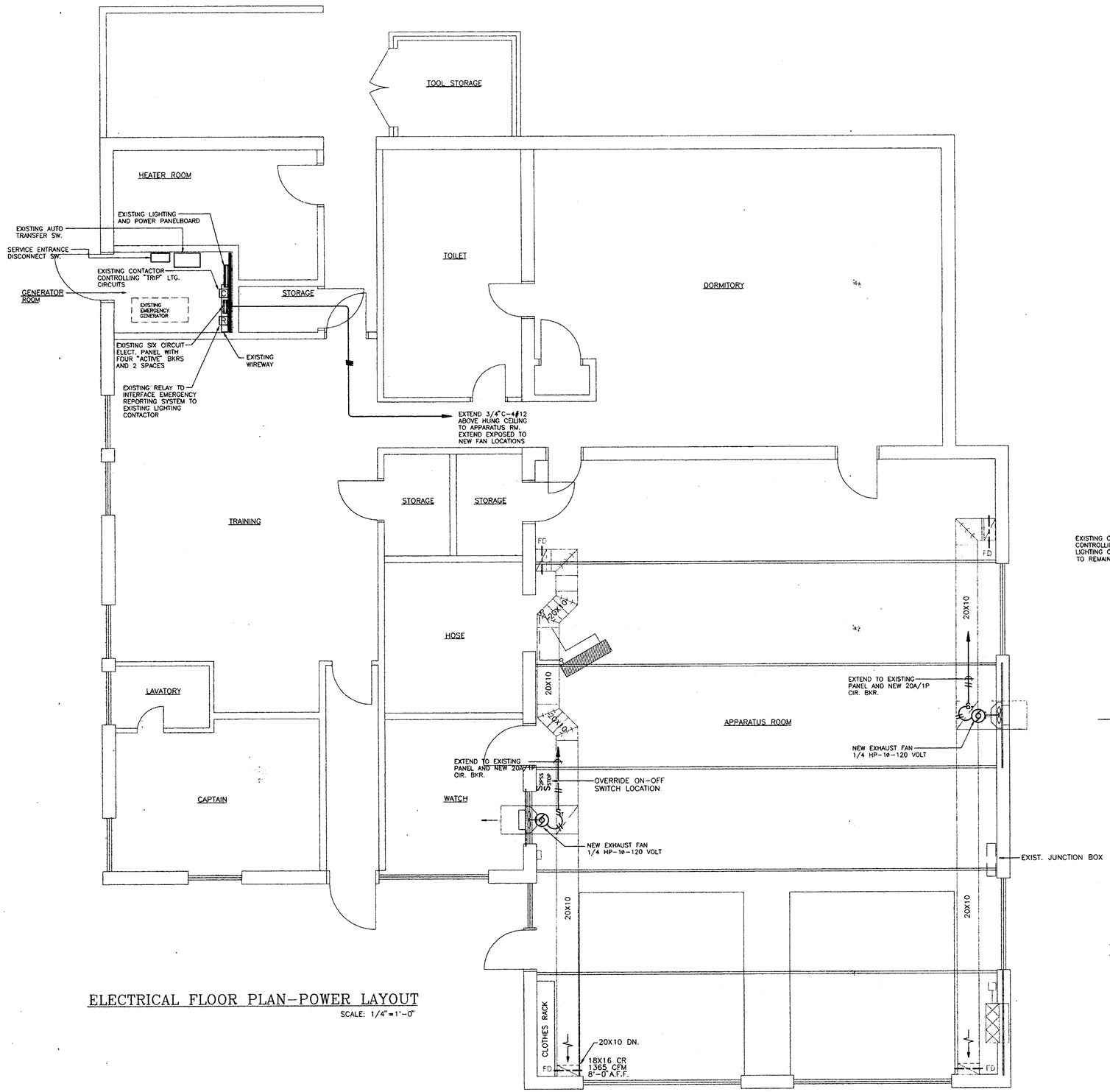
Drawn by: P.F.P. Scale: 1/8"=1'-0"

ELECTRICAL FLOOR PLANS

Project no. 93035 Drawing no. E-2

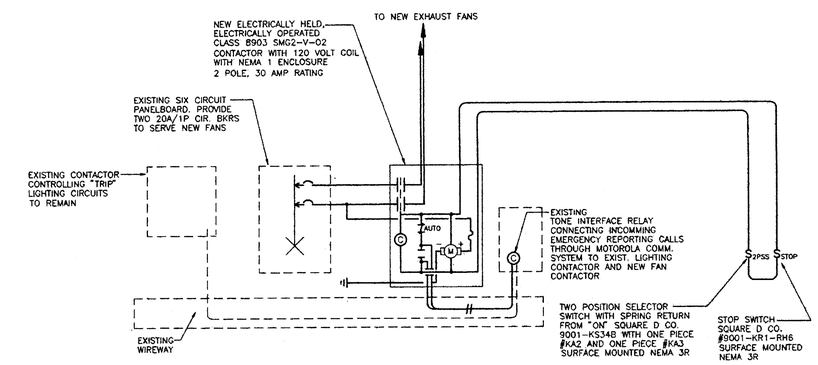
Date APRIL 12, 1994

FS4-E2 05/10/94 10:39



ELECTRICAL FLOOR PLAN-POWER LAYOUT

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



ELECTRICAL ONE LINE DIAGRAM

NO SCALE

REV. NO.	DATE	REMARKS

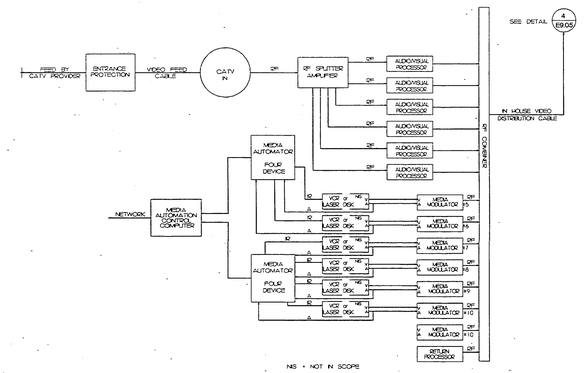
WEST HARTFORD FIRE STATION #5
BERKSHIRE ROAD

WEST HARTFORD, CONNECTICUT

TITLE: ELECTRICAL WORK RELATING TO APPARATUS ROOM VENTILATION

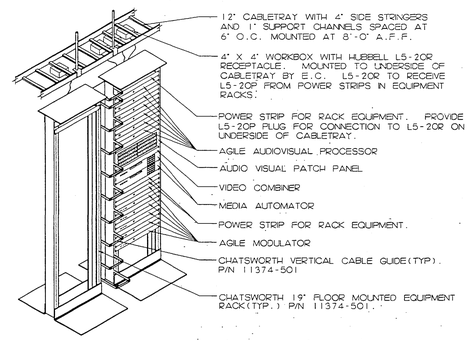
DRAWN BY	P.F.P.	SCALE AS SHOWN	DATE 02-15-1996
APPR'D. BY	P.F.P.	DWG. NO.	E-1

FS5-E1 02/15/96 09:53



1 / E9.08 ONE LINE VIDEO DISTRIBUTION DIAGRAM

NOT TO SCALE



2 / E9.08 HEAD END VIDEO TERMINATION RACK LAYOUT

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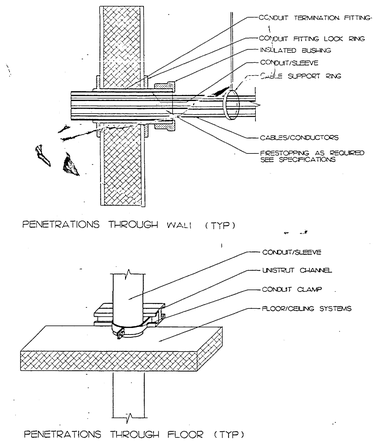
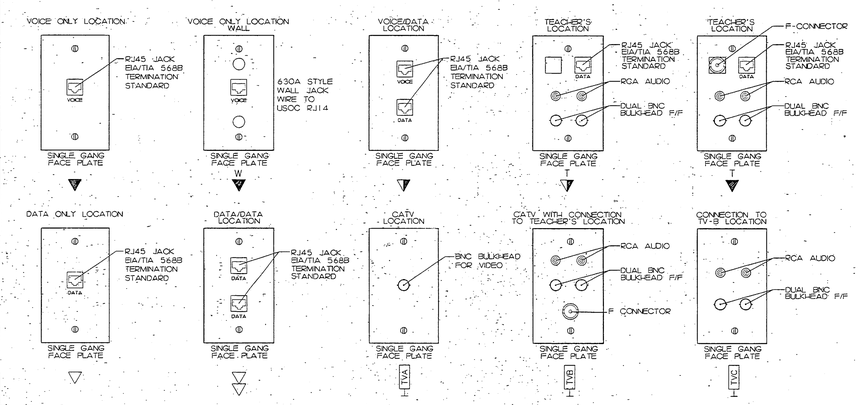


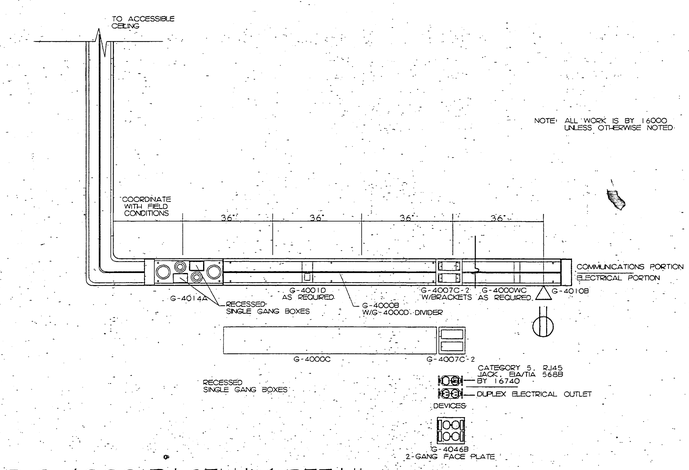
3 / E9.08 CONDUIT AND SLEEVE PENETRATION DETAIL

NOT TO SCALE



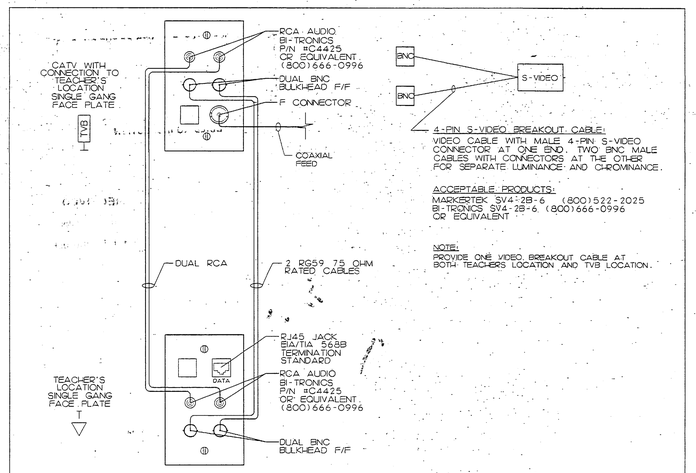
4 / E9.08 FACEPLATE LAYOUT DETAIL

NOT TO SCALE



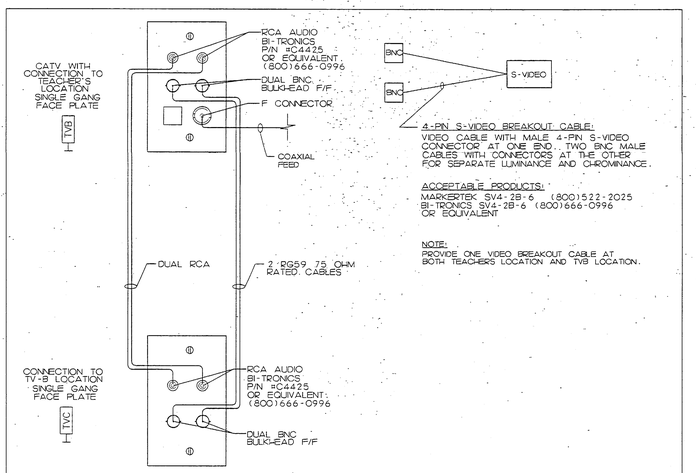
5 / E9.08 WIREMOLD G-4000 RACEWAY DETAIL

NOT TO SCALE



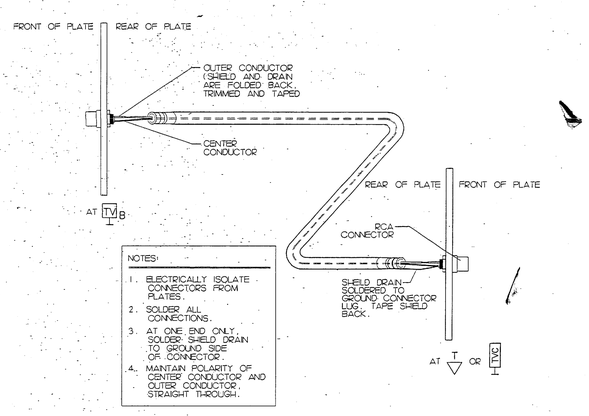
6 / E9.08 TEACHER TO TV-B CONNECTION DIAGRAM

NOT TO SCALE



7 / E9.08 TV-C TO TV-B CONNECTION DIAGRAM

NOT TO SCALE



8 / E9.08 RCA TO RCA SOLDERING DIAGRAM

NOT TO SCALE

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HALL HIGH SCHOOL
ALTERATIONS & ADDITIONS
SDE PROJECT NO. 15-19, EIA
975 NORTH MAIN ST.
WEST HARTFORD, CONNECTICUT

Drawing Title
COMMUNICATIONS DETAILS

Scale	AS NOTED
Project No.	979040
Date	5/22/98

REVISIONS

NO.	DATE	DESC.

Sheet No.
E9.08

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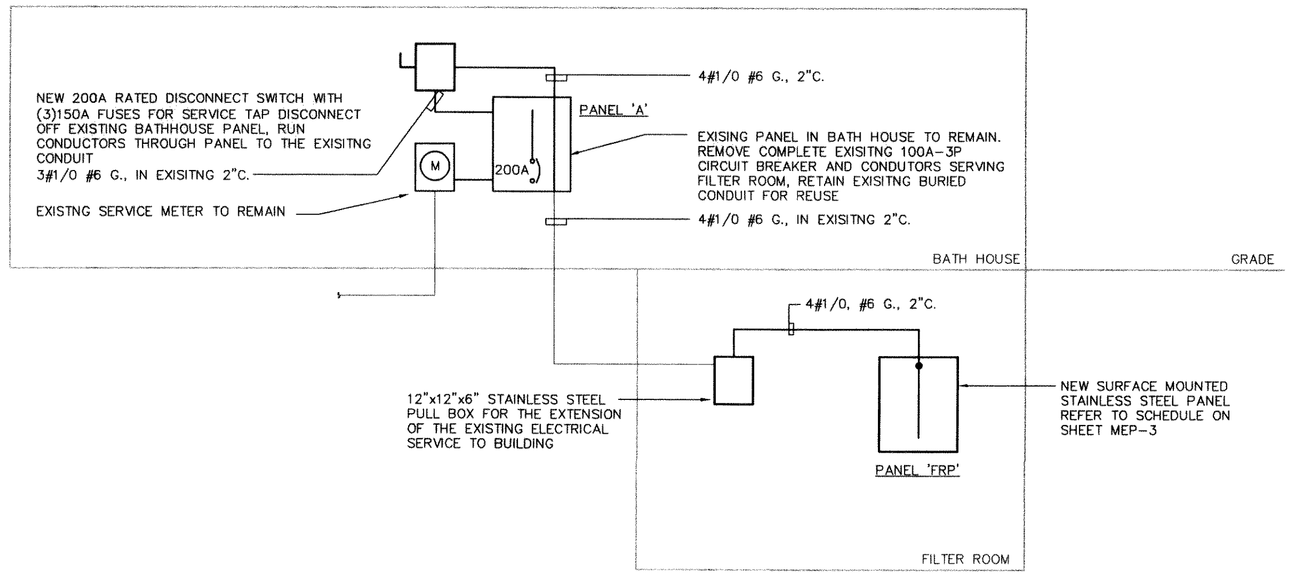

1 POWER ONE-LINE RISER DIAGRAM

N.T.S.

PANELBOARD SCHEDULE

PANEL DESIGNATION	VOLTAGE	MAINS	MOUNTING	BRANCH CIRCUIT AMPS	BRANCH CIRCUIT POLES	BRANCH CIRCUIT TOTAL	BRANCH POLE CAPACITY	AIC RATING	REMARKS
FRP	208/120 3ø-4W	200A MLO	SURFACE	15 20 20 30 40 60	1 1 3 3 3 3	1 15 3 1 1 1	42	12K	1 – 8

PANELBOARD NOTES:

1. PROVIDE WITH EQUIPMENT GROUND BUS.
2. PROVIDE IN STAINLESS STEEL CONSTRUCTION
3. BOND THE ISOLATED GROUND TO THE SERVICE ENTRANCE GROUND BUS BAR.
4. PROVIDE WITH 100% RATED NEUTRAL BUS.
5. BRANCH CIRCUIT BREAKERS SHALL BE BOLT-ON TYPE.
6. PROVIDE WITH HINGED DOOR.
7. PROVIDE A TYPED WRITTEN PANELBOARD DIRECTORY AND A DIRECTORY HOLDER ON THE INSIDE COVER OF DOOR.
8. PROVIDE WITH COPPER BUS.

MOTOR CIRCUIT SCHEDULE

EQUIPMENT	SOURCE PANEL	O C P DEVICE	BRANCH CIRCUIT	LOCAL DISC. SW.	MOTOR STARTER TYPE	MOTOR STARTER SIZE	MOTOR STARTER LOCATION	LOAD MCA	LOAD KW	LOAD HP	LOAD PH	LOAD VOLT	REMARKS
EF-1	22,FRP	15A-1P	2#12, #12G, 3/4"C.	S_{TOL}	–	–	AT UNIT	–	–	1/2	1	120	COORDINATE WITH DIV. 15
P1	1,3,5,FRP	60A-3P	4#4, #8G., 1 1/4"C.	60A-3P (3) 60A FUSES	FVNR	3	ON WALL	–	–	15	3	208	COORDINATE WITH DIV. 15
P2	2,4,6,FRP	20A-3P	4#12, #12G., 3/4"C.	30A-3P (3) 20A FUSES	FVNR	0	ON WALL	–	–	3	3	208	COORDINATE WITH DIV. 15
P3	8,10,12,FRP	30A-3P	4#10, #10G, 3/4"C.	60A-3P (3) 30A FUSES	FVNR	1	ON WALL	–	–	5	3	208	COORDINATE WITH DIV. 15
P4	7,9,11,FRP	20A-3P	4#12, #12G., 3/4"C.	30A-3P (3) 20A FUSES	FVNR	0	ON WALL	–	–	3	3	208	COORDINATE WITH DIV. 15
P5	13,15,17,FRP	40A-3P	4#8, #10G., 3/4"C.	60A-3P (3) 40A FUSES	FVNR	2	ON WALL	–	–	10	3	208	COORDINATE WITH DIV. 15

NOTES:

1. REFER TO DRAWING SPECIFICATIONS FOR STANDARD FEATURES. DISCONNECT SWITCHES SHALL BE HEAVY DUTY TYPE, FIBERGLASS REINFORCED POLYESTER ENCLOSURE, NEMA TYPE 4X.
2. ABBREVIATIONS:
   MAN – MANUAL STARTER
   FVNR – FULL VOLTAGE NON-REVERSING
   DIV. 15 – EQUIPMENT FURNISHED BY DIV.15 CONTRACTOR
3. O.C.P. DEVICE (OVERCURRENT PROTECTIVE) SHALL BE MOLDED CASE CIRCUIT BREAKER UNLESS NOTED WITH AN 'F' FOR FUSE.
4. COMBINATION STARTERS AND DISCONNECT SWITCH SHALL BE SQUARE D CLASS 8538 OR 8539 WITH CORROSION RESISTANCE ENCLOSURE.

ELECTRICAL NOTES

1. ALL LIGHTING AND RECEPTACLE CIRCUITS SHALL BE 2#12,#12G.,3/4"C., TO NEW 20A-1P CIRCUIT BREAKER IN PANEL FRP.
2. REFER TO DRAWING MEP-3 FOR LIGHTING FIXTURE SCHEDULE, MOTOR CIRCUIT SCHEDULE AND SYMBOL LIST.
3. ALL DEVICES SHALL BE LABELED WITH SOURCE PANEL AND CIRCUIT NUMBER(S).

LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER	FIXTURE DESCRIPTION	LAMPS
A	LITHONIA LIGHTING DMW196H0120WLF	8"x8' PENDANT FIXTURE RATED FOR WET LOCATION, INSTALL WITH WET LOCATION RATED FITTINGS AND STEMS CAPABILITIES, HIGH OUTPUT ELECTRONIC BALLAST, 120V	(3) 32W T-8 3000K

LIGHTING FIXTURE NOTES:

1. BIDS SHALL BE BASED ON THE LIGHTING FIXTURE SCHEDULE AND SPECIFICATIONS. REFER TO THE ELECTRICAL DRAWING SPECIFICATIONS FOR ADDITIONAL INFORMATION.
2. ALL FIXTURES SHALL BE UL LISTED.
3. HIGH FREQUENCY, ELECTRONIC TYPE BALLAST SHALL BE USED WITH ALL FLUORESCENT LAMPS WHEN POSSIBLE. ALL FLUORESCENT BALLAST SHALL HAVE A MIN. POWER FACTOR OF 0.9, A CLASS "A" RATING WHERE POSSIBLE, BE UL LISTED AND BE ON THE NORTHEAST UTILITIES LIST OF APPROVED BALLAST FLUORESCENT BALLAST USED IN EXTERIOR FIXTURES SHALL HAVE A MIN. STARTING TEMPERATURE OF –20° F.
4. ALL INCANDESCENT LAMPS DESIGNED FOR 120V OPERATION SHALL BE EXTENDED SERVICE LIFE TYPE.
5. ALL NECESSARY MOUNTING HARDWARE, HANGERS, BRACKETS, RAILS, YOKES, STEMS, CHAINS, ETC., SHALL BE FURNISHED AND INSTALLED AND BE RATED FOR WET LOCATION AND CORROSION RESISTANCE.
6. REFER TO ARCHITECTURAL DRAWINGS FOR SPECIFIC DETAILS, ARRANGEMENT, MOUNTING HEIGHTS, CEILING CONSTRUCTION, ETC. ALL COLORS AND FINISHES SHALL BE VERIFIED BY THE ARCHITECT.
7. FIXTURES SHALL BE SEISMIC ALLY SUPPORTED AS REQUIRED BY THE CONNECTICUT BUILDING CODE.

BONDING-GROUNDING NOTES

1. PROVIDE ALL BONDING AND GROUNDING REQUIRED BY THE NATIONAL ELECTRIC CODE, NFPA 70 AND AS REQUIRED BY LOCAL AUTHORITY HAVING JURISDICTION.
2. ALL REQUIRED GROUND FAULT CIRCUIT INTERRUPTERS SHALL BE CLASS "A" ONLY. CLASS "B" GROUND FAULT CIRCUIT INTERRUPTERS ARE NOT PERMITTED.
3. ALL REQUIRED BONDING CONDUCTORS SHALL BE MINIMUM #8 SOLID BARE COPPER, PROVIDE ALL NECESSARY FITTINGS,JUNCTION BOXES, END FITTINGS, ETC., FOR A COMPLETE, CONTINUOUS INSTALLATION.
4. CONDUIT SHALL BE INSTALLED UNDERGROUND WHERE FEASIBLE. CONDUIT TO BE BURIED A MINIMUM OF 18" BELOW GRADE.
5. THE FOLLOWING PARTS ARE TO BE BONDED TOGETHER TO FORM A CONTINUOUS BONDED SYSTEM:
   A. ANY AND ALL METALLIC PARTS OF THE POOL STRUCTURE INCLUDING, BUT NOT LIMITED TO THE REINFORCING METAL OF THE POOL SHELL, COPING STONES, AND DECK.
   B. ALL METAL FITTINGS WITHIN OR ATTACHED TO THE POOL STRUCTURE.
   C. ALL METAL PARTS OF ASSEMBLIES LOCATED WITHIN 5' HORIZONTALLY FROM THE INSIDE WALL OF THE POOL AND WITHIN 12' VERTICALLY ABOVE THE MAXIMUM WATER LEVEL OF THE POOL. THIS INCLUDES ANY OBSERVATION STANDS, TOWERS, PLATFORMS AND DIVING PLATFORMS THAT ARE NOT SEPARATED FROM THE POOL BY A PERMANENT BARRIER.
   D. ALL METAL PARTS OF EQUIPMENT, ASSOCIATED WITH THE POOL WATER CIRCULATING SYSTEM, FILTER SYSTEM, INCLUDING WATER PUMP MOTORS
   E. ALL METAL PARTS OF AIR STRUCTURE SURROUNDING THE POOL, INCLUDING SUPPORT MEMBERS AND ANCHOR POINTS.
6. ALL CONNECTIONS SHALL BE MADE BY LISTED CLAMP,OR CONNECTORS AS REQUIRED BY ARTICLE 250 OF NFPA 70,THE NATIONAL ELECTRIC CODE.

ELECTRICAL SYMBOL LIST

SYMBOL	DESCRIPTION
	SURFACE MOUNTED PANELBOARD, AS SPECIFIED
	DISCONNECT SWITCH
	COMBINATION STARTER / DISCONNECT SWITCH
	MOTOR
	BRANCH CIRCUIT WIRING
	HOMERUN TO PANELBOARD, UNLESS INDICATED OTHERWISE SHALL BE CONNECTED TO A 1 POLE, 20 AMP CIRCUIT BREAKER
	BRANCH CIRCUIT WIRING, SWITCHED
GFCI	DUPLEX RECEPTACLE WITH GROUND FAULT CIRCUIT INTERRUPTION
GFCI	QUAD RECEPTACLE WITH GROUND FAULT CIRCUIT INTERRUPTION
S	SINGLE POLE TOGGLE SWITCH
S_{TOL}	SWITCH WITH THERMAL OVERLOAD
	SURFACE MOUNTED INCANDESCENT FIXTURE
	PENDANT MOUNTED FLUORESCENT LIGHTING FIXTURE
WP	WEATHER PROOF DEVICE

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KENNEDY PARK POOL
RENOVATIONS and
SPRAY POOL

KENNEDY PARK
WEST HARTFORD, CT

DATE: MAY 1, 2003
PROJECT NO: 23006.00
DRAWN: JKH
CHECKED: LMG
ISSUED FOR:
REVISIONS:
BIDDING and CONSTRUCTION
ACAD SCALE 1:96

MEP-3

LEGEND & SCHEDULES

LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER	FIXTURE DESCRIPTION	LAMPS
A	CORELITE AP-SP-3T8-C-277-A-C-I8-*	9" WIDE PERFORATED LINEAR FLUORESCENT DIRECT/INDIRECT FIXTURE. AIRCRAFT CABLE SUSPENDED. ELECTRONIC BALLASTS WIRED FOR INBOARD/OUTBOARD CONTROL. WHITE FINISH. 277 VOLT. (LENGTHS PER CONTRACT DRAWINGS)	(3)32W T-8 3500'K PER 4' SECTION
B	METALUX 2GMXRD-332-A-277-EB81	2'x4' RECESSED FLUORESCENT. ACRYLIC PRISMATIC LENS. RECESSED ALUMINUM DOOR FRAME. ELECTRONIC BALLAST. 277 VOLT.	(3)32W T-8 3500'K
B1	METALUX GMXRD-232-A-277-EB81	1'x4' RECESSED FLUORESCENT. ACRYLIC PRISMATIC LENS. RECESSED ALUMINUM DOOR FRAME. ELECTRONIC BALLAST. 277 VOLT.	(2)32W T-8 3500'K
B2	METALUX 2MXF-332-A-277-EB81	2'x4' SURFACE MOUNTED FLUORESCENT. PRISMATIC LENS. ELECTRONIC BALLAST. 277 VOLT.	(3)32W T-8 3500'K
C	METALUX 2GMXRD-231-A-277-EB81	2'x2' RECESSED FLUORESCENT. ACRYLIC PRISMATIC LENS. RECESSED ALUMINUM DOOR FRAME. ELECTRONIC BALLAST. 277 VOLT.	(2)31W T-8 3500'K
D	PORTFOLIO C6132-2E-6180-LI-3	6" NOMINAL RECESSED FLUORESCENT DOWNLIGHT. LOW IRIDESCENCE CONE WITH WHITE TRIM RING. CLEAR LENS. ELECTRONIC BALLAST. 277 VOLT.	(1)26W TRIPLE COMPACT FLUORESCENT 3500'K
D1	PORTFOLIO C6132-2E-6150-LI	6" NOMINAL OPEN RECESSED FLUORESCENT DOWNLIGHT. LOW IRIDESCENCE CONE. WHITE TRIM RING. ELECTRONIC BALLAST. 277 VOLT.	(1)26W TRIPLE COMPACT FLUORESCENT 3500'K
D2	PORTFOLIO C8526-2E-8552-LI	7 3/8" NOMINAL OPEN RECESSED FLUORESCENT DOWNLIGHT. LOW IRIDESCENCE CONE. WHITE TRIM RING. ELECTRONIC BALLAST. PARABOLIC LOUVER. 277 VOLT.	(2)26W TRIPLE COMPACT FLUORESCENT 3500'K
E	SURE-LITES RLM SERIES	RECESSED DUAL HEAD EMERGENCY LIGHTING UNIT. WHITE FINISH. LEAD CALCIUM BATTERY SIZED FOR 90-MINUTE OPERATION AND REMOTE HEAD OPERATING CAPACITY. 277V.	(2)9 WATT INCANDESCENT (INCLUDED)
E1	SURE-LITES 12T-12-W	WEATHER PROOF REMOTE HALOGEN EMERGENCY LIGHTING HEAD.	(1)12W HALOGEN (INLUDED)
E2	SURE-LITES 6T12	SINGLE REMOTE HALOGEN EMERGENCY LIGHTING HEAD.	(1)12W HALOGEN (INLUDED)
F	METALUX IA-232-277-EB81-WG	4' CHAIN HUNG INDUSTRIAL. WHITE FINISH. WIRE GUARD. ELECTRONIC BALLAST. 277 VOLT.	(2)32W T-8 3500'K
G	MCPHILBEN 141-WT-250MH-277-F	WALL MOUNTED HID SCONCE. BRONZE FINISH. BALLAST. 277 277 VOLT.	(1) 250W METAL HALIDE
H	HADCO WA3-H-HF-N-175H-E-SS18	WALL MOUNTED HORIZONTAL HID FLOODLIGHT. BRONZE FINISH. 18" STANCHION. 120 VOLT.	(1) 175W METAL HALIDE
K	LOUIS POULSON ORP-MAX	PENDENT MOUNTED DECORATIVE FLUORESCENT. 19" DIA AIRCRAFT CABLE SUSPENSION. MATCHING WHITE POWER CORD. WHITE FINISH. REMOTE BALLAST. 120 VOLT.	(3) 18W PL 3500'K
X	SURE-LITES CAX SERIES	CEILING MOUNTED EXIT SIGN. BRUSHED ALUMINUM FACE. BLACK BODY. RED LETTERS AC/SELF POWERED. PROVIDE WITH CHEVRON ARROWS INDICATED ON DRAWINGS.	L.E.D. (INCLUDED)
X1	SURE-LITES CAX SERIES	DUAL FACE CEILING MOUNTED EXIT SIGN. BRUSHED ALUMINUM FACE. BLACK BODY. RED LETTERS AC/SELF POWERED. PROVIDE WITH CHEVRON ARROWS INDICATED ON DRAWINGS.	L.E.D. (INCLUDED)

LIGHTING FIXTURE NOTES:

1. BIDS SHALL BE BASED ON THE LIGHTING FIXTURE SCHEDULE AND SPECIFICATIONS. REFER TO THE ELECTRICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION INCLUDING SUBSTITUTIONS.
2. ALL FIXTURES SHALL BE UL LISTED.
3. HIGH FREQUENCY, ELECTRONIC TYPE BALLASTS SHALL BE USED WITH ALL FLUORESCENT LAMPS WHEN POSSIBLE. ALL FLUORESCENT BALLASTS SHALL HAVE A MIN. POWER FACTOR OF 0.9, A CLASS "A" RATING WHERE POSSIBLE, BE UL LISTED AND BE ON THE NORTHEAST UTILITIES LIST OF APPROVED BALLASTS. FLUORESCENT BALLASTS USED IN EXTERIOR FIXTURES SHALL HAVE A MIN. STARTING TEMPERATURE OF -20° F.
4. ALL INCANDESCENT LAMPS DESIGNED FOR 120V OPERATION SHALL BE EXTENDED SERVICE LIFE TYPE.
5. ALL NECESSARY MOUNTING HARDWARE, HANGERS, BRACKETS, RAILS, YOKES, STEMS, CHAINS, ETC., SHALL BE FURNISHED AND INSTALLED.
6. REFER TO ARCHITECTURAL DRAWINGS FOR SPECIFIC DETAILS, ARRANGEMENT, MOUNTING HEIGHTS, CEILING CONSTRUCTION, ETC. ALL COLORS AND FINISHES SHALL BE VERIFIED BY THE ARCHITECT.
7. FIXTURES SHALL BE SEISMICALLY SUPPORTED AS REQUIRED BY THE CONNECTICUT BUILDING CODE.
8. WIRE ALL BATTERY PACK UNITS (I.E. EXIT SIGNS AND EMERGENCY UNITS) TO LINE SIDE OF LOCAL LIGHTING BRANCH CIRCUIT.

PANELBOARD SCHEDULE

PANEL DESIGNATION	VOLTAGE	MAINS	MOUNTING	BRANCH CIRCUITS ACTIVE	BRANCH CIRCUITS SPARE	BRANCH POLE CAPACITY	AIC RATING	REMARKS
HP-A	480/277	125A-3P	SURFACE	(8) 20A-1P (1) 30A-3P	(5) 20A-1P	36	22K	
PP-A	208/120	125A-3P	SURFACE	(4) 15A-1P (29) 20A-1P	(9) 20A-1P	42	14K	
CP-1D	208/120	100A-3P	SURFACE	(18) 20A-1P	(10) 20A-1P	42	14K	200% NEUTRAL BUS ISOLATED GROUND BUS
HP-BR	480/277	70A-3P	SURFACE	(2) 15A-3P	(3) 20A-1P (1) 20A-3P	24	22K	
HP-B	480/277	175A-3P	SURFACE	(1) 125A-3P (1) 70A-3P		18	22K	

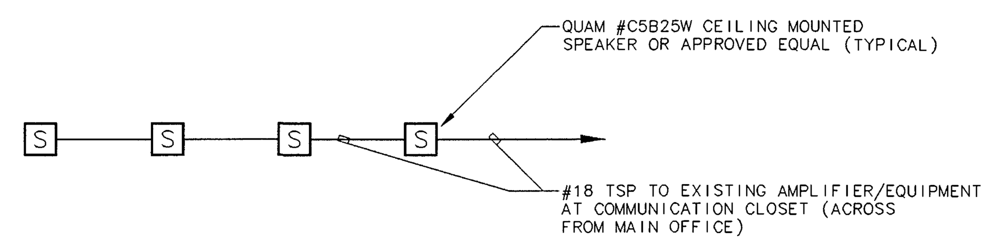
NOTES:
1. PROVIDE TYPE-WRITTEN CIRCUIT DIRECTORY.
2. PROVIDE DOOR-IN-DOOR TRIM
3. PROVIDE COPPER BUS
4. BRANCH BREAKERS SHALL BE BOLT-ON.

MOTOR CIRCUIT SCHEDULE

EQUIPMENT	SOURCE PANEL	O C P DEVICE	BRANCH CIRCUIT	LOCAL DISC. SW.	MOTOR STARTER TYPE	MOTOR STARTER SIZE	MOTOR STARTER LOCATION	LOAD HP	LOAD PH	LOAD VOLT	REMARKS
AHU-1	HP-A	30A-3P	3#12,#12G,3/4"C	COMB.	FVNR	1	RM #115	10	3	460	-
EF-1	PP-A	15A-1P	2#12,#12G,3/4"C	30A-1P	FVNR	00	RM #115	1/4	1	120	-
RF-1	PP-A	15A-1P	2#12,#12G,3/4"C	30A-1P	FVNR	00	RM #115	1/3	1	120	-
RF-2	PP-A	15A-1P	2#12,#12G,3/4"C	30A-1P	FVNR	00	RM #115	1/3	1	120	-
HWP-1	HP-BR	15A-1P	3#12,#12G,3/4"C	VFD	VFD	-	BOILER ROOM	5	3	460	SEE VFD SCHEDULE
HWP-2	HP-BR	15A-1P	3#12,#12G,3/4"C	VFD	VFD	-	BOILER ROOM	5	3	460	SEE VFD SCHEDULE
UH-1	PP-A	15A-1P	2#12,#12G,3/4"C	MAN.	-	-	RM #115	1/8	1	120	-

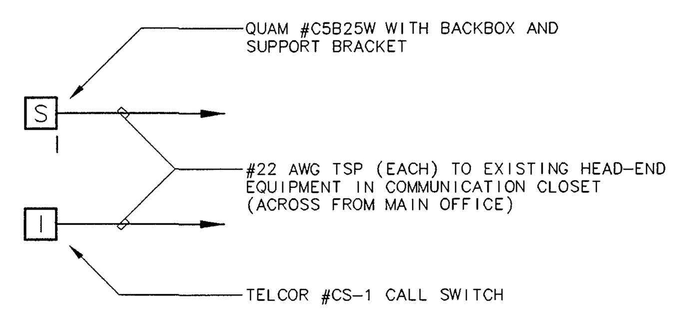
NOTES:

1. REFER TO SPECIFICATIONS FOR STANDARD FEATURES. DISCONNECT SWITCHES SHALL BE HEAVY DUTY TYPE.
2. ABBREVIATIONS:
   MAN - MANUAL STARTER WITH THERMAL OVERLOADS
   FVNR - FULL VOLTAGE NON-REVERSING
   DIV. 15 - EQUIPMENT FURNISHED BY DIV.15 CONTRACTOR
   COMB. - COMBINATION STARTER/DISCONNECT
   VFD - VARIABLE FREQUENCY DRIVE
3. O.C.P. DEVICE (OVERCURRENT PROTECTIVE) SHALL BE MOLDED CASE CIRCUIT BREAKER UNLESS NOTED WITH AN 'F' FOR FUSE.
4. STARTERS SHALL BE SQUARE D CLASS 8536 OR APPROVED EQUAL.



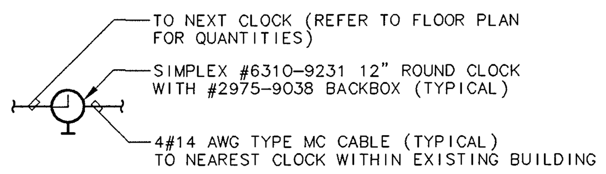
NOTE:
1. PROVIDE WITH ERD-8 BACKBOX AND SSB SUPPORT BRACKETS.

