ELECTRICAL SYMBOL LEGEND

BASIC MATERIALS

SYMBOL	DESCRIPTION
	DEVICE ABBREVIATION TAGS: 6C = POKE-THRU WITH 6" CORE DRILL 8C = POKE-THRU WITH 8" CORE DRILL 4G = FOUR-GANG FLOOR BOX 6G = SIX-GANG FLOOR BOX 8G = EIGHT-GANG FLOOR BOX AV = DOUBLE DUPLEX RECEPTACLE WITH DEDICATED CIRCUIT FOR AV RACK OR CART ETR = EXISTING TO REMAIN HB = HIGH BAY IG = ISOLATED GROUND (ORANGE DEVICE) P = PENDANT MOUNTED R = RELAY/REMOTE CONTROL OF RECEPTACLE CIRCUIT FOR AUTOMATIC SHUTOFF RL = RELOCATED T = TAMPERPROOF TV = RECEPTACLE MOUNTED ADJACENT TO TV OUTLET. COORDINATE MOUNTING HEIGHT WITH ARCHITECT PRIOR TO ROUGH-IN. USB = DUPLEX RECEPTACLE WITH (2) USB PORTS WP = WEATHERPROOF
S_a	SINGLE POLE SWITCH (SUBSCRIPT INDICATES ITEM CONTROLLED)
S_3	THREE-WAY SWITCH
S_4	FOUR-WAY SWITCH
S_K	SINGLE POLE KEY SWITCH
S_{OSab}	WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR SWITCH, DUAL RELAY
S_{OS}	WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR SWITCH
S_{OV}	WALL MOUNTED DUAL OVERRIDE SWITCH
S_T	WALL MOUNTED TIMER SWITCH
S_{VS}	WALL MOUNTED DUAL TECHNOLOGY VACANCY SENSOR SWITCH
$S_{D,OS}$	WALL MOUNTED DUAL TECHNOLOGY DIMMING/OCCUPANCY SENSOR SWITCH
OS	WALL MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR
OS	CEILING MOUNTED DUAL TECHNOLOGY OCCUPANCY SENSOR
DL	DAYLIGHT SENSOR CEILING MOUNTED
DL	DAYLIGHT SENSOR WALL MOUNTED
S_{LV}	LOW VOLTAGE SWITCH
S_{LVO}	LOW VOLTAGE OVERRIDE SWITCH
S_F	FAN SWITCH
S_M	MANUAL MOTOR STARTER WITH OVERLOADS
S_D	DIMMER SWITCH
PC	PHOTOCELL, MOUNTED ON ROOF FACING NORTH
	NOTE: DIAGONAL MARKS INDICATED ON ANY DEVICE REPRESENTS DEVICE CONNECTED TO EMERGENCY CIRCUIT (RED DEVICE FOR RECEPTACLE); TYPICAL FOR ANY DEVICE IN LEGEND
	SINGLE RECEPTACLE
	DUPLEX RECEPTACLE
	TWO DUPLEX RECEPTACLES (QUAD) WITH COMMON COVERPLATE
	DUPLEX RECEPTACLE MOUNTED ABOVE COUNTER
	TWO DUPLEX RECEPTACLES (QUAD) WITH COMMON COVER MOUNTED ABOVE COUNTER
	DUPLEX RECEPTACLE; EACH RECEPTACLE ON SEPARATE CIRCUIT (PROVIDE BREAKER WITH 2-POLE COMMON TRIP HANDLE)
	SPLIT-WIRED DUPLEX RECEPTACLE WITH TOP-HALF SWITCHED
	GFCI RECEPTACLE; "WP" INDICATES CAST METAL "IN-USE" WEATHERPROOF COVER, WEATHER-RESISTANT LISTED
	TWO GFCI DUPLEX RECEPTACLES (QUAD) WITH COMMON COVERPLATE
	GFCI RECEPTACLE MOUNTED ABOVE COUNTER
	DUPLEX RECEPTACLE, CEILING MOUNTED
	TWO DUPLEX RECEPTACLES (QUAD) WITH COMMON COVERPLATE, CEILING MOUNTED
	PEDESTAL MOUNTED RECEPTACLE
	RECESSED FLOOR BOX, ONE 20A 125V DUPLEX RECEPTACLES (DUPLEX) , CAST METAL FOR SLAB-ON-GRADE APPLICATION; COVER & TRIM TO BE BASED ON FINISHED FLOOR (CARPET, TILE, TERAZZO, ETC.); WIREMOLD RFB2-*OG-2 GANG SERIES, RECESSED FLOOR BOX (*OG ONLY APPLIES TO ON-GRADE SLABS.
	RECESSED FLOOR BOX, TWO 20A 125V DUPLEX RECEPTACLES (QUAD) , CAST METAL FOR SLAB-ON-GRADE APPLICATION; COVER & TRIM TO BE BASED ON FINISHED FLOOR (CARPET, TILE, TERAZZO, ETC.); WIREMOLD RFB2-*OG-2 GANG SERIES, RECESSED FLOOR BOX (*OG ONLY APPLIES TO ON-GRADE SLABS.
	MULTI-SERVICE RECESSED FLOOR BOX WITH (1) 20A 125V DUPLEX RECEPTACLE, (4) KEYSTONE JACK TYPE DEVICE BRACKETS FOR VOICE/DATA, WIREMOLD RFB2-OG SERIES, 2-GANG RECESSED; COVER & TRIM TO BE BASED ON FINISHED FLOOR (CARPET, TILE, TERRAZZO, ETC.)
	MULTI-SERVICE RECESSED FLOOR BOX WITH (2) 20A 125V DUPLEX RECEPTACLES (QUAD) , (4) KEYSTONE JACK TYPE DEVICE BRACKETS FOR VOICE/DATA/AV DEVICESWIREMOLD EVOLUTION 8-GANG FLOOR BOX, EFB8S-OG SERIES SLAB ON GRADE APPLICATION, FOR POWER & VOICE/DATA; COVER & TRIM TO BE BASED ON FINISHED FLOOR TYPE
	MULTI-SERVICE RECESSED FLOOR BOX WITH (1) SINGLE GANG BOX FOR POWER FEED, (2) KEYSTONE JACK TYPE DEVICE BRACKETS FOR VOICE/DATA, WIREMOLD RFB2-OG SERIES, 2-GANG RECESSED; COVER & TRIM TO BE BASED ON FINISHED FLOOR (CARPET, TILE, TERRAZZO, ETC.)
	SPECIAL PURPOSE RECEPTACLE, NEMA CONFIGURATION AS NOTED
J	JUNCTION BOX WALL MOUNTED
J	JUNCTION BOX MOUNTED IN OR ABOVE CEILING OR IN STRUCTURE
	WALL MOUNTED FURNITURE FEED POWER CONNECTION
PH	POWER POLE WITH POWER & DATA FURNITURE FEED POWER CONNECTIONS
PH	POWER POLE WITH POWER & DATA OUTLETS
P	MULTI-SERVICE POKE-THRU WITH TWO INTEGRAL DUPLEX RECEPTACLES AND VOICE/DATA/AV DEVICES (REFER TO TECHNOLOGY DRAWINGS OR OWNER'S VENDOR DRAWINGS FOR LOW VOLTAGE REQUIREMENTS), OR FURNITURE FEED CONNECTION; REFER TO POKE-THRU DETAILS
	TWO-COMPARTMENT MULTI-SERVICE RACEWAY WITH 5-20R RECEPTACLES, 18" O.C. UNLESS OTHERWISE NOTED
C	CLOCK RECEPTACLE, WALL MOUNTED
GND	GROUND BUS BAR, COPPER
SPD	SURGE PROTECTIVE DEVICE
ST	SHUNT-TRIP PUSHBUTTON; SEMI-FLUSH WALL MOUNTED UNLESS OTHERWISE NOTED; NEMA 3R FOR EXTERIOR LOCATIONS
EPO	EMERGENCY POWER OFF SHUNT-TRIP PUSHBUTTON, RED MUSHROOM HEAD, CLEAR LEXAN PROTECTIVE COVER
	OVERHEAD DOOR PUSHBUTTON CONTROL STATION
	PUSHBUTTON STATION
	MOTOR CONNECTION
MD	MOTORIZED DAMPER CONNECTION
VFD	VARIABLE FREQUENCY DRIVE
DDC	DIRECT DIGITAL CONTROL PANEL
BAS	BUILDING AUTOMATION SYSTEM CONTROL PANEL
LCP	LIGHTING CONTROL PANEL

SYMBOL	DESCRIPTION
MH	MANHOLE
PB	PULLBOX
HH	HANDHOLE
T	TRANSFORMER
ATS	AUTOMATIC TRANSFER SWITCH
30AR NF 3R	NEMA RATING; NEMA 1 UNLESS OTHERWISE NOTED NON-FUSED DISCONNECT SWITCH, RATING AS NOTED NF = NON-FUSED AR = AMPERE RATING OF SWITCH 4X SS = NEMA 4X STAINLESS STEEL ENCLOSURE
30AR 20AF 3R	NEMA RATING; NEMA 1 UNLESS OTHERWISE NOTED FUSED DISCONNECT AF = AMPERE RATING OF FUSE AR = AMPERE RATING OF SWITCH 4X SS = NEMA 4X STAINLESS STEEL ENCLOSURE
MCP AMPERE RATING 30/3 0 3R	# OF POLES NEMA RATING; NEMA 1 UNLESS OTHERWISE NOTED COMBINATION MAGNETIC MOTOR STARTER, SIZE AS NOTED, 3-POLE UNLESS OTHERWISE NOTED 4X SS = NEMA 4X STAINLESS STEEL ENCLOSURE NEMA STARTER SIZE
	SWITCHBOARD/ SWITCHGEAR/ DISTRIBUTION PANEL
	BRANCH CIRCUIT PANELBOARD, OVER 250 VOLTS, SURFACE MOUNTED
	BRANCH CIRCUIT PANELBOARD, OVER 250 VOLTS, FLUSH MOUNTED
	BRANCH CIRCUIT PANELBOARD, UNDER 250 VOLTS, SURFACE MOUNTED
	BRANCH CIRCUIT PANELBOARD, UNDER 250 VOLTS, FLUSH MOUNTED
	CONDUIT CONCEALED ABOVE CEILING OR IN WALL
	CONDUIT EXPOSED
	CONDUIT CONCEALED IN SLAB, UNDERGROUND OR UNDER FLOOR
	CONDUIT HOMERUN TO ELECTRICAL PANEL
UP	CONDUIT TURNING UP
DN	CONDUIT TURNING DOWN
	CONDUIT STUBBED OUT OR UP
	CONDUIT CONTINUED
	FLEXIBLE CONDUIT
	CONDUIT SEAL-OFF FITTING
	GROUND OR GROUND ROD AS NOTED
	EXISTING TO BE REMOVED (HEAVY, DASHED LINE)
	EXISTING TO REMAIN (LIGHT, SOLID LINE)
	NEW (HEAVY, SOLID LINE)

FIRE ALARM/DETECTION SYSTEM

SYMBOL	DESCRIPTION
F	MANUAL PULL STATION
	CEILING SMOKE DETECTOR, PHOTOELECTRIC TYPE UNLESS OTHERWISE NOTED E = ELEVATOR WITH RECALL CONTACTS I = IONIZATION
	DUCT SMOKE DETECTOR R = RETURN S = SUPPLY
B R	BEAM SMOKE DETECTOR BR OR R = BEAM DETECTOR RECEIVER BT OR T = BEAM DETECTOR TRANSMITTER
H	HEAT DETECTOR 135°F FIXED TEMPERATURE, UNLESS OTHERWISE NOTED, CEILING MOUNTED
R	SUPERVISED ADDRESSABLE FIRE ALARM CONTROL RELAY
RT	DUCT SMOKE DETECTOR REMOTE TEST SWITCH WITH INDICATING LAMP, WALL MOUNTED AT 48" AFF, UNLESS OTHERWISE NOTED
F XXCD	COMBINATION SPEAKER/STROBE, WALL MOUNTED, 75CD UNLESS OTHERWISE NOTED CD = CANDELA RATING
H	HORN ONLY, WALL MOUNTED
F XXCD	STROBE, CEILING MOUNTED, 75 CD UNLESS OTHERWISE NOTED CD = CANDELA RATING
FS XXCD	COMBINATION SPEAKER/STROBE, CEILING MOUNTED, 75CD UNLESS OTHERWISE NOTED CD = CANDELA RATING
SS	SPEAKER ONLY, CEILING MOUNTED
SS	SPEAKER ONLY, WALL MOUNTED
F	STROBE, WALL MOUNTED, 75CD UNLESS OTHERWISE NOTED
FP	FIREMAN'S PHONE JACK
TS	SPRINKLER TAMPER SWITCH CONNECTION
FS	SPRINKLER WATERFLOW SWITCH CONNECTION
PS	PRESSURE SWITCH CONNECTION
DH	ELECTROMAGNETIC DOOR HOLD OPEN DEVICE
FACP	FIRE ALARM CONTROL PANEL
FATC	FIRE ALARM TERMINAL CABINET
FAA	FIRE ALARM ANNUNCIATOR PANEL - FLUSH MOUNTED
EVAC	VOICE EVACUATION PANEL
MNS	MASS NOTIFICATION SYSTEM PANEL
KB	KNOX BOX, MOUNT AT 6'-0"AFF

LIGHTING

SYMBOL	DESCRIPTION
	LED OR FLUORESCENT STRIP FIXTURE
A 2 2-X ZX-X	FIXTURE TYPE LED OR FLUORESCENT FIXTURE, RECESSED, PENDANT OR SURFACE CEILING LOWER CASE LETTER INDICATES CONTROLLING SWITCH CIRCUIT NUMBER LIGHTING CONTROL ZONE NUMBER
	LED OR FLUORESCENT FIXTURE RECESSED, PENDANT OR SURFACE CEILING DIAGONAL HALF SHADING INDICATE FIXTURE CONNECTED TO EMERGENCY CIRCUIT OR PROVIDED WITH INTEGRAL EMERGENCY BATTERY PACK; "E" AFTER FIXTURE TYPE TAG INDICATES INTEGRAL BATTERY PACK UNLESS OTHERWISE NOTED ON LIGHT FIXTURE SCHEDULE (TYPICAL FOR ALL LIGHT FIXTURE SYMBOLS)
	LED OR FLUORESCENT FIXTURE, WALL MOUNTED
	LED, FLUORESCENT, HID, RECESSED, PENDANT OR SURFACE CEILING
	LED, FLUORESCENT, HID, WALL MOUNTED
	LED, FLUORESCENT, HID - CEILING WALLWASHER, ACCENT LIGHT, LANDSCAPING TREE ACCENT LIGHT, FACADE LIGHT
	TRACK WITH TRACK LIGHT FIXTURE (TRIANGLES INDICATE QUANTITY OF TRACK HEADS)
	EMERGENCY TWIN-HEAD LIGHT WITH INTEGRAL BATTERY PACK, WALL MOUNTED
	LINEAR FLUORESCENT, LED, RECESSED, PENDANT OR SURFACE CEILING
	EXTERIOR POLE-MOUNTED AREA LIGHT FIXTURE, ARMS AS INDICATED ON DRAWINGS
	EXTERIOR PEDESTRIAN SIDEWALK BOLLARD OR POST-TOP LIGHT FIXTURE
	EXIT LIGHT, LED, CEILING OR PENDANT MOUNTED; DIRECTIONAL ARROWS AS INDICATED; SHADED QUADRANT INDICATES FACE(S) OF FIXTURE
	EXIT LIGHT, LED, WALL MOUNTED

LIGHTNING PROTECTION SYSTEM

CI	CLASS I MAIN CONDUCTOR CABLE
CII	CLASS II MAIN CONDUCTOR CABLE
	TEE SPLICE
	FOUR-WAY SPLICE
	BONDING PLATE
	AIR TERMINAL; PROVIDE PARAPET TYPE BASE WHERE MOUNTED ON PARAPET; PROVIDE FLAT BASE FOR MECHANICAL EQUIPMENT OR ROOF PERIMETER WITH NO PARAPET; PROVIDE BLUNT TIP WHERE MOUNTED ON INTERIOR OF ROOF. UNLESS OTHERWISE NOTED ON LIGHTNING PROTECTION PLANS
	GROUND TERMINAL
	BONDING CONDUCTOR
G	COUNTERPOISE CONDUCTOR
DN	THRU-ROOF CONDUCTOR

NOTE: SOME SYMBOLS SHOWN ON THIS LEGEND MAY NOT PERTAIN TO THIS PROJECT.

ABBREVIATIONS

AC	ALTERNATING CURRENT
ABV CLG	ABOVE CEILING
ADA	AMERICANS WITH DISABILITIES ACT
AF	AMPERE FRAME
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHU	AIR HANDLING UNIT
AIC	AMPERE INTERRUPTING CAPACITY
AL	ALUMINUM
AMP	AMPERE
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
ASA	AMERICAN STANDARDS ASSOCIATION
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AUX	AUXILIARY
AWG	AMERICAN WIRE GUAGE
BC	BARE COPPER
BAS	BUILDING AUTOMATION SYSTEM
BMS	BUILDING MANAGEMENT SYSTEM
BRKR OR BKR	BREAKER
CAB	CABINET
C	CONDUIT OR RACEWAY
CKT	CIRCUIT
CB	CIRCUIT BREAKER
CATV	CABLE TELEVISION
CCTV	CLOSED CIRCUIT TELEVISION
CLG	CEILING
CO	CONDUIT OR RACEWAY ONLY
COAX	COAXIAL CABLE
COND	CONDUCTOR
CONN	CONNECTION
CPU	CENTRAL PROCESSING UNIT
CR	CONTROLLED RECEPTACLE
CT	CURRENT TRANSFORMER
CU	COPPER
DC	DIRECT CURRENT
DDC	DIRECT DIGITAL CONTROL
DEG	DEGREE
DF	DEMAND FACTOR
DISC	DISCONNECT
DISC SW	DISCONNECT SWITCH
DN	DOWN
EDH	ELECTRIC DUCT HEATER
EMT	ELECTRIC METALLIC TUBING
EOL	END OF LINE
EOR	ENGINEER OF RECORD
ETR	EXISTING TO REMAIN
EWC	ELECTRIC WATER COOLER
FA	FIRE ALARM
FAAP	FIRE ALARM ANNUNCIATOR PANEL
FATC	FIRE ALARM TERMINAL CABINET
FBC	FLORIDA BUILDING CODE
FCU	FAN COIL UNIT
FLA	FULL LOAD AMPERES
FT	FEET
GF	GROUND FAULT
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GFR	GROUND FAULT RELAY
GND, G	GROUND
HP	HORSEPOWER
HORIZ	HORIZONTAL
IBC	INTERNATIONAL BUILDING CODE
IECC	INTERNATIONAL ENERGY CONSERVATION CODE
IEEE	INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS
IES	ILLUMINATING ENGINEERING SOCIETY
IMC	INTERMEDIATE METAL CONDUIT
IN	INCHES
IPCEA	INSULATED POWER CABLE ENGINEERS ASSOCIATION
IT	INSTANTANEOUS TRIP
JB OR J-BOX	JUNCTION BOX
KCMIL	ONE THOUSAND CIRCULAR MILS
KV	KILOVOLT
KVA	KILOVOLT AMPERES
KW	KILOWATT
KWH	KILOWATT HOURS
LBS	POUNDS
LED	LIGHT EMITTING DIODE
LP	LIGHTNING PROTECTION
LT	LIGHT
LTG	LIGHTING
LSIG	LONG TIME, SHORT TIME, INSTANTANEOUS, GROUND
LSIA	LONG TIME, SHORT TIME, INSTANTANEOUS, ALARM
LSI	LONG TIME, SHORT TIME, INSTANTANEOUS
MAX	MAXIMUM
MCA	MINIMUM CIRCUIT AMPS
MCB	MAIN CIRCUIT BREAKER
MCC	MOTOR CONTROL CENTER
MDP	MAIN SERVICE DISTRIBUTION PANEL
MIC	MICROPHONE
MIN	MINIMUM
MLO	MAIN LUGS ONLY
MOCP	MAXIMUM OVERCURRENT PROTECTION
MSB	MAIN SERVICE SWITCHBOARD
MTD	MOUNTED
MTG	MOUNTING
MTR	MOTOR
MTS	MANUAL TRANSFER SWITCH
MUX	MULTIPLEX (TRANSPONDER) PANEL
N	NEUTRAL
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NF	NON-FUSED
NL	NON-LINEAR
NO	NORMALLY OPEN OR NUMBER
OL	OVERLOAD
OSHA	OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION
P	POLE
PB	PULLBOX
PF	POWER FACTOR
PIV	POST INDICATOR VALVE
PNL	PANEL
PR	PAIR
PRI	PRIMARY
PVC	POLYVINYLCHLORIDE
PWR	POWER
REC, RECEPT	RECEPTACLE
REF	REFRIGERATOR
RGS, GRC	RIGID GALVANIZED STEEL CONDUIT
RTU	ROOF TOP UNIT
SCA	SHORT CIRCUIT AMPERES
SD	SMOKE DETECTOR
SEC	SECONDARY
S/N	SOLID NEUTRAL
SPD	SURGE PROTECTIVE DEVICE
SPST	SINGLE POLE SINGLE THROW
SS	STAINLESS STEEL
SST	SOLID STATE TRIP
STD	SHORT TIME TRIP
SW	SWITCH
SWBD	SWITCHBOARD
SWGR	SWITCHGEAR
TYP	TYPICAL
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
UL	UNDERWRITERS LABORATORIES
UTIL	UTILITY
V	VOLT
VA	VOLTAMPERE
VAR	VOLT AMPERE REACTIVE
VAV	VARIABLE AIR VOLUME
VFD	VARIABLE FREQUENCY DRIVE
W	WIRE
WP	WEATHER PROOF
XFMR	TRANSFORMER
XFR	TRANSFER

ELECTRICAL DRAWING INDEX

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10.22.19	CONSTRUCTION DOCUMENTS	

ELECTRICAL SYMBOLS, LEGENDS, AND INDEX

PROJ. NO. E-16078.00 SHEET
DRAWN KW
E001

ELECTRICAL GENERAL NOTES

GENERAL:

1. THE DRAWINGS AND APPLICABLE SPECIFICATIONS SHALL BE CONSIDERED SUPPLEMENTARY, ONE TO THE OTHER AND ARE CONSIDERED THE "CONTRACT DOCUMENTS". ALL WORKMANSHIP, METHODS AND/OR MATERIALS DESCRIBED OR IMPLIED BY ONE AND NOT DESCRIBED OR IMPLIED BY THE OTHER SHALL BE PROVIDED, FURNISHED OR PERFORMED AS IF IT HAD APPEARED IN BOTH SECTIONS. THE TERM "CONTRACT DOCUMENTS" DESCRIBED HEREIN IS NOT LIMITED SOLELY TO THE ELECTRICAL PORTION OF THE DRAWINGS AND SPECIFICATIONS, BUT ENCOMPASSES THE DRAWINGS AND SPECIFICATIONS OF ALL DIVISIONS AS A WHOLE.
2. PROVIDE AN OPERATING AND MAINTENANCE MANUAL TO OWNER PRIOR TO THE FINAL ACCEPTANCE. THE MANUAL SHALL INCLUDE, AS A MINIMUM, (1) SUBMITTAL DATA STATING EQUIPMENT RATING AND SELECTED OPTIONS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE. ALSO PROVIDE TWO OPERATIONS AND MAINTENANCE MANUALS FOR EACH PIECE OF EQUIPMENT REQUIRING MAINTENANCE. REQUIRED ROUTINE MAINTENANCE ACTIONS AND METHOD OF OPERATION FOR EQUIPMENT SHALL BE CLEARLY IDENTIFIED, AND THE NAME, PHONE NUMBER AND ADDRESS OF AT LEAST ONE QUALIFIED SERVICE AGENCY.
3. INCLUDE ALL COSTS FOR EXCAVATION, SAW CUTTING, DIRECTIONAL BORING, CORE DRILLING, BACKFILLING, SURFACE RESTORATION, REPAIR OF FINISHES, ETC. THAT IS REQUIRED IN ORDER TO MEET THE PROJECT REQUIREMENTS.
4. INCLUDE IN BID ALL COSTS ASSOCIATED WITH TEMPORARY ELECTRICAL SERVICE AS REQUIRED FOR USE BY ALL TRADES DURING CONSTRUCTION. REMOVE TEMPORARY POWER AT THE COMPLETION OF THE PROJECT. OBTAIN AND PAY FOR ALL REQUIRED PERMITS FOR TEMPORARY POWER. ENGINEER OF RECORD SHALL BE PROVIDED WITH ADDITIONAL COMPENSATION FROM THE CONTRACTOR WHERE SIGNED & SEALED DRAWINGS ARE REQUESTED BY THE CONTRACTOR TO THE ENGINEER OF RECORD IF REQUIRED BY THE AHJ FOR THE TEMPORARY POWER.
5. PROVIDE A COMPLETE UL LISTED LIGHTNING PROTECTION SYSTEM WITH A MASTER LABEL FOR THE ENTIRE FACILITY PER THE REQUIREMENTS OF NFPA 780, AND THE DIVISION 26 SPECIFICATIONS, UNLESS NOTED OTHERWISE. LIGHTNING PROTECTION SYSTEM SHALL INCLUDE BURIED COUNTERPOISE, UNLESS NOTED OTHERWISE.
6. LOCATE, IDENTIFY, PROTECT AND DOCUMENT ALL UTILITY LINES LOCATED WITHIN THE PROJECT BOUNDARY. FOR LOCATING SITE UTILITIES, CONTACT SUNSHINE STATE ONE CALL OF FLORIDA, INC. AT LEAST 48 HOURS IN ADVANCE PRIOR TO DIGGING, AT 1-800-432-4770.
7. INCLUDE IN BID THE TRANSPORT AND DISPOSAL OR RECYCLING OF ALL WASTE MATERIALS GENERATED BY THIS PROJECT IN ACCORDANCE WITH ALL LOCAL, STATE AND FEDERAL RULES, REGULATIONS AND GUIDELINES APPLICABLE. COMPLY FULLY WITH FLORIDA STATUTES REGARDING MERCURY-CONTAINING DEVICES, AND WITH ALL DEP AND EPA APPLICABLE GUIDELINES AT THE TIME OF DISPOSAL. PROVIDE OWNER WITH WRITTEN CERTIFICATION OF ACCEPTED DISPOSAL.

COORDINATION:

1. VERIFY AND COORDINATE LOCATIONS OF ANY MISCELLANEOUS EQUIPMENT REQUIRING ELECTRICAL CONNECTIONS (I.E., COPIERS, FAX MACHINES, PRINTERS, KITCHEN APPLIANCES, LAUNDRY APPLIANCES, PROJECTION SCREENS, SHOP TOOLS, MACHINE, ELEVATORS, ETC.) WITH APPROVED SHOP DRAWINGS, OWNER-PROVIDED CUT SHEETS, MANUFACTURER'S INSTRUCTIONS, AND EQUIPMENT NAMEPLATE INFORMATION, PRIOR TO ROUGH IN, AND PROVIDE ALL NECESSARY ELECTRICAL REQUIRED.
2. VERIFY AND COORDINATE LOCATIONS AND EXACT ELECTRICAL REQUIREMENTS FOR ALL MECHANICAL, PLUMBING AND FIRE PROTECTION EQUIPMENT PRIOR TO SUBMITTAL OF SHOP DRAWINGS OF ELECTRICAL EQUIPMENT. PROVIDE ALL NECESSARY RACEWAYS, CONDUCTORS, BOXES, EQUIPMENT, ACCESSORIES, ASSOCIATED DISCONNECT SWITCHES, CIRCUIT BREAKERS, CONTROL TRANSFORMERS, FIRE ALARM SHUTDOWN, ETC. REQUIRED FOR A COMPLETE AND OPERATIONAL SYSTEM. COORDINATE WITH APPROPRIATE TRADE'S APPROVED SHOP DRAWINGS, MANUFACTURER'S INSTRUCTIONS, AND EQUIPMENT NAMEPLATE INFORMATION, PRIOR TO ROUGH IN, AND PROVIDE ALL NECESSARY ELECTRICAL REQUIRED, UNLESS OTHERWISE NOTED.
3. THIS PROJECT REQUIRES COORDINATION DRAWINGS BY THE CONTRACTOR. PARTICIPATE IN THE COORDINATION DRAWING PREPARATION PROCESS AND PROVIDE ALL NECESSARY INFORMATION REQUIRED TO COORDINATE ALL TRADE INFORMATION.
4. ALL WORK ON THE ELECTRICAL SYSTEM REQUIRED BY THE CONTRACT DOCUMENTS SHALL BE COORDINATED WITH THE WORK OF ALL OTHER DIVISIONS/TRADES PRIOR TO COMMENCEMENT OF WORK. AVOID INTERFERENCES WITH THE PROGRESS OF OTHER DIVISIONS/TRADES.
5. LOCATIONS OF VFD'S, DISCONNECTS, MOTOR STARTERS, ETC. FOR HVAC EQUIPMENT ARE DIAGRAMMATIC ON THE PLAN DRAWINGS. EXACT LOCATIONS ARE TO BE COORDINATED WITH CONTRACTOR'S COORDINATION DRAWINGS PRIOR TO ROUGHING IN TO ENSURE PROPER NEC CLEARANCES AND APPROPRIATE MOUNTING SURFACE.
6. COORDINATE RECEPTACLE LOCATIONS WITH TECHNOLOGY DRAWINGS OR OWNER'S VENDOR DRAWINGS SO THAT A 120V 20A 5-20R RECEPTACLE IS LOCATED ADJACENT TO EACH VOICE/DATA OUTLET AND TV OUTLET INDICATED ON PLANS. RECEPTACLE IS TO BE CONNECTED TO NEAREST 120V RECEPTACLE CIRCUIT, UNLESS OTHERWISE NOTED ON PLANS.
7. REFER TO ARCHITECTURAL, MECHANICAL, PLUMBING, FIRE PROTECTION, CIVIL, LANDSCAPE, INTERIOR DESIGN, TECHNOLOGY, STRUCTURAL, AND KITCHEN EQUIPMENT DRAWINGS FOR RELATED INFORMATION AND ADDITIONAL INSTALLATION REQUIREMENTS TO BE PERFORMED AS PART OF THE WORK.
   WHERE A DISCREPANCY OR CONFLICT IS FOUND BETWEEN ONE DRAWING AND ANOTHER, OR BETWEEN A DRAWING AND APPLICABLE SPECIFICATIONS, NOTIFY THE ARCHITECT/ENGINEER IMMEDIATELY IN WRITTEN FORM. IN GENERAL, THE MOST STRINGENT REQUIREMENT SHALL GOVERN UNLESS THE DISCREPANCY CONFLICTS WITH APPLICABLE CODES OR OWNER'S DESIGN STANDARDS, WHEREIN THE CODE OR OWNER'S DESIGN STANDARDS SHALL GOVERN.
8. CAREFULLY EXAMINE THOSE PORTIONS OF THE BUILDING AND/OR SITE AFFECTED BY THIS WORK PRIOR TO SUBMITTAL BID PRICE, SO AS TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND DIFFICULTIES THAT MAY AFFECT EXECUTION OF THE WORK. SUBMISSION OF A BID PRICE SHALL BE CONSTRUED AS EVIDENCE THAT SUCH EXAMINATION HAS BEEN MADE. LATER CLAIMS FOR LABOR, EQUIPMENT AND/OR MATERIALS REQUIRED DUE TO DIFFICULTIES ENCOUNTERED THAT COULD HAVE BEEN REASONABLY OBSERVED WILL NOT BE RECOGNIZED.
9. COORDINATE ALL PROJECT SCHEDULING AND PHASING REQUIREMENTS WITH ARCHITECT/ENGINEER AND OWNER PRIOR TO SUBMITTING BID PRICE. THIS PROJECT MAY REQUIRE PHASING SEQUENCES AND POTENTIAL PREMIUM TIME WORK AND ALL COSTS FOR SUCH SHALL BE INCLUDED IN THE BID PRICE. PROVIDE ADEQUATE WORK FORCE AND EQUIPMENT, AND INCLUDE PREMIUM TIME AS MAY BE REQUIRED IN ORDER TO ADHERE TO THE PROJECT SCHEDULE. ADDITIONALLY, ENSURE THAT LONG LEAD ITEMS DO NOT IMPACT THE PROJECT'S SCHEDULE OR PHASING.
10. ANY TEMPORARY INTERRUPTION ON POWER REQUIRED FOR THE SYSTEM TIE-IN OR SWITCHOVER FOR ANY PORTION OF THE ELECTRICAL SYSTEM SHALL BE PRE-APPROVED IN WRITING BY THE OWNER AND SCHEDULED IN ADVANCE.
11. COORDINATE EXACT REQUIREMENTS WITH THE LOCAL UTILITY COMPANIES AND PROVIDERS (ELECTRIC, TELEPHONE, CABLE TV, ETC.) AND INCLUDE ALL COSTS FOR PROVIDING TEMPORARY AND PERMANENT SERVICES REQUIRED FOR THIS PROJECT IN THE BID PRICE. BID PRICE SHALL INCLUDE, BUT NOT BE LIMITED TO, EXCAVATION, RACEWAYS, BACKFILL, EQUIPMENT, EQUIPMENT PADS, BACKBOARDS, METERS, GROUNDING, UTILITY ENGINEERING AND IMPACT FEES.
12. CONDUCT WORK OPERATIONS AND DEBRIS REMOVAL IN A MANNER THAT ENSURES MINIMUM INTERFERENCE WITH NORMAL BUSINESS OPERATIONS, TRAFFIC, PARKING, ETC. ONGOING IN ADJACENT OCCUPIED SPACES OR FACILITIES. PROVIDE ALL THAT IS REQUIRED TO EFFECTIVELY PROTECT SURROUNDING OCCUPANTS, EQUIPMENT, FINISHES, FURNITURE, ETC. FROM DAMAGE OR EXCESSIVE NOISE THROUGHOUT THE DURATION OF THIS PROJECT. CONTRACTOR IS RESPONSIBLE FOR ANY LOSSES OR DAMAGE. ANY DAMAGE RESULTING FROM THE FAILURE TO ADHERE TO THIS REQUIREMENT. RESTORE DAMAGED ELEMENTS TO ORIGINAL CONDITION BY THE CONTRACTOR TO THE SATISFACTION OF THE ARCHITECT/ENGINEER AND OWNER, AT NO ADDITIONAL COSTS. REPORT OF ANY SUCH OCCURRENCE TO THE ARCHITECT/ENGINEER AND OWNER IMMEDIATELY AND AWAIT WRITTEN DIRECTION PRIOR TO PROCEEDING WITH REPAIRS.
13. COORDINATE THE LOCATION OF ALL LIGHT FIXTURES, DEVICES AND BOXES WITH WINDOWS, MIRRORS, MILLWORK, CABINETS, GLASS CURTAIN WALLS, AND GLASS WALLS PRIOR TO INSTALLATION OF CONDUITS OR BOXES. REVIEW ALL CONTRACT DRAWINGS TO ASCERTAIN ANY CONFLICTS PRIOR TO BIDDING. OBTAIN CLARIFICATION FROM A/E PRIOR TO BID. CONTRACTOR SHALL NOT BE ENTITLED TO ADDITIONAL COMPENSATION FOR WORK REQUIRED TO RELOCATE OUTLET BOXES OR RACEWAYS FOR COORDINATION WITH OTHER TRADE'S WORK.

ELECTRICAL EQUIPMENT:

1. EQUIPMENT SHALL BE OF MATERIALS SUITABLE FOR AND RATED FOR THE ENVIRONMENT IN WHICH THEY ARE TO BE INSTALLED. ALL COMPONENTS OF THE ELECTRICAL SYSTEM LOCATED OUTDOORS OR INDOORS WHERE EXPOSED TO SIGNIFICANT MOISTURE SHALL BE WEATHERPROOF, NEMA 3R, AS A MINIMUM, WHETHER INDICATED ON THE CONTRACT DRAWINGS OR NOT.
2. TERMINATION PROVISIONS FOR ALL ELECTRICAL EQUIPMENT (PANELBOARDS, SWITCHBOARD, TRANSFORMERS, DISCONNECT SWITCHES, ENCLOSED CIRCUIT BREAKERS, WIREWAYS, ETC.) SHALL BE LISTED AND IDENTIFIED FOR USE WITH MINIMUM 75 DEG. C CONDUCTORS IN ACCORDANCE WITH NEC.
3. WORKING CLEARANCES FOR ELECTRICAL EQUIPMENT SHALL BE IN COMPLIANCE WITH NEC.
4. THE EXCLUSIVELY DEDICATED SPACE EXTENDING FROM FLOOR TO 6' ABOVE EQUIPMENT OR STRUCTURAL CEILING, WHICHEVER DISTANCE IS LOWER, WITH A WIDTH AND DEPTH OF THE PANELBOARD OR SWITCHBOARD MUST BE CLEAR OF ALL PIPING, DUCTS, EQUIPMENT FOREIGN TO THE ELECTRICAL EQUIPMENT OR ARCHITECTURAL APPURTENANCES IN ACCORDANCE WITH NEC.
5. PROVIDE A REINFORCED CONCRETE PAD, SIZED 4" LARGER IN ALL DIRECTIONS THAN THE FOOTPRINT OF THE EQUIPMENT, AND 4" HIGH, FOR ALL FREESTANDING, FLOOR-MOUNTED ELECTRICAL EQUIPMENT. PROVIDE VIBRATION ISOLATORS AND/OR ANCHORS PER MANUFACTURER'S INSTRUCTIONS.
6. PROVIDE HACR RATED CIRCUIT BREAKER FOR ALL HVAC EQUIPMENT.
7. ALL PANELBOARDS OR DISCONNECT SWITCHES LOCATED IN KITCHEN AREAS SHALL BE STAINLESS STEEL (COVER AND DOOR WHERE PANEL IS FLUSH MOUNTED, PANEL BOX, COVER & DOOR WHERE SURFACE MOUNTED).
8. PROVIDE SURGE PROTECTION DEVICE FOR ALL MAIN SERVICE EQUIPMENT, PANELBOARDS SERVING SENSITIVE ELECTRONIC EQUIPMENT (DATA RACKS) OR COMPUTERS, LIGHTING PANELS SERVING EXTERIOR LIGHTING, POWER CIRCUITS OR LOW VOLTAGE (FIRE ALARM, TELECOMMUNICATIONS) EXITING THE BUILDING. PROVIDE MINIMUM 30A/3P BREAKER IN PANELBOARDS AND 60A/3P DISTRIBUTION PANEL OR SWITCHBOARD, UNLESS OTHERWISE NOTED, OR PER THE SPD MANUFACTURER'S RECOMMENDATIONS FOR SURGE PROTECTION DEVICE.
9. CONTRACTOR IS TO SUBMIT FOR APPROVAL TO THE ENGINEER OF RECORD FINAL COORDINATED SETTINGS REQUIRED FOR MAIN CIRCUIT BREAKER AND ALL DOWNSTREAM ADJUSTABLE OVERCURRENT PROTECTIVE DEVICES, BASED ON SELECTED EQUIPMENT MANUFACTURER.

IDENTIFICATION:

1. PROVIDE TYPED PANEL DIRECTORIES FOR ALL NEW PANELBOARDS. DIRECTORIES SHALL REFLECT PROJECT AS- BUILT CONDITIONS FOR ALL BRANCH CIRCUITS. DIRECTORIES SHALL INCLUDE WHERE EACH PANEL IS FED FROM. ADDITIONALLY, EACH BRANCH CIRCUIT LOAD DESCRIPTION SHALL INCLUDE THE ROOM NUMBER(S) FOR EACH LOAD SERVICE (I.E., RECEPTACLES-RMS 501,503). ROOM NUMBERS SHALL BE BASED ON ACTUAL ROOM SIGNAGE INSTALLED IN FIELD. COORDINATE EXACT ROOM NUMBERS WITH A/E AND OWNER PRIOR TO COMPLETION OF PANEL DIRECTORIES.
2. PROVIDE ENGRAVED PLASTIC LAMINATE NAME TAGS ON EACH SWITCHBOARD, DISTRIBUTION PANEL, PANELBOARD, SAFETY SWITCH, ENCLOSED CIRCUIT BREAKER, CABINET, STEP-DOWN TRANSFORMER, ETC., AND ANY OTHER MAJOR COMPONENT OF THE ELECTRICAL SYSTEM.
3. PROVIDE ENGRAVED PLASTIC LAMINATE NAME TAGS FOR EACH DISTRIBUTION BREAKER OR BRANCH CIRCUIT BREAKER IN SWITCHBOARDS AND OTHER DISTRIBUTION EQUIPMENT. NAME TAG SHALL INCLUDE LOAD DESCRIPTION AND ROOM NUMBER FOR EACH LOAD SERVICE.
4. ARC FLASH DANGER/WARNING LABELS SHALL BE APPLIED TO SWITCHBOARD, PANELBOARDS, AND EQUIPMENT CONTROLLERS PER NEC.
5. PROVIDE LABELS ON THE INSIDE OF EACH DEVICE COVERPLATE, IDENTIFYING THE PANEL(S)/ CIRCUIT NUMBER(S) DEVICE IS CONNECTED TO.
6. PROVIDE NEATLY, HANDWRITTEN IDENTIFICATION ON THE EXTERIOR COVER OF ALL JUNCTION BOXES, PULLBOXES AND WIREWAYS, IDENTIFYING THE PANEL(S)/ CIRCUIT NUMBER(S) CONTAINED WITHIN.
7. PROVIDE A PERMANENT SIGN ON THE MAIN ELECTRICAL ROOM DOOR TO THE BUILDING STATING THAT THE MAIN SERVICE DISCONNECTING MEANS IS LOCATED INSIDE.
8. PROVIDE A PERMANENT LABEL ON ALL PANELBOARDS, SWITCHBOARDS, AND DISTRIBUTION PANELS STATING "DO NOT WORK ON EQUIPMENT WHILE ENERGIZED. LOCK-OUT TAG-OUT REQUIRED".
9. PROVIDE REQUIRED IDENTIFICATION PER ANSI STANDARDS, NEC REQUIREMENTS, AND OWNER'S PUBLISHED DESIGN STANDARDS WHERE APPLICABLE.

ELECTRICAL DEVICES, OUTLET BOXES, JUNCTION BOXES:

1. LIGHT SWITCHES SHALL BE MOUNTED 48 INCHES ABOVE FINISHED FLOOR TO CENTER LINE OF DEVICE, UNLESS OTHERWISE NOTED.
2. RECEPTACLES, VOICE/DATA OUTLETS, WALL FURNITURE FEEDS SHALL BE MOUNTED 18 INCHES ABOVE FINISHED FLOOR TO CENTER LINE OF DEVICE, UNLESS OTHERWISE NOTED. ABOVE COUNTER RECEPTACLES SHALL BE MOUNTED 6" ABOVE BACK SPLASH TO CENTERLINE OF DEVICE, UNLESS OTHERWISE NOTED.
3. WHEN ELECTRICAL BOXES ARE LOCATED IN VERTICAL FIRE-RESISTIVE ASSEMBLIES, (CLASSIFIED AS FIRE/SMOKE AND SMOKE PARTITIONS), THEY SHALL BE INSTALLED WITHOUT AFFECTING THE FIRE CLASSIFICATION. ALL OF THE FOLLOWING CONDITIONS SHALL BE MET:
   A. ALL ELECTRICAL BOXES SHALL BE METALLIC.
   B. BOX OPENING SHALL OCCUR ONLY ON ONE SIDE OF FRAMING SPACE.
   C. BOX OPENING SHALL NOT EXCEED 16 SQUARE INCHES.
   D. ALL CLEARANCES BETWEEN OUTLET BOX AND GYPSUM BOARD SHALL BE COMPLETELY FILLED WITH JOINT COMPOUND (OR OTHER APPROVED MATERIAL).
   E. PROVIDE A WALL AROUND OUTLETS LARGER THAN 16 SQUARE INCHES. THE INTEGRITY OF THE WALL RATING SHALL BE MAINTAINED.
   F. THE TOTAL AGGREGATE SURFACE AREA OF THE BOXES SHALL NOT EXCEED 100 SQUARE INCHES PER 100 SQUARE FEET.
   G. OUTLET BOXES LOCATED ON OPPOSITE SIDES OF FIRE RESISTIVE ASSEMBLIES SHALL BE SEPARATED BY A MINIMUM HORIZONTAL DISTANCE OF 24 INCHES.
   H. OUTLET BOXES SHALL BE SECURELY FASTENED TO WALL FRAMING MEMBERS.
   I. THE OPENING IN THE GYPSUM BOARD FACING SHALL BE CUT NOT TO EXCEED 1/8 INCH BETWEEN THE EDGES OF THE OUTLET BOX AND THE EDGES OF THE OPENING.
4. IT IS THE INTENT THAT ALL DEVICE OUTLET BOXES (POWER AND SYSTEMS) BE FLUSH MOUNTED IN WALLS, CEILINGS OR FLOORS, AND JUNCTION BOXES FLUSH MOUNTED IN WALLS, CEILINGS, OR FLOORS, OR CONCEALED ABOVE ACCESSIBLE CEILINGS, AND NOT SURFACE MOUNTED, UNLESS SPECIFICALLY NOTED ON THE CONTRACT DRAWINGS, OR UNLESS A/E GRANTS WRITTEN PERMISSION.
5. ALL COMPONENTS OF THE ELECTRICAL SYSTEM (INCLUDE RACEWAYS, ELECTRICAL EQUIPMENT, OUTLET BOXES, JUNCTION BOXES, ETC.) LOCATED IN A HAZARDOUS (CLASSIFIED) LOCATION SHALL BE APPROVED FOR USE IN SAID LOCATION, AS DEFINED BY THE NEC, WHETHER INDICATED ON THE CONTRACT DOCUMENTS OR NOT.
6. ALL DEVICES SHALL BE MOUNTED VERTICALLY, UNLESS OTHERWISE NOTED.
7. ALL RECEPTACLES SHALL BE MOUNTED SUCH THAT THE GROUND PIN IS MOUNTED UP.
8. WHERE DEVICES ARE SHOWN IN WALLS BACK-TO-BACK ON OPPOSITE SIDES, INSTALL SO THAT THEY ARE SEPARATED BY AT LEAST 12".
9. RECEPTACLES OR JUNCTION BOXES FOR ELECTRIC WATER COOLERS SHALL BE LOCATED DIRECTLY BEHIND ELECTRIC WATER COOLER, CONCEALED FROM DIRECT VIEW. RECEPTACLES SHALL BE GFCI TYPE. JUNCTION BOXES FOR HARD-WIRED CONNECTION TO EWC SHALL BE CIRCUITED TO GFCI PROTECTED CIRCUIT BREAKER IN PANELBOARD.
10. ALL EXTERIOR RECEPTACLES OR RECEPTACLES LOCATED IN AREAS SUBJECT TO MOISTURE (PORTE COCHERE, WASHDOWN AREAS IN KITCHEN, ETC) SHALL BE GFCI TYPE. ALL EXTERIOR RECEPTACLES SHALL BE PROVIDED WITH CAST METAL, IN-USE COVER UNLESS NOTED OTHERWISE.
11. ALL RECEPTACLES LOCATED IN KITCHENS, BATHROOMS OR WITHIN 6' OF THE INSIDE FACE OF A SINK, IN MECHANICAL ROOMS, JANITOR CLOSETS, ELEVATOR SHAFTS, ELEVATOR SUMP PUMP, AND ELEVATOR EQUIPMENT ROOMS SHALL BE GFCI TYPE OR GFCI PROTECTED.
12. ALL RECEPTACLES LOCATED IN FRONT OF HOUSE AREAS AND AREAS AS REQUIRED BY NEC AND AHJ SHALL BE TAMPERPROOF.
13. REFER TO THE ARCHITECTURAL FINISH LEGEND AND FINISH PLANS FOR LOCATIONS OF BLACK AND GREY FACEPLATES AND DEVICES IN EACH ROOM.

RACEWAYS:

1. FLEXIBLE METAL CONDUIT AND LIQUIDTIGHT METAL CONDUIT (FMC & LFMC) SHALL NOT BE USED IN LENGTHS THAT EXCEED 6'-0" UNLESS SPECIFICALLY NOTED OTHERWISE, OR UNLESS A/E GRANTS WRITTEN PERMISSION.
2. ALL FEEDER AND BRANCH CIRCUIT CONDUCTORS, INCLUDING LOW VOLTAGE SYSTEMS, SHALL BE INSTALLED IN A COMPLETE RACEWAY SYSTEM (CONDUIT) UNLESS SPECIFIED NOTED OTHERWISE.
3. THE USE OF ELECTRICAL NON-METALLIC TUBING (ENT) AND LIQUIDTIGHT FLEXIBLE NON-METALLIC CONDUIT (LFNC) ARE PROHIBITED UNLESS SPECIFICALLY NOTED OTHERWISE, OR UNLESS A/E OR OWNER GRANTS WRITTEN PERMISSION.
4. CONNECTIONS TO TRANSFORMERS, AHU'S, AND PUMPS SHALL BE WITH LIQUIDTIGHT, FLEXIBLE METAL CONDUIT.
5. NO PVC CONDUIT MAY BE USED INSIDE OF BUILDING UNLESS ROUTED UNDERGROUND, AND UNLESS OTHERWISE NOTED.
6. ALL CONDUIT TERMINATIONS AT TERMINAL BOARDS ARE TO HAVE GROUNDING BUSHINGS AT CONDUIT ENDS.
7. ALL CONDUITS ARE TO BE CONCEALED. CONCEAL ALL CONDUITS ABOVE CEILINGS OR IN WALLS AND MILLWORK. WHERE CONDITIONS DICTATE THAT CONDUITS CANNOT BE CONCEALED, NOTIFY ARCHITECT/ENGINEER PRIOR TO INSTALLING CONDUIT FOR RESOLUTION TO ROUTING.
8. SEAL ALL PENETRATIONS AND OPENINGS MADE DURING EXECUTION OF WORK IN FIRE-RATED WALLS. WALLS SHALL BE SEALED WITH UL-APPROVED PRODUCT WITH THE SAME OR GREATER RATING OF WALL PENETRATED.
9. PROVIDE ALL PENETRATIONS THROUGH FLOORS, WALL, CEILINGS AND ROOFS WHERE REQUIRED. COORDINATE LOCATIONS AND SIZES WITH ARCHITECTURAL AND STRUCTURAL DRAWINGS, FIELD CONDITIONS AND WORK OF ALL OTHER DIVISIONS/TRADES. ALL OPENINGS ARE TO BE SEALED WATERTIGHT.
10. ALL RACEWAYS THAT TURN UP INTO THE SLAB OR ELECTRICAL EQUIPMENT FROM UNDERGROUND SHALL BE RIGID GALVANIZED STEEL (RGS) WITH BITUMASTIC COATING FOR AT LEAST THE FINAL 18" IN LENGTH. THE USE OF NON-METALLIC CONDUIT ABOVE GRADE IS PROHIBITED.
11. PANEL SCHEDULES AND FLOOR PLANS MAY INDICATE DEDICATED HOMERUNS FOR EACH BRANCH CIRCUIT. BRANCH CIRCUITS MAY BE GROUPED IN A COMMON HOMERUN WHERE THE HOMERUN DOES NOT EXCEED 3 PHASE CONDUCTORS, 3 NEUTRAL CONDUCTORS, AND 1 EQUIPMENT GROUND. THE HOMERUN RACEWAY SIZE AND CONDUCTOR SIZE SHALL BE INCREASED AS NECESSARY TO COMPLY WITH THE NEC FOR 40% MAXIMUM FILL AND DERATING REQUIREMENTS.
12. IT IS THE INTENT THAT ALL RACEWAYS BE CONCEALED IN WALLS, ABOVE CEILINGS, IN SLAB, OR BELOW SLAB UNLESS SPECIFICALLY NOTED OTHERWISE, OR UNLESS A/E GRANTS WRITTEN PERMISSION. WHERE RACEWAYS ARE INSTALLED IN SLABS, THE MINIMUM SPACING, MAXIMUM RACEWAY SIZE, AND ANY OTHER STRUCTURAL LIMITATIONS SHALL BE COORDINATED WITH THE STRUCTURAL DRAWINGS AND THE STRUCTURAL ENGINEER PRIOR TO INSTALLATION.
13. PROVIDE SEAL OFF FITTINGS, APPROVED FOR SUCH USE, WHERE RACEWAYS PENETRATE BETWEEN A DRY, CONDITIONED ENVIRONMENT AND THE EXTERIOR OR WET ENVIRONMENTS SUCH AS WALK-IN COOLERS OR FREEZERS, KITCHEN WASH-DOWN AREAS, ETC.
14. PROVIDE POLYOLEFIN JET-LINE #232 (NYLON PULL STRING) IN EACH EMPTY CONDUIT WITH ENGRAVED METAL TAG INDICATING CONDUIT DESIGNATION.
15. MINIMUM RACEWAY SIZE SHALL BE 3/4" UNLESS NOTED OTHERWISE.
16. COMPRESSION FITTINGS SHALL BE USED FOR EMT CONDUIT.

CONDUCTORS:

1. ALL WIRE SHALL BE SIZED AS SHOWN ON THE DRAWINGS. IF NO SIZE IS SHOWN, THEN WIRE SHALL BE #12 AWG, EXCEPT THAT BRANCH HOMERUNS OVER 100' IN LENGTH SHALL BE MINIMUM #10 AWG FOR 120/208 VOLT CIRCUITS, AND HOMERUNS OVER 200' IN LENGTH SHALL BE MINIMUM #10 AWG FOR 277/480 VOLT CIRCUITS. REFER TO BRANCH CIRCUIT VOLTAGE DROP TABLES BELOW. BRANCH CIRCUIT WIRING SHALL BE SIZED TO LIMIT THE VOLTAGE DROP TO 3% OF NOMINAL VOLTAGE OR LESS.
2. BRANCH CIRCUITS SHALL BE INCREASED IN SIZE AS REQUIRED TO COMPENSATE FOR VOLTAGE DROP FROM LENGTH OF CIRCUIT DUE TO FIELD ROUTING. FINAL INSTALLATION SHALL NOT EXCEED A MAXIMUM OF 3% VOLTAGE DROP FOR BRANCH CIRCUITS. REFER TO VOLTAGE DROP TABLE BELOW FOR CONDUCTOR SIZES FOR BRANCH CIRCUITS:

120V (BASED ON 1500W LOAD) CIRCUIT LENGTH	MIN. CONDUCTOR SIZE INCREASE FOR VOLTAGE DROP
0 FT - 70 FT	#12 AWG
71 FT - 115 FT	#10 AWG
116 FT - 180 FT	#8 AWG

181 FEET AND LONGER: SUBMIT WIRE SIZE TO ENGINEER OF RECORD FOR WRITTEN APPROVAL.

277V (BASED ON 4155W LOAD) CIRCUIT LENGTH	MIN. CONDUCTOR SIZE INCREASE FOR VOLTAGE DROP
0 FT - 140 FT	#12 AWG
141 FT - 220 FT	#10 AWG
221 FT - 350 FT	#8 AWG

3. ALL WIRE SIZES ARE BASED ON AMPACITIES FOR 75 DEG. C TEMPERATURE RATING LISTED IN NEC.
4. ALL CONDUCTORS IN CABINETS MUST BE CAREFULLY FORMED AND HARNESSED SO THAT EACH CONDUCTOR DROPS OFF DIRECTLY OPPOSITE TO TERMINAL.
5. ALUMINUM FEEDER CONDUCTORS RATED 100A (#1 AWG) AND ABOVE ARE PERMITTED, FOR PANELBOARDS, SERVICE ENTRANCE SWITCHBOARD AND DISTRIBUTION PANEL FEEDERS. CONNECTORS SHALL BE COMPRESSION TYPE. ALUMINUM CONDUCTORS SHALL BE AA-8800 SERIES ALUMINUM ALLOY, COMPACT STRANDED.

GROUNDING:

1. FIRE PROTECTION PIPING SHALL NOT BE USED FOR GROUNDING.
2. ALL FEEDERS AND BRANCH CIRCUITS SHALL INCLUDE AN EQUIPMENT GROUND CONDUCTOR. METAL RACEWAYS SHALL NOT BE USED AS EQUIPMENT GROUND.
3. WHERE A PHASE CONDUCTOR IS INCREASED IN SIZE DUE TO VOLTAGE DROP, THE EQUIPMENT GROUND CONDUCTOR SHALL BE INCREASED IN SIZE PROPORTIONATELY.
4. PROVIDE A GROUND BUS BAR IN EACH ELECTRICAL ROOM AND TELECOMMUNICATIONS / IDF/ MDF ROOM FOR ALL NEW CONSTRUCTION AND NEW ROOMS IN EXISTING CONSTRUCTION.

LIGHTING:

1. LIGHT FIXTURES SUPPORTED BY CEILING GRID SHALL BE SUPPORTED AS FOLLOWS: LIGHT FIXTURES WEIGHING LESS THAN 10 POUNDS SHALL HAVE 12-GAUGE HANGER WIRE CONNECTED FROM THE LIGHT FIXTURE TO THE STRUCTURE ABOVE. LIGHT FIXTURES WEIGHING 10 POUNDS OR MORE SHALL HAVE (2) 12-GAUGE HANGER WIRES ATTACHED AT OPPOSITE CORNERS OF THE LIGHT FIXTURE TO THE STRUCTURE ABOVE.
2. COORDINATE EXACT LOCATIONS OF LIGHT FIXTURES IN LAY-IN AND GYPBOARD CEILINGS WITH ARCHITECTURAL REFLECTED CEILING PLANS, AND WALL MOUNTED EXTERIOR AND INTERIOR LIGHT FIXTURES WITH ARCHITECTURAL ELEVATIONS PRIOR TO INSTALLATION. WHERE THE QUANTITY OF LIGHTS DIFFERS BETWEEN THE ARCHITECTURAL RCP AND THE ELECTRICAL LIGHTING PLANS, PROVIDE THE HIGHEST QUANTITY OF FIXTURES IN THE BID PRICE. THE DISCREPANCY IN QUANTITY SHALL BE BROUGHT TO THE ATTENTION OF THE A/E. THE HIGHEST QUANTITY SHALL BE CIRCUITED TO THE LOCAL ROOM OR AREA LIGHTING CIRCUITS AND LIGHTING CONTROL DEVICES, UNLESS OTHERWISE DIRECTED IN WRITING BY THE ARCHITECT/ENGINEER.
3. VERIFY ACTUAL CEILING CONSTRUCTION TYPE AS DEFINED ON THE ARCHITECTURAL DRAWINGS AND FURNISH ALL LIGHT FIXTURES WITH THE CORRECT MOUNTING DEVICES WHETHER OR NOT SUCH VARIATIONS ARE INDICATED BY THE LIGHT FIXTURE CATALOG NUMBER. VERIFY THE DEPTH OF ALL RECESSED LIGHT FIXTURES WITH THE ARCHITECTURAL DRAWINGS PRIOR TO ORDERING LIGHT FIXTURES. ANY DISCREPANCIES THAT WOULD CAUSE THE RECESSED LIGHT FIXTURES NOT TO FIT INTO CEILING SHALL BE REPORTED TO ARCHITECT/ENGINEER PRIOR TO ORDERING LIGHT FIXTURES.
4. LIGHT FIXTURES RECESSED IN FIRE-RATED CEILINGS SHALL BE PROVIDED WITH APPROVED FIRE-RATED ENCLOSURE WITH A FIRE RATING EQUAL TO THAT OF THE CEILING. PROVIDE A MINIMUM OF 3" CLEARANCE FROM SIDES AND TOP OF RECESSED LIGHT FIXTURES.
5. MODIFY ALL LIGHT FIXTURE CATALOG NUMBERS AS REQUIRED TO COORDINATE WITH THE LIGHTING BRANCH CIRCUIT VOLTAGES INDICATED. COORDINATE THE CATALOG NUMBERS WITH THE EXACT FIXTURE MOUNTING AND TRIM REQUIRED BY THE CEILING IN WHICH EACH FIXTURE IS BEING INSTALLED.
6. ALL LIGHT FIXTURES SHALL BE PROVIDED COMPLETE WITH LAMPS, UNLESS OTHERWISE NOTED.
7. ALL EXIT LIGHTS, LIGHT FIXTURES INDICATED WITH UNSWITCHED CIRCUIT (NIGHTLIGHT N/L), EMERGENCY TWIN-HEAD FIXTURES WITH INTEGRAL BATTERY PACKS, AND BATTERY PACKS INTEGRAL TO LIGHT FIXTURES, SHALL BE WIRED AHEAD OF ANY LOCAL SWITCHING OR LIGHTING CONTROLS.
8. PROVIDE UL WET LABEL OR IP67 RATED LIGHT FIXTURES FOR ALL FIXTURES LOCATED OUTSIDE, IN SHOWERS, OR OPEN STRUCTURES.
9. PROVIDE FUSING FOR ALL EXTERIOR LIGHT FIXTURES, OR OPEN STRUCTURES.
10. PROVIDE ALL TEMPORARY NORMAL LIGHTING, EMERGENCY LIGHTING AND EXIT SIGNAGE REQUIRED DURING THE PROJECT CONSTRUCTION PHASE.
11. COORDINATE EXACT FOUNDATION AND/OR COMPACTING REQUIREMENTS FOR ALL POLE MOUNTED LIGHT FIXTURES WITH MANUFACTURER'S AND/OR INSTALLER'S STRUCTURAL ENGINEER. POLE BASES SHALL MEET OR EXCEED ALL WIND LOAD RATINGS, GUST FACTORS, IMPORTANCE FACTORS, ETC. REQUIRED BY NATIONAL AND/OR LOCAL CODES. SHOP DRAWINGS SHALL INCLUDES STRUCTURAL DRAWINGS FOR ALL POLE BASES, POLE, ASSEMBLY AND OVERTURN CALCULATIONS REQUIRED IN THIS PROJECT, SIGNED AND SEALED BY A PROFESSIONAL STRUCTURAL ENGINEER REGISTERED IN THE PROJECT STATE.
12. PROVIDE INTEGRAL BATTERY PACKS, RATED FOR A MINIMUM OF 90 MINUTES, FOR FIXTURES SHOWN WITH SOLID SHADING AND/OR WITH "E" AFTER FIXTURE TAG, AND FOR ALL EXIT LIGHTS, OR UNLESS OTHERWISE NOTED.
13. REFER TO LIGHT FIXTURE SCHEDULE FOR LIGHT FIXTURE TYPES, DESCRIPTIONS, CATALOG NUMBERS AND ADDITIONAL INFORMATION PERTINENT TO THE LIGHT FIXTURE OR INSTALLATION THEREOF.
14. COORDINATE LIGHT FIXTURE TRIM TYPE AND FINISH COLOR WITH ARCHITECT PRIOR TO ORDERING.
15. EACH LIGHTING CIRCUIT SHALL BE PROVIDED WITH A DEDICATED NEUTRAL.
16. PROVIDE AS PART OF BID PRICE, AN ADDITIVE ALTERNATE FOR THE SERVICES OF AN INDEPENDENT COMMISSIONING AGENT FOR THE LIGHTING SYSTEM FUNCTIONAL TESTING REQUIRED BY THE 2017 FLORIDA ENERGY CONSERVATION CODE, INCLUDING ALL REQUIRED REPORTS. WHERE OCCUPANCY SENSORS, TIME SWITCHES, PROGRAMMABLE SCHEDULED LIGHTING CONTROLS, PHOTOSENSORS AND DAYLIGHTING CONTROLS ARE INSTALLED, THE FOLLOWING PROCEDURES SHALL BE PERFORMED:
    A. CONFIRM THAT THE PLACEMENT, SENSITIVITY AND TIME-OUT ADJUSTMENTS FOR OCCUPANCY SENSORS YIELD ACCEPTABLE PERFORMANCE.
    B. CONFIRM THAT THE TIME SWITCHES AND PROGRAMMABLE SCHEDULED LIGHTING CONTROLS ARE PROGRAMMED TO TURN THE LIGHTS OFF.
    C. CONFIRM THAT THE PLACEMENT AND SENSITIVITY ADJUSTMENTS FOR PHOTOSENSOR CONTROLS REDUCE ELECTRIC LIGHT BASED ON AMOUNT OF USABLE DAYLIGHT IN THE SPACE AS SPECIFIED.

MISCELLANEOUS CIRCUIT & INSTALLATION REQUIREMENTS:

1. PROVIDE 120V 20A 5-20R RECEPTACLE AT ALL FAN COIL UNITS FOR CONDENSATE PUMP POWER AND HOT WATER RECIRCULATING PUMPS, WHETHER SHOWN ON PLANS OR NOT. RECEPTACLE IS TO BE CONNECTED TO NEAREST 120V RECEPTACLE CIRCUIT.
2. PROVIDE 120V CONNECTION TO ALL MOTORIZED DAMPERS INDICATED ON MECHANICAL PLANS, WHETHER SHOWN ON DIVISION 26 DRAWINGS OR NOT. FIRE/SMOKE DAMPER CIRCUITS ARE TO BE PROVIDED FROM EMERGENCY BRANCH PANEL (LEGALLY REQUIRED BRANCH IF AVAILABLE). MOTORIZED DAMPERS WITHIN THE SAME AREA CAN BE CIRCUITED TO THE SAME CIRCUIT (I.E., DEDICATED CIRCUIT IS NOT REQUIRED).
3. PROVIDE PHONE/DATA OUTLET WITH 1" RACEWAY, AND 120V RECEPTACLE ON DEDICATED CIRCUIT ADJACENT TO EACH AIR HANDLING UNIT FOR CONTROL POWER, WHETHER SHOWN ON PLANS OR NOT.
4. PROVIDE 120V DEDICATED CIRCUIT TO EACH AIR HANDLING UNIT WITH SEPARATE CONNECTIONS TO UNIT UV LIGHT, UNIT LIGHTS, UNIT RECEPTACLE, AND BI-POLAR IONIZATION FILTER WHERE PROVIDED. COORDINATE WITH DIVISION 23 SHOP DRAWINGS.

FIRE ALARM SYSTEM NOTES

1. ALL FIRE ALARM EQUIPMENT IS TO BE NEW, UL LISTED FOR FIRE SERVICE, AND SHALL BE COMPATIBLE WITH THE SYSTEM BEING USED.
2. ALL WIRING AND CONDUIT IS TO CONFORM TO NEC ARTICLE 760. WIRING SHALL BE UL LISTED, MINIMUM 300V TYPE FPLP PLENUM RATED SOLID COPPER OR STANDARD COPPER WITH MAXIMUM 19 STRANDS.
3. LOW VOLTAGE CONDUCTORS: PROVIDE CONDUCTORS IN ACCORDANCE WITH NFPA 70 AND NFPA 72, AND AS RECOMMENDED BY THE FIRE ALARM SYSTEM MANUFACTURER. CONDUCTORS SHALL BE COPPER, MINIMUM NO. 14 AWG, TWISTED SHIELDED PAIR.
4. MANUAL PULL STATIONS ARE TO BE INSTALLED AT 42" TO BOTTOM OF DEVICE AND NO HIGHER THAN 48" TO HANDLE ABOVE FINISHED FLOOR.
5. PROVIDE MINIMUM 3/4" CONDUIT AND WIRING BETWEEN EACH FIRE ALARM DEVICE AND FROM LAST DEVICE TO FACP UNLESS OTHERWISE NOTED.
6. PROVIDE FIRE ALARM RELAY AND DUCT DETECTOR CONNECTED TO FIRE ALARM SYSTEM, WITHIN 5' OF ALL DUCT PENETRATIONS THROUGH FIRE/SMOKE WALLS, WHETHER INDICATED ON ELECTRICAL OR MECHANICAL PLANS OR NOT.
7. FIRE ALARM CONTROL PANEL IS TO BE PROVIDED WITH DEDICATED 120V CIRCUIT WITH EQUIPMENT GROUND CONNECTION PER MANUFACTURER'S RECOMMENDATIONS AND ARTICLE 760 OF THE NEC. PROVIDE MINIMUM #12 AWG FOR GROUND CONNECTION. NOTE: PANEL NEUTRAL OR CONDUIT GROUND IS NOT ACCEPTABLE. 120V CIRCUIT SHALL BE FROM LIFE SAFETY BRANCH WHERE AVAILABLE.
8. SECONDARY BACK-UP POWER SHALL BE PROVIDED BY INTEGRAL BATTERIES WITHIN THE FIRE ALARM CONTROL PANEL TO SUPPLY POWER TO THE SYSTEM UNDER QUIESCENT LOAD FOR A MINIMUM OF 24 HOURS, AND THEN BE CAPABLE OF AN ADDITIONAL 15 MINUTES ALARM OPERATION AT MAXIMUM CONNECTED LOAD.
9. ALL FIRE ALARM POWER CIRCUITS SHALL HAVE A DEDICATED 120V 20A BREAKER THAT SHALL BE RED IN COLOR AND MECHANICALLY PROTECTED (LOCKABLE IN THE "ON" POSITION), MARKED AS "FIRE ALARM CIRCUIT".
10. A SUPERVISORY SIGNAL SHALL BE ANNUNCIATED UPON ANY TAMPER SWITCH ACTIVATION. FAILURE OR REMOVAL OF ANY DETECTION OR MANUAL DEVICE SHALL ACTIVATE A TROUBLE SIGNAL.
11. A CERTIFICATION OF COMPLETION AND UL LISTING SHALL BE ISSUED AND INSTALLED ON THE FIRE ALARM CONTROL PANEL.
12. MINIMUM CANDELA RATING OF STROBES IS 75; "110" ADJACENT TO DEVICE INDICATES 110 CANDELA RATING. PROVIDE SYNCHRONIZATION OF STROBES IN ALL ADJACENT AREAS WHERE STROBES ARE VISIBLE TO EACH OTHER.
13. ALL STROBES SHALL ACTIVATE UPON INITIATION OF THE GENERAL ALARM.
14. ALL STROBES SHALL BE INSTALLED PER ADA MOUNTING HEIGHT REQUIREMENTS. WALL MOUNTED STROBES SHALL BE INSTALLED SO THAT THE BOTTOM OF THE STROBE LENS IS 80" AFF.
15. STROBES SHALL BE INSTALLED WITHIN 15' OF THE ENDS OF ALL CORRIDORS.
16. SPEAKER/STROBES, HEAT DETECTORS OR MANUAL PULL STATIONS INSTALLED OUTSIDE OR IN AREAS OPEN TO THE EXTERIOR SHALL BE WEATHERPROOF DEVICES IN APPROVED BACKBOXES.
17. SMOKE DETECTORS SHALL BE PHOTO-ELECTRIC ADDRESSABLE TYPE.
18. SMOKE DETECTORS ARE TO BE INSTALLED PER NFPA 72. WALL MOUNTED SMOKE DETECTORS SHALL BE MOUNTED 4"-12" BELOW THE CEILING AND AWAY FROM CORNERS.
19. ALL SMOKE DETECTORS SHALL BE INSTALLED A MINIMUM OF 36" AWAY FROM ANY SUPPLY OR RETURN AIR VENTS OR DIFFUSERS.
20. SMOKE DETECTORS LOCATED IN ELEVATOR LOBBIES, ELEVATOR HOISTWAYS AND ELEVATOR MACHINE ROOMS SHALL INITIATE ELEVATOR RECALL, ACTIVATE ELEVATOR WARNING LIGHTS AND CAUSE SEPARATE AND DISTINCT VISIBLE ANNUNCIATION AT THE FIRE ALARM CONTROL PANEL AND FIRE ALARM ANNUNCIATORS.
21. DUCT DETECTORS SHALL BE PHOTO-ELECTRIC ADDRESSABLE TYPE, AND RATED FOR NO FLOW AND VELOCITIES UP TO 5000 FT/MIN.
22. HEAT DETECTORS SHALL BE ADDRESSABLE, FIXED TYPE @ 135 DEG F, UNLESS OTHERWISE NOTED.
23. THE ELEVATOR CONTROL PANEL SHALL HAVE TWO SIGNALS FROM THE FIRE ALARM CONTROL PANEL/ ASSOCIATED SMOKE DETECTORS - ONE FROM THE "DESIGNATED FLOOR" SMOKE DETECTOR AND ANOTHER COMBINED SIGNAL FROM THE SMOKE DETECTORS AT THE OTHER LOBBY LANDINGS AND IN THE ELEVATOR EQUIPMENT ROOM.
24. ACTIVATION OF ANY SMOKE DETECTOR IN THE ELEVATOR LOBBY OF THE DESIGNATED PRIMARY RECALL LEVEL OR ELEVATOR MACHINE ROOM SHALL ACTIVATE ALTERNATE LEVEL RECALL.
25. PRIOR TO INSTALLATION OF ELEVATOR HOISTWAY HEAT DETECTORS, VERIFY WITH LOCAL AUTHORITY HAVING JURISDICTION IF THEY ARE REQUIRED.
26. HEAT DETECTORS SHALL BE LOCATED WITHIN 24" OF SPRINKLER HEADS LOCATED IN THE ELEVATOR MACHINE ROOM AND ALL HOISTWAY SPRINKLER HEADS LOCATED 24" ABOVE THE ELEVATOR PIT FLOOR. THESE HEAT DETECTORS SHALL HAVE BOTH A LOWER TEMPERATURE RATING AND HIGHER SENSITIVITY THAN THE SPRINKLER HEADS. HEAT DETECTORS SHALL OPEN THE MAIN DISCONNECT/POWER SUPPLY TO THE ELEVATOR CONTROLLER. CONTROL CIRCUITS TO SHUT OFF ELEVATOR POWER SHALL BE MONITORED BY THE FIRE ALARM CONTROL PANEL. CONTROL MODULE SHALL BE WITHIN 3 FEET OF THE ELEVATOR CONTROLLER.
27. PROVIDE AN ADDRESSABLE FIRE ALARM SYSTEM PER NFPA AND ALL STATE AND LOCAL CODE REQUIREMENTS. COMPLY WITH NFPA 72 AND ADA REQUIREMENTS. STATE CERTIFIED AND LICENSED FIRE ALARM CONTRACTOR SHALL PREPARE AND SUBMIT SIGNED AND SEALED DRAWINGS FOR THE LOCAL AUTHORITY HAVING JURISDICTION/ FIRE MARSHALL.
28. FIELD VERIFY LOCATION OF AREA SMOKE DETECTORS AND HEAT DETECTORS. DO NOT LOCATE WITHIN 36" OF AN HVAC DIFFUSER (SUPPLY OR RETURN), IN DIRECT AIR FLOW PATH, OR WITHIN 36" OF A SPRINKLER HEAD UNLESS NOTED OTHERWISE. SMOKE DETECTORS FOR DOOR RELEASE SHALL BE LOCATED ON THE CENTERLINE OF THE DOOR AND A MAXIMUM OF FIVE FEET FROM THE DOOR. THE MINIMUM DISTANCE FROM THE DOOR SHALL BE THE DEPTH OF THE WALL SECTION ABOVE THE DOOR, BUT NOT LESS THAN 12".
29. PROVIDE LABELS FOR REMOTE ALARM INDICATORS FOR DUCT MOUNTED SMOKE DETECTORS (I.E., AHU-1 SUPPLY, AHU-2 RETURN, FIRE/SMOKE DAMPER, ETC.). DUCT DETECTORS SHOULD BE LOCATED WITHIN 6 TO 10 EQUIVALENT DIAMETERS OF STRAIGHT, UNINTERRUPTED DUCTWORK. DUCT DETECTORS FOR FIRE/SMOKE DAMPERS SHOULD BE LOCATED BETWEEN THE LAST INLET OR OUTLET UPSTREAM OF THE DAMPER AND THE FIRE INLET OR OUTLET DOWNSTREAM OF THE DAMPER, AND WITHIN FIVE FEET OF THE FIRE/SMOKE WALL.
30. EQUIPMENT SHUT DOWN FIRE ALARM RELAYS SHALL BE LOCATED WITHIN THREE (3) FEET OF THE EQUIPMENT CONTROLS AND THE WIRING TO THE RELAY SHALL BE MONITORED BY THE FIRE ALARM SYSTEM.
31. FOR EACH FIRE/SMOKE DAMPER, INTERLOCK WITH FIRE ALARM CONTROL PANEL TO CLOSE FIRE/SMOKE DAMPER AND TO CONTROL THE ASSOCIATED MECHANICAL UNIT PER THE MECHANICAL SEQUENCE OF OPERATIONS, UNLESS NOTED OTHERWISE.
32. ALL WALL MOUNTED NOTIFICATION APPLIANCES SHALL BE RED IN COLOR AND ALL CEILING MOUNTED DEVICES SHALL BE WHITE IN COLOR, UNLESS OTHERWISE NOTED.
33. FIRE ALARM CIRCUITS SHALL BE CLASS "B", STYLE "C" FOR INITIATION DEVICE CIRCUITS (IDC) AND CLASS "B" STYLE "Y" FOR NOTIFICATION DEVICE CIRCUITS (NAC), UNLESS OTHERWISE NOTED.
34. SYSTEM SHALL BE AN ADDRESSABLE TYPE VOICE EVACUATION AND SHALL HAVE A SOUND PRESSURE LEVEL OF 15dB ABOVE AVERAGE AMBIENT SOUND LEVELS OR 5dB ABOVE MAXIMUM AMBIENT SOUND LEVEL, WHICHEVER IS GREATER. PROVIDE AUDIO OVERRIDE AT EACH A/V CABINET FOR OVERRIDE OF LOCAL SYSTEM DURING FIRE EVENT.
35. ALL FIRE ALARM CABLE SHALL BE INSTALLED IN CONDUIT; NO FIRE ALARM CONDUIT SHALL BE INSTALLED UNDER SLAB. PROVIDE MANUFACTURED RED CONDUIT UNLESS OTHERWISE NOTED.
36. CONTRACTOR/VENDOR SHALL PREPARE FLORIDA LICENSE P.E. WORKING DRAWINGS INCORPORATING THE FIRE ALARM CRITERIA DESIGN AND CONFIRMING TO AHJ REQUIREMENTS. CONTRACTOR SHALL PROVIDE ALL MATERIAL REQUIRED PER AHJ AND DESIGN CRITERIA FOR A FULLY FUNCTIONING AND PERMITTABLE FIRE ALARM SYSTEM. SUBMIT TO DESIGN PROFESSIONAL AS A SHOP DRAWING FOR REVIEW. SUBMIT COMPLETE SIGNED & SEALED DRAWINGS TO PERMITTING AGENCY AND FOR CERTIFICATE OF OCCUPANCY. COMPLETED FIRE ALARM CERTIFICATION SHALL BE PROVIDED TO OWNER AT COMPLETION OF CONSTRUCTION.
37. FIRE ALARM DESIGN IS IN ACCORDANCE WITH FLORIDA STATUTES CHAPTER 61G15-32. WHERE A FIRE ALARM RISER IS INDICATED, IT IS DIAGRAMMATIC IN NATURE AND NOT INTENDED TO REPRESENT A COMPLETE WIRING AND DEVICE DISPLAY. ALL WIRING AND DEVICES SHALL BE IN ACCORDANCE WITH SELECTED VENDOR'S POINT-BY-POINT WIRING DIAGRAM. REFER TO FLOOR PLAN FOR DESIGN INTENT AND PROPOSED QUANTITY OF FIRE ALARM SYSTEM COMPONENTS.

APPLICABLE CODES

1. ALL WORK AND EQUIPMENT UNDER THIS DIVISION SHALL BE IN STRICT COMPLIANCE WITH THE CODES, STANDARDS AND PRACTICES LISTED HEREIN:
   A. LIFE SAFETY CODE, NFPA 101.
   B. UNDERWRITERS LABORATORIES, INC. (UL) PUBLICATIONS.
   C. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA).
   D. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI).
   E. NATIONAL ELECTRICAL CODE (NEC), 2014 EDITION.
   F. INSTITUTE OF ELECTRICAL AND ELECTRONIC ENGINEERS (IEEE).
   G. NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION (NEMA).
   H. REQUIREMENTS OF LOCAL POWER COMPANY.
   I. THE AMERICANS WITH DISABILITIES ACT (ADA).
   J. OWNER'S PUBLISHED DESIGN STANDARDS.
   K. THE FLORIDA ACCESSIBILITY CODE.
   L. THE FLORIDA ENERGY CONSERVATION CODE.
   M. FLORIDA FIRE PREVENTION CODE, 2017 EDITION.
   N. FLORIDA BUILDING CODE, 2017 EDITION.

WHERE THERE IS A DISCREPANCY BETWEEN ABOVE GENERAL NOTES AND SPECIFICATIONS, WHERE APPLICABLE, SPECIFICATIONS SHALL BE FOLLOWED

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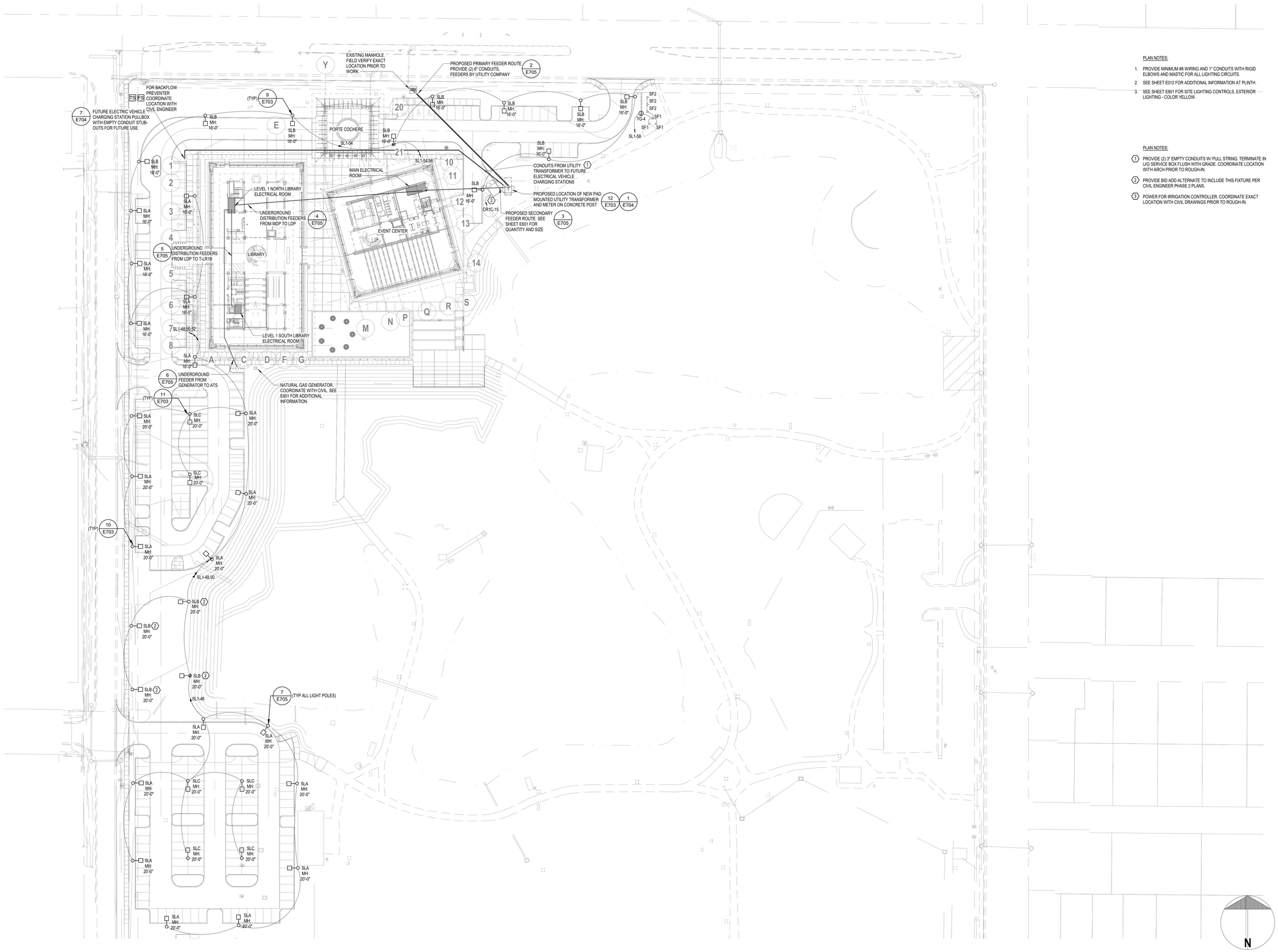
GENERAL NOTES

PROJ. NO. E-16078.00
DRAWN KW
SHEET E002



PLAN NOTES:

1. PROVIDE MINIMUM #8 WIRING AND 1" CONDUITS WITH RIGID ELBOWS AND MASTIC FOR ALL LIGHTING CIRCUITS.
2. SEE SHEET E012 FOR ADDITIONAL INFORMATION AT PLINTH.
3. SEE SHEET E601 FOR SITE LIGHTING CONTROLS, EXTERIOR LIGHTING - COLOR YELLOW.

PLAN NOTES:

1. PROVIDE (2) 3" EMPTY CONDUITS W/ PULL STRING. TERMINATE IN U/G SERVICE BOX FLUSH WITH GRADE. COORDINATE LOCATION WITH ARCH PRIOR TO ROUGH-IN.
2. PROVIDE BID ADD ALTERNATE TO INCLUDE THIS FIXTURE PER CIVIL ENGINEER PHASE 2 PLANS.
3. POWER FOR IRRIGATION CONTROLLER. COORDINATE EXACT LOCATION WITH CIVIL DRAWINGS PRIOR TO ROUGH-IN.

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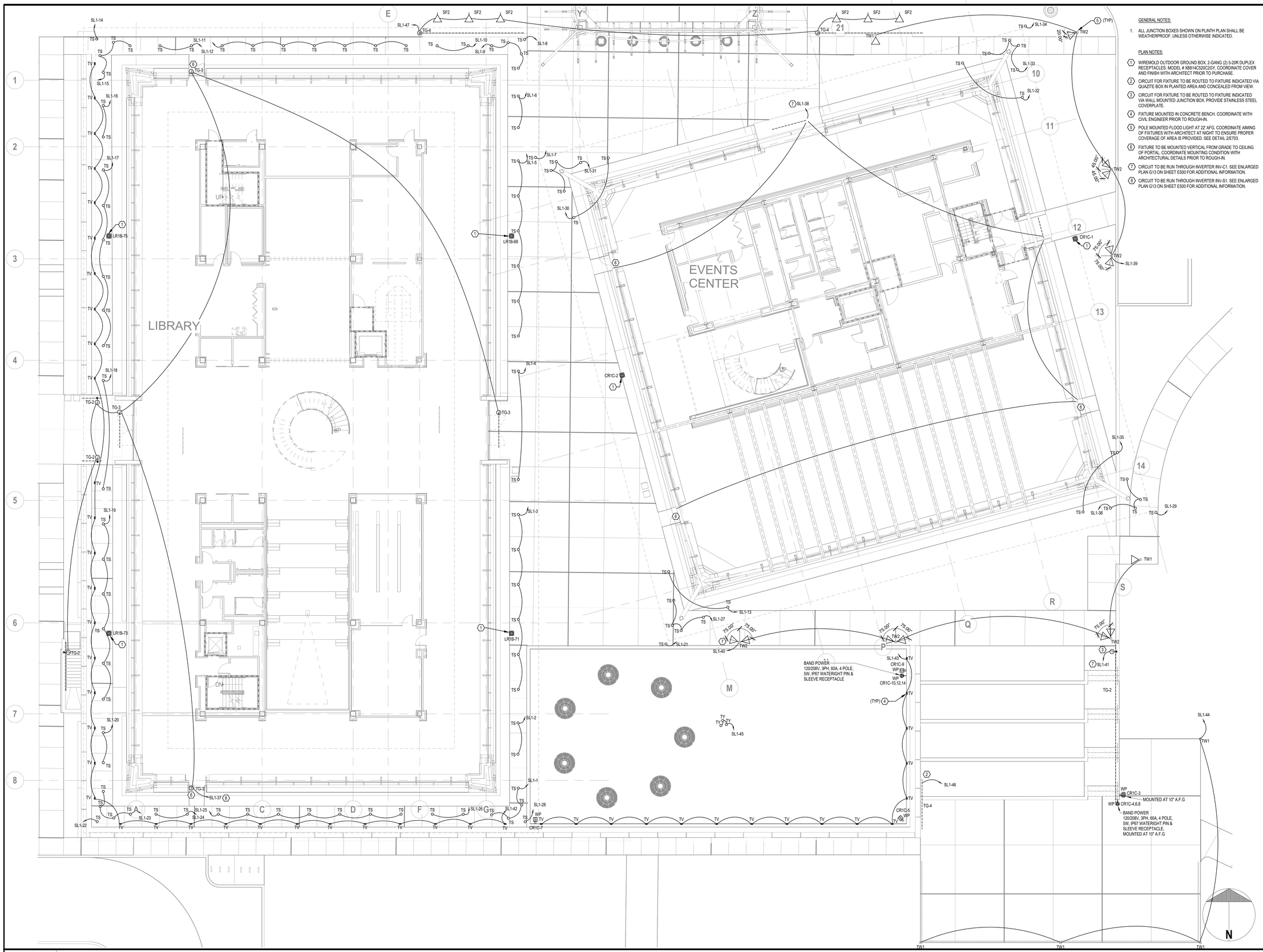
ELECTRICAL SITE PLAN

PROJ. NO. E-16078.00 SHEET
DRAWN KW
E011

A1 **ELECTRICAL SITE PLAN**
1" = 40'-0"



GENERAL NOTES:

1. ALL JUNCTION BOXES SHOWN ON PLINTH PLAN SHALL BE WEATHERPROOF, UNLESS OTHERWISE INDICATED.

PLAN NOTES:

1. WIREMOLD OUTDOOR GROUND BOX, 2-GANG (2) 5-20R DUPLEX RECEPTACLES. MODEL # XB814C520C2GY, COORDINATE COVER AND FINISH WITH ARCHITECT PRIOR TO PURCHASE.
2. CIRCUIT FOR FIXTURE TO BE ROUTED TO FIXTURE INDICATED VIA QUAZITE BOX IN PLANTED AREA AND CONCEALED FROM VIEW.
3. CIRCUIT FOR FIXTURE TO BE ROUTED TO FIXTURE INDICATED VIA WALL MOUNTED JUNCTION BOX. PROVIDE STAINLESS STEEL COVERPLATE.
4. FIXTURE MOUNTED IN CONCRETE BENCH. COORDINATE WITH CIVIL ENGINEER PRIOR TO ROUGH-IN.
5. POLE MOUNTED FLOOD LIGHT AT 22' AFG. COORDINATE AIMING OF FIXTURES WITH ARCHITECT AT NIGHT TO ENSURE PROPER COVERAGE OF AREA IS PROVIDED. SEE DETAIL 2/E703.
6. FIXTURE TO BE MOUNTED VERTICAL FROM GRADE TO CEILING OF PORTAL. COORDINATE MOUNTING CONDITION WITH ARCHITECTURAL DETAILS PRIOR TO ROUGH-IN.
7. CIRCUIT TO BE RUN THROUGH INVERTER INV-C1. SEE ENLARGED PLAN G13 ON SHEET E500 FOR ADDITIONAL INFORMATION.
8. CIRCUIT TO BE RUN THROUGH INVERTER INV-S1. SEE ENLARGED PLAN G13 ON SHEET E500 FOR ADDITIONAL INFORMATION.

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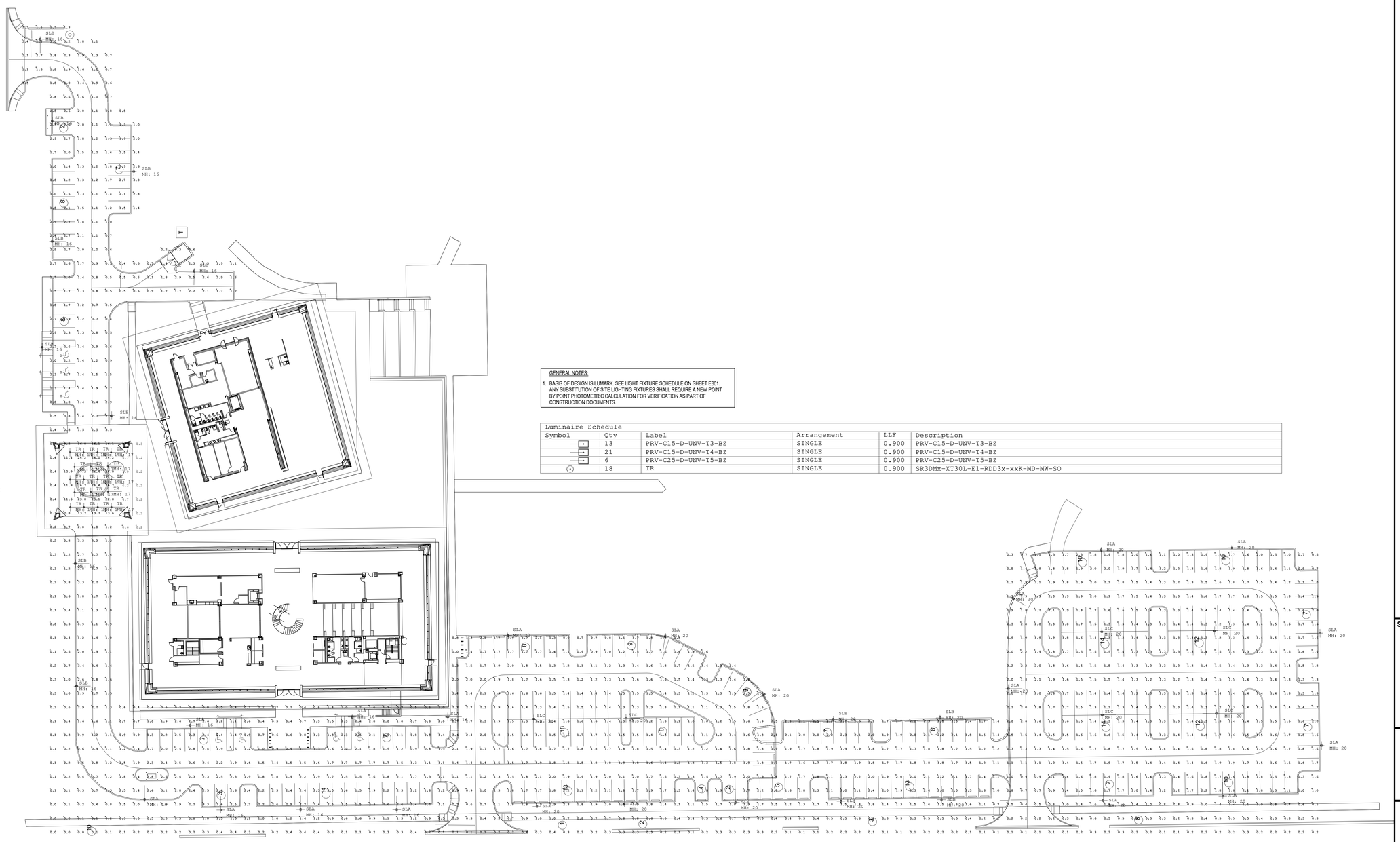
ELECTRICAL PLINTH PLAN

PROJ. NO. E-16078.00 SHEET
DRAWN KW
E012

A1 **ELECTRICAL PLINTH PLAN**
1" = 10'-0"



Parking_Northeast

Illuminance (Fc)
Average = 1.60
Maximum = 3.5
Minimum = 0.4
Avg/Min Ratio = 4.00
Max/Min Ratio = 8.75

Port Cochere

Illuminance (Fc)
Average = 11.67
Maximum = 27.2
Minimum = 0.2
Avg/Min Ratio = 58.35
Max/Min Ratio = 136.00

GENERAL NOTES:

1. BASIS OF DESIGN IS LUMARK. SEE LIGHT FIXTURE SCHEDULE ON SHEET E801. ANY SUBSTITUTION OF SITE LIGHTING FIXTURES SHALL REQUIRE A NEW POINT BY POINT PHOTOMETRIC CALCULATION FOR VERIFICATION AS PART OF CONSTRUCTION DOCUMENTS.

Luminaire Schedule

Symbol	Qty	Label	Arrangement	LLF	Description
—→	13	PRV-C15-D-UNV-T3-BZ	SINGLE	0.900	PRV-C15-D-UNV-T3-BZ
—→	21	PRV-C15-D-UNV-T4-BZ	SINGLE	0.900	PRV-C15-D-UNV-T4-BZ
—→	6	PRV-C25-D-UNV-T5-BZ	SINGLE	0.900	PRV-C25-D-UNV-T5-BZ
⊙	18	TR	SINGLE	0.900	SR3DMx-XT30L-E1-RDD3x-xxK-MD-MW-SO

Parking_Northwest

Illuminance (Fc)
Average = 1.69
Maximum = 3.4
Minimum = 0.3
Avg/Min Ratio = 5.63
Max/Min Ratio = 11.33

Parking_Connector

Illuminance (Fc)
Average = 1.77
Maximum = 2.4
Minimum = 1.0
Avg/Min Ratio = 1.77
Max/Min Ratio = 2.40

Parking_Southwest

Illuminance (Fc)
Average = 1.49
Maximum = 2.2
Minimum = 0.2
Avg/Min Ratio = 7.45
Max/Min Ratio = 11.00

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PHOTOMETRICS PLAN

PROJ. NO. E-16078.00 SHEET
DRAWN KW
E013

A1 **PHOTOMETRICS PLAN**
1" = 30'-0"

GENERAL NOTES:

1. ALL EQUIPMENT AND RECEPTACLES ARE TO BE CIRCUITED TO PANEL LR1B, UNLESS OTHERWISE NOTED.

PLAN NOTES:

(1) PROVIDE NEMA 6-20R RECEPTACLE FOR POWER CONNECTION TO SUMP PUMP. COORDINATE EXACT LOCATION WITH ELEVATOR SHOP DWGS AND CONNECTION REQUIREMENTS WITH DIV 22 PRIOR TO ROUGH-IN.

(2) PROVIDE J-BOX FOR POWER TO POWERED DOOR. COORDINATE WITH TECHNOLOGY DRAWINGS FOR CONNECTION TO ACCESS CONTROLS.

(3) RECEPTACLE TO BE MOUNTED TO INTO STEP BENEATH SEATING. COORDINATE EXACT LOCATION WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN.

(4) POWER FOR SMART SECURITY GATE. COORDINATE EXACT LOCATION AND POWER REQUIREMENTS WITH TECHNOLOGY DRAWINGS AND GATE MANUFACTURER PRIOR TO ROUGH-IN. ROUTE 3/4" CONDUIT IN SLAB AND UP WALL TO NEAREST ACCESSIBLE CEILING.

(5) PROVIDE RELAY AND CONNECTION TO AV RACK FOR AUDIO OVERRIDE FROM FIRE ALARM SYSTEM.