1 CORRIDOR 119 SPEAKER RISER DIAGRAM
SCALE: N-T-S



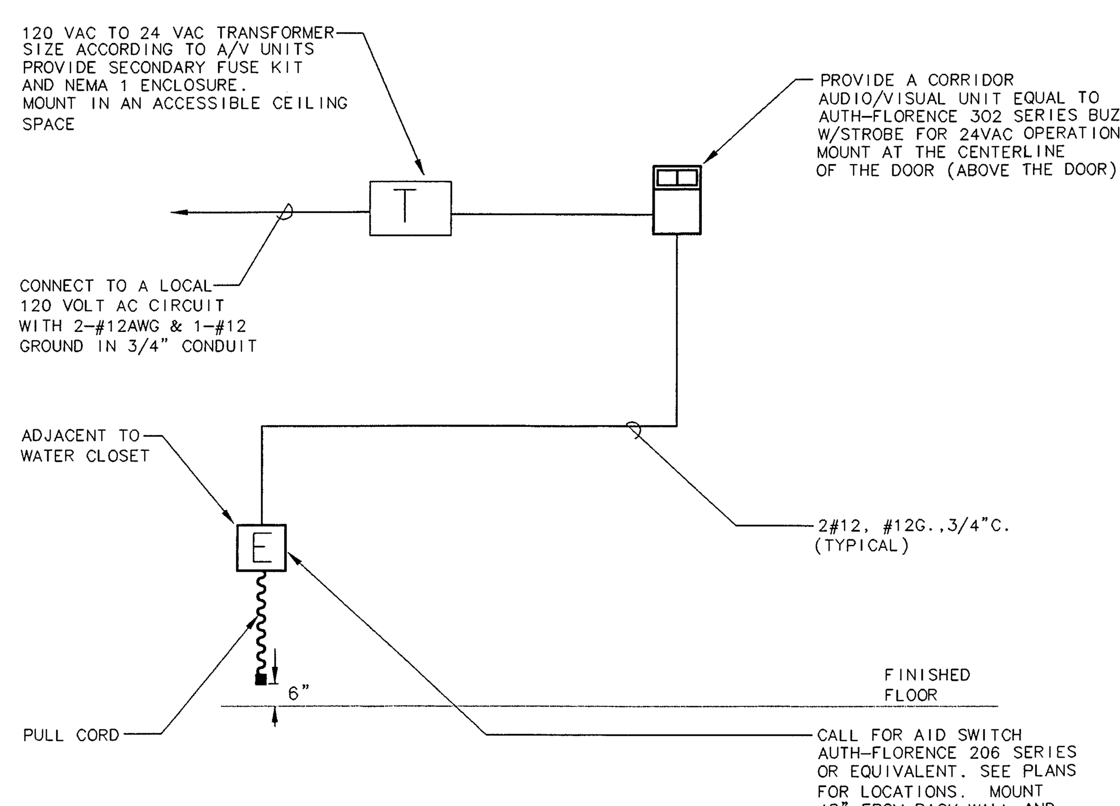
NOTE:
1. EXTENSION OF EXISTING SYSTEM

2 TYPICAL CLASSROOM SPEAKER/INTERCOM RISER
SCALE: N-T-S



NOTE:
1. EXTENSION OF EXISTING SYSTEM

3 CLOCK SYSTEM WIRING DIAGRAM
SCALE: N-T-S



4 EMERGENCY CALL FOR AID SCHEMATIC
SCALE: N.T.S.

FIRE ALARM SPECIFICATIONS

1. DEVICES INDICATED SHALL BE WIRED TO EXISTING NOTIFIER ADDRESSABLE FIRE ALARM CONTROL PANEL IN MAIN OFFICE.
2. WIRING SHALL BE RATED CABLE ASSEMBLY INSTALLED ABOVE SUSPENDED CEILING WITH "D" RING SUPPORTS 6' ON-CENTER. SIZE PER MANUFACTURERS RECOMMENDATIONS.
3. PROVIDE DEVICES AS FOLLOWS:
   * STROBE UNIT - RS5241575WFR
   * HORN/STROBE UNIT - AS241575WFR
   * MINI HORN/STOBE - SAME AS HORN/STROBE, SET TO LOWEST TAP FOR AUDIBLE OUTPUT
   * PULLSTATION - BGX101L
   * PULLSTATION STOPPER - STI1100
   * SMOKE DETECTOR - SDX751 WITH B710LP BASE
   * HEAT DETECTOR - FDX551 WITH BX501 BASE
   * PROVIDE (1) ADDRESSIBLE MONITOR MODULE PER WATERFLOW DEVICE
   * PROVIDE OUTPUT TO TEMPERATURE CONTROL SYSTEM FOR FAN SHUT-DOWN ON FIRE ALARM ACTIVATION
   * SYNC MODULE - DSM12/24R
   * POWER SUPPLY - FCPS-24
4. ACTIVATION OF ANY INITIATING DEVICE SHALL CAUSE THE FOLLOWING:
   * AUDIBLE ALARM
   * VISUAL ALARM
   * FAN SHUT-DOWN
   * REMOTE NOTIFICATION VIA EXISTING CONTROL PANEL

   (INITIATING DEVICES AS FOLLOWS: SMOKE DETECTOR, DUCT SMOKE DETECTOR, PULL STATION, HEAT DETECTOR, FLOW AND TAMPER SWITCHES BOTH WITHIN ADDITION AND EXISTING BUILDING)

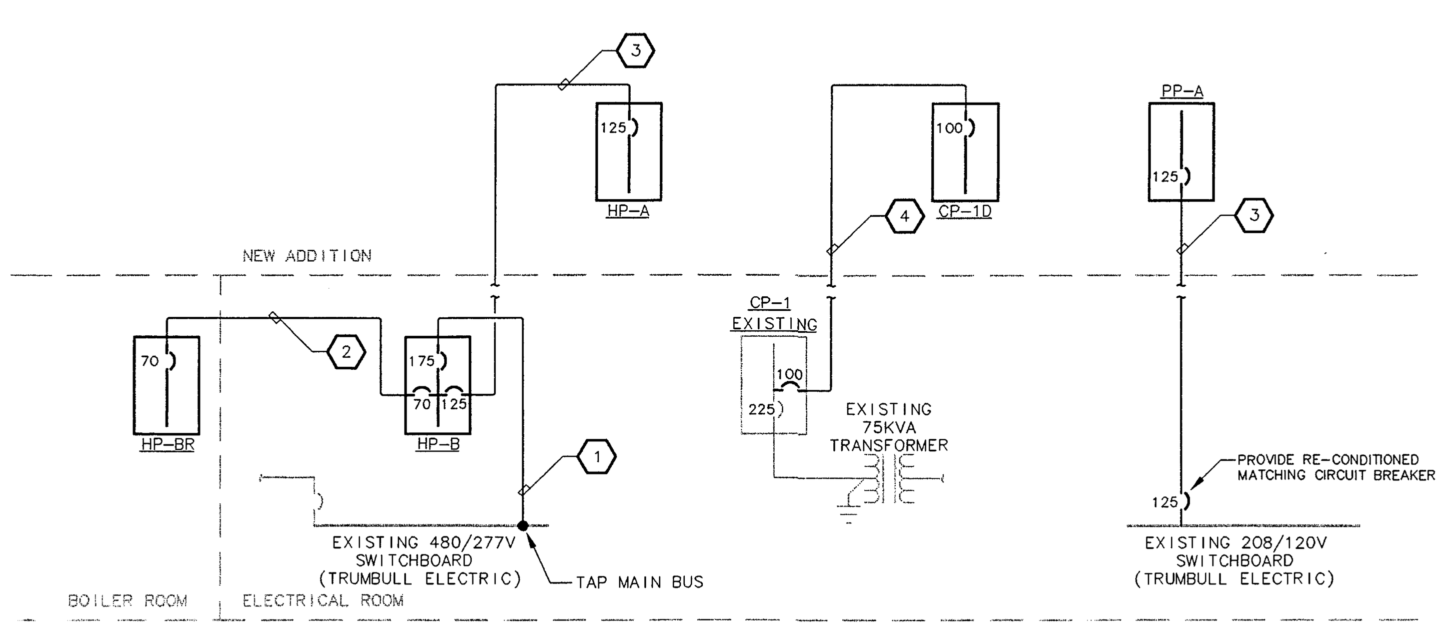
DATA SYSTEM SPECIFICATIONS

1. PROVIDE DATA DROPS TO ALL OUTLETS INDICATED ON CONTRACT DRAWINGS.
2. WIRING SHALL BE CAT.5 4 PR. UTP CABLE AS MANUFACTURED BY BERK-TEK, ANIXTER OR BELDEN.
3. INSTALLATION SHALL BE COMPLETE FROM MODULAR PATCH PANEL TO OUTLET INCLUDING TESTING, TERMINATIONS, JACKS, ETC..
4. WIRING SHALL BE SUPPORTED ON 6' INTERVALS USING "D" RINGS OR "J" HOOKS. BUNDLE CABLES TOGETHER AND STRAP WITH VELCRO FASTENERS.
5. PROVIDE FLOOR MOUNTED, OPEN 19" EQUIPMENT RACK. BOND TO ISOLATED GROUND BUS IN PANEL CP-1D WITH #6 AWG GREEN GROUNDING CONDUCTOR.
6. PROVIDE MODULAR PATCH PANELS IN SUFFICIENT QUANTITY FOR CABLE TERMINATION AND TEN (10) PERCENT FUTURE GROWTH.
7. PATCH PANELS AND JACKS SHALL BE ORTRONICS OR APPROVED EQUAL.
8. PROVIDE ONE (1) 12 STRAND MULTI-MODE FIBER OPTIC CABLE RUN, IN INNERDUCT, FROM NEW FIBER PATCH PANEL TO EXISTING RACK LOCATED IN BUILDING COPY CENTER. EQUIPMENT SHALL MATCH MANUFACTURER AS INDICATED ABOVE.
9. TEST ALL STATION CABLES AND FIBER TO ENSURE PROPER PERFORMANCE. USE TDR FOR STATION CABLE. SUBMIT TEST RESULTS FOR REVIEW. REPLACE ALL CABLES NOT PASSING 100MHZ COMPLIANCE TEST.
10. SUBMIT FOR REVIEW ALL PRPOSED SYSTEM COMPONENTS.

VFD SCHEDULE

TAG	SERVING	MANUFACTURER	REMARKS
VFD-1	HWP-1	ABB # ACH 500	PROVIDE WITH SERVICE SWITCH AND DISCONNECT OPTIONS
VFD-2	HWP-2	ABB # ACH 500	PROVIDE WITH SERVICE SWITCH AND DISCONNECT OPTIONS

NOTES:
1. HWP 1&2 = 5 H.P. AT 460 VOLT
2. PROVIDE SPECIFIED EQUIPMENT OR EQUAL BY TOSHIBA
3. MOUNT TO STEEL CHANNEL SUPPORT TO KEEP OFF FOUNDATION WALL



FEEDER SCHEDULE

1. 4#2/0, #6G, 2"C
2. 4#4, #8G, 1 1/2"C
3. 4#1/0, #6G, 2"C
4. 3#1, 2#1N, #8G, #8IG, 2"C

5 POWER RISER DIAGRAM
SCALE: N-T-S

ELECTRICAL SYMBOL LIST

SYMBOL	DESCRIPTION
	SURFACE MOUNTED PANELBOARD
	BRANCH CIRCUIT WIRING
	BRANCH CIRCUIT WIRING, SWITCHED
	HOMERUN TO PANELBOARD, UNLESS INDICATED OTHERWISE SHALL BE CONNECTED TO A 1 POLE, 20 AMP CIRCUIT BREAKER
	DUPLEX WALL MOUNTED RECEPTACLE (ABOVE COUNTER WHERE DENOTED "a")
	DOUBLE DUPLEX WALL MOUNTED RECEPTACLE
GFI	DUPLEX RECEPTACLE WITH GROUND FAULT CIRCUIT INTERRUPTION
	SPECIAL PURPOSE ELECTRICAL CONNECTION
	DATA OUTLET
	COMBINATION VOICE/DATA OUTLET
J	JUNCTION BOX
	EMERGENCY SHUT-OFF PUSH-BUTTON
S	SINGLE POLE TOGGLE SWITCH
	PENDANT MOUNTED FLUORESCENT LIGHTING FIXTURE
	SURFACE MOUNTED LIGHTING FIXTURE
	RECESSED LIGHTING FIXTURE
	DOWNLIGHT
	WALL MOUNTED LIGHT FIXTURE
	SINGLE FACE EXIT SIGN
	DOUBLE FACE EXIT SIGN
	EMERGENCY LIGHTING FIXTURE
	REMOTE EMERGENCY LIGHTING HEAD
F	FIRE ALARM PULL STATION
	FIRE ALARM COMBINATION HORN/STROBE UNIT
M	FIRE ALARM MINI COMBINATION HORN/STROBE UNIT
	FIRE ALARM STROBE UNIT
S	SMOKE DETECTOR
H	HEAT DETECTOR
	CLOCK
S	SPEAKER
S I	SPEAKER - DEDICATED TO ROOM INTERCOM CIRCUIT
I	INTERCOM CALL SWITCH
FS	FIRE ALARM FLOWW SWITCH
TS	FIRE ALARM TAMPER SWITCH

DATE: 11/26/99
DRAWN BY: LAD
SCALE: 1/8" = 1'-0"
REVIEWED BY: SRC
PROJECT NO. 99053
99053B5

REVISIONS

NO.	DATE	DESCRIPTION
1	12/6/99	ISSUED FOR STATE REVIEW

ELECTRICAL SYMBOLS, SCHEDULES, AND DETAILS

ADDITIONS AND RENOVATIONS TO STATE PROJECT NO. 155-187-EA
KING PHILIP MIDDLE SCHOOL
WEST HARTFORD, CONNECTICUT

CONSULTANT'S SEAL

CES Consulting Engineering Services, Inc.
811 Middle Street
Middletown, CT 06457
Tel. (860) 632-1682
Fax (860) 632-1768
CES #99072.01

ARCHITECT'S SEAL

Friar Associates inc.
Architects
10 Executive Drive
Farmington, CT. 06032

SHEET NO.
E-3

PROGRESS PRINT
NOT FOR CONSTRUCTION
DATE ____________

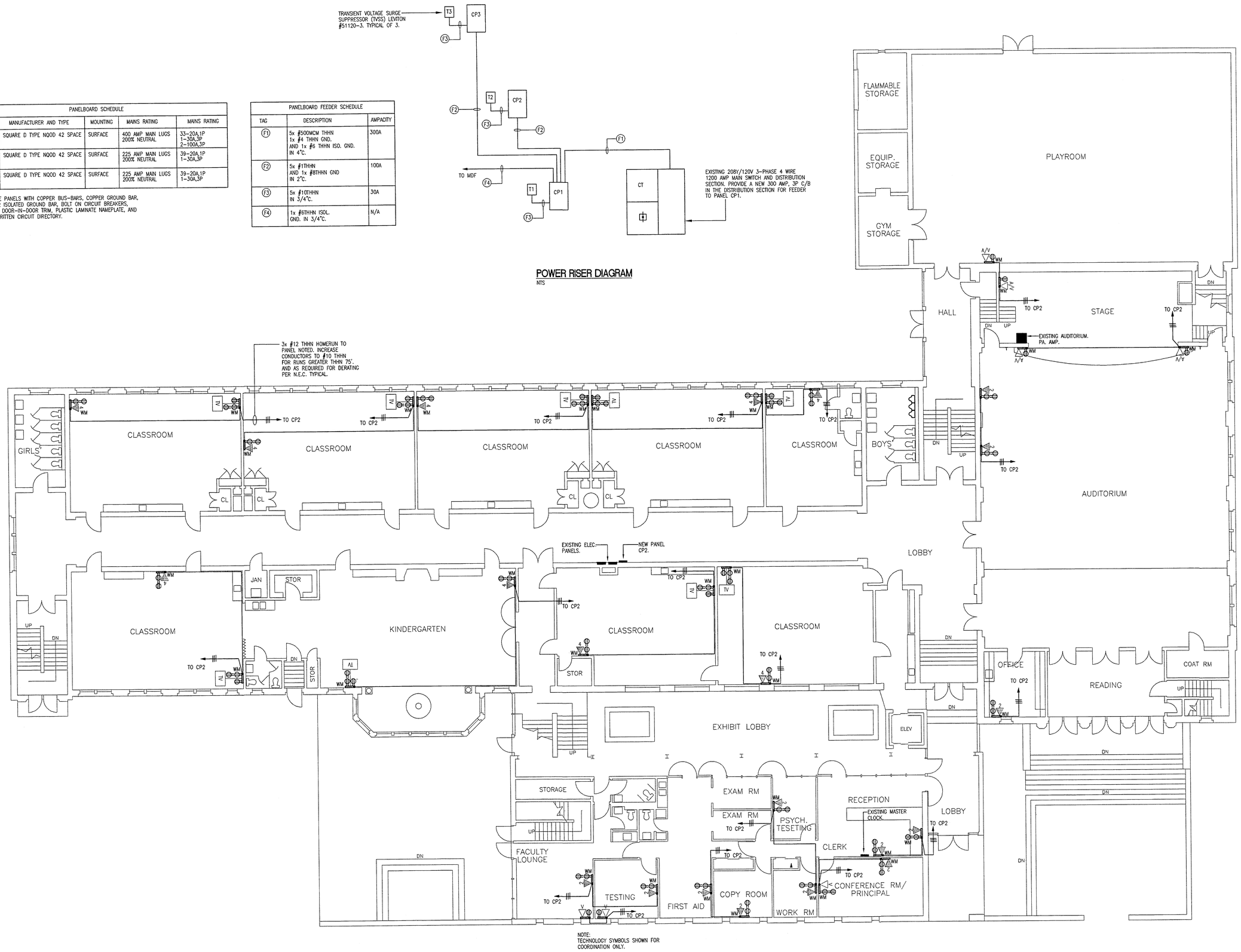
PANELBOARD SCHEDULE				
PANEL	MANUFACTURER AND TYPE	MOUNTING	MAINS RATING	MAINS RATING
CP1	SQUARE D TYPE NQOD 42 SPACE	SURFACE	400 AMP MAIN LUGS 200% NEUTRAL	33-20A,1P 1-30A,3P 2-100A,3P
CP2	SQUARE D TYPE NQOD 42 SPACE	SURFACE	225 AMP MAIN LUGS 200% NEUTRAL	39-20A,1P 1-30A,3P
CP3	SQUARE D TYPE NQOD 42 SPACE	SURFACE	225 AMP MAIN LUGS 200% NEUTRAL	39-20A,1P 1-30A,3P

PROVIDE PANELS WITH COPPER BUS-BARS, COPPER GROUND BAR, COPPER ISOLATED GROUND BAR, BOLT ON CIRCUIT BREAKERS, HINGED DOOR-IN-DOOR TRIM, PLASTIC LAMINATE NAMEPLATE, AND TYPE WRITTEN CIRCUIT DIRECTORY.

PANELBOARD FEEDER SCHEDULE		
TAG	DESCRIPTION	AMPACITY
F1	5x #500MCM THHN 1x #4 THHN GND. AND 1x #6 THHN ISO. GND. IN 4"C.	300A
F2	5x #1THHN AND 1x #8THHN GND IN 2"C.	100A
F3	5x #10THHN IN 3/4"C.	30A
F4	1x #6THHN ISOL. GND. IN 3/4"C.	N/A

POWER RISER DIAGRAM

NTS



NOTE:
TECHNOLOGY SYMBOLS SHOWN FOR COORDINATION ONLY.

FIRST FLOOR PLAN

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

REVISIONS

TECHNOLOGY IMPROVEMENTS FOR THE

MORLEY ELEMENTARY SCHOOL

-

77 BRETTON ROAD
WEST HARTFORD, CONNECTICUT
TOWN PROJECT # 98201

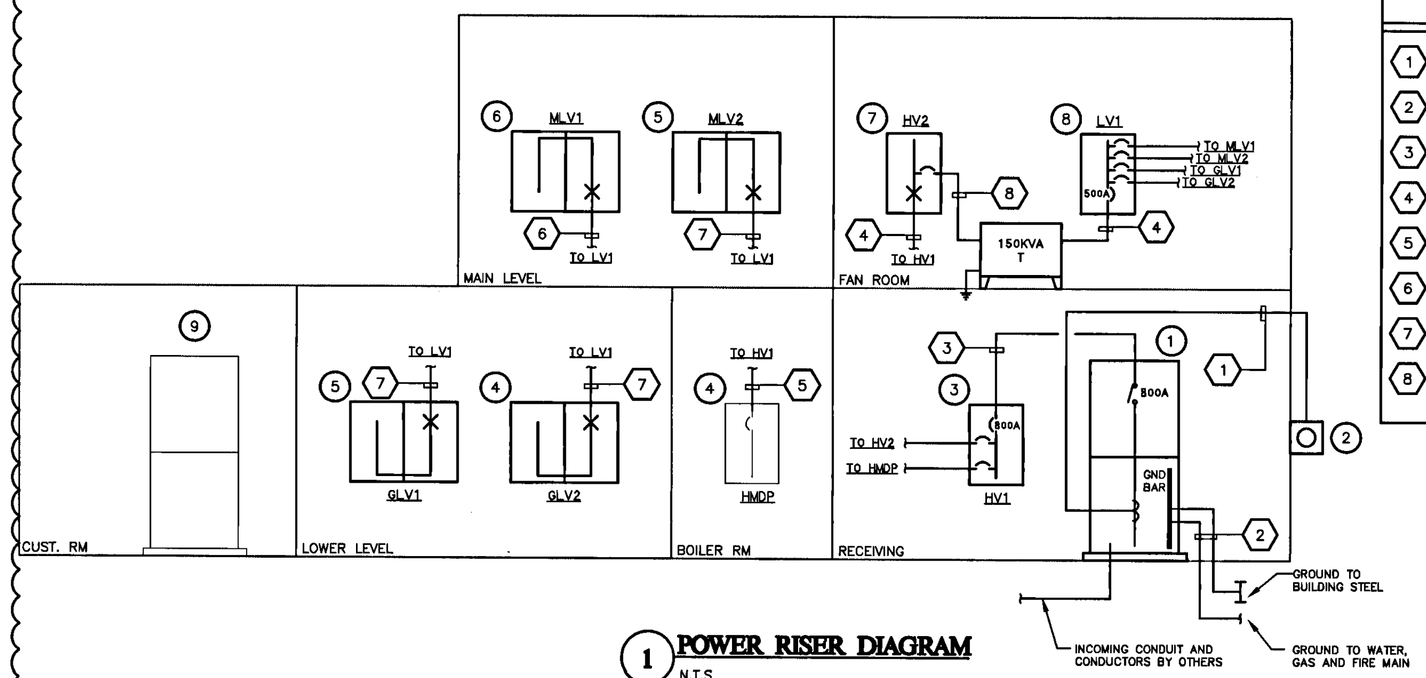
BEMIS ASSOCIATES LLC
CONSULTING ENGINEERS

FENN PLAZA 101 FENN ROAD
NEWINGTON, CONN. 06111
(860) 667-5233

TITLE
ELECTRICAL PLAN: FIRST FLOOR

DATE: 9/8/98
SCALE: 1/8" = 1'- 0"
DRAWN BY: WAB

DWG. NO.
E3



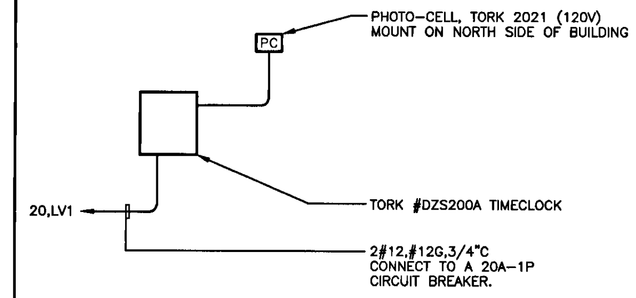
1 **POWER RISER DIAGRAM**
N.T.S.

RISER DIAGRAM FEEDER SCHEDULE

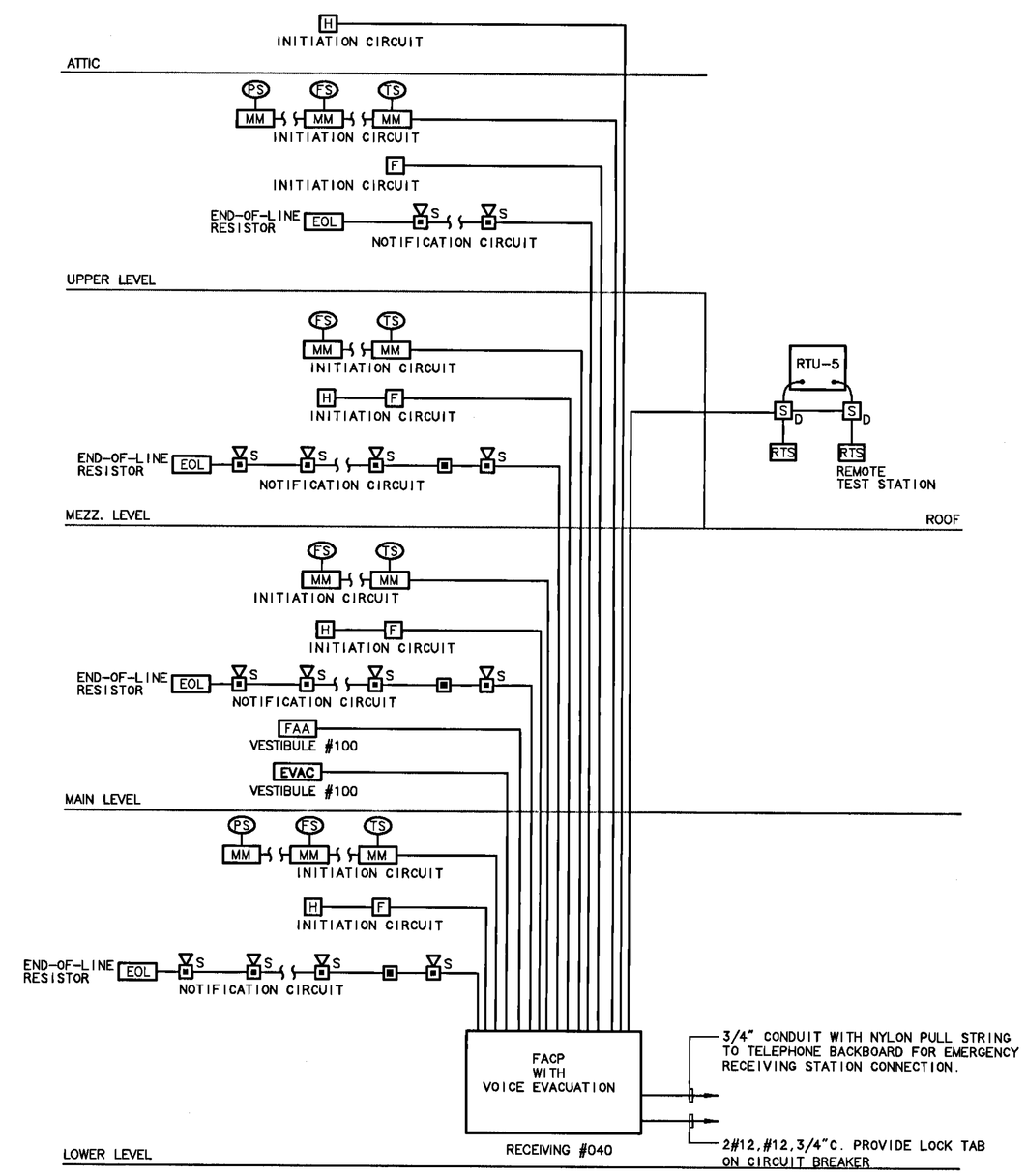
1	1-1/2"C. WITH PULL STRING FOR WIRING BY UTITLIY COMPANY.
2	1#4/0,1"C. FOR BUILDING EQUIPMENT GROUND
3	2 SETS OF 4#500KCMIL,#1/0G.,4"C.
4	2 SETS OF 4#250KCMIL,#1G.,2-1/2"C.
5	4#500KCMIL,#3G.,4"C.
6	4#4/0,#4G.,2-1/2"C.
7	4#1,#6G.,2"C.
8	3#250KCMIL,#4G.,2-1/2"C.

RISER DIAGRAM NOTES

1	NEW 800A, 480V, 3PHASE, 4WIRE, MAIN SERVICE #2 DISCONNECT SWITCH WITH C/T CABINET. CONTRACTOR TO PROVIDE PERMANENT LABEL ON MAIN DISCONNECT TO READ AS FOLLOW; "THIS BUILDING HAS TWO ELECTRICAL SERVICES, ONE LOCATED IN CUSTODIAL OFFICE 022 AND THE OTHER IN RECEIVING 040."
2	NEW UTILITY COMPANY SERVICE METER SUPPLIED BY CL&P, METER SOCKET BY DIV.16
3	NEW 800A, 480V, 3PHASE, 4WIRE, HIGH VOLTAGE DISTRIBUTION PANELBOARD. REFER TO PANELBOARD SCHEDULE.
4	EXISTING BOILER ROOM PANEL HMDP TO REMAIN. FEED FROM NEW PANEL HVL.
5	NEW 125A, 208V, 3PHASE, 4WIRE, BRANCH CIRCUIT PANELBOARD TO SERVE NEW 120/208V BRANCH CIRCUITS. REFER TO PANELBOARD SCHEDULE.
6	NEW 225A, 208V, 3PHASE, 4WIRE, BRANCH CIRCUIT PANELBOARD TO SERVE NEW 120/208V BRANCH CIRCUITS. REFER TO PANELBOARD SCHEDULE.
7	NEW 400A, 480V, 3PHASE, 4WIRE, BRANCH CIRCUIT PANELBOARD TO SERVE NEW 480V BRANCH CIRCUITS. REFER TO PANELBOARD SCHEDULE.
8	NEW 600A RATED, 500A MCB, 208V, 3PHASE, 4WIRE, DISTRIBUTION PANELBOARD TO SERVE NEW 120\208V PANELBOARDS.
9	EXISTING 208V ELECTRICAL SERVICE #1 AND DISTRIBUTION TO REMAIN. CONTRACTOR TO PROVIDE PERMANENT LABEL TO ON MAIN DISCONNECT AS FOLLOW; "THIS BUILDING HAS TWO ELECTRICAL SERVICES, ONE LOCATED IN CUSTODIAL OFFICE 022 AND THE OTHER IN RECEIVING 040."

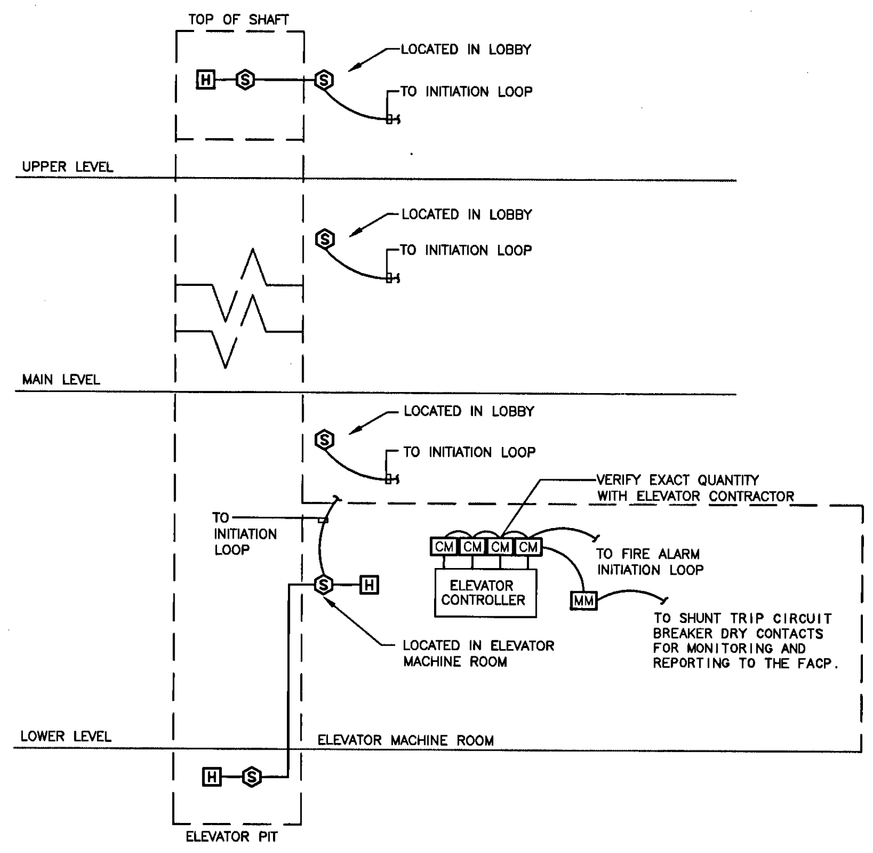


2 **SITE LIGHTING CONTROL DIAGRAM**
N.T.S.

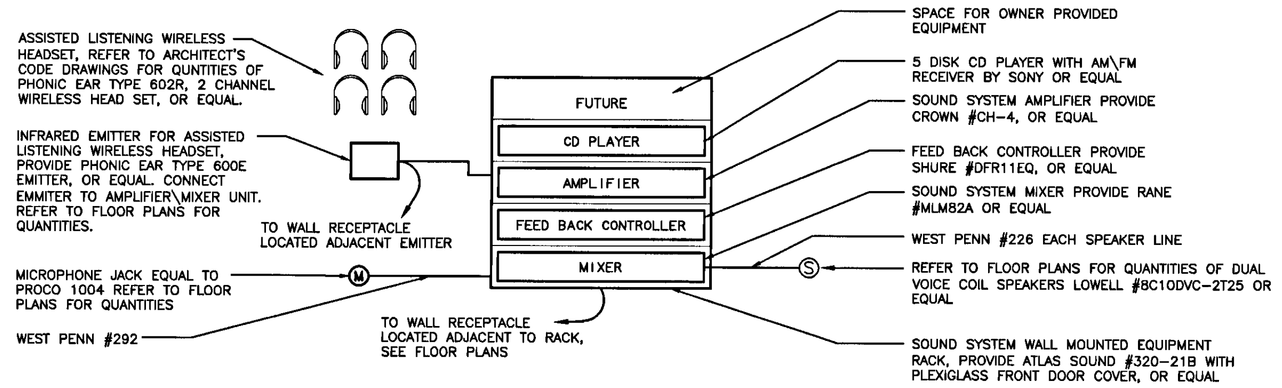


NOTE:
1. REFER TO DRAWINGS FOR DEVICE QUANTITIES, WIRE SIZES AS PER MANUFACTURERS REQUIREMENTS
2. ALL WIRING SHALL BE IN APPROVED RACEWAY

3 **FIRE ALARM RISER DIAGRAM**
N.T.S.



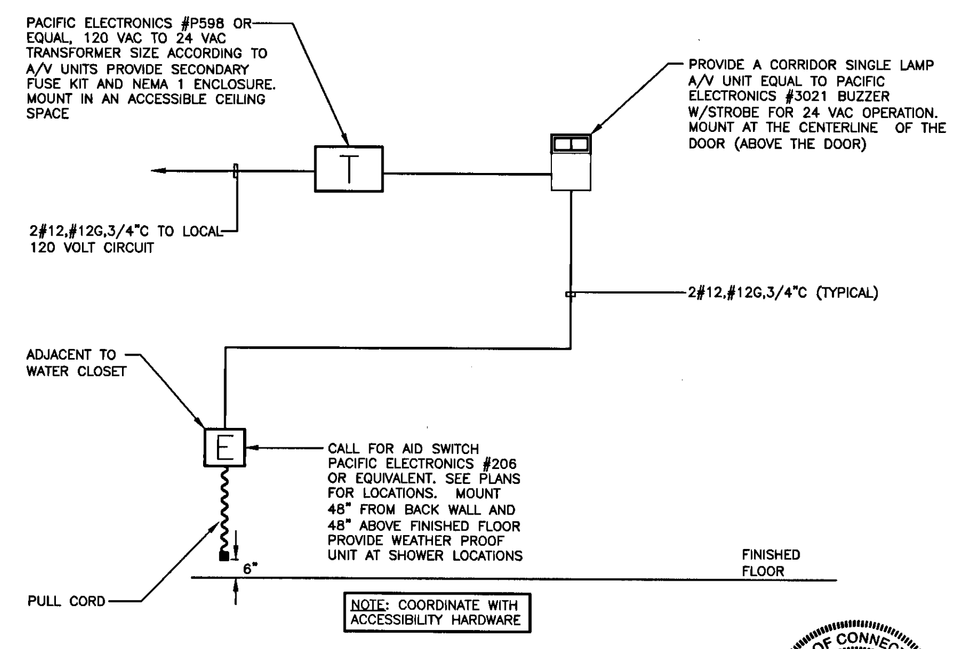
4 **TYPICAL ADDRESSABLE FIRE ALARM SYSTEM ELEVATOR RECALL RISER**
SCALE: N.T.S



NOTE:

PROVIDE A COMPLETE FUNCTIONAL SOUND SYSTEM FOR THE LOWER LEVE MEETING ROOM. MOUNT RACK IN ROOM 004B. SYSTEM SHALL BE WIRED WITH THE LOCAL ASSISTED LISTENING SYSTEM. PROVIDE COMPLETE WITH SOUND SYSTEM ACCESSORIES OF MICROPHONE, STANDS, CABLES AND ALL ASSOCIATED FINISH PLATES. COORDINATE WITH OWNER MICROPHONE JACK LOCATIONS.

5 **MEETING ROOMS 003 & 004 SOUND SYSTEM DETAIL**
SCALE: N.T.S.



NOTE: COORDINATE WITH ACCESSIBILITY HARDWARE

6 **EMERGENCY CALL FOR AID SCHEMATIC**
N.T.S.

REVISIONS:
1 ADDENDUM #1 8/3/06

CES
Consulting Engineering Services, Inc.
1811 Middle Street
Middletown, CT 06457
Tel. (860) 632-1682
Fax. (860) 632-1768
CES #25160.00

ADDITIONS AND RENOVATIONS
TO
THE WEST HARTFORD LIBRARY
WEST HARTFORD, CONNECTICUT

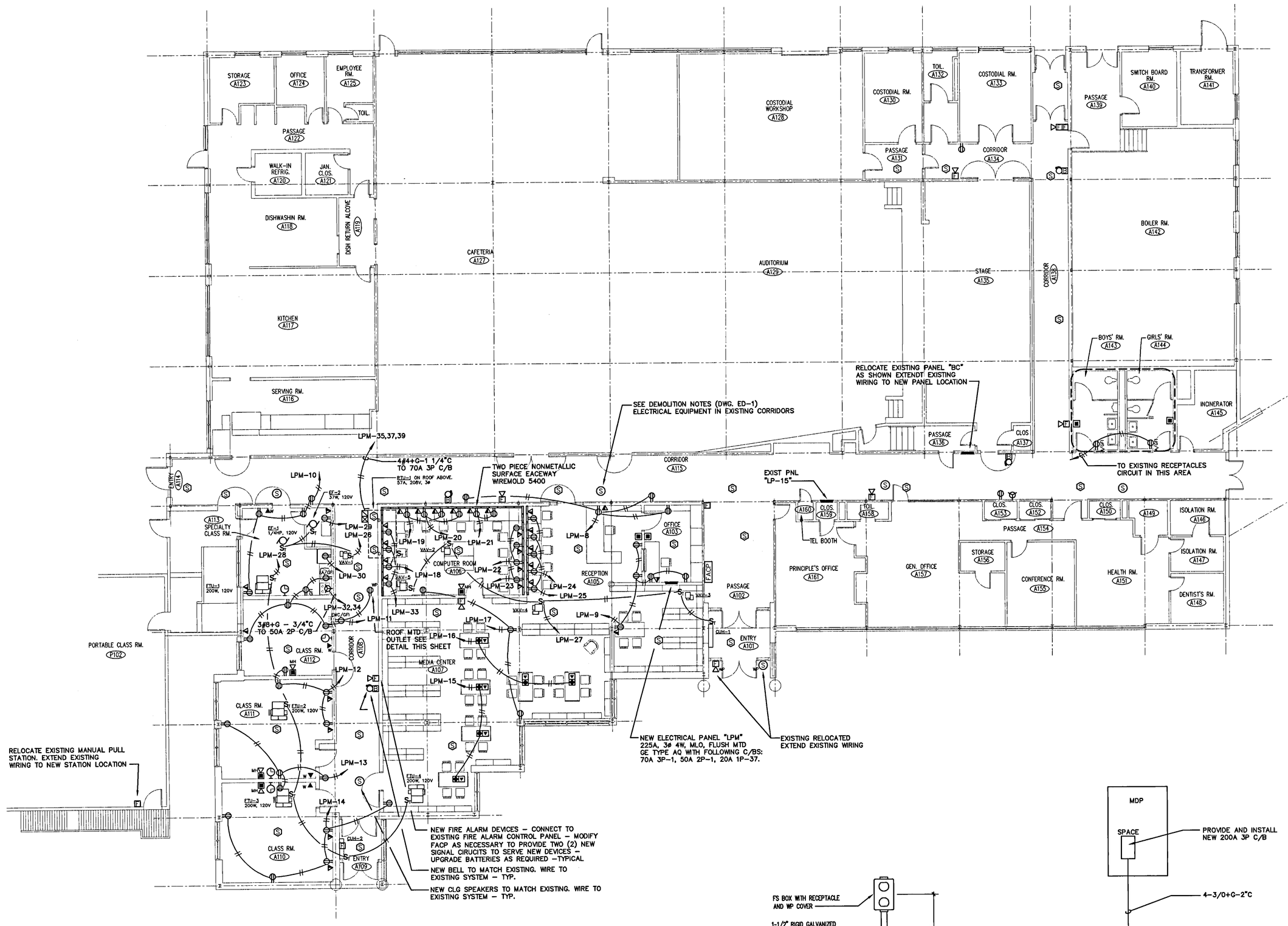
tuthill+wells
ARCHITECTS
13 WATERSIDE COURT AVON, CONNECTICUT 06001
phone (860)677 0660, FAX (860)678 9237

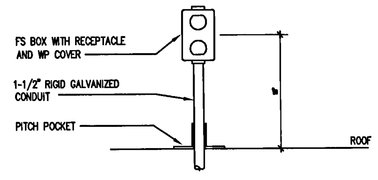
DATE: JULY 14, 2006
SCALE: AS NOTED
JOB NO.:

STATE OF CONNECTICUT
NICHOLAS S. KAROLAS
No. 20909
LICENSED PROFESSIONAL ENGINEER

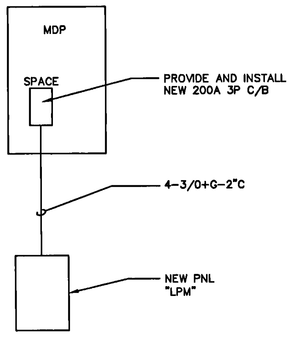
ELECTRICAL RISER DIAGRAMS
E111

K:\proj2005\25160.00\Pat Files\25160_E-9_E-10_E-11.dwg Layout Name: E111 Sep 01, 2006 - 1:22pm Nicholas

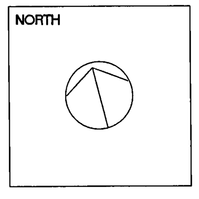


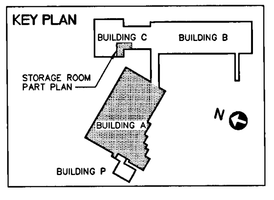


2 / E5.6 RECEPTACLE - MOUNT DETAIL
N.T.S.



ONE LINE ELECTRICAL DIAGRAM
N.T.S.





BIANCO GIOLITTO WESTON
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500 PLAZA MIDDLESEX
MIDDLETOWN, CT 06457
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FAX 860.347.4075

CONSULTANTS:

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Consulting Engineers
Mechanical & Electrical
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Hartford, CT. 06105-3598
Tel.(860)246-8875,Fax(860)525-2544
E-mail: office@legnosandcramer.com

STATE OF CONNECTICUT ROBERT H. RICHARD No. 17223 PROFESSIONAL ENGINEER

REVISIONS:

NORFELDT ELEMENTARY SCHOOL ADDITIONS + RENOVATIONS

WEST HARTFORD, CONNECTICUT

DATE : 06/01/99

BGW JOB NO.: 98370

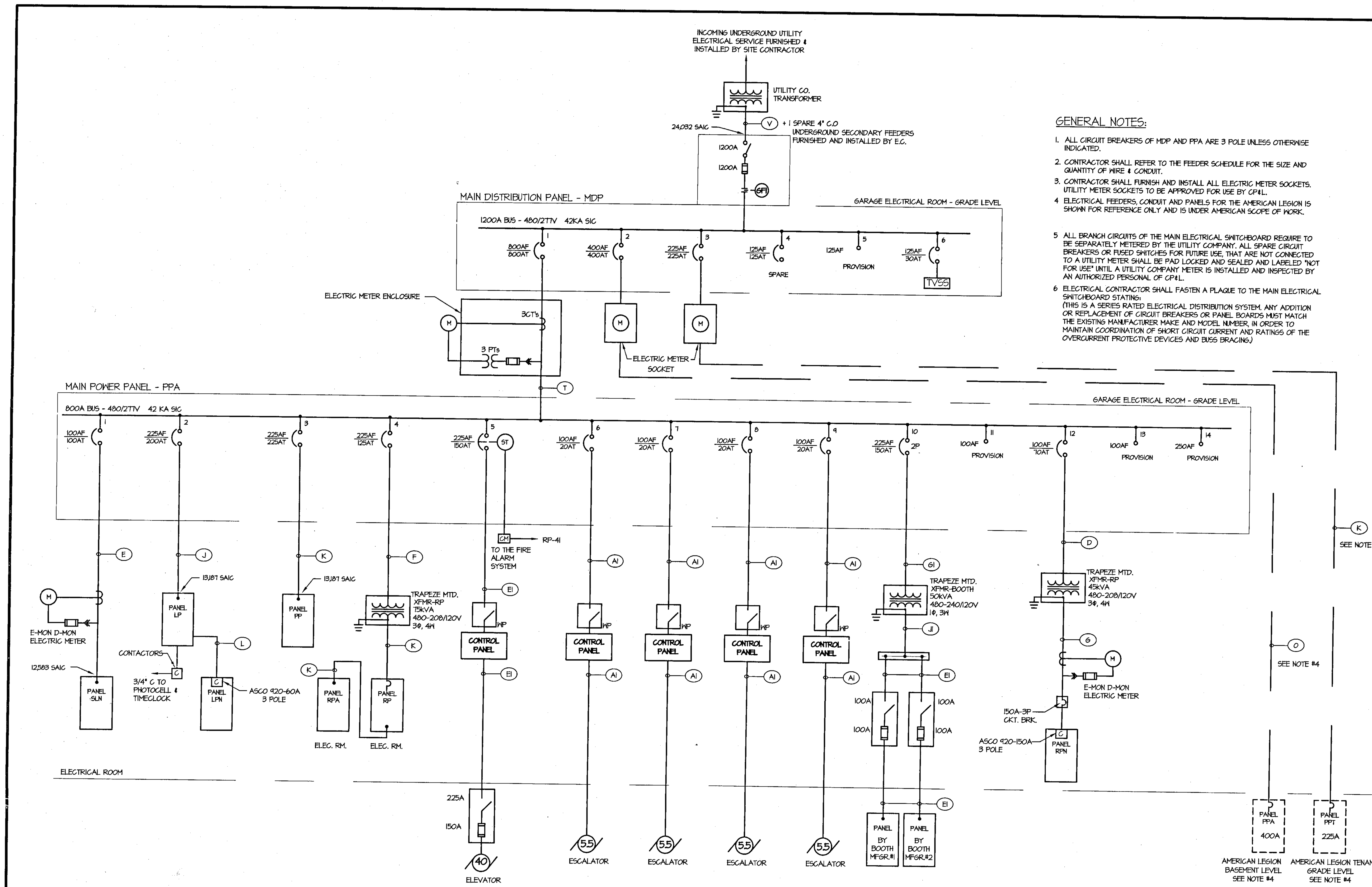
BUILDING ONE
FLOOR PLAN
ELECTRICAL

SDE PROJECT NO. 155-178 EA

DRAWING NO.

E-2

E-2.DWG 6-24-99 12:36:29 pm EST



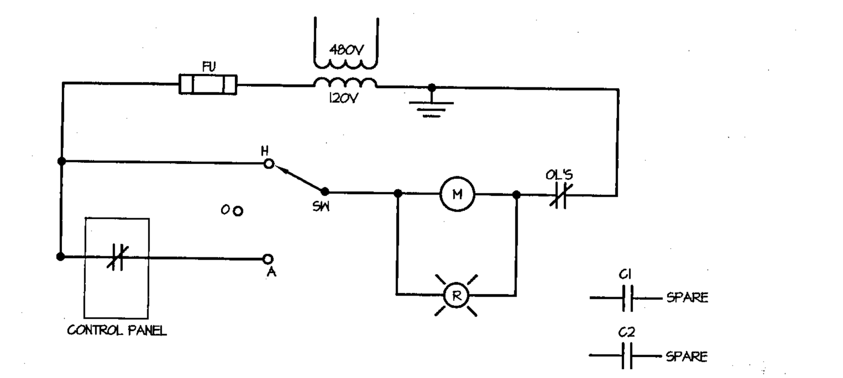
GENERAL NOTES:

1. ALL CIRCUIT BREAKERS OF MDP AND PPA ARE 3 POLE UNLESS OTHERWISE INDICATED.
2. CONTRACTOR SHALL REFER TO THE FEEDER SCHEDULE FOR THE SIZE AND QUANTITY OF WIRE & CONDUIT.
3. CONTRACTOR SHALL FURNISH AND INSTALL ALL ELECTRIC METER SOCKETS. UTILITY METER SOCKETS TO BE APPROVED FOR USE BY CP&L.
4. ELECTRICAL FEEDERS, CONDUIT AND PANELS FOR THE AMERICAN LEGION IS SHOWN FOR REFERENCE ONLY AND IS UNDER AMERICAN SCOPE OF WORK.
5. ALL BRANCH CIRCUITS OF THE MAIN ELECTRICAL SWITCHBOARD REQUIRE TO BE SEPARATELY METERED BY THE UTILITY COMPANY. ALL SPARE CIRCUIT BREAKERS OR FUSED SWITCHES FOR FUTURE USE, THAT ARE NOT CONNECTED TO A UTILITY METER SHALL BE PAD LOCKED AND SEALED AND LABELED "NOT FOR USE" UNTIL A UTILITY COMPANY METER IS INSTALLED AND INSPECTED BY AN AUTHORIZED PERSONAL OF CP&L.
6. ELECTRICAL CONTRACTOR SHALL FASTEN A PLAQUE TO THE MAIN ELECTRICAL SWITCHBOARD STATING: (THIS IS A SERIES RATED ELECTRICAL DISTRIBUTION SYSTEM. ANY ADDITION OR REPLACEMENT OF CIRCUIT BREAKERS OR PANEL BOARDS MUST MATCH THE EXISTING MANUFACTURER MAKE AND MODEL NUMBER, IN ORDER TO MAINTAIN COORDINATION OF SHORT CIRCUIT CURRENT AND RATINGS OF THE OVERCURRENT PROTECTIVE DEVICES AND BUSS BRACING.)

1 ELECTRICAL SINGLE LINE DIAGRAM — SCALE: NONE

	ELECTRICAL FEEDER SCHEDULE - 4 WIRE	ELECTRICAL FEEDER SCHEDULE - 3 WIRE
COPPER CONDUCTORS	(A) —— 4#10 + 1#10 GND - 3/4"C	(A1) —— 3#10 + 1#10 GND - 3/4"C
	(B) —— 4#8 + 1#10 GND - 1"C	(B1) —— 3#8 + 1#10 GND - 1"C
	(C) —— 4#6 + 1#10 GND - 1 1/4"C	(C1) —— 3#6 + 1#10 GND - 1"C
	(D) —— 4#4 + 1#8 GND - 1 1/4"C	(D1) —— 3#4 + 1#8 GND - 1 1/4"C
	(E) —— 4#2 + 1#8 GND - 1 1/2"C	(E1) —— 3#2 + 1#8 GND - 1 1/4"C
	(F) —— 4#1 + 1#6 GND - 2"C	(F1) —— 3#1 + 1#6 GND - 1 1/2"C
	(G) —— 4#1/0 + 1#6 GND - 2"C	(G1) —— 3#1/0 + 1#6 GND - 2"C
	(H) —— 4#2/0 + 1#6 GND - 2"C	(H1) —— 3#2/0 + 1#6 GND - 2"C
ALUMINUM CONDUCTORS	(J) —— 4 - 250KCM + 1#4 GND - 3"C	(J1) —— 3 - 250KCM + 1#4 GND - 2 1/2"C
	(K) —— 4 - 300KCM + 1#2 GND - 3"C	(K1) —— 3 - 300KCM + 1#2 GND - 3"C
	(L) —— 4 - 350KCM + 1#2 GND - 3"C	(L1) —— 3 - 350KCM + 1#2 GND - 3"C
	(M) —— 4 - 500KCM + 1#2 GND - 3 1/2"C	(M1) —— 3 - 500KCM + 1#2 GND - 3 1/2"C
	(N) —— 4 - 500KCM + 1#2 GND - 3 1/2"C	(N1) —— 3 - 500KCM + 1#2 GND - 3 1/2"C
	(O) —— (2) SETS 4 - 250KCM + 1#1 GND - 3"C	(O1) —— (2) SETS 3 - 250KCM + 1#1 GND - 2 1/2"C
	(P) —— (2) SETS 4 - 300KCM + 1#1/0 GND - 3"C	(P1) —— (2) SETS 3 - 300KCM + 1#1/0 GND - 3"C
	(Q) —— (2) SETS 4 - 350KCM + 1#1/0 GND - 3 1/2"C	(Q1) —— (2) SETS 3 - 350KCM + 1#1/0 GND - 3"C
	(R) —— (2) SETS 4 - 500KCM + 1#2/0 GND - 3 1/2"C	(R1) —— (2) SETS 3 - 500KCM + 1#2/0 GND - 3 1/2"C
	(S) —— (3) SETS 4 - 350KCM + 1#3/0 GND - 3"C	(S1) —— (3) SETS 3 - 350KCM + 1#3/0 GND - 3"C
	(T) —— (3) SETS 4 - 400KCM + 1#3/0 GND - 3 1/2"C	(T1) —— (3) SETS 3 - 400KCM + 1#3/0 GND - 3"C
	(U) —— (4) SETS 4 - 350KCM + 1#4/0 GND - 3"C	(U1) —— (4) SETS 3 - 350KCM + 1#4/0 GND - 3"C
	(V) —— (4) SETS 4 - 500KCM + 1#250KCM GND - 3 1/2"C	
	(W) —— (5) SETS 4 - 600KCM + 1#350KCM GND - 3 1/2"C	
	(X) —— (6) SETS 4 - 600KCM + 1#250 KCM GND - 4"C	SERVICE FEEDERS
	(Y) —— (7) SETS 4 - 750KCM + 1#250 KCM GND - 4"C	
	(Z) —— (6) SETS 4 - 750KCM + 1#250 KCM GND - 4"C	

2 ELECTRICAL FEEDER SCHEDULE



3 TYPICAL DRAINAGE PUMP CONTROL DIAGRAM — SCALE: NONE

Designation: LP — Lighting Panel — Main Lugs Only: 200
Panel Voltage: 480Y/277Volt 3 Phase 4 Wire — Number of Poles: 42

FEEDER DATA No.	WIRE	GND	CIR. NO.	LOAD DESCRIPTION	C.B. POLE NO.	C.B. TRIP A	C.B. LOAD VA	PHASE A	PHASE B	PHASE C	C.B. LOAD VA	C.B. TRIP A	C.B. POLE NO.	LOAD DESCRIPTION	CIR. NO.	FEEDER DATA No.	WIRE	GND
2	12	12	1	HID LIGHTING - THIRD LEVEL	1	20	1900	3600			1700	20	1	HID LIGHTING - GRADE LEVEL	2	2	12	12
2	12	12	3	HID LIGHTING - THIRD LEVEL	1	20	1300		3200		1900	20	1	HID LIGHTING - GRADE LEVEL	4	2	12	12
2	12	12	5	HID LIGHTING - THIRD LEVEL	1	20	1500			3600	2100	20	1	HID LIGHTING - GRADE LEVEL	6	2	12	12
2	12	12	7	HID LIGHTING - THIRD LEVEL	1	20	2300	4000			1700	20	1	HID LIGHTING - GRADE LEVEL	8	2	12	12
2	12	12	9	HID LIGHTING - THIRD LEVEL	1	20	1900		3200		1300	20	1	HID LIGHTING - GRADE LEVEL	10	2	12	12
2	12	12	11	HID LIGHTING - THIRD LEVEL	1	20	1900			3000	1100	20	1	HID LIGHTING - GRADE LEVEL	12	2	12	12
2	12	12	13	HID LIGHTING - FOURTH LEVEL	1	20	1700	3600			1900	20	1	HID LIGHTING - SECOND LEVEL	14	2	12	12
2	12	12	15	HID LIGHTING - FOURTH LEVEL	1	20	1100		2800		1700	20	1	HID LIGHTING - SECOND LEVEL	16	2	12	12
2	12	12	17	HID LIGHTING - FOURTH LEVEL	1	20	1300			3000	1700	20	1	HID LIGHTING - SECOND LEVEL	18	2	12	12
2	12	12	19	HID LIGHTING - FOURTH LEVEL	1	20	2500	4400			1900	20	1	HID LIGHTING - SECOND LEVEL	20	2	12	12
2	12	12	21	HID LIGHTING - FOURTH LEVEL	1	20	1900		3800		1900	20	1	HID LIGHTING - SECOND LEVEL	22	2	12	12
2	12	12	23	HID LIGHTING - FOURTH LEVEL	1	20	2500			4000	1500	20	1	HID LIGHTING - SECOND LEVEL	24	2	12	12
2	12	12	25	'B2' LIGHTING - ROOF LEVEL	1	20	1200	2700			1500	20	1	'L' LIGHTING - ROOF LEVEL	26	2	12	12
2	12	12	27	'B2' LIGHTING - ROOF LEVEL	1	20	1200		2700		1500	20	1	'L' LIGHTING - ROOF LEVEL	28	2	12	12
			29	SPARE	1	20				900	900	20	1	FLUOR. LTG STAIRWAY	30	2	12	12
2	12	12	31	LTG - GROUND LEVEL, TYPE F	1	20	720	1620			900	20	1	FLUOR. LTG STAIRWAY	32	2	12	12
2	12	12	33	LTG-GROUND ELEC. / NEW RM.	1	20	1040		3120		2080	20	1	LTG- TYPE 'N'	34	2	12	12
2	12	12	35	LTG-GROUND LEVEL STORAGE	1	20	1480			3880	2400	20	1	LTG- TYPE 'N'	36	2	12	12
			37	SPARE	1	20		2800			2800	60	3	PANEL LPN, CONTROLLED VIA	38	3	6	10
			39	SPARE	1	20			3375		3375	-	-	ASCO 920-60A-3P CONTACTOR	40	-	-	-
			41	SPARE	1	20				2400	2400	-	-	-	42	-	-	-

Panel Type: Nema 1 — Mounting: Surface — Location: Electrical Service Room — Fed From: PPA
Phase Conn.: 22720 | 22195 | 20780 VA — Total Connected Load: 66 KVA, 79 AMPS — Bus Size: 225 — Voltage: 480
Remarks:

Designation: LPN — Lighting Panel — Main Lugs Only: 100
Panel Voltage: 480Y/277Volt 3 Phase 4 Wire — Number of Poles: 30

FEEDER DATA No.	WIRE	GND	CIR. NO.	LOAD DESCRIPTION	C.B. POLE NO.	C.B. TRIP A	C.B. LOAD VA	PHASE A	PHASE B	PHASE C	C.B. LOAD VA	C.B. TRIP A	C.B. POLE NO.	LOAD DESCRIPTION	CIR. NO.	FEEDER DATA No.	WIRE	GND
2	12	12	1	EXTERIOR LIGHTS -(2)H,(6)L,(2)I	1	20	1300	1800			500	20	1	J.B. SIGN GRADE LEVEL	2	2	12	12
2	12	12	3	EXTERIOR LIGHTS -(2)H & (3)J	1	20	1125		1625		500	20	1	J.B. FOR BUILD SIGN 2nd/3rd LEV	4	2	12	12
			5	SPARE	1	20				1000	1000	20	1	J.B. SIGN 2nd LEVEL	6	2	12	12
			7	SPARE	1	20		1000			1000	20	1	J.B. SIGN 3rd LEVEL	8	2	12	12
2	10	10	9	EXTR. A.L. LIGHTS (5) TYPE P	1	20	750		1750		1000	20	1	J.B. SIGN 4th LEVEL	10	2	12	12
2	10	10	11	EXTERIOR A.MERION LEGION LTS	1	20	400			1400	1000	20	1	J.B. SIGN ROOF LEVEL	12	2	12	12
			13	PROVISION	1								1	PROVISION	14			
			15	PROVISION	1								1	PROVISION	16			
			17	PROVISION	1								1	PROVISION	18			
			19	PROVISION	1								1	PROVISION	20			
			21	PROVISION	1								1	PROVISION	22			
			23	PROVISION	1								1	PROVISION	24			
			25	PROVISION	1								1	PROVISION	26			
			27	PROVISION	1								1	PROVISION	28			
			29	PROVISION	1								1	PROVISION	30			

Panel Type: Nema 1 — Mounting: Surface — Location: Electrical Service Room — Fed From: LP
Phase Conn.: 2800 | 3375 | 2400 VA — Total Connected Load: 9 KVA, 10 AMPS — Bus Size: 100 — Voltage: 480
Remarks: PROVIDE INTEGRAL ASCO - 920 - 60 AMP. 3 POLE CONTACTOR. CONTROLLED BY PHOTOCELL ON THE GARAGE ROOF

Designation: PP — HVAC Power Panel — Main Lugs Only: 225
Panel Voltage: 480Y/277Volt 3 Phase 4 Wire — Number of Poles: 42

FEEDER DATA No.	WIRE	GND	CIR. NO.	LOAD DESCRIPTION	C.B. POLE NO.	C.B. TRIP A	C.B. LOAD VA	PHASE A	PHASE B	PHASE C	C.B. LOAD VA	C.B. TRIP A	C.B. POLE NO.	LOAD DESCRIPTION	CIR. NO.	FEEDER DATA No.	WIRE	GND
3	12	12	1	1HP SUMP PUMP	3	20	582	582				20	3	SPARE	2			
			3				582		582						4			
			5				582			582					6			
2	10	10	7	EH-1	1	30	5000	6500			1500	20	2	HOT WATER HEATER	8	2	12	12
2	10	10	9	EH-2	1	30	5000		6500		1500				10			
2	10	10	11	EH-3	1	30	5000			5000			1	PROVISION	12			
2	12	12	13	EH-4	1	20	3000	3943			943	20	3	2HP SUMP PUMP (for american legion)	14	3	12	12
2	12	12	15	EH-5	1	20	3000		3943		943				16			
			17	SPARE	1	20				943	943				18			
			19	PROVISION	1								1	PROVISION	20			
			21	PROVISION	1								1	PROVISION	22			
			23	PROVISION	1								1	PROVISION	24			
			25	PROVISION	1								1	PROVISION	26			
			27	PROVISION	1								1	PROVISION	28			
			29	PROVISION	1								1	PROVISION	30			
			31	PROVISION	1								1	PROVISION	32			
			33	PROVISION	1								1	PROVISION	34			
			35	PROVISION	1								1	PROVISION	36			
			37	PROVISION	1								1	PROVISION	38			
			39	PROVISION	1								1	PROVISION	40			
			41	PROVISION	1								1	PROVISION	42			

Panel Type: Nema 1 — Mounting: Surface — Location: Electrical Service Room — Fed From: PPA
Phase Conn.: 11025 | 11025 | 6525 VA — Total Connected Load: 29 KVA, 34 AMPS — Bus Size: 225 — Voltage: 480
Remarks:

Designation: SLN — Lighting Panel — Main Circuit Breaker: 100
Panel Voltage: 480Y/277Volt 3 Phase 4 Wire — Number of Poles: 30

FEEDER DATA No.	WIRE	GND	CIR. NO.	LOAD DESCRIPTION	C.B. POLE NO.	C.B. TRIP A	C.B. LOAD VA	PHASE A	PHASE B	PHASE C	C.B. LOAD VA	C.B. TRIP A	C.B. POLE NO.	LOAD DESCRIPTION	CIR. NO.	FEEDER DATA No.	WIRE	GND
2	8	8	1	SITE LIGHTING (NORTH)	1	20	1890	4206			2316	20	1	SITE LIGHTING (NORTH)	2	2	8	8
2	8	8	3	SITE LIGHTING (NORTH)	1	20	2310		3854		1544	20	1	SITE LIGHTING (NORTH)	4	2	8	8
2	8	8	5	SITE LIGHTING (NORTH)	1	20	1980			2605	625	20	1	SITE LTG. TYPE 'E'	6	2	8	8
2	8	8	7	SITE LIGHTING (NORTH)	1	20	2034	2034				20	1	SPARE	8	2	8	8
2	8	8	9	SITE LIGHTING (NORTH)	1	20	1470		1470			20	1	SPARE	10			
			11	SPARE	1	20						20	1	SPARE	12			
			13	SPARE	1	20						20	1	SPARE	14			
			15	SPARE	1	20						20	1	SPARE	16			
			17	SPARE	1	20						20	1	SPARE	18			
			19	PROVISION	1								1	PROVISION	20			
			21	PROVISION	1								1	PROVISION	22			
			23	PROVISION	1								1	PROVISION	24			
			25	PROVISION	1								1	PROVISION	26			
			27	PROVISION	1								1	PROVISION	28			
			29	PROVISION	1								1	PROVISION	30			

Panel Type: Nema 1 — Mounting: Surface — Location: Electrical Service Room In N — Fed From: PPA In North Garage
Phase Conn.: 6240 | 5324 | 2605 VA — Total Connected Load: 14 KVA, 17 AMPS — Bus Size: 100 — Voltage: 480
Remarks:

Designation: RP — Main Circuit Breaker: 225
Panel Voltage: 208Y/120Volt 3 Phase 4 wire — Number of Poles: 42

FEEDER DATA No.	WIRE	GND	CIR. NO.	LOAD DESCRIPTION	C.B. POLE NO.	C.B. TRIP A	C.B. LOAD VA	PHASE A	PHASE B	PHASE C	C.B. LOAD VA	C.B. TRIP A	C.B. POLE NO.	LOAD DESCRIPTION	CIR. NO.	FEEDER DATA No.	WIRE	GND
2	12	12	1	ELEVATOR SUMP PUMP	1	20	830	2910			2080	20	2	MGR.OFFICE/SECOND AHU/CU	2	2	12	12
2	12	12	3	TEF-1	1	20	528		2608		2080	-	-	-	4	-	-	-
2	12	12	5	SF-1	1	20	528			3128	2600	30	2	ELEV. MACH./SECOND AHU/CU	6	2	10	10
			7	SPARE	1	20		2600			2600	-	-	-	8	-	-	-
4	10	10	9	ELEC. ROLL UP DOOR/STORAGE	3	20	1321		2833		1512	20	2	COMPTR. RM./ SECOND AHU/CU	10	2	12	12
-	-	-	11	-	-	-	1321			2833	1512	-	-	-	12	-	-	-
-	-	-	13	-	-	-	1321	4441			3120	30	2	OFF. LOBBY/ SECOND AHU/CU	14	2	10	10
2	12	12	15	EF-1	1	20	1176		4296		3120	-	-	-	16	-	-	-
2	12	12	17	EB-1	2	20	500			1700	1200	20		SHOP RECEPT. IN STORAGE RM.	18	2	12	12
-	-	-	19	-	-	-	500	1700			1200	20		SHOP RECEPT. IN STORAGE RM.	20	2	12	12
2	12	12	21	EB-2	2	20	1250		3290		2040	30	2	AIR COMPRESSOR IN STOR. RM.	22	2	10	10
-	-	-	23	-	-	-	1250			3290	2040	-	-	-	24	-	-	-
			25	SPARE	1	20						20	1	SPARE	26			
			27	SPARE	1	20						20	1	SPARE	28			
			29	SPARE	1	20						20	1	SPARE	30			
			31	PROVISION	1								1	PROVISION	32			
			33	PROVISION	1								1	PROVISION	34			
			35	PROVISION	1								1	PROVISION	36			
			37	PROVISION	1								1	PROVISION	38			
			39	PROVISION	1								1	PROVISION	40			
			41	ELEVATOR SHUNT TRIP POWER	1	20							1	PROVISION	42			

Panel Type: Nema 1 — Mounting: Surface — Location: Electrical Service Room — Fed From: 75KVA XFMR
Phase Conn.: 11651 | 13027 | 10951 VA — Total Connected Load: 36 KVA, 99 AMPS — 142 TOTAL AMPS RP & RPA — 225 — Voltage: 208
Remarks: PANEL TO HAVE SUB FEED LUGS ON BOTTOM

Designation: RPA — Power Panel — Main Lugs Only: 225
Panel Voltage: 208Y/120Volt 3 Phase 4 wire — Number of Poles: 42

FEEDER DATA No.	WIRE	GND	CIR. NO.	LOAD DESCRIPTION	C.B. POLE NO.	C.B. TRIP A	C.B. LOAD VA	PHASE A	PHASE B	PHASE C	C.B. LOAD VA	C.B. TRIP A	C.B. POLE NO.	LOAD DESCRIPTION	CIR. NO.	FEEDER DATA No.	WIRE	GND
2	12	12	1	RECEPTACLES-TELEPHONE SERV	1	20	600	900			300	20	1	ELEV. PIT RECEPT. & LIGHT	2	2	12	12
2	12	12	3	GRADE LEVEL ELE. RM. RECEPT	1	20	600		800		200	20	1	ELEVATOR RECEPTACALE	4	2	12	12
2	12	12	5	SECOND LEVEL RECEPTACLES	1	20	600			1000	400	20	1	GRADE LEVEL RECEPTS. TOILET/	6	2	12	12
2	12	12	7	THIRD LEVEL RECEPTACLES	1	20	600	1800			1200	20	1	GRADE LEVEL MANAGER/COMPU	8	2	12	12
2	12	12	9	FOURTH LEVEL RECEPTACLES	1	20	600		1430		830	20	1	SECOND LEVEL RECEPTACLE	10	2	12	12
2	12	12	11	ROOF LEVEL RECEPTACLES	1	20	600			1430	830	20	1	THIRD LEVEL RECEPTACLE	12	2	12	12
2	12	12	13	DEDICATED RECEPT FOR 1HP S-P	1	20	200	200				20	1	SPARE	14			
2	12	12	15	SPARE	1	20			500		500	20	1	CONTROL CONTACTORS CN1	16	2	12	12
2	12	12	17	BLUE LIGHT AUX. POWER	1	20	1000			1500	500	20	1	CONTROL CONTACTORS CN1	18	2	12	12
2	12	12	19	GRADE/SECOND LEVEL RECEPT.	1	20	600	1100			500	20	1	CONTROL CONTACTORS CN1	20	2	12	12
2	12	12	21	THIRD/FOURTH LEVEL RECEPT.	1	20	600		1100		500	20	1	IRRIGATION SYS. CONTROL PNL.	22	2	12	12
2	12	12	23	ROOF LEVEL RECEPTACLES	1	20	300			300		20	1	SPARE	24	2	12	12
			25	SPARE	1	20						20	1	SPARE	26	2	12	12
			27	SPARE	1	20						20	1	SPARE	28	2	12	12
2	12	12	29	COMMUNICATION RACK	1	20	600			600		20	1	SPARE	30			
2	12	12	31	EZ-PASS CONTROL PANEL	1	20	400	679			279	20 G	1	SITE LTG. TYPE 'P' & 'O' FIXTURES	32	2	10	10
			33	SPARE	1	20			180		180	20 G	1	SITE LTG. TYPE 'P' FIXTURES	34	2	10	10
			35	SPARE	1	20				800	800	20 G	1	SITE LTG. TYPE 'N' & 'Q' FIXTURES	36	2	8	8
			37	SPARE	1	20		910			910	20 G	1	SITE LTG. TYPE 'N' & 'Q' FIXTURES	38	2	8	8
			39	SPARE	1	20							1	PROVISION	40			
2	12	12	41	FIRE ALARM CONTROL PLAN	1	20	200			200			1	PROVISION	42			

Panel Type: Nema 1 — Mounting: Surface — Location: Electrical Service Room — Fed From: PNL RP SUB FEED LUGS
Phase Conn.: 5589 | 4010 | 5830 VA — Total Connected Load: 15 KVA, 43 AMPS — Bus Size: 225 — Voltage: 208
Remarks:

Designation: RPN — Lighting Panel — Main Lugs Only: 150
Panel Voltage: 208Y/120Volt 3 Phase 4 wire — Number of Poles: 36

FEEDER DATA No.	WIRE	GND	CIR. NO.	LOAD DESCRIPTION	C.B. POLE NO.	C.B. TRIP A	C.B. LOAD VA	PHASE A	PHASE B	PHASE C	C.B. LOAD VA	C.B. TRIP A	C.B. POLE NO.	LOAD DESCRIPTION	CIR. NO.	FEEDER DATA No.	WIRE	GND
2	8	8	1	SITE LTG. POLE RECEPT - HIGH	1	20 G	800	1400			600	20 G	1	SITE LTG. POLE RECEPT - HIGH	2	2	8	8
2	8	8	3	SITE LTG. POLE RECEPT - HIGH	1	20 G	800		1800		1000	20 G	1	SITE LTG. POLE RECEPT - HIGH	4	2	8	8
2	8	8	5	SITE LTG. POLE RECEPT - HIGH	1	20 G	800			1400	600	20 G	1	SITE LTG. POLE RECEPT - HIGH	6	2	8	8
2	8	8	7	SITE LTG. POLE RECEPT - HIGH	1	20 G	600	1000			400	20 G	1	SITE LTG. POLE RECEPT - HIGH	8	2	8	8
2	8	8	9	SITE LTG. POLE RECEPT - HIGH	1	20 G	600		1000		400	20 G	1	SITE LTG. POLE RECEPT - HIGH	10	2	8	8
2	8	8	11	SITE LTG. POLE RECEPT - HIGH	1	20 G	800			1700	900	20 G	1	OUTSIDE LTG. POLE RECEPT.	12	2	8	8
2	8	8	13	SITE LTG. POLE RECEPT - HIGH	1	20 G	800	1700			900	20 G	1	OUTSIDE LTG. POLE RECEPT.	14	2	8	8
2	8	8	15	SITE LTG. POLE RECEPT - HIGH	1	20 G	1000		1000			20	1	SPARE	16	2	8	8
2	8	8	17	SITE LTG. POLE RECEPT - HIGH	1	20 G	800			800		20	1	SPARE	18	2	8	8
2	8	8	19	SITE LTG. POLE RECEPT - HIGH	1	20 G	600	600				20	1	SPARE	20	2	8	8
2	8	8	21	SITE LTG. POLE RECEPT - HIGH	1	20 G	400		400			20	1	SPARE	22	2	12	12
2	8	8	23	SITE LTG. POLE RECEPT - HIGH	1	20 G	400			400		20	1	SPARE	24	2	12	12
2	8	8	25	SITE LTG. POLE RECEPT - HIGH	1	20 G	600	600				20	1	SPARE	26	2	12	12
			27	SPARE	1	20						20	1	SPARE	28	2	12	12
			29	SPARE	1	20						20	1	SPARE	30	2	12	12
			31	SPARE	1	20						20	1	SPARE	32	2	12	12
			33	SPARE	1	20						20	1	SPARE	34	2	12	12
			35	SPARE	1	20				500	500	20	1	CONTROL CONTACTORS CN2	36	2	12	12

Panel Type: Nema 1 — Mounting: Surface — Location: Elec. Room. In N. Garage — Fed From: PANEL PPA VIA 45KVA TRA
Phase Conn.: 5300 | 4200 | 4800 VA — Total Connected Load: 14 KVA, 40 AMPS — 225 — Voltage: 208
Remarks: PROVIDE INTEGRAL ASCO - 920 - 150 AMP. 3 POLE CONTACTOR. CONTROLLED BY NORTH CAMPUS SITE LIGHTING CONTACTOR 'CN2' RELAY 'A' CONTACT. 20G = 20 AMP CIRCUIT BREAKER WITH GROUND FAULT INTERRUPTER PROTECTION

4 ELECTRICAL PANEL SCHEDULES

OWNER:
RAYMOND ROAD ASSOCIATES
A Joint venture of JDA Associates & Street-Works

CONSULTANTS:

ARCHITECTS/ ENGINEERS:
DESMAN ASSOCIATES
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NO.	ISSUE	DATE
7	BULLETIN # 7	12-20-06
5	BULLETIN # 5	09-13-06
?	BULLETIN # ?	05-30-06
2	BULLETIN # 2	05-02-06
1	BULLETIN # 1	02-01-06
	GMP ISSUE	06-15-05

SEAL:
05-02-2006

PROJECT:
blue back SQUARE
BLUE BACK SQUARE
West Hartford, CT

SCALE:
DATE: JUNE 2004
PROJECT NO.: 10-03141-1
DRAWN BY:

PROJECT:
NORTH PARKING GARAGE
West Hartford, CT

DRAWING TITLE:
ELECTRICAL SINGLE LINE DIAGRAM AND DETAIL

SHEET NO.:
E4.1

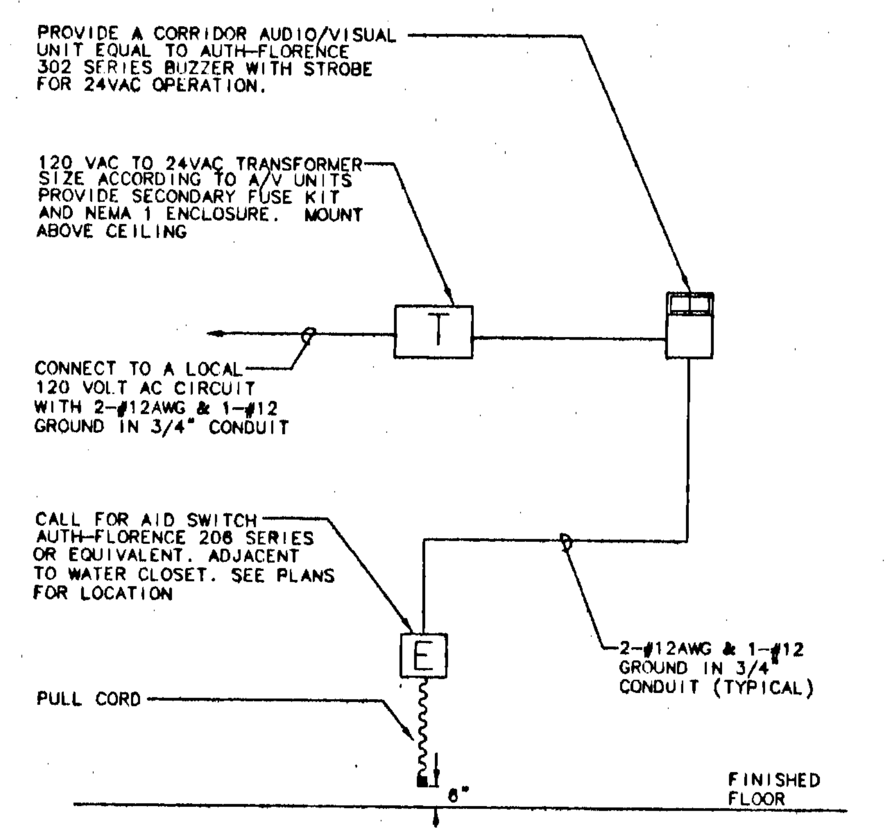
ELECTRICAL SYMBOL LIST

SYMBOL	DESCRIPTION
▬	SURFACE MOUNTED PANELBOARD, 208 VOLT, AS SPECIFIED
▬	RECESSED PANELBOARD, 208 VOLT, AS SPECIFIED
	HEAVY DUTY DISCONNECT SWITCH
	HEAVY DUTY FUSED DISCONNECT SWITCH
	MOTOR WITH DISCONNECT SWITCH
	BRANCH CIRCUIT WIRING, CONCEALED IN WALLS OR CEILINGS
	BRANCH CIRCUIT WIRING, EXPOSED ON WALLS OR CEILINGS
	HOMERUN TO PANELBOARD. UNLESS INDICATED OTHERWISE SHALL BE CONNECTED TO A 1 POLE, 20 AMP CIRCUIT BREAKER
	SWITCH LEG OF BRANCH CIRCUIT WIRING
	EXISTING WIRING AND CONDUIT TO BE REMOVED
—C—	CONTROL WIRING IN CONDUIT AS REQUIRED
—G—	GROUNDING CONDUCTOR AS INDICATED.
(J)	JUNCTION BOX
	DUPLEX WALL MOUNTED RECEPTACLE
	DOUBLE DUPLEX WALL MOUNTED RECEPTACLE
	DUPLEX RECEPTACLE, MOUNT ABOVE KITCHEN COUNTER HEIGHT
GFCI	DUPLEX RECEPTACLE WITH GROUND FAULT CIRCUIT INTERRUPTION
WP GFCI	DUPLEX RECEPTACLE WITH GROUND FAULT CIRCUIT INTERRUPTION AND WEATHER PROOF COVER
IG	DUPLEX WALL MOUNTED RECEPTACLE WITH ISOLATED GROUND
	SPECIAL PURPOSE CONNECTION
EH	ELECTRIC HEATER CONNECTION
S	SINGLE POLE TOGGLE SWITCH
S_3	THREE WAY TOGGLE SWITCH
S_E	EMERGENCY CALL TOGGLE SWITCH, MOUNTED AT 36" AFF
S_D	DIMMER SWITCH, LUTRON NOVA FLUORESCENT DIMMER
S_{3D}	THREE-WAY DIMMER SWITCH, LUTRON NOVA FLUORESCENT DIMMER
S_P	SINGLE POLE TOGGLE SWITCH WITH PILOT LIGHT
	PENDANT MOUNTED FLUORESCENT LIGHTING FIXTURE

SYMBOL	DESCRIPTION
	RECESSED FLUORESCENT LIGHTING FIXTURE
	DUAL HEAD EMERGENCY LIGHTING FIXTURE
	WALL MOUNTED LIGHTING FIXTURE
	WALL MOUNTED EXIT SIGN
	CEILING MOUNTED EXIT SIGN
ADA	FIRE ALARM ANNUNCIATION CIRCUIT POWER EXPANDER AS MANUFACTURED BY SIMPLEX. PROVIDE WITH BATTERIES, POWER SUPPLIES AND BATTERY CHARGER
	WALL MOUNTED COMBINATION HORN/STROBE LIGHT WITH A ADA 15/75 CANDELA STROBE MOUNT AT 6'-8" AFF
FA	WALL MOUNTED ADA 15/75 CANDELA STROBE UNIT ONLY
	EMERGENCY CALL LIGHT WITH BUZZER, MOUNTED AT 7'6" AFF
F	WALL MOUNTED FIRE ALARM MANUAL PULL STATION, MOUNT AT 48" AFF
(S)	CEILING MOUNTED SMOKE DETECTOR
(H)	CEILING MOUNTED - 135° AUTOMATIC HEAT DETECTOR.
(H) UF	UNDERFLOOR MOUNTED - 135° AUTOMATIC HEAT DETECTOR.
(H) 200° A	ATTIC MOUNTED - 200° AUTOMATIC HEAT DETECTOR.
(S) D	DUCT MOUNTED SMOKE DETECTOR AND HOUSING
RT	REMOTE DUCT SMOKE DETECTOR TEST SWITCH
(TS)	SPRINKLER ALARM TAMPER SWITCH
(FS)	SPRINKLER ALARM FLOW SWITCH
(TV)	CABLE TELEVISION OUTLET, ONE GANG BACKBOX WITH 1" CONDUIT STUBBED INTO AN ACCESSIBLE CEILING, PROVIDE NYLON PULL STRING
SP	PANEL MOUNTED SURGE PROTECTION DEVICE, SEE PANELBOARD SCHEDULE.
GRD	ISOLATED GROUND BAR FOR RADIO EQUIPMENT
	PLYWOOD TELEPHONE BACKBOARD, 3/4" THICK - PAINTED BLACK, MOUNTED ON UNISTRUT 2000 CHANNELS
▼	COMBINATION TELEPHONE / COMPUTER OUTLET, TWO GANG BACKBOX WITH 3/4" CONDUIT STUBBED INTO AN ACCESSIBLE CEILING, PROVIDE NYLON PULL STRING
S_{TP}	UNIT MOUNTED TOGGLE SWITCH WITH THERMAL OVERLOAD PROTECTION
URAP	UPS REMOTE ANNUNCIATOR PANEL
GRAP	GENERATOR REMOTE ANNUNCIATOR PANEL

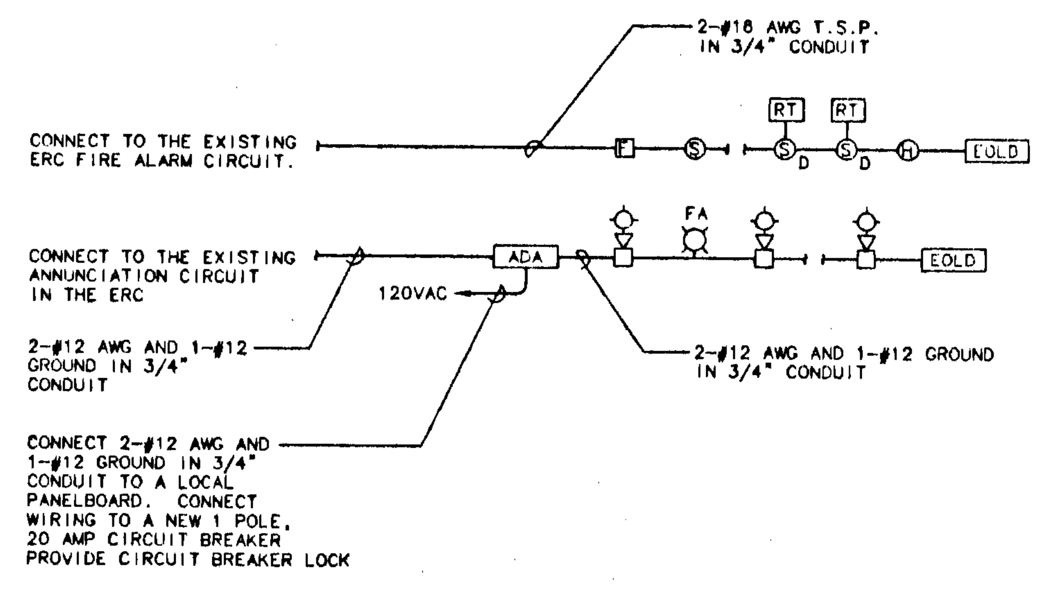
* SEQUENCE OF OPERATIONS *

IT IS IMPERATIVE THAT THE SHUT DOWN OF ELECTRICAL POWER TO THE BUILDING BE AS SHORT AS POSSIBLE. THE "ERC" IS A 24 HOUR PER DAY, 365 DAY PER YEAR OPERATION. THE ELECTRICAL CONTRACTOR SHALL PREPARE ALL NEW WORK SUCH THAT THE SHUTDOWN SHALL OCCUR IN NOT MORE THAN A 90 MINUTE PERIOD. DURING THIS 90 MINUTE PERIOD, THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE POWER TO THE TEMPORARY "ERC" OPERATIONS ON THE SECOND FLOOR BY PROVIDING A TEMPORARY GENERATOR. THIS SHUTDOWN SHALL BE COORDINATED WITH THE OWNER AND THE "ERC" OPERATORS NO LESS THAN 14 DAYS PRIOR TO THE INTERRUPTION OF SERVICE.