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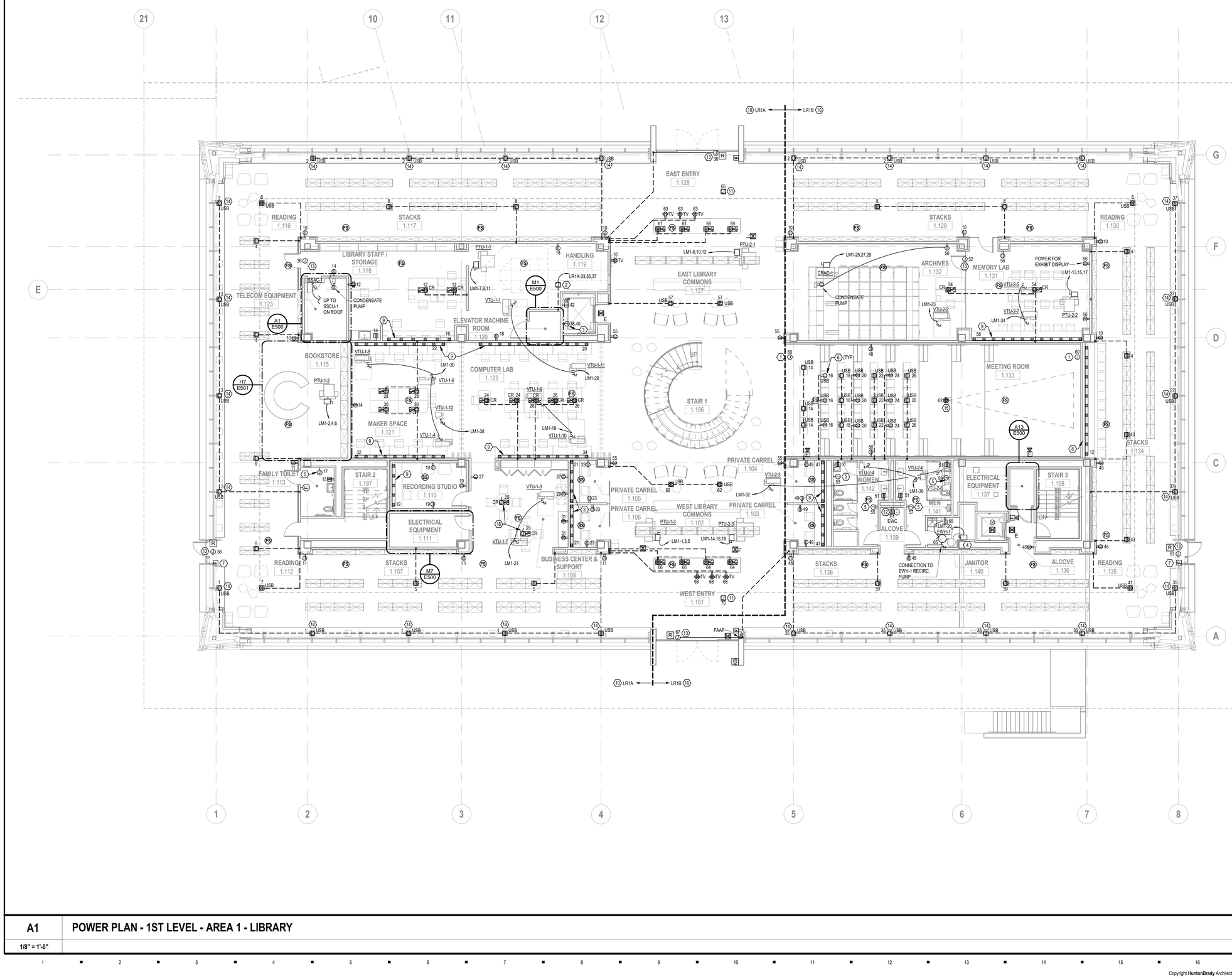
POWER PLAN - BASEMENT LEVEL - AREA 1 - LIBRARY

PROJ. NO. E-16078.00 SHEET
DRAWN KW
E101

A1 **POWER PLAN - BASEMENT LEVEL - AREA 1 - LIBRARY**

1/8" = 1'-0"



GENERAL NOTES:

1. CEILING MOUNTED FIRE ALARM DEVICES IN THE MEETING ROOM SHALL BE RED IN COLOR.

PLAN NOTES:

1. POWER FOR RETRACTABLE ACOUSTIC BANNER. COORDINATE POWER REQUIREMENTS AND MOUNTING WITH EQUIPMENT VENDOR PRIOR TO ROUGH-IN. COORDINATE CONTROLS WITH CRESTRON SYSTEM WITHIN ROOM.
2. PROVIDE NEMA L21-40R RECEPTACLE IN FLOOR MOUNTED JUNCTION BOX FOR MATERIAL HANDLER WITH 4#8, 1#8GND, 1"C. VERIFY NEMA PLUG CONFIGURATION WITH EQUIPMENT MANUFACTURER PRIOR TO INSTALLATION AND ROUTING OF CONDUIT AND WIRE.
3. PROVIDE CONNECTION TO SUMP PUMP. COORDINATE LOCATION WITH ELEVATOR SHOP DWGS AND CONNECTION REQUIREMENTS WITH DIV 22 PRIOR TO ROUGH-IN.
4. PROVIDE CONNECTION TO ELECTRICAL WATER HEATER. COORDINATE LOCATION AND POWER REQUIREMENTS WITH DIV 23 CONTRACTOR PRIOR TO ROUGH-IN.
5. POWER FOR HAND DRYER. COORDINATE EXACT LOCATION WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN. COORDINATE POWER REQUIREMENTS WITH EQUIPMENT VENDOR PRIOR TO ROUGH-IN.
6. RECEPTACLE TO BE MOUNTED TO INTO STEP BENEATH SEATING. COORDINATE EXACT LOCATION WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN.
7. FIRE ALARM PULL STATION MOUNTED TO MULLION. COORDINATE MULLION MOUNTING WITH ARCHITECT PRIOR TO ROUGH-IN.
8. WIREMOLD AL2000 SERIES PLUG MOLD. 9" SPACING OF OUTLETS AND USB OUTLETS, HARDWIRED CONNECTION, TAMPER RESISTANT OUTLETS.
9. WIREMOLD ALA4800 SERIES DUAL CHANNEL, PLUG MOLD. 12" SPACING OF OUTLETS AND DATA OUTLETS, HARDWIRED CONNECTION, TAMPER RESISTANT OUTLETS.
10. ALL EQUIPMENT AND RECEPTACLES ON THIS SIDE OF DASHED LINE ARE TO PANEL INDICATED, UNLESS OTHERWISE NOTED. CIRCUIT NUMBERS ARE LOCATED ADJACENT TO EQUIPMENT OR DEVICE.
11. PROVIDE POWER TO SECURITY GATES. COORDINATE CONNECTION WITH TECHNOLOGY DETAIL 2 SHEET T703. COORDINATE EXACT LOCATION WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN.
12. POWER FOR ELECTRIC WATER COOLER. COORDINATE WITH PLUMBING DRAWINGS PRIOR TO ROUGH-IN.
13. PROVIDE CONNECTION TO POWERED DOOR. COORDINATE WITH TECHNOLOGY DRAWINGS AND DOOR HARDWARE VENDOR FOR CONNECTION REQUIREMENTS AND EXACT LOCATION PRIOR TO ROUGH-IN.
14. PROVIDE POP-UP RECEPTACLE MOUNTED IN TOP OF BENCH. BASIS OF DESIGN IS LEVITON #PFUS2. COORDINATE ROUGH-IN WITH STRUCTURAL.
15. POWER FOR PROJECTOR. COORDINATE EXACT LOCATION WITH TECHNOLOGY DRAWINGS PRIOR TO ROUGH-IN.
16. PROVIDE CONNECTION TO MODULAR FURNITURE. COORDINATE EXACT POWER REQUIREMENTS PRIOR TO ROUGH-IN.

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POWER PLAN - 1ST LEVEL - AREA 1 - LIBRARY

PROJ. NO. E-16078.00 SHEET
DRAWN KW
E111

A1 **POWER PLAN - 1ST LEVEL - AREA 1 - LIBRARY**
1/8" = 1'-0"

GENERAL NOTES:

1. ALL ELECTRICAL FIXTURES ARE TO BE CIRCUITED TO PANEL CR1A UNLESS OTHERWISE NOTED.
2. CEILING MOUNTED FIRE ALARM DEVICES IN THE PREFUNCTION, CORRIDORS, AND MAIN ASSEMBLY SHALL BE RED IN COLOR.

PLAN NOTES:

1. POWER FOR HAND DRYER. COORDINATE EXACT LOCATION WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN. COORDINATE POWER REQUIREMENTS WITH EQUIPMENT VENDOR PRIOR TO ROUGH-IN.
2. POWER FOR UNDERCOUNTER REFRIGERATOR.
3. POWER FOR ELECTRIC WATER COOLER. COORDINATE WITH PLUMBING DRAWINGS PRIOR TO ROUGH-IN.
4. PROVIDE CONNECTION TO POWERED DOOR. COORDINATE WITH TECHNOLOGY DRAWINGS AND DOOR HARDWARE VENDOR FOR CONNECTION REQUIREMENTS AND EXACT LOCATION PRIOR TO ROUGH-IN.
5. PROVIDE CONNECTION TO LIGHTED MIRROR. WIRE THRU LIGHTING CONTROLS WITHIN ROOM TO TURN ON/OFF WITH GENERAL ROOM LIGHTING. COORDINATE SPECIFICATION AND POWER REQUIREMENTS WITH ARCHITECT DWGS PRIOR TO ROUGH-IN.
6. PROVIDE CONNECTION TO MOTORIZED ROLLER SHADES AND WALL MOUNTED SWITCH FOR CONTROL. COORDINATE SPECIFICATION AND POWER REQUIREMENTS WITH ARCHITECT DWGS PRIOR TO ROUGH-IN.
7. PROVIDE POP-UP RECEPTACLE MOUNTED IN TOP OF BENCH. BASIS OF DESIGN IS LEVITON #PFUSZ. COORDINATE ROUGH-IN WITH STRUCTURAL.
8. POWER FOR PROJECTOR. COORDINATE EXACT LOCATION WITH TECHNOLOGY DRAWINGS PRIOR TO ROUGH-IN.

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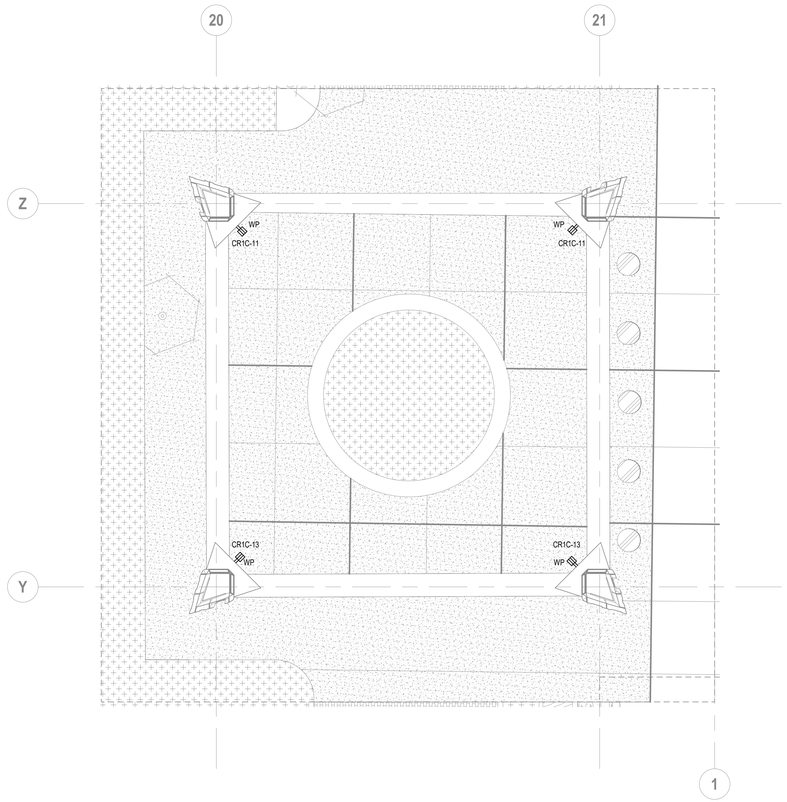
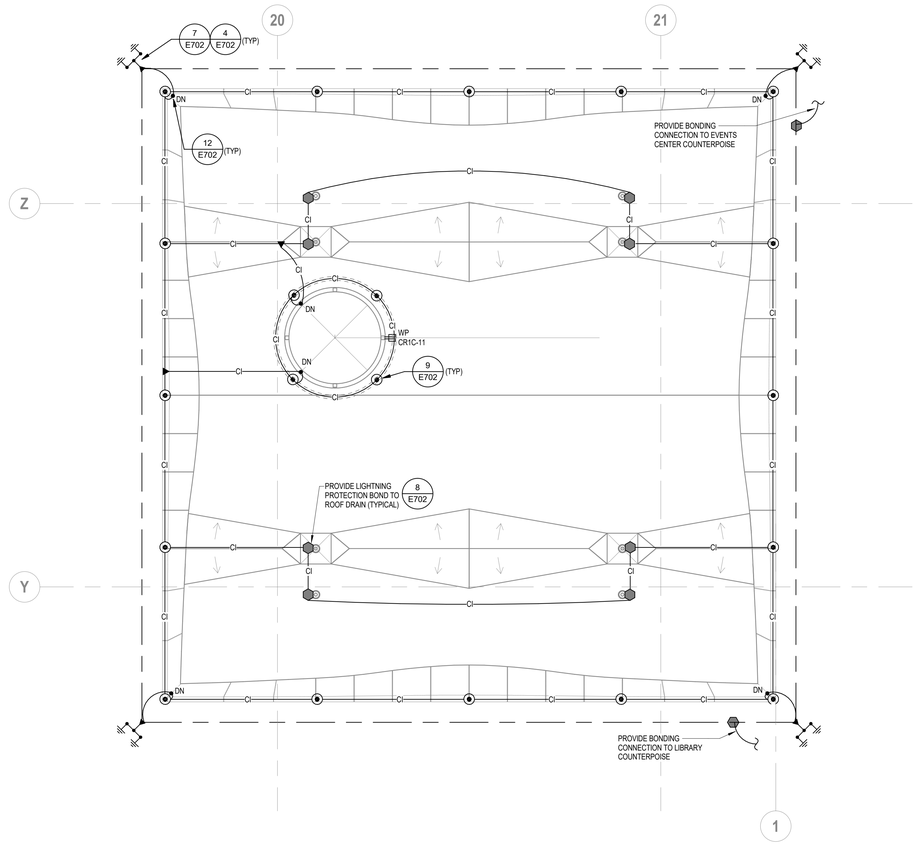
POWER PLAN - 1ST LEVEL - AREA 2 - EVENTS CENTER

PROJ. NO. E-16078.00 SHEET
DRAWN KW
E112

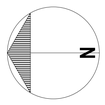
A1 **POWER PLAN - 1ST LEVEL - AREA 2 - EVENTS CENTER**
1/8" = 1'-0"





GENERAL NOTES:

1. PROVIDE COMPLETE LIGHTNING PROTECTION SYSTEM IN ACCORDANCE WITH NFPA 780, FOR UL MASTER LABEL, INCLUDING BURIED COUNTERPOISE CONDUCTOR, BONDED TO COPPER DOWN CONDUCTORS. COPPER DOWN CONDUCTORS ARE TO BE A MAXIMUM 100' CENTER TO CENTER AT ROOF PERIMETER, CONCEALED IN 1" PVC CONDUIT IN EXTERIOR COLUMN OR WALL, DOWN TO BURIED COUNTERPOISE. PROVIDE GROUND TEST WELLS, WITH APPROPRIATE TRAFFIC RATED COVERS. FOR GROUND RODS; COORDINATE LOCATION WITH LANDSCAPING AND HARDSCAPE AROUND BUILDING, AND WITH SITE UTILITIES. ALL CONNECTIONS ARE TO BE BY EXOTHERMIC WELD. ALL CONDUCTORS FROM HIGHER TO LOWER ROOFS SHALL BE CONCEALED FROM VIEW. PROVIDE COMPLETE 1/8" SCALE = 1'-0" SCALED SHOP DRAWINGS SHOWING ALL COMPONENTS, MOUNTING DETAILS, ROOF PENETRATION DETAILS, BONDS TO ROOF EQUIPMENT, ETC. FROM ROOF LIGHTNING PROTECTION CONDUCTORS. ANY AIR TERMINALS MOUNTED IN THE INTERIOR OF THE ROOF SHALL BE BLUNT TIP TYPE.



A1	POWER PLAN - 1ST LEVEL - AREA 3 - PORTE COCHERE	1/8" = 1'-0"
A10	ELECTRICAL ROOF PLAN - AREA 3 - PORTE COCHERE	1/8" = 1'-0"

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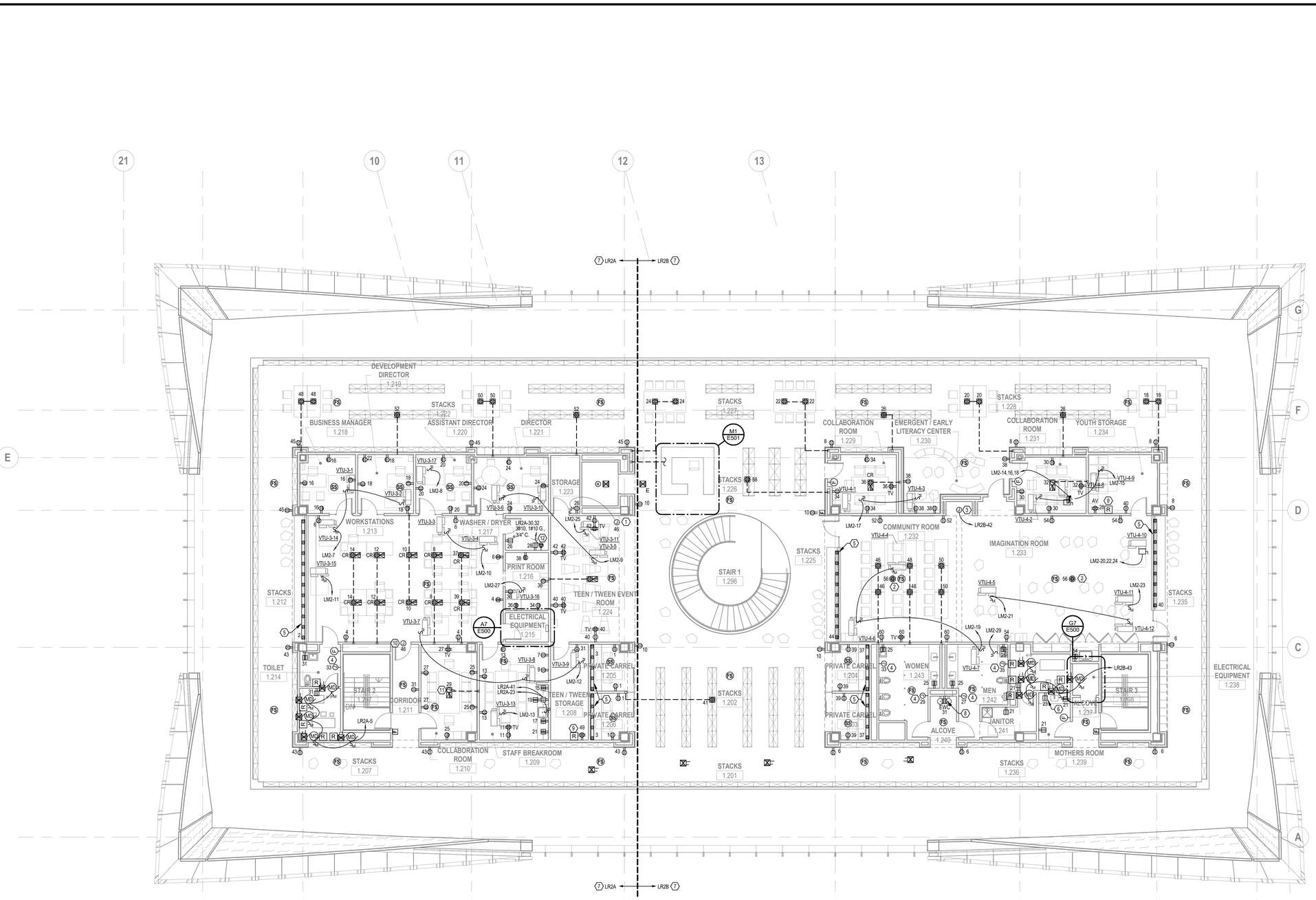
POWER PLAN - 1ST LEVEL AND ROOF PLAN - AREA 3 - PORTE COCHERE

PROJ. NO. E-16078.00 SHEET
DRAWN KW
E113



GENERAL NOTES:

1. CEILING MOUNTED FIRE ALARM DEVICES IN THE STACKS SHALL BE RED IN COLOR.

PLAN NOTES:

1. POWER FOR RETRACTABLE ACOUSTIC BANNER. COORDINATE POWER REQUIREMENTS AND MOUNTING WITH EQUIPMENT VENDOR PRIOR TO ROUGH-IN.
2. POWER FOR CEILING MOUNTED PROJECTOR. COORDINATE EXACT POWER REQUIREMENTS AND MOUNTING HEIGHT WITH TECHNOLOGY DRAWINGS PRIOR TO ROUGH-IN.
3. POWER FOR PARTITION DOOR. COORDINATE POWER REQUIREMENTS AND CONTROLS WITH VENDOR PRIOR TO BID. SEE TECHNOLOGY PLANS FOR CRESTON CONTROL SYSTEM.
4. POWER FOR HAND DRYER. COORDINATE EXACT LOCATION WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN. COORDINATE POWER REQUIREMENTS WITH EQUIPMENT VENDOR PRIOR TO ROUGH-IN.
5. WIREMOLD AL2000 SERIES PLUG MOLD. 12" SPACING OF OUTLETS AND USB OUTLETS, HARDWIRED CONNECTION, TAMPER RESISTANT OUTLETS.
6. POWER FOR UNDERCOUNTER REFRIGERATOR.
7. ALL EQUIPMENT AND RECEPTACLES ON THIS SIDE OF DASHED LINE ARE TO PANEL INDICATED, UNLESS OTHERWISE NOTED. CIRCUIT NUMBERS ARE LOCATED ADJACENT TO EQUIPMENT OR DEVICE.
8. POWER FOR ELECTRIC WATER COOLER. COORDINATE WITH PLUMBING DRAWINGS PRIOR TO ROUGH-IN.
9. PROVIDE RELAY AND CONNECTION TO AV RACK FOR AUDIO OVERRIDE FROM FIRE ALARM SYSTEM.
10. PROVIDE POWER FOR DOOR HARDWARE. COORDINATE EXACT REQUIREMENTS WITH TECHNOLOGY DRAWINGS.
11. PROVIDE CONNECTION TO MODULAR FURNITURE. COORDINATE EXACT POWER REQUIREMENTS PRIOR TO ROUGH-IN.
12. POWER FOR WASHER/DRYER. PROVIDE NEMA 14-30R RECEPTACLE FOR DRYER. COORDINATE MOUNTING HEIGHTS AND EXACT NEMA CONFIGURATION WITH EQUIPMENT MANUFACTURER PRIOR TO ROUGHING IN AND ROUTING OF CONDUIT AND WIRING.

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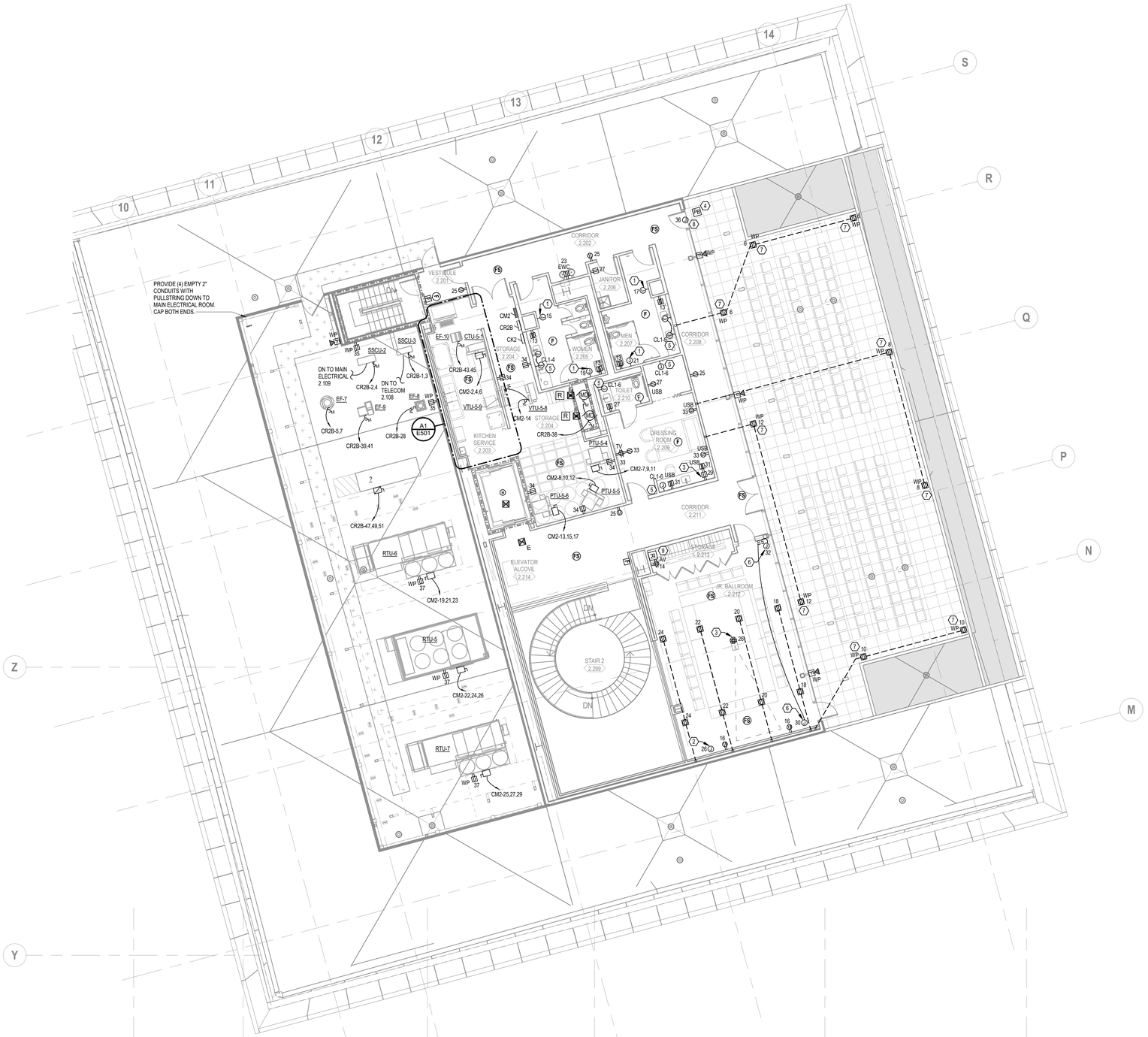
POWER PLAN - 2ND LEVEL - AREA 1 - LIBRARY

PROJ. NO. E-16078.00 SHEET
DRAWN KW

E121

A1 — **POWER PLAN - 2ND LEVEL - LIBRARY - POWER**

1/8" = 1'-0"



GENERAL NOTES:

1. ALL ELECTRICAL FIXTURES ARE TO BE CIRCUITED TO PANEL CR2B UNLESS OTHERWISE NOTED.

PLAN NOTES:

1. POWER FOR HAND DRYER. COORDINATE EXACT LOCATION WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN. COORDINATE POWER REQUIREMENTS WITH EQUIPMENT VENDOR PRIOR TO ROUGH-IN.
2. POWER FOR PROJECTOR SCREEN. COORDINATE EXACT POWER REQUIREMENTS AND EXACT LOCATION WITH SCREEN MANUFACTURER PRIOR TO ROUGH-IN.
3. POWER FOR PROJECTOR. COORDINATE EXACT LOCATION WITH TECHNOLOGY DRAWINGS PRIOR TO ROUGH-IN.
4. PROVIDE 16"x16"x6" NEMA 3R GASKETED PULL BOX BELOW RAISED PAVER SYSTEM. PROVIDE (4) 2" CONDUIT FROM MAIN ELECTRICAL ROOM ON FIRST FLOOR TO PULL BOX. COORDINATE EXACT LOCATION OF PULL BOX WITH ARCHITECTURAL DRAWINGS PRIOR TO ROUGH-IN.
5. PROVIDE CONNECTION TO LIGHTING MIRROR. WIRE THRU LIGHTING CONTROLS WITHIN ROOM TO TURN ON/OFF WITH GENERAL ROOM LIGHTING. COORDINATE SPECIFICATION AND POWER REQUIREMENTS WITH ARCHITECT DWGS PRIOR TO ROUGH-IN.
6. PROVIDE CONNECTION TO MOTORIZED ROLLER SHADES. COORDINATE CONTROLS WITH A/V SYSTEM, REFER TO TECHNOLOGY DRAWINGS FOR ADDITIONAL INFORMATION. COORDINATE SPECIFICATION AND POWER REQUIREMENTS WITH ARCHITECT DWGS PRIOR TO ROUGH-IN.
7. PROVIDE FLOORBOX WITH POP-UP DUPLEX RECESS MOUNTED FLUSH WITH RAISED PAVER. BASIS OF DESIGN IS LEW #OB-1-SH.
8. PROVIDE CONNECTION TO POWERED DOOR. COORDINATE WITH TECHNOLOGY DRAWINGS AND DOOR HARDWARE VENDOR FOR CONNECTION REQUIREMENTS AND EXACT LOCATION PRIOR TO ROUGH-IN.
9. PROVIDE RELAY AND CONNECTION TO AV RACK FOR AUDIO OVERRIDE FROM FIRE ALARM SYSTEM.

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POWER PLAN - 2ND LEVEL AND ROOF - AREA 2 - EVENTS CENTER

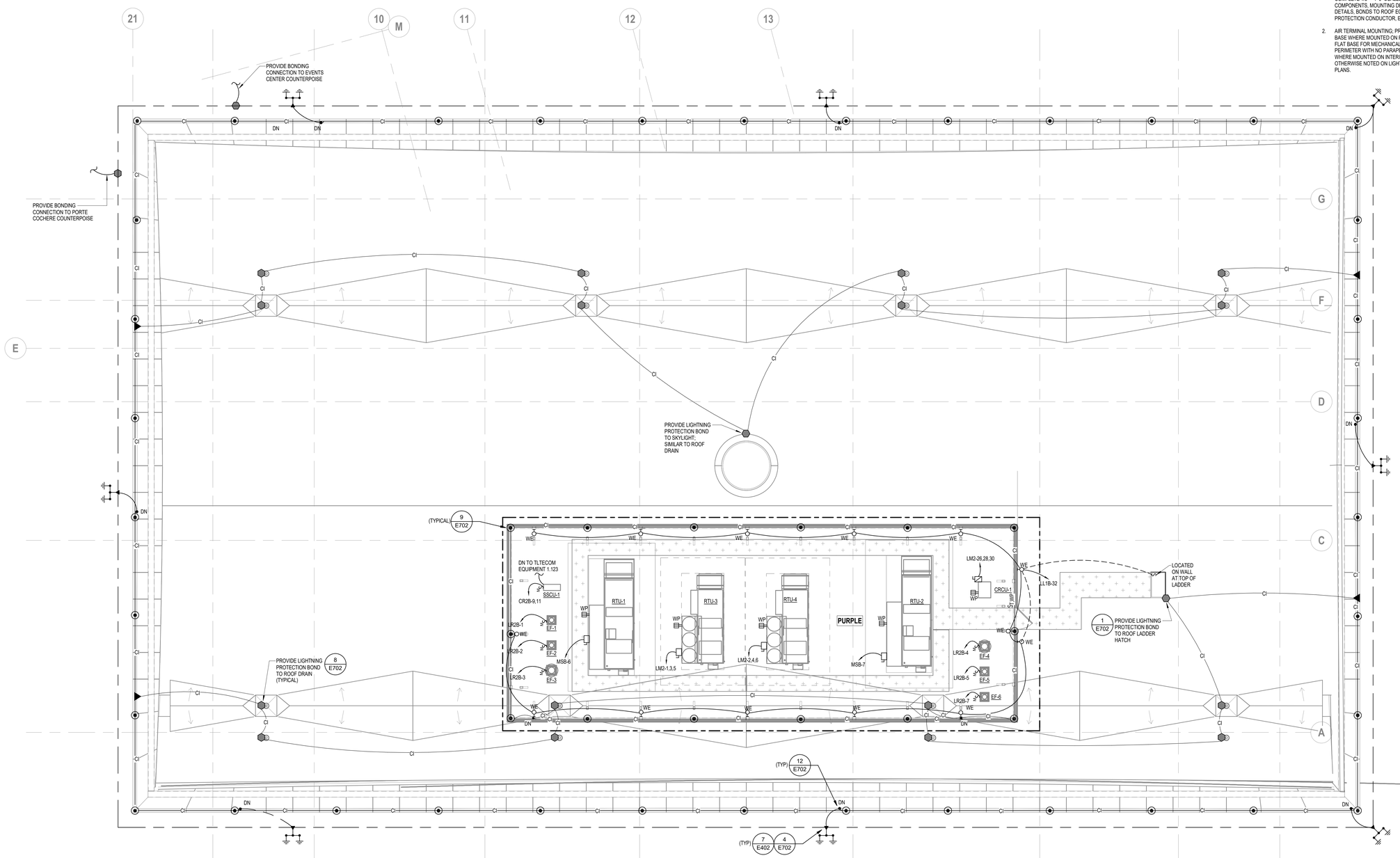
PROJ. NO. E-16078.00
DRAWN KW
SHEET **E122**

A1 **POWER PLAN - 2ND LEVEL - AREA 2 - EVENTS CENTER**
1/8" = 1'-0"

GENERAL NOTES:

1. PROVIDE COMPLETE LIGHTNING PROTECTION SYSTEM IN ACCORDANCE WITH NFPA 780, UL MASTER LABEL, INCLUDING BURIED COUNTERPOISE CONDUCTOR, PERIMETER CONDUCTOR AT INTERMEDIATE LEVELS BONDED TO COPPER DOWN CONDUCTORS; COPPER DOWN CONDUCTORS TO BE AT MAXIMUM 100' CENTER TO CENTER, CONCEALED IN 1" PVC CONDUIT IN EXTERIOR COLUMN OR WALL DOWN TO BURIED COUNTERPOISE. PROVIDE GROUND TEST WELLS, WITH APPROPRIATE TRAFFIC RATED COVERS, FOR GROUND RODS - COORDINATE LOCATION WITH LANDSCAPING AND HARDSCAPE AROUND BUILDING, AND SITE UTILITIES. ALL CONNECTIONS ARE TO BE BY EXOTHERMIC WELD. ALL CONDUCTORS FROM HIGHER TO LOWER ROOFS SHALL BE CONCEALED FROM VIEW. PROVIDE COMPLETE 1/8" = 1'-0" SCALED SHOP DRAWINGS, SHOWING ALL COMPONENTS, MOUNTING DETAILS, ROOF PENETRATION DETAILS, BONDS TO ROOF EQUIPMENT FROM ROOF LIGHTNING PROTECTION CONDUCTOR, ETC.

2. AIR TERMINAL MOUNTING: PROVIDE PARAPET TYPE BASE WHERE MOUNTED ON PARAPET; PROVIDE FLAT BASE FOR MECHANICAL EQUIPMENT OR ROOF PERIMETER WITH NO PARAPET; PROVIDE BLUNT TIP WHERE MOUNTED ON INTERIOR OF ROOF, UNLESS OTHERWISE NOTED ON LIGHTNING PROTECTION PLANS.



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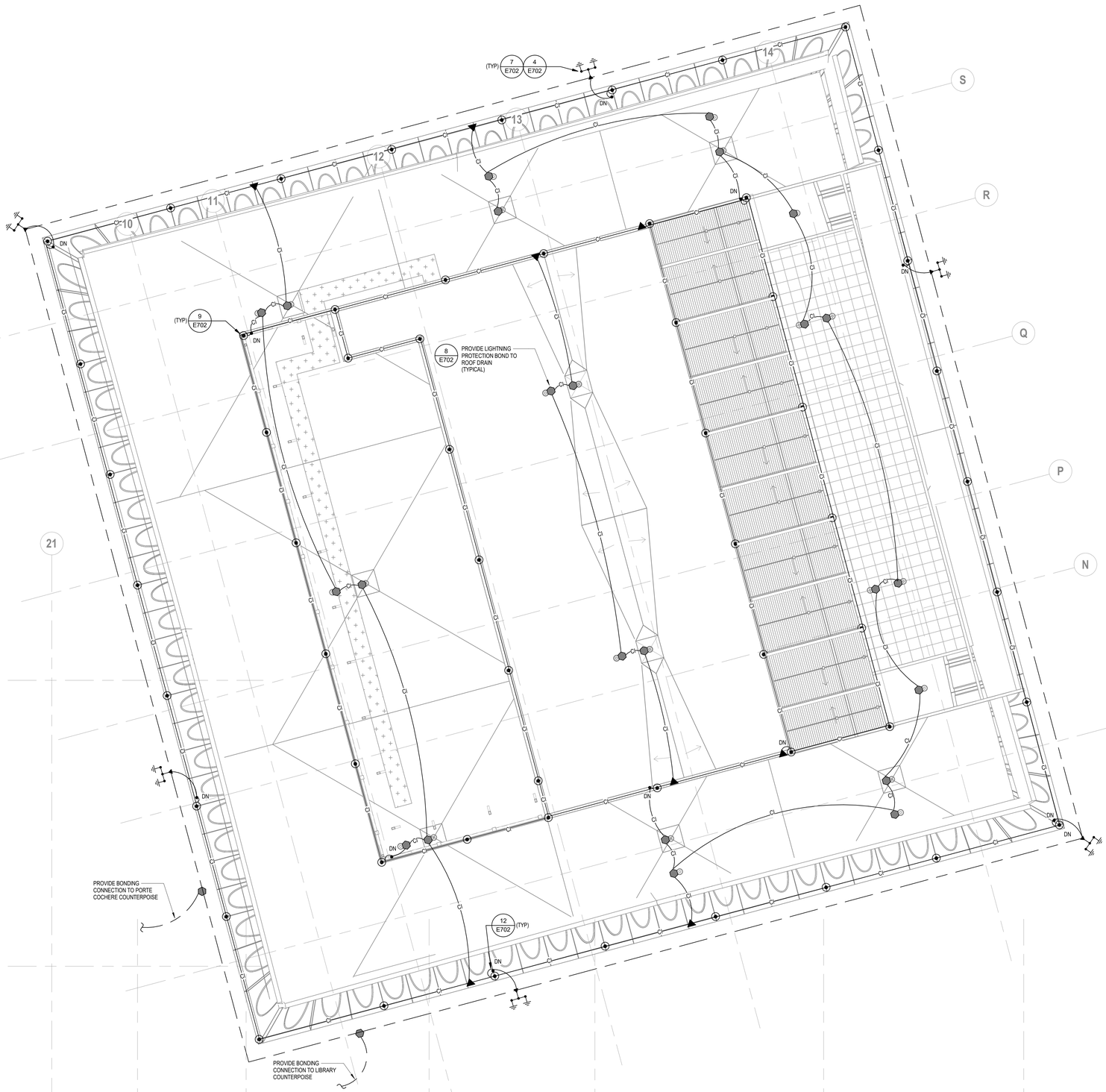
ELECTRICAL ROOF PLAN - AREA 1 - LIBRARY

PROJ. NO. E-16078.00 SHEET
DRAWN KW
E131

A1 **ELECTRICAL ROOF PLAN - AREA 1 - LIBRARY**
1/8" = 1'-0"



GENERAL NOTES:

1. PROVIDE COMPLETE LIGHTNING PROTECTION SYSTEM IN ACCORDANCE WITH NFPA 780, UL MASTER LABEL, INCLUDING BURIED COUNTERPOISE CONDUCTOR, PERIMETER CONDUCTOR AT INTERMEDIATE LEVELS BONDED TO COPPER DOWN CONDUCTORS; COPPER DOWN CONDUCTORS TO BE AT MAXIMUM 100' CENTER TO CENTER, CONCEALED IN 1" PVC CONDUIT IN EXTERIOR COLUMN OR WALL DOWN TO BURIED COUNTERPOISE. PROVIDE GROUND TEST WELLS, WITH APPROPRIATE TRAFFIC RATED COVERS, FOR GROUND RODS - COORDINATE LOCATION WITH LANDSCAPING AND HARDSCAPE AROUND BUILDING, AND SITE UTILITIES. ALL CONNECTIONS ARE TO BE BY EXOTHERMIC WELD. ALL CONDUCTORS FROM HIGHER TO LOWER ROOFS SHALL BE CONCEALED FROM VIEW. PROVIDE COMPLETE 1/8" = 1'-0" SCALED SHOP DRAWINGS, SHOWING ALL COMPONENTS, MOUNTING DETAILS, ROOF PENETRATION DETAILS, BONDS TO ROOF EQUIPMENT FROM ROOF LIGHTNING PROTECTION CONDUCTOR, ETC.

2. AIR TERMINAL MOUNTING: PROVIDE PARAPET TYPE BASE WHERE MOUNTED ON PARAPET; PROVIDE FLAT BASE FOR MECHANICAL EQUIPMENT OR ROOF PERIMETER WITH NO PARAPET; PROVIDE BLUNT TIP WHERE MOUNTED ON INTERIOR OF ROOF, UNLESS OTHERWISE NOTED ON LIGHTNING PROTECTION PLANS.

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ELECTRICAL HIGH ROOF PLAN - AREA 2 - EVENTS CENTER

PROJ. NO. E-16078.00 SHEET
DRAWN KW
E132

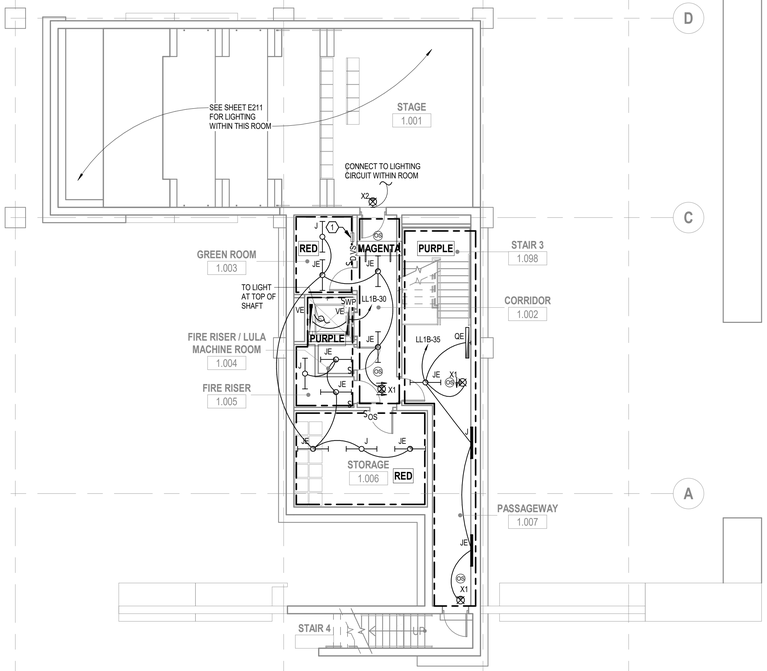
A1 **ELECTRICAL HIGH ROOF PLAN - AREA 2 - EVENTS CENTER**
1/8" = 1'-0"

GENERAL NOTES:

1. REFER TO SHEET E801 FOR LIGHTING CONTROL ZONE PROGRAMMING/COMMISSIONING REQUIREMENTS.
2. ALL EXIT SIGNS SHALL BE CIRCUITED TO NEAREST LIGHTING CIRCUIT WITHIN SAME ROOM OR AREA AHEAD OF ANY LOCAL SWITCHING.

PLAN NOTES:

(1) PROVIDE CRESTRON ROOM CONTROL INTERFACE MOUNTED ON WALL AT 48" FOR MEETING ROOM 1.133. PROVIDE CRESTRON CONTROLLER ON WALL ABOVE INTERFACE AT 84".



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LIGHTING PLAN - BASEMENT LEVEL - AREA 1 - LIBRARY

PROJ. NO. E-16078.00
DRAWN KW
SHEET **E201**

A1 LIGHTING PLAN - BASEMENT LEVEL - AREA 1 - LIBRARY

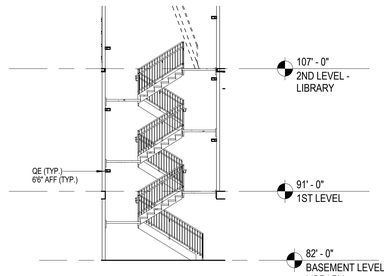
1/8" = 1'-0"

GENERAL NOTES:

1. REFER TO SHEET E801 FOR LIGHTING CONTROL ZONE PROGRAMMING/COMMISSIONING REQUIREMENTS.
2. ALL EXIT SIGNS SHALL BE CIRCUITED TO NEAREST LIGHTING CIRCUIT WITHIN SAME ROOM OR AREA AHEAD OF ANY LOCAL SWITCHING.

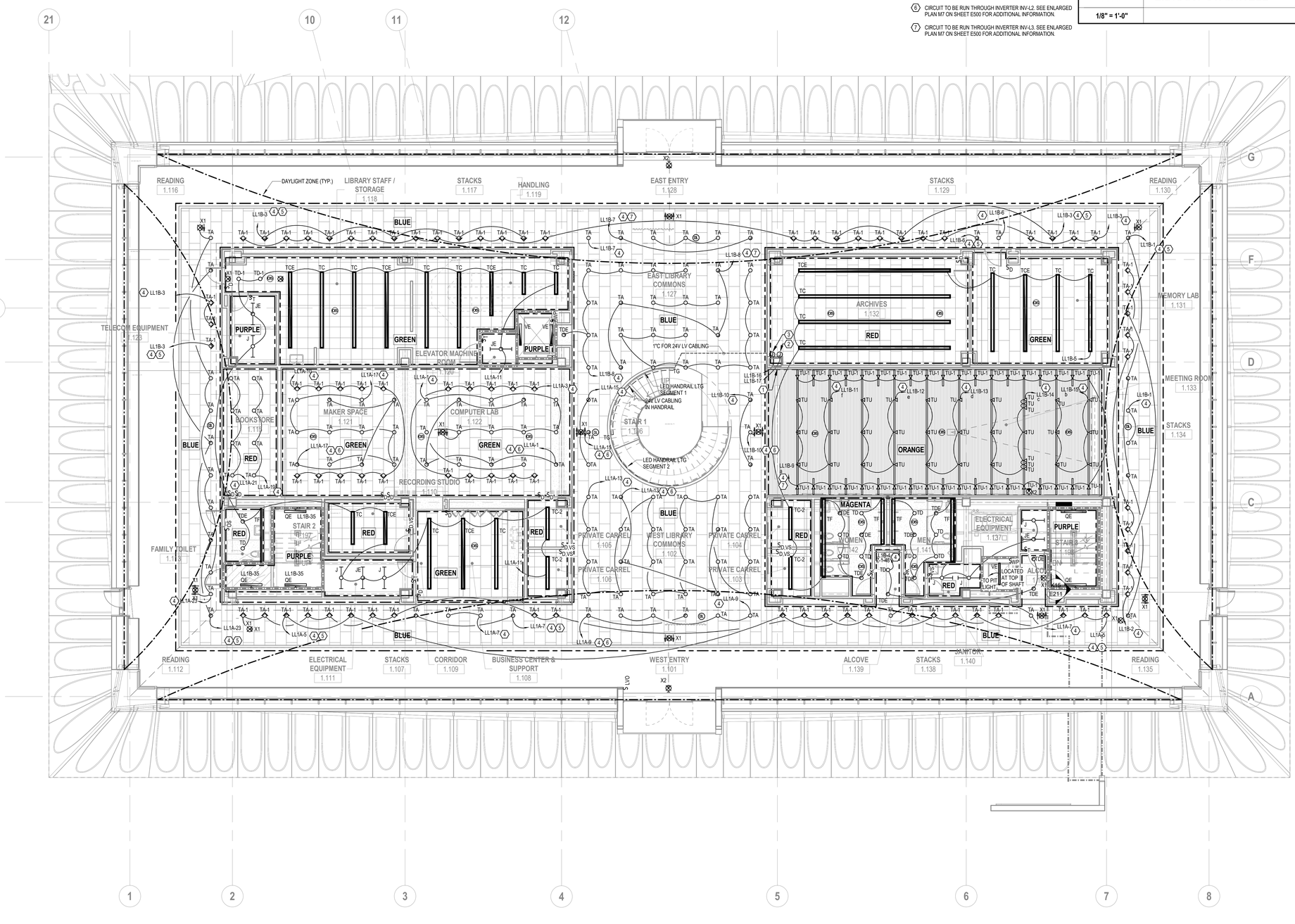
PLAN NOTES:

1. POWER CRESTRON ROOM CONTROL INTERFACE FOR MEETING ROOM.
2. PROVIDE 19 LINEAR FEET OF ILLUMINATED HANDRAIL LIGHTING FROM BOTTOM OF STAIRS. ROUTE LOW VOLTAGE WIRE FROM POWER SUPPLY TO LIGHT FIXTURE. COORDINATE EXACT LENGTH AND INTEGRATION TO HANDRAIL WITH ARCHITECT. COORDINATE WIRE SIZE AND CONNECTION REQUIREMENTS WITH VENDOR PRIOR TO ROUGH IN.
3. PROVIDE 18 LINEAR FEET OF ILLUMINATED HANDRAIL LIGHTING STARTING AT 19' FROM BOTTOM OF RAIL. ROUTE LOW VOLTAGE WIRE FROM POWER SUPPLY TO LIGHT FIXTURE. COORDINATE EXACT LENGTH AND INTEGRATION TO HANDRAIL WITH ARCHITECT. COORDINATE WIRE SIZE AND CONNECTION REQUIREMENTS WITH VENDOR PRIOR TO ROUGH IN.
4. WIRE CIRCUIT THROUGH LCP ADJACENT TO PANELBOARD FOR CONTROL VIA TIME-OF-DAY SCHEDULE.
5. CIRCUIT TO BE RUN THROUGH INVERTER INV-L1. SEE ENLARGED PLAN M7 ON SHEET E500 FOR ADDITIONAL INFORMATION.
6. CIRCUIT TO BE RUN THROUGH INVERTER INV-L2. SEE ENLARGED PLAN M7 ON SHEET E500 FOR ADDITIONAL INFORMATION.
7. CIRCUIT TO BE RUN THROUGH INVERTER INV-L3. SEE ENLARGED PLAN M7 ON SHEET E500 FOR ADDITIONAL INFORMATION.