3 EMERGENCY CALL FOR AID SYSTEM SCHEMATIC

SCALE: N-T-S



NOTE:
THE EXISTING BUILDING FIRE ALARM SYSTEM IS MANUFACTURED BY SIMPLEX. ALL NEW COMPONENTS SHALL BE COMPATIBLE WITH THE EXISTING SYSTEM

2 FIRE ALARM SYSTEM RISER DIAGRAM

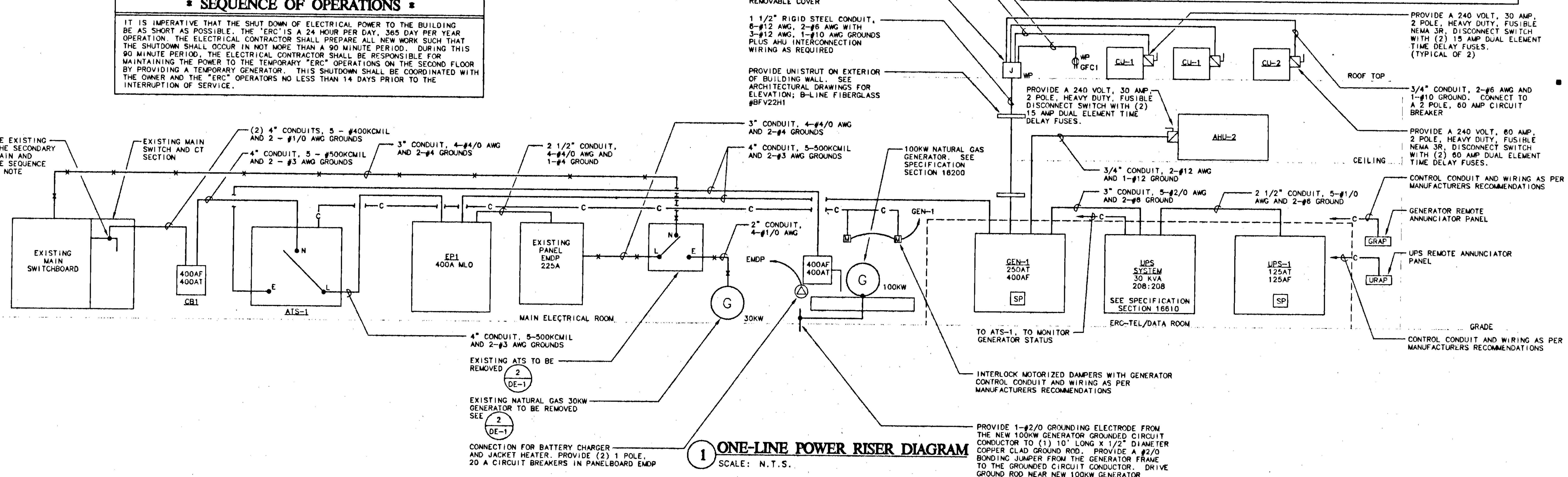
SCALE: N-T-S

PANELBOARD SCHEDULE

NOTES:

1. PANELBOARDS SHALL BE SQUARE "D" TYPE "NOOD" OR "I-LINE" FOR 208/120 VOLT, 3-PHASE, 4-WIRE OR ACCEPTABLE EQUIVALENT BY GENERAL ELECTRIC, WESTINGHOUSE OR ITE.
2. ALL CIRCUIT BREAKERS CONTROLLING LIGHTING CIRCUITS SHALL BE RATED FOR SWITCHING DUTY.
3. ALL PANELS SHALL HAVE LOCKABLE DOORS, BE KEYED ALIKE AND HAVE HINGED DEAD FRONT, DOUBLE HINGE DOOR-IN-DOOR TRIM.
4. ALL PANELS SHALL HAVE EQUIPMENT GROUND BUS BAR.
5. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR SIZE, QUANTITY AND TYPES OF CIRCUIT BREAKERS INDICATED ON THE DRAWINGS.

PANEL DESIGNATION	VOLTAGE	MAINS	MOUNTING	BRANCH CIRCUIT AMPS	POLES	ACTIVE	SPARE	BRANCH POLE CAPACITY	A.I.C. RATING	REMARKS
EP1	208Y/120	400A MCCB	SURFACE	250 225	3 3	1 1	1 1	24	42	IG BUSBAR 200% RATED NEUTRAL
GEN-1	208Y/120	400A MLO 400A BUS	SURFACE	150 60 20 20 60 50 15 20	3 3 2 1 2 2 2 2	1 1 2 7 1 1 2 10	0 17	42	22	IG BUSBAR UNITED POWER EDP TVSS PANELBOARD WITH 200% RATED NEUTRAL OR EQUAL
UPS-1	208Y/120	125A MCCB 125A BUS	SURFACE	20	1	10	2	42	22	IG BUSBAR UNITED POWER EDP TVSS PANELBOARD WITH 200% RATED NEUTRAL OR EQUAL



1 ONE-LINE POWER RISER DIAGRAM

SCALE: N.T.S.

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TOWN OF WEST HARTFORD
POLICE HEADQUARTERS
E.R.C. ADDITION
WEST HARTFORD, CT

DATE: 7/23/98
PROJ. NO: 9554-01
DRAWN: D.A.C.
CHECKED: D.S.L.
ISSUED FOR: BID AND CONSTRUCTION

REVISIONS:

E-1

ELECTRICAL SYMBOLS, NOTES, ETC

ELECTRICAL LEGEND

SYMBOLS USED ARE INDICATED BY A CHECK (✓)

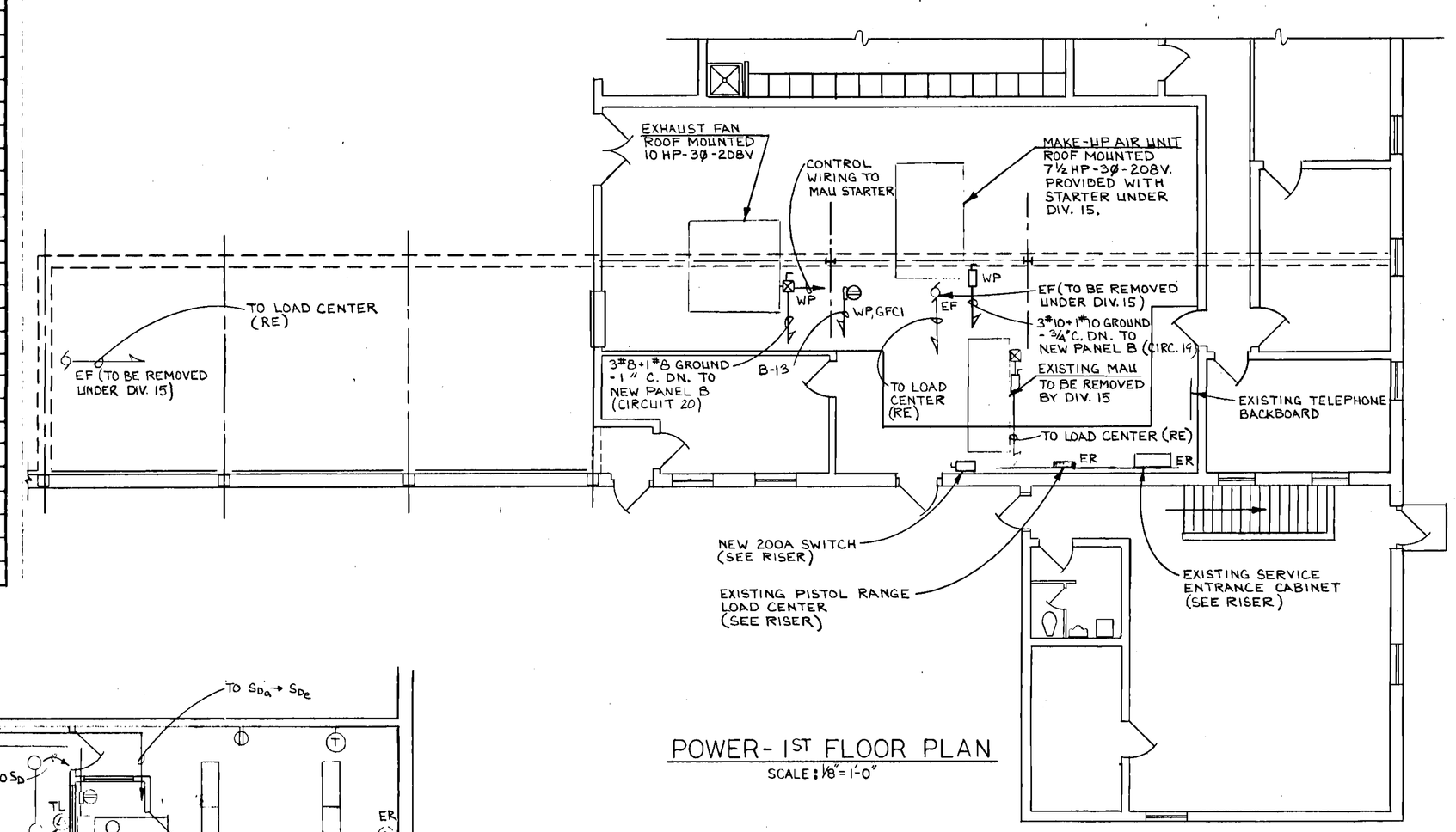
		SITE LIGHTING FIXTURE
✓		RECESSED OR SURFACE MOUNTED LIGHT FIXTURE
✓	A	BRACKET LIGHT (WITH FIXTURE DESIGNATION)
✓		FLUORESCENT LIGHT (WITH BRANCH CIRCUIT NO.)
	E / E	LIGHT FIXTURE ON EMERGENCY POWER
	NL / NL	LIGHT FIXTURE USED AS NIGHT LIGHT
		CEILING MOUNTED EXIT LIGHT
		WALL MOUNTED EXIT LIGHT (WITH ARROWS)
✓		BATTERY UNIT (WITH 2 HEADS SHOWN)
✓	S	SINGLE POLE SWITCH
	S_{3a}	THREE WAY SWITCH (WITH SWITCH LEG INDICATED)
	S_4	FOUR WAY SWITCH
✓	S_D	DIMMER SWITCH
	S_K	KEY OPERATED SWITCH
	S_P	SINGLE POLE SWITCH WITH PILOT LIGHT
	S_T	SWITCH WITH THERMAL OVERLOAD PROTECTION
		CALL-FOR-AID SWITCH
	S_{MT}	MARK TIME SWITCH
	S_{RC}	REMOTE CONTROL SWITCH
✓		DUPLEX WALL RECEPTACLE GROUNDED
✓	GFCI	GROUND FAULT CIRCUIT INTERRUPTING RECEPTACLE
		FLOOR DUPLEX RECEPTACLE OUTLET
		MULTI-OUTLET RACEWAY
		DUPLEX RECEPTACLE (TOP HALF SWITCHED)
		ISOLATED GROUND RECEPTACLE
		HEATING, POWER OR CONTROL CONNECTION
✓		SINGLE SPECIAL-PURPOSE RECEPTACLE
✓		DISCONNECT SWITCH
✓		MOTOR STARTER-AUTOMATIC
✓		MOTOR (SIZE AS INDICATED ON DRAWINGS)
✓		PANELBOARD
✓		HOME RUN TO PANELBOARD
✓	F	FIRE ALARM PULL STATION (4'-0" AFF)
	SD	SMOKE DETECTOR
✓	F	FIXED TEMPERATURE HEAT DETECTOR
	SD	DUCT SMOKE DETECTOR
	FH	FIRE HORN
✓	FHS	FIRE HORN+STROBE UNIT (7'-0" AFF)
	FS	FIRE ALARM STROBE UNIT (7'-0" AFF)
	DH	MAGNETIC DOOR HOLDER
	T	TRANSFORMER
		BELL
		BUZZER
		PUSH BUTTON
	S	SPEAKER WALL MOUNTED
	M	MICROPHONE OUTLET
✓		TELEPHONE OUTLET
		INTERCOM
✓	C	CLOCK OUTLET
	TV	TELEVISION OUTLET
✓	T.C.	TIME CLOCK
✓	W.P.	WEATHERPROOF
	A.F.F.	ABOVE FINISHED FLOOR
	E.W.C.	ELECTRIC WATER COOLER
	C.V.	CONTROL VALVE
✓	E.F.	EXHAUST FAN
	M.D.	MOTORIZED DAMPER
	U.H.	UNIT HEATER
	A.H.U.	AIR HANDLING UNIT
	C.U.H.	CABINET UNIT HEATER
	R.T.U.	ROOF TOP UNIT
	T	THERMOSTAT
	J / J	JUNCTION BOX
✓	R	RELAY
	C	COMPUTER OUTLET
✓	MAU	MAKE UP AIR UNIT
✓		COMBINATION STARTER/SAFETY SWITCH

LEGEND

✓	ER	EXISTING EQUIPMENT TO REMAIN
✓	RE	REMOVE EXISTING EQUIPMENT
✓	RL	RELOCATE EXISTING EQUIPMENT
✓	NL	NEW LOCATION OF RELOCATED EQUIPMENT
	NE	NEW EQUIPMENT
✓	NR	NEW EQUIPMENT TO REPLACE EXISTING

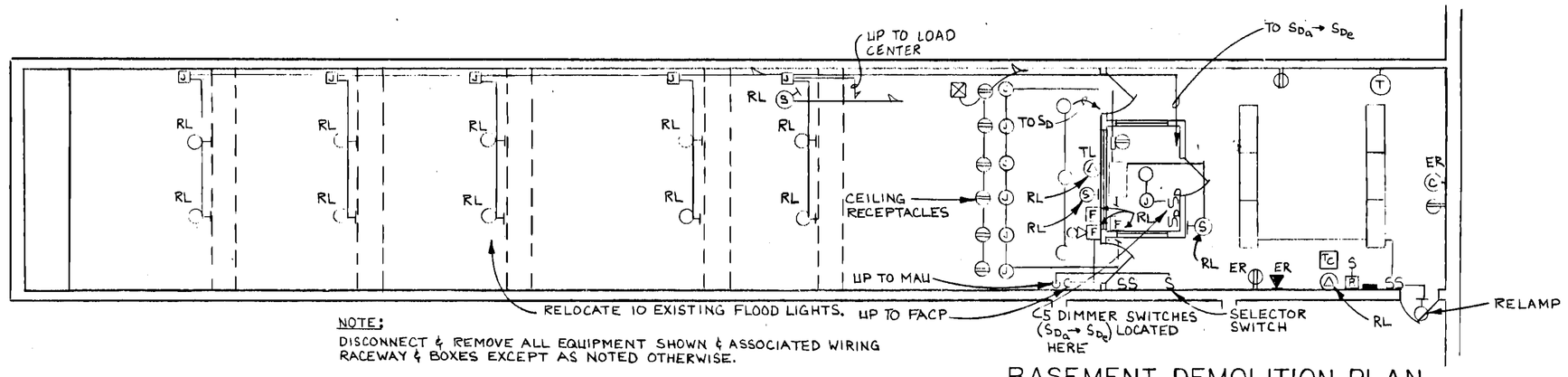
LIGHT FIXTURE SCHEDULE

TYPE	MANFACTURER	CATALOG NO.	LAMPS	VOLTS	MOUNTING	FINISH	REMARKS
A	PRESCOLITE	7814	3-75W, A-21	120	SURFACE	WHITE	
B	LITHONIA	VC240	2-F40	120	SURFACE	WHITE	
EM	CHLORIDE	CMF18 DY CB	BYMFG	120/6	SURFACE	BEIGE	



POWER-1ST FLOOR PLAN

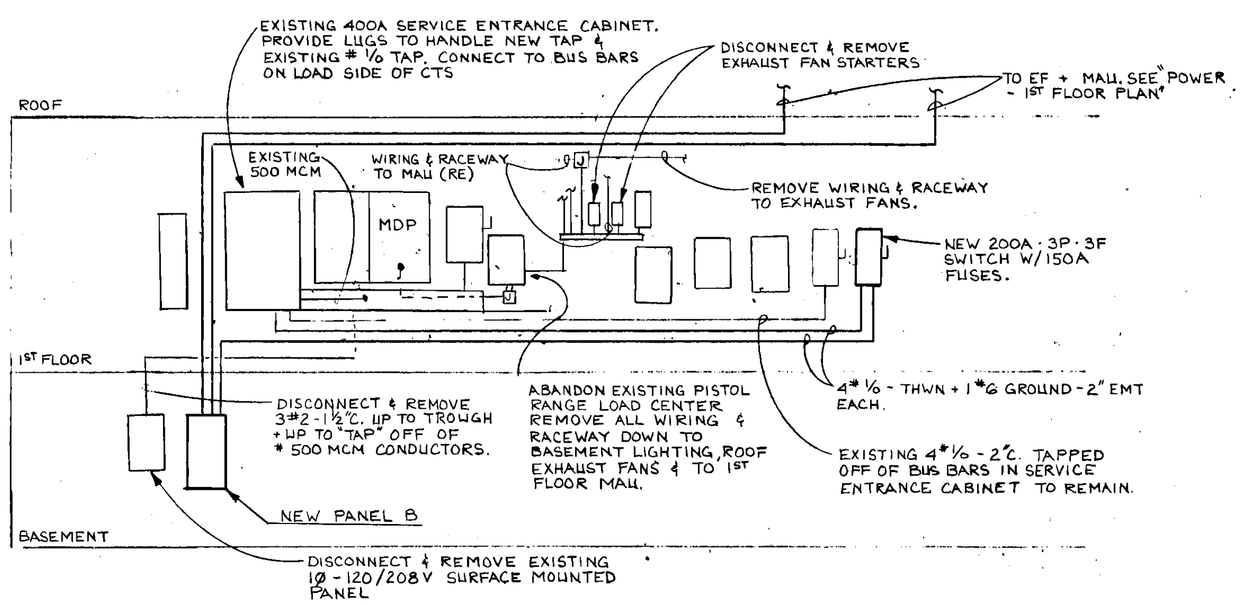
SCALE: 1/8"=1'-0"



NOTE:
DISCONNECT & REMOVE ALL EQUIPMENT SHOWN & ASSOCIATED WIRING RACEWAY & BOXES EXCEPT AS NOTED OTHERWISE.

BASEMENT DEMOLITION PLAN

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

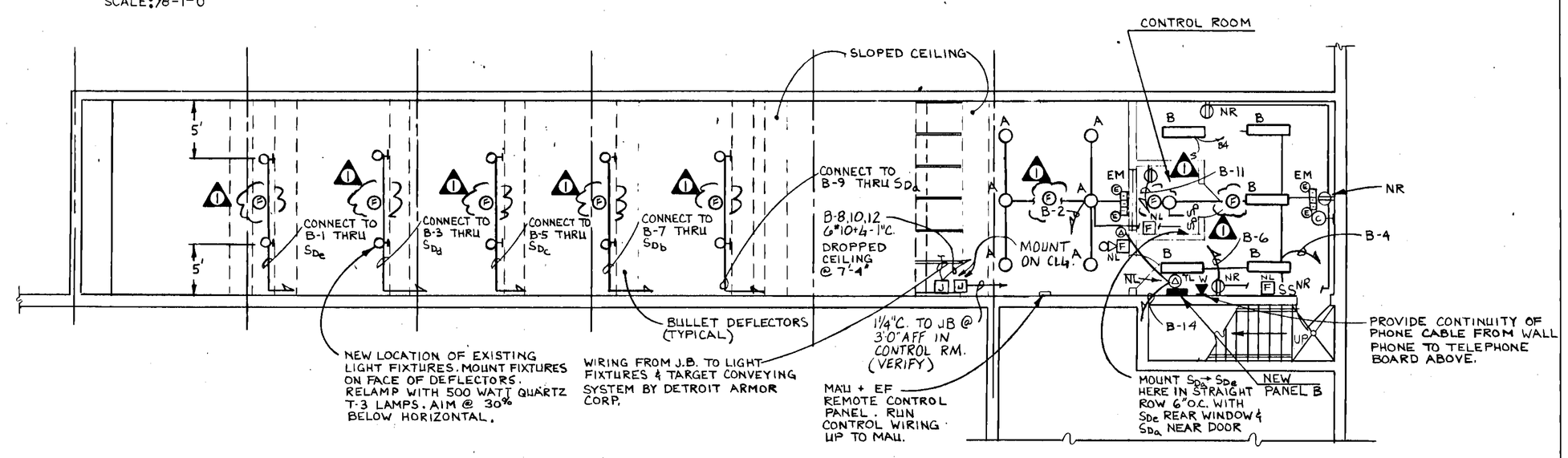


POWER DISTRIBUTION RISER DIAGRAM

N.T.S.

PANELBOARD SCHEDULE

MARK	CIRCUIT	BREAKER	VOLTS	POLES	FEEDER	SERVICE	REMARKS
B	1 THRU 13	20A	120	1	2#12+G - ¾"C.	LIGHTING + POWER	
120/208V-3Ø-4W	14	20A *	120 *	1 *	2#12+G - ¾"C *	CLEANING OUTLET TWIST LOCK	
MAIN 200A MLO	15 THRU 18	20A	120	1	–	SPARES	
MTG - SURFACE	19	50A	208	3	3#10+1#10G - ¾"C.	MAU	
	20	60A	208	3	3#8+1#8G - 1"C.	EF	
	21 THRU 26	–	–	1		SPACE + BUS	
	* VERIFY IN	FIELD W/	OWNER				



LIGHTING & POWER - BASEMENT PLAN

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

NOTES:
1) BRANCH CIRCUITING FOR RELOCATED FLOOD LIGHTS MAY BE GROUPED TOGETHER IN SAME RACEWAY BUT A SEPARATE NEUTRAL SHALL BE RUN FOR EACH CIRCUIT.
2) CONNECT HEAT DETECTORS TO EXISTING FIRE ALARM INITIATING ZONE IN BASEMENT.

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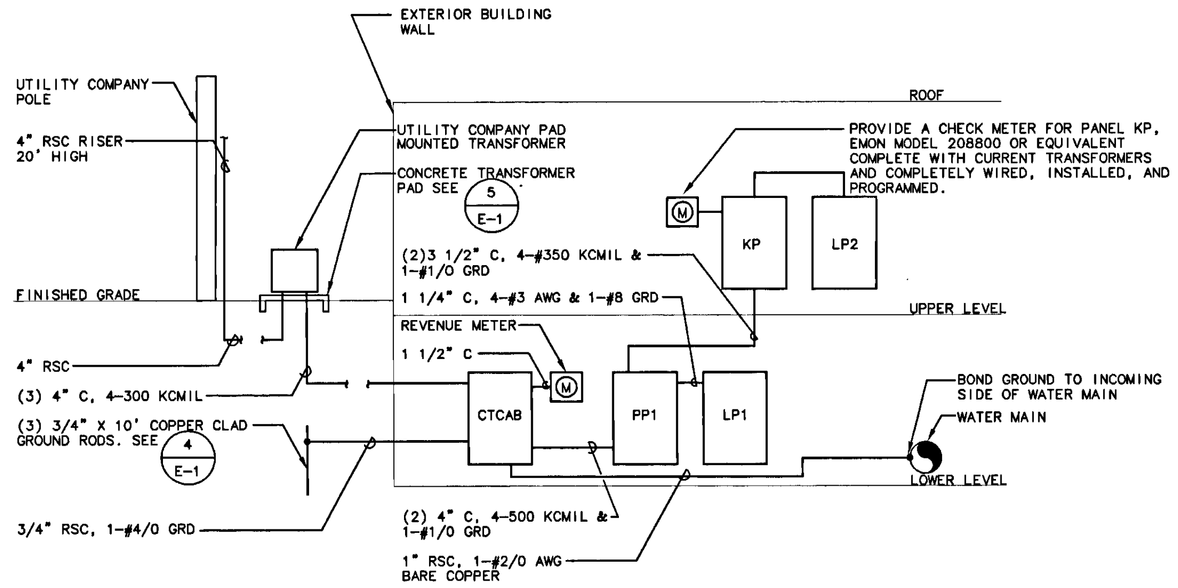
STATE OF CONNECTICUT JOHN R. ZIMMERER No. 11838 REGISTERED PROFESSIONAL ENGINEER

RENOVATIONS To the
TOWN OF WEST HARTFORD
POLICE PISTOL RANGE
Brixton Street West Hartford, Connecticut

Project No.	8904
Drawn: RK	Checked: HP
Date: OCT. 1989	
Revisions: 1 3-30-90	

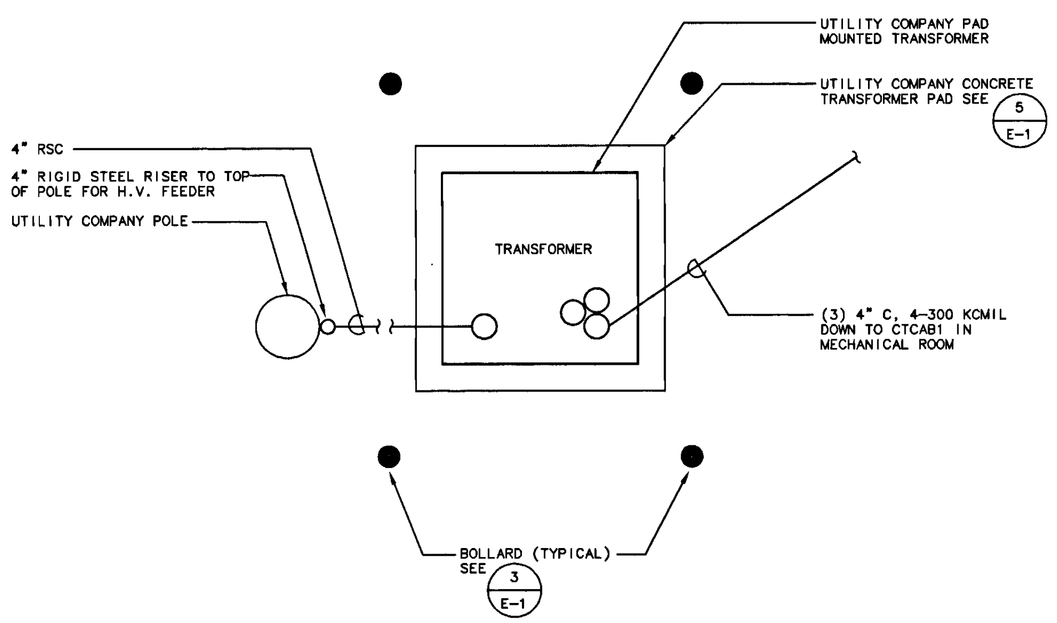
ELECTRICAL

E1



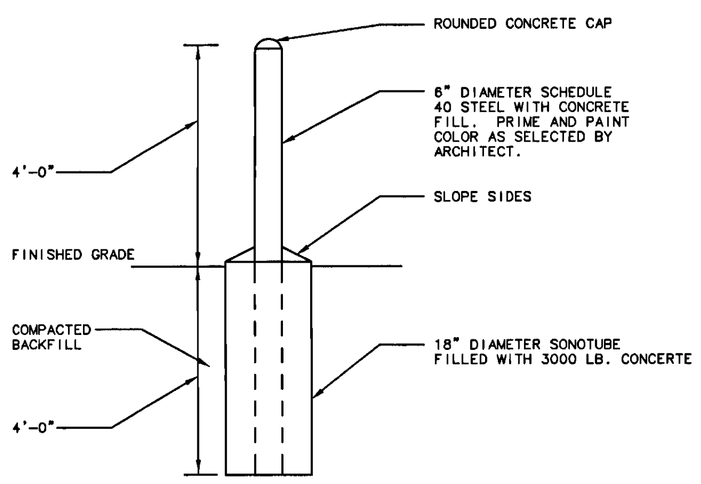
1 ONE LINE POWER RISER DIAGRAM

SCALE: N.T.S.



2 PARTIAL SITE PLAN WITH CONCRETE TRANSFORMER PAD

SCALE: N.T.S.



3 TYPICAL CONCRETE BOLLARD DETAIL

SCALE: N.T.S.

ELECTRICAL SYMBOL LIST

SYMBOL	DESCRIPTION
	SURFACE MOUNTED PANELBOARD, 208 VOLT
	SAFETY SWITCH, NEMA - 3R
	SAFETY SWITCH, AS INDICATED
	DUPLEX WALL MOUNTED RECEPTACLE
a	DUPLEX WALL MOUNTED RECEPTACLE MOUNTED 44" ABOVE FINISHED FLOOR
c	DUPLEX WALL MOUNTED RECEPTACLE, MOUNTED HORIZONTALLY. SEE ARCHITECTURAL DRAWINGS.
S	SINGLE POLE TOGGLE SWITCH
S_3	THREE WAY TOGGLE SWITCH
S_F	PADDLE FAN CONTROL SWITCH
M	MOTOR, SIZE AS INDICATED
J	JUNCTION BOX AS REQUIRED
	BRANCH CIRCUIT WIRING
	BRANCH CIRCUIT HOMERUN
	2X4 RECESSED LIGHT FIXTURE AS SPECIFIED
	SURFACE MOUNTED LUMINAIRE AS SPECIFIED
	WALL MOUNTED EXIT SIGN AS SPECIFIED
	CEILING MOUNTED EXIT SIGN AS SPECIFIED
	PENDANT MOUNTED LUMINAIRE AS SPECIFIED
	RECESSED FLUORESCENT DOWNLIGHT
	WALL MOUNTED EMERGENCY LIGHT AS SPECIFIED
	WALL MOUNTED LUMINAIRE AS SPECIFIED
E	CEILING MOUNTED EMERGENCY LIGHT AS SPECIFIED
F	ENCLOSED RELAY
S_E	FIRE ALARM DUCT SMOKE DETECTOR MOUNTED IN SUPPLY AIR DUCT FURNISHED BY DIVISION 15, INSTALLED BY DIVISION 16.
S_E	FIRE ALARM DUCT SMOKE DETECTOR MOUNTED IN RETURN AIR DUCT. FURNISHED BY DIVISION 15, INSTALLED BY DIVISION 16.
RT	FIRE ALARM DUCT SMOKE DETECTOR REMOTE TEST SWITCH.
ORM	FIRE ALARM OUTPUT RELAY MODULE.
EZM	FIRE ALARM EXPANSION ZONE MODULE.
FKP	FIRE KEY PAD REMOTE ANNUNCIATOR - FLUSH MOUNTED
	WALL MOUNTED FIRE ALARM ADA STROBE UNIT, SEE ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHTS.
H 135°	FIRE ALARM CEILING MOUNTED THERMAL DETECTOR, 135 DEGREE F.
H 200°	FIRE ALARM CEILING MOUNTED THERMAL DETECTOR, 200 DEGREE F.
F	FIRE ALARM WALL MOUNTED MANUAL PULL STATION, SEE ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHTS.
	TELEPHONE OUTLET
a	TELEPHONE OUTLET, SEE ARCHITECTURAL DRAWINGS FOR MOUNTING DETAILS.
	PADDLE FAN, 4' STEM. FIELD CUT TO ALIGN BOTTOM OF FAN WITH TRUSS CORD, SEE ARCHITECTURAL DRAWING FOR MOUNTING HEIGHTS.
S_E	CALL-FOR-AID SWITCH
	CALL-FOR-AID AUDIO/VISUAL UNIT, SEE ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHTS.
FB1	FLUSH FLOOR DUPLEX RECEPTACLE, HUBBELL #B2588275-S3925-BRASS.
	EQUIPMENT CONNECTION
	FIRE ALARM WALL MOUNTED HORN/ADA STROBE UNIT (15/75 CANDELLA), SEE ARCHITECTURAL DRAWINGS FOR MOUNTING HEIGHTS.

ABBREVIATION LIST

A	AMPERES
AWG	AMERICAN WIRE GAUGE
C	CONDUIT
CB	CIRCUIT BREAKER
CKT	CIRCUIT
EMT	ELECTRICAL METALLIC TUBING
F	FUSE
FA	FIRE ALARM
GFI	GROUND FAULT INTERRUPTER
GRD	GROUND
HP	HORSEPOWER
HPS	HIGH PRESSURE SODIUM
kVA	KILOVOLT AMPERES
kW	KILOWATTS
MCM	THOUSAND CIRCULAR
NF	NON FUSED
NTS	NOT TO SCALE
PVC	POLYVINYL CHLORIDE
R	RECESSED
RSC	RIGID STEEL GALVANIZED CONDUIT
UH-#	UNIT HEATER
V	VOLTS
W	WATT
WP	WEATHERPROOF

NEMA ENCLOSURE TYPES

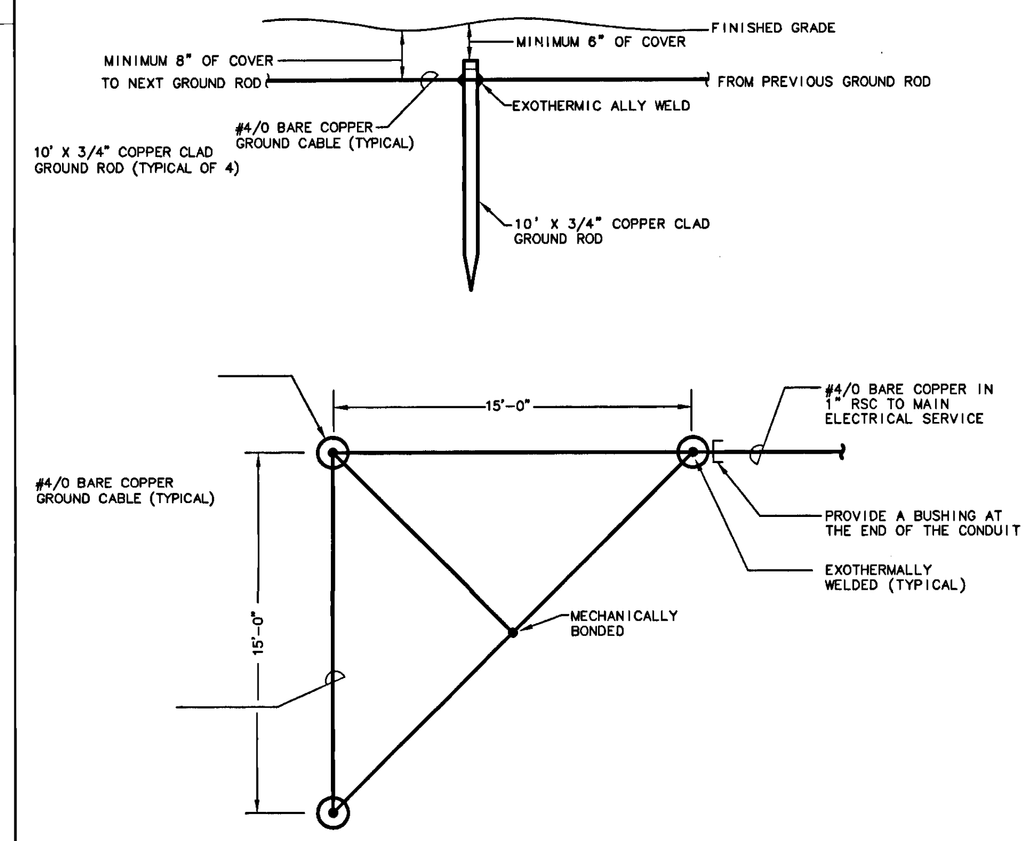
NEMA 1:	GENERAL PURPOSE INDOOR
NEMA 3R:	RAIN-PROOF, OUTDOOR

SERVICE ENTRANCE CABINET - CTCAB1

PROVIDE A SERVICE ENTRANCE CABINET, RATED FOR 208Y/120 VOLTS, 3-PHASE, 4-WIRE. THE MAIN SHALL BE A MOLDED CASE CIRCUIT BREAKER RATED FOR 800 AMPS. THE MAIN SHALL BE ARRANGED FOR COLD SEQUENCE METERING WITH THE SERVICE ENTRANCE BEING UNDERGROUND. PROVIDE THE NECESSARY PULL BOXES FOR SERVICE ENTRANCE REQUIREMENTS AND LOCATION. THE MAIN DEVICE SHALL BE RATED FOR 42 KRMS SYMMETRICAL AMPERES. THE MAIN BUSSING SHALL BE TIN-PLATED ALUMINUM WITH ALL TERMINALS ONLY REQUIRING FRONT ACCESS. THE EQUIPMENT SHALL BE TAMPERPROOF, BE UL LABELED, HAVE A HINGED CT COMPARTMENT DOOR, BE SUITABLE FOR WALL OR FLOOR MOUNTING, HAVE INTERNAL BARRIERS BETWEEN THE MAIN DEVICE AND CT COMPARTMENT AND HAVE PROVISIONS TO PADLOCK AND SEAL THE CT COMPARTMENT FOR THE POWER COMPANY'S USE. EQUIPMENT SHALL BE "SUITABLE FOR USE AS SERVICE ENTRANCE EQUIPMENT" AND SHALL MEET ALL OF THE POWER COMPANIES REQUIREMENT. SUBMIT A SHOP DRAWING TO THE POWER COMPANY FOR THEIR APPROVAL PRIOR TO ORDERING OR INSTALLING THE EQUIPMENT.