K15 LIBRARY STAIRWELL

1/8" = 1'-0"



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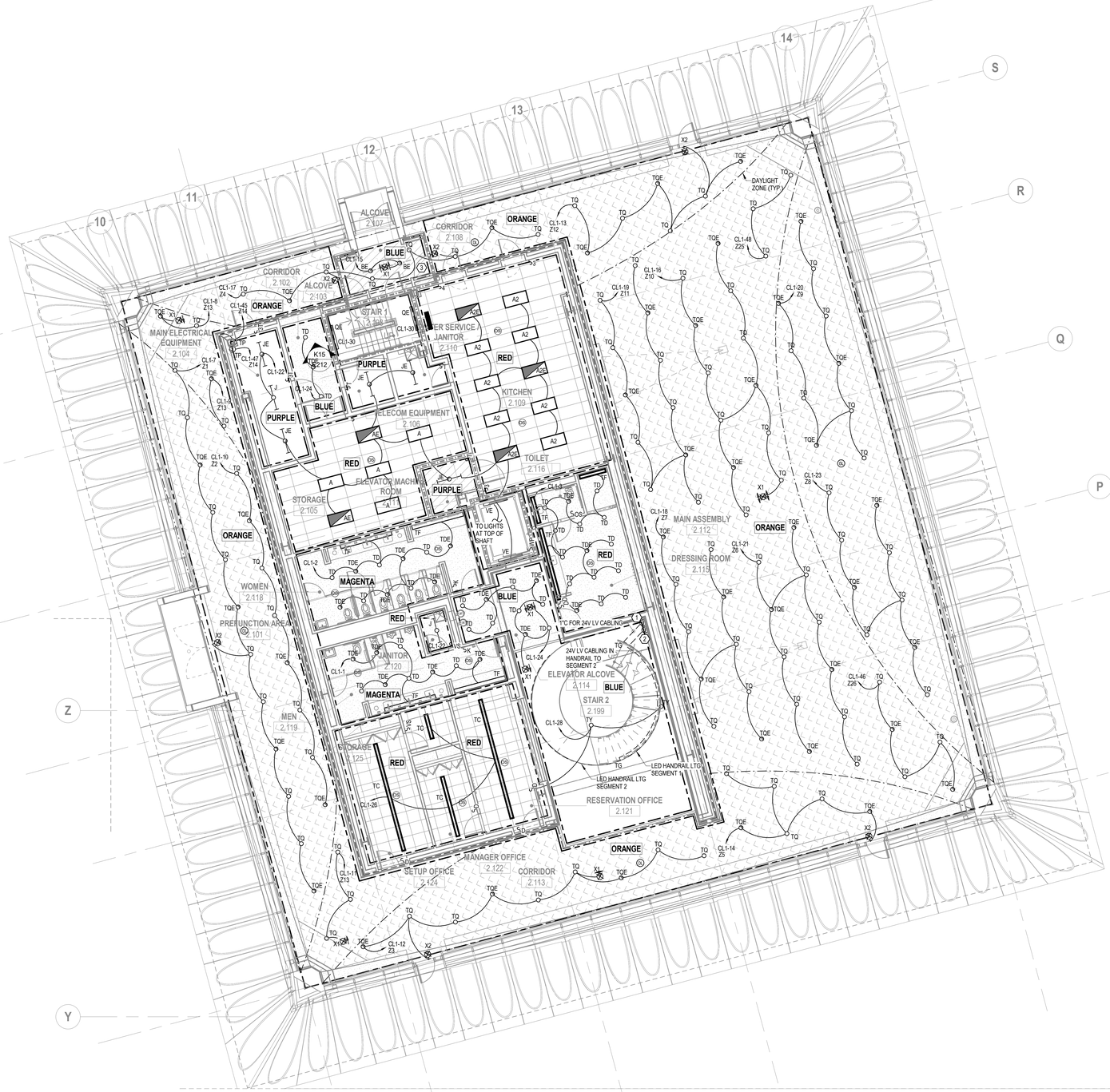
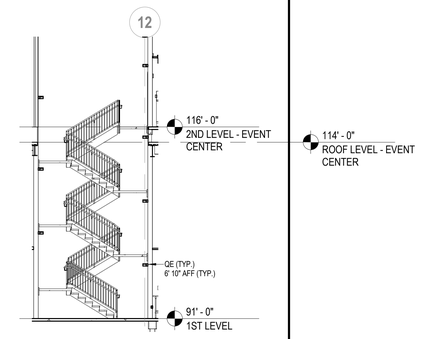
LIGHTING PLAN - 1ST LEVEL - AREA 1 - LIBRARY

PROJ. NO. E-16078.00
DRAWN KW
SHEET E211

A1 LIGHTING PLAN - 1ST LEVEL - AREA 1 - LIBRARY

1/8" = 1'-0"





K15	EVENT CENTER STAIRWELL
1/8" = 1'-0"	

GENERAL NOTES:

1. ALL ELECTRICAL FIXTURES ARE TO BE CIRCUITED TO PANEL CL1 UNLESS OTHERWISE NOTED.
2. REFER TO SHEET E801 FOR LIGHTING CONTROL ZONE PROGRAMMING/COMMISSIONING REQUIREMENTS.
3. ALL EXIT SIGNS SHALL BE CIRCUITED TO NEAREST LIGHTING CIRCUIT WITHIN SAME ROOM OR AREA AHEAD OF ANY LOCAL SWITCHING.

PLAN NOTES:

1. PROVIDE 23 LINEAR FEET OF ILLUMINATED HANDRAIL LIGHTING FROM BOTTOM OF STAIRS. ROUTE LOW VOLTAGE WIRE FROM POWER SUPPLY TO LIGHT FIXTURE. COORDINATE EXACT LENGTH AND INTEGRATION TO HANDRAIL WITH ARCHITECT. COORDINATE WIRE SIXE AND CONNECTION REQUIREMENTS WITH VENDOR PRIOR TO ROUGH IN.
2. PROVIDE 24 LINEAR FEET OF ILLUMINATED HANDRAIL LIGHTING STARTING AT 23' FROM BOTTOM OF RAIL. ROUTE LOW VOLTAGE WIRE FROM POWER SUPPLY TO LIGHT FIXTURE. COORDINATE EXACT LENGTH AND INTEGRATION TO HANDRAIL WITH ARCHITECT. COORDINATE WIRE SIXE AND CONNECTION REQUIREMENTS WITH VENDOR PRIOR TO ROUGH IN.
3. 1HR FIRE RATED PUDDY PADS FOR ALL DEVICES IN CEILING.

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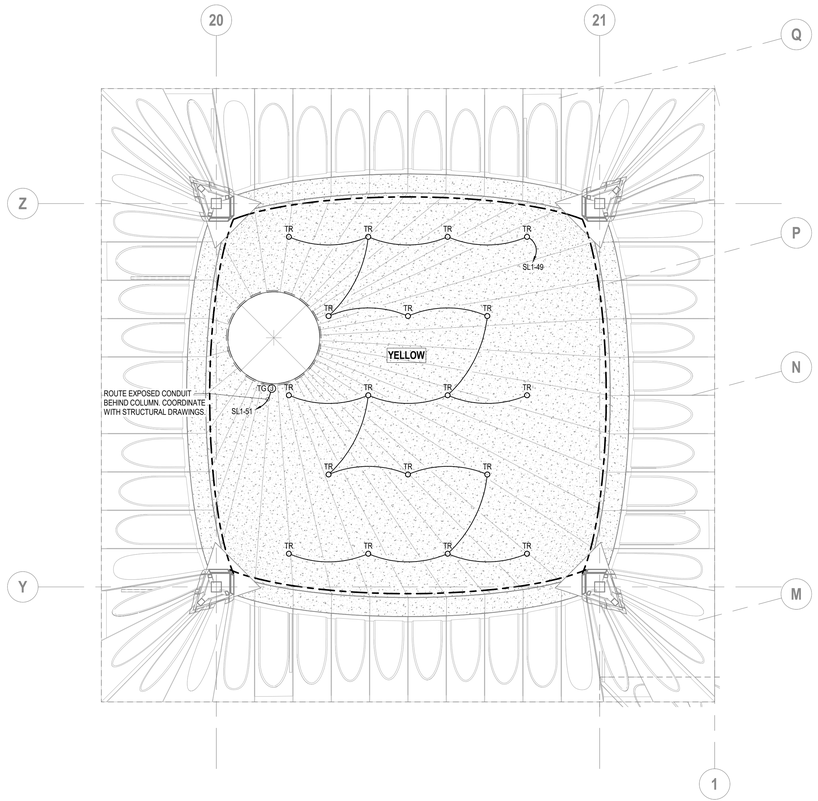
LIGHTING PLAN - 1ST LEVEL - AREA 2 - EVENTS CENTER

PROJ. NO. E-16078.00
DRAWN KW
SHEET **E212**

A1	LIGHTING PLAN - 1ST LEVEL - AREA 2 - EVENTS CENTER
1/8" = 1'-0"	



N

A1	LIGHTING PLAN - 1ST LEVEL - AREA 3 - PORTE COCHERE
1/8" = 1'-0"	

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LIGHTING PLAN - 1ST LEVEL AND ROOF - AREA 3 - PORTE COCHERE

PROJ. NO. E-16078.00
DRAWN KW
SHEET **E213**

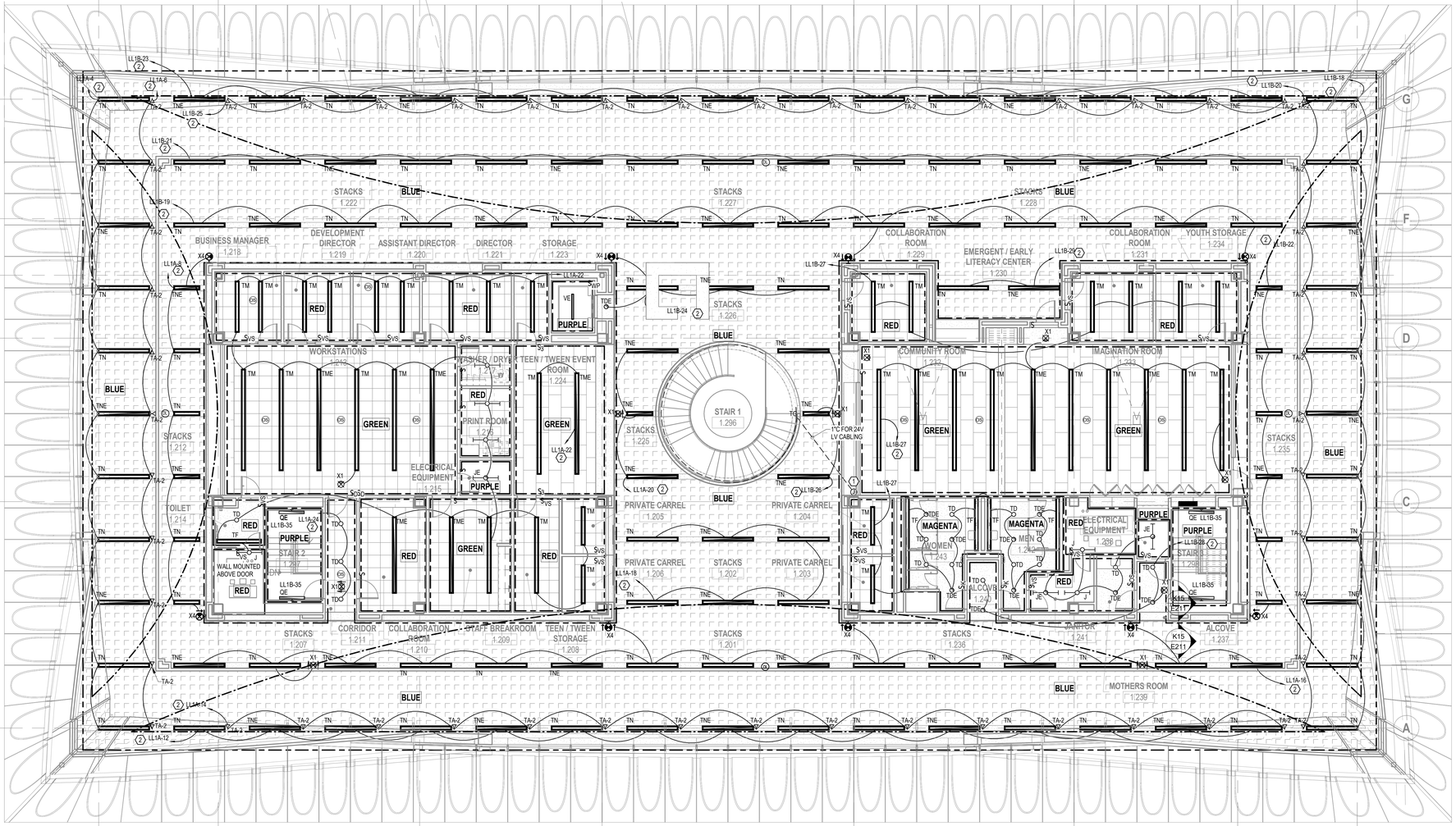
GENERAL NOTES:

1. REFER TO SHEET E801 FOR LIGHTING CONTROL ZONE PROGRAMMING/COMMISSIONING REQUIREMENTS.
2. ALL EXIT SIGNS SHALL BE CIRCUITED TO NEAREST LIGHTING CIRCUIT WITHIN SAME ROOM OR AREA AHEAD OF ANY LOCAL SWITCHING.

PLAN NOTES:

(1) PROVIDE 19 LINEAR FEET OF ILLUMINATED HANDRAIL LIGHTING FROM BOTTOM OF STAIRS. ROUTE LOW VOLTAGE WIRE FROM POWER SUPPLY TO LIGHT FIXTURE. COORDINATE EXACT LENGTH AND INTEGRATION TO HANDRAIL WITH ARCHITECT. COORDINATE WIRE SIZE AND CONNECTION REQUIREMENTS WITH VENDOR PRIOR TO ROUGH IN.

(2) WIRE CIRCUIT THROUGH LCP ADJACENT TO PANELBOARD FOR CONTROL VIA TIME-OF-DAY SCHEDULE.



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LIGHTING PLAN - 2ND LEVEL - AREA 1 - LIBRARY

PROJ. NO. E-16078.00 SHEET
DRAWN KW
E221

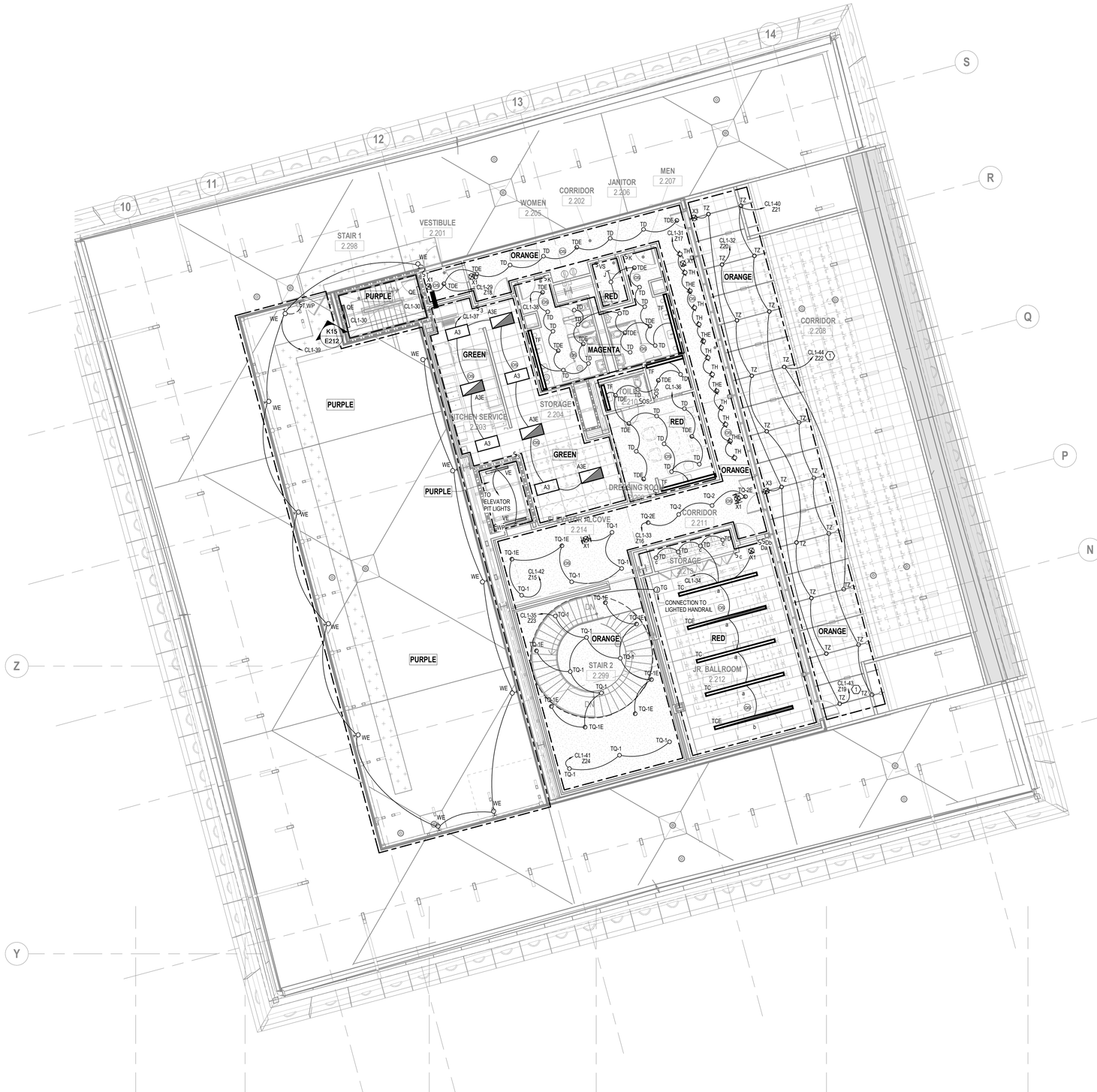
A1 LIGHTING PLAN - 2ND LEVEL - AREA 1 - LIBRARY
1/8" = 1'-0"

GENERAL NOTES:

1. REFER TO SHEET E801 FOR LIGHTING CONTROL ZONE PROGRAMMING/COMMISSIONING REQUIREMENTS.
2. ALL EXIT SIGNS SHALL BE CIRCUITED TO NEAREST LIGHTING CIRCUIT WITHIN SAME ROOM OR AREA AHEAD OF ANY LOCAL SWITCHING.

PLAN NOTES:

1. CIRCUIT TO BE RUN THROUGH INVERTER INV-C2. SEE ENLARGED PLAN G13 ON SHEET E500 FOR ADDITIONAL INFORMATION.



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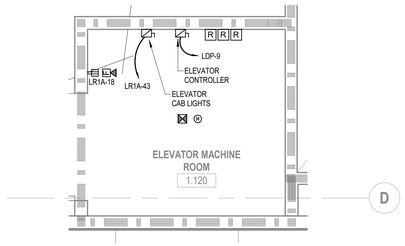
LIGHTING PLAN - 2ND LEVEL AND ROOF - AREA 2 - EVENTS CENTER

PROJ. NO. E-16078.00
DRAWN KW
SHEET **E222**

A1 LIGHTING PLAN - 2ND LEVEL - AREA 2 - EVENTS CENTER

1/8" = 1'-0"

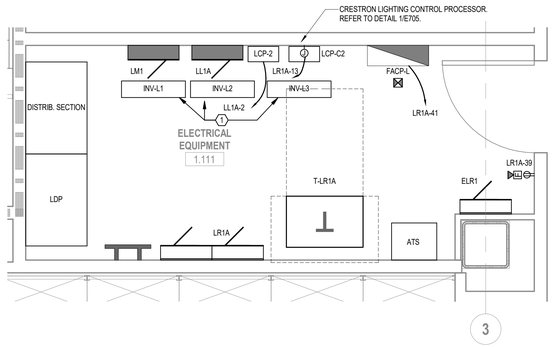


M1 ENLARGED PLAN - 1ST LEVEL - AREA 1 - LIBRARY - ELEV MACH RM

1/2" = 1'-0"

PLAN NOTES:

1. INVERTERS INV-L1; INV-L2 AND INV-L3 LOCATED ON WALL ABOVE PANELS LM1, LL1A AND LIGHTING CONTROL PANELS LCP-2 AND LCP-C2. PROVIDE (3) 750W, 277V, (6) CIRCUIT; MYERS POWER PRODUCT #LV-4-R-1-B-20-6-W.

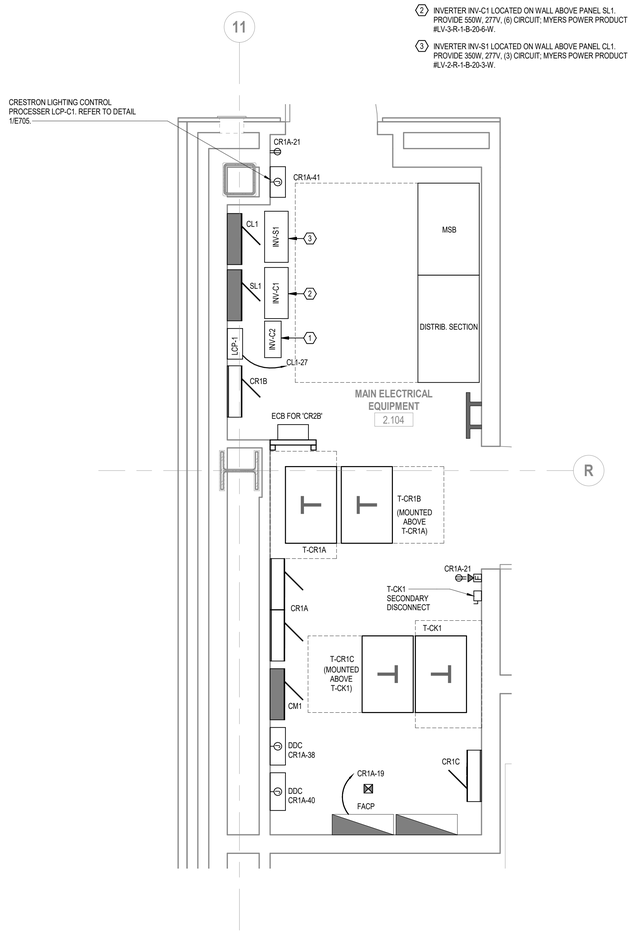


M7 ENLARGED PLAN - 1ST LEVEL - AREA 1 - LIBRARY - NORTH ELEC RM

1/2" = 1'-0"

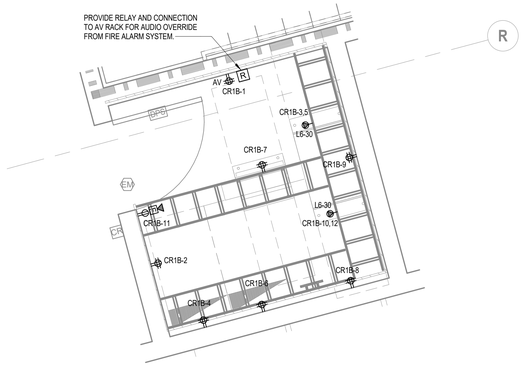
PLAN NOTES:

1. INVERTER INV-C2 LOCATED ON WALL ABOVE LIGHTING CONTROL PANEL LCP-1. PROVIDE 175W, 277V, (3) CIRCUIT; MYERS POWER PRODUCT #LV-1-R-1-B-20-3-W.
2. INVERTER INV-C1 LOCATED ON WALL ABOVE PANEL SL1. PROVIDE 550W, 277V, (6) CIRCUIT; MYERS POWER PRODUCT #LV-3-R-1-B-20-6-W.
3. INVERTER INV-S1 LOCATED ON WALL ABOVE PANEL CL1. PROVIDE 350W, 277V, (3) CIRCUIT; MYERS POWER PRODUCT #LV-2-R-1-B-20-3-W.



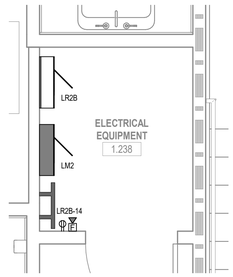
G1 ENLARGED PLAN - TELECOM EQUIPMENT 2.106 - EVENT CENTER

1/2" = 1'-0"



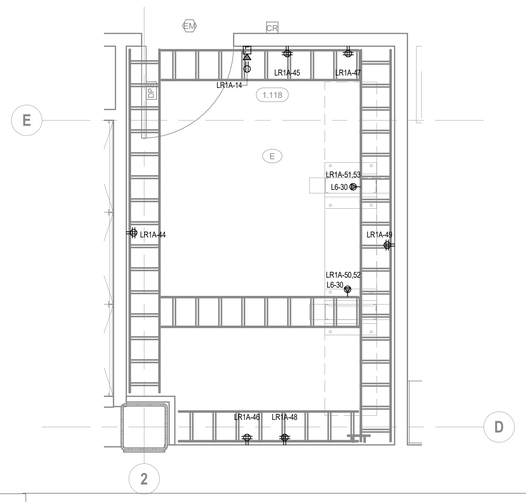
G7 ENLARGED PLAN - 2ND LEVEL - LIBRARY - POWER - SOUTH ELEC RM

1/2" = 1'-0"



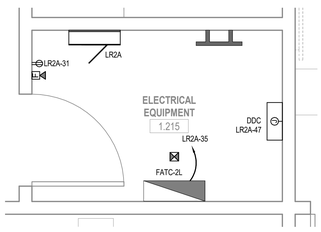
G13 ENLARGED PLAN - 1ST LEVEL - AREA 2 - EVENTS CENTER - MAIN ELEC RM

1/2" = 1'-0"



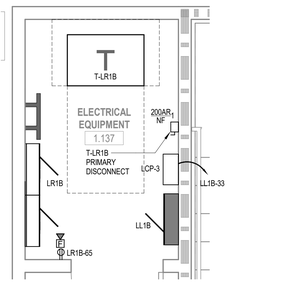
A1 ENLARGED PLAN - TELECOM EQUIPMENT 1.111 - LIBRARY

1/2" = 1'-0"



A7 ENLARGED PLAN - 2ND LEVEL - LIBRARY - POWER - NORTH ELEC RM

1/2" = 1'-0"



A13 ENLARGED PLAN - 1ST LEVEL - AREA 1 - LIBRARY - SOUTH ELEC RM

1/2" = 1'-0"

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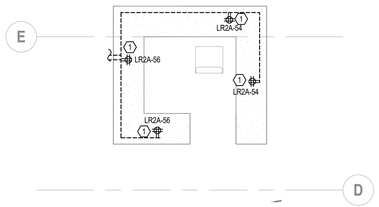
ENLARGED PLANS - ELECTRICAL

PROJ. NO. E-16078.00
DRAWN KW
SHEET **E500**

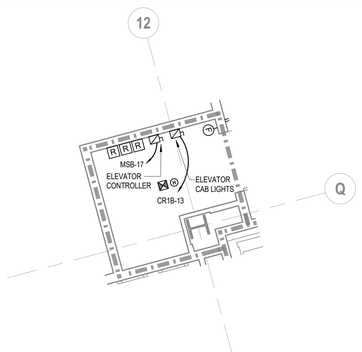
PLAN NOTES

1. RECEPTACLES TO BE MOUNTED IN MILLWORK. ROUTE CONDUIT IN SLAB AND UP NEAREST WALL. COORDINATE EXACT LOCATION OF RECEPTACLES WITH MILLWORK DRAWINGS PRIOR TO ROUGH-IN.



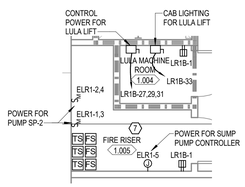
M1 ENLARGED PLAN - 2ND FLOOR CHECK OUT - LIBRARY

1/4" = 1'-0"



H1 ENLARGED PLAN - ELEVATOR MACHINE ROOM 2.111 - EVENT CENTER

1/4" = 1'-0"



E1 ENLARGED PLAN - FIRE RISER/LULA MACHINE ROOM 1.004 & FIRE RISER 1.005

1/4" = 1'-0"

ELECTRICAL SCHEDULE

ITEM NUMBER	QTY	DESCRIPTION	VOLTS	PHASE	FL AMPS	HP	WATTS	CONN PLUG	CONN	RI HT +AFF	EL CONN TYPE	WIRE SIZE	REMARKS
34	1	Ventless Hood	208 V	1	3 A					+108"	CORD/PLUG	2#12, 1#12GND - 3/4"C	
35	1	Heated Holding Cabinet	120 V	1	11 A		1350 W	NEMA 5-15P		+44"		2#12, 1#12GND - 3/4"C	
37	1	Refrigerator, Reach-In, Two Section	115 V	1	9 A	1/2	1047 W	5-15P	Yes	+44"		2#12, 1#12GND - 3/4"C	
40	1	Convection Oven, Electric	208 V	1	23 A		5900 W	NEMA L6-30P	Yes			2#10, 1#10GND - 3/4"C	
42	1	522 lb Remote-Cooled Dice	115 V	1	20 A		2300 W		Yes	+72"		2#10, 1#10GND - 3/4"C	

GENERAL NOTES

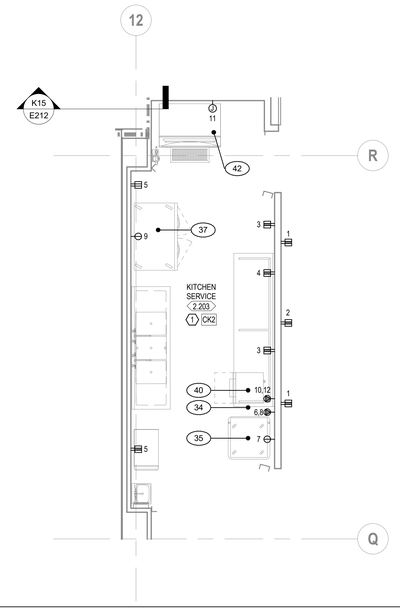
1. COORDINATE ALL ELECTRICAL CONNECTIONS AND EQUIPMENT LOCATIONS WITH FINAL KITCHEN EQUIPMENT SHOP DRAWINGS AND CUT SHEETS PRIOR TO ROUGHING IN OF CONDUIT AND WIRING.
2. SEE FOOD SERVICE EQUIPMENT SCHEDULE FOR ASSOCIATED ELECTRICAL INFORMATION.
3. WHERE NEMA PLUG RATING IS INDICATED IN THE "REMARKS" COLUMN, PLUG, CORD AND CONNECTIONS TO EQUIPMENT IS PROVIDED BY DIVISION 26 CONTRACTOR.
4. HARD WIRE CONNECTIONS TO EQUIPMENT ARE PROVIDED BY DIVISION 26 CONTRACTOR. ALL ROUGH-INS SHOWN ARE TO BE RUN CONCEALED IN WALLS (EXCEPT STUB-UPS).
5. ALL 15A/1P AND 20A/1P RECEPTACLES ARE TO BE GFCI TYPE AS REQUIRED BY NEC.
6. ALL WIRING DEVICE, RECEPTACLES AND LIGHT SWITCHES WITHIN THIS ROOM ARE TO BE GREY DEVICES WITH STAINLESS STEEL COVERPLATES.

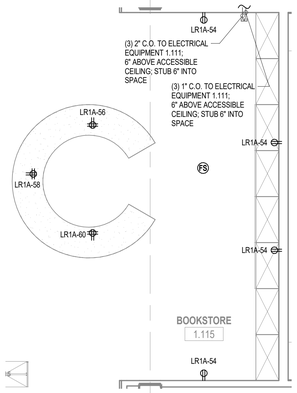
PLAN NOTES

1. ALL EQUIPMENT AND DEVICES SHALL BE CIRCUITED TO PANEL INDICATED, UNLESS OTHERWISE NOTED. CIRCUIT NUMBERS ARE LOCATED ADJACENT TO EQUIPMENT OR DEVICE.

A1 ENLARGED PLAN - KITCHEN - EVENTS CENTER

1/4" = 1'-0"





H7 ENLARGED PLAN - BOOKSTORE 1.115 - LIBRARY

1/4" = 1'-0"

ELECTRICAL SCHEDULE

ITEM NUMBER	QTY	DESCRIPTION	VOLTS	PHASE	FL AMPS	HP	WATTS	CONN PLUG	CONN	RI HT +AFF	EL CONN TYPE	WIRE SIZE	REMARKS
1	2	Heated Holding Cabinet	120 V	1	11 A		1350 W	NEMA 5-15P		+72" AFF			DROP CORD FROM CEILING
7	1	Ice Maker w/ Bin	208 V	1	20 A		4160 W		No	+72"		2#12, 1#12 GND - 3/4"C	
17	2	Refrigerator, Reach-In	115 V	1	11 A	1/3		NEMA 5-15P	No	+44"		2#12, 1#12 GND - 3/4"C	
18	1	Freezer, Reach-In	115 V	1	9 A	1/3		NEMA 5-15P	No	+44"		2#12, 1#12 GND - 3/4"C	
19	1	36" Restaurant Range, Gas	0 V	0	0 A					+30"			
20	1	Electric Convection Oven	208 V	1	51 A		10608 W		Yes	+44"		2#4, 1#8 GND - 1"C	
21	1	Exhaust Hood with Make-Up Air	120 V	1	15 A				Yes	+108"	-	2#12, 1#12 GND - 3/4"C	-
22	1	Ventilator Control Panel	120 V	1	10 A				Yes	+108"		2#12, 1#12 GND - 3/4"C	
24	1	Counter Top Electric Fryer 15 lb 208V	208 V	1	16 A		3300 W		Yes	+44"	CORD/PLUG	2#12, 1#12 GND - 3/4"C	
32	2	Banquet Cabinet, Mobile, Heated	120 V	1	9 A		1050 W	Nema 5-15p	Yes	+44"		2#12, 1#12 GND - 3/4"C	

GENERAL NOTES

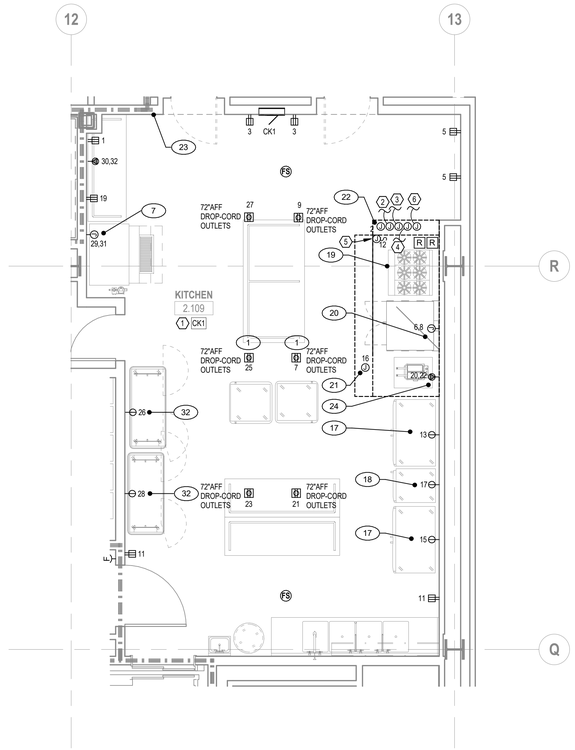
1. COORDINATE ALL ELECTRICAL CONNECTIONS AND EQUIPMENT LOCATIONS WITH FINAL KITCHEN EQUIPMENT SHOP DRAWINGS AND CUT SHEETS PRIOR TO ROUGHING IN OF CONDUIT AND WIRING.
2. SEE FOOD SERVICE EQUIPMENT SCHEDULE FOR ASSOCIATED ELECTRICAL INFORMATION.
3. WHERE NEMA PLUG RATING IS INDICATED IN THE "REMARKS" COLUMN, PLUG, CORD AND CONNECTIONS TO EQUIPMENT IS PROVIDED BY DIVISION 26 CONTRACTOR.
4. HARD WIRE CONNECTIONS TO EQUIPMENT ARE PROVIDED BY DIVISION 26 CONTRACTOR. ALL ROUGH-INS SHOWN ARE TO BE RUN CONCEALED IN WALLS (EXCEPT STUB-UPS).
5. ALL 15A/1P AND 20A/1P RECEPTACLES ARE TO BE GFCI TYPE AS REQUIRED BY NEC.
6. PROVIDE SHUNT-TRIP INTERLOCK WIRING AND CONDUIT FROM HOOD FIRE PROTECTION SYSTEM PANEL TO ALL SHUNT-TRIP BRANCH CIRCUIT IN PANELBOARD CK1.
7. PROVIDE FIRE ALARM RELAY CONTACT AT HOOD FIRE PROTECTION SYSTEM PANEL.
8. PROVIDE FIRE ALARM RELAY CONTACT AT HOOD FIRE PROTECTION SYSTEM PANEL.

PLAN NOTES

1. ALL EQUIPMENT AND DEVICES SHALL BE CIRCUITED TO PANEL INDICATED, UNLESS OTHERWISE NOTED. CIRCUIT NUMBERS ARE LOCATED ADJACENT TO EQUIPMENT OR DEVICE.
2. PROVIDE 1" CONDUIT AND CONTROL WIRING FROM THE ANSUL FIRE PROTECTION SYSTEM PANEL TO THE ANSUL MICRO SWITCHES.
3. PROVIDE 1" CONDUIT AND CONTROL WIRING FROM THE ANSUL FIRE PROTECTION SYSTEM PANEL TO THE HOOD. COORDINATE EXACT REQUIREMENTS WITH KITCHEN SHOP DRAWINGS AND KITCHEN CONTRACTOR PRIOR TO ROUGH IN.
4. PROVIDE 1" CONDUIT AND CONTROL WIRING TO HOOD EXHAUST STARTERS. CONTROL WIRING BY DIVISION 25.
5. LIGHT FIXTURES FURNISHED BY KITCHEN EXHAUST HOOD OR OTHER FOOD SERVICE EQUIPMENT ARE PROVIDED BY KITCHEN EQUIPMENT CONTRACTOR.
6. PROVIDE 3/4" CONDUIT AND WIRING FROM KITCHEN HOOD CONTROL PANEL TO GAS SOLENOID VALVE.
7. COORDINATE EXACT LOCATION OF ALL DEVICES IN ROOM WITH DIVISION 21 PRIOR TO ROUGH-IN.

A12 ENLARGED PLAN - KITCHEN 2.115 - EVENT CENTER

1/4" = 1'-0"



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ENLARGED PLANS - ELECTRICAL

PROJ. NO. E-16078.00
DRAWN KW
SHEET E501

POWER RISER SYMBOL LEGEND

SYMBOL	DESCRIPTION
ECB	ENCLOSED CIRCUIT BREAKER
	LOCAL UTILITY PAD MOUNTED TRANSFORMER AND METER
MSB PM	SERVICE SWITCHBOARD
MDP	DISTRIBUTION PANELBOARD
LP	BRANCH CIRCUIT PANELBOARD; "LXX" and "MXX" INDICATES 277/480V,3PH,4W "RXX" INDICATES 120/208V,3^I4W
10kVA	DRY-TYPE TRANSFORMER, MOUNTED ON CONCRETE HOUSEKEEPING PAD; KVA RATING AS INDICATED; K-13 WHERE INDICATED 3PH, 480V TO 208Y/120V UNLESS OTHERWISE INDICATED
10kVA	DRY-TYPE TRANSFORMER, HANGING KVA RATING AS INDICATED; K-13 WHERE INDICATED 3PH, 480V TO 208Y/120V UNLESS OTHERWISE INDICATED

PANEL/SWITCHBOARD FEEDER SCHEDULE (COPPER)

VOLTAGE DROP = 2% MAX (PER FBC ENERGY CONSERVATION C405.7.3)
ALL FEEDERS ARE BASED ON COPPER (SEE TRANSFORMER SCHEDULE BELOW FOR TRANSFORMER FEEDERS)

FEEDER *CODE	FEEDER SIZE	NEUTRAL SIZE "N"	GROUND SIZE "G"	CONDUIT SIZE	FEEDER CODE	FEEDER SIZE	NEUTRAL SIZE "N"	GROUND SIZE "G"	CONDUIT SIZE
15	3#12	1#12	1#12	3/4"	600	2 SETS OF 3-350KCMIL	2 SETS OF 1-350KCMIL	2 SETS OF 1#1	2 SETS OF 4"
30	3#10	1#10	1#10	3/4"					
40	3#8	1#8	1#10	1"	700	2 SETS OF 3-500KCMIL	2 SETS OF 1-500KCMIL	2 SETS OF 1#1/0	2 SETS OF 4"
50	3#8	1#8	1#10	1"					
60	3#6	1#6	1#10	2"	800	2 SETS OF 3-600KCMIL	2 SETS OF 1-600KCMIL	2 SETS OF 1#1/0	2 SETS OF 4"
70	3#4	1#4	1#8	2"					
100	3#2	1#2	1#6	2"	1000	3 SETS OF 3-400KCMIL	3 SETS OF 1-400KCMIL	3 SETS OF 1#2/0	3 SETS OF 4"
125	3#1	1#1	1#6	3"					
150	3#1/0	1#1/0	1#6	3"	1200	3 SETS OF 3-600KCMIL	3 SETS OF 1-600KCMIL	3 SETS OF 1#3/0	3 SETS OF 4"
175	3#2/0	1#2/0	1#6	3"					
200	3#3/0	1#3/0	1#6	4"	1600	4 SETS OF 3-600KCMIL	4 SETS OF 1-600KCMIL	4 SETS OF 1#4/0	4 SETS OF 4"
225	3#4/0	1#4/0	1#4	4"					
250	3-250KCMIL	1-250KCMIL	1#4	3"	2000	5 SETS OF 3-600KCMIL	5 SETS OF 1-600KCMIL	5 SETS OF 1-250KCMIL	5 SETS OF 4"
300	3-350KCMIL	1-350KCMIL	1#4	3"					
350	3-500KCMIL	1-500KCMIL	1#3	4"	2500	7 SETS OF 3-500KCMIL	7 SETS OF 1-500KCMIL		7 SETS OF 4"
400	3-600KCMIL	1-600KCMIL	1#2	4"					
450	2 SETS OF 3#4/0	2 SETS OF 1#4/0	2 SETS OF 1#2	2 SETS OF 2-1/2"	3000	8 SETS OF 3-500KCMIL	8 SETS OF 1-500KCMIL		8 SETS OF 4"
500	2 SETS OF 3-250KCMIL	2 SETS OF 1-250KCMIL	2 SETS OF 1#2	2 SETS OF 4"	4000	11 SETS OF 3-500KCMIL	11 SETS OF 1-500KCMIL		11 SETS OF 4"

FEEDER SCHEDULE ABOVE APPLIES TO SWITCHBOARDS, DISTRIBUTION PANELS, PANELBOARDS, ENCLOSED CIRCUIT BREAKERS, DISCONNECT SWITCHES, UNLESS NOTED OTHERWISE.
* SEE TRANSFORMER SCHEDULE FOR SECONDARY SYSTEM BONDING JUMPER AND GROUNDING ELECTRODE CONDUCTOR

TRANSFORMER SCHEDULE

KVA	VOLTAGE (V) PRI.	SEC.	PHASE	DEGREE S C. RISE	PRI. FEEDER	SEC. FEEDER PHASE & NEUTRAL	SECONDARY SYSTEM BONDING JUMPER	SECONDARY GROUNDING ELECTRODE COND.
15	480	120/208	3	150	30G	50N	1 #8 CU	1 #8 CU
30	480	120/208	3	150	50G	100N	1 #8 CU	1 #8 CU
45	480	120/208	3	150	70G	150N	1 #6 CU	1 #6 CU
75	480	120/208	3	150	125G	250N	1 #2 CU	1 #2 CU
112.5	480	120/208	3	150	175G	400N	1 #1/0CU	1 #1/0CU
150	480	120/208	3	150	225G	500N	1 #1/0CU	1 #1/0CU
225	480	120/208	3	150	350G	800N	1 #3/0 CU	1 #3/0 CU
300	480	120/208	3	150	500G	1200N	1-250KCMIL CU	1 #3/0 CU

REFERENCE PANEL/SWITCHBOARD FEEDER SCHEDULE FOR PHASE, NEUTRAL, GROUND AND CONDUIT SIZES FOR TRANSFORMER PRIMARY; PHASE, NEUTRAL AND CONDUIT SIZES FOR TRANSFORMER SECONDARIES. REFERENCE TABLE ABOVE FOR SECONDARY SYSTEM BONDING JUMPER AND GROUNDING ELECTRODE CONDUCTOR.

FEEDER SCHEDULE NOTES:

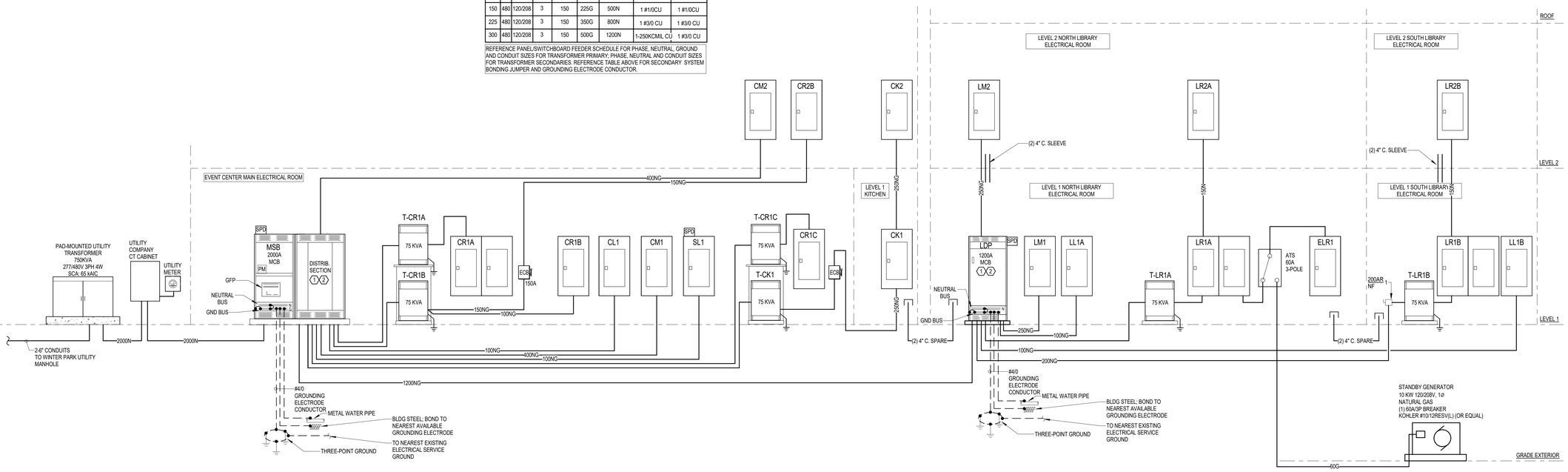
1. FOR FEEDER CODES, "N" = 100' RATED NEUTRAL, "NN" - DOUBLE NEUTRALS, "G" = GROUND AS INDICATED, "GG" = GROUND + ISOLATED GROUND CONDUCTOR, "AL" = ALUMINUM CONDUCTORS (WHERE "AL" IS NOT INDICATED, CONDUCTORS ARE COPPER).
2. WHERE FEEDER DOES NOT INDICATE "N" IN FEEDER CODE ON RISER DIAGRAM, ELIMINATE NEUTRAL CONDUCTOR.
3. WHERE FEEDER CODE INDICATES "NN", THIS REPRESENTS PARALLEL 100% NEUTRAL CONDUCTORS. PHASE CONDUCTORS & NEUTRAL CONDUCTORS HAVE BEEN DERATED PER NEC FOR NON-LINEAR LOADS.
4. EQUIPMENT AND FEEDERS INDICATED WITH DASHED LINEWIGHT ARE FUTURE TENANT EQUIPMENT; EQUIPMENT WITH SOLID, LINEWEIGHT ARE TO BE PROVIDED UNDER THE SCOPE OF THIS PROJECT.

POWER RISER GENERAL NOTES:

1. REFER TO TRANSFORMER SCHEDULE ON THIS SHEET FOR PRIMARY AND SECONDARY FEEDER SIZES OF ALL DRY-TYPE STEP-DOWN TRANSFORMERS.
2. STEP-DOWN DRY-TYPE TRANSFORMERS ARE STANDARD 480V DELTA PRIMARY 3-PHASE - 120/208V WYE SECONDARY, 3-PHASE, 4-WIRE, UNLESS NOTED OTHERWISE.
3. CIRCUIT BREAKER AND DISCONNECT RATINGS INDICATED ARE 3-POLE UNLESS NOTED OTHERWISE.

PLAN NOTES:

1. PROVIDE DIGITAL POWER METER ON MCB AND ALL BRANCH CIRCUIT BREAKERS TO COMPLY WITH ASHRAE 90.1 SECTION 8.4.3. PROVIDE GATEWAY TO CONNECT MODBUS TO BACNET OVER IP. COORDINATE CONNECTION TO BAS WITH DIV 23.
2. EQUIPMENT SHALL BE PROVIDED WITH DOCUMENTATION AND AS ARC FLASH ENERGY REDUCTION MAINTENANCE SWITCH (ERMS) AS PER NEC 240.87.