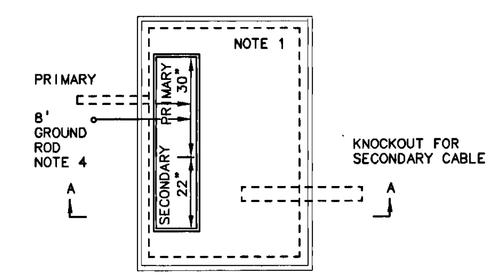
WARNING - UNDERGROUND UTILITIES

THE CONTRACTOR IS TO BE FULLY RESPONSIBLE FOR CONTACTING THE LOCAL CABLE TELEVISION COMPANY, POWER COMPANY, TELEPHONE COMPANY, GAS COMPANY, WATER AND SEWER COMPANY AND ANY OTHER UTILITY COMPANY WITHIN THE AREA PRIOR TO PROCEEDING WITH ANY EXCAVATION. BY LAW, THE CONTRACTOR IS REQUIRED TO CALL BEFORE DOING ANY EXCAVATION, DIGGING HOLES OR DRIVING POSTS REGARDLESS OF WHETHER IT IS WITHIN THE STREET LINE OR ON PRIVATE PROPERTY. OBTAIN INFORMATION REGARDING THE EXISTENCE AND LOCATION OF ANY UNDERGROUND FACILITIES BY CALLING 1-800-922-4455.

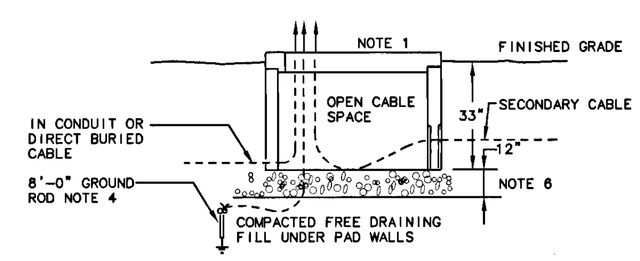


4 BUILDING GROUND DETAIL

SCALE: N.T.S.



PLAN



SECTION A-A

NOTES

1. 75-300 KVA - INSTALL 76"X 54" X 36" PAD AS PER SPC P-013 AND P-014
   500-2500 KVA - INSTALL 76"X 70" X 36" PAD AS PER SPC P-015 AND P-016
2. PRIMARY CABLE
   A. INSTALL DIRECT BURIED CABLES A MINIMUM OF 30" BELOW GRADE.
   B. INSTALL CABLES IN CONDUIT A MINIMUM OF 24" BELOW GRADE.
   C. LOOP CABLES IN CABLE PIT BEFORE MAKING CONNECTIONS.
3. SECONDARY CABLE - LEAVE SLACK FOR FUTURE RECONNECTING TO TRANSFORMERS WITH HIGHER SECONDARY TERMINALS.
4. GALVANIZED GROUND ROD - INSTALL IN TRENCH AND CONNECT A #2 COPPER CONDUCTOR FROM ROD THROUGH PAD OPENING AND EXTENDING 5' ABOVE PAD.
5. THE FOLLOWING DTR'S SHOULD ALSO BE USED:
   A. DTR 42.061 - LOCATION AND MECHANICAL PROTECTION REQUIREMENTS.
   B. DTR 56.509 - PRIMARY, SECONDARY AND TRANSFORMER GROUNDING.
   C. DTR 17.083 - THREE PHASE TRANSFORMER CONNECTIONS.
6. THE EXCAVATION FOR THE PAD SHALL BE CARRIED TO A DEPTH OF 12" BELOW THE BOTTOM OF THE PAD WALLS. THE BACKFILL UNDER THE PAD WALLS SHALL BE A CLEAN GRAVEL, FREE OF FOREIGN MATTER AND CONSTRUCTION DEBRIS, AND IN ACCORDANCE WITH CONNECTICUT DOT SPEC M.02.06 GRADING "A"; OR MASSACHUSETTS DPW SPEC M1.03.0 TYPE B. BACKFILL SHALL BE PLACED IN 6" LAYERS AND COMPACTED WITH MECHANICAL TAMPERS TO NOT LESS THAN 95 PERCENT OF THE MAXIMUM DRY DENSITY AS DETERMINED BY STANDARD COMPACTION TESTS, AASHTO T180 OR ASTM D698.

5 CONCRETE TRANSFORMER PAD DETAIL

SCALE: N.T.S.

TTLB ARCHITECTURE
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203 345 4158 Fax 203 345 7348

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ROCKLEDGE GOLF COURSE CLUBHOUSE AND RESTAURANT

WEST HARTFORD, CT

DATE:	8/11/95
PROJECT NO:	9513.01
DRAWN:	L.A.D.
CHECKED:	D.S.L.
ISSUED FOR:	BIDDING & CONSTRUCTION
REVISIONS:	

E-1

ELECTRICAL DETAILS

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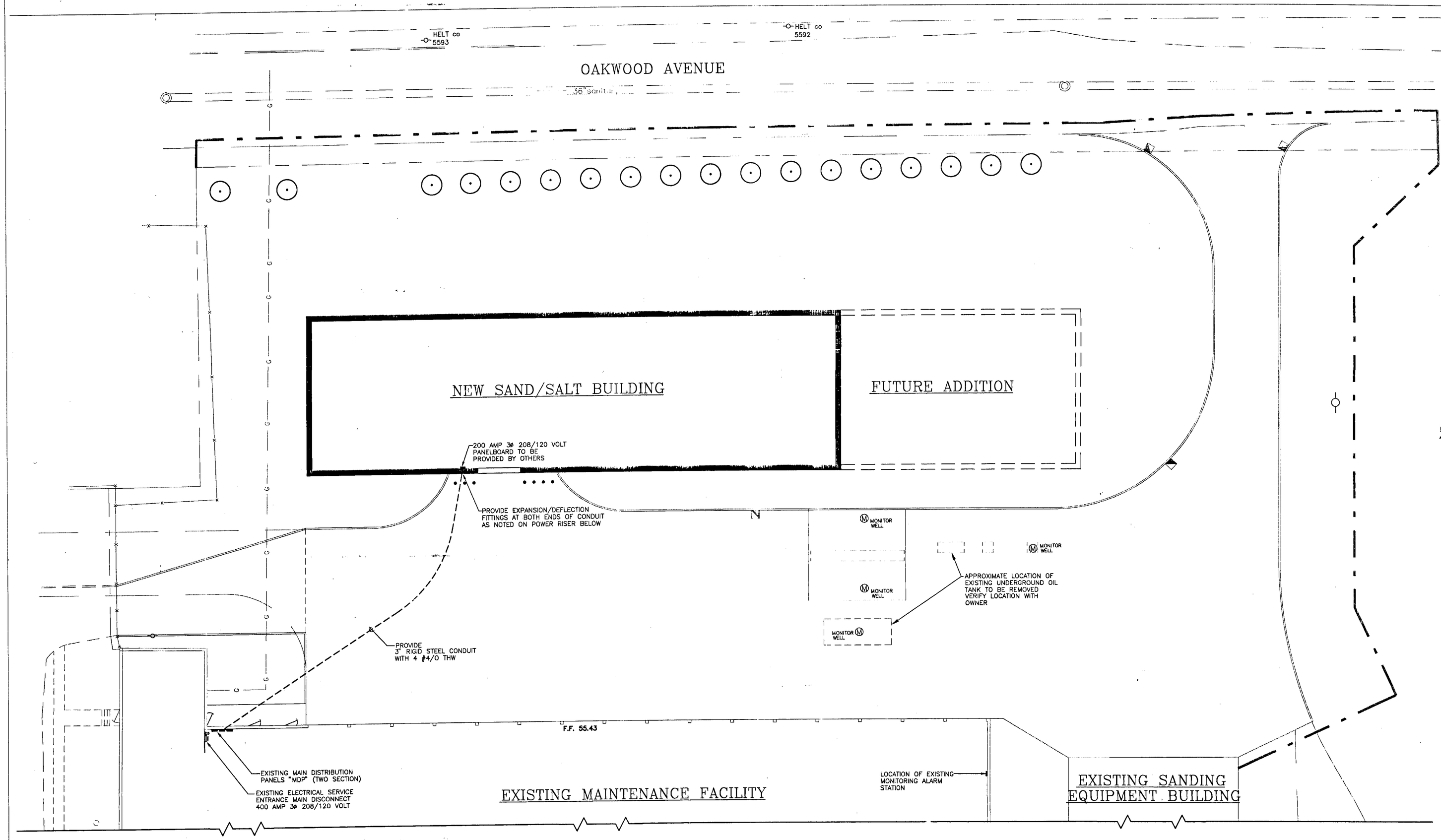
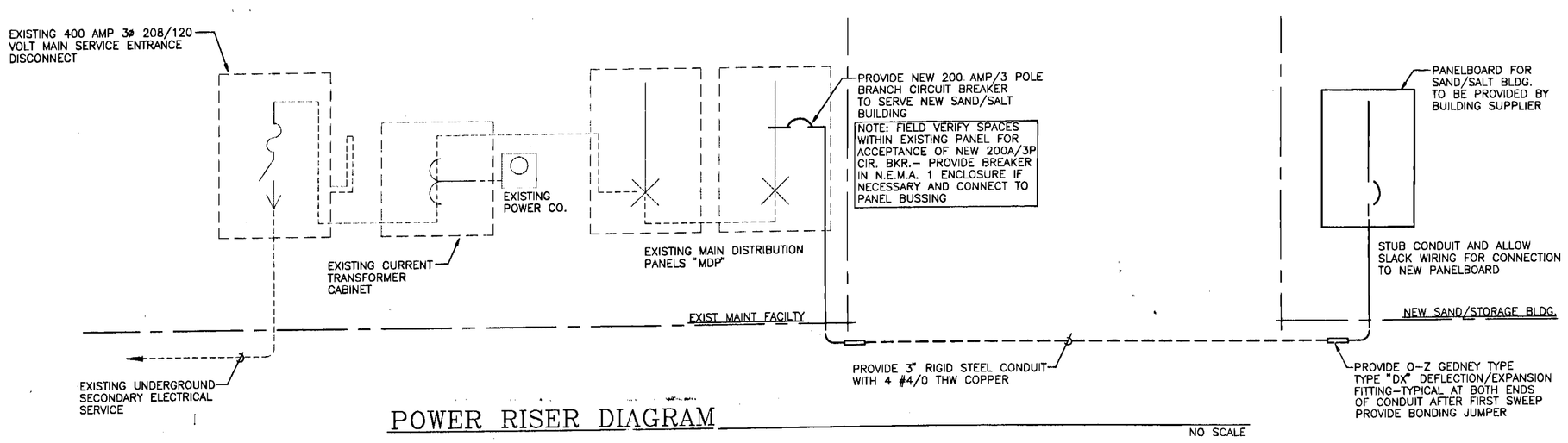


ELECTRICAL AND MECHANICAL SITE PLAN

SCALE 1"=20'-0"



POWER RISER DIAGRAM

NO SCALE

BRIXTON STREET MAINTENANCE FACILITY

WEST HARTFORD, CONNECTICUT

Bids Set 10/12/94

C. PETER CHOW
ARCHITECTS
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QUINLAN, GIANNONI & LIVINGSTON, INC.
CONSULTING ENGINEERS
2074 PARK STREET
HARTFORD, CT. 06106
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FAX (203) 232-9841

SEM-1

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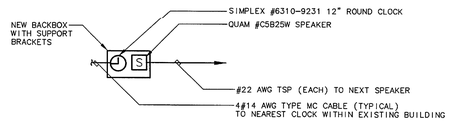
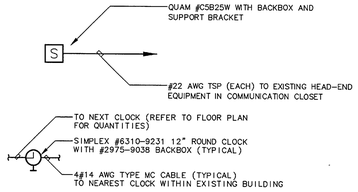


NOTE:

1. EXTENSION OF EXISTING SYSTEM

1 TYPICAL CLASSROOM CLOCK/SPEAKER RISER

SCALE: N-T-S

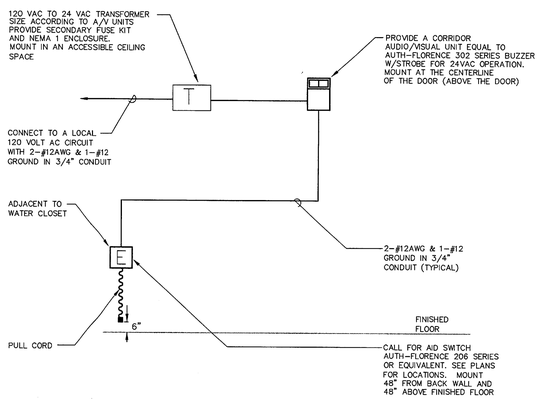


NOTE:

1. EXTENSION OF EXISTING SYSTEM

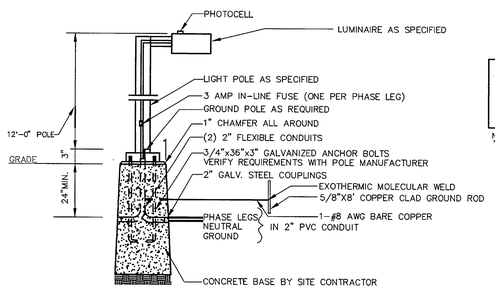
2 CLOCK AND SPEAKER SYSTEM WIRING DIAGRAM FOR MULTI-PURPOSE ROOM

SCALE: N-T-S



3 EMERGENCY CALL FOR AID SCHEMATIC

SCALE: N.T.S.



NOTE: PROVIDE HOUSE SIDE SHIELD FOR FIXTURE TYPE 'AA2'

4 EXTERIOR LIGHT FIXTURE DETAIL

SCALE: N.T.S.

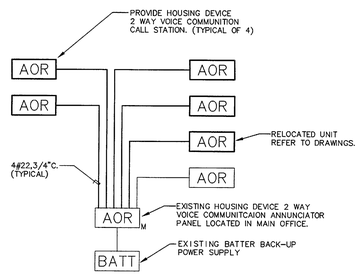
FIRE ALARM SPECIFICATIONS

1. DEVICES INDICATED SHALL BE WIRED TO EXISTING SIMPLEX FIRE ALARM CONTROL PANEL CONTROL PANEL IN MAIN OFFICE.
2. WIRING SHALL BE RATED CABLE ASSEMBLY INSTALLED ABOVE SUSPENDED CEILING WITH "D" RING SUPPORTS 6' ON-CENTER. SIZE PER MANUFACTURERS RECOMMENDATIONS.
3. PROVIDE DEVICES AS FOLLOWS:
   - STROBE UNIT – #4904 SERIES
   - HORN/STROBE UNIT – #4903 SERIES
   - MINI HORN/STOBE – SAME AS HORN/STROBE, SET TO LOWEST TAP FOR AUDIBLE OUTPUT
   - PULLSTATION – #2099-9754
   - DUCT SMOKE DETECTOR – #4098-9753
   - SMOKE DETECTOR – #4098-9601 WITH BASE #4098-9788
   - HEAT DETECTOR – #2098-9460
   - PROVIDE (1) ADDRESSABLE MONITOR MODULE PER WATERFLOW DEVICE
   - PROVIDE OUTPUT TO TEMPERATURE CONTROL SYSTEM FOR FAN SHUT-DOWN ON FIRE ALARM ACTIVATION
   - MAGNETIC DOOR HOLD-OPEN DEVICES
4. ACTIVATION OF ANY INITIATING DEVICE SHALL CAUSE THE FOLLOWING:
   - AUDIBLE ALARM
   - VISUAL ALARM
   - FAN SHUT-DOWN
   - REMOTE NOTIFICATION VIA EXISTING CONTROL PANEL

   (INITIATING DEVICES AS FOLLOWS: SMOKE DETECTOR, DUCT SMOKE DETECTOR, PULL STATION, HEAT DETECTOR, FLOW AND TAMPER SWITCHES BOTH WITHIN ADDITION AND EXISTING BUILDING)

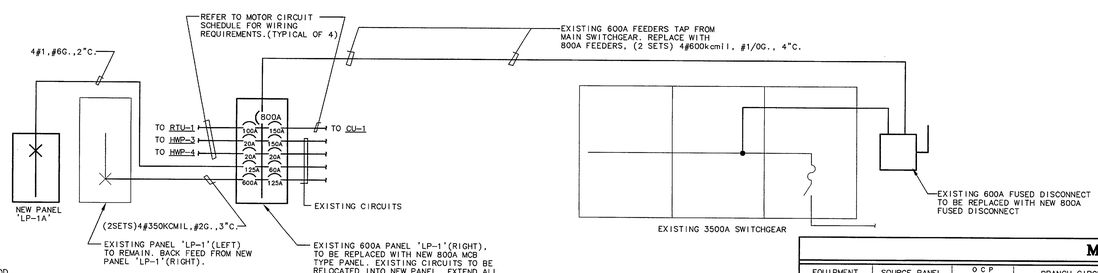
DATA/VOICE SYSTEM SPECIFICATIONS

1. PROVIDE VOICE AND DATA DROPS TO ALL OUTLETS INDICATED ON CONTRACT DRAWINGS.
2. WIRING SHALL BE CAT.5 4 PR. UTP CABLE AS MANUFACTURED BY BERK-TEK, ANIXTER OR BELDEN.
3. INSTALLATION SHALL BE COMPLETE FROM MODULAR PATCH PANEL TO OUTLET INCLUDING TESTING, TERMINATIONS, JACKS, ETC..
4. WIRING SHALL BE SUPPORTED ON 6' INTERVALS USING "D" RINGS OR "J" HOOKS. BUNDLE CABLES TOGETHER AND STRAP WITH VELCRO FASTENERS.
5. WIRING SHALL TERMINATE AT EXISTING PATCH PANELS WITHIN FLOOR DATA CLOSET.
6. TEST ALL STATION CABLES TO ENSURE PROPER PERFORMANCE. SUBMIT TEST RESULTS FOR REVIEW. REPLACE ALL CABLES NOT PASSING 100MHZ COMPLIANCE TEST.
7. SUBMIT FOR REVIEW ALL PROPOSED SYSTEM COMPONENTS.
8. PROVIDE CAT. 5, 4 PAIR UTP CABLE FOR ALL VOICE CONNECTIONS. WIRE TO EXISTING VOICE PATCH PANEL WITHIN BUILDING. PHONE INSTRUMENTS BY OWNER.



6 AREA-OF-REFUGE RISER DIAGRAM

SCALE: N.T.S.



5 ELECTRICAL RISER DIAGRAM

SCALE: N.T.S.

LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER	FIXTURE DESCRIPTION	LAMPS
A	METALUX 2PGAX-332S361120EB82	2'x4' RECESSED FLUORESCENT. 3" T8 CELL PARABOLIC LOUVER, ALUMINUM LOUVER. MILTERED ALUMINUM FLANGE AND TRIM, PROVIDE 2 BALLAST FOR DUAL SWITCHING, 120VAC.	(3)32W T-8 3500K
B	METALUX 2PGAX-2U6T8S331120EB81	2'x2' RECESSED FLUORESCENT. 3" 9 CELL PARABOLIC LOUVER, ALUMINUM LOUVER, ALUMINUM FLANGE AND TRIM, ELECTRONIC BALLAST, 120VAC.	(2)31W T-8 3500K
B1	METALUX 2PGAX-2U6T8S331120EB81EM	2'x2' RECESSED FLUORESCENT. 3" 9 CELL PARABOLIC LOUVER, ALUMINUM LOUVER, ALUMINUM FLANGE AND TRIM, EMERGENCY BALLAST, 120VAC.	(2)31W T-8 3500K
C	METALUX WBIA232IMA120EB81	4' SURFACE MOUNTED WRAPAROUND; HEAVY GAUGE STEEL END PLATES; BAKED WHITE ENAMEL FINISH; ACRYLIC LENS; ELECTRONIC BALLAST; 120VAC	(2)32W T-8 3500K
C1	METALUX WBIA232IMA120EB81EM	4' SURFACE MOUNTED WRAPAROUND; HEAVY GAUGE STEEL END PLATES; BAKED WHITE ENAMEL FINISH; ACRYLIC LENS; EMERGENCY BALLAST; 120VAC	(2)32W T-8 3500K
D	PORTFOLIO C61261E6280BB	6" RECESSED COMPACT FLUORESCENT DOWNLIGHT; BLACK BAFFLE; ELECTRONIC BALLAST; 120VAC	(1)26W QUAD 3500K
E1	SURE-LITES CC4WH/6X-9-DWWH	CC4 SEALED LEAD CALCIUM BATTERY UNIT WITH NO HEADS SIZED FOR 90-MINUTE OPERATION; 6 VOLT DOUBLE HEAD WEATHERPROOF REMOTE HEADS.	(2)9 WATT INCANDESCENT (INCLUDED)
F	McGRAW-EDISON W1071	EXTERIOR WALL MOUNTED METAL HALIDE FIXTURE; ONE-PIECE DIE-CAST ALUMINUM HOUSING; TAMPER-PROOF CLEAR POLYCARBONATE LENS; WEATHERPROOF; 120VAC.	(1)70W MH
X	SURE-LITES LPX SERIES	UNIVERSAL MOUNTED AND FACE OPTION LED EXIT SIGN; POLYCARBONATE HOUSING; HOUSING TO BE WHITE WITH RED LETTERS; REFER TO DRAWINGS FOR MOUNTING AND CHEVRON ARROW REQUIREMENTS; CHEVRON SHALL BE VISIBLE FROM 40' MAXIUMUM; WITH BATTERY BACK-UP	PROVIDED WITH FIXTURE
AA	EXISTING FIXTURE	EXISTING POLE MOUNTED FIXTURE RELOCATED, REWIRE AS INDICATED.	PROVIDE NEW LAMP
AA1	EXISTING FIXTURE	EXISTING DOUBLE HEADED POLE MOUNTED FIXTURE RELOCATED, REWIRE AS INDICATED.	PROVIDE NEW LAMPS
AA2	McGRAW-EDISON CS713320BLCA18	POLE MOUNTED FIXTURE; ONE-PIECE DIE CAST ALUMINUM HOUSING; CLEAR TEMPERED GLASS LENS; PROVIDE WITH ROUND POLE HEIGHT TO MATCH EXISTING; PROVIDE WITH HOUSE SHIELD. FIXTURE TO BE SIMILAR TO EXISTING.	LAMP TO MATCH EXISTING
BB	STERNER BETHEL 18	POLE MOUNTED HID FIXTURE; CAST ALUMINUM FRAME WITH SILICONE GASKET SEAL; POLYCARBONATE LENS; 120 VAC	(1)70W MH

LIGHTING FIXTURE NOTES:

1. BIDS SHALL BE BASED ON THE LIGHTING FIXTURE SCHEDULE AND SPECIFICATIONS. REFER TO THE ELECTRICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION INCLUDING SUBSTITUTIONS.
2. ALL FIXTURES SHALL BE UL LISTED.
3. HIGH FREQUENCY, ELECTRONIC TYPE BALLASTS SHALL BE USED WITH ALL FLUORESCENT LAMPS WHEN POSSIBLE. ALL FLUORESCENT BALLASTS SHALL HAVE A MIN. POWER FACTOR OF 0.9. A CLASS "A" RATING WHERE POSSIBLE, BE UL LISTED AND BE ON THE NORTHEAST UTILITIES LIST OF APPROVED BALLASTS. FLUORESCENT BALLASTS USED IN EXTERIOR FIXTURES SHALL HAVE A MIN. STARTING TEMPERATURE OF -20° F.
4. ALL INCANDESCENT LAMPS DESIGNED FOR 120V OPERATION SHALL BE EXTENDED SERVICE LIFE TYPE.
5. ALL NECESSARY MOUNTING HARDWARE, HANGERS, BRACKETS, RAILS, YOKES, STEMS, CHAINS, ETC., SHALL BE FURNISHED AND INSTALLED.
6. REFER TO ARCHITECTURAL DRAWINGS FOR SPECIFIC DETAILS, ARRANGEMENT, MOUNTING HEIGHTS, CEILING CONSTRUCTION, ETC. ALL COLORS AND FINISHES SHALL BE VERIFIED BY THE ARCHITECT.
7. FIXTURES SHALL BE SEISMICALLY SUPPORTED AS REQUIRED BY THE CONNECTICUT BUILDING CODE.
8. WIRE ALL BATTERY PACK UNITS (I.E. EXIT SIGNS AND EMERGENCY UNITS) TO LINE SIDE OF LOCAL LIGHTING BRANCH CIRCUIT.

PANELBOARD SCHEDULE

PANEL DESIGNATION	VOLTAGE	MAINS	MOUNTING	BRANCH CIRCUITS ACTIVE	BRANCH CIRCUITS SPARE	BRANCH POLE CAPACITY	AIC RATING	REMARKS
LP-1 (RIGHT)	208/120	800A MCB	SURFACE	(1)600A-3P (2)150A-3P (2)125A-3P (1)60A-3P (3)20A-3P (1)100A-3P			22K	
LP-1A	208/120	125 MLO	SURFACE	(26)20A-1P	(6)20A-1P	42	22K	
LP-3	208/120	125 MLO	SURFACE			42		EXISTING PANEL, NO NEW BREAKERS REQUIRED
CP-1N	208/120	125 MLO	SURFACE	(14)20A-1P		42		EXISTING PANEL

NOTES:

1. PROVIDE TYPE-WRITTEN CIRCUIT DIRECTORY.
2. PROVIDE DOOR-IN-DOOR TRIM
3. PROVIDE COPPER BUS
4. BRANCH BREAKERS SHALL BE BOLT-ON.

ELECTRICAL SYMBOL LIST

SYMBOL	DESCRIPTION
	SURFACE MOUNTED PANELBOARD
	RECESSED PANELBOARD
M	MOTOR
	BRANCH CIRCUIT WIRING – CONCEALED IN WALLS OR CEILINGS
	BRANCH CIRCUIT WIRING – SWITCHED
	HOMERUN TO PANELBOARD
J	JUNCTION BOX
	WIREMOLD ASSEMBLY WITH DEVICES REFER TO DRAWINGS FOR DEVICES
	DUPLEX WALL MOUNTED RECEPTACLE
	DOUBLE DUPLEX WALL MOUNTED RECEPTACLE
a	DUPLEX RECEPTACLE, MOUNT ABOVE COUNTER HEIGHT
GFCI	DUPLEX RECEPTACLE WITH GROUND FAULT CIRCUIT INTERRUPTION
GFCI WP	DUPLEX RECEPTACLE WITH GROUND FAULT CIRCUIT INTERRUPTION AND WEATHER PROOF COVER
EWC	DUPLEX RECEPTACLE FOR WALL MOUNTED ELECTRICAL WATER COOLER WITH GROUND FAULT CIRCUIT INTERRUPTION
	SPECIAL PURPOSE CONNECTION
	SPECIAL PURPOSE RECEPTACLE
	QUAD RECEPTACLE FLOOR OUTLET
	TELEPHONE OUTLET MOUNTED 54" AFF, 2-GANG BOX WITH SINGLE GANG PLASTER RING, (1)3/4" CONDUIT TO ABOVE ACCESSIBLE CEILING SPACE.
	DATA OUTLET, 2-GANG BOX WITH SINGLE GANG PLASTER RING, (1)3/4" CONDUIT TO ABOVE ACCESSIBLE CEILING SPACE, CABLING PER E-5
	COMBINATION TELEPHONE/DATA OUTLET, 2-GANG BOX WITH SINGLE GANG PLASTER (2)3/4" CONDUIT TO ABOVE ACCESSIBLE CEILING SPACE, CABLING PER E-5
S	SINGLE POLE TOGGLE SWITCH
S_3	THREE WAY TOGGLE SWITCH
S_4	FOUR WAY TOGGLE SWITCH
S_E	EMERGENCY CALL TOGGLE SWITCH (MOUNTED AT 36" AFF)
	EMERGENCY CALL LIGHT WITH BUZZER (MOUNTED AT 7'6" AFF)
	RECESSED FLUORESCENT LIGHTING FIXTURE
	RECESSED EMERGENCY FLUORESCENT LIGHTING FIXTURE WITH BATTERY BACK-UP
	UNDER CABINET FLUORESCENT LIGHTING FIXTURE
	RECESSED FLUORESCENT DOWN LIGHT FIXTURE
	EMERGENCY RECESSED FLUORESCENT DOWNLIGHT FIXTURE WITH BATTERY BACK-UP
	SURFACE MOUNTED DOWN LIGHT FIXTURE
	WALL MOUNTED FLUORESCENT FIXTURE
	WALL MOUNTED LIGHTING FIXTURE
	WALL MOUNTED EXTERIOR LIGHTING FIXTURE
	SITE LIGHT POLE FIXTURE
	DUAL HEAD SITE LIGHT POLE FIXTURE
	CEILING OR WALL MOUNTED, SELF-CONTAINED EMERGENCY LIGHT FIXTURE WITH BATTERY BACK-UP, FIXTURE SHALL MONITOR MAJOR LIGHTING CIRCUIT IN AREA. WG INDICATES WIREGUARD
	REMOTE DUAL HEAD EMERGENCY LIGHTING FIXTURE.
EB	EMERGENCY BATTERY PACK FOR USE WITH REMOTE LIGHTING HEADS
	CEILING OR WALL MOUNTED, SELF-CONTAINED EXIT SIGN WITH EMERGENCY BATTERY BACK-UP AND DIRECTIONAL CHEVRONS AS INDICATED ON PLANS WG INDICATES WIREGUARD
	WALL MOUNTED COMBINATION HORN/STROBE LIGHT WITH AN ADA 15/75 CANDELA STROBE (MOUNT AT 7'-6" AFF) 'WG' INDICATES WIREGUARD
	FIRE ALARM VISUAL INDICATING UNIT; MOUNT AT 7'-6" AFF
F	FIRE ALARM PULL BOX; MOUNT AT 48" AFF
AOR	AREA OF REFUGE
S	AUTOMATIC FIRE ALARM SMOKE DETECTOR
S_D	DUCT MOUNTED SMOKE DETECTOR AND HOUSING
	EMERGENCY SHUT-OFF SWITCH MOUNTED AT 48" AFF
MS_C	CEILING MOUNTED CORRIDOR OCCUPANCY SENSOR-SENSOR SWITCH MODEL #HW-13
MS	CEILING MOUNTED CLASSROOM OCCUPANCY SENSOR-SENSOR SWITCH MODEL #WV-PDT
M	MAGNETIC DOOR HOLD OPEN – "F" INDICATES FLOOR MOUNTED
S	CEILING MOUNTED SPEAKER
	WALL MOUNTED CLOCK
	CLOCK/SPEAKER
RL	RELOCATE EXISTING DEVICE
NL	NEW LOCATION OF RELOCATED DEVICE
E	EXISTING TO REMAIN

MOTOR CIRCUIT SCHEDULE

EQUIPMENT	SOURCE PANEL	O.C.P. DEVICE	BRANCH CIRCUIT	LOCAL DISC. SW.	MOTOR STARTER TYPE	MOTOR STARTER SIZE	MOTOR STARTER LOCATION	LOAD HP	LOAD PH	LOAD VOLT	REMARKS
RTU-1	LP-1(RIGHT)	100A-3P	3#3.#8G.,1 1/2"C.	100A-3P	DIV.15	–	–	–	3	208	–
CU-1	LP-1(RIGHT)	150A-3P	3#1/0.#6G.,2"C.	200A-3P	DIV.15	–	–	–	3	208	–
HWP-3	LP-1(RIGHT)	20A-3P	3#12.#12G.,3/4"C.	30A-3P	FVNR	0	–	3	3	208	–
HWP-4	LP-1(RIGHT)	20A-3P	3#12.#12G.,3/4"C.	30A-3P	FVNR	0	–	3	3	208	–

NOTES:

1. REFER TO SPECIFICATIONS FOR STANDARD FEATURES. DISCONNECT SWITCHES SHALL BE HEAVY DUTY TYPE.
2. ABBREVIATIONS:
   MAN – MANUAL STARTER WITH THERMAL OVERLOADS
   FVNR – FULL VOLTAGE NON-REVERSING
   DIV. 15 – EQUIPMENT FURNISHED BY DIV.15 CONTRACTOR
   COMB. – COMBINATION STARTER/DISCONNECT
   VFD – VARIABLE FREQUENCY DRIVE
3. O.C.P. DEVICE (OVERCURRENT PROTECTIVE) SHALL BE MOLDED CASE CIRCUIT BREAKER UNLESS NOTED WITH AN 'F' FOR FUSE.
4. STARTERS SHALL BE SQUARE D CLASS 8536 OR APPROVED EQUAL.

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SEDGWICK MIDDLE SCHOOL
128 SEDGWICK ROAD
WEST HARTFORD, CONNECTICUT

KEY PLAN

DRAWING TITLE

ELECTRICAL DETAILS & SCHEDULES

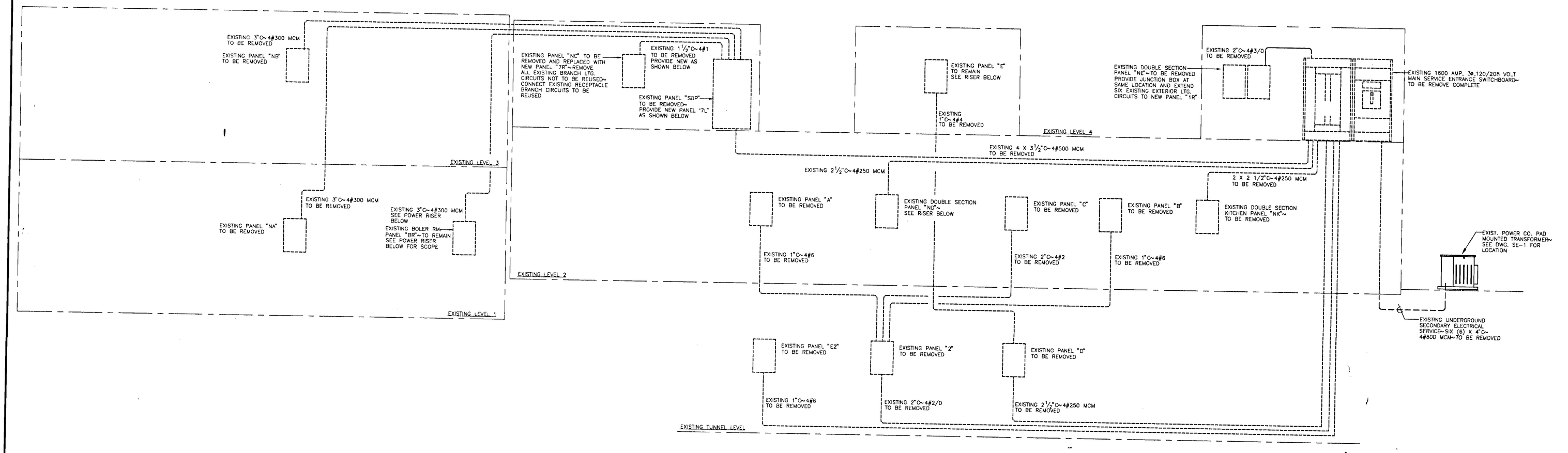
STATE PROJ NO.	155-0196 EA
PROJECT NO.	211104
SCALE	NOTED
DATE:	DEC. 17, 2001

REVISIONS AFTER RELEASE

NO.	ISSUE DATE	PURPOSE

E-5

21088-00SEDGE5.dwg 11702 30753



EXISTING ELECTRICAL DISTRIBUTION RISER DIAGRAM

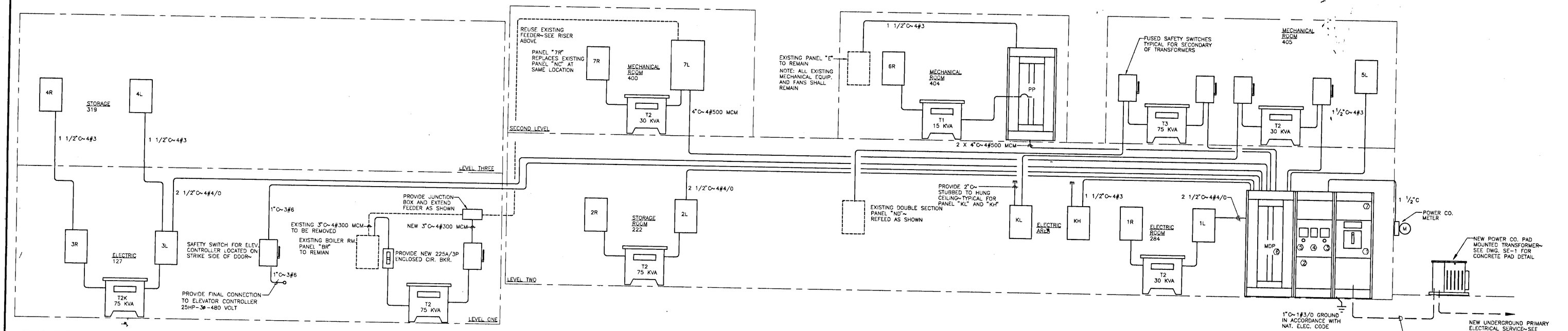
NO SCALE

REVISIONS		
DATE	MARK	DESCRIPTION
AUGUST 1, 1994		DRAWINGS ISSUED FOR BIDDING AND CONSTRUCTION

ADDITION AND RENOVATIONS TO THE FLORENCE E. SMITH SCHOOL

WEST HARTFORD
CONNECTICUT

STATE PROJECT NO.