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POWER RISER DIAGRAM

PROJ. NO. E-16078.00
DRAWN KW
SHEET **E601**

A1 **POWER RISER DIAGRAM**
12" = 1'-0"

FIRE ALARM SEQUENCE OF OPERATIONS MATRIX

SCALE: NONE

CONTROL UNIT ANNUNCIATION

#		ACTUATE COMMON ALARM SIGNAL INDICATIOR	ACTUATE AUDIBLE ALARM SIGNAL	ACTUATE COMMON SUPERVISORY SIGNAL INDICATOR	ACTUATE AUDIBLE SUPERVISORY SIGNAL	ACTUATE COMMON TROUBLE SIGNAL INDICATOR	ACTUATE AUDIBLE COMMON TROUBLE SIGNAL	ACTUATE 1ST FLOOR CLASSROOM ALARM INDICATOR	ACTUATE 2ND FLOOR CLASSROOM ALARM INDICATOR	ACTUATE GYMNASIUM ALARM INDICATOR	ACTUATE 3RD FLOOR / PARKING LEVEL P4 ALARM INDICATOR	
1	MANUAL FIRE ALARM BOXES - 1ST FLOOR	●	●					●	●	●	●	
2	MANUAL FIRE ALARM BOXES - 2ND FLOOR	●	●						●	●	●	
3	IN-DUCT SMOKE DETECTORS - 1ST FLOOR	●	●					●				
4	IN-DUCT SMOKE DETECTORS - 2ND FLOOR	●	●						●			
5	HEAT DETECTOR IN ELEVATOR SHAFT / PIT	●	●									
6	ELEVATOR LOBBY SMOKE DETECTORS - 1ST FLOOR	●	●									
7	ELEVATOR LOBBY SMOKE DETECTORS - 2ND FLOOR	●	●									
8	WATER FLOW - 1ST FLOOR	●	●					●				
9	SPRINKLER CONTROL VALVE TAMPER SWITCH - 1ST FLOOR			●	●							
10	SPRINKLER CONTROL VALVE TAMPER SWITCH - BACKFLOW PREVENTER			●	●							
11	OPEN CIRCUIT					●	●					
12	GROUND FAULT					●	●					
13	NOTIFICATION APPLIANCE CIRCUIT SHORT					●	●					
14												
15												
16												
17												
18												
19												
20												

NOTIFICATION

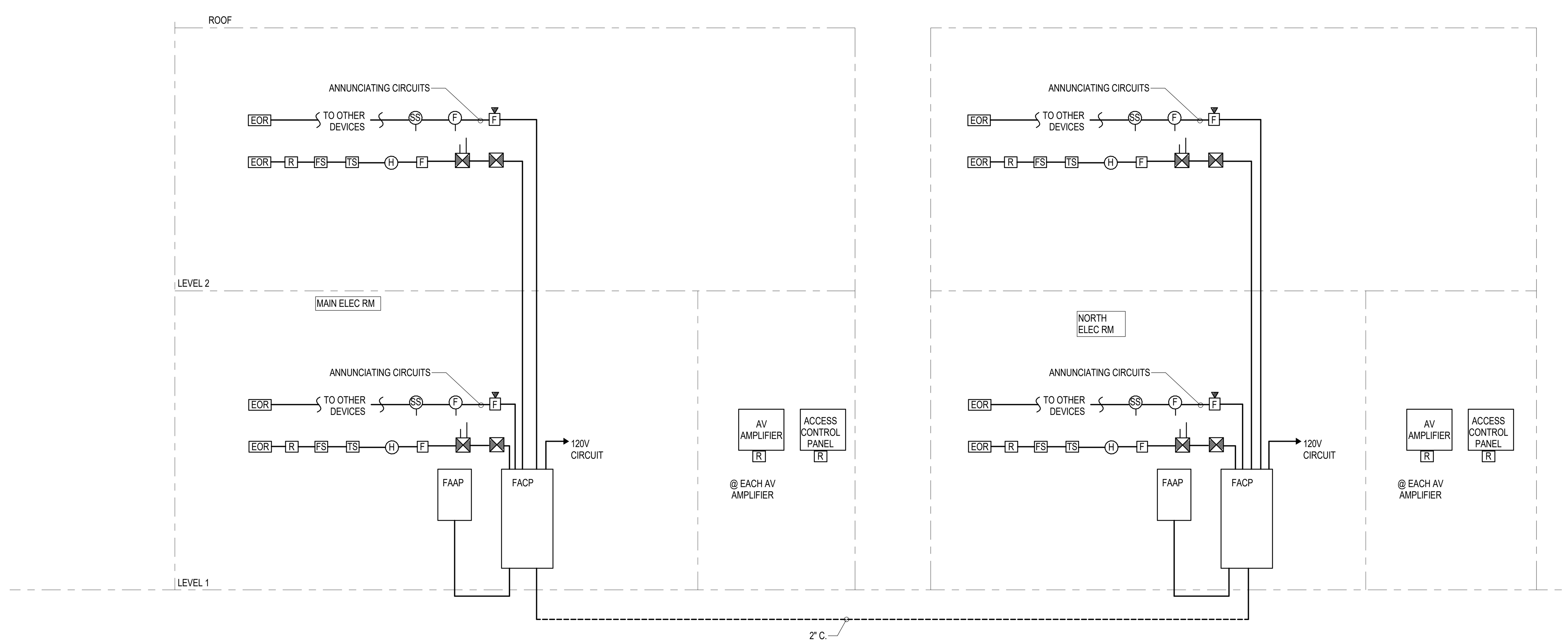
#		ACTUATE 1ST FLOOR CLASSROOM EVACUATION SIGNAL	ACTUATE 2ND FLOOR CLASSROOM EVACUATION SIGNAL	ACTUATE GYMNASIUM EVACUATION SIGNAL		
1	MANUAL FIRE ALARM BOXES - 1ST FLOOR	●	●	●		
2	MANUAL FIRE ALARM BOXES - 2ND FLOOR	●	●	●		
3	IN-DUCT SMOKE DETECTORS - 1ST FLOOR					
4	IN-DUCT SMOKE DETECTORS - 2ND FLOOR					
5	HEAT DETECTOR IN ELEVATOR SHAFT / PIT					
6	ELEVATOR LOBBY SMOKE DETECTORS - 1ST FLOOR					
7	ELEVATOR LOBBY SMOKE DETECTORS - 2ND FLOOR					
8	WATER FLOW - 1ST FLOOR	●	●	●		
9	SPRINKLER CONTROL VALVE TAMPER SWITCH - 1ST FLOOR					
10	SPRINKLER CONTROL VALVE TAMPER SWITCH - BACKFLOW PREVENTER					
11	OPEN CIRCUIT					
12	GROUND FAULT					
13	NOTIFICATION APPLIANCE CIRCUIT SHORT					
14						
15						
16						
17						
18						
19						
20						

FIRE SAFETY CONTROL

#		DISPLAY/PRINT CHANGE OF STATUS	TRANSMIT FIRE ALARM SIGNAL TO SUPERVISING STATION	TRANSMIT SUPERVISIORY SIGNAL TO SUPERVISING STATION	TRANSMIT TROUBLE SIGNAL TO SUPERVISING STATION	RELEASE MAGNETICALLY HELD SMOKE DOORS	RECALL ELEVATORS TO PRIMARY RECALL FLOOR	RECALL ELEVATORS TO ALTERNATE RECALL FLOOR	CLOSE PASSIVE HVAC SYSTEM FIRE/SMOKE DAMPERS IN RATED WALLS	SHUT DOWN AFFECTED ELEVATOR POWER	UNLOCK SECURED EGRESS EXITS	OPEN GROUND FLOOR MAKEUP AIR DOORS	CLOSE ELEVATOR ISOLATION DOORS	ACTIVATE GROUND FLOOR SMOKE CONTROL SYSTEM (*)	AIR HANDLING UNIT SHUT OFF	
1	MANUAL FIRE ALARM BOXES - 1ST FLOOR	●	●			●			●		●					
2	MANUAL FIRE ALARM BOXES - 2ND FLOOR	●	●			●			●		●					
3	IN-DUCT SMOKE DETECTORS - 1ST FLOOR	●	●						●		●				●	
4	IN-DUCT SMOKE DETECTORS - 2ND FLOOR	●	●						●		●				●	
5	HEAT DETECTOR IN ELEVATOR SHAFT / PIT	●	●			●			●		●					
6	ELEVATOR LOBBY SMOKE DETECTORS - 1ST FLOOR	●	●			●		●	●		●		●	●	●	
7	ELEVATOR LOBBY SMOKE DETECTORS - 2ND FLOOR	●	●			●		●	●		●			●	●	
8	WATER FLOW - 1ST FLOOR	●	●			●	●		●		●	●		●	●	
9	SPRINKLER CONTROL VALVE TAMPER SWITCH - 1ST FLOOR	●	●													
10	SPRINKLER CONTROL VALVE TAMPER SWITCH - BACKFLOW PREVENTER	●	●													
11	OPEN CIRCUIT				●											
12	GROUND FAULT				●											
13	NOTIFICATION APPLIANCE CIRCUIT SHORT				●											
14																
15																
16																
17																
18																
19																
20																

FIRE ALARM RISER NOTES:

1. WIRING SUPERVISION FOR THE FIRE ALARM SYSTEM SHALL BE PROVIDED AS DEFINED IN NFPA 72.
2. ALL FIRE ALARM SYSTEM WIRING SHALL BE SOLID COPPER AND INSTALLED IN CONDUIT. STRANDED WIRING SHALL NOT BE USED.
3. CONDUIT SHALL BE RIGID METAL OR ELECTRICAL METALLIC TUBING WITH A MINIMUM INSIDE DIAMETER OF 3/4", THAT UTILIZES COMPRESSION TYPE FITTINGS AND COUPLINGS.
4. MC-TYPE CABLE SHALL NOT BE USED WITHIN FIRE ALARM SYSTEM.
5. STAGE II PANELS ARE SHOWN FOR REFERENCE ONLY.
6. PROVIDE AMPLIFIER CAPACITY FOR 175 SPEAKERS PER FLOOR.
7. PROVIDE POWER SUPPLY CAPACITY FOR 75 VISUAL INDICATING DEVICES PER FLOOR.



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FIRE ALARM RISER DIAGRAM

PROJ. NO. E-16078.00
DRAWN KW
SHEET **E602**

THE WIRE SIZE FOR 120-VOLT, 208-VOLT OR 240-VOLT, SINGLE PHASE, 20 AMP OR 30 AMP BRANCH CIRCUITS SHALL BE SELECTED FROM THE FOLLOWING TABLES: (SEE RISER DIAGRAM FOR VOLTAGE OF EACH SPECIFIC PROJECT)

120 VOLT CIRCUIT WIRING FOR <3% VOLTAGE DROP

DISTANCES (FT)

AMPS	#12	#10	#8	#6	#4
30 AMP CIRCUIT:					
24		69	105	164	254
23		72	109	167	265
22		74	114	179	277
21		79	120	188	290
20		83	126	197	305
19		87	132	207	321
18		92	140	219	338
17		97	148	232	358
20 OR 30 AMP CIRCUIT:					
16	62	103	157	246	381
15	66	108	168	263	405
14	71	118	180	282	435
13	77	127	194	303	469
12	83	138	210	329	508
11	91	150	229	359	554
10	100	165	252	395	610
9	111	180	280	438	677
8	125	205	315	493	762
7	143	230	360	564	871
6	167	275	420	658	1016
5	200	330	505	790	1220
4	250	415	631	987	1525
3	334	550	841	1316	2033
2	501	830	1262	1975	3050
1	1003	1660	2525	3950	6101

208 VOLT CIRCUIT WIRING FOR <3% VOLTAGE DROP

DISTANCES (FT)

AMPS	#12	#10	#8	#6	#4
30 AMP CIRCUIT:					
24		126	191	298	457
23		130	199	311	477
22		137	208	325	499
21		144	218	340	523
20		151	229	357	549
19		159	241	376	578
18		168	255	397	610
17		178	270	420	646
20 OR 30 AMP CIRCUIT:					
16	114	189	286	445	686
15	121	201	303	476	731
14	130	215	326	509	783
13	140	232	352	550	844
12	152	251	381	596	915
11	166	274	416	650	998
10	182	301	456	714	1096
9	203	336	507	793	1219
8	229	378	572	892	1372
7	262	431	655	1020	1568
6	305	504	762	1190	1829
5	365	604	915	1429	2195
4	457	757	1143	1786	2744
3	610	1008	1524	2382	3658
2	916	1514	2292	3573	5487
1	1833	3028	4581	7148	10974

277 VOLT CIRCUIT WIRING FOR <3% VOLTAGE DROP

DISTANCES (FT)

AMPS	#12	#10	#8	#6	#4
30 AMP CIRCUIT:					
24		159	242	379	584
23		166	251	384	610
22		170	262	412	637
21		182	276	432	667
20		191	290	453	702
19		200	304	476	738
18		212	322	504	777
17		223	340	534	828
20 OR 30 AMP CIRCUIT:					
16	143	237	361	566	876
15	152	248	386	605	932
14	163	271	414	649	1001
13	177	292	446	697	1079
12	191	317	483	757	1168
11	209	345	527	826	1274
10	230	380	580	911	1403
9	255	414	644	1007	1557
8	288	472	725	1134	1753
7	329	530	828	1297	2003
6	384	633	966	1513	2337
5	460	759	1162	1817	2806
4	575	955	1451	2270	3508
3	768	1265	1934	3027	4676
2	1152	1909	2903	4543	7015
1	2307	3818	5808	9085	14032

BRANCH CIRCUIT VOLTAGE DROP
No Scale

4

ONLINE CERTIFICATIONS DIRECTORY

System No. W-L-1001
XHEZ.W-L-1001
Through-penetration Firestop Systems

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Design/System/Construction/Assembly Usage Disclaimer

- Authorities Having Jurisdiction should be consulted in all cases as to the particular requirements covering the installation and use of UL Certified products, equipment, system, devices, and materials.
- Authorities Having Jurisdiction should be consulted before construction.
- Fire resistance assemblies and products are developed by the design submitter and have been investigated by UL for compliance with applicable requirements. The published information cannot always address every construction nuance encountered in the field.
- When field issues arise, it is recommended the first contact for assistance be the technical service staff provided by the product manufacturer noted for the design. Users of fire resistance assemblies are advised to consult the general Guide Information for each product category and each group of assemblies. The Guide Information includes specifics concerning alternate materials and alternate methods of construction.
- Only products which bear UL's Mark are considered Certified.

XHEZ - Through-penetration Firestop Systems

See General Information for Through-penetration Firestop Systems

System No. W-L-1001

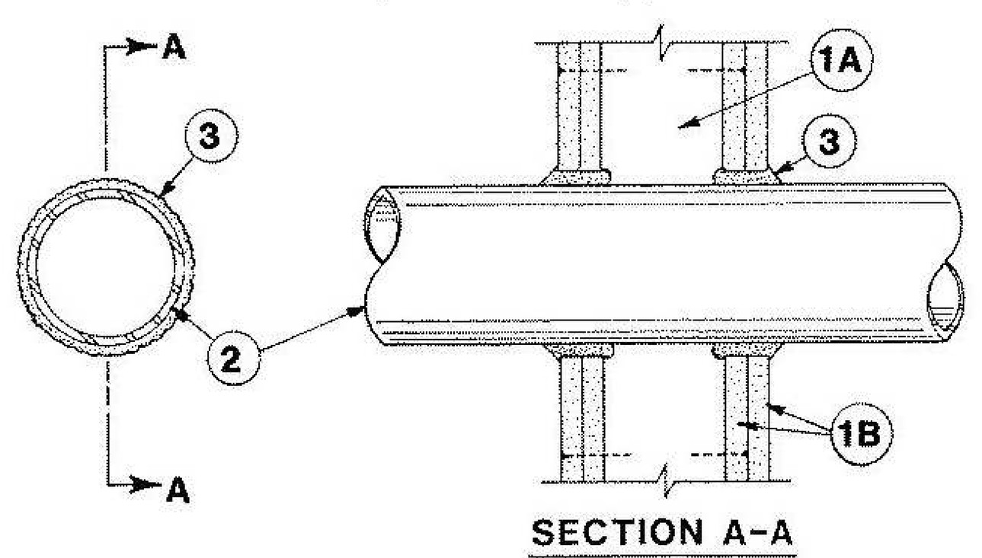
June 15, 2005

F Ratings — 1, 2, 3 and 4 Hr (See Items 2 and 3)

T Ratings — 0, 1, 2, 3, and 4 Hr (See Item 3)

L Rating At Ambient — less than 1 CFM/sq ft

L Rating At 400 F — less than 1 CFM/sq ft



1. **Wall Assembly** — The 1, 2, 3 or 4 hr fire-rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. **Studs** — Wall framing may consist of either wood studs (max 2 h fire rated assemblies) or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC with nom 2 by 4 in. (51 by 102 mm) lumber end plates and cross braces. Steel studs to be min 3-5/8 in. (92 mm) wide by 1-3/8 in. (35 mm) deep channels spaced max 24 in. (610 mm) OC.

B. **Gypsum Board*** — Nom 1/2 or 5/8 in. (13 or 16 mm) thick, 4 ft. (122 cm) wide with square or tapered edges. The gypsum wallboard type, thickness, number of layers, fastener type and sheet orientation shall be as specified in the individual U300 or U400 Series Design in the UL Fire Resistance Directory. Max diam of opening is 26 in. (660 mm).

2. **Through-Penetrant** — One metallic pipe, conduit or tubing installed either concentrically or eccentrically within the firestop system. The annular space between pipe, conduit or tubing and periphery of opening shall be min of 0 in / (0 mm). (point contact) to max 2 in. (51 mm) Pipe, conduit or tubing to be rigidly supported on both sides of wall assembly. The following types and sizes of metallic pipes, conduits or tubing may be used:

A. **Steel Pipe** — Nom 24 in. (610 mm) diam (or smaller) Schedule 10 (or heavier) steel pipe.

B. **Iron Pipe** — Nom 24 in. (610 mm) diam (or smaller) service weight (or heavier) cast iron soil pipe, nom 12 in (305 mm) diam (or smaller) or Class 50 (or heavier) ductile iron pressure pipe.

C. **Conduit** — Nom 6 in. (152 mm) diam (or smaller) steel conduit or nom 4 in (102 mm) diam (or smaller) steel electrical metallic tubing

D. **Copper Tubing** — Nom 6 in. (152 mm) diam (or smaller) Type L (or heavier) copper tubing

E. **Copper Pipe** — Nom 6 in. (152 mm) diam (or smaller) Regular (or heavier) copper pipe.

F. **Through Penetrating Product*** — Flexible Metal Piping The following types of steel flexible metal gas piping may be used:

1. Nom 2 in. (51 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

OMEGA FLEX INC

2. Nom 1 in. (25 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

GASTITE, DIV OF TITEFLEX

3. Nom 1 in. (25 mm) diam (or smaller) steel flexible metal gas piping. Plastic covering on piping may or may not be removed on both sides of floor or wall assembly.

WARD MFG L L C

3. **Fill, Void or Cavity Material* — Caulk or Sealant** — Min 5/8. , 1-1/4,1-7/8 and 2-1/2 in. (16, 32, 48 and 64 mm) thickness of caulk for 1, 2, 3 and 4 hr rated assemblies, respectively, applied within annulus, flush with both surfaces of wall. Min 1/4 in. (6 mm) diam bead of caulk applied to gypsum board/penetrant interface at point contact location on both sides of wall. The hourly F Rating of the firestop system is dependent upon the hourly fire rating of the wall assembly in which it is installed, as shown in the following table. The hourly T Rating of the firestop system is dependent upon the type or size of the pipe or conduit and the hourly fire rating of the wall assembly in which it is installed, as tabulated below:

Max Pipe or Conduit Diam In (mm)	F Rating Hr	T Rating Hr
1 (25)	1 or 2	0+, 1 or 2
1 (25)	3 or 4	3 or 4
4 (102)	1 or 2	0
6 (152)	3 or 4	0
12 (305)	1 or 2	0

+When copper pipe is used, T Rating is 0 h.

3M COMPANY — CP 25WB+ or FB-3000 WT.

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2005-06-15

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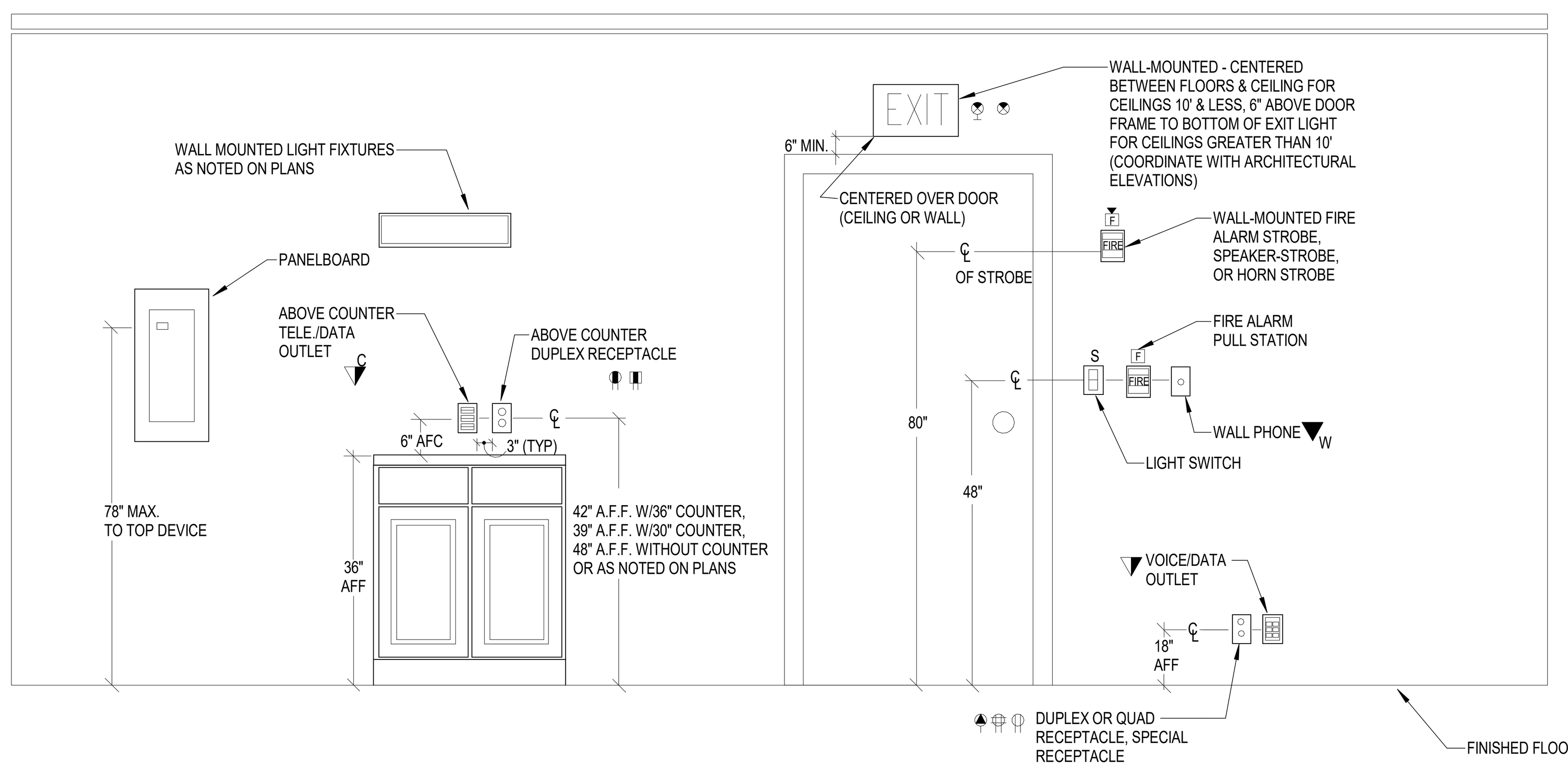
UL W-L 1001 CONDUIT PENETRATION OF FIREWALL
No Scale

1

MOUNTING HEIGHTS INDICATED ON ARCHITECTURAL ELEVATIONS AND ELECTRICAL PLANS TAKE PRECEDENCE OVER MOUNTING HEIGHTS INDICATED IN THIS DETAIL. IF THERE IS A DISCREPANCY IN THE MOUNTING HEIGHTS BETWEEN ARCHITECTURAL ELEVATIONS AND THE ELECTRICAL PLANS, THE DIMENSIONS ON THE ARCHITECTURAL ELEVATIONS SHALL DICTATE MOUNTING HEIGHT. IF NO MOUNTING HEIGHTS ARE INDICATED, INSTALL DEVICES PER THIS DETAIL.



MOUNTING HEIGHTS
No Scale

5

ONLINE CERTIFICATIONS DIRECTORY

System No. W-L-3030
XHEZ.W-L-3030
Through-penetration Firestop Systems

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Design/System/Construction/Assembly Usage Disclaimer

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- Only products which bear UL's Mark are considered Certified.

XHEZ - Through-penetration Firestop Systems

See General Information for Through-penetration Firestop Systems

System No. W-L-3030

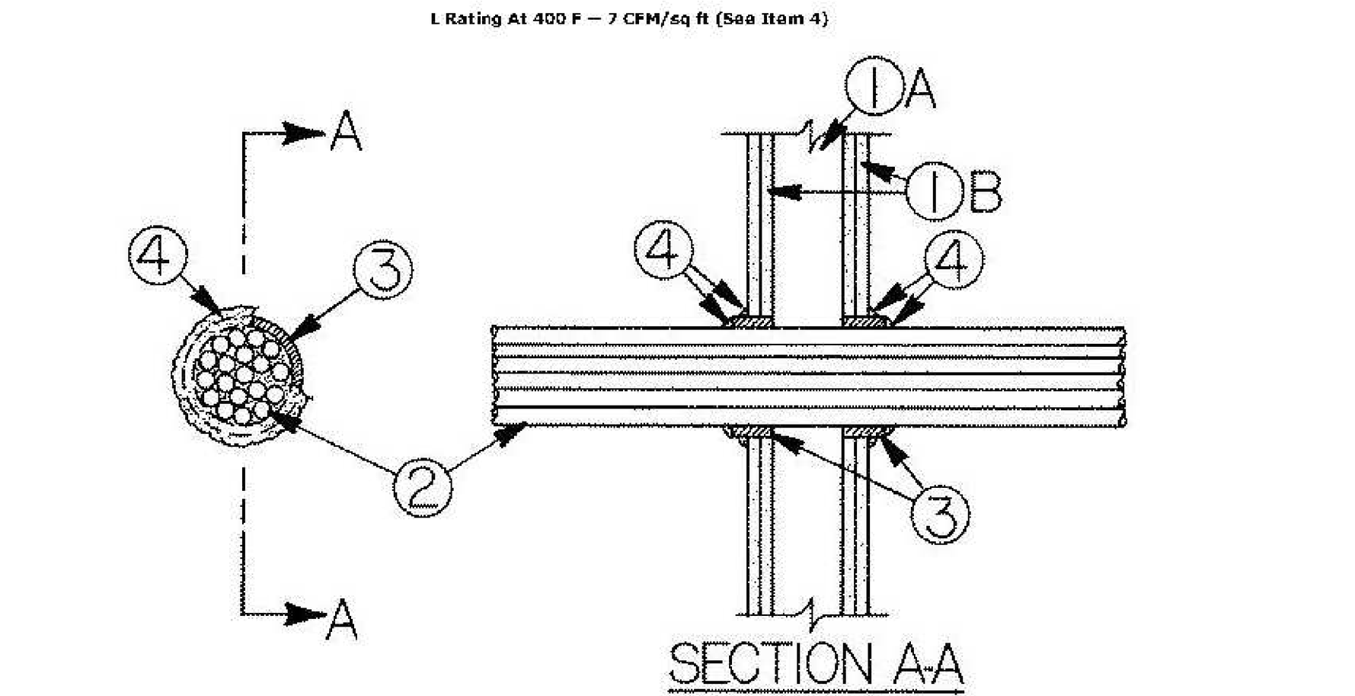
May 19, 2005

F Ratings — 1 and 2 Hr(See Item 1)

T Rating — 1/2 Hr

L Rating At Ambient — 76 CFM/sq ft (See Item 4)

L Rating At 400 F — 7 CFM/sq ft (See Item 4)



1. **Wall assembly** — The 1 or 2 hr fire rated gypsum board/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300, U400 or V400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. **Studs** — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. (51 by 102 mm) lumber spaced 16 in. (406 mm) OC with nom 2 by 4 in. (51 by 102 mm) lumber end plates and cross braces. Steel studs to be min 3-5/8 in. (92 mm) wide by 1-3/8 in. (35 mm) deep channels spaced max 24 in. (610 mm) OC.

B. **Gypsum Board*** — Nom 5/8 in. (16 mm) thick, 4 ft. (122 cm) wide with square or tapered edges. The gypsum board type, number of layers and sheet orientation shall be as specified in the individual Wall and Partition Design. Diam of circular cutout in gypsum board layers on each side of wall to be 1/2 to 3/4 in. (13 to 19 mm) larger than diam of tight cable bundle (Item 2). Max diam of cutouts is 4-1/2 in. (114 mm).

The hourly F Rating of the firestop system is 1 hr when installed in a 1 hr fire rated wall and 2 hr when installed in a 2 hr fire rated wall.

2. **Cables** — Max 4 in. (102 mm) diam tight bundle of cables centered in circular cutouts in gypsum wallboard and rigidly supported on both sides of wall assembly. Any combination of the following types and sizes of copper conductor cables may be used:

A. Max 350 kcmil single-conductor power cables; cross-linked polyethylene (XLPE) or polyvinyl chloride (PVC) insulation.

B. Max 7/C No. 12 AWG cables; PVC insulation and jacket.

C. Max 3/C No. 2/0 AWG multiconductor power and control cables; XLPE or PVC insulation, XLPE or (PVC) jacket.

D. Max 200 pair No. 24 AWG telecommunication cables; PVC insulation and jacket.

E. Max 6/94 Fiber Optic (F.O.) cable; PVC insulation and jacket.

3. **Fill, Void or Cavity Material* — Wrap Strip** — Nom 1/4 in. (6 mm) thick intumescent elastomeric material faced on one side with aluminum foil, supplied in nom 2 in. (51 mm) wide strips. Nom 2 in. (51 mm) wide strip tightly-wrapped around cable bundle (foil side out) with seam butted. Wrap strip layer securely bound with steel wire tie and slid into annular space approx 1-1/4 in. (32 mm) such that approx 3/4 in. (19 mm) of the wrap strip width protrudes from the wall surface on each side of the assembly.

3M COMPANY — FS-195+

4. **Fill, Void or Cavity Materials* — Caulk, Sealant or Putty** — Min 1/4 in. (6 mm) diam continuous bead of caulk or putty applied to the wrap strip/wall interface and to the exposed edge of the wrap strip approximate 3/4 in. (19 mm) from the wall surface on each side of wall assembly. Caulk or putty to be forced into the interstices of the cable bundle to the max extent possible within the confines of the wrap strip on each side of the wall assembly.

3M COMPANY — CP 25WB+ caulk, MP+ Stix putty, IC 15WB+ caulk, FireDam 150+ caulk or FB-3000 WT sealant (Note: L Ratings apply only when Type CP 25WB+ Caulk or Type FB-3000 WT Sealant is used.)

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 2005-05-19

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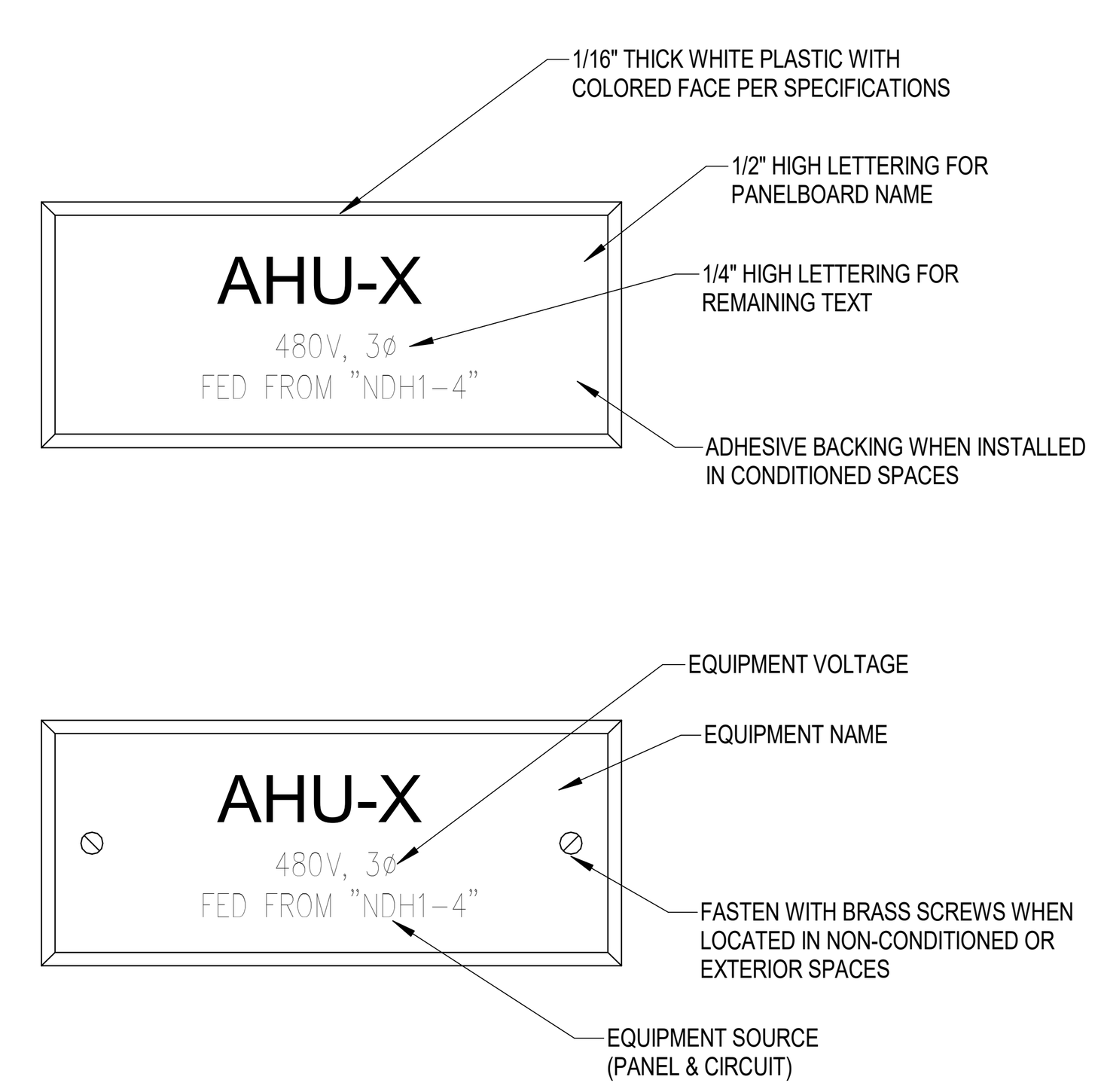
UL W-L 3030 CABLE PENETRATION OF FIREWALL
No Scale

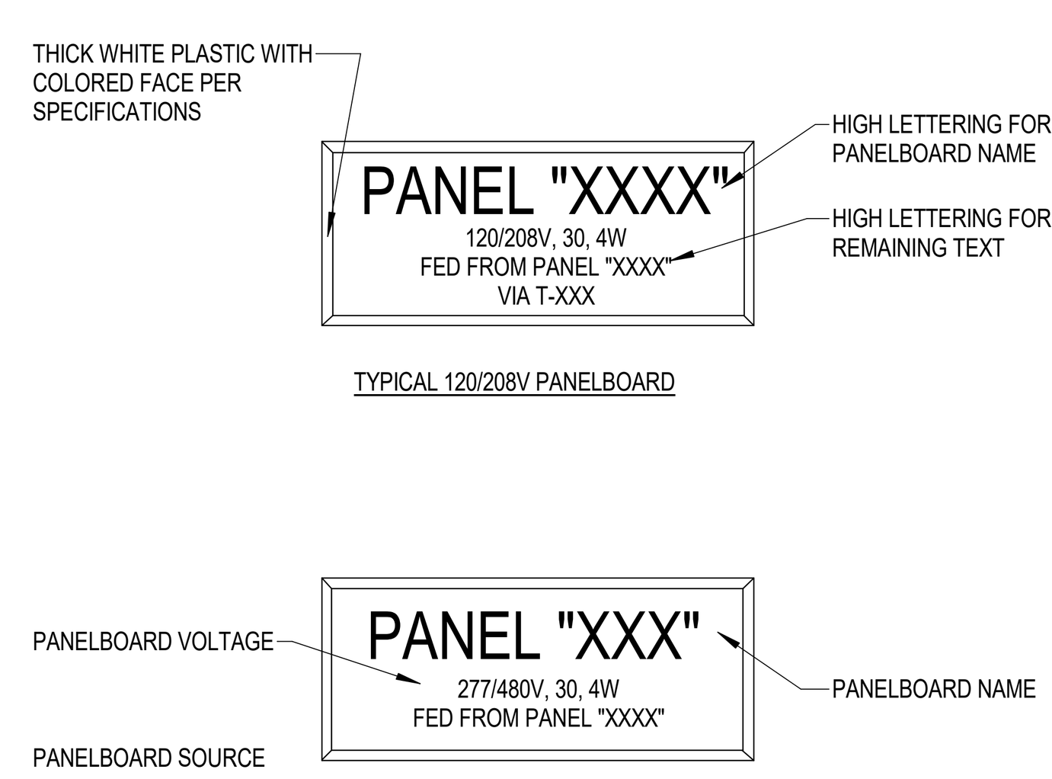
2



TYPICAL EQUIPMENT

EQUIPMENT NAMEPLATE
No Scale

7



TYPICAL 120/208V PANELBOARD

TYPICAL 277/480V PANELBOARD

PANELBOARD NAMEPLATE
No Scale

6

ONLINE CERTIFICATIONS DIRECTORY

System No. W-L-3074
XHEZ.W-L-3074
Through-penetration Firestop Systems

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Design/System/Construction/Assembly Usage Disclaimer

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- Only products which bear UL's Mark are considered Certified.

XHEZ - Through-penetration Firestop Systems

See General Information for Through-penetration Firestop Systems

System No. W-L-3074

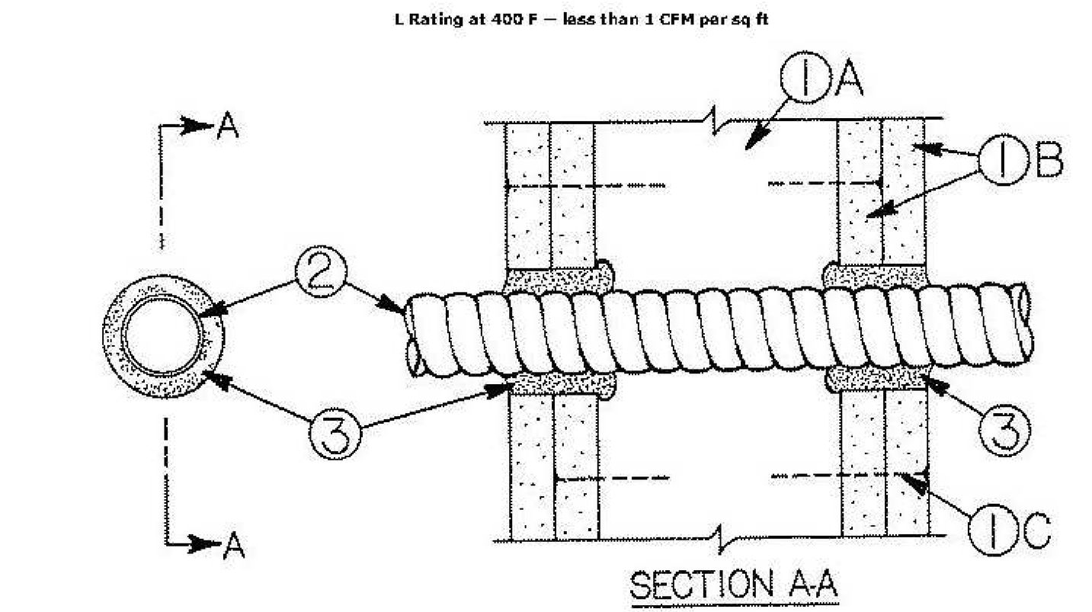
December 15, 1998

F Rating — 1 and 2 Hr (See Item 3)

T Ratings — 0, 3/4 and 2 Hr (See Item 2)

L Rating at ambient — less than 1 CFM per sq ft

L Rating at 400 F — less than 1 CFM per sq ft



1. **Wall Assembly** — The 1 or 2 hr fire rated gypsum wallboard/stud wall assembly shall be constructed of the materials and in the manner described in the individual U300 or U400 Series Wall or Partition Designs in the UL Fire Resistance Directory and shall include the following construction features:

A. **Studs** — Wall framing may consist of either wood studs or steel channel studs. Wood studs to consist of nom 2 by 4 in. lumber spaced 16 in. OC with nom 2 by 4 in. lumber end plates and cross braces. Steel studs to be min 3-5/8 in. wide by 1-3/8 in. deep channels spaced max 24 in. OC.

B. **Gypsum Board*** — Nom 5/8 in. thick, 4 ft. wide with square or tapered edges. The gypsum wallboard type, number of layers and sheet orientation shall be as specified in the individual Wall and Partition Design. Max diam of openings cut in gypsum wallboard is 2 in.

C. **Fasteners** — When wood stud framing is employed, gypsum wallboard attached to studs with cement coated nails as specified in the individual Wall or Partition Design. When steel channel stud framing is employed, gypsum wallboard attached to studs with Type S self-drilling, self-tapping bugle-head steel screws as specified in the individual Wall or Partition Design.

Diam of circular through opening cut through gypsum wallboard on each side of wall assembly to be min 1/4 in. to max 11/16 in. larger than diam of through penetrating product (Item 2) installed in through opening. Side edge of circular opening to be min 3 in. from nearest stud in wall cavity.

2. **Through Penetrating Product*** — Max four copper conductor No. 2 AWG (or smaller) aluminum **Metal-Clad Cable+.** Max one metal clad cable to be installed near center of circular opening in gypsum wallboard. Through penetrating product to be rigidly supported on both sides of wall assembly. **When installed in 1 hr fire rated wall assembly, T Rating is 0 hr. When installed in 2 hr fire rated wall assembly, T Rating is 3/4 hr when max No. 2 AWG cable is used and 2 hr when max 12 AWG cable is used.**

NEXANS CANADA INC

3. **Fill, Void or Cavity Material* — Caulk** — Caulk fill material forced into annular space around entire circumference of through penetrating product to completely fill opening in gypsum wallboard on each side of the wall assembly. A min 5/8 in. thickness of caulk is required for the 1 hr F Rating. A min 1-1/4 in. thickness of caulk is required for the 2 hr F Rating.

3M COMPANY — CP 25WB+

*** Indicates such products shall bear the UL or cUL Certification Mark for jurisdictions employing the UL or cUL Certification (such as Canada), respectively.**

Last Updated on 1998-12-15

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UL W-L 3074 MC CABLE PENETRATION OF FIREWALL
No Scale

3

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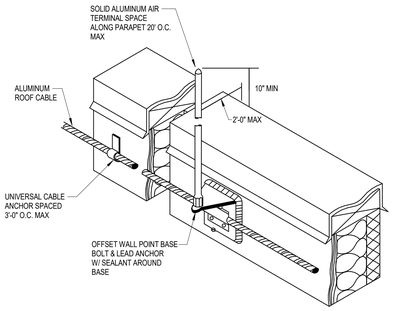
ELECTRICAL DETAILS

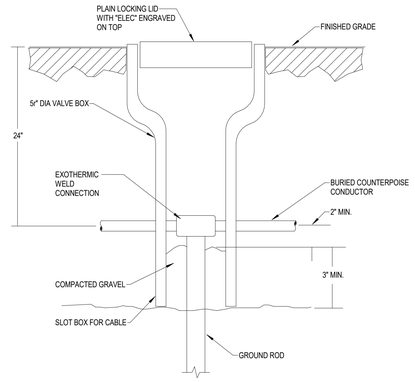
PROJ. NO.	E-16078.00	SHEET
DRAWN	KW	E701



AIR TERMINAL ON PARAPET

No Scale

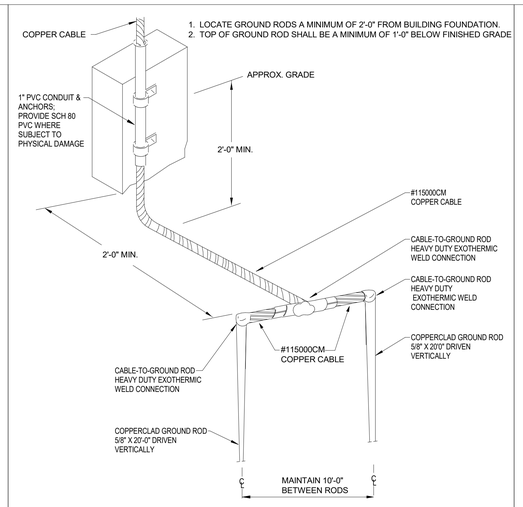
10



GROUND ROD INSPECTION WELLS

No Scale

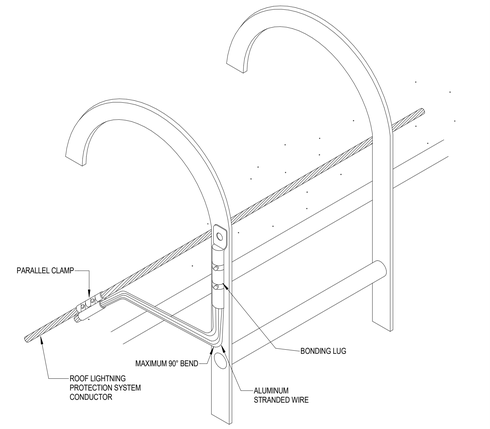
7



DOWNLEAD TO GROUND ROD

No Scale

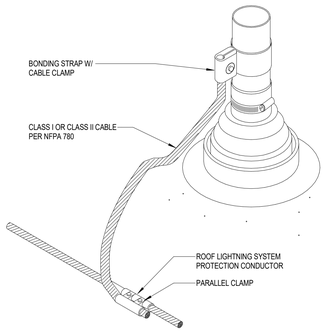
4



LADDER GROUNDING

No Scale

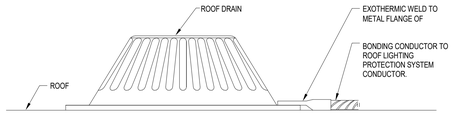
1



PLUMBING VENT GROUNDING

No Scale

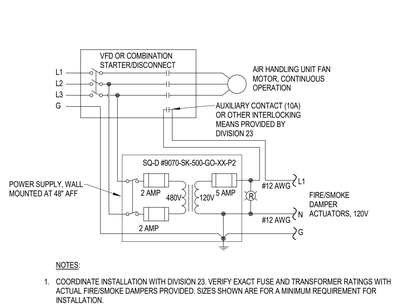
11



ROOF DRAIN CONNECTION

No Scale

8



NOTES:

1. COORDINATE INSTALLATION WITH DIVISION 23. VERIFY EXACT FUSE AND TRANSFORMER RATINGS WITH ACTUAL FIRE/SMOKE DAMPERS PROVIDED. SIZES SHOWN ARE FOR A MINIMUM REQUIREMENT FOR INSTALLATION.
2. INSTALL TRANSFORMER AND OVERCURRENT DEVICES IN ACCORDANCE WITH NATIONAL ELECTRICAL CODE, ARTICLE 450.
3. PROVIDE 120V 1PH CONNECTION TO DIVISION 23 FIRE/SMOKE DAMPERS. ELECTRICAL CIRCUIT SHALL BE DERIVED FROM AIR HANDLING UNIT MAIN EQUIPMENT FEEDER VIA FEEDER TAP IF NO SEPARATE 120V CIRCUIT IS INDICATED. PROVIDE CONTROL TRANSFORMER OF ADEQUATE SIZE TO HANDLE LOADS ASSOCIATED WITH THE FIRE/SMOKE DAMPERS. FEEDER TAP SERVING CONTROL TRANSFORMER SHALL BE MADE AFTER THE UNIT DISCONNECT BUT PRIOR TO THE VFD OR STARTER ASSEMBLY. UPON LOSS OF POWER TO UNIT VIA LOSS OF SERVICE, FIRE ALARM OR MANUAL SHUT DOWN, ALL ASSOCIATED FIRE/SMOKE DAMPERS SHALL CLOSE. COORDINATE ALL WORK WITH DIVISION 23 IN FIELD.
4. COORDINATE INSTALLATION WITH DIVISION 23 CONTROLS AND OTHER ASSOCIATED CONTROL DEVICES THAT MAY BE SPECIFIED AND INCORPORATED INTO THE CONTROL WIRING DIAGRAMS AND SEQUENCES.

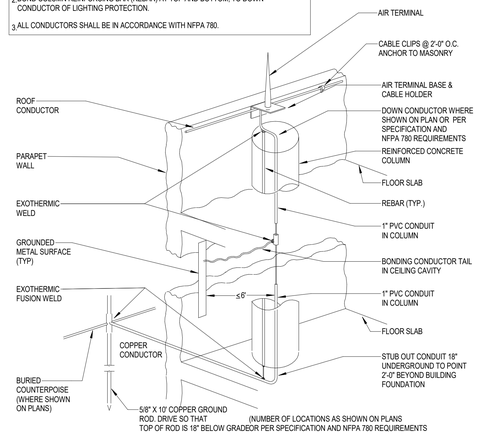
FIRE SMOKE DAMPER WIRING DIAGRAM

No Scale

5

NOTES :

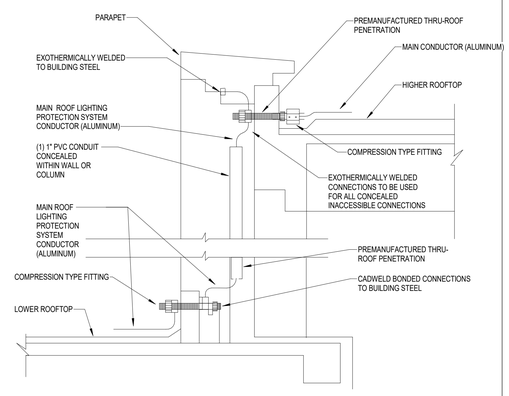
1. BOND ALL GROUNDED METAL SURFACES LOCATED WITHIN 6 FEET HORIZONTALLY OF THE DOWN CONDUCTOR TO EACH FLOOR'S BONDING CONDUCTOR TAIL.
2. BOND COLUMN REINFORCING BAR (REBAR) AT TOP AND BOTTOM, TO DOWN CONDUCTOR OF LIGHTING PROTECTION.
3. ALL CONDUCTORS SHALL BE IN ACCORDANCE WITH NFPA 780.