ELECTRICAL~POWER RISER DIAGRAM~~NEW CONDITIONS

NO SCALE

NOTES:

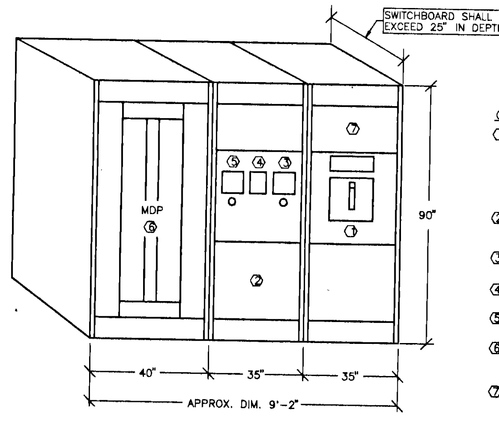
1. ALL CONDUCTOR SIZES ABOVE BASED ON COPPER WITH THW INSULATION. ALUMINUM FEEDERS ARE NOT ACCEPTABLE.
2. ALL EQUIPMENT ABOVE BASED ON GENERAL ELECTRIC CO.
3. NO FEEDERS SHALL BE RUN IN THE SLAB. FEEDERS MUST BE RUN BELOW THE SLABS EITHER IN GRADE OR IN CEILING SPACES.
4. PROVIDE GROUNDING CONDUCTOR FOR ALL FEEDERS AND BRANCH CIRCUITS SIZED IN ACCORDANCE WITH THE N.E.C. IN ADDITION TO PHASE CONDUCTORS AND NEUTRALS.
5. SEE DRAWING E-8 FOR EXTERIOR LIGHTING CONTROL DETAIL

DRY TYPE TRANSFORMER SCHEDULE

ITEM	KVA	MOUNTING	PRIMARY FEEDER	PRIMARY OVERCURRENT PROTECTION	SECONDARY FEEDER	SECONDARY OVERCURRENT PROTECTION	WEIGHT #	REMARKS
T1	15	FLOOR	3 # 10 1" C.	30/3	4 # 8 1" C.	40/3	275 lbs.	
T2	30	FLOOR	3 # 8 3/4" C.	50/3	4 # 4 1 1/4" C.	80/3	275 lbs.	
T3	75	FLOOR	3 # 1 1 1/4"C	125/3	4 # 3/0 2" C.	200/3	515 lbs.	
T1K	30	FLOOR	3 # 8 3/4" C.	50/3	5 # 3 1 1/4" C.	80/3	335 lbs.	UL "K" FACTOR 13 TRANSFORMER
T2K	75	FLOOR	3 # 1 1 1/4" C.	125/3	5 # 250 3" C.	200/3	615 lbs.	UL "K" FACTOR 13 TRANSFORMER

NOTES:

1. ALL DRY TRANSFORMER DATA ABOVE BASED ON GENERAL ELECTRIC CO. TYPE DL LOW TEMPERATURE RISE.
2. PROVIDE 4" CONCRETE HOUSEKEEPING PAD UNDER ALL TRANSFORMERS
3. TRANSFORMERS ABOVE BASED ON 480 VOLT, 3Ø PRIMARY; 208/120 VOLT, 3Ø, 4 WIRE, 60 HZ SECONDARY. DELTA TO WYE. GROUNDING OF ALL TRANSFORMERS SHALL BE IN ACCORDANCE WITH NEC.
4. SECURE ALL TRANSFORMERS WITH BOLTED CONNECTIONS TO CONCRETE SLAB.
5. CONDUCTOR SIZES ABOVE BASED ON COPPER CONDUCTORS WITH INSULATION RATED 75 DEGREES (C) TYPE THW
6. FIFTH CONDUCTOR SHOWN FOR TRANSFORMER SECONDARY REPRESENTS A REDUNDANT (DOUBLE) NEUTRAL FROM "K" FACTOR TRANS. TO PANELBOARD
7. PROVIDE GROUNDING CONDUCTOR FOR ALL FEEDERS AND BRANCH CIRCUITS SIZED IN ACCORDANCE WITH THE N.E.C. IN ADDITION TO PHASE CONDUCTORS AND NEUTRALS.
8. PROVIDE OVERCURRENT PROTECTION FOR TRANSFORMER PRIMARY AND SECONDARY AS SHOWN AND AS REQUIRED BY N.E.C.



COMPONENT KEY

1. AV-2 SWITCHBOARD WITH 1600 AMP-3P-480/277 VOLT TYPE "TPV" MAIN CIRCUIT BREAKER EQUIPPED WITH SURGE PROTECTION AND GROUND FAULT PROTECTION-480/277 VOLT-3Ø-4 WIRE, 60HZ. PROVIDE ALL STANDARD CIRCUIT BREAKER FUNCTIONS
2. CURRENT TRANSFORMER COMPARTMENT FOR POWER CO. C/T'S.
3. VOLTAGE METER AND SELECTOR SWITCH.
4. WATT-HOUR DEMAND METER (30 MINUTE).
5. AMMETER AND SELECTOR SWITCH.
6. MAIN DISTRIBUTION SECTION WITH GROUP MOUNTED CIRCUIT BREAKERS. SEE PANELBOARD SCHEDULE FOR TRIP AND FRAME RATINGS.
7. CABLE ENTRANCE COMPARTMENT.

DETAIL ~ MAIN SERVICE ENTRANCE SWITCHBOARD

NO SCALE

NOTE:

1. ALL INFORMATION ABOVE BASED ON GENERAL ELECTRIC CO.
2. ALL BUSSING SHALL BE COPPER.
3. SEE PANELBOARD SCHEDULE FOR SPARE BREAKERS AND SPACES TO BE PROVIDED
4. SECURE MAIN SWITCHBOARD SECTIONS TO CONCRETE SLAB WITH BOLTED CONNECTIONS
5. SWITCH BOARD SHALL BE BUSSED AND BRACED FOR 65000 A.I.C. (SYM.) SWITCHBOARD AND ALL DEVICES SHALL BE FULLY RATED.

QUINLAN, GIANNONI & LIVINGSTON, INC.
CONSULTING ENGINEERS
2074 PARK STREET
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TEL. (203) 236-4288
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KAESTLE BOOS ASSOCIATES, INC.
ARCHITECTS
410 Stanley Rd. New Britain, Connecticut 06050-2500 (203) 229-0061

Drawn by: G.R./R.L. Scale: 1/8"=1'-0"

ELECTRICAL POWER RISER AND DETAILS

Project no. 94006 Drawing no.

FSS-E9 07/24/94 13:20 Date AUGUST 1, 1994

E-9

ELECTRICAL EQUIPMENT SCHEDULE

EXIST SWITCHGEAR
REUSE OR REPLACE C/B'S AS REQUIRED TO SUIT NEW FEEDERS, ETC. C/B'S SHALL BE COMPATIBLE WITH THE EXISTING SWITCHGEAR BUSES AND SPACES.

TRANSFORMER #T-1
SHIELDED / ISOLATED GROUND. DRY TYPE, 45 KVA 208V 3Ø TO 208/120V 3Ø 4W, EQUAL TO GE. GUARD II #9T23D3043633

PANEL #BLP
SURFACE MOUNTED 120/208V, 3Ø, 4W, (DOUBLE) - EQUAL TO "G.E." TYPE NLAB WITH 400 AMPS MAIN LUGS & BRANCH CIRCUIT BREAKERS @ 22,000 AMPS IC MIN AS FOLLOWS:

(36)	20A	1-P C/B'S	- ACTIVE
(2)	20A	3-P "	- TC #3 & HUMIDIFIER
(1)	20A	2-P "	- COPIER
(1)	30A	2-P "	- H W HEATER
(2)	40A	2-P "	- A.C. UNITS #2 & 4
(1)	70A	3-P "	- A.C. UNIT #5
(1)	100A	3-P "	- A.C. UNIT #6 (FUTURE)
(2)	20A	3-P "	- CONDENSERS FOR A.C. UNITS #5 & 6 (FUTURE)
(8)	20A	1-P "	- SPARE

PANEL #AVP
SAME AS CRT EXCEPT WITH C/B'S AS FOLLOWS @ MINIMUM 18,000 AMPS I.C.

(1)	20AMP	2-P	C/B - TYPESETTER
(16)	20AMP	1-P	C/B - ACTIVE
(6)	20AMP	1-P	C/B - SPARE

PANEL #CRT
SURFACE MOUNTER 120/208V 3Ø 4W EQUAL TO G.E. TYPE NLAB WITH 100 AMP MAIN LUGS AND BRANCH C/B'S @ 10,000 AMPS IC. MIN. AS FOLLOWS:

(4) 20A 1-P C/B'S - ACTIVE
SPACE & BUS FOR FUTURE 20A 1-P C/B'S

PANEL #PSP
SURFACE MOUNTED 120/208V 3Ø 4W EQUAL TO "G.E." TYPE NLAB WITH 200 AMP 3-P MAIN C/B & BRANCH C/B'S AS FOLLOWS @ MIN. 18,000 AMPS I.C.:

(18)	20A	1-P	C/B'S - SPARE
(1)	30A	2-P "	- "
(3)	20A	2-P "	- "
(1)	30A	3-P "	- "

SPACE & BUS FOR FUTURE (9) 20A 1P C/B'S

PANEL #FLP
SURFACE MOUNTED 120V/208V 3Ø 4W EQUAL TO GE TYPE NLB WITH 225 AMP MAIN LUGS & BRANCH C/B'S AS FOLLOWS @ 18,000 AMPS I.C. MIN.:

(1)	30A	2-P	C/B - HOT WATER HEATER
(36)	20A	1-P	"'S - ACTIVE
(4)	20A	1-P	"'S - SPARE

PANEL #SLP
SAME AS #FLP EXCEPT AS FOLLOWS: (DOUBLE PANEL) & BRANCH C/B'S AS FOLLOWS:

(1)	50 AMP	3-P	C/B - PANEL RLP
(41)	20 AMP	1-P	C/B'S - ACTIVE
(10)	20 AMP	1-P	" " - SPARE

PANEL #RLP
SURFACE MOUNTED 120/208 V 3Ø 4WIRE EQUAL TO "GE" TYPE NLAB WITH 50 AMP 3-P MAIN C/B AND BRANCH C/B'S AS FOLLOWS AT MIN 12,000 AMPS I.C.

(12) 20 AMP 1-P C/B'S - ACTIVE SPARE

PANEL #MPP
SURFACE MTD., 120/208V 3Ø 4W, EQUAL TO G.E. TYPE CCB WITH 225 A MAIN LUGS & BRANCH C/B'S AS FOLLOWS WITH MIN 18 000 AMPS I.C.:

(1)	125 A	3-P	C/B - CONDENSER
(1)	100 A	3-P	" - ELEC. DUCT WTR
(1)	60 A	3-P	" - PUMP
(1)	30 A	3-P	" - AC UNIT #1
(1)	20 A	1-P	" - PUMP

SPACE & BUS FOR FUTURE (2) 20 A 3-P C/B'S

LIGHTING FIXTURE SCHEDULE

"A" - 2'x4' GRID FLUORESCENT - EQUAL TO METALUX #2GPSR-240A WITH (4) 32 WATT OCTRON LAMPS & TRIAD - UTRAD ELECTRONIC BALLAST 120 VOLT *

"B" - SIMILAR TO "A" EXCEPT 2'x2' WITH (3) "U" 32 WATT OCTRON LAMPS & TRIAD BALLAST. #2GPSR-2U6A *

"C" - 1'x2' RECESSED SAFE LIGHTS - EQUAL TO COLE #PH-810-2PB WITH (1) GREEN LENS & 100 WATT A-19 LAMP & (1) FILTERED LENS & 25 WATT A-19 LAMP, 120V. CONSULT OWNER FOR FILTER TYPE REQ'D

"D" - SAME AS "A" EXCEPT 3-LAMP 2'x4'. #2GPSR-340A *

"D." - SAME AS "A" EXCEPT 2-LAMP 2'x4'. #2GPSR-240A *

"E" - EXIT SIGN/LIGHT CLG. OR WALL MOUNTED. WITH EMERGENCY BATTERY BACK-UP - EQUAL TO MCPHILBEN #E40W-BFM120V & E40C-BFM120V, STENCIL FACE, 120V

"E." - SIMILAR TO "E" EXCEPT 2FACED - # E40C-2EFM120V CLG. MTD.

"E3" - CLG. RECESSED EMERGENCY BATTERY POWERED LT. FIXTURE EQUAL TO CALORIDE #SPU-10-FR, 120 VOLT.

"E4" - WALL MTD EMERGENCY BATTERY PACK WITH 2-HEADS - EQUAL TO CHLORIDE # TMF36 WITH (2) TY HEADS 12V DC/120 V AC

"EB" - EMERGENCY BATTERY BALLAST EQUAL TO CALORIDE #CFP-4 INSTALLED IN FLUORESCENT FIXTURE WHERE NOTED COMPLETE WITH TEST SWITCH & LED LT. 120V

"F" - RECESSED FLUORESCENT CAN - EQUAL TO STAFF LTG. #1130 GD WITH (2) 9 WATT PL LAMPS, 120 V GOLD REFLECTOR.

"G" - 1'x4' GRID FLUORESCENT - EQUAL TO METALUX #GP-240A * WITH (2) 32 WATT OCTRON LAMPS & TRIAD - UTRAD ELECTRONIC BALLAST, 120 VOLT.

"J" - 1'x4' INDUSTRIAL FLOURESCENT - EQUAL TO "METALUX" #1A-240 WITH (2) 40 WATT T12 RS LAMPS 120 VOLT. CHAIN HUNG. TO APPROX. 8'-0" AFF.

"K" - SURFACE MOUNTED FLLOR. - EQUAL TO METALUX #2M-2U6A WITH (2) 32 WATT OCTRON LAMPS & TRIAD - UTRAD ELECTRONIC BALLAST, 120 VOLT. *

"K." - SAME AS "K" EXCEPT WITH "EB".

"L" - DEVELOPING SIGN/LIGHT WALL MOUNTED - EQUAL TO MCPHILBEN 50LW-6-2C2B "DARK ROOM IN USE" 120V

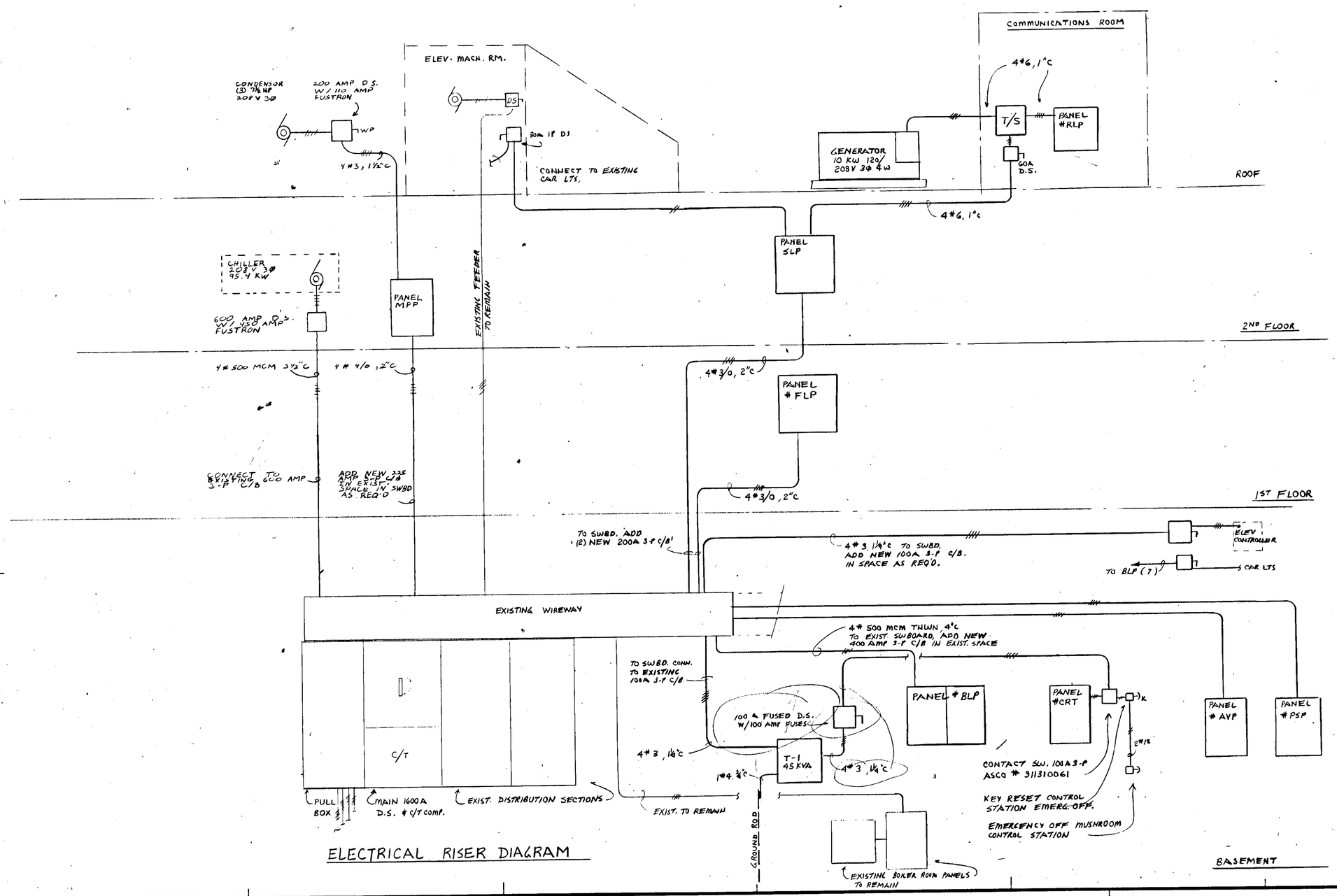
"T" - 8'-0" LONG PENDENT MTD. (14" STEM) TUBE LT. (INDIRECT) EQUAL TO LINEAR # F6262 4" DIA WITH (4) 32 WATT OCTRON LAMPS & TRIAD - UTRAD ELECTRONIC BALLAST, 120V, SUITABLE FOR CONTINUOUS ROW INSTALATION AS SHOWN COLOR PER ARCHITECT.

"T." - SAME AS "T" EXCEPT 4'-LONG. # F6 460

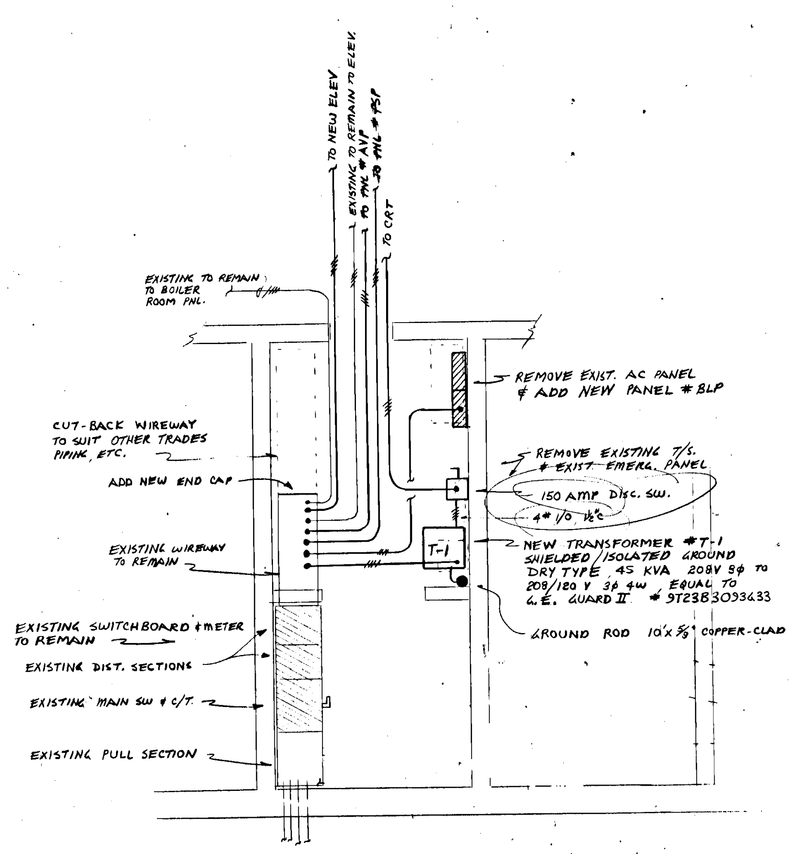
"U" - RECESSED HID CAN CAST HOUSING WITH REMOTE BALLAST EQUAL TO OMEGA # H1072TW-D MODIFIED, FIXTURE SUPPORT BRACKETS DELETED, AND 150W HPS LAMP, 120V (DAMP LABEL).

"OA" - POLE MOUNTED LIGHTING FIXTURE SYSTEM WITH (1) LUMINAIRE - EQUAL TO "MCPHILBEN" #17RASV WITH 250 W MH LAMP AND BALLAST, 120 VOLTS, INSTALLED ON ALUMINUM POLE #25RNA603 MODIFIED TO 20' LENGTH. POLE CONFIGURATION - 2D. FINISH - DURINODIC BRONZE

"OB" - SAME AS "OA" EXCEPT WITH (2) LUMINAIRES. POLE CONFIGURATION 2D WITH LONG EXTENSION ARMS. 120 VOLTS.



ELECTRICAL RISER DIAGRAM



ELEC. ROOM PLAN (LARGE SCALE)
¼"=1'-0"

RENOVATIONS AND ADDITIONS TO
TOWN HALL
west hartford connecticut

HUBBARD, LAWLESS & OSBORNE
110 WHITNEY AVE.
NEW HAVEN, CONN.
CONSULTING ENGINEERS

STATE OF CONNECTICUT GEORGE A. BATTISTA JR. No. 8258 REGISTERED PROFESSIONAL ENGINEER

KAESTLE BOOS ASSOCIATES
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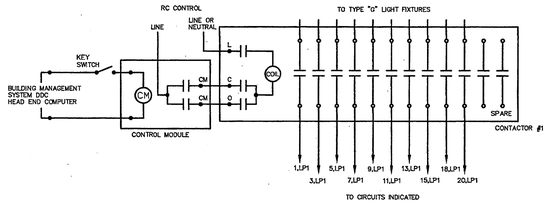
31 high street
new britain, connecticut 06051
phone (203)-229-0361

drawn by: STD	scale: AS NOTED
project no.	drawing no. E-4
date FEB. 28, 1986	

JOSEPH MERRITT & CO.



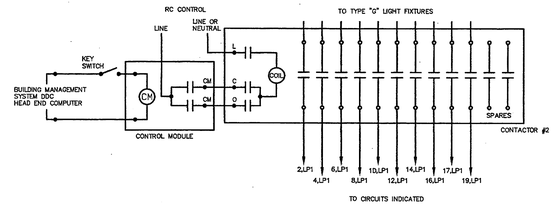
RINK AREA "LEVEL ONE"

3 LIGHT FIXTURE SWITCHING DIAGRAM

N.T.S.

NOTES :

1. INCLUDE GROUND WIRE WITH 277V CIRCUITS.
2. THESE LIGHTING CIRCUITS TOGETHER WITH CIRCUITS CONTROLLED BY CONTACTORS #2 AND #3 MAKE UP "LEVEL ONE" (HIGHEST LIGHTING LEVEL - HOCKEY).
3. CONTACTOR SHALL BE AN ASCO 917 SERIES #917-12-20-7-1-47G-C, 12-20AMP, 1P AT 277V, IN SURFACE NEMA-1 ENCLOSURE WITH TWO WIRE CONTROL BY KEY SWITCH, AND BY BUILDING MANAGEMENT SYSTEM COMPUTER.
4. REFER TO DRAWING E1.3 FOR LOCATIONS OF PANEL "LP1" AND CONTACTOR #1.
5. REFER TO DRAWING E1.1 FOR LOCATIONS OF CONTACTOR KEY SWITCHES AND DDC COMPUTER.



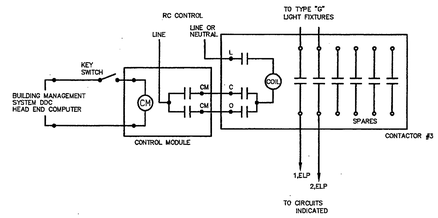
RINK AREA "LEVEL TWO"

4 LIGHT FIXTURE SWITCHING DIAGRAM

N.T.S.

NOTES :

1. INCLUDE GROUND WIRE WITH 277V CIRCUITS.
2. DE-ENERGIZING THESE LIGHTING CIRCUITS CONTROLLED BY CONTACTOR #2 REDUCES THE LIGHTING LEVEL TO "LEVEL TWO" (LOWER LIGHTING LEVEL - GENERAL SKATING).
3. CONTACTOR SHALL BE AN ASCO 917 SERIES #917-12-20-7-1-47G-C, 12-20AMP, 1P AT 277V, IN SURFACE NEMA-1 ENCLOSURE WITH TWO WIRE CONTROL BY KEY SWITCH, AND BY BUILDING MANAGEMENT SYSTEM COMPUTER.
4. REFER TO DRAWING E1.3 FOR LOCATIONS OF PANEL "LP1" AND CONTACTOR #2.
5. REFER TO DRAWING E1.1 FOR LOCATIONS OF CONTACTOR KEY SWITCHES AND DDC COMPUTER.



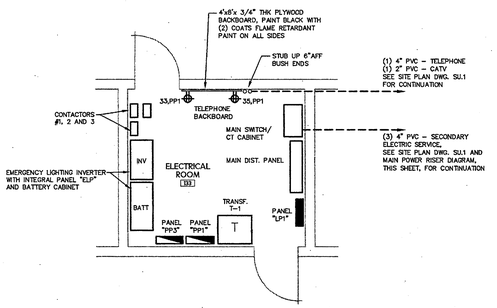
RINK AREA "LEVEL THREE"

5 LIGHT FIXTURE SWITCHING DIAGRAM

N.T.S.

NOTES :

1. INCLUDE GROUND WIRE WITH 277V CIRCUITS.
2. THESE LIGHTING CIRCUITS MAKE UP "LEVEL THREE" (PASS - THRU LIGHTING) THESE LIGHTING CIRCUITS ARE CIRCUITED THRU CENTRAL BATTERY INVERTER PANEL "ELP" AND ARE THE RINK AREA EMERGENCY LIGHTS. THRU DDC SYSTEM PROGRAMMING, CONTACTOR #3 MUST ALWAYS BE ENERGIZED WHEN CONTACTOR #1 IS ENERGIZED, CONTACTOR #3 MAY BE ENERGIZED ONLY FOR LIGHT LEVEL THREE, CONTACTOR #2 IS NEVER ENERGIZED WITHOUT CONTACTORS #1 AND #3.
3. CONTACTOR SHALL BE AN ASCO 917 SERIES #917-6-20-7-1-47G-C, 6-20AMP, 1P AT 277V, IN SURFACE NEMA-1 ENCLOSURE WITH TWO WIRE CONTROL BY KEY SWITCH, AND BY BUILDING MANAGEMENT SYSTEM COMPUTER.
4. REFER TO DRAWING E1.1 FOR LOCATIONS OF PANELS RHP, IP1, AND CONTACTORS #1,2, AND 3.
5. REFER TO DRAWING E1.3 FOR LOCATIONS OF CONTACTOR KEY SWITCHES.



2 PART PLAN AT ELECTRICAL ROOM #133

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

PIPE AND WIRE SCHEDULE

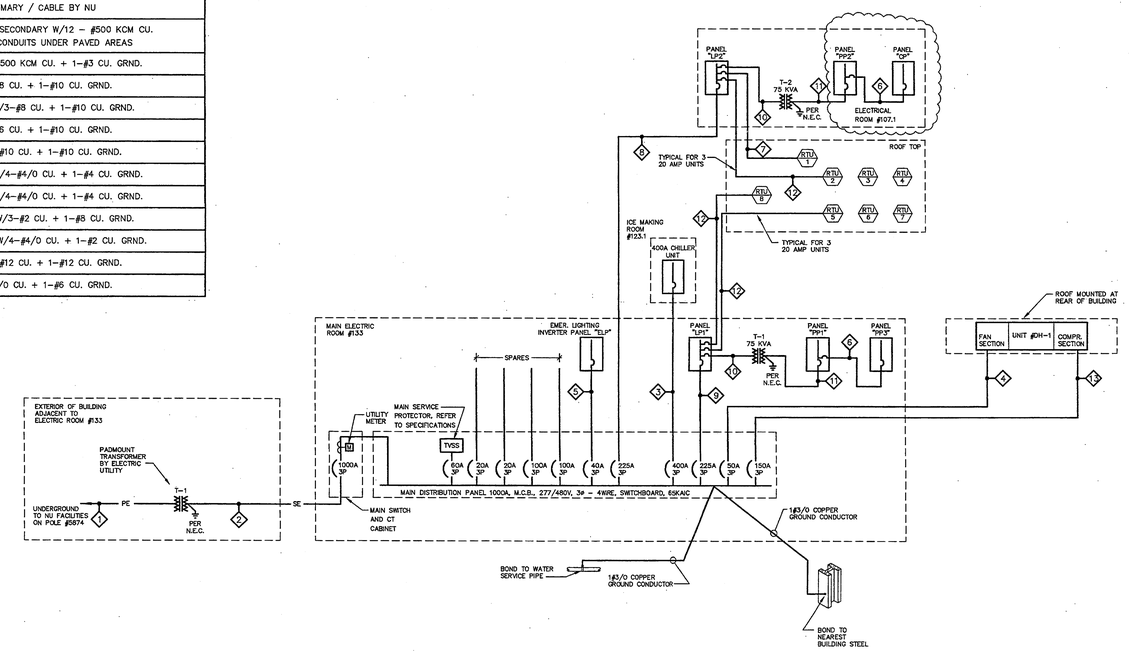
1	5" PVC/80 PRIMARY / CABLE BY NU
2	3-4" PVC/40 SECONDARY W/12 - #500 KCM CU. PROVIDE RGS CONDUITS UNDER PAVED AREAS
3	4" EMT W/4-#500 KCM CU. + 1-#3 CU. GRND.
4	1" EMT W/4-#8 CU. + 1-#10 CU. GRND.
5	1-1/4" EMT W/3-#8 CU. + 1-#10 CU. GRND.
6	1" EMT W/4-#6 CU. + 1-#10 CU. GRND.
7	3/4" EMT W/3#10 CU. + 1-#10 CU. GRND.
8	2-1/2" EMT W/4-#4/0 CU. + 1-#4 CU. GRND.
9	2-1/2" EMT W/4-#4/0 CU. + 1-#4 CU. GRND.
10	1-1/4" FLEX W/3-#2 CU. + 1-#8 CU. GRND.
11	2-1/2" FLEX W/4-#4/0 CU. + 1-#2 CU. GRND.
12	3/4" EMT W/3#12 CU. + 1-#12 CU. GRND.
13	2" EMT W/3#1/0 CU. + 1-#6 CU. GRND.

PANELBOARD SCHEDULE

PANEL	LOCATION	PANEL DESCRIPTION					BRANCH CIRCUIT BREAKER		REMARKS
		MAINS	VOLTAGE	POLES	MTG	A.I.C.	ACTIVE	SPARE	
LP1	ELECTRIC ROOM #133	225A M.C.B.	277/480	42	SURFACE	42K	22 - 20/1	4 - 20/1	20/3 CIRCUIT BREAKERS ARE HACR TYPE
							1 - 40/1		
							4 - 20/3		
							1 - 100/3		
LP2	ELECTRIC ROOM #107.1	225A M.C.B.	277/480	42	SURFACE	42K	7 - 20/1	5 - 20/1	(3) 20/3 AND (1) 30/3 CIRCUIT BREAKERS ARE HACR TYPE, PROVIDE 9/1P SPACE AND BUS
							5 - 20/3		
							1 - 30/3		
							1 - 100/3		
ELP	ELECTRIC ROOM #133	70A M.L.O.	277	10	IN INVERTER	14K	2 - 20/1	4 - 20/1	PANEL INTEGRAL WITH INVERTER UNIT
PP1	ELECTRIC ROOM #133	225A M.C.B.	120/208	42	SURFACE	22K	29 - 20/1	2 - 20/1	-
							1 - 30/1		
							2 - 20/2		
							1 - 50/3		
							1 - 60/3		
PP2	ELECTRIC ROOM #107.1	225A M.C.B.	120/208	42	SURFACE	22K	32 - 20/1	4 - 20/1	-
							3 - 20/2		
							1- 60/3		
PP3	ELECTRIC ROOM #133	100A M.C.B.	120/208	30	SURFACE	22K	2 - 20/1	10 - 20/1	PROVIDE 12/1P SPACE AND BUS
							2 - 20/3		
CP	ELECTRIC ROOM #107.1	100A M.L.O.	120/208	24	SURFACE	22K	14 - 20/1	4 - 20/1	PROVIDE 6/1P SPACE AND BUS

NOTES:

1. PROVIDE HACR TYPE CIRCUIT BREAKERS FOR RTU-1 THRU 8.



1 MAIN POWER RISER DIAGRAM

N.T.S.

NOTES:

1. PROVIDE HACR TYPE CIRCUIT BREAKERS FOR RTU-1 THRU 8.

TRANSFORMER SCHEDULE

TRANSFORMER NO.	KVA	PRIMARY VOLTAGE	SECONDARY VOLTAGE	REMARKS
T-1	75 KVA	480Δ	208Y/120	SERVES PANEL "PP1"
T-2	75 KVA	480Δ	208Y/120	SERVES PANEL "PP2"

N

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The contractor shall verify and be responsible for all dimensions. The contractor shall report any errors, omissions or conflicts in the contract documents to the architect immediately. Do not scale drawings.
DRAWING SIZE: 24"x36"

VZHS PROJECT #99312.00

VETERANS MEMORIAL ICE RINK
WEST HARTFORD, CT

ISSUE RECORD

Issue No.	Rev. No.	Subject	Date
01		BID DOCUMENTS	02.16.00
02		CONSTRUCTION DOCUMENTS	04.24.00

Dwg. No.: ed13
Dwg. Date: 02-16-2000
Drawn: MSA
Checked: RLG
Appr. By: XXX
Cadd No.: 99312.00

SCHEDULES & DETAILS
Scale: AS NOTED

E2.3

Drawing Name: ed13 - 1 Drawn By: MSA Project and Directory: R:\99312.00\Dwgs\

FEEDER SCHEDULE

NOTE: ALL FEEDER IDENTIFICATIONS SHOWN MAY NOT BE UTILIZED

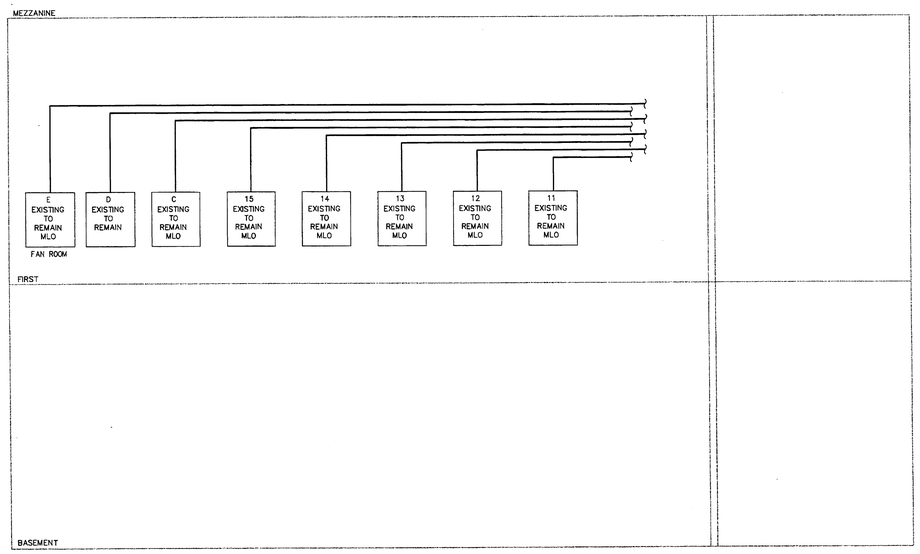
AMPS	FEEDER	WIRE/CABLE (THWN/THHN)	CONDUIT
100	1	4 #3 & 1 #8 GND	1 1/2"
150	2	4 #1/0 & 1 #6 GND	2"
225	3	4 #4/0 & 1 #4 GND	2 1/2"
500	4	4 #500 kcmil & 1 #3 GND	4"

PANEL SCHEDULE

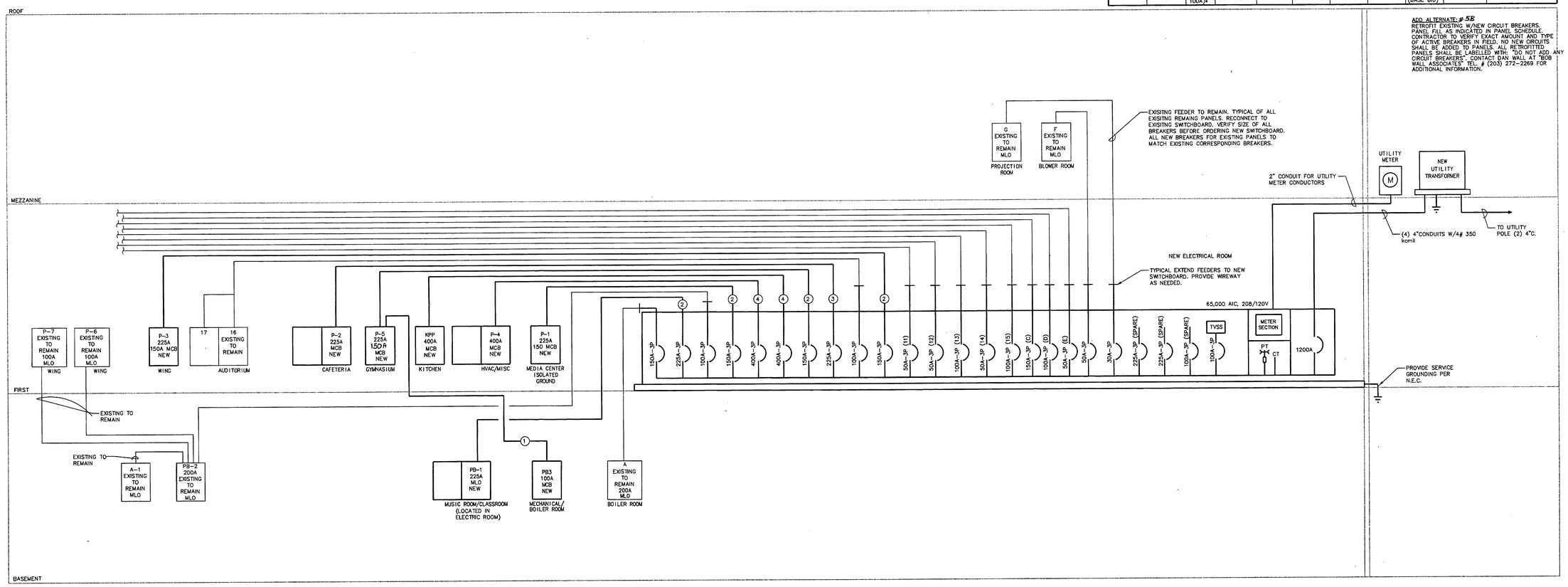
NOTES:

1. SEE SPECIFICATIONS FOR FURTHER INFORMATION.
2. THE ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR SIZE, QUANTITY AND TYPES OF CIRCUIT BREAKERS INDICATED ON THE DRAWINGS.
3. SEE RISER FOR MCB OR MLO.
4. CONTRACTOR TO VERIFY ALL EXISTING BREAKERS TO BE RECONNECTED TO NEW PANELS BEFORE ORDERING NEW PANELS.

PANEL DESIGNATION	VOLTAGE	MAINS	MOUNTING	BRANCH CIRCUITS				BRANCH POLE CAPACITY	A.I.C. RATING MINIMUM	REMARKS
				AMPS	POLES	ACTIVE	SPARE			
P-1	208/120	225A 150A MCB	SURFACE	20	1	24	18	42	10 K	
P-2	208/120	225A	SURFACE	20 20	3 1	3 5B	3 2B	84	10 K	
P-3	208/120	225A 150A MCB	SURFACE	20 20	3 1	1 19	2 14	42	10 K	
P-4	208/120	400A	SURFACE	60 50 60 20 20	3 2 2 3 1	1 4 2 2 43	1 1 1 1 10	84	10 K	
P-5	208/120	225A 150A MCB	SURFACE	30 20 20	3 3 1	2 3 9	1 2 8	42	10 K	
KPP	208/120	400A	SURFACE	70 50 20 20	3 3 2 1	2 2 1 4 16	 6	42	10 K	SHUNT TRIPS, SEE KITCHEN SCHEDULE
PB-1	208/120	225A	SURFACE	20 20	3 1	1 40	3 32	84	14 K	
PB-2	208/120	200A (LEAVE 200A)*	EXISTING SURFACE	60 30	3 3	4 2		EXISTING TO REMAIN (BASE BID)	10K	*SEE ADD ALTERNATE THIS DRAWING
PB-3	208/120	100A	SURFACE	30 20 15	1 1 1	2 8 6	3 20 3	42	10K	*SEE ADD ALTERNATE THIS DRAWING
A	208/120	200A	EXISTING TO REMAIN	NO RETROFITTING				EXISTING TO REMAIN (BASE BID)	10K	
A-1	208/120	100A (LEAVE 100A)*	EXISTING SURFACE	30	3	9		EXISTING TO REMAIN (BASE BID)	10K	*SEE ADD ALTERNATE THIS DRAWING
P-6	208/120	100A	EXISTING TO REMAIN	NO RETROFITTING				EXISTING TO REMAIN (BASE BID)	10K	
P-7	208/120	100A	EXISTING TO REMAIN	NO RETROFITTING				EXISTING TO REMAIN (BASE BID)	10K	
11	208/120	94A (MAKE 100A)*	EXISTING RECESSED	20 15	1 1	16 14		EXISTING TO REMAIN (BASE BID)	10K	*SEE ADD ALTERNATE THIS DRAWING
12	208/120	94A (MAKE 100A)*	EXISTING RECESSED	20 15	1 1	16 14		EXISTING TO REMAIN (BASE BID)	10K	*SEE ADD ALTERNATE THIS DRAWING
13	208/120	110A (MAKE 100A)	EXISTING RECESSED	20 15	1 1	22 6		EXISTING TO REMAIN (BASE BID)	10K	*SEE ADD ALTERNATE THIS DRAWING
14	208/120	78A (MAKE 100A)*	EXISTING RECESSED	25 20 15	1 1 1	1 14 1		EXISTING TO REMAIN (BASE BID)	10K	*SEE ADD ALTERNATE THIS DRAWING
15	208/120	110A (MAKE 100A)*	EXISTING RECESSED	30 20 15	1 1 1	1 22 4		EXISTING TO REMAIN (BASE BID)	10K	*SEE ADD ALTERNATE THIS DRAWING
16	208/120	94A (MAKE 100A)*	EXISTING RECESSED	25 20 15	1 1 1	1 8 7		EXISTING TO REMAIN (BASE BID)	10K	*SEE ADD ALTERNATE THIS DRAWING
17	208/120	94A (MAKE 100A)*	EXISTING RECESSED	25 20 15	1 1 1	1 8 7		EXISTING TO REMAIN (BASE BID)	10K	*SEE ADD ALTERNATE THIS DRAWING
C	208/120	250A (LEAVE 250A) *	EXISTING RECESSED	60 30 30 30	2 3 2 1	2 2 2 2		EXISTING TO REMAIN (BASE BID)	10K	*SEE ADD ALTERNATE THIS DRAWING
D	208/120	250A (LEAVE 250A)*	EXISTING RECESSED	60 30 30	2 3 2	1 2 3		EXISTING TO REMAIN (BASE BID)	10K	*SEE ADD ALTERNATE THIS DRAWING
E	208/120	94A (MAKE 100A)*	EXISTING RECESSED	30	3	4		EXISTING TO REMAIN (BASE BID)	10K	LOAD CENTER TAPPED OFF PANEL "E" WITH (2) 20A-1P, (1) 15A-1P
F	208/120	94A (MAKE 100A)*	EXISTING RECESSED	30 30	3 1	9 1		EXISTING TO REMAIN (BASE BID)	10K	*SEE ADD ALTERNATE THIS DRAWING
G	208/120	94A (MAKE 100A)*	EXISTING SURFACE	30	3	4		EXISTING TO REMAIN (BASE BID)	10K	*SEE ADD ALTERNATE THIS DRAWING



208/120V 3Ø - 4W POWER RISER DIAGRAM CONTINUED



ADD ALTERNATE: # 5B
RETROFIT EXISTING W/NEW CIRCUIT BREAKERS. PANEL FILL AS INDICATED IN PANEL SCHEDULE. CONTRACTOR TO VERIFY EXACT AMOUNT AND TYPE OF ACTIVE BREAKERS IN FIELD. NO NEW CIRCUITS SHALL BE ADDED TO PANELS. ALL RETROFITTED PANELS SHALL BE LABELLED WITH: "DO NOT ADD ANY CIRCUIT BREAKERS". CONTACT DAN WALL AT "BOB WALL ASSOCIATES" TEL. # (203) 272-2269 FOR ADDITIONAL INFORMATION.

208/120V 3Ø - 4W POWER RISER DIAGRAM

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URL: WWW.BVHEng.com

ADDITIONS AND RENOVATIONS TO WEBSTER HILL SCHOOL

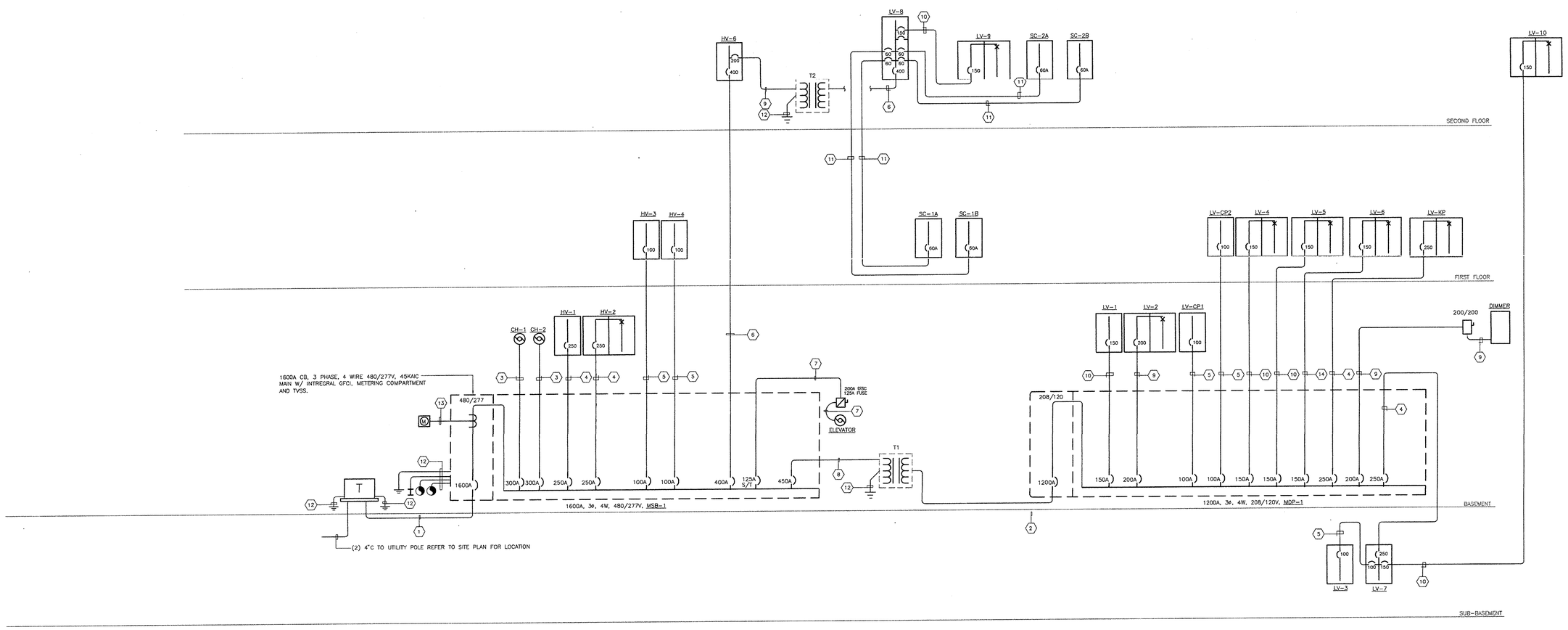
WEST HARTFORD, CONNECTICUT

ELECTRICAL POWER RISER & SCHEDULES

PROJECT NO.:981201
SCALE: NONE
DATE: FEBRUARY 1, 1999

STATE PROJECT NO.:155-177 EA
DRAWN BY: IP
CHECKED BY: ARA
BVH PROJECT NUMBER:8998003.002
REVISION:

E-3.1



1 ONE LINE POWER RISER DIAGRAM

N.T.S.

FEEDER SCHEDULE

ITEM	DESCRIPTION
1	(3 SETS)4#500KCMIL,4"C (TYPICAL)
2	(4 SETS)4#500KCMIL,#3/0G,4"C
3	3#500KCMIL,#4G,3"C.
4	4#250KCMIL,#2G,2 1/2"C.
5	4#2,#8G,1 1/2"C
6	(2 SETS)4#3/0,#1G, 2 1/2"C.
7	4#1,#6G,2"C.
8	(2 SETS)3#4/0,#2G,2 1/2"C.
9	4#4/0,#2G,2 1/2"C.
10	4#1/0,#6G,2"C.
11	4#6,#8G,1"C
12	1#4/0 BARE CU,1 1/2"C
13	2" CONDUIT WITH PULL STRING
14	4#2/0,#2G,2 1/2"C

TRANSFORMER SCHEDULE

CODE LTR	TRANSFORMER TYPE	DUTY RATING	NEMA ENCL	KVA	IPUT VOLTS	INPUT PHASE	INPUT WIRES	OUTPUT VOLTS	OUTPUT PHASE	OUTPUT WIRES	TAPS	REMARKS
T1	DRY TYPE	K13 RATED	1	400	480	3	3	208Y/120	3	4	6	FLOOR MOUNTED
T2	DRY TYPE	K13 RATED	1	150	480	3	3	208Y/120	3	4	6	FLOOR MOUNTED

NOTES:
1. MOUNT ALL TRANSFORMERS ON ISOLATION PADS AND BOLT TO FLOOR ON ALL CORNERS.
2. TRANSFORMER WINDINGS SHALL BE COPPER.

TVSS SCHEDULE

DESIGNATION	VOLTAGE	PHASE	WIRES	SURGE CAPACITY (PER PHASE)	ENCLOSURE	MOUNTING	MANUFACTURER MODEL NUMBER
TVSS-1	480Y/277	3	4	500,000	NEMA 4	SURFACE	CURRENT TECHNOLOGY SEL300-277/480-3GY- OR EQUAL
TVSS-2	208Y/120	3	4	300,000	NEMA 4	SURFACE	CURRENT TECHNOLOGY TG150-120/208-3GY OR EQUAL

NOTE:
1. PROVIDE UNIT WITH ADVANCED DIAGNOSTICS AND FUSED DISCONNECT WITH (8) FUSES
2. TVSS SHALL HAVE INDIVIDUALLY FUSED MOVS.
3. APPROVED MANUFACTURERS: LIEBERT AND CURRENT TECHNOLOGY

PANELBOARD SCHEDULE

PANEL DESIGNATION	VOLTAGE	MAINS	MOUNTING	BRANCH CIRCUITS ACTIVE	BRANCH CIRCUITS SPARE	BRANCH POLE CAPACITY	AIC RATING	REMARKS
MSB-1	480/277	1600A MCB	FLOOR	(1) 450A-3P (1) 400A-3P (2) 300A-3P (2) 250A-3P (1) 125A-3P 5/T (2) 100A-3P	(2) 125A-3P (1) 225A-3P (1) 200A-3P – – – –	–	45K	PROVIDE WITH TVSS-1
HV-1	480/277	250A MCB	SURFACE	(1) 40A-3P (1) 20A-3P (2) 70A-3P (2) 60A-3P (16) 20A-1P	(2) 20A-3P (2) 20A-1P – – –	42	22K	–
HV-2	480/277	250A MCB	SURFACE	(20) 20A-3P (2) 25A-3P (3) 40A-3P (2) 20A-1P –	(1) 20A-3P (4) 20A-1P – – –	84	22K	–
HV-3	480/277	100A MCB	RECESSED	(1) 20A-3P (9) 20A-1P – – –	(6) 20A-1P (2) 20A-3P – – –	42	22K	–
HV-4	480/277	100A MCB	RECESSED	(10) 20A-1P – – – –	(6) 20A-1P (2) 20A-3P – – –	42	22K	–
HV-5	NOT USED	– –	–	– – – – –	– – – – –	–	–	–
HV-6	480/277	400A MCB	SURFACE	(1) 200A-3P (2) 35A-3P (6) 20A-3P (10) 20A-1P –	(2) 20A-1P (1) 20A-3P – – –	42	22K	–
MDP-1	480/277	1200A MCB	SURFACE	(2) 250A-3P (2) 200A-3P (4) 150A-3P (2) 100A-3P –	(3) 125A-3P – – – –	–	22K	PROVIDE WITH TVSS-2
LV-1	208/120	150A MCB	RECESSED	(12) 20A-1P (2) 20A-2P (1) 25A-2P (1) 25A-2P –	(10) 20A-1P (3) 20A-2P – – –	42	22K	–
LV-2	208/120	200A MCB	RECESSED	(50) 20A-1P (3) 20A-2P (1) 60A-2P (1) 50A-2P –	(10) 20A-1P – – – –	84	22K	–
LV-3	208/120	100A MCB	SURFACE	(20) 20A-1P – – – –	(10) 20A-1P – – – –	42	22K	–
LV-4	208/120	150A MCB	RECESSED	(37) 20A-1P – – – –	(7) 20A-1P – – – –	42	22K	–
LV-5	208/120	150A MCB	RECESSED	(56) 20A-1P – – – –	(10) 20A-1P – – – –	84	22K	–

PANELBOARD SCHEDULE

PANEL DESIGNATION	VOLTAGE	MAINS	MOUNTING	BRANCH CIRCUITS ACTIVE	BRANCH CIRCUITS SPARE	BRANCH POLE CAPACITY	AIC RATING	REMARKS
LV-6	208/120	150A MCB	RECESSED	(45) 20A-1P (1) 20A-2P – – –	(10) 20A-1P – – – –	84	22K	–
LV-7	208/120	200A MCB	SURFACE	(1) 150A-3P (1) 100A-3P (4) 20A-3P (7) 20A-1P –	(10) 20A-1P – – – –	42	22K	–
LV-8	208/120	400A MCB	RECESSED	(1) 150A-3P (4) 60A-3P (13) 20A-1P (1) 20A-2P –	(10) 20A-1P – – – –	42	22K	–
LV-9	208/120	150A MCB	RECESSED	(70) 20A-1P (1) 20A-3P – – –	(10) 20A-1P – – – –	84	22K	–
LV-10	208/120	150A MCB	SURFACE	(45) 20A-1P (1) 20A-2P – – –	(10) 20A-1P – – – –	84	22K	–
LV-KP	208/120	250A MCB	RECESSED	(1) 30A-2P (22) 20A-1P (6) 15A-1P (3) 25A-1P (1) 30A-1P (1) 70A-3P (2) 20A-2P (3) 15A-3P	(10) 20A-1P (5) 15A-1P – – – – – –	84	22K	–
SC-1A	208/120	60A MCB	RECESSED	(10) 20A-1P – – – –	(6) 20A-1P – – – –	24	10K	60A MAIN BREAKER SHALL HAVE SHUNT TRIP AND MONITORING CONTACT OPTIONS.
SC-1B	208/120	60A MCB	RECESSED	(10) 20A-1P – – – –	(6) 20A-1P – – – –	24	10K	60A MAIN BREAKER SHALL HAVE SHUNT TRIP AND MONITORING CONTACT OPTIONS.
SC-2A	208/120	60A MCB	RECESSED	(10) 20A-1P – – – –	(6) 20A-1P – – – –	24	10K	60A MAIN BREAKER SHALL HAVE SHUNT TRIP AND MONITORING CONTACT OPTIONS.
SC-2B	208/120	60A MCB	RECESSED	(10) 20A-1P – – – –	(6) 20A-1P – – – –	24	10K	60A MAIN BREAKER SHALL HAVE SHUNT TRIP AND MONITORING CONTACT OPTIONS.
LV-CP1	208/120	100A MCB	RECESSED	(18) 20A-1P (1) 30A-3P – – –	(6) 20A-1P – – – –	24	10K	100A MAIN BREAKER SHALL HAVE SHUNT TRIP AND MONITORING CONTACT OPTIONS.
LV-CP2	208/120	100A MCB	RECESSED	(9) 20A-1P – – – –	(6) 20A-1P – – – –	24	10K	–

NOTES:
1. PROVIDE TYPE-WRITTEN CIRCUIT DIRECTORY.
2. PROVIDE DOOR-IN-DOOR TRIM
3. PROVIDE COPPER BUS
4. BRANCH BREAKERS SHALL BE BOLT-ON.

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811 Middle Street
Middletown, CT 06457
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WEST HARTFORD MIDDLE SCHOOL

695 PROSPECT AVENUE, WEST HARTFORD, CONNECTICUT

KEY PLAN:

DRAWING TITLE:
ELECTRICAL DETAILS & SCHEDULES

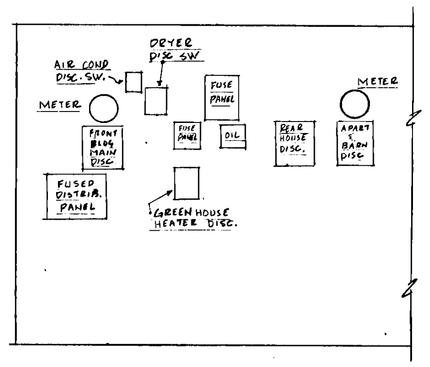
BID DOCUMENTS

STATE PROJ. NO.	155-0201 N
PROJECT NO.	231001
SCALE:	1/8"=1'-0"
DATE:	April 15, 2004

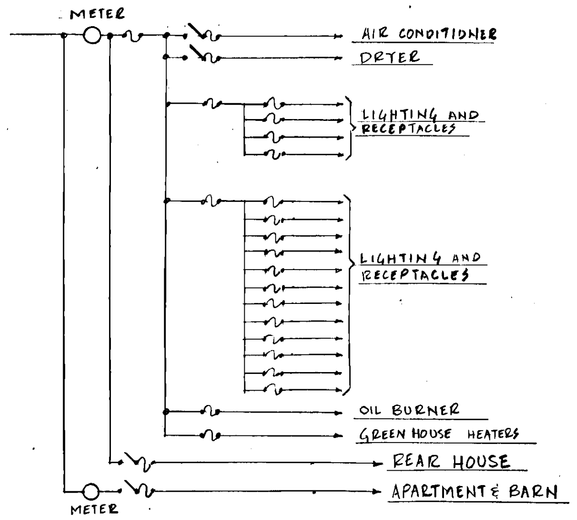
NO.	ISSUE DATE	PURPOSE

E2.3

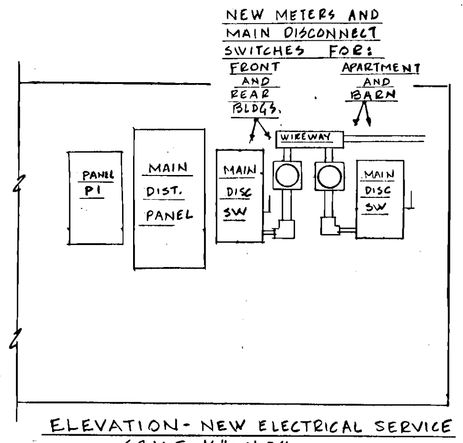
X:\Proj2003\23077-CES\Details.dwg Layout: None E2.3 Apr 15, 2004 - 7:44am ak



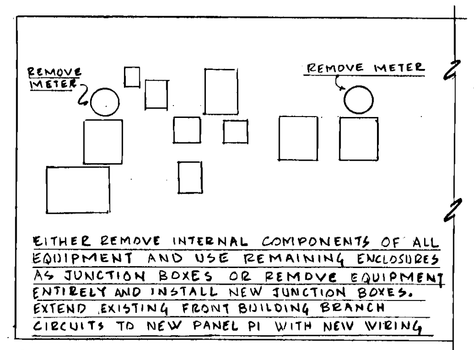
ELEVATION
EXISTING ELECTRIC SERVICE
SCALE 1/2" = 1'-0"



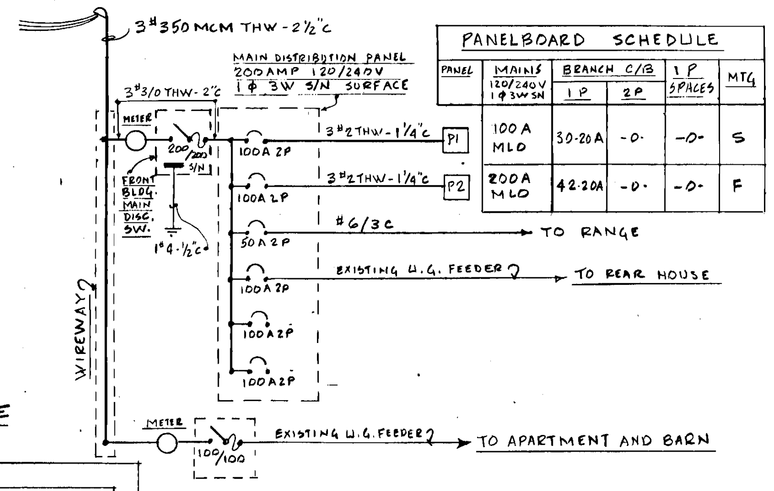
EXISTING ELECTRICAL DISTRIBUTION DIAGRAM
NO SCALE



ELEVATION - NEW ELECTRICAL SERVICE
SCALE 1/2" = 1'-0"



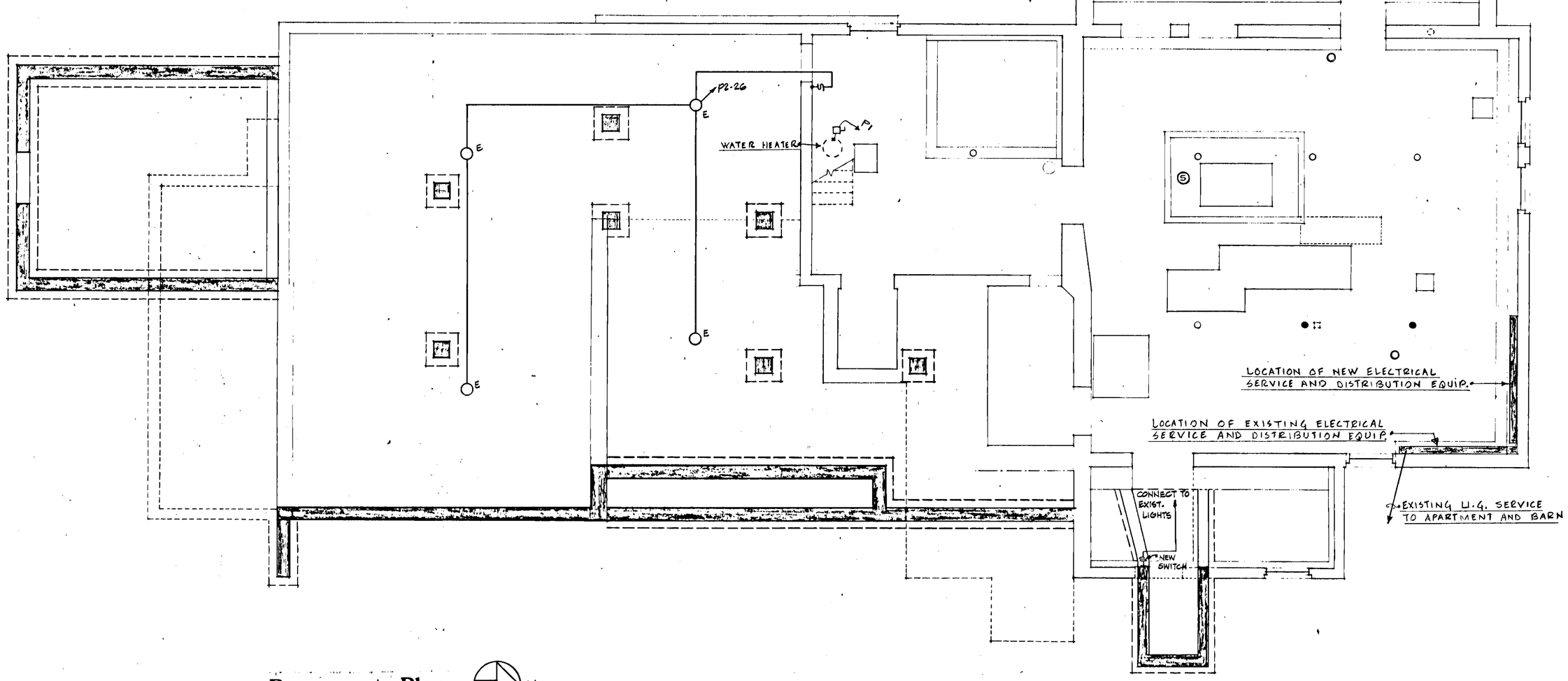
ELEVATION - MODIFICATIONS TO EXISTING SERVICE
SCALE 1/2" = 1'-0"



PANELBOARD SCHEDULE

PANEL	MAINS 120/240V 1 Φ 3W S/N	BRANCH C/B 1 P	BRANCH C/B 2 P	1 P SPACES	MTG
P1	100 A MLO	30-20A	-0-	-0-	S
P2	200 A MLO	42-20A	-0-	-0-	F

REVISED ELECTRICAL DISTRIBUTION DIAGRAM
NO SCALE



Basement Plan
SCALE @ 1/4" = 1'-0"

N

HENRY SCHADLER ANDREW DRAGAT
ARCHITECTS P.C.
Sixteen Brace Road West Hartford Ct

Donald M Esthus Consulting Engineer
50 Fairlee Road West Hartford Conn

WESTMOOR PARK

119 FLAGG ROAD WEST HARTFORD CT

TOWN OF WEST HARTFORD CONNECTICUT

HOUSE-BASEMENT PLAN
ELECTRICAL

SCALES AS SHOWN

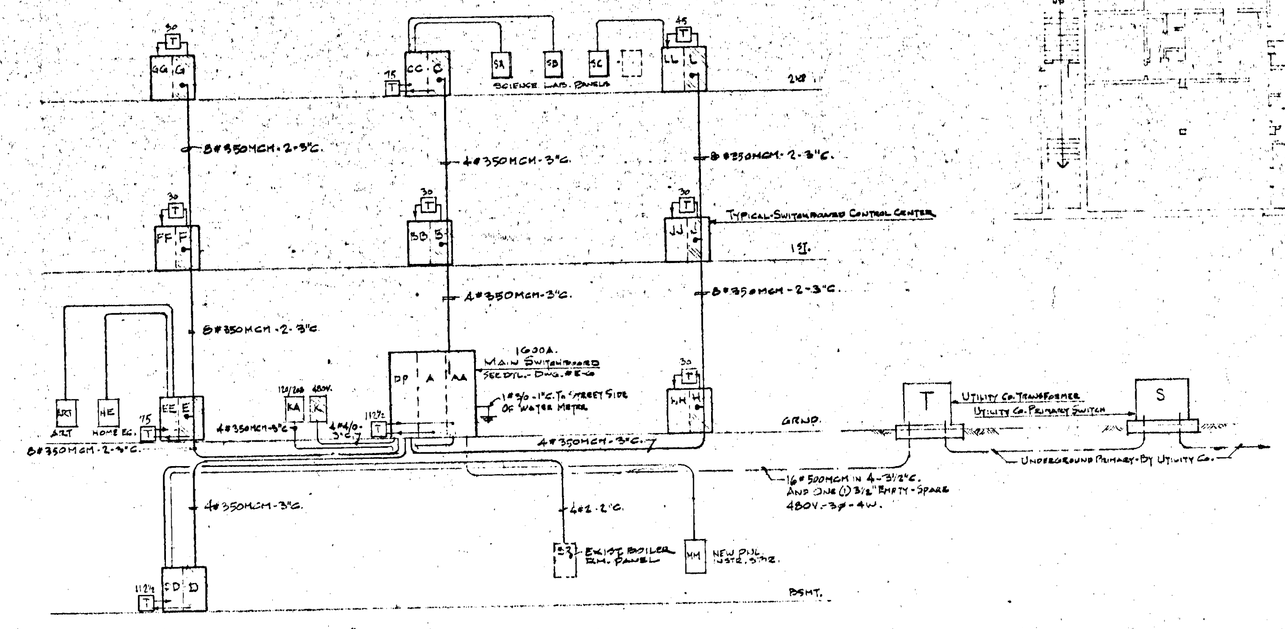
E·1

Power And Lighting Symbols

Symbol	Description
	Panelboard ~ 277/480V.-3φ-4W
	Panelboard ~ 120/208V.-3φ-4W
	Conduit & Wiring - Run Overhead
	Conduit & Wiring - Run Below Grade or In Slab
T	Dry Type Transformer ~ 480V. to 208/120V.-3φ-4W.
	Duplex 120V. Receptacle
	Fluorescent - 4 Lamp - Troffer, Lighting Fixture — Strip Lts. in Stor. Rms.
$	Single Pole Switch
$3	Three Way Switch
$p	Switch & Pilot Light Cont.
	Exit Light Fixture
	Motor Starter - Furn. by H&V or Plumb. - Wired by El. Contr.
	Disc. Switch, Prov. by El. Contr.

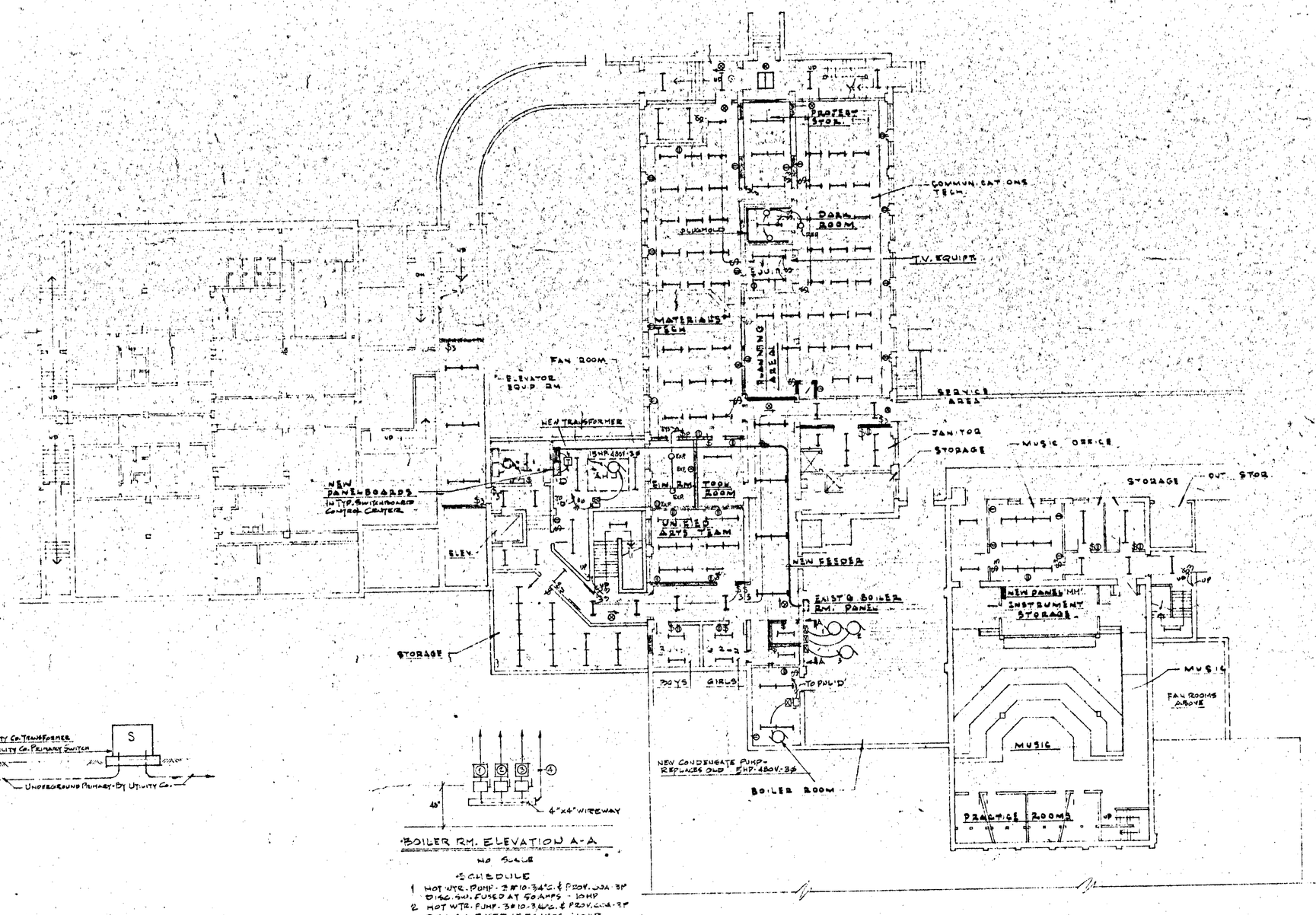
General Notes:

1. All Conduits Shall Be Run Concealed Wherever Feasible.
2. Flexible Metallic Conduit Shall Be Extended In Ceiling Spaces & Walls
3. Rigid Conduit - In Slabs & Below Grade
4. Panels That Are To Remain, Will Be Examined.



Power Riser Diagram

No Scale



Boiler Rm. Elevation A-A

No Scale

Schedule

1. Hot Wtr. Pump - 2#10-3/4"C. & Prov. 30A 3P Disc. Sw. Fused At 50 Amps - 10HP
2. Hot Wtr. Pump - 3#10-3/4"C. & Prov. 60A-3P Disc. Sw. Fused At 80 Amps - 10HP
3. Condensate Pump - 3#12-3/4"C. & Prov. 30A 3P Disc. Sw. Fused At 20 Amps - 3HP
4. 4#2-2"C. To Pul'd

Panelboard Schedule

Panel	Location	Type	Mtg.	Main Lugs Only	Main Ckt. Brkr.	Branch Circuits Poles	Frame	Trip	Active	Spare	Total Poles	Remarks
DP	Fan Rm.-Grnd. Fl. East	Swbd Cont. Ctr.	Flush In Main Swbd.			3 3 3 3	400A 400A 225A 50A	400A 400A 225A 50A	2 2 1	1 2	24	Panels E, F, G-H, J, L Panels B, C - D Panel K
A	Fan Rm.-Grnd. Fl. East	NHB	Flush In Main Swbd.		300A-3P	1 3 3 3 3	50 50 50 225 225	20 20 20 150 150	15 1 1	2	42	Lighting Air Cond. Eq. Transformer (112 KVA)
B	Fan Rm.-1st Fl. East	NHB	Flush In Swbd Cont. Ctr.	[Prov. 4-1P Spaces]	225A-3P	1 3 3	50 50 50	20 50 40	15 1 1	10	42	Lighting A.C. Unit (Ahu) Transformer (45 KVA) For Ahu
C	Fan Rm.-2nd Fl. East	NHB		[Prov. 3-1P Spaces]	225A-3P	1 3 3 3 3 3	50 50 100 100 225 100	20 20 100 100 150 100	15 1 1 1 1	1	42	Lighting Ahu Roof Top A.C. Unit Transformer (75 KVA) Roof Top A.C. Unit
D	Fan Rm.-3rd Fl.	NHB			300A-3P	1 3 3 3 3 3	50 50 50 100 125	20 20 50 100 125	5 1 1 1 1	12 1	42	Lighting Ahu Cond. Pump Sump Pump & Control Transformer (112 KVA)
E	Fan Rm. 2&10 Fl.	NHB		[Prov. 4-1P Spaces]	225A-3P	1 3 2	50 50 100	20 50 70	15 1 1	10		Lighting Ahu Transformer
F	Fan Rm. 1st Fl.	NHB		[Prov. 8-1P Spaces]	225A-3P	1 3 3 2	50 50 50 50	20 20 50 40	15 1 1 1	10	42	Lighting Air Unit Ahu Transformer
G	Fan Rm. 2nd Fl.	NHB			400A-3P	1 3 3 3 3 3	50 50 100 100 100 50	20 20 100 100 100 40	15 1 1 1 1 1	1	42	Lighting Ahu Roof Top A.C. Units (2) Roof Top A.C. Unit (1) Transformer

Panelboard Schedule (Continued)

Panel	Location	Type	Mtg.	Main Lugs Only	Main Ckt. Brkr.	Branch Circuits Poles	Frame	Trip	Active	Spare	Total Poles	Remarks
H	Fan Rm. Grnd. Fl.	NHB	Flush In Swbd. Cont. Center		225A-3P	1 3 3 3	50 50 50 50	20 50 50 40	15 1 2 1	15	42	Lighting Cond. Unit Ahu's Transformer
J	Fan Rm.-1st Fl.	NHB		[Prov. 3-1P Spaces]	225A-3P	1 3 3 3	50 50 50 50	20 50 50 40	15 1 1 1	10	42	Lighting Ahu Transformer
K	Kitchen Grill. Fl.	NHB	Flush Wall		225A-3P	1 3 3 3	50 50 50 50	20 20 20 30	15 1 1 1	5 2	42	Kit. Equipt.
L	Fan Rm. 2nd Fl.	NHB	Flush In Swbd Cont. Center		300A-3P	1 3 3 3 3 3 2	50 50 100 100 225 100 100	20 50 70 70 150 70 70	15 2 1 1 1 1	9	42	Lighting Ahu & Roof Top A.C. Unit Roof Top A.C. Unit (2) Roof Top A.C. Unit Cond. Pump & A.C. Unit Transformer (75 KVA)
AA	Fan Rm. Grnd. Fl. East	NHB	Flush In Main Swbd.	[Prov. 2-1P Spaces]	400A-3P	1 3	50 400	20 200	20 1	12	42	Receptacles Panel "KA"
BB	Fan Rm. 1st Fl.	NHB	Flush In Swbd Cont. Center	[Prov. 2-1P Spaces]	200A-3P	1	50	20	20	12	42	Receptacles
CC	Sw. Rm.-1st Fl.	NHB		[Prov. 2-1P Spaces]	200A-3P	1 2	50 100	20 100	20 2	17	42	Receptacles Fuses - 4 & 3P
DD	Sw. Rm.-Bsmt.	NHB		[Prov. 11-1P Spaces]	225A-3P	1 3	50 100	20 100	15 2	10	42	Receptacles Panel "BB & MM"
EE	Fan Rm. Grnd. Fl.	NHB		[Prov. 1-1P Spaces]	400A-3P	1 3	50 100	20 100	15 2	10	42	Receptacles Panel "HE & AKT"

Panelboard Schedule (Continued)

Panel	Location	Type	Mtg.	Main Lugs Only	Main Ckt. Brkr.	Branch Circuits Poles	Frame	Trip	Active	Spare	Total Poles	Remarks
FF	Fan Rm.-1st Fl.	NHB	Flush In Swbd Cont. Center		200A. [Prov. 2-1P Spaces]	1	50	20	20	10	42	Receptacles
GG	Fan Rm.-2nd Fl.	NHB			200A. [Prov. 2-1P Spaces]	1	50	20	20	10	42	Receptacles
HH	Fan Rm.-3rd Fl.	NHB			200A [Prov. 12-1P Spaces]	1	50	20	20	10	42	Receptacles
JJ	Fan Rm.-1st Fl.	NHB			200A. [Prov. 12-1P Spaces]	1	50	20	20	10	42	Receptacles
KA	Kitchen Grill. Fl.	NHB	Flush Wall		300A-3P	1 2 3	50 50 50	20 20 50	20 2 3	9	42	Receptacles & Kit. Equipt.
BA BB BC	Science Lab. (3)	NHB	Flush Wall		100A-3P [Prov. 3-1P Spaces]	1	50	20	5 2	10	42	Receptacles + Lab Eq.
LL	Fan Rm. 2nd Fl.	NHB	Flush In Swbd Cont. Center		200A. [Prov. 2-1P Spaces]	1	50	20	20	10	42	Receptacles
MM	Sw. Rm.-Bsmt.	NHB			100A-3P	1	50	20	20	8	33	Receptacles

QUINLAN & GIANNONI
CONSULTING ENGINEERS
40 LASALLE ROAD
WEST HARTFORD, CONN.

RUSSELL GIBSON von DOHLEN
ARCHITECTS • AIA
80 SOUTH MAIN STREET • WEST HARTFORD • CONNECTICUT 06107 • TELEPHONE • 203-521-4600

Electrical
Basement Power & Lighting

Alterations & Additions To
Plant Junior High School
West Hartford, Connecticut

E-5

Scale	Date
1/16"=1'-0"	Jan. 10, 73

Drawn | Ch. Kd.