MULTIPLE FLOOR COLUMN BONDING

No Scale

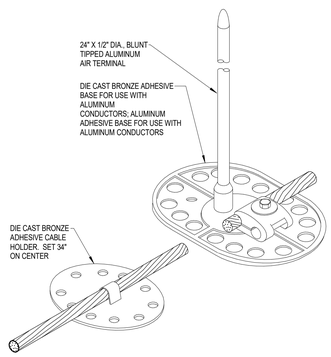
2



HIGHER TO LOWER ROOF CONDUCTOR

No Scale

12

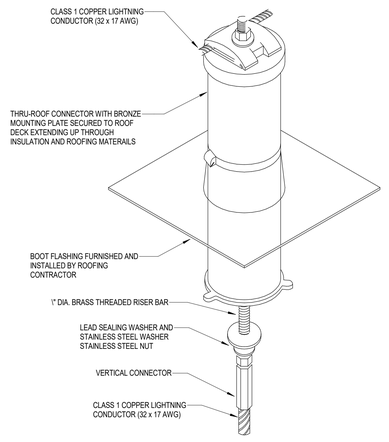


NOTE: ADHESIVE MUST BE SELECTED FOR COMPATIBILITY WITH THE SUPPORTING SURFACE. COORDINATE BETWEEN ROOFING CONTRACTOR AND ADHESIVE SUPPLIER TO SELECT CORRECT ADHESIVE.

AIR TERMINAL INTERIOR OF ROOF

No Scale

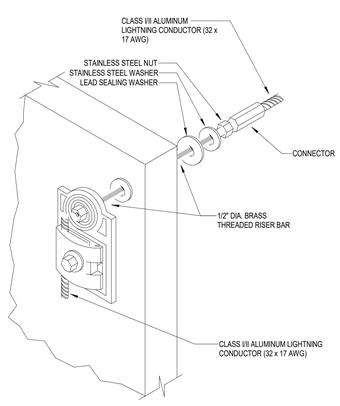
9



THRU-ROOF PENETRATION

No Scale

6



THRU-WALL PENETRATION

No Scale

3

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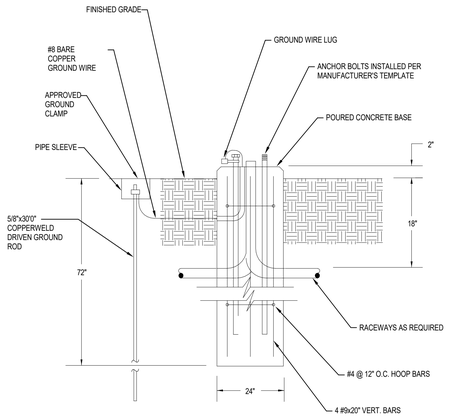
10.22.19	CONSTRUCTION DOCUMENTS	

ELECTRICAL DETAILS

PROJ. NO. E-16078.00 SHEET

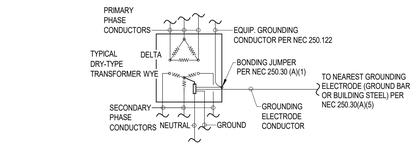
DRAWN KW

E702



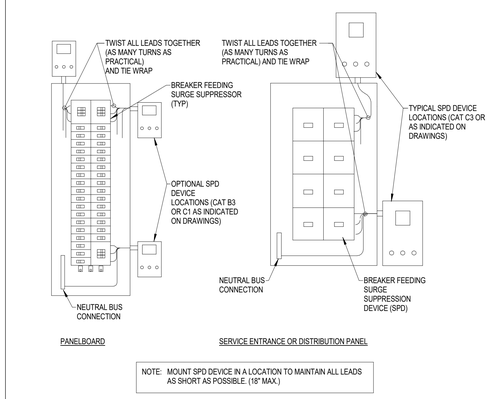
POLE BASE FOR POLES 17' TO 24' - IN PLANTED AREAS — 10

No Scale



TRANSFORMER WIRING DIAGRAM — 7

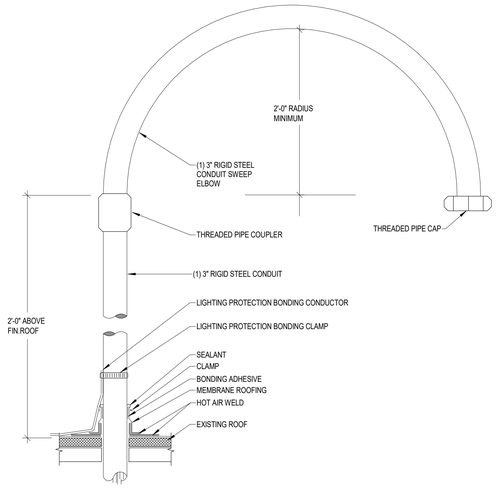
No Scale



NOTE: MOUNT SPD DEVICE IN A LOCATION TO MAINTAIN ALL LEADS AS SHORT AS POSSIBLE. (18" MAX.)

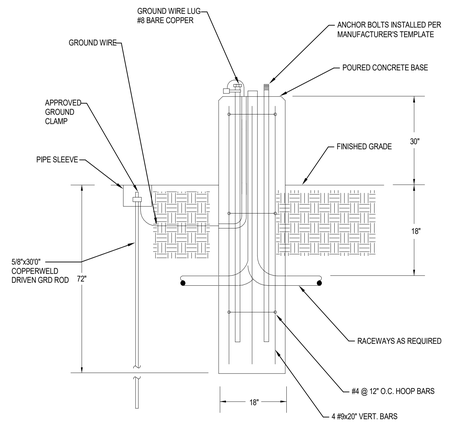
SPD EXTERIOR MOUNT INSTALLATION — 4

No Scale



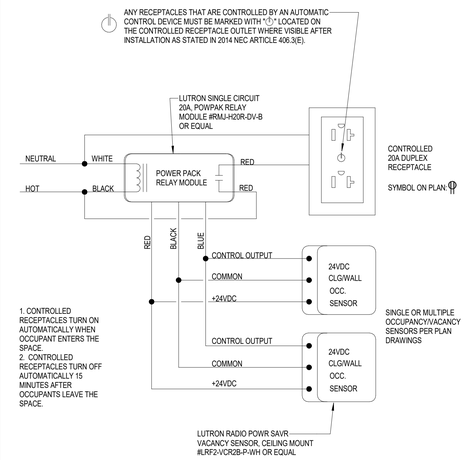
CONDUIT PENETRATION THRU ROOF — 1

No Scale



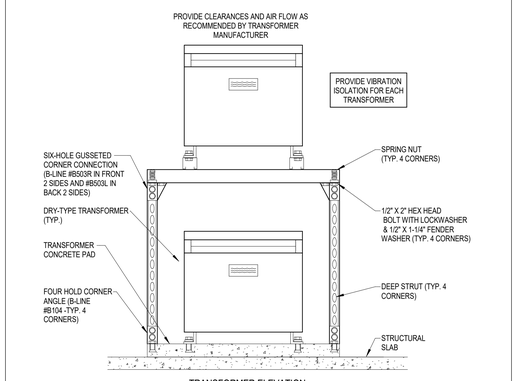
POLE BASE FOR POLES 17' TO 24' - IN PARKING LOT — 11

No Scale



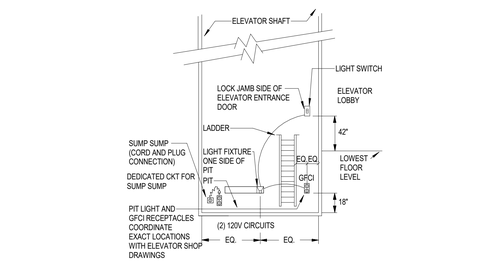
OCCUPANCY SENSOR/RECEPTACLE CONTROL — 8

No Scale



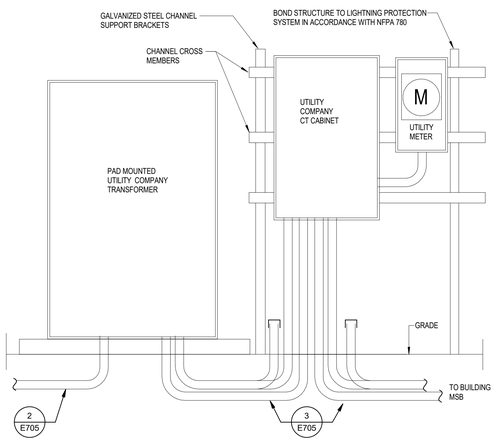
TRANSFORMER STACKED MOUNTING — 5

No Scale



ELEVATOR PIT LIGHT AND RECEPTACLE — 2

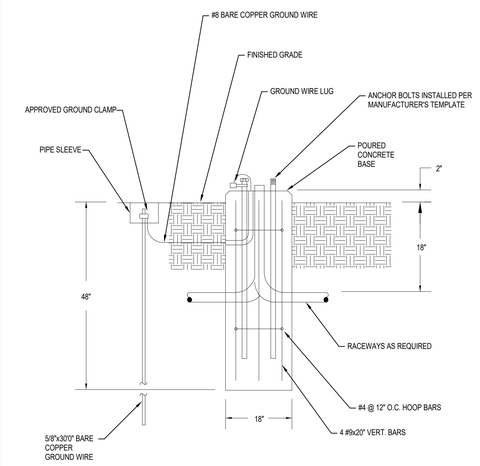
No Scale



NOTE: COORDINATE ALL REQUIREMENTS FOR UTILITY TRANSFORMER AND METER WITH UTILITY COMPANY.

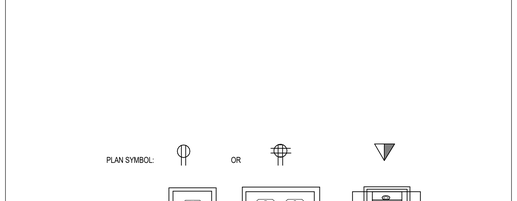
UTILITY TRANSFORMER AND METER — 12

No Scale



POLE BASE FOR POLES 8' TO 16' — 9

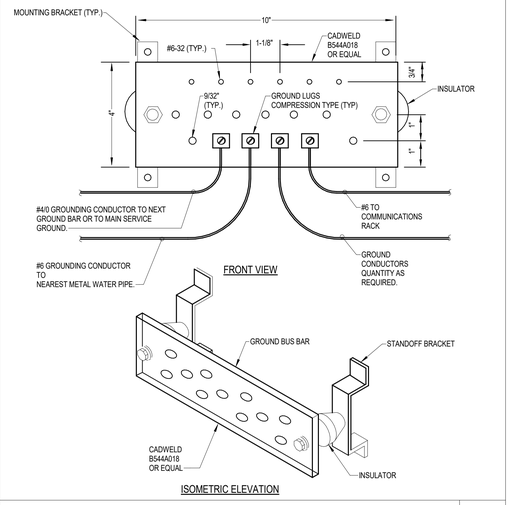
No Scale



NOTE: COORDINATE DEVICE LOCATION AND MOUNTING HIEGHT WITH ARCHITECTURAL ELEVATIONS.

TYPICAL VOICE & DATA ADJACENT TO POWER — 6

No Scale



GROUND BAR — 3

No Scale

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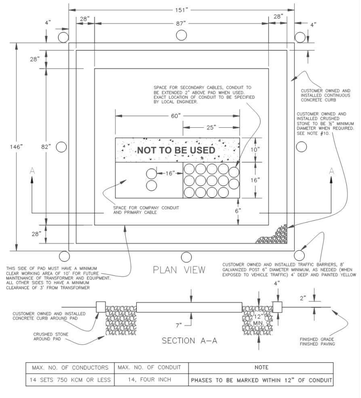
E703



MAX. NO. OF CONDUCTORS	MAX. NO. OF CONDUIT	NOTE
14 SETS 750 KCM OR LESS	14, FOUR INCH	PHASES TO BE MARKED WITHIN 12" OF CONDUIT

PRECAST CONCRETE MOUNTING PAD CONSTRUCTION DETAILS FOR 500 TO 3000 KVA, 3 PHASE PADMOUNTED TRANSFORMERS

Figure 20A

66

NOTES:

1. THE GROUND SHALL BE LEVELED AND THOROUGHLY COMPACTED BEFORE THE PAD IS INSTALLED.
2. THERE SHALL BE NO ABOVE GROUND OBSTRUCTIONS WITHIN 10 FEET OF THE FRONT OF THE TRANSFORMER OR WITHIN 3' OF THE SIDES AND BACK. IF METERING TROUGH IS LOCATED BEHIND TRANSFORMER, MINIMUM CLEARANCE BETWEEN BACK OF TRANSFORMER AND CLOSEST PART OF TROUGH IS 6 FEET.
3. THE PAD IS SHOWN AS A REFERENCE AND IS INSTALLED AFTER CABLE AND CONDUIT IS INSTALLED.
4. CUT ALL CONDUITS OFF FLUSH WITH TOP OF PAD AND CAP CONDUIT.
5. SOD MAY BE REQUIRED AROUND PAD TO PREVENT SAND EROSION.
6. SIDE VENTILATION SHALL BE PROVIDED IF THERE IS A WALL CONSTRUCTED AROUND THE TRANSFORMER.
7. IF THE CUSTOMER PLANS TO RUN A NUMBER OF CONDUCTORS BEYOND THE MAXIMUM ALLOWED, A JUNCTION BOX MAY BE REQUIRED FOR TERMINATION OF THE CUSTOMER'S CONDUCTORS.
8. LARGER SECONDARY CABLE SHALL BE TO THE REAR OF THE PAD WITH SPARE CONDUIT TO THE FRONT.
9. CONTACT A COMPANY ENGINEERING REPRESENTATIVE FOR DETERMINATION OF NEED FOR CRUSHED STONE, CURBING AND TRAFFIC BARRIERS. EXACT ORIENTATION OF THE TRANSFORMER IN THE FIELD MUST BE APPROVED BY A COMPANY ENGINEERING REPRESENTATIVE.
10. IN AREAS WHERE TRANSFORMERS ARE TO BE ELEVATED ABOVE NORMAL GRADE, ENGINEERING DEPARTMENT MUST BE CONTACTED TO FOR APPROVAL OF DESIGN.

PRECAST CONCRETE MOUNTING PAD CONSTRUCTION DETAILS FOR 500 TO 3000 KVA, 3 PHASE PADMOUNTED TRANSFORMERS

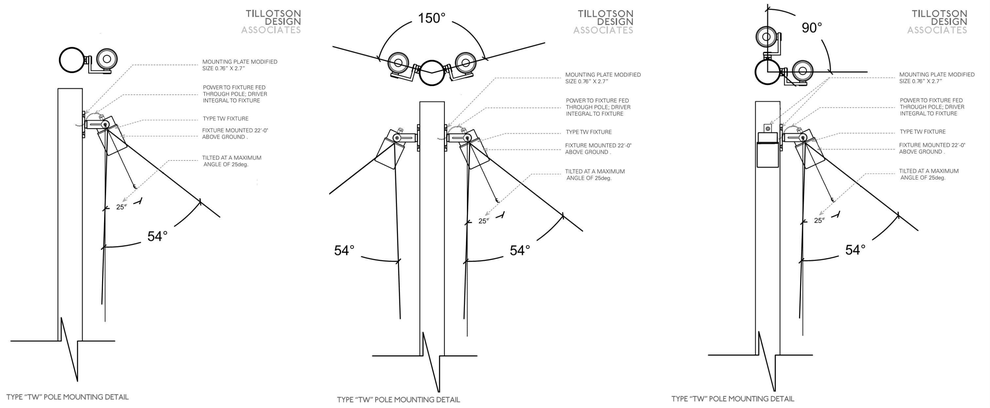
Figure 20B

67

DUKE ENERGY UTILITY TRANSFORMER PAD

No Scale

1



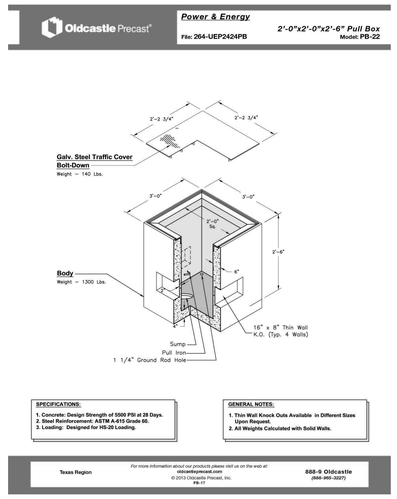
NOTE:

DETAIL PROVIDED BY LIGHTING DESIGNER. PROVIDE BLACK ALUMINUM POLE. SEE POLE BASE DETAIL 10/E703.

FIXTURE TYPE "TW" MOUNTING DETAIL

No Scale

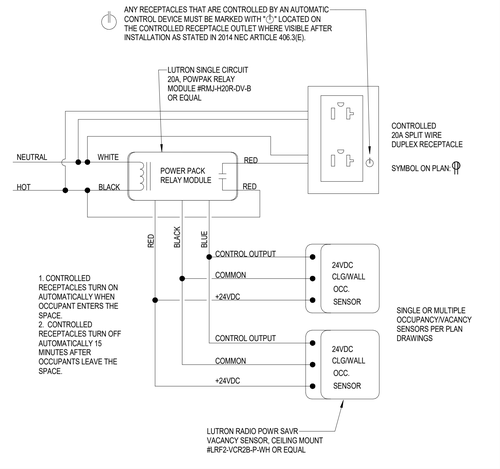
2



TYPICAL PULLBOX DETAIL

No Scale

4



OCCUPANCY SENSOR/SPLIT RECEPTACLE CONTROL

No Scale

3

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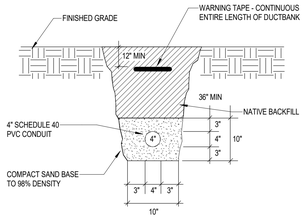
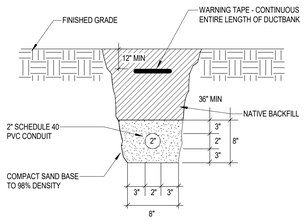
PROJ. NO. E-16078.00 **SHEET**
DRAWN KW
E704



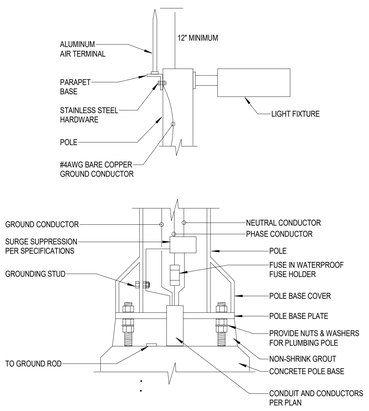
1W4" DIRECT BURIED POWER DISTRIBUTION CONDUIT — 5

No Scale



1W2" DIRECT BURIED GENERATOR CONDUIT — 6

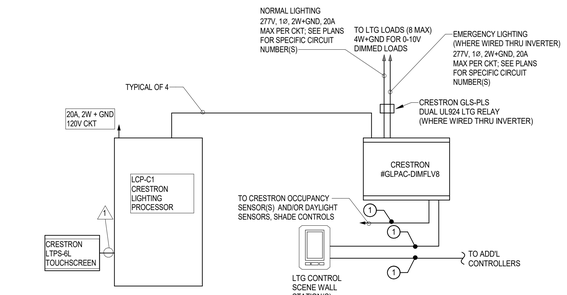
No Scale



NOTES:
1. ALL HARDWARE ANCHOR BOLTS, NUTS, WASHERS ETC. SHALL BE STAINLESS STEEL.
2. ALL CONNECTIONS AND DEVICES IN POLE SHALL BE ACCESSIBLE THROUGH POLE HANDHOLE.

LIGHT POLE LIGHTNING PROTECTION — 7

No Scale



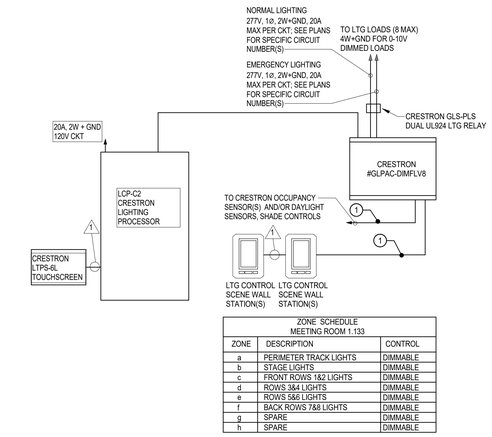
ZONE SCHEDULE		
ZONE	DESCRIPTION	CONTROL
Z1	PREFUNCTION AREA 2.101	DIMMABLE
Z2	PREFUNCTION AREA 2.101	DIMMABLE
Z3	CORRIDOR 2.143	DIMMABLE
Z4	CORRIDOR 2.102	DIMMABLE
Z5	MAIN ASSEMBLY 2.112 WEST	DIMMABLE
Z6	MAIN ASSEMBLY 2.112 SW	DIMMABLE
Z7	MAIN ASSEMBLY 2.112 NW	DIMMABLE
Z8	MAIN ASSEMBLY 2.112 SSW	DIMMABLE

ZONE SCHEDULE		
ZONE	DESCRIPTION	CONTROL
Z9	MAIN ASSEMBLY 2.112 SSE	DIMMABLE
Z10	MAIN ASSEMBLY 2.112 SE	DIMMABLE
Z11	MAIN ASSEMBLY 2.112 NE	DIMMABLE
Z12	MAIN ASSEMBLY 2.112 EAST	DIMMABLE
Z13	PREFUNCTION CORNERS	DIMMABLE
Z14	1ST FLOOR COVE	DIMMABLE
Z15	ALCOVE 2.214	DIMMABLE
Z16	CORRIDOR 2.211	DIMMABLE

ZONE SCHEDULE		
ZONE	DESCRIPTION	CONTROL
Z17	CORRIDOR 2.208	DIMMABLE
Z18	CORRIDORS 2.202/2.201	DIMMABLE
Z19	TERRACE INTERIOR EM	DIMMABLE
Z20	TERRACE INTERIOR NORM	DIMMABLE
Z21	TERRACE EXTERIOR NORM	DIMMABLE
Z22	TERRACE EXTERIOR EM	DIMMABLE
Z23	STAIR 2.299	DIMMABLE
Z24	STAIR 2.299	DIMMABLE

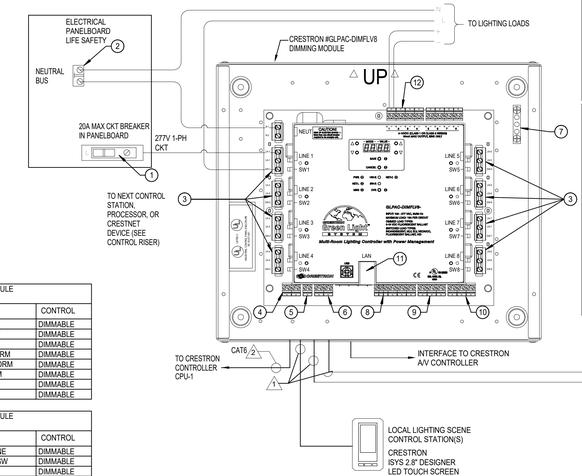
ZONE SCHEDULE		
ZONE	DESCRIPTION	CONTROL
Z25	MAIN ASSEMBLY 2.112 NE	DIMMABLE
Z26	MAIN ASSEMBLY 2.112 SW	DIMMABLE
Z27	SPARE	DIMMABLE
Z28	SPARE	DIMMABLE
Z29	SPARE	DIMMABLE
Z30	SPARE	DIMMABLE
Z31	SPARE	DIMMABLE
Z32	SPARE	DIMMABLE

EVENT CENTER CRESTRON SYSTEM



ZONE SCHEDULE MEETING ROOM 1.133		
ZONE	DESCRIPTION	CONTROL
a	PERIMETER TRACK LIGHTS	DIMMABLE
b	STAGE LIGHTS	DIMMABLE
c	FRONT ROWS 1&2 LIGHTS	DIMMABLE
d	ROWS 3&4 LIGHTS	DIMMABLE
e	ROWS 5&6 LIGHTS	DIMMABLE
f	BACK ROWS 7&8 LIGHTS	DIMMABLE
g	SPARE	DIMMABLE
h	SPARE	DIMMABLE

LIBRARY CRESTRON SYSTEM



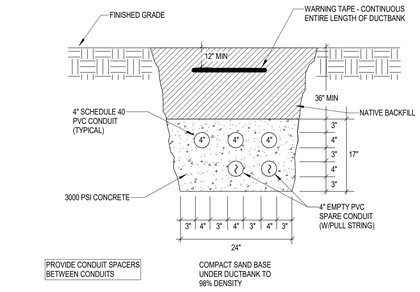
CRESTRON LIGHTING CONTROLLER

CRESTRON LIGHTING CONTROL SYSTEM NOTES:

1. THE LIGHTING CONTROL SYSTEM FOR MEETING ROOM 1.133 CONFERENCE ROOMS AND CLASSROOMS INDICATED ON THE LIGHTING PLANS IS BASED ON CRESTRON ELECTRONICS, INC. THE SYSTEM SHALL INTERFACE TO THE CRESTRON A/V SYSTEM. REFER TO AV RISER DIAGRAM ON TECHNOLOGY DWGS FOR INTEGRATION WITH CRESTRON SYSTEM.
2. ALL LINE AND LOW VOLTAGE ELECTRICAL TERMINATIONS, WIRE AND CONDUIT, AND ELECTRICAL BOXES REQUIRED FOR CONTROL COMPONENTS ARE TO BE PROVIDED AND INSTALLED BY DIVISION 26. ALL CRESTRON CONTROLLERS AND SYSTEM COMPONENTS ARE TO BE PROVIDED BY DIVISION 26.
3. ALL PROGRAMMING SHALL BE BY DIVISION 26.
4. ARCHITECTURAL CONTROL STATIONS UTILIZE CRESTNET CABLE AND ARE TOPOLOGY FREE. MAXIMUM CABLE RUN IS 1500'.

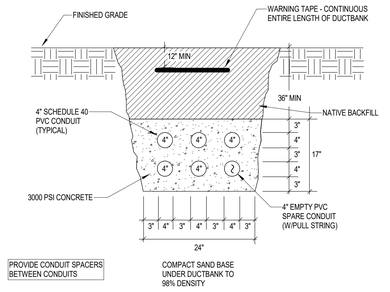
1W6" DIRECT BURIED POWER DISTRIBUTION CONDUIT — 1

No Scale



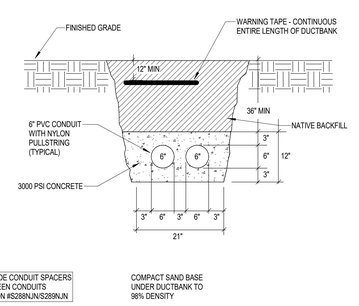
3W4" + 2W4" SPARE SECONDARY DUCTBANK SECTION — 4

No Scale



5W4" SECONDARY DUCTBANK SECTION — 3

No Scale



2W6" PRIMARY DUCTBANK SECTION — 2

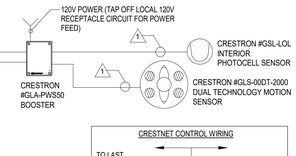
No Scale

GENERAL NOTES

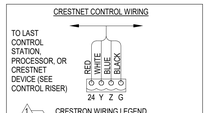
1. SCENE CONTROL STATIONS, OCCUPANCY SENSORS, DAYLIGHT SENSORS ARE FURNISHED AND INSTALLED BY DIVISION 26. LOW VOLTAGE CONNECTIONS BETWEEN DEVICES ARE BY DIVISION 26. COORDINATE QUANTITIES AND LOCATIONS WITH MANUFACTURER PRIOR TO ROUGH IN.
2. LIGHTING CONTROLLER IS PROVIDED BY DIVISION 26. CONFIRM EXACT LOCATION OF INSTALLATION WITH OWNER PRIOR TO ROUGH IN.
3. CONFIRM TYPE OF CRESTRON CONTROLLER WITH TECHNOLOGY PLANS PRIOR TO INSTALLATION FOR EXACT ELECTRICAL REQUIREMENTS AND ADJUST AS NECESSARY.

KEY NOTES

1. CIRCUIT BREAKER (20A MAX) - BREAKER IS FURNISHED BY DIVISION 26.
2. NEUTRAL BUS BAR - BUS BAR INTEGRAL TO CIRCUIT BREAKER PANELBOARD.
3. (2) LINE AND (1) LOAD TERMINAL FOR EACH OF (6) CIRCUITS. (SCREWS TO BE TORQUED TO 8 IN-LB)
4. MASTER CRESNET NETWORK CONNECTOR FOR COMMUNICATION TO BUILDING PROCESSOR.
5. EMERGENCY OVERRIDE INPUT AND RELAY(S) FOR UL 924 COMPLIANCE
6. LOCAL CRESNET NETWORK CONNECTOR FOR COMMUNICATION LOCAL DEVICES.
7. OPTION OUTPUT RELAYS
8. CONTACT CLOSURES.
9. (4) OCCUPANCY SENSOR INPUTS. 24V LOW VOLTAGE POWER PROVIDED.
10. (4) PHOTO SENSOR INPUTS. 24V LOW VOLTAGE POWER PROVIDED.
11. ETHERNET CONNECTION FOR SYSTEM CONFIGURATION.
12. 0-10V OUTPUT FOR DIMMING OF FIXTURES. USE CLASS 1 OR CLASS 2 WIRE. 0-10V OUTPUTS MUST CORRESPOND TO LINE OUTPUTS. MINIMUM GAUGE WIRE IS 18AWG.



CRESTNET CONTROL WIRING



CRESTRON WIRING LEGEND

1. CRESTNET CONTROL CABLE - CARRIES POWER & DATA FOR ALL DEVICES
2. CAT 6 CABLE

WIRING LEGEND	
1	CRESTRON CRESNET CONTROL CABLE (CARRIES POWER & DATA FOR ALL DEVICES)
2	CAT6 CABLE

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E705

LIGHT FIXTURE SCHEDULE GENERAL NOTES:

1. ALL LED FIXTURES SHALL BE MINIMUM 50,000 HOURS L70, CRI 80+.
2. PROVIDE APPROVED FIRE-RATED ENCLOSURES FOR ALL LIGHTS FIXTURES LOCATED IN FIRE-RATED CEILINGS.
3. FIXTURES IN BACK-OF-HOUSE AREAS WITHOUT CEILINGS SUCH AS MECHANICAL AND ELECTRICAL ROOMS SHALL BE MOUNTED WITH 1-1/2" X 1-1/2" STEEL CHANNEL SUPPORT SUSPENDED FROM STRUCTURE WITH THREADED RODS. FIXTURES SHALL BE MOUNTED AT 10'-0" AFF UNLESS SPECIFICALLY NOTED OTHERWISE.
4. ALL ACRYLIC LENSED FIXTURES SHALL HAVE A MINIMUM LENS THICKNESS OF 0.125 INCHES, UNLESS NOTED OTHERWISE.
5. IF THERE IS A DISCREPANCY BETWEEN THE FIXTURE DESCRIPTION, THE LIGHTING GENERAL NOTES, THE LIGHTING SPECIFICATIONS, AND THE CATALOG NUMBER LISTED, THE FIXTURE DESCRIPTION SHALL TAKE PRECEDENCE.
6. WHERE A SINGLE MANUFACTURER IS LISTED WITH A CORRESPONDING CATALOG NUMBER, THIS MANUFACTURER SHALL BE CONSIDERED THE BASIS OF DESIGN SELECTION. OTHER MANUFACTURERS WILL BE CONSIDERED AS "APPROVED EQUAL" ONLY IF THEIR LIGHTING FIXTURE MEETS OR EXCEEDS THE BASIS OF DESIGN SELECTION IN TYPE AND QUALITY OF CONSTRUCTION, LOUVER FINISHES, LENSES, HOUSING FINISHES, PHOTOMETRICS, SELECTED OPTIONS AND ACCESSORIES. APPROVED EQUAL MANUFACTURERS MUST ALSO MATCH OVERALL APPEARANCE AND DIMENSIONS OF BASIS OF DESIGN SELECTION. WHERE ONLY A MANUFACTURER'S NAME IS LISTED, THE FIXTURE SHALL COMPLY WITH THE DESCRIPTION, VOLTAGE, LAMP TYPE AND WATTAGE, AND ANY NOTED REMARKS, THE LIGHTING FIXTURE SCHEDULE NOTES, AND THE LIGHTING SPECIFICATIONS.
7. PROVIDE SUFFICIENT QUANTITY OF BALLASTS, FOR FLUORESCENT FIXTURES, BASED ON SWITCHING CONFIGURATION INDICATED ON LIGHTING PLANS, WHERE APPLICABLE.
8. LIGHT FIXTURES IN LAY-IN CEILING GRIDS SHALL BE SUPPORTED AS FOLLOWS: LIGHT FIXTURES WEIGHING LESS THAN 10 POUNDS SHALL HAVE (1) 12 GAUGE WIRE CONNECTED FROM THE LIGHT FIXTURE TO THE STRUCTURE ABOVE. LIGHT FIXTURES WEIGHING 10 POUNDS OR MORE SHALL HAVE (2) 12 GAUGE WIRES ATTACHED AT OPPOSITE CORNERS OF THE LIGHT FIXTURE TO THE STRUCTURE ABOVE.
9. WHERE A MANUFACTURER IS PROVIDED, OTHER THAN THE BASIS OF DESIGN MANUFACTURER, PHOTOMETRIC CALCULATIONS SHALL BE INCLUDED AS PART OF THE SHOP DRAWING SUBMITTALS FOR THE FOLLOWING AREAS: STAIRS, ELEVATOR THRESHOLD, EMERGENCY LIGHTING FOR EGRESS.

LIGHT CONTROL GENERAL NOTES:

1. BASIS OF DESIGN: LUTRON STAND ALONE LIGHTING CONTROL SYSTEM. PROVIDE CRESTRON 7-BUTTON CONTROL STATION FOR EVENT CENTER MAIN ASSEMBLY: 4-SCENE, RAISE, LOWER, ON/OFF. PROVIDE A/V INTEGRATION LIGHTING CONTROL SYSTEM IN LIBRARY MEETING ROOM. ALL OTHER SPACES SHALL BE PROVIDED WITH STAND ALONE LIGHTING CONTROL SYSTEMS.
2. CONTRACTOR TO PROVIDE A COMPLETE LIGHTING CONTROL SYSTEM COMPLETE WITH LIGHTING CONTROL RELAY PANELS, SWITCHES, OCCUPANCY SENSORS, DAYLIGHT SENSORS, ETC. FOR A COMPLETE AND OPERATIONAL SYSTEM.
3. LOCAL DIMMING EQUIPMENT SHALL BE LOCATIONS IN THE LOCATED IN THE MAIN ELECTRICAL ROOM 2.109 AND ELECTRICAL EQUIPMENT 1.137.
4. LIGHTING CONTROL SYSTEM SHALL BE STANDALONE IN ENCLOSED ROOMS (OFFICES, STORAGE ROOMS, RESTROOMS, EQUIPMENT ROOMS, ETC.) PER ROOM/ZONE AND IS TIME-BASED, SENSOR-BASED (DAYLIGHT SENSORS AND OCCUPANCY CONTROL) AND/OR MANUAL LIGHTING CONTROL PER SPACE REQUIREMENTS.
5. THE SYSTEM SHALL BE CAPABLE OF TURNING LIGHTING LOADS ON/OFF AS WELL AS DIMMING LIGHTS (IF LIGHTING LOAD IS CAPABLE OF BEING DIMMED).
6. DEVICES ON THE CAT5 NETWORK MAY BE PLACED IN ANY ORDER. TYPICAL AND SPECIFIC RISERS PROVIDED ARE NOT INTENDED TO BE A POINT-TO-POINT DIAGRAM AND SHOULD NOT BE TAKEN AS SUCH.
7. THE ARCHITECTURE ON THE RISERS IS INTENDED TO BE USED AS A TYPICAL RISER SHOWING SYSTEM ARCHITECTURE. SEE LIGHTING PLANS FOR COUNTS OF OCCUPANCY SENSORS, DAYLIGHT SENSORS AND SWITCHES.
8. INDIVIDUAL PRIVATE OFFICES AND OTHER ROOMS NOTED ON THE LIGHTING PLANS ARE INTENDED TO BE A STAND-ALONE SYSTEM.
9. TIME-OF-DAY SCHEDULE PROGRAMMING AND SEQUENCES OF OPERATION, INCORPORATION OF ALL COMPONENTS (OCCUPANCY SENSORS, DAYLIGHT SENSORS, OUTDOOR PHOTOCELL SENSORS, CONTACTORS, ETC.) SHALL BE CAREFULLY COORDINATED WITH OWNER, ENGINEER, ARCHITECT AND CONTRACTOR AND LIGHTING CONTROLS SYSTEMS INTEGRATOR, AS PART OF REQUIRED SHOP DRAWING SUBMITTAL PROCESS, TO BE DEVELOPED AND CONFIRMED DURING PRODUCT SUBMITTAL REVIEW AND SUBSEQUENT MEETINGS WITH OWNER. FINAL PROGRAMMING, SEQUENCE OF OPERATION INFORMATION IS TO BE DOCUMENTED AT THE END OF CONSTRUCION ON O&M INFORMATION TURNED OVER TO THE OWNER.
10. ALL OCCUPANCY SENSORS ARE TO BE DUAL TECHNOLOGY.
11. ON/OFF SWITCHES IN PUBLIC SPACES ARE TO BE PROGRAMMED TO ALLOW LIGHTS IN ZONE TO BE TURNED ON ONLY, AND NOT OFF.
12. CAT5 CONTROL CABLE SHALL BE BLACK IN COLOR, AND SHALL BE RUN IN J-HOOKS SUPPORTED FROM THE STRUCTURE, OR IN AVAILABLE NEARBY TELECOMMUNICATIONS CABLE TRAYS, AND LABELED AS "LTG CONTROL".
13. WHERE SWITCHES ARE LOCATED REMOTE FROM LIGHT FIXTURES, PROVIDE LABEL ON SWITCH INDICATING LIGHTS CONTROLLED.
14. REFER TO POWER PLANS FOR OCCUPANCY SENSOR CONTROLLED RECEPTACLES IN OFFICES, OPEN OFFICES AND COMPUTER LABS. PROVIDE POWER PACK, WITHIN AREA SHOWN TO CONTROL RECEPTACLES INDICATED.

SUBMITTALS:

1. PRODUCT DATA SHEETS INCLUDING ALL DEVICES, DIMENSIONS, WIRING DETAILS, NOMENCLATURE.
2. RISER/BLOCK DIAGRAMS, TYPICAL PER ROOM TYPE, INCLUDING DETAILED DRAWINGS SHOWING DEVICE INTERCONNECTIVITY.
3. OTHER DIAGRAMS AS NEEDED FOR SPECIAL OPERATION.
4. EXAMPLE CONTRACTOR STARTUP/COMMISSIONING WORKSHEET MUST BE COMPLETED PRIOR TO FACTORY START-UP.
5. HARDWARE AND SOFTWARE OPERATION MANUALS.
6. OTHER OPERATIONAL DESCRIPTIONS AS NEEDED.

WARRANTY:

1. ALL DEVICES IN LIGHTING CONTROL SYSTEM SHALL HAVE A 5-YEAR WARRANTY, STARTING FROM THE DATE OF SUBSTANTIAL COMPLETION INSPECTION.

COORDINATION:

1. CONTRACTOR SHALL BE RESPONSIBLE FOR A COMPLETE AND FUNCTIONAL SYSTEM IN ACCORDANCE WITH ALL APPLICABLE LOCAL AND NATIONAL CODES.

START-UP & TRAINING:

1. PROVIDE FACTORY-AUTHORIZED REPRESENTATIVE FOR PRE-FUNCTIONAL AND FUNCTIONAL COMMISSIONING OF THE COMPLETE SYSTEM PRIOR TO FINAL COMPLETION. THIS SHALL INCLUDE, ON A ROOM-BY-ROOM BASIS, ADJUSTMENT OF DAYLIGHT SENSOR AND OCCUPANCY SENSOR SETTINGS, WHICH SHALL BE DONE IN THE PRESENCE OF THE ARCHITECT/ ENGINEER/ OR OWNER'S REPRENSENTATIVE. PRE-SET SCENES LISTED BELOW ARE TO BE INCLUDED IN INITIAL PROGRAMMING; FINAL PROGRAMMING OF SCENES SHALL BE DICTATED BY THE OWNER'S REPRESENTATIVE DURING THE COMMISSIONING OF THE SYSTEM.
2. PROVIDE A FACTORY-AUTHORIZED REPRESENTATIVE TO TRAIN THE OWNER-DESIGNATED REPRESENTATIVE ON THE COMPONENTS, FUNCTIONS, OPERATION AND PROGRAMMING OF THE SYSTEM FOR A MINIMUM OF EIGHT (8) HOURS IN TWO FOUR-HOUR INCREMENTS, DURING NORMAL OWNER BUSINESS HOURS, TO BE SCHEDULED WITH THE OWNER, AFTER THE SYSTEM IS COMPLETELY INSTALLED, PROGRAMMED, INTERFACED WITH ANY OTHER SYSTEMS (BAS), AND TESTED, AT THE END OF CONSTRUCTION.

AS-BUILT DOCUMENTATION:

1. AS-BUILT DOCUMENTATION SHALL BE PROVIDED TO THE OWNER AT THE END OF CONSTRUCTION THAT INDICATES ACTUAL LOCATIONS OF ALL DEVICES AND COMPONENTS AS INSTALLED, INTERCONNECTIVITY OF DEVICES, ON 1/8" SCALED LIGHTING PLANS, INCLUDING COLOR-CODED ZONING PLAN, AS WELL AS DOCUMENTED TIME-OF-DAY SCHEDULE, SPECIFIC SETTINGS ON EACH DEVICE.

LIGHTING CONTROLS PROGRAMMING/COMMISSIONING REQUIREMENTS

AREA/ROOM COLOR CODE	PROGRAMMING/LIGHTING CONTROL DESCRIPTION
RED PRIVATE OFFICES, SMALL DEPT. CONFERENCE ROOMS, JANITOR CLOSETS, SMALL STORAGE ROOMS	1. LIGHTING IS CONTROLLED THROUGH STAND ALONE LIGHTING CONTROL SYSTEM. 2. LIGHTING ON: MANUAL ON THROUGH LOCAL SWITCH(ES). 3. LIGHTING OFF: AUTOMATIC OFF THROUGH ROOM OCCUPANCY SENSOR(S) AFTER 10 MINUTES OF NO OCCUPANCY. 4. LOCAL SWITCH(ES): FOR MANUAL ON/OFF & DIMMING CONTROL.
PURPLE MECH, ELEC, IDF, MDF, ROOF TOP SCREENED IN ENCLOSURES, LIFE SAFETY STAIRS	1. MECH, ELEC, IDF, MDF ROOMS, AND ROOFTOP SCREENED IN ENCLOSURES: LIGHTING IS CONTROLLED THROUGH LOCAL LINE VOLTAGE TIMER SWITCH(ES) AND IS NOT PART OF ANY BUILDING LIGHTING CONTROL SYSTEM, FOR SAFETY PURPOSES. 2. STAIRS: LIGHTING IS CONTROLLED THROUGH INTEGRAL OCCUPANCY SENSOR WITHIN FIXTURE. LIGHTS SHALL DIM TO 50% AFTER 10 MINUTES OF NO OCCUPANCY. LIGHTS SHALL TURN ON TO FULL BRIGHTNESS UPON LOSS OF NORMAL POWER, OVERRIDING OCCUPANCY SENSOR.
GREEN OPEN OFFICE AREAS, STUDY LABS, RECEPTION AREAS, BREAK ROOMS,	1. LIGHTING IS CONTROLLED THROUGH STAND ALONE LIGHTING CONTROL SYSTEM. 2. LIGHTING ON: AUTOMATIC ON THROUGH ROOM OCCUPANCY SENSOR(S) DURING & AFTER PROGRAMMED NORMAL OPERATING HOURS. 3. LIGHTING OFF: AUTOMATIC OFF THROUGH ROOM OCCUPANCY SENSOR(S) AFTER 10 MINUTES OF NO OCCUPANCY, DURING & AFTER PROGRAMMED NORMAL OPERATING HOURS. 4. LOCAL SWITCH(ES): FOR MANUAL ON/OFF & DIMMING CONTROL DURING & AFTER NORMAL OPERATING HOURS. 5. DAYLIGHT SENSOR: FOR AUTOMATIC CONTROL OF LIGHTING FOR DIMMING FIXTURES WITHIN THE DAYLIGHT ZONE BASED ON DAYLIGHT LEVELS FOR ROOMS ON THE BUILDING PERIMETER. ONCE DAYLIGHT SENSOR AUTOCALIBRATES IN THE ROOM, SET DAYLIGHT SENSOR TO DIM TO NO LESS THAN 30%, "FAST" DIMMING RATE.
YELLOW EXTERIOR BLDG WALL LIGHTS, EXTERIOR CANOPY LIGHTS	1. EXTERIOR LIGHTING IS CONTROLLED THROUGH RELAY PANEL. 2. LIGHTING ON : AUTOMATIC ON THROUGH SYSTEM PHOTOCELL AT DUSK, OFF AT DAWN BY SYSTEM PHOTOCELL.
ORANGE MEETING ROOMS, EVENT CENTER OPEN AREAS AND ASSEMBLY	1. NORMAL OPERATION: FOLLOW 'BLUE' PROGRAMMING/LIGHTING CONTROL DESCRIPTION. EVENT OPERATION: LIGHTING IS CONTROLLED THROUGH STAND-ALONE CRESTRON LIGHTING CONTROL SYSTEM. PROGRAMMING IS TO BE DONE DIVISION 26 CONTRACTOR AS REQUIRED BY OWNER. DIVISION 26 CONTRACTOR IS RESPONSIBLE FOR WIRING FIXTURES TO CRESTRON LIGHTING CONTROLLER BASED ON ZONES. REFER TO DETAIL 1/E705.

AREA/ROOM COLOR CODE	PROGRAMMING/LIGHTING CONTROL DESCRIPTION
BLUE CONCOURSE, CORRIDORS	1. LIGHTING IS CONTROLLED THROUGH RELAY PANEL. 2. LIGHTING ON: AUTOMATIC ON THROUGH TIME-OF-DAY SCHEDULE DURING PROGRAMMED NORMAL OPERATING HOURS (OCCUPANCY SENSORS ARE DISABLED), AND AUTOMATIC ON THROUGH OCCUPANCY SENSORS (OCCUPANCY SENSORS ARE ENABLED) AFTER PROGRAMMED NORMAL OPERATING HOURS. 3. LIGHTING OFF: AUTOMATIC OFF THROUGH OCCUPANCY SENSOR(S) AFTER 10 MINUTES OF NO OCCUPANCY AFTER PROGRAMMED NORMAL OPERATING HOURS. 4. LOCAL SWITCH(ES): (SLVO) ARE KEYED OVERRIDE SWITCHES FOR USE BY AUTHORIZED PERSONNEL ONLY FOR MANUAL ON CONTROL ONLY FOR ALL CONCOURSE/CORRIDOR LIGHTS FOR EACH FLOOR FOR HOUSEKEEPING/MAINTENANCE PURPOSES AFTER PROGRAMMED NORMAL OPERATING HOURS. LIGHTS SHALL STAY ON FOR A MAXIMUM OF ONE HOUR, THEN OCCUPANCY SENSORS SHALL TURN OFF LIGHTS AFTER 10 MINUTES OF NO OCCUPANCY. 5. DAYLIGHT SENSOR: FOR AUTOMATIC CONTROL OF LIGHTING FOR DIMMING FIXTURES BASED ON DAYLIGHT LEVELS FOR LIGHTS WITHIN DAYLIGHT ZONES SHOWN AT BUILDING PERIMETER. ONCE DAYLIGHT SENSOR AUTOCALIBRATES IN THE AREA, SET DAYLIGHT SENSOR TO DIM TO NO LESS THAN 30%, "FAST" DIMMING RATE.
MAGENTA GANGED RESTROOMS; BOH CORRIDORS	1. LIGHTING IS CONTROLLED THROUGH STAND ALONE LIGHTING CONTROL SYSTEM. 2. LIGHTING ON: AUTOMATIC ON THROUGH OCCUPANCY SENSORS. 3. LIGHTING OFF: AUTOMATIC OFF THROUGH OCCUPANCY SENSOR(S) AFTER 10 MINUTES OF NO OCCUPANCY. 4. LOCAL SWITCH(ES) WHERE SHOWN ON PLANS: (SK) ARE KEYED OVERRIDE SWITCHES FOR USE BY AUTHORIZED PERSONNEL ONLY FOR MANUAL ON/OFF CONTROL DURING & AFTER PROGRAMMED NORMAL OPERATING HOURS. OCCUPANCY SENSORS SHALL TURN OFF LIGHTS AFTER 10 MINUTES OF NO OCCUPANCY.

SYMBOL	DESCRIPTION	SYSTEM COMPONENT SETTINGS
(OS) S_{OS} $S_{D,OS}$ (DL) OS	OCCUPANCY / VACANCY SENSOR - CEILING OR WALL	MAGENTA/GREEN ZONES: AUTOMATIC ON AND AUTOMATIC OFF AFTER 10 MINUTES OF NO OCCUPANCY RED ZONES: VACANCY SENSOR SETTING (ON THROUGH MANUAL SWITCH), AUTOMATIC OFF AFTER 10 MINUTES OF NO OCCUPANCY BLUE ZONES: DISABLED DURING PROGRAMMED TIME-OF DAY SCHEDULE DURING NORMAL OPERATING HOURS, AUTOMATIC ON AFTER NORMAL OPERATING HOURS, AUTOMATIC OFF AFTER 10 MINUTES OF NO OCCUPANCY AFTER NORMAL OPERATING HOURS
(DL) OS (DL)	DAYLIGHT SENSOR - CEILING	RED/BLUE/GREEN ZONES: - AUTOMATIC CALIBRATION IN EACH SPACE FOR INITIAL PROGRAMMING - MINIMUM DIMMING LEVEL SET TO 30% - DIMMING RATE SETTINGS: SLOWEST, SLOW, NORMAL, FAST, FASTEST - PROGRAMMED TO BE SET TO "NORMAL"
⬚	DAYLIGHT ZONE, FLORIDA ENERGY CONSERVATION CODE; ANY LIGHTS WITHIN THIS AREA ARE TO BE AUTOMATICALLY DIMMED BY DAYLIGHT SENSORS BASED ON DESCRIPTION FOR THAT SPECIFIC COLOR-CODED AREA.	

PROGRAMMED TIME-OF-DAY SCHEDULE: LIGHTING CONTROL SYSTEM IS TO BE PROGRAMMED FOR THE TIME-OF-DAY SCHEDULE FOR NORMAL OPERATING HOURS FROM 7AM TO 11PM SUNDAY THROUGH SATURDAY (VERIFY SCHEDULE WITH OWNER PRIOR TO PROGRAMMING).

LIGHTING FIXTURE SCHEDULE

TYPE	DESCRIPTION	MAKE/MODEL	EQUIVALENT MAKE/MODEL	VOLTAGE	TYPE	VA	COMMENTS
A	2x4 RECESSED LENSED LED TROFFER WITH .125" LENS, FLUSH STEEL WHITE DOOR, 4200 LM, 82+ CRI, 3500K	METALUX 24GR-LD5-42-FA-A125-INV-UNV-L835-CD1-G2-UNV	COLUMBIA LJT, PHILIPS 2TG SERIES, LITHONIA	277 V	LED 3500 K	30 VA	
A2	2x4 RECESSED TRIPLE GASKETED LENSED LED TROFFER WITH .125" LENS, FLUSH STEEL WHITE DOOR, 4200 LM, 82+ CRI, 3500K, INVERTED LENS	METALUX 24GR-LD5-42-FA-A125-INV-UNV-L835-CD1-G2-UNV	COLUMBIA LJT, PHILIPS 2TG SERIES, LITHONIA	277 V	LED 3500 K	30 VA	
A2E	SAME AS TYPE "A2" WITH 90 MINUTE BATTERY PACK	METALUX 24GR-LD5-42-FA-A125-INV-UNV-L835-CD1-G2-UNV	COLUMBIA LJT, PHILIPS 2TG SERIES, LITHONIA	277 V	LED 3500 K	30 VA	
A3	2x4 LED TROFFER WITH .125 LENS	METALUX XP2GVA332277SO	COLUMBIA LJT, PHILIPS, LITHONIA	277 V	LED 3500 K	96 VA	
A3E	2x4 LED TROFFER WITH .125 LENS SAME AS TPYE "A3" WITH 90 MINUTE BATTERY PACK	METALUX XP2GVA332277SO	COLUMBIA LJT, PHILIPS, LITHONIA	277 V	LED 3500 K	96 VA	
AE	SAME AS TYPE "A" WITH 90 MINUTE BATTERY PACK	METALUX 24GR-LD5-42-FA-A125-INV-UNV-L835-CD1-G2-UNV-EM	COLUMBIA, PHILIPS 2TG SERIES, LITHONIA	277 V	LED 3500 K	30 VA	
BE	SURFACE MOUNT HORIZONTAL LED CYLINDER WITH 90 MINUATE BATTERY PACK	Spectrum Lighting SR4MOXT30LDS101/RDA4F30KWDMWSO	PRES LTR	277 V	LED 3000 K	20 VA	
J	4' LED STRIP FIXTURE	Alphalite ILL-4H(32S)/840	COLUMBIA MPS4, DAYBRITE FSSEZ, SLG TS	277 V	LED 4000 K	25 VA	
JE	SAME AS TYPE "J" WITH 90 MINUTE BATTERY PACK	Alphalite ILL-4H(32S)/840-EM1400	COLUMBIA MPS4, DAYBRITE FSSEZ, SLG TS	277 V	LED 4000 K	25 VA	
QE	LINEAR LED WALL MOUNTED FIXTURE, WITH 90 MINUTE BATTERY PACK	METALUX 4SWLED-LD4-60HL-LW-UNV-L835-CD2-SVPD2-U	COLUMBIA MPS4, HEW SLF, LITHONIA	277 V	LED 4000 K	40 VA	
SF1	4.5" SQUARE LED FLOOD LIGHT, DIECAST ALUMINUM HOUSING, BLACK FINISH, MOUNTED ON GROUND STAKE, ANTI GLARE VISOR, HONEYCOMB LOUVER, STAINLESS STEEL HARDWARE, 80+ CRI, IP66 RATED	LIGMAN ULD-50021-40W LED-M-W40-01-120/277V-A50441-A53131-A52121	ERCO, FC LIGHTING, ECOSENSE	277 V	LED 4000 K	40 VA	COORDINATE EXACT LOCATION WITH CIVIL PRIOR TO ROUGH-IN. AIM FIXTURE IN FIELD.
SF2	SAME AS TYPE SF2 WITH 21W LUMEN PACKAGE	LIGMAN ULD-50021-21W LED-M-W40-01-120/277V-A50441-A53131-A52121	ERCO, FC LIGHTING, ECOSENSE		LED 4000 K	21 VA	COORDINATE EXACT LOCATION WITH CIVIL PRIOR TO ROUGH-IN. AIM FIXTURE IN FIELD.
SLA	SINGLE HEAD SITE LIGHTING POLE, TYPE IV DISTRIBUTION, STRAIGHT RECTANGULAR ALUMINUM POLE, 7088 LUMENS	LUMARK PRV-C15-D-UNV-T4-SA-GM	HLO RAR1, LITHONIA RSX	277 V	LED 4000 K	53 VA	SEE PLANS FOR POLE/MOUNTING HEIGHT (MH)
SLB	SINGLE HEAD SITE LIGHTING POLE, TYPE III DISTRIBUTION, STRAIGHT RECTANGULAR ALUMINUM POLE, 7111 LUMENS	LUMARK PRV-C15-D-UNV-T3-SA-GM	HLO RAR1, LITHONIA RSX	277 V	LED 4000 K	53 VA	SEE PLANS FOR POLE/MOUNTING HEIGHT (MH)
SLC	SINGLE HEAD SITE LIGHTING POLE, TYPE V DISTRIBUTION, STRAIGHT RECTANGULAR ALUMINUM POLE, 7576 LUMENS	LUMARK PRV-C25-D-UNV-T5-SA-GM	HLO RAR1, LITHONIA RSX	277 V	LED 4000 K	97 VA	SEE PLANS FOR POLE/MOUNTING HEIGHT (MH)
TA	3" DIA. MONOPOINT MOUNT LED FIXTURE, 0-90 DEG TILT, 360 DEG ROTATION, DIFFUSION LENS, DIE CAST AL HOUSING, POWDER COAT FINISH, CEILING MOUNTED, 1663 LM, 92 CRI, 0-10V DIMMING, MATTE BLACK	LF Illumination LANIE TRA20B-M-19C-9230-V-DMU-BB OPT-TRA20B-P-DFL OPT-TRA20B-HXL	ELITE,PH60-132T-277	277 V	LED 3000 K	19 VA	
TA-1	SAME AS TYPE TA-1 WITH WIDE BEAM SPREAD	LF Illumination LANIE TRA20B-M-19C-9230-V-DMU-BB OPT-TRA20B-P-DFL	1101SWHC-1101F264WU PH60-218Q-G24q-2-SG-WW-EB-UNV ELITE, HH6PL-2X18-E-MVOLT-6507-SHZ-WH	277 V	LED 3000 K	19 VA	PROVIDE DETAILED FABRICATION DRAWINGS WITH SUBMITTAL
TA-2	SAME AS TYPE TA WITH NARROW BEAM SPREAD AND 26W LUMEN PACKAGE	LF Illumination LANIE TRA20B-M-26C-9230-V-DMU-BB OPT-TRA20B-P-DFL	ELITE	277 V	LED 3000 K	26 VA	PROVIDE DETAILED FABRICATION DRAWINGS WITH SUBMITTAL
TC	PENDENT MOUNT DIRECT/INDIRECT LINEAR FIXTURE	Pinnacle EX3DI-A-BW-830(MOD 60% output)-830-**-mounting U-OL2-1-**(finish)	LITECON	277 V	LED 3000 K	100 VA	
TC-2	SAME AS TYPE TC WITH HO LUMEN PACKAGE	Pinnacle EX3DI-A-BW-830-830-**-mounting U-OL2-1-**(finish)	LITECON	277 V	LED 3000 K	100 VA	
TCE	SAME AS TYPE TC WITH EMERGENCY BATTERY PACK	Pinnacle EX3DI-A-BW-830(MOD 60% output)-830-**-mounting U-OL2-1-**(finish) EM	LITECON	277 V	LED 3000 K	100 VA	
TD	HORIZONTAL DOWNLIGHT	Spectrum Lighting SR3MOXT10LDS101/RA3F30KMDMWSO	FUSION ER3, QUANTALIGHT RL3A	277 V	LED 3000 K	20 VA	
TD-1	HORIZONTAL DOWNLIGHT	Spectrum Lighting SR3MOXT10LDS101/RA3F30KMDMWSO	FUSION ER3, QUANTALIGHT RL3A	277 V	LED 3000 K	20 VA	
TDE	SAME AS TYPE "TD" WITH 90 MINUTE BATTERY PACK	Spectrum Lighting SR3MOXT10LDS101/RA3F30KMDMWSO EM	FUSION ER3, QUANTALIGHT RL3A	277 V	LED 3000 K	20 VA	
TF	REGRESSED LINEAR PERIMETER LED FIXTURE	Pinnacle EVL-830-continuous-SF(S)-U-OL1-1-**-W	PRULITE BOI	277 V	LED 3000 K	100 VA	
TF	REGRESSED LINEAR PERIMETER LED FIXTURE	Pinnacle EVL-830-continuous-SF(S)-U-OL1-1-**-W	PRULITE BOI	277 V	LED 3000 K	18 VA	
TG	INTERIOR FLEXIBLE LINEAR ENCAPSULATED LED FIXTURE MOUNTED IN HANDRAIL	Luminii KBM-F-H-30K-EPF-EC/EPF-(length per plan)	MODA LTG SNX, LLI ARCH LTG	277 V	LED 3000 K	500 VA	PROVIDE DETAILED FABRICATION DRAWINGS WITH SUBMITTAL. JUNCTION BOX SHOWN ON PLAN FOR CONNECTION PURPOSES ONLY. ALL REQUIRED SPLICE BOXES ARE TO BE HIDDEN IN AN ACCESSIBLE LOCATION.
TG-2	EXTERIOR FLEXIBLE LINEAR ENCAPSULTED LED FIXTURE MOUNTED IN HANDRAIL	Luminii KBM-F-H-30K-EPF-EC/EPF-(length per plan)	MODA LTG SNX, LLI ARCH LTG	277 V	LED 3000 K	500 VA	PROVIDE DETAILED FABRICATION DRAWINGS WITH SUBMITTAL. * LENGTH PER PLAN. JUNCTION BOX SHOWN ON PLAN FOR CONNECTION PURPOSES ONLY. ALL REQUIRED SPLICE BOXES ARE TO BE HIDDEN IN AN ACCESSIBLE LOCATION.
TG-3	EXTERIOR FLEXIBLE LINEAR ENCAPSULTED LED FIXTURE MOUNTED ON VERTICAL MULLION	Luminii KBM-F-H-30K-EPF-EC/EPF-(length per plan)	MODA LTG SNX, LLI ARCH LTG	277 V	LED 3000 K	500 VA	PROVIDE DETAILED FABRICATION DRAWINGS WITH SUBMITTAL. * LENGTH PER PLAN. JUNCTION BOX SHOWN ON PLAN FOR CONNECTION PURPOSES ONLY. ALL REQUIRED SPLICE BOXES ARE TO BE HIDDEN IN AN ACCESSIBLE LOCATION.
TG-4	EXTERIOR FLEXIBLE LINEAR ENCAPSULTED LED FIXTURE MOUNTED IN ARCHITECTURAL COVE	Luminii KBM-F-H-30K-EPF-EC/EPF-(length per plan)	MODA LTG SNX, LLI ARCH LTG	277 V	LED 3000 K	500 VA	PROVIDE DETAILED FABRICATION DRAWINGS WITH SUBMITTAL. * LENGTH PER PLAN. JUNCTION BOX SHOWN ON PLAN FOR CONNECTION PURPOSES ONLY. ALL REQUIRED SPLICE BOXES ARE TO BE HIDDEN IN AN ACCESSIBLE LOCATION.
TH	SAME AS TYPE TA-1 WITH WIDE BEAM SPREAD	LF Illumination LANIE TRA20B-M-19C-9230-V-DMU-BB OPT-TRA20B-P-DFL	ELITE LTG ET, 1101SWHC-1101F264WU, MAXILUME HH4ADJ PH60-218Q-G24q-2-SG-WW-EB-UNV HH6PL-2X18-E-MVOLT-6507-SHZ-WH	277 V	LED 3000 K	36 VA	PROVIDE DETAILED FABRICATION DRAWINGS WITH SUBMITTAL
THE	SAME AS TYPE TA-1 WITH WIDE BEAM SPREAD	LF Illumination LANIE TRA20B-M-19C-9230-V-DMU-BB OPT-TRA20B-P-DFL	ELITE LTG ET, 1101SWHC-1101F264WU PH60-218Q-G24q-2-SG-WW-EB-UNV HH6PL-2X18-E-MVOLT-6507-SHZ-WH	277 V	LED 3000 K	36 VA	PROVIDE DETAILED FABRICATION DRAWINGS WITH SUBMITTAL
TM	RECESSED LINEAR LED FIXTURE	Pinnacle EV3D-A-830(MOD 60% output)-**-Mounting-U-OL1-1-(Finish)	LITECON 3L	277 V	LED 3000 K	100 VA	
TME	SAME AS TYPE 'TM' WITH 90 MINUATE BATTERY PACK	Pinnacle EV3D-A-830(MOD 60% output)-**-Mounting-U-OL1-1-(Finish)	LITECON 3L	277 V	LED 3000 K	100 VA	
TN	LINEAR RECESSED MOUNTED LED	Selux L10-1B30-30-LW-SF2-*-BK-UNV-DIM	LITECON 2L	277 V	LED 3000 K	100 VA	PROVIDE DETAILED FABRICATION DRAWINGS WITH SUBMITTAL. * LENGTH PER PLAN.
TNE	SAME AS TYPE 'TN' WITH 90 MINUTE BATTERY PACK	Selux L10-1B30-30-LW-SF2-*-BK-UNV-DIM	LITECON 2L	277 V	LED 3000 K	100 VA	PROVIDE DETAILED FABRICATION DRAWINGS WITH SUBMITTAL. * LENGTH PER PLAN.
TP	LOW PROFILE LINEAR LED COVE LIGHT IN CONTINUOUS RUN, EXTRUDED ALUMINUM HOUSING, SATIN ANODIZED FINISH, 1-1/4"W x 1-1/2"H, 60 DEG OPTIC, SWIVEL MOUNT, 80+ CRI, 200 LM/FT, 0-10V DIMMING	Electrix L140-05-(length per plan)-W3-60C-S	ELITE LTG 1-LSC1, ECOSENSE LTG SCD	277 V	LED 3000 K	700 VA	PROVIDE DETAILED FABRICATION DRAWINGS WITH SUBMITTAL.
TQ	4" ROUND DEEP LED DOWNLIGHT, 3000 LM, ADJUSTABLE TO 30 DEG, XICATO LED MODULE, 41 DEG OPTIC	Spectrum Lighting SR4MOXT30LDS101/RDA4F30KWDMWSO	ELITE LTG HH4, MAXILUME HH4ADJ	277 V	LED 3000 K	35 VA	MOUNTED ON DOMED CEILING AND AIMED STRAIGHT DOWN TO FINISHED FLOOR
TQ-1	HORIZONTAL DOWNLIGHT	Spectrum Lighting SR4MOXT30LDS101/RDA4F30KWDMWSO	ELITE LTG HH4	277 V	LED 3000 K	35 VA	
TQ-1E	SAME AS TYPE "TG-1" WITH 90 MINUTE BATTERY PACK	Spectrum Lighting SR4MOXT30LDS101/RDA4F30KWDMWSO	ELITE LTG HH4	277 V	LED 3000 K	35 VA	
TQ-2	HORIZONTAL DOWNLIGHT	Spectrum Lighting SR4MOXT30LDS101/RDA4F30KWDMWSO	ELITE LTG HH4	277 V	LED 3000 K	35 VA	
TQ-2E	SAME AS TYPE "TQ-2" WITH 90 MINUTE BATTERY PACK	Spectrum Lighting SR4MOXT30LDS101/RDA4F30KWDMWSO	ELITE LTG HH4	277 V	LED 3000 K	35 VA	
TQE	SAME AS TYPE "TQ" WITH 90 MINUTE EMERGENCY BATTERY PACK	Spectrum Lighting SR4MOXT30LDS101EM/RDA4F30KWDMWSO EM	ELITE LTG HH4	277 V	LED 3000 K	35 VA	
TR	HORIZONTAL DOWNLIGHT	Spectrum Lighting SR3MOXT10LDS101/RA3F30KMDMWSOWL	PRES LTR, FUSION ER3	277 V	LED 3000 K	20 VA	
Track	TRACK FOR FIXTURE TYPE "TU" AND "TU-1"	LF Illumination LANIE TRA20B-G-19C-9230-V-DMU-BB OPT-TRA20B-P-DFL OPT-TRA20B-HXL	ELITE LTG LTR	277 V	LED 3000 K	20 VA	
TS	IN-GRADE UPLIGHT, WET LISTED, ADJUSTABLE	Vista Pro 1185-COLOR-WF-30-C-MV-AX-010-M34-TO15-LSF	KIM LTV, HYDREL M94	277 V	LED 3000 K	20 VA	
TU	TRACK LIGHTING FIXTURE	LF Illumination LANIE TRA20B-G-19C-9230-V-DMU-BB OPT-TRA20B-P-DFL OPT-TRA20B-HXL	ELITE LTG ET	277 V	LED 3000 K	23 VA	
TU-1	SAME AS TYPE TU WITH VERY WIDE 51 DEG BEAM SPREAD	LF Illumination LANIE TRA20B-G-19C-9230-V-DMU-BB OPT-TRA20B-P-DFL OPT-TRA20B-HXL	ELITE LTG ET	277 V	LED 3000 K	23 VA	PROVIDE DETAILED FABRICATION DRAWINGS WITH SUBMITTAL
TV	LINEAR WALL MOUNTED RECESSED FIXTURE	BEGA USA 2197LED	VISA/ORL CB	277 V	LED 3000 K	20 VA	MOUNTED 1' AFF
TW1	POLE MOUNTED FLOODLIGHT WITH 54 DEG BEAM, 2.4" x 3.5" HOUSING, LOCKABLE ADJUSTABLE KNUCKLE, DICHRONIC, INTERNAL MATTE BLACK HONEYCOMB LOUVER, INTEGRAL DIMMABLE DRIVER, AIMING IS ADJUSTABLE AT 0-90 DEG VERTICAL x 360 DEG ROTATION	INTERLUX FROGX.3000K.XTM19.S82.54.(FINISH)-D010-HL,DL	ERCO/ORL KONA	277 V	LED 3000 K	20 VA	
TW2	POLE MOUNTED FLOODLIGHT WITH 54 DEG BEAM, 2.4" x 3.5" HOUSING, LOCKABLE ADJUSTABLE KNUCKLE, DICHRONIC, INTERNAL MATTE BLACK HONEYCOMB LOUVER, INTEGRAL DIMMABLE DRIVER, AIMING IS ADJUSTABLE AT 0-90 DEG VERTICAL x 360 DEG ROTATION	INTERLUX FROGX.3000K.XTM19.S82.54.(FINISH)-D010-HL,DL	ERCO/ORL KONA	277 V	LED 3000 K	40 VA	
TY	IN-GRADE LED ADJUSTABLE UP LIGHT	Vista Pro 1185-COLOR-WF-30-C-MV-AX-010-M34-TO15-LSF	KIM LTV, HYDREL M94	277 V	LED 3000 K	20 VA	
TZ	HORIZONTAL DOWNLIGHT, WET LISTED, ADJUSTABLE	Spectrum Lighting SR4MOXT30LDS101/RDA4F30KWDMWSO	ELITE LTG HH4, QUANTALIGHT RL4A	277 V	LED 3000 K	20 VA	
VE	LINEAR LED WALL MOUNTED FIXTURE, WITH 90 MINUTE BATTERY PACK	METALUX 4VT2-LD5-4-FR50-277-EL10W-L840-WL	COLUMBIA, HEW SLF, SLG LTG VTC	277 V	LED 4000 K	30 VA	
WE	EXTERIOR WALL PACK, ROUND REVEALS, ELECTRONIC LED DRIVER, TYPE III DISTRIBUTION WITH BACK LIGHT CONTROL, BLACK FINISH, WITH 90 MINUTE BATTERY PACK	COOPER INDUSTRIES INVUE ENV-E01-LED-E1-BL3-BK-BBB	ALL CY1, SLG LTG WFM	277 V	LED 4000 K	25 VA	MOUNT AT 7'-0" AFF
X1	RECESSED EDGE LIT LED EXIT SIGN, CEILLING MOUNTED, GREEN LETTERS, CLEAR/MIRROR BACKGROUND AND SINGLE/DOUBLE FACE, WITH 90 MINUTE BATTERY PACK	EMERGI-LITE LSNX-4*-N-G-**-***	MULE/ORL PVT, BEGHELLI, LITHONIA		LED	1 VA	REFER TO PLANS FOR FACES (*) AND CHEVRONS (***), ** PROVIDE CLEAR WITH SINGLE FACE AND MIRROR WITH DOUBLE FACE
X2	WALL MOUNTED EDGE LIT LED EXIT SIGN FIXTURE, GREEN LETTERS, CLEAR/MIRROR BACKGROUND AND SINGLE/DOUBLE FACE, WITH 90 MINUTE BATTERY PACK	EMERGI-LITE LXN-*-N-G-**-***-C	MULE/ORL PVT, BEGHELLI, LITHONIA	277 V	LED	1 VA	REFER TO PLANS FOR FACES (*) AND CHEVRONS (***), ** PROVIDE CLEAR WITH SINGLE FACE AND MIRROR WITH DOUBLE FACE
X3	WALL MOUNTED WET LISTED LED EXIT SIGN FIXTURE, GREEN LETTERS, WITH 90 MINUTE BATTERY PACK	EMERGI-LITE *-SVXN-1-G-4X	MULE/ORL PVT, BEGHELLI, LITHONIA	277 V	LED	2 VA	* FINISH BY ARCHITECT
X4	SURFACE END MOUNTED EDGE LIT LED EXIT SIGN FIXTURE, GREEN LETTERS, CLEAR/MIRROR BACKGROUND AND SINGLE/DOUBLE FACE, WITH 90 MINUTE BATTERY PACK	EMERGI-LITE LXN-*-N-G-**-***-C (SURFACE END MOUNT)	BEGHELLI, LITHONIA, DUALLITE	277 V	LED	1 VA	REFER TO PLANS FOR FACES (*) AND CHEVRONS (***), ** PROVIDE CLEAR WITH SINGLE FACE AND MIRROR WITH DOUBLE FACE

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LIGHT FIXTURE AND ZONING SCHEDULES

PROJ. NO. E-16078.00
DRAWN KW
SHEET
E801

MECHANICAL EQUIPMENT CONNECTION SCHEDULE - COOLING

LOAD NAME	LOCATION	HP RATING	FULL LOAD AMPS	kW/ kVA	VOLTAGE	POLES	STARTER			DISCONNECT SWITCH			PANEL / CKT BRKR RATING (SEE NOTE 1)	WIRE SIZE	Breaker Size	NOTES
							NEMA SIZE	MCP RATING	ENCL	FRAME RATING	FUSE RATING	NEMA ENCL				
CRCU-1	LIBRARY ROOF	1/4	1 A	0.5 kVA	480 V	3	--	--	--	30A	25A	3R	LM2	3-#10, 1-#10, 1-#10	25 A	3
SSCU-1 / SSAC-1	LIBRARY ROOF / TELECOM EQUIPMENT 1.123	--	15 A	3.2 kVA	208 V	2	--	--	--	30A	25A	3R	CR2B	2-#6, 1-#6, 1-#6	25 A	3, 18
SSCU-2 / SSAC-2	EVENT CENTER ROOF / STORAGE 2.105	--	15 A	3.2 kVA	208 V	2	--	--	--	30A	25A	3R	CR2B	2-#10, 1-#10, 1-#10	25 A	3, 18
SSCU-3 / SSAC-3	EVENT CENTER ROOF / TELECOM EQUIPMENT 2.106	--	9 A	1.8 kVA	208 V	2	--	--	--	30A	15A	3R	CR2B	2-#14, 1-#14, 1-#14	15 A	3, 18

MECHANICAL EQUIPMENT CONNECTION SCHEDULE - ELEVATORS

LOAD NAME	LOCATION	HP RATING	FULL LOAD AMPS	kW/ kVA	VOLTAGE	POLES	STARTER			DISCONNECT SWITCH			PANEL / CKT BRKR RATING (SEE NOTE 1)	WIRE SIZE	Breaker Size	NOTES
							NEMA SIZE	MCP RATING	ENCL	FRAME RATING	FUSE RATING	NEMA ENCL				
Elevator Controller (25HP)	ELEV. MACHINE ROOM 1.120	25	36 A	29.9 kVA	480 V	3	--	--	--	60A	50A	1	LDP	3-#6, 1-#6, 1-#10	50 A	8
Elevator Controller (40HP)	ELEV. MACHINE ROOM 2.111	40	53 A	44.1 kVA	480 V	3	--	--	--	100A	70A	1	MSB	3-#4, 1-#4, 1-#8	70 A	9
LULA Elevator Control Power	LIBRARY BASEMENT 1.004	15	24 A	8.6 kVA	208 V	3	--	--	--	30A	30A	1	LR1B	3-#10, 1-#10, 1-#10	30 A	19

MECHANICAL EQUIPMENT CONNECTION SCHEDULE - HEATING

WT	LOCATION	HP RATING	FULL LOAD AMPS	kVA	VOLTAGE	POLES	STARTER			DISCONNECT SWITCH			PANEL / CKT BRKR RATING (SEE NOTE 1)	WIRE SIZE	BREAKER SIZE	NOTES
							NEMA SIZE	MCP RATING	ENCL	FRAME RATING	FUSE RATING	NEMA ENCL				
CRAC-1	ARCHIVES 1.132	1/4	6 A	4.8 kVA	480 V	3	--	--	--	30A	NF	1	LM1	3-#14, 1-#14, 1-#14	15 A	
CTU-5-1	KITCHEN SERVICE 2.203	--	6 A	5.0 kVA	480 V	3	--	--	--	30A	20A	1	CM2	3-#12, 1-#12, 1-#12	20 A	3
PTU-1-1	HANDLING 1.119	1/2	18 A	14.6 kVA	480 V	3	--	--	--	30A	NF	1	LM1	3-#10, 1-#10, 1-#10	30 A	3, 20
PTU-1-2	BOOKSTORE 1.115	1/2	17 A	14.0 kVA	480 V	3	--	--	--	30A	NF	1	LM1	3-#10, 1-#10, 1-#10	25 A	3, 20
PTU-1-3	STACKS 1.107	1	21 A	17.3 kVA	480 V	3	--	--	--	30A	NF	1	LM1	3-#10, 1-#10, 1-#10	30 A	3, 20
PTU-2-1	STACKS 1.129	1/2	19 A	16.1 kVA	480 V	3	--	--	--	30A	NF	1	LM1	3-#10, 1-#10, 1-#10	30 A	3, 20
PTU-2-2	MEMORY LAB 1.131	1/2	17 A	14.0 kVA	480 V	3	--	--	--	30A	NF	1	LM1	3-#10, 1-#10, 1-#10	25 A	3, 20
PTU-2-3	STACKS 1.138	1	21 A	17.8 kVA	480 V	3	--	--	--	60A	NF	1	LM1	3-#8, 1-#8, 1-#10	35 A	3, 20
PTU-5-1	MEN 2.119	1/2	20 A	16.6 kVA	480 V	3	--	--	--	30A	NF	1	CM1	3-#10, 1-#10, 1-#10	30 A	3, 20
PTU-5-2	KITCHEN 2.109	1/3	10 A	8.1 kVA	480 V	3	--	--	--	30A	NF	1	CM1	3-#12, 1-#12, 1-#12	20 A	3, 20
PTU-5-3	CORRIDOR 2.113	1/3	10 A	8.1 kVA	480 V	3	--	--	--	30A	NF	1	CM1	3-#12, 1-#12, 1-#12	20 A	3, 20
PTU-5-4	STORAGE 2.204	1/3	11 A	9.1 kVA	480 V	3	--	--	--	30A	NF	1	CM2	3-#12, 1-#12, 1-#12	20 A	3, 20
PTU-5-5	STORAGE 2.204	1/2	14 A	11.6 kVA	480 V	3	--	--	--	30A	NF	1	CM2	3-#10, 1-#10, 1-#10	25 A	3, 20
PTU-5-6	ELEVATOR ALCOVE 2.214	1/3	9 A	7.5 kVA	480 V	3	--	--	--	30A	NF	1	CM2	3-#12, 1-#12, 1-#12	20 A	3, 20
RTU-6	EVENT CENTER ROOF	5	44 A	37.0 kVA	480 V	3	--	VFD	--	60A	NF	3R	CM2	3-#6, 1-#6, 1-#10	60 A	2
RTU-7	EVENT CENTER ROOF	5	44 A	37.0 kVA	480 V	3	--	VFD	--	60A	NF	3R	CM2	3-#6, 1-#6, 1-#10	60 A	2
UH-1	LIBRARY BASEMENT	--	12 A	3.3 kVA	277 V	1	--	--	--	20A	NF	1	LM1	1-#10, 1-#10, 1-#10	15 A	5
VTU-1-1,-11	LIBRARY 1ST FLOOR NORTH	--	14 A	4.0 kVA	277 V	1	--	--	--	--	--	--	LM1	1-#12, 1-#12, 1-#12	20 A	5
VTU-1-3,-7	LIBRARY 1ST FLOOR NORTH	--	5 A	1.5 kVA	277 V	1	--	--	--	--	--	--	LM1	1-#12, 1-#12, 1-#12	20 A	5
VTU-1-4,-6,-8	LIBRARY 1ST FLOOR NORTH	--	11 A	3.0 kVA	277 V	1	--	--	--	--	--	--	LM1	1-#12, 1-#12, 1-#12	20 A	5
VTU-1-9,-10	LIBRARY 1ST FLOOR NORTH	--	14 A	4.0 kVA	277 V	1	--	--	--	--	--	--	LM1	1-#12, 1-#12, 1-#12	20 A	5
VTU-1-12 (No Heat)	LIBRARY 1ST FLOOR NORTH	--	2 A	0.5 kVA	277 V	1	--	--	--	--	--	--	LM1	1-#12, 1-#12, 1-#12	20 A	5
VTU-2-2	LIBRARY 1ST FLOOR SOUTH	--	13 A	3.5 kVA	277 V	1	--	--	--	--	--	--	LM1	1-#10, 1-#10, 1-#10	20 A	5
VTU-2-3,-8	LIBRARY 1ST FLOOR SOUTH	--	7 A	2.0 kVA	277 V	1	--	--	--	--	--	--	LM1	1-#12, 1-#12, 1-#12	20 A	5
VTU-2-5,-7	LIBRARY 1ST FLOOR SOUTH	--	13 A	3.5 kVA	277 V	1	--	--	--	--	--	--	LM1	1-#10, 1-#10, 1-#10	20 A	5
VTU-3-1,-2,-14	LIBRARY 2ND FLOOR NORTH	--	9 A	2.5 kVA	277 V	1	--	--	--	--	--	--	LM2	1-#10, 1-#10, 1-#10	20 A	5
VTU-3-3,-4	LIBRARY 2ND FLOOR NORTH	--	14 A	4.0 kVA	277 V	1	--	--	--	--	--	--	LM2	1-#8, 1-#8, 1-#8	20 A	5
VTU-3-7,-8,-9	LIBRARY 2ND FLOOR NORTH	--	7 A	2.0 kVA	277 V	1	--	--	--	--	--	--	LM2	1-#12, 1-#12, 1-#12	20 A	5
VTU-3-11	LIBRARY 2ND FLOOR NORTH	--	11 A	3.0 kVA	277 V	1	--	--	--	--	--	--	LM2	1-#10, 1-#10, 1-#10	20 A	5
VTU-3-13	LIBRARY 2ND FLOOR NORTH	--	14 A	4.0 kVA	277 V	1	--	--	--	--	--	--	LM2	1-#10, 1-#10, 1-#10	20 A	5
VTU-3-15	LIBRARY 2ND FLOOR NORTH	--	11 A	3.0 kVA	277 V	1	--	--	--	--	--	--	LM2	1-#10, 1-#10, 1-#10	20 A	5
VTU-3-16 (No Heat)	LIBRARY 2ND FLOOR NORTH	--	2 A	0.5 kVA	277 V	1	--	--	--	--	--	--	LM2	1-#12, 1-#12, 1-#12	20 A	5
VTU-3-17	LIBRARY 2ND FLOOR NORTH	--	14 A	4.0 kVA	277 V	1	--	--	--	--	--	--	LM2	1-#8, 1-#8, 1-#8	20 A	5
VTU-4-1,-3	LIBRARY 2ND FLOOR SOUTH	--	5 A	1.5 kVA	277 V	1	--	--	--	--	--	--	LM2	1-#12, 1-#12, 1-#12	20 A	5
VTU-4-2,-9	LIBRARY 2ND FLOOR SOUTH	--	7 A	2.0 kVA	277 V	1	--	--	--	--	--	--	LM2	1-#12, 1-#12, 1-#12	20 A	5
VTU-4-4,-6,-7	LIBRARY 2ND FLOOR SOUTH	--	11 A	3.0 kVA	277 V	1	--	--	--	--	--	--	LM2	1-#12, 1-#12, 1-#12	20 A	5
VTU-4-5,-12	LIBRARY 2ND FLOOR SOUTH	--	13 A	3.5 kVA	277 V	1	--	--	--	--	--	--	LM2	1-#12, 1-#12, 1-#12	20 A	5
VTU-4-8	LIBRARY 2ND FLOOR SOUTH	--	5 A	4.5 kVA	480 V	3	--	--	--	30A	NF	1	LM2	3-#12, 1-#12, 1-#12	20 A	3
VTU-4-10	LIBRARY 2ND FLOOR SOUTH	--	5 A	4.5 kVA	480 V	3	--	--	--	30A	NF	1	LM2	3-#12, 1-#12, 1-#12	20 A	3
VTU-4-11	LIBRARY 2ND FLOOR SOUTH	--	14 A	4.0 kVA	277 V	1	--	--	--	--	--	--	LM2	1-#12, 1-#12, 1-#12	20 A	5
VTU-4-13 (No Heat)	LIBRARY 2ND FLOOR SOUTH	--	2 A	0.5 kVA	277 V	1	--	--	--	--	--	--	LM2	1-#12, 1-#12, 1-#12	20 A	5
VTU-5-,-5,-10	FIRST FLOOR EVENT CENTER	--	9 A	2.5 kVA	277 V	1	--	--	--	--	--	--	LM2	1-#10, 1-#10, 1-#10	20 A	5
VTU-5-1,-2,-3	FIRST FLOOR EVENT CENTER	--	11 A	3.0 kVA	277 V	1	--	--	--	--	--	--	CM1	1-#12, 1-#12, 1-#12	20 A	5
VTU-5-4,-6	FIRST FLOOR EVENT CENTER	--	13 A	3.5 kVA	277 V	1	--	--	--	--	--	--	CM1	1-#12, 1-#12, 1-#12	20 A	5
VTU-5-5	FIRST FLOOR EVENT CENTER	--	5 A	1.5 kVA	277 V	1	--	--	--	--	--	--	CM1	1-#12, 1-#12, 1-#12	20 A	5
VTU-5-7	FIRST FLOOR EVENT CENTER	--	8 A	7.0 kVA	480 V	3	--	--	--	30A	NF	1	CM1	3-#12, 1-#12, 1-#12	20 A	3
VTU-5-8,-9	SECOND FLOOR EVENT CENTER	--	11 A	3.0 kVA	277 V	1	--	--	--	--	--	--	CM2	1-#12, 1-#12, 1-#12	20 A	5

MECHANICAL EQUIPMENT CONNECTION SCHEDULE - MOTOR

LOAD NAME	LOCATION	HP RATING	FULL LOAD AMPS	kW/ kVA	VOLTAGE	POLES	STARTER			DISCONNECT SWITCH			PANEL / CKT BRKR RATING (SEE NOTE 1)	Wire Size	Breaker Size	NOTES
							NEMA SIZE	MCP RATING	ENCL ENCL	FRAME RATING	FUSE RATING	NEMA ENCL				
EF-1	LIBRARY ROOF	1/6	4 A	0.5 kVA	120 V	1	--	--	--	20A	NF	3R	LR2B	1-#10, 1-#10, 1-#10	20 A	3
EF-2	LIBRARY ROOF	1/6	4 A	0.5 kVA	120 V	1	--	--	--	20A	NF	3R	LR2B	1-#10, 1-#10, 1-#10	20 A	3
EF-3	LIBRARY ROOF	1/4	6 A	0.7 kVA	120 V	1	--	--	--	20A	NF	3R	LR2B	1-#10, 1-#10, 1-#10	20 A	3
EF-4	LIBRARY ROOF	1/4	6 A	0.7 kVA	120 V	1	--	--	--	20A	NF	3R	LR2B	1-#12, 1-#12, 1-#12	20 A	3
EF-5	LIBRARY ROOF	1/6	4 A	0.5 kVA	120 V	1	--	--	--	20A	NF	3R	LR2B	1-#12, 1-#12, 1-#12	20 A	3
EF-6	LIBRARY ROOF	1/6	4 A	0.5 kVA	120 V	1	--	--	--	20A	NF	3R	LR2B	1-#12, 1-#12, 1-#12	20 A	3
EF-7	EVENT CENTER ROOF	1/2	2 A	0.5 kVA	208 V	2	--	--	--	20A	NF	3R	CR2B	2-#12, 1-#12, 1-#12	20 A	17
EF-8	EVENT CENTER ROOF	1/6	4 A	0.5 kVA	120 V	1	--	--	--	20A	NF	3R	CR2B	1-#12, 1-#12, 1-#12	20 A	3
EF-9	EVENT CENTER ROOF	2	12 A	2.5 kVA	208 V	2	--	VFD	--	20A	NF	3R	CR2B	2-#12, 1-#12, 1-#12	20 A	17
EF-10	KITCHEN SERVICE 2.203	1/2	5 A	1.0 kVA	208 V	2	--	--		20A	NF	1	CR2B	2-#12, 1-#12, 1-#12	20 A	17
MAU-1	EVENT CENTER ROOF	1	12 A	4.2 kVA	208 V	3				30A	20A	3R	CR2B	3-#12, 1-#12, 1-#12	20 A	
RTU-1	LIBRARY ROOF	(2) 15	100 A	83.5 kVA	480 V	3	--	VFD	--	200A	--	3R	MSB	3-#1/0, 1-#1/0, 1-#6	150 A	2
RTU-2	LIBRARY ROOF	(2) 7-1/2	87 A	72.7 kVA	480 V	3	--	VFD	--	200A	--	3R	MSB	3-#1, 1-#1, 1-#6	125 A	2
RTU-3	LIBRARY ROOF	7-1/2	57 A	47.3 kVA	480 V	3	--	VFD	--	100A	--	3R	LM2	3-#3, 1-#3, 1-#8	90 A	2
RTU-4	LIBRARY ROOF	7-1/2	46 A	38.3 kVA	480 V	3	--	VFD	--	100A	--	3R	LM2	3-#4, 1-#4, 1-#8	70 A	2
RTU-5	EVENT CENTER ROOF	15	92 A	76.5 kVA	480 V	3	--	VFD	--	200A	--	3R	CM2	3-#1, 1-#1, 1-#6	125 A	2

MECHANICAL EQUIPMENT SCHEDULE NOTES:

1. SEE PANEL SCHEDULES FOR CIRCUIT BREAKER RATING AND CIRCUIT NUMBER(S). IF THERE IS A DISCREPANCY IN BREAKER RATING ON PANEL SCHEDULE AND THIS SCHEDULE, RATING ON THIS SCHEDULE SHALL TAKE PRECEDENCE.
2. VARIABLE FREQUENCY DRIVE (VFD) IS FURNISHED BY DIVISION 23, INSTALLED AND CONNECTED BY DIVISION 26. DISCONNECTING MEANS IS INTEGRAL TO VFD.
3. VERIFY DISCONNECT FRAME SIZE AND FUSE RATING/TYPE BASED ON DIVISION 23 SHOP DRAWINGS FOR MANUFACTURER'S RECOMMEND FUSE RATING PRIOR TO ORDERING DISCONNECT. ADJUST AS NECESSARY.
4. COORDINATE MOTOR STARTER CIRCUIT PROTECTOR (MCP) RATING WITH DIVISION 23 SHOP DRAWINGS FOR MANUFACTURER'S RECOMMENDED MCP RATING, AND PER NEC, AND ADJUST AS NECESSARY. REFER TO DIVISION 26 SPECIFICATIONS FOR FULL VOLTAGE OR REDUCED VOLTAGE CRITERIA FOR STARTERS, WHERE STARTERS ARE PROVIDED BY DIVISION 26.
5. MOTOR-RATED MANUAL SWITCH FOR DISCONNECTING MEANS IS TO BE MOUNTED ON EXTERIOR OF EQUIPMENT HOUSING.
6. PROVIDE ONE CIRCUIT TO POWER THESE PIECES OF EQUIPMENT. REFER TO PLAN DRAWINGS AND PANEL SCHEDULES FOR CIRCUITING OF MULTIPLE PIECES OF EQUIPMENT.
7. PROVIDE 208V 1-PH FULL VOLTAGE CONTACTOR AND MANUAL MOTOR-RATED SWITCH. CONNECT TO ONE CONTACT OF 2-POLE CONTACTOR FOR 120V POWER.
8. PROVIDE 480V 3-PH 60A BUSSMAN POWER MODULE SWITCH, OR EQUAL, FOR ELEVATOR DISCONNECTING MEANS, CONTROL AND FIRE ALARM INTERFACE. FEATURES TO INCLUDE 120V SHUNT TRIP, CONTROL POWER TRANSFORMER WITH FUSES AND TERMINAL BLOCKS, FIRE ALARM INTERFACE RELAY, FIRE ALARM VOLTAGE MONITORING RELAY TO MONITOR SHUNT TRIP VOLTAGE, GROUND LUG, GLASS J FUSE MOUNTING AND FUSES, MECHANICALLY-INTERLOCKED AUXILIARY CONTACTS FOR HYDRAULIC ELEVATORS WITH BATTERY BACKUP, KEY-TO-TEST SWITCH, PILOT LIGHT "ON", NEMA 1 ENCLOSURE. COORDINATE SWITCH FRAME & FUSE RATING WITH ELEVATOR SHOP DRAWINGS PRIOR TO ORDERING AND ADJUST AS NECESSARY.
9. PROVIDE 480V 3-PH 100A BUSSMAN POWER MODULE SWITCH, OR EQUAL, FOR ELEVATOR DISCONNECTING MEANS, CONTROL AND FIRE ALARM INTERFACE. FEATURES TO INCLUDE 120V SHUNT TRIP, CONTROL POWER TRANSFORMER WITH FUSES AND TERMINAL BLOCKS, FIRE ALARM INTERFACE RELAY, FIRE ALARM VOLTAGE MONITORING RELAY TO MONITOR SHUNT TRIP VOLTAGE, GROUND LUG, GLASS J FUSE MOUNTING AND FUSES, MECHANICALLY-INTERLOCKED AUXILIARY CONTACTS FOR HYDRAULIC ELEVATORS WITH BATTERY BACKUP, KEY-TO-TEST SWITCH, PILOT LIGHT "ON", NEMA 1 ENCLOSURE. COORDINATE SWITCH FRAME & FUSE RATING WITH ELEVATOR SHOP DRAWINGS PRIOR TO ORDERING AND ADJUST AS NECESSARY.
10. PROVIDE HIGH INTERRUPTING CAPACITY FUSES.
11. PROVIDE DISCONNECT SWITCH WITH INTERLOCK AND CONTROL WIRING BETWEEN DISCONNECT SWITCH AND VFD TO RAMP DOWN VFD PRIOR TO SHUT OFF OF POWER.
12. VAV BOXES PROVIDED WITH HYDRONIC HEATING AND CONTROL POWER ONLY (NO ELECTRIC HEAT OR FANS) ARE NOT SHOWN ON THIS SCHEDULE. REFER TO DIVISION 23 MECHANICAL SCHEDULES, AND TO POWER PLANS FOR CIRCUITING REQUIREMENTS.
13. PROVIDE NEUTRAL CONDUCTOR AND TAP FROM ONE PHASE CONDUCTOR FOR 120V CONNECTION TO FCU CONDENSATE PUMP.
14. SINGLE POINT ELECTRICAL CONNECTION TO CONTROL PANEL FROM DISCONNECT SWITCH FOR PACKAGE SYSTEM.
15. DISCONNECT SWITCH FRAME RATINGS INDICATED ARE 3-POLE UNLESS OTHERWISE NOTED.
16. CONNECTION TO 120V CONTROL POWER.
17. PROVIDE 208V SINGLE PHASE MOTOR RATED SWITCH WITH OVER LOAD.
18. INDOOR EQUIPMENT POWER THRU OUT DOOR EQUIPMENT. PROVIDE DISCONNECT AT OUT DOOR EQUIPMENT. PROVIDEFEED FROM OUTDOOR EQUIPMENT TO A MOTOR RATED SWITCH AT THE INDOOR EQUIPMENT.
19. PROVIDE 480V 3-PH 30A BUSSMAN POWER MODULE SWITCH, OR EQUAL, FOR ELEVATOR DISCONNECTING MEANS, CONTROL AND FIRE ALARM INTERFACE. FEATURES TO INCLUDE 120V SHUNT TRIP, CONTROL POWER TRANSFORMER WITH FUSES AND TERMINAL BLOCKS, FIRE ALARM INTERFACE RELAY, FIRE ALARM VOLTAGE MONITORING RELAY TO MONITOR SHUNT TRIP VOLTAGE, GROUND LUG, GLASS J FUSE MOUNTING AND FUSES, MECHANICALLY-INTERLOCKED AUXILIARY CONTACTS FOR HYDRAULIC ELEVATORS WITH BATTERY BACKUP, KEY-TO-TEST SWITCH, PILOT LIGHT "ON", NEMA 1 ENCLOSURE. COORDINATE SWITCH FRAME & FUSE RATING WITH ELEVATOR SHOP DRAWINGS PRIOR TO ORDERING AND ADJUST AS NECESSARY.
20. PROVIDE ADDITIONAL CONDUCTOR TO PROVIDE NEUTRAL FOR 277V TO MOTOR.

NOT ALL NOTES NECESSARILY APPLY TO THIS PROJECT. REFER TO SPECIFIC EQUIPMENT REQUIREMENTS ON THE SCHEDULE FOR APPLICABLE NOTES.