MOTOR CIRCUIT SCHEDULE

EQUIPMENT	SOURCE PANEL	O C P DEVICE	BRANCH CIRCUIT	LOCAL DISC. SW.	MOTOR STARTER TYPE	MOTOR STARTER SIZE	MOTOR STARTER LOCATION	LOAD HP	LOAD PH	LOAD VOLT	REMARKS
RTU-5	PP-1	50A-3P	3#8,#8G..3/4"C	DIV. 15	–	–	–	–	3	208	–
AHU B-1	AD-B	20A-3P	3#12,#12G..3/4"C	30A-3P	FVNR	0	–	2	3	208	–
AHU-2	AD-1	20A-3P	3#12,#12G..3/4"C	30A-3P	FVNR	0	–	2	3	208	–
HWP-6	AD-B	30A-3P	3#10,#10G..3/4"C	30A-3P	FVNR	1	–	7.5	3	208	–
HWP-7	AD-B	30A-3P	3#10,#10G..3/4"C	30A-3P	FVNR	1	–	7.5	3	208	–
CUH-1B	AD-B	15A-1P	2#12,#12G..3/4"C	–	–	–	–	1/10	1	120	–
CUH-1A	AD-1	15A-1P	2#12,#12G..3/4"C	–	–	–	–	1/10	1	120	WIRE TOGETHER WITH CUH-2A
CUH-2A	AD-1	15A-1P	2#12,#12G..3/4"C	–	–	–	–	1/10	1	120	WIRE TOGETHER WITH CUH-1A
CUH-2B	LP-B1	15A-1P	2#12,#12G..3/4"C	–	–	–	–	1/10	1	120	–
AHU-1	PP-1	25A-3P	3#12,#12G..3/4"C	30A-3P	FVNR	1	–	5	3	208	–
AHU-3	PH-1	25A-3P	3#10,#10G..3/4"C	30A-3P	FVNR	1	–	5	3	208	–
AHU-4	PH-1	25A-3P	3#10,#10G..3/4"C	30A-3P	FVNR	1	–	5	3	208	–
EF-20	AD-1	15A-1P	2#12,#12G..3/4"C	–	–	–	–	1/4	1	120	–
EF-21	AD-B	15A-1P	2#12,#12G..3/4"C	–	–	–	–	1/4	1	120	–
EF-22	AD-B	15A-1P	2#12,#12G..3/4"C	–	–	–	–	1/6	1	120	–

NOTES:

1. REFER TO SPECIFICATIONS FOR STANDARD FEATURES. DISCONNECT SWITCHES SHALL BE HEAVY DUTY TYPE.
2. ABBREVIATIONS:
   MAN – MANUAL STARTER WITH THERMAL OVERLOADS
   FVNR – FULL VOLTAGE NON-REVERSING
   DIV. 15 – EQUIPMENT FURNISHED BY DIV.15 CONTRACTOR
   COMB. – COMBINATION STARTER/DISCONNECT
   VFD – VARIABLE FREQUENCY DRIVE
3. O.C.P. DEVICE (OVERCURRENT PROTECTIVE) SHALL BE MOLDED CASE CIRCUIT BREAKER UNLESS NOTED WITH AN 'F' FOR FUSE.
4. STARTERS SHALL BE SQUARE D CLASS 8536 OR APPROVED EQUAL.

PANELBOARD SCHEDULE

PANEL DESIGNATION	VOLTAGE	MAINS	MOUNTING	BRANCH CIRCUITS ACTIVE	BRANCH CIRCUITS SPARE	BRANCH POLE CAPACITY	AIC RATING	REMARKS
AD-1	208/120	200A MCB	SURFACE	(1)20A-3P (3)15A-1P (9)20A-1P	(6)20A-1P	42	22K	
AD-B	208/120	200A MCB	SURFACE	(1)20A-3P (2)30A-3P (2)15A-1P (1)60A-3P (1)30A-2P	(6)20A-1P	42	22K	
LP-B1	208/120	225A MLO	RECESSED	–	–	42	22K	REPLACES EXISTING PANEL 'LBP-1'. PROVIDE NEW CIRCUIT BREAKERS AS REQUIRED.
PH-1	208/120	60A MCB	SURFACE	(2)25A-3P (2)20A-1P	(4)20A-1P	24	22K	
L1B	208/120	100A MLO	SURFACE	–	–	42	–	EXISTING PANEL NO NEW CIRCUIT BREAKERS REQUIRED.
PP-1	208/120	400A MCB	SURFACE	(1)50A-3P (1)25A-3P (1)20A-1P	–	42	22K	EXISTING PANEL PROVIDE NEW CIRCUIT BREAKERS AS INDICATED.

NOTES:

1. PROVIDE TYPE-WRITTEN CIRCUIT DIRECTORY.
2. PROVIDE DOOR-IN-DOOR TRIM
3. PROVIDE COPPER BUS
4. BRANCH BREAKERS SHALL BE BOLT-ON.

LIGHTING FIXTURE SCHEDULE

TYPE	MANUFACTURER	FIXTURE DESCRIPTION	LAMPS
A	METALUX 2GC-332A120EB81	2'x4' RECESSED FLUORESCENT; PRISMATIC LENS; DIE FORMED STEEL HOUSING; FLAT STEEL DOOR; ELECTRONIC BALLAST; 120VAC.	(3)32W T-8 3500K
A1	METALUX 2GC-332A120EB81	2'x4' RECESSED FLUORESCENT; PRISMATIC LENS; DIE FORMED STEEL HOUSING; FLAT STEEL DOOR; EMERGENCY BALLAST; 120VAC.	(3)32W T-8 3500K
B	METALUX 2PGAX-332S36I120EB82	2'x4' RECESSED FLUORESCENT. 3" 18 CELL PARABOLIC LOUVER, ALUMINUM LOUVER, MILTERED ALUMINUM FLANGE AND TRIM, PROVIDE 2 ELECTRONIC BALLAST FOR DUAL SWITCHING; 120VAC.	(3)32W T-8 3500K
B1	METALUX 2PGAX-332S36I120EB82	2'x4' RECESSED FLUORESCENT. 3" 18 CELL PARABOLIC LOUVER, ALUMINUM LOUVER, MILTERED ALUMINUM FLANGE AND TRIM, PROVIDE 2 BALLAST FOR DUAL SWITCHING, 1 BALLAST TO BE EMERGENCY (OUTER LAMPS); 120VAC.	(3)32W T-8 3500K
C	METALUX 2GCSF2U6T8A120EB81	2'x2' RECESSED FLUORESCENT; PRISMATIC LENS; DIE FORMED STEEL HOUSING; FLAT STEEL DOOR; ELECTRONIC BALLAST; 120VAC.	(2)31W T-8 3500K
C1	METALUX 2GC-332A120EB81	2'x2' RECESSED FLUORESCENT; PRISMATIC LENS; DIE FORMED STEEL HOUSING; FLAT STEEL DOOR; EMERGENCY BALLAST; 120VAC.	(2)31W T-8 3500K
D	METALUX 2PGAX-2U6T8S33I120EB81	2'x2' RECESSED FLUORESCENT. 3" 9 CELL PARABOLIC LOUVER, ALUMINUM LOUVER, ALUMINUM FLANGE AND TRIM, ELECTRONIC BALLAST, 120VAC.	(2)31W T-8 3500K
D1	METALUX 2PGAX-2U6T8S33I120EB81	2'x2' RECESSED FLUORESCENT. 3" 9 CELL PARABOLIC LOUVER, ALUMINUM LOUVER, ALUMINUM FLANGE AND TRIM, EMERGENCY BALLAST, 120VAC.	(2)31W T-8 3500K
E1	SURE-LITES CC4WH/6X-9-DWWH	CC4 SEALED LEAD CALCIUM BATTERY UNIT WTH NO HEADS SIZED FOR 90-MINUTE OPERATION; 6 VOLT DOUBLE HEAD WEATHERPROOF REMOTE HEADS; WHITE FINISH.	(2)9 WATT INCANDESCENT (INCLUDED)
E2	SURE-LITES RLM SERIES	RECESSED DUAL HEAD EMERGENCY LIGHTING UNIT, WHITE FINISH. LEAD CALCIUM BATTERY SIZED FOR 90-MINUTE OPERATION AND REMOTE HEAD OPERATING CAPACITY. 277V.	(2)9 WATT INCANDESCENT (INCLUDED)
F	CORELITE BOWO3T81C120AP12T1	PENDENT MOUNTED FLUORESCENT FIXTURE; ALUMINUM HOUSING; AIRCRAFT CABLE MOUNTED; PROVIDE 2 ELECTRONIC BALLAST FOR DUAL SWITCHING; 120VAC.	(3)32W T-8 3500K
G	METALUX WBIA232MA120EBB1	4' SURFACE MOUNTED WRAPAROUND; HEAVY GAUGE STEEL END PLATES; BAKED WHITE ENAMEL FINISH; ACRYLIC LENS; ELECTRONIC BALLAST; 120VAC	(2)32W T-8 3500K
G1	METALUX WBIA232MA120EBB1	4' SURFACE MOUNTED WRAPAROUND; HEAVY GAUGE STEEL END PLATES; BAKED WHITE ENAMEL FINISH; ACRYLIC LENS; EMERGENCY BALLAST; 120VAC	(2)32W T-8 3500K
H	PORTFOLIO C72261E728L13TRM8-P	7 3/8" COMPACT FLUORSCENT RECESSED DOWNLIGHT; LOW IRIDESCENT REFLECTOR; WHITRE METAL TRIM; CLEAR GLASS LENS; ELECTRONIC BALLAST; 120VAC	(2)26W QUAD 3500K
H1	PORTFOLIO C72261E728L13TRM8-P	7 3/8" COMPACT FLUORSCENT RECESSED DOWNLIGHT; LOW IRIDESCENT REFLECTOR; WHITRE METAL TRIM; CLEAR GLASS LENS; EMERGENCY ELECTRONIC BALLAST; 120VAC	(2)26W QUAD 3500K
J	METALUX SS240120LE3	COMMERCIAL WIDE STRIPLITE FLUORESCENT FIXTURE; MOUNTED IN COVE; ELECTRONIC BALLAST; 120VAC	(2)32W T-8 3500K
J1	METALUX SS240120LE3	COMMERCIAL WIDE STRIPLITE FLUORESCENT FIXTURE; MOUNTED IN COVE; EMERGENCY BALLAST; 120VAC	(2)32W T-8 3500K
K	THE ROBERT GROUP ANG-232-SSB-T8	WALL MOUNTED FLUORESCENT FIXTURE; DIE-CAST STEEL HOUSING; ACRYLIC PRISMATIC LENS; ELECTRONIC BALLAST; 120VAC.	(2)32W T-8 3500K
K1	THE ROBERT GROUP ANG-232-SSB-T8	WALL MOUNTED FLUORESCENT FIXTURE; DIE-CAST STEEL HOUSING; ACRYLIC PRISMATIC LENS; ELECTRONIC BALLAST; 120VAC.	(2)32W T-8 3500K
X	SURE-LITES LPX SERIES	UNIVERSAL MOUNTED AND FACE OPTION LED EXIT SIGN; POLYCARBONATE HOUSING; HOUSING TO BE WHITE WITH RED LETTERS; REFER TO DRAWINGS FOR MOUNTING AND CHEVRON ARROW REQUIREMENTS; CHEVRON SHALL BE VISIBLE FROM 40' MINIMUM; WITH BATTERY BACK-UP	FURNISHED WITH UNIT
AA	LUMARK MHWM50	EXTERIOR WALL MOUNTED METAL HALIDE FIXTURE; ONE-PIECE DIE-CAST ALUMINUM HOUSING; TAMPER-PROOF CLEAR POLYCARBONATE LENS; WEATHERPROOF; 120VAC.	(1)50W MH

LIGHTING FIXTURE NOTES:

1. BIDS SHALL BE BASED ON THE LIGHTING FIXTURE SCHEDULE AND SPECIFICATIONS. REFER TO THE ELECTRICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION INCLUDING SUBSTITUTIONS.
2. ALL FIXTURES SHALL BE UL LISTED.
3. HIGH FREQUENCY, ELECTRONIC TYPE BALLASTS SHALL BE USED WITH ALL FLUORESCENT LAMPS WHEN POSSIBLE. ALL FLUORESCENT BALLASTS SHALL HAVE A MIN. POWER FACTOR OF 0.9, A CLASS "A" RATING WHERE POSSIBLE, BE UL LISTED AND BE ON THE NORTHEAST UTILITIES LIST OF APPROVED BALLASTS. FLUORESCENT BALLASTS USED IN EXTERIOR FIXTURES SHALL HAVE A MIN. STARTING TEMPERATURE OF –20° F.
4. ALL INCANDESCENT LAMPS DESIGNED FOR 120V OPERATION SHALL BE EXTENDED SERVICE LIFE TYPE.
5. ALL NECESSARY MOUNTING HARDWARE, HANGERS, BRACKETS, RAILS, YOKES, STEMS, CHAINS, ETC., SHALL BE FURNISHED AND INSTALLED.
6. REFER TO ARCHITECTURAL DRAWINGS FOR SPECIFIC DETAILS, ARRANGEMENT, MOUNTING HEIGHTS, CEILING CONSTRUCTION, ETC. ALL COLORS AND FINISHES SHALL BE VERIFIED BY THE ARCHITECT.
7. FIXTURES SHALL BE SEISMICALLY SUPPORTED AS REQUIRED BY THE CONNECTICUT BUILDING CODE.
8. WIRE ALL BATTERY PACK UNITS (I.E. EXIT SIGNS AND EMERGENCY UNITS) TO LINE SIDE OF LOCAL LIGHTING BRANCH CIRCUIT.

ELECTRICAL SYMBOL LIST

SYMBOL	DESCRIPTION
	SURFACE MOUNTED PANELBOARD
	RECESSED PANELBOARD
	MOTOR
	BRANCH CIRCUIT WIRING – CONCEALED IN WALLS OR CEILINGS
	BRANCH CIRCUIT WIRING – SWITCHED
	HOMERUN TO PANELBOARD
J	JUNCTION BOX
	WIREMOLD ASSEMBLY WITH DEVICES REFER TO DRAWINGS FOR DEVICES
	DUPLEX WALL MOUNTED RECEPTACLE
	DOUBLE DUPLEX WALL MOUNTED RECEPTACLE
a	DUPLEX RECEPTACLE, MOUNT ABOVE COUNTER HEIGHT
GFCI	DUPLEX RECEPTACLE WITH GROUND FAULT CIRCUIT INTERRUPTION
GFCI WP	DUPLEX RECEPTACLE WITH GROUND FAULT CIRCUIT INTERRUPTION AND WEATHER PROOF COVER
EWC	DUPLEX RECEPTACLE FOR WALL MOUNTED ELECTRICAL WATER COOLER WITH GROUND FAULT CIRCUIT INTERRUPTION
	SPECIAL PURPOSE CONNECTION
	SPECIAL PURPOSE RECEPTACLE
PP	POWER POLE
PD	2 COMPARTMENT RACEWAY
	QUAD RECEPTACLE FLOOR OUTLET
	TELEPHONE OUTLET MOUNTED 54" AFF, 2-GANG BOX WITH SINGLE GANG PLASTER RING, (1)3/4" CONDUIT TO ABOVE ACCESSIBLE CEILING SPACE.
	DATA OUTLET, 2-GANG BOX WITH SINGLE GANG PLASTER RING, (1)3/4" CONDUIT TO ABOVE ACCESSIBLE CEILING SPACE.
	COMBINATION TELEPHONE/DATA OUTLET, 2-GANG BOX WITH SINGLE GANG PLASTER (2)3/4" CONDUIT TO ABOVE ACCESSIBLE CEILING SPACE.
S	SINGLE POLE TOGGLE SWITCH
S_3	THREE WAY TOGGLE SWITCH
S_4	FOUR WAY TOGGLE SWITCH
S_E	EMERGENCY CALL TOGGLE SWITCH (MOUNTED AT 36" AFF)
	EMERGENCY CALL LIGHT WITH BUZZER (MOUNTED AT 7'6" AFF)
	FLUORESCENT LIGHTING FIXTURE
	EMERGENCY FLUORESCENT LIGHTING FIXTURE WITH BATTERY BACK-UP
	UNDER CABINET FLUORESCENT LIGHTING FIXTURE
	RECESSED FLUORESCENT DOWN LIGHT FIXTURE
	EMERGENCY RECESSED FLUORESCENT DOWNLIGHT FIXTURE WITH BATTERY BACK-UP
	SURFACE MOUNTED DOWN LIGHT FIXTURE
	WALL MOUNTED FLUORESCENT FIXTURE
	WALL MOUNTED EXTERIOR LIGHTING FIXTURE
	CEILING OR WALL MOUNTED, SELF-CONTAINED EMERGENCY LIGHT FIXTURE WITH BATTERY BACK-UP, FIXTURE SHALL MONITOR MAJOR LIGHTING CIRCUIT IN AREA. WG INDICATES WIREGUARD
	REMOTE DUAL HEAD EMERGENCY LIGHTING FIXTURE.
EB	EMERGENCY BATTERY PACK FOR USE WITH REMOTE LIGHTING HEADS
	CEILING OR WALL MOUNTED, SELF-CONTAINED EXIT SIGN WITH EMERGENCY BATTERY BACK-UP AND DIRECTIONAL CHEVRONS AS INDICATED ON PLANS WG INDICATES WIREGUARD
	WALL MOUNTED COMBINATION HORN/STROBE LIGHT WITH AN ADA 15/75 CANDELA STROBE (MOUNT AT 7'-6" AFF) "WG" INDICATES WIREGUARD
	FIRE ALARM VISUAL INDICATING UNIT; MOUNT AT 7'-6" AFF
F	FIRE ALARM PULL BOX; MOUNT AT 48" AFF
S	AUTOMATIC FIRE ALARM SMOKE DETECTOR
S_D	DUCT MOUNTED SMOKE DETECTOR AND HOUSING
	EMERGENCY SHUT-OFF SWITCH MOUNTED AT 48" AFF
OS	OCCUPANCY SENSOR – CEILING MOUNTED, 'c' INDICATED CORRIDOR SENSOR
M	MAGNETIC DOOR HOLD OPEN – 'F' INDICATES FLOOR MOUNTED
S	CEILING MOUNTED SPEAKER
	WALL MOUNTED CLOCK.
RL	RELOCATE EXISTING DEVICE
NL	NEW LOCATION OF RELOCATED DEVICE
E	EXISTING TO REMAIN
TS	SPRINKLER ALARM TAMPER SWITCH
FS	SPRINKLER ALARM FLOW SWITCH
	CLOCK/SPEAKER

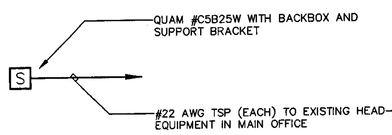
FIRE ALARM SPECIFICATIONS

1. DEVICES INDICATED SHALL BE WIRED TO EXISTING NOTIFIER FIRE ALARM CONTROL PANEL CONTROL PANEL IN MAIN OFFICE.
2. WIRING SHALL BE RATED CABLE ASSEMBLY INSTALLED ABOVE SUSPENDED CEILING WITH "D" RING SUPPORTS 6' ON-CENTER. SIZE PER MANUFACTURERS RECOMMENDATIONS.
3. PROVIDE DEVICES AS FOLLOWS:
   - STROBE UNIT – #S1215 SERIES
   - HORN/STROBE UNIT – #P1215 SERIES
   - MINI HORN/STOBE – SAME AS HORN/STROBE, SET TO LOWEST TAP FOR AUDIBLE OUTPUT
   - PULLSTATION – #BGX-101L
   - DUCT SMOKE DETECTOR – #DHX-501
   - SMOKE DETECTOR – #CPX-551 WITH BASE #BX-501
   - HEAT DETECTOR – #SDX-551TH WITH BASE #BX-501
   - PROVIDE (1) ADDRESSABLE MONITOR MODULE PER WATERFLOW DEVICE
   - PROVIDE OUTPUT TO TEMPERATURE CONTROL SYSTEM FOR FAN SHUT-DOWN ON FIRE ALARM ACTIVATION
   - MAGNETIC DOOR HOLD-OPEN DEVICES
4. ACTIVATION OF ANY INITIATING DEVICE SHALL CAUSE THE FOLLOWING:
   - AUDIBLE ALARM
   - VISUAL ALARM
   - FAN SHUT-DOWN
   - REMOTE NOTIFICATION VIA EXISTING CONTROL PANEL

   (INITIATING DEVICES AS FOLLOWS: SMOKE DETECTOR, DUCT SMOKE DETECTOR, PULL STATION, HEAT DETECTOR, FLOW AND TAMPER SWITCHES BOTH WITHIN ADDITION AND EXISTING BUILDING)

DATA/VOICE SYSTEM SPECIFICATIONS

1. PROVIDE DATA DROPS TO ALL OUTLETS INDICATED ON CONTRACT DRAWINGS.
2. WIRING SHALL BE CAT.5 4 PR. UTP CABLE AS MANUFACTURED BY BERK-TEK, ANIXTER OR BELDEN.
3. INSTALLATION SHALL BE COMPLETE FROM MODULAR PATCH PANEL TO OUTLET INCLUDING TESTING, TERMINATIONS, JACKS, ETC..
4. WIRING SHALL BE SUPPORTED ON 6' INTERVALS USING "D" RINGS OR "J" HOOKS. BUNDLE CABLES TOGETHER AND STRAP WITH VELCRO FASTENERS.
5. WIRING SHALL TERMINATE AT EXISTING PATCH PANELS WITHIN FLOOR DATA CLOSET.
6. TEST ALL STATION CABLES TO ENSURE PROPER PERFORMANCE. SUBMIT TEST RESULTS FOR REVIEW. REPLACE ALL CABLES NOT PASSING 100MHZ COMPLIANCE TEST.
7. SUBMIT FOR REVIEW ALL PROPOSED SYSTEM COMPONENTS.
8. PROVIDE CAT. 5, 4 PAIR UTP CABLE FOR ALL VOICE CONECTIONS. WIRE TO EXISTING VOICE PATCH PANEL WITHIN BUILDING. PHONE INSTRUMENTS BY OWNER.

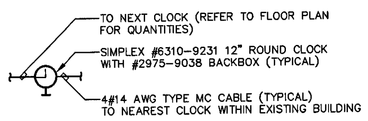


NOTE:

1. EXTENSION OF EXISTING SYSTEM

1 TYPICAL SPEAKER RISER

SCALE: N-T-S

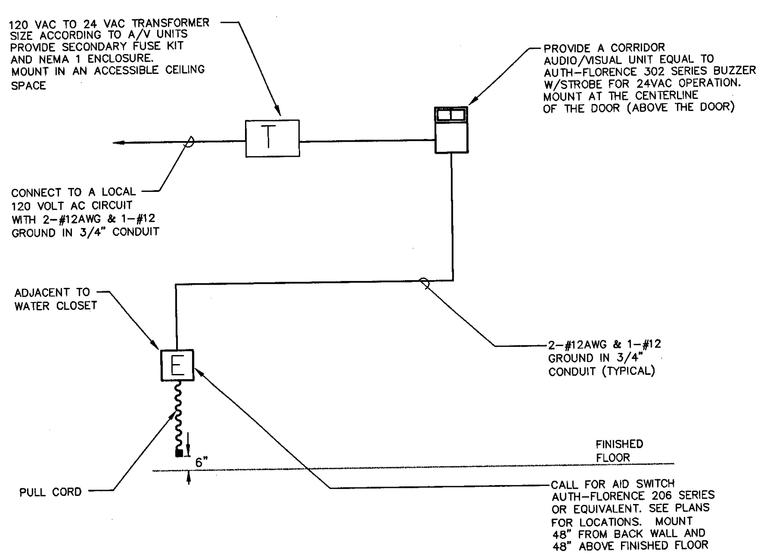


NOTE:

1. EXTENSION OF EXISTING SYSTEM

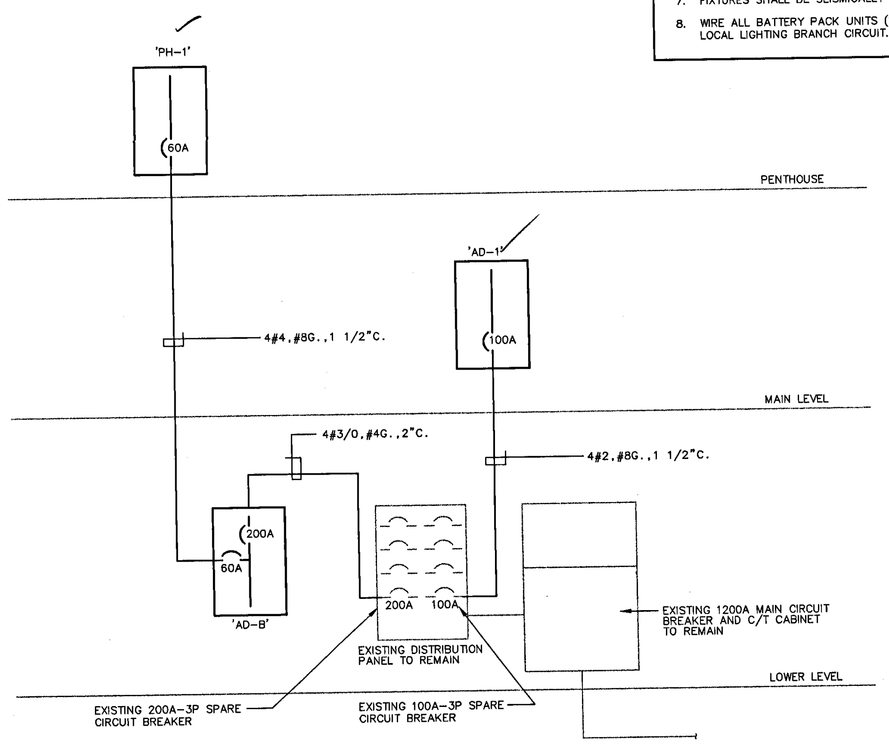
2 CLOCK SYSTEM WIRING DIAGRAM

SCALE: N-T-S



3 EMERGENCY CALL FOR AID SCHEMATIC

SCALE: N.T.S.



4 ELECTRICAL RISER DIAGRAM

SCALE: N.T.S.

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TAI SOO KIM
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Hartford, Connecticut
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HENRY A. WOLCOTT ELEMENTARY SCHOOL
71 WOLCOTT ROAD
WEST HARTFORD, CONNECTICUT

STATE OF CONNECTICUT ... No. 18073

KEY PLAN

DRAWING TITLE

ELECTRICAL SCHEDULES & DETAILS

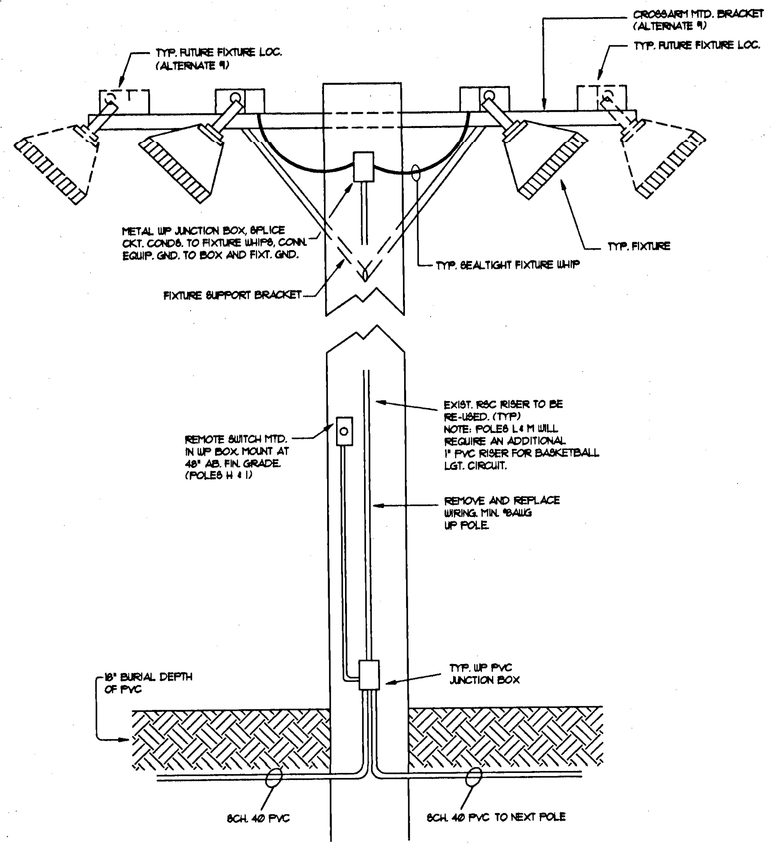
STATE PROJ NO.	155-0195 EA
PROJECT NO.	211205
SCALE	1/8"=1'-0"
DATE:	DEC. 17, 2001

REVISIONS AFTER RELEASE

NO.	ISSUE DATE	PURPOSE

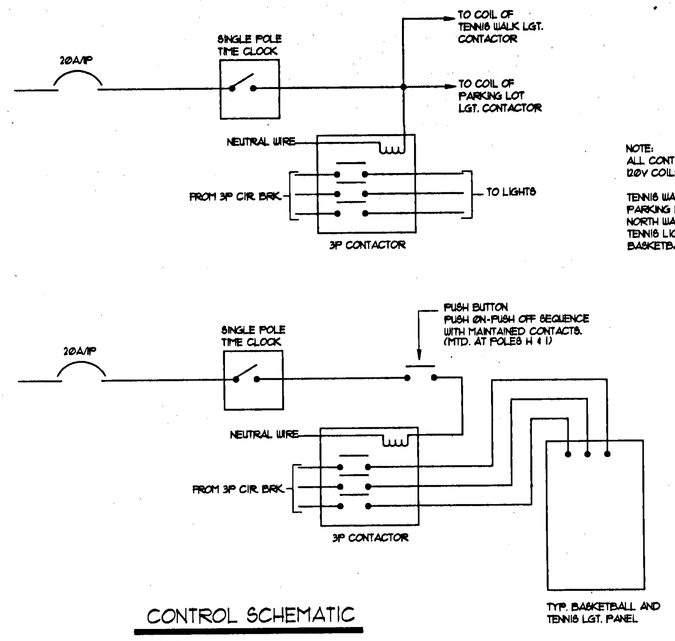
E-8

21088-00WoIE8.dwg 12102 90639



POLE FIXTURE LAYOUT

NO SCALE

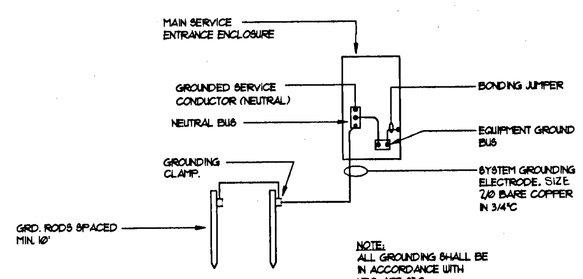


NOTE:
ALL CONTACTORS HAVE 120V COILS

TENNIS WALK CONTACTOR-20A/3P
PARKING LOT CONTACTOR- 20A/3P
NORTH WALK CONTACTOR-30A/3P
TENNIS LIGHTS CONTACTOR-100A/3P
BASKETBALL LIGHTS CONTACTOR 60A/3P

CONTROL SCHEMATIC

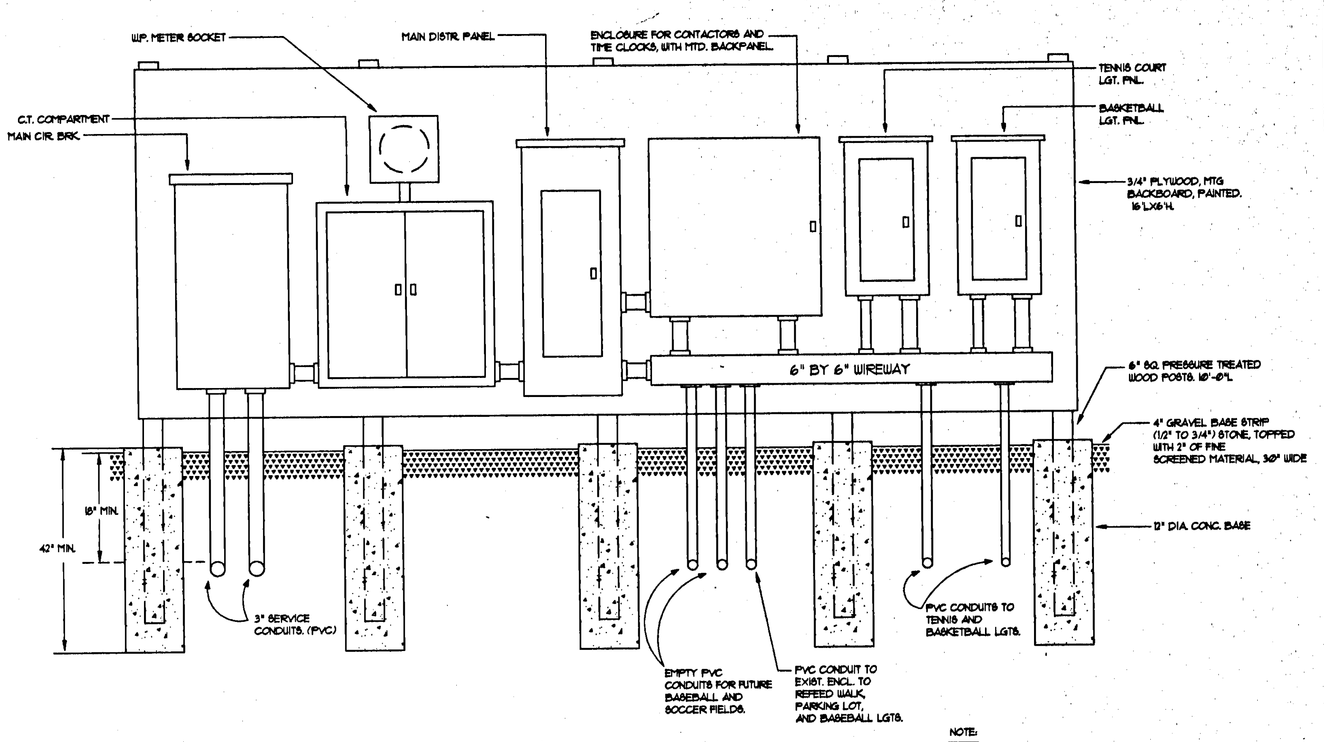
NO SCALE



NOTE:
ALL GROUNDING SHALL BE IN ACCORDANCE WITH NEC. ART. 250

GROUNDING ELECTRODE SYSTEM SCHEMATIC

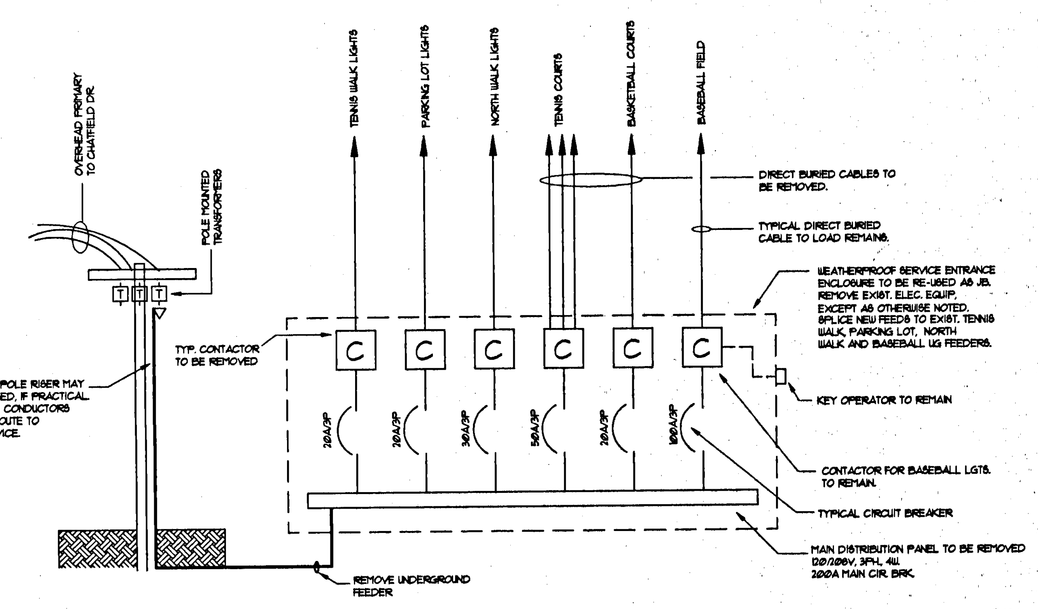
NO SCALE



NOTE:
ALL ENCLOSURES SHALL BE NEMA TYPE 3R

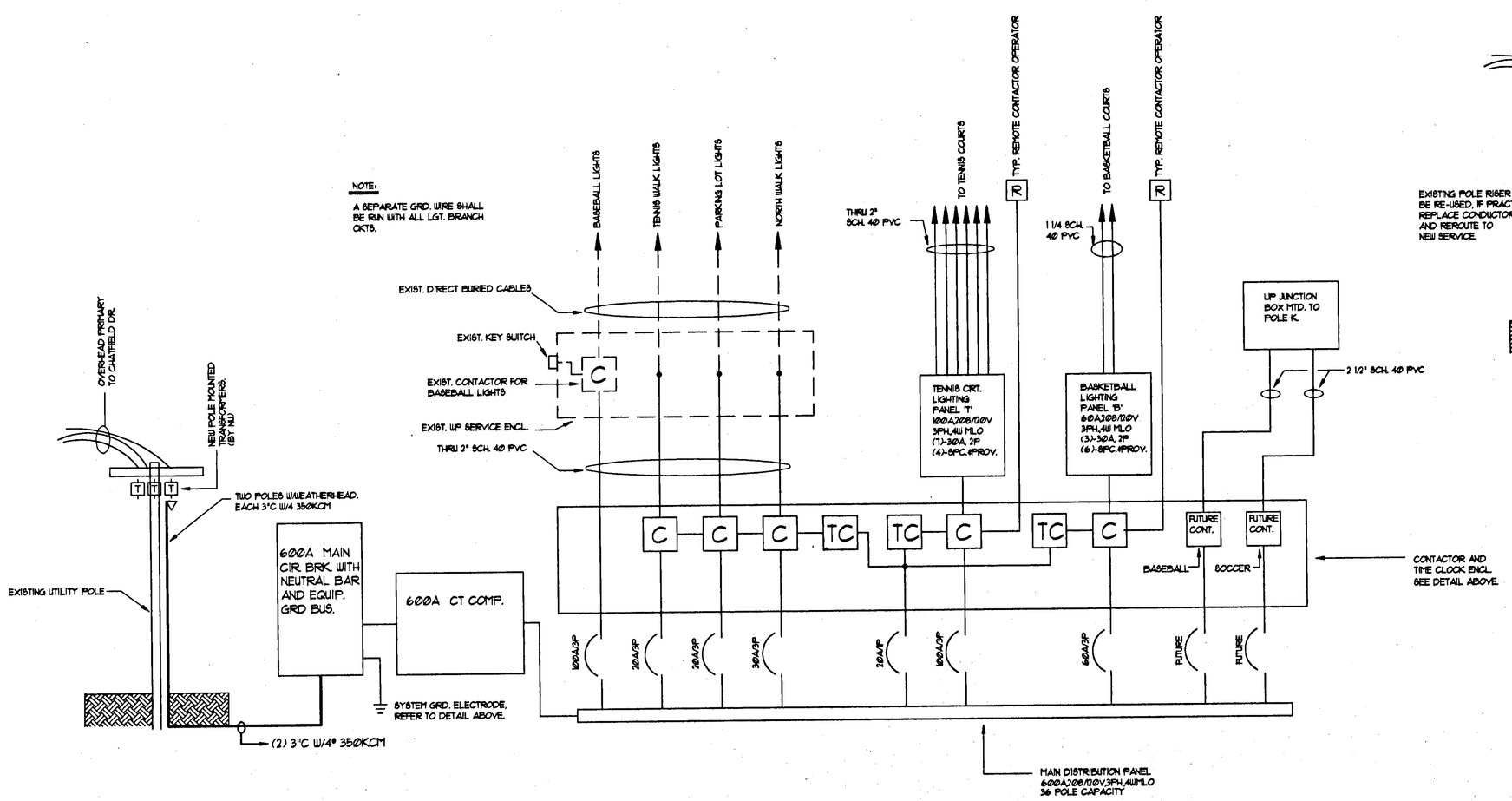
SERVICE EQUIPMENT ELEVATION

NO SCALE



EXISTING POWER DISTRIBUTION SCHEMATIC DIAGRAM - DEMOLITION

NO SCALE



NEW POWER DISTRIBUTION SCHEMATIC DIAGRAM

NO SCALE

WOLCOTT PARK

WEST HARTFORD, CONNECTICUT

SPORTS LIGHTING IMPROVEMENTS

TOWN OF WEST HARTFORD
DEPARTMENT OF LIESURE SERVICES

BEMIS ASSOCIATES, L.L.C. - ENGINEERS
101 FENN ROAD, NEWINGTON, CT.
PHONE: 667-3233 FAX: 667-3573

DWG. NO. SE-2

DATE:	SCALE:	DRAWN:
3/23/05	AS NOTED	GJW