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SEAL

CITY OF WINTER PARK
LIBRARY AND EVENT CENTER

Hunton Brady ARCHITECTS
Adjaye Associates

DATE	SUBMISSION	NO
10.22.19	CONSTRUCTION DOCUMENTS	

MECHANICAL EQUIPMENT CONNECTION SCHEDULE

PROJ. NO. E-16078.00 SHEET
DRAWN KW
E802

Branch Panel: CM1

Location: MAIN ELECTRICAL...
Supply From: MSB
Mounting: Surface
Enclosure: Type 1
Volts: 480/277 Wye
Phases: 3
Wires: 4
A.I.C. Rating: 65,000
Mains Type: MLO
Mains Rating: 100 A
Neutral Rating: 100.00%

Notes:

CKT	Circuit Description	Note	Trip	Pole	A		B		C		Pole	Trip	Note	Circuit Description	CKT
1	PTU-5-2		20 A	3	2.5 kVA	2.3 kVA					3	20 A		VTU-5-7	2
3							3.1 kVA	2.3 kVA							4
5									2.5 kVA	2.3 kVA					6
7	PTU-5-1		30 A	3	6.2 kVA	2.5 kVA					3	20 A		PTU-5-3	8
9							5.2 kVA	2.5 kVA							10
11									5.2 kVA	3.1 kVA					12
13	VTU-5-4,-6		20 A	1	3.5 kVA	1.5 kVA					1	20 A		VTU-5-5	14
15	VTU-5-1,-2,-3		20 A	1			3.0 kVA	0.0 kVA			--	--	--	SPACE ONLY	16
17	SPACE ONLY	--	--	--					0.0 kVA	0.0 kVA	--	--	--	SPACE ONLY	18
19	SPACE ONLY	--	--	--	0.0 kVA	0.0 kVA					--	--	--	SPACE ONLY	20
21	SPACE ONLY	--	--	--			0.0 kVA	0.0 kVA			--	--	--	SPACE ONLY	22
23	SPACE ONLY	--	--	--					0.0 kVA	0.0 kVA	--	--	--	SPACE ONLY	24
25	SPACE ONLY	--	--	--	0.0 kVA	0.0 kVA					--	--	--	SPACE ONLY	26
27	SPACE ONLY	--	--	--			0.0 kVA	0.0 kVA			--	--	--	SPACE ONLY	28
29	SPACE ONLY	--	--	--					0.0 kVA	0.0 kVA	--	--	--	SPACE ONLY	30
				Total Load:	18.6 kVA		16.1 kVA		13.1 kVA						
				Total Amps:	69 A		60 A		47 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	0.0 kVA	0.00%	0.0 kVA		
Receptacle	0.0 kVA	0.00%	0.0 kVA	**Total Conn. Load:**	47.7 kVA
Motor	0.0 kVA	0.00%	0.0 kVA	**Total Est. Demand:**	47.66 kVA
Heating	47.7 kVA	100.00%	47.7 kVA	**Total Conn. Current:**	57 A
Cooling	0.0 kVA	0.00%	0.0 kVA	**Total Est. Demand Current:**	57 A
Other	0.0 kVA	0.00%	0.0 kVA		
Elevator	0.0 kVA	0.00%	0.0 kVA		
Spare	0.0 kVA	0.00%	0.0 kVA		
Electric Clothes Dryer	0.0 kVA	0.00%	0.0 kVA		
Kitchen Equipment	0.0 kVA	0.00%	0.0 kVA		

Notes:

Branch Panel: CR1B

Location: MAIN ELECTRICAL...
Supply From: T-CR1B
Mounting: Surface
Enclosure: Type 1
Volts: 120/208 Wye
Phases: 3
Wires: 4
A.I.C. Rating: 10,000
Mains Type: MCB
Mains Rating: 100 A
MCB Rating: 100 A
Neutral Rating: 100.00%

Notes:

CKT	Circuit Description	Note	Trip	Pole	A		B		C		Pole	Trip	Note	Circuit Description	CKT
1	AV Rack - Telecom Equipment 2.106		20 A	1	0.4 kVA	0.4 kVA					1	20 A		Receptacle Telecom Equipment 2.106	2
3	Receptacle Telecom Equipment 2.106		30 A	2			2.0 kVA	0.4 kVA			1	20 A		Receptacle Telecom Equipment 2.106	4
5									2.0 kVA	0.4 kVA	1	20 A		Receptacle Telecom Equipment 2.106	6
7	Receptacle Telecom Equipment 2.106		20 A	1	0.4 kVA	0.4 kVA					1	20 A		Receptacle Telecom Equipment 2.106	8
9	Receptacle Telecom Equipment 2.106		20 A	1			0.4 kVA	2.0 kVA			2	30 A		Receptacle Telecom Equipment 2.106	10
11	Receptacle Telecom Equipment 2.106		20 A	1					0.2 kVA	2.0 kVA					12
13	Elevator Cab Lights Elevator Machine Room 2.111		20 A	1	1.0 kVA	0.0 kVA					1	20 A		SPARE	14
15	SPARE		20 A	1			0.0 kVA	0.0 kVA			1	20 A		SPARE	16
17	SPARE		20 A	1					0.0 kVA	0.0 kVA	1	20 A		SPARE	18
19	SPARE		20 A	1	0.0 kVA	0.0 kVA					1	20 A		SPARE	20
21	SPARE		20 A	1			0.0 kVA	0.0 kVA			1	20 A		SPARE	22
23	SPARE		20 A	1					0.0 kVA	0.0 kVA	1	20 A		SPARE	24
25	SPARE		20 A	1	0.0 kVA	0.0 kVA					--	--	--	SPACE ONLY	26
27	SPARE		20 A	1			0.0 kVA	0.0 kVA			--	--	--	SPACE ONLY	28
29	SPARE		20 A	1					0.0 kVA	0.0 kVA	--	--	--	SPACE ONLY	30
31	SPACE ONLY	--	--	--	0.0 kVA	0.0 kVA					--	--	--	SPACE ONLY	32
33	SPACE ONLY	--	--	--			0.0 kVA	0.0 kVA			--	--	--	SPACE ONLY	34
35	SPACE ONLY	--	--	--					0.0 kVA	0.0 kVA	--	--	--	SPACE ONLY	36
37	SPACE ONLY	--	--	--	0.0 kVA	0.0 kVA					--	--	--	SPACE ONLY	38
39	SPACE ONLY	--	--	--			0.0 kVA	0.0 kVA			--	--	--	SPACE ONLY	40
41	SPACE ONLY	--	--	--					0.0 kVA	0.0 kVA	--	--	--	SPACE ONLY	42
				Total Load:	2.6 kVA		4.8 kVA		4.6 kVA						
				Total Amps:	22 A		43 A		41 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	1.0 kVA	125.00%	1.3 kVA		
Receptacle	11.0 kVA	95.45%	10.5 kVA	**Total Conn. Load:**	12.0 kVA
Motor	0.0 kVA	0.00%	0.0 kVA	**Total Est. Demand:**	11.75 kVA
Heating	0.0 kVA	0.00%	0.0 kVA	**Total Conn. Current:**	33 A
Cooling	0.0 kVA	0.00%	0.0 kVA	**Total Est. Demand Current:**	33 A
Other	0.0 kVA	0.00%	0.0 kVA		
Elevator	0.0 kVA	0.00%	0.0 kVA		
Spare	0.0 kVA	0.00%	0.0 kVA		
Electric Clothes Dryer	0.0 kVA	0.00%	0.0 kVA		
Kitchen Equipment	0.0 kVA	0.00%	0.0 kVA		

Notes:

Switchboard: MSB

Location: MAIN ELECTRICAL...
Supply From:
Mounting:
Enclosure:
Volts: 480/277 Wye
Phases: 3
Wires: 4
A.I.C. Rating: 65,000
Mains Type: MCB
Mains Rating: 2000 A
MCB Rating: 2000 A
Neutral Rating: 100.00%

Notes:

CKT	Circuit Description	# of Poles	Trip Rating	Load	Remarks
1	PANEL LPD	3	1200 A	509.1 kVA	ELECTRONIC LSI TYPE CB
2	PANEL CM2	3	400 A	186.6 kVA	ELECTRONIC LSI TYPE CB
3	SPARE	3	400 A	0.0 kVA	ELECTRONIC LSI TYPE CB
4	400A FULLY PREPARED SPACE	--	--	0.0 kVA	--
5	SPARE	3	225 A	0.0 kVA	ELECTRONIC LSI TYPE CB
6	RTU-1	3	150 A	83.5 kVA	ELECTRONIC LSI TYPE CB
7	RTU-2	3	125 A	72.7 kVA	ELECTRONIC LSI TYPE CB
8	T-CR1A / PANEL CR1A	3	125 A	24.6 kVA	ELECTRONIC LSI TYPE CB
9	T-CR1B / PANELS CR1B/CR2B	3	125 A	42.4 kVA	ELECTRONIC LSI TYPE CB
10	T-CR1C / PANEL CR1C	3	125 A	31.6 kVA	ELECTRONIC LSI TYPE CB
11	T-CK1 / PANEL CK1	3	125 A	39.0 kVA	ELECTRONIC LSI TYPE CB
12	PANEL CL1	3	100 A	18.0 kVA	ELECTRONIC LSI TYPE CB
13	PANEL CM1	3	100 A	47.7 kVA	ELECTRONIC LSI TYPE CB
14	PANEL SL1	3	100 A	14.8 kVA	ELECTRONIC LSI TYPE CB
15	SPARE	3	100 A	0.0 kVA	ELECTRONIC LSI TYPE CB
16	225A FULLY PREPARED SPACE	--	--	0.0 kVA	--
17	Elevator Controller (40HP)	3	70 A	44.1 kVA	ELECTRONIC LSI TYPE CB
18	Surge Protection Device	3	60 A	0.0 kVA	
				1110.3 kVA	
				1335 A	

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	56.3 kVA	125.00%	70.4 kVA		
Receptacle	230.1 kVA	52.17%	120.1 kVA	**Total Conn. Load:**	1110.3 kVA
Motor	332.0 kVA	106.29%	352.9 kVA	**Total Est. Demand:**	1032.2 kVA
Heating	330.6 kVA	100.00%	330.6 kVA	**Total Conn. Current:**	1335 A
Cooling	8.7 kVA	100.00%	8.7 kVA	**Total Est. Demand Current:**	1242 A
Other	68.4 kVA	100.00%	68.4 kVA		
Elevator	82.6 kVA	97.14%	80.3 kVA		
Spare	0.0 kVA	0.00%	0.0 kVA		
Electric Clothes Dryer	0.0 kVA	0.00%	0.0 kVA		
Kitchen Equipment	1.6 kVA	65.00%	1.0 kVA		

Notes:

Branch Panel: SL1

Location: MAIN ELECTRICAL...
Supply From: MSB
Mounting: Surface
Enclosure: Type 1
Volts: 480/277 Wye
Phases: 3
Wires: 4
A.I.C. Rating: 65,000
Mains Type: MLO
Mains Rating: 400 A
Neutral Rating: 100.00%

Notes: SINGLE TUB, 84 CIRCUIT PANELBOARD.

CKT	Circuit Description	Note	Trip	Pole	A		B		C		Pole	Trip	Note	Circuit Description	CKT
1	Southeast Library Uplights		20 A	1	0.1 kVA	0.0 kVA					1	20 A		East Library Uplights	2
3	East Library Uplights		20 A	1			0.1 kVA	0.0 kVA			1	20 A		East Library Entrance Uplights	4
5	East Library Uplights		20 A	1					0.1 kVA	0.0 kVA	1	20 A		East Library Uplights	6
7	Northwest Event Center Uplights		20 A	1	0.0 kVA	0.0 kVA					1	20 A		Northeast Library Uplights	8
9	Northeast Library Uplights		20 A	1			0.1 kVA	0.0 kVA			1	20 A		North Library Uplights	10
11	North Library Uplights		20 A	1					0.1 kVA	0.0 kVA	1	20 A		North Library Uplights	12
13	Southwest Event Center Uplights		20 A	1	0.0 kVA	0.0 kVA					1	20 A		West Library Uplights	14
15	Northwest Library Uplights		20 A	1			0.1 kVA	0.0 kVA			1	20 A		West Library Uplights	16
17	West Library Uplights		20 A	1					0.1 kVA	0.0 kVA	1	20 A		West Library Entrance Uplights	18
19	West Library Uplights		20 A	1	0.1 kVA	0.0 kVA					1	20 A		West Library Uplights	20
21	Southwest Event Center Uplights		20 A	1			0.0 kVA	0.0 kVA			1	20 A		Southwest Library Uplights	22
23	Southwest Library Uplights		20 A	1					0.1 kVA	0.0 kVA	1	20 A		South Library Uplights	24
25	South Library Uplights		20 A	1	0.1 kVA	0.0 kVA					1	20 A		South Library Uplights	26
27	Southwest Event Center Uplights		20 A	1			0.1 kVA	0.0 kVA			1	20 A		Southeast Library Uplights	28
29	Southeast Event Center Uplights		20 A	1					0.0 kVA	0.0 kVA	1	20 A		Northwest Event Center Uplights	30
31	Northwest Event Center Uplights		20 A	1	0.1 kVA	0.0 kVA					1	20 A		Northeast Event Center Uplights	32
33	Northeast Event Center Uplights		20 A	1			0.1 kVA	0.0 kVA			1	20 A		Northeast Event Center Uplights	34
35	Southeast Event Center Uplights		20 A	1					0.0 kVA	0.1 kVA	1	20 A		Southeast Event Center Uplights	36
37	Library Entrance Tape Lights		20 A	1	3.5 kVA	2.5 kVA					1	20 A		Event Center Entrance Tape Lights	38
39	North and east event center post top lights		20 A	1			0.1 kVA	0.1 kVA			1	20 A		South Event Center Post Top Fixture	40
41	Exterior Stair Lights		20 A	1					0.5 kVA	0.2 kVA	1	20 A		Library West and South Step Lights	42
43	South and West Patio Step Lights		20 A	1	0.1 kVA	0.1 kVA					1	20 A		Southeast Post Top Site Lights	44
45	Patio Uplights		20 A	1			0.1 kVA	0.5 kVA			1	20 A		Lawn Lighting	46
47	North Library and Event Center Tape Lights		20 A	1					1.1 kVA	0.8 kVA	1	20 A		Lighting - Southwest Parking Lot	48
49	Lighting Porte Cochere		20 A	1	0.4 kVA	0.2 kVA					1	20 A		Lighting - Parking Lot Connector	50
51	Lighting Porte Cochere		20 A	1			0.5 kVA	0.6 kVA			1	20 A		Lighting - Northwest Parking Lot	52
53	SPARE		20 A	1					0.0 kVA	0.4 kVA	1	20 A		Lighting - Northwest Parking Lot	54
55	SPARE		20 A	1	0.0 kVA	0.4 kVA					1	20 A		Lighting - Northeast Parking Lot	56
57	SPARE		20 A	1			0.0 kVA	0.7 kVA			1	20 A		Flag Pole and Sign Lighting	58
59	SPARE		20 A	1					0.0 kVA	0.0 kVA	1	20 A		SPARE	60
61	SPARE		20 A	1	0.0 kVA	0.0 kVA					1	20 A		SPARE	62
63	SPARE		20 A	1			0.0 kVA	0.0 kVA			1	20 A		SPARE	64
65	SPARE		20 A	1					0.0 kVA	0.0 kVA	1	20 A		SPARE	66
67	SPARE		20 A	1	0.0 kVA	0.0 kVA					1	20 A		SPARE	68
69	SPARE		20 A	1			0.0 kVA	0.0 kVA			1	20 A		SPARE	70
71	SPARE		20 A	1					0.0 kVA	0.0 kVA	1	20 A		SPARE	72
73	SPACE ONLY	--	--	--	0.0 kVA	0.0 kVA					--	--	--	SPACE ONLY	74
75	SPACE ONLY	--	--	--			0.0 kVA	0.0 kVA			--	--	--	SPACE ONLY	76
77	SPACE ONLY	--	--	--					0.0 kVA	0.0 kVA	--	--	--	SPACE ONLY	78
79	SPACE ONLY	--	--	--	0.0 kVA	0.0 kVA					3	30 A		Surge Protection Device	80
81	SPACE ONLY	--	--	--			0.0 kVA	0.0 kVA							82
83	SPACE ONLY	--	--	--					0.0 kVA	0.0 kVA					84
				Total Load:	7.8 kVA		3.2 kVA		3.8 kVA						
				Total Amps:	29 A		12 A		14 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	6.3 kVA	125.00%	7.8 kVA		
Receptacle	0.0 kVA	0.00%	0.0 kVA	**Total Conn. Load:**	14.8 kVA
Motor	0.0 kVA	0.00%	0.0 kVA	**Total Est. Demand:**	16.34 kVA
Heating	0.0 kVA	0.00%	0.0 kVA	**Total Conn. Current:**	18 A
Cooling	0.0 kVA	0.00%	0.0 kVA	**Total Est. Demand Current:**	20 A
Other	8.5 kVA	100.00%	8.5 kVA		
Elevator	0.0 kVA	0.00%	0.0 kVA		
Spare	0.0 kVA	0.00%	0.0 kVA		
Electric Clothes Dryer	0.0 kVA	0.00%	0.0 kVA		
Kitchen Equipment	0.0 kVA	0.00%	0.0 kVA		

Notes:

Branch Panel: CL1

Location: MAIN ELECTRICAL...
Supply From: MSB
Mounting: Surface
Enclosure: Type 1
Volts: 480/277 Wye
Phases: 3
Wires: 4
A.I.C. Rating: 42,000
Mains Type: MLO
Mains Rating: 100 A
Neutral Rating: 100.00%

Notes: PROVIDE SINGLE TUB, 60 CIRCUIT PANELBOARD.

CKT	Circuit Description	Note	Trip	Pole	A		B		C		Pole	Trip	Note	Circuit Description	CKT
1	Mirror - Men 2.119		20 A	1	0.5 kVA	0.7 kVA					1	20 A		Mirror - Women 2.118	2
3	Mirrors - Room 2.116, 2.1tg15		20 A	1			1.1 kVA	0.1 kVA			1	20 A		Mirror - Women 2.205	4
5	Mirror - Men 2.207		20 A	1					0.1 kVA	1.1 kVA	1	20 A		Mirrors - Room 2.209, 2.210	6
7	Lighting Prefunction Area 2.101		20 A	1	0.4 kVA	0.1 kVA					1	20 A		Lighting Prefunction Area 2.101	8
9	Lighting Prefunction Area 2.101		20 A	1			0.1 kVA	0.3 kVA			1	20 A		Lighting Prefunction Area 2.101	10
11	Lighting Prefunction Area 2.101		20 A	1					0.1 kVA	0.3 kVA	1	20 A		Lighting Prefunction Area 2.101	12
13	Lighting Main Assembly 2.112		20 A	1	0.2 kVA	0.2 kVA					1	20 A		Lighting Main Assembly 2.112	14
15	Lighting Alcove 2.107		20 A	1			0.0 kVA	0.4 kVA			1	20 A		Lighting Main Assembly 2.112	16
17	Lighting Corridor 2.102		20 A	1					0.3 kVA	0.3 kVA	1	20 A		Lighting Main Assembly 2.112	18
19	Lighting Main Assembly 2.112		20 A	1	0.4 kVA	0.3 kVA					1	20 A		Lighting Main Assembly 2.112	20
21	Lighting Main Assembly 2.112		20 A	1			0.4 kVA	0.8 kVA			1	20 A		Lighting Kitchen 2.109, Storage 2.105	22
23	Lighting Main Assembly 2.112		20 A	1					0.3 kVA	0.3 kVA	1	20 A		Lighting Alcove 2.117	24
25	Lighting Stair 2 2.199		20 A	1	1.0 kVA	0.4 kVA					1	20 A		Lighting Setup Office 2.124	26
27	LCP-1 Evenet Center Main Elec Rm		20 A	1			1.2 kVA	0.0 kVA			1	20 A		Lighting - Stair 2 2.199	28
29	Lighting - Corridor 2.202. Vest 2.201		20 A	1					0.2 kVA	0.3 kVA	1	20 A		Lighting Stair 1 2.198	30
31	Lighting - Corridor 2.208		20 A	1	0.5 kVA	0.1 kVA					1	20 A		Lighting - Exterior Level 2	32
33	Lighting - Corridor 2.211, Elev Alcove 2.214		20 A	1			0.1 kVA	0.6 kVA			1	20 A		Lighting - Jr Ballroom 2.212, Stor 2.213	34
35	Lighting - Stair 2.299		20 A	1					0.4 kVA	0.6 kVA	1	20 A		Lighting - Dressing 2.209, Toilet 2.210	36
37	Lighting - Storage 2.204, Kitchen Service 2.203		20 A	1	0.8 kVA	0.6 kVA					1	20 A		Lighting - Men 2.207, women 2.205, Jan 2.206	38
39	Lighting - Roof		20 A	1			0.4 kVA	0.2 kVA			1	20 A		Lighting - Exterior Level 2	40
41	Lighting - Stair 2 2.199		20 A	1					0.1 kVA	0.2 kVA	1	20 A		Lighting - Elevator Alcove 2.214	42
43	Lighting - Exterior Level 2		20 A	1	0.1 kVA	0.0 kVA					1	20 A		Lighting - Exterior Level 2	44
45	Lighting - Cove Light East/South		20 A	1			0.7 kVA	0.2 kVA			1	20 A		Lighting Main Assembly 2.112	46
47	Lighting - Cove Light North/West		20 A	1					0.7 kVA	0.1 kVA	1	20 A		Lighting Main Assembly 2.112	48
49	SPARE		20 A	1	0.0 kVA	0.0 kVA					1	20 A		SPARE	50
51	SPARE		20 A	1			0.0 kVA	0.0 kVA			1	20 A		SPARE	52
53	SPARE		20 A	1					0.0 kVA	0.0 kVA	1	20 A		SPARE	54
55	SPARE		20 A	1	0.0 kVA	0.0 kVA					1	20 A		SPARE	56
57	SPARE		20 A	1			0.0 kVA	0.0 kVA			1	20 A		SPARE	58
59	SPARE		20 A	1					0.0 kVA	0.0 kVA	1	20 A		SPARE	60
				Total Load:	6.4 kVA		6.4 kVA		5.3 kVA						
				Total Amps:	24 A		24 A		19 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	15.5 kVA	125.00%	19.4 kVA		
Receptacle	0.0 kVA	0.00%	0.0 kVA	**Total Conn. Load:**	16.9 kVA
Motor	0.0 kVA	0.00%	0.0 kVA	**Total Est. Demand:**	20.75 kVA
Heating	0.0 kVA	0.00%	0.0 kVA	**Total Conn. Current:**	20 A
Cooling	0.0 kVA	0.00%	0.0 kVA	**Total Est. Demand Current:**	25 A
Other	1.4 kVA	100.00%	1.4 kVA		
Elevator	0.0 kVA	0.00%	0.0 kVA		
Spare	0.0 kVA	0.00%	0.0 kVA		
Electric Clothes Dryer	0.0 kVA	0.00%	0.0 kVA		
Kitchen Equipment	0.0 kVA	0.00%	0.0 kVA		

Notes:

Branch Panel: CR1A

Location: MAIN ELECTRICAL...
Supply From: T-CR1A
Mounting: Surface
Enclosure: Type 1
Volts: 120/208 Wye
Phases: 3
Wires: 4
A.I.C. Rating: 10,000
Mains Type: MCB
Mains Rating: 250 A
MCB Rating: 250 A
Neutral Rating: 100.00%

Notes:

CKT	Circuit Description	Note	Trip	Pole	A		B		C		Pole	Trip	Note	Circuit Description	CKT
1	Recept. - SE Perimeter Bench		20 A	1	0.6 kVA	0.8 kVA					1	20 A		Recept. - SW Perimeter Bench	2
3	Recept.-East Perimeter Bench		20 A	1			0.6 kVA	0.4 kVA			1	20 A		Recept.-East Perimeter Bench	4
5	Recept. - Elevator Pit		20 A	1					0.2 kVA	0.8 kVA	1	20 A		Floor Box-Main Assembly 2.112	6
7	Recept.-NW Perimeter Bench		20 A	1	0.8 kVA	0.8 kVA					1	20 A		Floor Box-Main Assembly 2.112	8
9	Floor Box-Main Assembly 2.112		20 A	1			0.8 kVA	0.4 kVA			1	20 A		Recept.-East Perimeter Bench	10
11	Floor Box-Main Assembly 2.112		20 A	1					0.8 kVA	0.6 kVA	1	20 A		Recept.-NE Perimeter Bench	12
13	Door Controls Prefunction Area 2.101		20 A	1	1.0 kVA	0.1 kVA					1	20 A		Dampers	14
15	Motorized Screen Reservation Office 2.121		20 A	1			0.5 kVA	0.6 kVA			1	20 A		Recept.-Alcove 2.107, Corr. 2.108	16
17	Hand Dryer-Men 2.119	2	20 A	1					1.8 kVA	0.9 kVA	1	20 A		Recept.-Jan. 2.110	18
19	FACP Main Electrical Equipment 2.104	1	20 A	1	0.1 kVA	0.6 kVA					1	20 A		Recept.-Storage 2.105	20
21	Receptacle Main Electrical Equipment 2.104		20 A	1			0.4 kVA	0.6 kVA			1	20 A		Recept.-Storage 2.105	22
23	Hand Dryer-Women 2.118	2	20 A	1					0.5 kVA	0.8 kVA	1	20 A		Recept.-Women 2.118, Men 2.119	24
25	Receptacle Setup Office 2.124		20 A	1	0.8 kVA	0.2 kVA					1	20 A		EWC-Alcove 2.117	26
27	Receptacle Setup Office 2.124		20 A	1			0.8 kVA	0.6 kVA			1	20 A		Recept.-Toilet 2.116, Jan. 2.120	28
29	Receptacle Manager Office 2.122		20 A	1					1.0 kVA	0.2 kVA	1	20 A	2	U/C Fridge-Dressing Room 2.115	30
31	Receptacle Room 2.121, 2.122		20 A	1	0.8 kVA	0.4 kVA					1	20 A		Recept.-Dressing Room 2.115	32
33	Receptacle Reservation Office 2.121		20 A	1			0.8 kVA	0.4 kVA			1	20 A		Recept.-Dressing Room 2.115	34
35	Projector - Main Assembly 2.112		20 A	1					0.4 kVA	0.6 kVA	1	20 A		Recept.-Dressing Room 2.115	36
37	Projector - Main Assembly 2.112		20 A	1	0.4 kVA	0.5 kVA					1	20 A		DDC Panel - Main Elec Rm	38
39	Recept. Elev Pit Sump		20 A	1			0.2 kVA	0.5 kVA			1	20 A		DDC Panel - Main Elec Rm	40
41	LCP-C1		20 A	1					0.5 kVA	0.0 kVA	1	20 A		SPARE	42
43	SPARE		20 A	1	0.0 kVA	0.0 kVA					1	20 A		SPARE	44
45	SPARE		20 A	1			0.0 kVA	0.0 kVA			1	20 A		SPARE	46
47	SPARE		20 A	1					0.0 kVA	0.0 kVA	1	20 A		SPARE	48
49	SPARE		20 A	1	0.0 kVA	0.0 kVA					1	20 A		SPARE	50
51	SPARE		20 A	1			0.0 kVA	0.0 kVA			1	20 A		SPARE	52
53	SPARE		20 A	1					0.0 kVA	0.0 kVA	1	20 A		SPARE	54
55	SPARE		20 A	1	0.0 kVA	0.0 kVA					1	20 A		SPARE	56
57	SPARE		20 A	1			0.0 kVA	0.0 kVA			1	20 A		SPARE	58
59	SPARE		20 A	1					0.0 kVA	0.0 kVA	1	20 A		SPARE	60
61	SPACE ONLY	--	--	--	0.0 kVA	0.0 kVA					--	--	--	SPACE ONLY	62
63	SPACE ONLY	--	--	--			0.0 kVA	0.0 kVA			--	--	--	SPACE ONLY	64
65	SPACE ONLY	--	--	--					0.0 kVA	0.0 kVA	--	--	--	SPACE ONLY	66
67	SPACE ONLY	--	--	--	0.0 kVA	0.0 kVA					--	--	--	SPACE ONLY	68
69	SPACE ONLY	--	--	--			0.0 kVA	0.0 kVA			--	--	--	SPACE ONLY	70
71	SPACE ONLY	--	--	--					0.0 kVA	0.0 kVA	--	--	--	SPACE ONLY	72
73	SPACE ONLY	--	--	--	0.0 kVA	0.0 kVA					--	--	--	SPACE ONLY	74
75	SPACE ONLY	--	--	--			0.0 kVA	0.0 kVA			--	--	--	SPACE ONLY	76
77	SPACE ONLY	--	--	--					0.0 kVA	0.0 kVA	--	--	--	SPACE ONLY	78
79	SPACE ONLY	--	--	--	0.0 kVA	0.0 kVA					--	--	--	SPACE ONLY	80
81	SPACE ONLY	--	--	--			0.0 kVA	0.0 kVA			--	--	--	SPACE ONLY	82
83	SPACE ONLY	--	--	--					0.0 kVA	0.0 kVA	--	--	--	SPACE ONLY	84
				Total Load:	7.9 kVA		7.6 kVA		9.1 kVA						
				Total Amps:	66 A		63 A		76 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	0.0 kVA	0.00%	0.0 kVA		
Receptacle	18.6 kVA	76.88%	14.3 kVA	**Total Conn. Load:**	24.1 kVA
Motor	0.1 kVA	125.00%	0.1 kVA	**Total Est. Demand:**	19.78 kVA
Heating	0.0 kVA	0.00%	0.0 kVA	**Total Conn. Current:**	67 A
Cooling	0.0 kVA	0.00%	0.0 kVA	**Total Est. Demand Current:**	55 A
Other	5.4 kVA	100.00%	5.4 kVA		
Elevator	0.0 kVA	0.00%	0.0 kVA		
Spare	0.0 kVA	0.00%	0.0 kVA		
Electric Clothes Dryer	0.0 kVA	0.00%	0.0 kVA		
Kitchen Equipment	0.0 kVA	0.00%	0.0 kVA		

Notes: 1. PROVIDE RED, LOCKABLE CIRCUIT BREAKER. 2. PROVIDE LOCKABLE CIRCUIT BREAKER.

CM1	CR1B	MDB
SL1	CL1	CR1A

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PANEL SCHEDULES

PROJ. NO. E-16078.00
DRAWN KW
SHEET E811

Branch Panel: CK2

Location: STORAGE 2.204
Supply From: CK1
Mounting: Surface
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 22,000
Mains Type: MLO
Mains Rating: 250 A
MCB Rating:
Neutral Rating: 100.00%

Notes: PANEL FED FROM PANEL CK1 VIA FEED THRU LUGS.

CKT	Circuit Description	Not e	Trip	Pole	A	B	C	Pole	Trip	Not e	Circuit Description	CKT
1	Receptacle - Storage		20 A	1	0.4 kVA 0.2 kVA			1	20 A		Receptacle - Storage	2
3	Receptacle Kitchen Service 2.203		20 A	1		0.4 kVA 0.2 kVA		1	20 A		Receptacle Kitchen Service 2.203	4
5	Receptacle Kitchen Service 2.203		20 A	1			0.4 kVA 0.3 kVA	2	20 A		34-Ventless Hood	6
7	35-Heated holding cabinet		20 A	1	1.3 kVA 0.3 kVA							8
9	37-Refrigerator, Reach-in two section		20 A	1		1.1 kVA 2.4 kVA		2	30 A		40-Convection oven, electric	10
11	42-Ice maker w/o bin		25 A	1			2.3 kVA 2.4 kVA					12
13	SPARE		20 A	1	0.0 kVA 0.0 kVA			1	20 A		SPARE	14
15	SPARE		20 A	1		0.0 kVA 0.0 kVA		1	20 A		SPARE	16
17	SPARE		20 A	1			0.0 kVA 0.0 kVA	1	20 A		SPARE	18
19	SPARE		20 A	1	0.0 kVA 0.0 kVA			1	20 A		SPARE	20
21	SPARE		20 A	1		0.0 kVA 0.0 kVA		1	20 A		SPARE	22
23	SPARE		20 A	1			0.0 kVA 0.0 kVA	1	20 A		SPARE	24
25	SPARE		20 A	1	0.0 kVA 0.0 kVA			1	20 A		SPARE	26
27	SPARE		20 A	1		0.0 kVA 0.0 kVA		1	20 A		SPARE	28
29	SPARE		20 A	1			0.0 kVA 0.0 kVA	1	20 A		SPARE	30
31	SPACE ONLY	--	--	--	0.0 kVA 0.0 kVA			--	--	--	SPACE ONLY	32
33	SPACE ONLY	--	--	--		0.0 kVA 0.0 kVA		--	--	--	SPACE ONLY	34
35	SPACE ONLY	--	--	--			0.0 kVA 0.0 kVA	--	--	--	SPACE ONLY	36
37	SPACE ONLY	--	--	--	0.0 kVA 0.0 kVA			--	--	--	SPACE ONLY	38
39	SPACE ONLY	--	--	--		0.0 kVA 0.0 kVA		--	--	--	SPACE ONLY	40
41	SPACE ONLY	--	--	--			0.0 kVA 0.0 kVA	--	--	--	SPACE ONLY	42
				Total Load:	2.2 kVA	4.1 kVA	5.4 kVA					
				Total Amps:	18 A	36 A	47 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	0.0 kVA	0.00%	0.0 kVA		
Receptacle	9.4 kVA	100.00%	9.4 kVA	**Total Conn. Load:**	11.7 kVA
Motor	0.0 kVA	0.00%	0.0 kVA	**Total Est. Demand:**	11.68 kVA
Heating	0.0 kVA	0.00%	0.0 kVA	**Total Conn. Current:**	32 A
Cooling	0.0 kVA	0.00%	0.0 kVA	**Total Est. Demand Current:**	32 A
Other	2.3 kVA	100.00%	2.3 kVA		
Elevator	0.0 kVA	0.00%	0.0 kVA		
Spare	0.0 kVA	0.00%	0.0 kVA		
Electric Clothes Dryer	0.0 kVA	0.00%	0.0 kVA		
Kitchen Equipment	0.0 kVA	0.00%	0.0 kVA		

Notes:

Branch Panel: CM2

Location: STORAGE 2.204
Supply From: MSB
Mounting: Surface
Enclosure: Type 1

Volts: 480/277 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 65,000
Mains Type: MCB
Mains Rating: 400 A
MCB Rating: 400 A
Neutral Rating: 100.00%

Notes:

CKT	Circuit Description	Not e	Trip	Pole	A	B	C	Pole	Trip	Not e	Circuit Description	CKT
1	SPACE ONLY	--	--	--	0.0 kVA 1.7 kVA							2
3	SPACE ONLY	--	--	--		0.0 kVA 1.7 kVA		3	20 A		CTU-5-1	4
5	SPACE ONLY	--	--	--			0.0 kVA 1.7 kVA					6
7					3.4 kVA 3.5 kVA							8
9	PTU-5-4		20 A	3		2.8 kVA 4.6 kVA		3	25 A		PTU-5-5	10
11							2.8 kVA 3.5 kVA					12
13					2.3 kVA 3.0 kVA			1	20 A		VTU-5-8,-9	14
15	PTU-5-6		20 A	3		2.3 kVA 0.0 kVA		--	--	--	SPACE ONLY	16
17							2.9 kVA 0.0 kVA	--	--	--	SPACE ONLY	18
19					12.3 kVA 0.0 kVA			--	--	--	SPACE ONLY	20
21	RTU-6		60 A	3		12.3 kVA 25.5 kVA						22
23							12.3 kVA 25.5 kVA	3	125 A		RTU-5	24
25					12.3 kVA 25.5 kVA							26
27	RTU-7		60 A	3		12.3 kVA 0.0 kVA		--	--	--	SPACE ONLY	28
29							12.3 kVA 0.0 kVA	--	--	--	SPACE ONLY	30
31	SPACE ONLY	--	--	--	0.0 kVA 0.0 kVA			--	--	--	SPACE ONLY	32
33	SPACE ONLY	--	--	--		0.0 kVA 0.0 kVA		--	--	--	SPACE ONLY	34
35	SPACE ONLY	--	--	--			0.0 kVA 0.0 kVA	--	--	--	SPACE ONLY	36
37	SPACE ONLY	--	--	--	0.0 kVA 0.0 kVA			--	--	--	SPACE ONLY	38
39	SPACE ONLY	--	--	--		0.0 kVA 0.0 kVA		3	30 A		Surge Protection Device	40
41	SPACE ONLY	--	--	--			0.0 kVA 0.0 kVA					42
				Total Load:	64.0 kVA	61.5 kVA	61.0 kVA					
				Total Amps:	231 A	222 A	220 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	0.0 kVA	0.00%	0.0 kVA		
Receptacle	0.0 kVA	0.00%	0.0 kVA	**Total Conn. Load:**	186.6 kVA
Motor	76.5 kVA	125.00%	95.7 kVA	**Total Est. Demand:**	205.71 kVA
Heating	110.1 kVA	100.00%	110.1 kVA	**Total Conn. Current:**	224 A
Cooling	0.0 kVA	0.00%	0.0 kVA	**Total Est. Demand Current:**	247 A
Other	0.0 kVA	0.00%	0.0 kVA		
Elevator	0.0 kVA	0.00%	0.0 kVA		
Spare	0.0 kVA	0.00%	0.0 kVA		
Electric Clothes Dryer	0.0 kVA	0.00%	0.0 kVA		
Kitchen Equipment	0.0 kVA	0.00%	0.0 kVA		

Notes:

Branch Panel: CK1

Location: KITCHEN 2.109
Supply From: T-CK1
Mounting: Flush
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 22,000
Mains Type: MCB
Mains Rating: 250 A
MCB Rating: 250 A
Neutral Rating: 100.00%

Notes:

CKT	Circuit Description	Not e	Trip	Pole	A	B	C	Pole	Trip	Not e	Circuit Description	CKT
1	Kitchen Equipment - Non-dwelling Unit Kitchen...		20 A	1	0.2 kVA 0.5 kVA			1	20 A		22-Ventilator control panel	2
3	Kitchen Equipment - Non-dwelling Unit Kitchen...		20 A	1		0.4 kVA 0.0 kVA		1	20 A		Circuit 2 - Shunt-trip	4
5	Kitchen Equipment - Non-dwelling Unit Kitchen...		20 A	1			0.4 kVA 5.3 kVA	2	70 A		20-Electric convection oven	6
7	1-Heated holding cabinet		20 A	1	1.3 kVA 5.3 kVA							8
9	Ceiling Receptacle Kitchen 2.109		20 A	1		0.2 kVA 0.0 kVA		1	20 A		Circuit 6,8 - Shunt-trip	10
11	Kitchen Equipment - Non-dwelling Unit Kitchen...		20 A	1			0.4 kVA 0.5 kVA	1	20 A		Kitchen hood lights	12
13	17-Reach-in refrigerator		20 A	1	1.3 kVA 0.0 kVA			1	20 A		Circuit 12 - Shunt-trip	14
15	17-Reach-in refrigerator		20 A	1		1.3 kVA 0.5 kVA		1	20 A		Exhaust hood with make-up air	16
17	18-Freezer, Reach-in		20 A	1			1.0 kVA 0.0 kVA	1	20 A		Circuit 16 - shunt-trip	18
19	Kitchen Equipment - Non-dwelling Unit Kitchen...		20 A	1	0.2 kVA 0.1 kVA			2	20 A		24-Counter top electric fryer	20
21	Ceiling Receptacle Kitchen 2.109		20 A	1		0.2 kVA 0.1 kVA						22
23	Ceiling Receptacle Kitchen 2.109		20 A	1			0.2 kVA 0.0 kVA	1	20 A		Circuit 20,22 - Shunt-trip	24
25	1-Heated holding cabinet		20 A	1	1.3 kVA 1.0 kVA			1	20 A		32-Banquet cabinet, mobile, heated	26
27	Ceiling Receptacle Kitchen 2.109		20 A	1		0.2 kVA 1.0 kVA		1	20 A		32-Banquet cabinet, mobile, heated	28
29	7-Ice maker w/o bin		25 A	2			2.1 kVA 0.1 kVA	2	20 A		Receptacle Kitchen 2.109	30
31					2.1 kVA 0.1 kVA							32
33	SPARE		20 A	1		0.0 kVA 0.0 kVA		1	20 A		SPARE	34
35	SPARE		20 A	1			0.0 kVA 0.0 kVA	1	20 A		SPARE	36
37	SPARE		20 A	1	0.0 kVA 0.0 kVA			1	20 A		SPARE	38
39	SPARE		20 A	1		0.0 kVA 0.0 kVA		1	20 A		SPARE	40
41	SPARE		20 A	1			0.0 kVA 0.0 kVA	1	20 A		SPARE	42
43	SPARE		20 A	1				1	20 A		SPARE	44
45	SPARE		20 A	1				1	20 A		SPARE	46
47	SPARE		20 A	1				1	20 A		SPARE	48
49	SPARE		20 A	1				1	20 A		SPARE	50
51	PANEL CK2	1	250 A	3				1	20 A		SPARE	52
53								1	20 A		SPARE	54
				Total Load:	15.6 kVA	8.0 kVA	15.4 kVA					
				Total Amps:	140 A	67 A	138 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	0.0 kVA	0.00%	0.0 kVA		
Receptacle	18.9 kVA	76.53%	14.4 kVA	**Total Conn. Load:**	39.0 kVA
Motor	0.0 kVA	0.00%	0.0 kVA	**Total Est. Demand:**	34.03 kVA
Heating	0.0 kVA	0.00%	0.0 kVA	**Total Conn. Current:**	108 A
Cooling	0.0 kVA	0.00%	0.0 kVA	**Total Est. Demand Current:**	94 A
Other	18.6 kVA	100.00%	18.6 kVA		
Elevator	0.0 kVA	0.00%	0.0 kVA		
Spare	0.0 kVA	0.00%	0.0 kVA		
Electric Clothes Dryer	0.0 kVA	0.00%	0.0 kVA		
Kitchen Equipment	1.6 kVA	65.00%	1.0 kVA		

Notes: 1. CIRCUIT BREAKER NOT REQURIED; PROVIDE FEED-THRU LUGS TO FEED PANELBOARD CK2.

Branch Panel: CR2B

Location: STORAGE 2.204
Supply From: T-CR1B
Mounting: Surface
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 10,000
Mains Type: MCB
Mains Rating: 250 A
MCB Rating: 150 A
Neutral Rating: 100.00%

Notes: PROVIDE SINGLE TUB, 84 CIRCUIT PANELBOARD.

CKT	Circuit Description	Not e	Trip	Pole	A	B	C	Pole	Trip	Not e	Circuit Description	CKT
1	SSCU-3 / SSAC-3		15 A	2	0.9 kVA 1.6 kVA			2	25 A		SSCU-2 / SSAC-2	2
3						0.9 kVA 1.6 kVA						4
5	EF-7		20 A	2			0.2 kVA 0.6 kVA	1	20 A		Floor Box - Exterior	6
7					0.2 kVA 0.4 kVA			1	20 A		Floor Box - Exterior	8
9	SSCU-1 / SSAC-1		25 A	2		1.6 kVA 0.4 kVA		1	20 A		Floor Box - Exterior	10
11							1.6 kVA 0.4 kVA	1	20 A		Floor Box - Exterior	12
13	Recept.-Women 2.205, Men 2.207		20 A	1	0.8 kVA 0.4 kVA			1	20 A		Recept.-AV Storage 2.213	14
15	Hand Dryer-Women 2.205	1	20 A	1		0.5 kVA 0.4 kVA		1	20 A		Recept.-JR Ballroom 2.212	16
17	Hand Dryer-Men 2.207	1	20 A	1			0.5 kVA 0.4 kVA	1	20 A		Floor Box-JR. Ballroom 2.212	18
19	Hand Dryer-Women 2.205	1	20 A	1	0.5 kVA 0.4 kVA			1	20 A		Floor Box-JR. Ballroom 2.212	20
21	Hand Dryer-Men 2.207	1	20 A	1		0.5 kVA 0.4 kVA		1	20 A		Floor Box-JR. Ballroom 2.212	22
23	EWC-Corridor 2.202		20 A	1			0.2 kVA 0.4 kVA	1	20 A		Floor Box-JR. Ballroom 2.212	24
25	Recept.-Vest. 2.201, Corr. 2.202/2.208/2.211		20 A	1	0.8 kVA 0.6 kVA			1	20 A		Projector/Screen-JR. Ballroom 2.212	26
27	Recept.-Jan. 2.206, Dressing Room 2.209, Toilet...		20 A	1		0.6 kVA 0.5 kVA		1	20 A		EF-8	28
29	UIC Fridge-Dressing Room 2.209		20 A	1			0.2 kVA 0.2 kVA	1	20 A		Motorized Shades - Jr. Ballroom 2.212	30
31	Recept.-Dressing Room 2.209		20 A	1	0.4 kVA 0.2 kVA			1	20 A		Motorized Shades - Jr. Ballroom 2.212	32
33	Recept.-Dressing Room 2.209		20 A	1		1.0 kVA 1.0 kVA		1	20 A		Receptacle Storage 2.204	34
35	Recept.-Exterior		20 A	1			0.4 kVA 0.2 kVA	1	20 A		Door Power-Corridor 2.202	36
37	Recept.-RTU Service		20 A	1	0.6 kVA 0.2 kVA			1	20 A		Fire/Smoke Dampers	38
39	EF-9		20 A	2		1.3 kVA 0.0 kVA		1	20 A		SPARE	40
41							1.3 kVA 0.0 kVA	1	20 A		SPARE	42
43	EF-10		20 A	2	0.5 kVA 0.0 kVA			1	20 A		SPARE	44
45						0.5 kVA 0.0 kVA		1	20 A		SPARE	46
47							1.4 kVA 0.0 kVA	1	20 A		SPARE	48
49	MAU-1		20 A	3	1.4 kVA 0.0 kVA			1	20 A		SPARE	50
51						1.4 kVA 0.0 kVA		1	20 A		SPARE	52
53	SPARE		20 A	1			0.0 kVA 0.0 kVA	--	--	--	SPACE ONLY	54
55	SPARE		20 A	1	0.0 kVA 0.0 kVA			--	--	--	SPACE ONLY	56
57	SPARE		20 A	1		0.0 kVA 0.0 kVA		--	--	--	SPACE ONLY	58
59	SPARE		20 A	1			0.0 kVA 0.0 kVA	--	--	--	SPACE ONLY	60
61	SPARE		20 A	1	0.0 kVA 0.0 kVA			--	--	--	SPACE ONLY	62
63	SPACE ONLY	--	--	--		0.0 kVA 0.0 kVA		--	--	--	SPACE ONLY	64
65	SPACE ONLY	--	--	--			0.0 kVA 0.0 kVA	--	--	--	SPACE ONLY	66
67	SPACE ONLY	--	--	--	0.0 kVA 0.0 kVA			--	--	--	SPACE ONLY	68
69	SPACE ONLY	--	--	--		0.0 kVA 0.0 kVA		--	--	--	SPACE ONLY	70
71	SPACE ONLY	--	--	--			0.0 kVA 0.0 kVA	--	--	--	SPACE ONLY	72
73	SPACE ONLY	--	--	--	0.0 kVA 0.0 kVA			--	--	--	SPACE ONLY	74
75	SPACE ONLY	--	--	--		0.0 kVA 0.0 kVA		--	--	--	SPACE ONLY	76
77	SPACE ONLY	--	--	--			0.0 kVA 0.0 kVA	--	--	--	SPACE ONLY	78
79	SPACE ONLY	--	--	--	0.0 kVA 0.0 kVA			--	--	--	SPACE ONLY	80
81	SPACE ONLY	--	--	--		0.0 kVA 0.0 kVA		--	--	--	SPACE ONLY	82
83	SPACE ONLY	--	--	--			0.0 kVA 0.0 kVA	--	--	--	SPACE ONLY	84
				Total Load:	9.9 kVA	12.6 kVA	8.0 kVA					
				Total Amps:	85 A	107 A	66 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	0.0 kVA	0.00%	0.0 kVA		
Receptacle	10.6 kVA	97.17%	10.3 kVA	**Total Conn. Load:**	30.4 kVA
Motor	8.9 kVA	111.75%	9.9 kVA	**Total Est. Demand:**	31.19 kVA
Heating	0.0 kVA	0.00%	0.0 kVA	**Total Conn. Current:**	84 A
Cooling	8.2 kVA	100.00%	8.2 kVA	**Total Est. Demand Current:**	87 A
Other	2.8 kVA	100.00%	2.8 kVA		
Elevator	0.0 kVA	0.00%	0.0 kVA		
Spare	0.0 kVA	0.00%	0.0 kVA		
Electric Clothes Dryer	0.0 kVA	0.00%	0.0 kVA		
Kitchen Equipment	0.0 kVA	0.00%	0.0 kVA		

Notes:

Branch Panel: CR1C

Location: MAIN ELECTRICAL...
Supply From: T-CR1C
Mounting: Surface
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 10,000
Mains Type: MCB
Mains Rating: 250 A
MCB Rating: 250 A
Neutral Rating: 100.00%

Notes:

CKT	Circuit Description	Not e	Trip	Pole	A	B	C	Pole	Trip	Not e	Circuit Description	CKT
1	Floor Receptacle - Exterior East		20 A	1	0.4 kVA 0.4 kVA			1	20 A		Floor Receptacle - Exterior West	2
3	Receptacle - Band Power Southeast Corner		20 A	1		0.4 kVA 4.8 kVA						4
5	Receptacle- South Lawn		20 A	1			0.2 kVA 4.8 kVA	3	60 A		Receptacle - Band Power Southeast Corner	6
7	Receptacle- South Lawn		20 A	1	0.2 kVA 4.8 kVA							8
9	Receptacle- South Lawn		20 A	1		0.2 kVA 4.8 kVA						10
11	Receptacle - Exterior North Porte Cochere		20 A	1			0.6 kVA 4.8 kVA	3	60 A		Receptacle - Band Power South Lawn	12
13	Receptacle - Exterior South Porte Cochere		20 A	1	0.4 kVA 4.8 kVA							14
15	Irrigation Controller		20 A	1		0.0 kVA 0.0 kVA		1	20 A		SPARE	16
17	SPARE		20 A	1			0.0 kVA 0.0 kVA	1	20 A		SPARE	18
19	SPARE		20 A	1	0.0 kVA 0.0 kVA			1	20 A		SPARE	20
21	SPARE		20 A	1		0.0 kVA 0.0 kVA		1	20 A		SPARE	22
23	SPARE		20 A	1			0.0 kVA 0.0 kVA	1	20 A		SPARE	24
25	SPARE		20 A	1	0.0 kVA 0.0 kVA			1	20 A		SPARE	26
27	SPARE		20 A	1		0.0 kVA 0.0 kVA		1	20 A		SPARE	28
29	SPARE		20 A	1			0.0 kVA 0.0 kVA	1	20 A		SPARE	30
31	SPACE ONLY	--	--	--	0.0 kVA 0.0 kVA			--	--	--	SPACE ONLY	32
33	SPACE ONLY	--	--	--		0.0 kVA 0.0 kVA		--	--	--	SPACE ONLY	34
35	SPACE ONLY	--	--	--			0.0 kVA 0.0 kVA	--	--	--	SPACE ONLY	36
37	SPACE ONLY	--	--	--	0.0 kVA 0.0 kVA			--	--	--	SPACE ONLY	38
39	SPACE ONLY	--	--	--		0.0 kVA 0.0 kVA		--	--	--	SPACE ONLY	40
41	SPACE ONLY	--	--	--			0.0 kVA 0.0 kVA	--	--	--	SPACE ONLY	42
				Total Load:	11.0 kVA	10.2 kVA	10.4 kVA					
				Total Amps:	92 A	85 A	87 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	0.0 kVA	0.00%	0.0 kVA		
Receptacle	31.6 kVA	65.82%	20.8 kVA	**Total Conn. Load:**	31.6 kVA
Motor	0.0 kVA	0.00%	0.0 kVA	**Total Est. Demand:**	20.80 kVA
Heating	0.0 kVA	0.00%	0.0 kVA	**Total Conn. Current:**	88 A
Cooling	0.0 kVA	0.00%	0.0 kVA	**Total Est. Demand Current:**	58 A
Other	0.0 kVA	0.00%	0.0 kVA		
Elevator	0.0 kVA	0.00%	0.0 kVA		
Spare	0.0 kVA	0.00%	0.0 kVA		
Electric Clothes Dryer	0.0 kVA	0.00%	0.0 kVA		
Kitchen Equipment	0.0 kVA	0.00%	0.0 kVA		

Notes:

CK2	CM2	CK1
---	CR2B	CR1C

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Hunton Brady ARCHITECTS
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DATE	SUBMISSION	NO
10.22.19	CONSTRUCTION DOCUMENTS	

PANEL SCHEDULES

PROJ. NO. E-16078.00 **SHEET**
DRAWN KW
E812

Branch Panel: LL1B

Location: ELECTRICAL EQUIPMENT...
Supply From: LDP
Mounting: Surface
Enclosure: Type 1
Volts: 480/277 Wye
Phases: 3
Wires: 4
A.I.C. Rating: 42,000
Mains Type: MCB
Mains Rating: 100 A
MCB Rating: 100 A
Neutral Rating: 100.00%

Notes:

CKT	Circuit Description	Note	Trip	Pole	A		B		C		Pole	Trip	Note	Circuit Description	CKT
1	Lighting-Stacks 1.134		20 A	1	0.1 kVA	0.2 kVA					1	20 A		Lighting-South Stacks	2
3	Lighting-East Stack		20 A	1			0.6 kVA	0.1 kVA			1	20 A		Lighting Alcove 1.136	4
5	Lighting-South Rooms		20 A	1					1.8 kVA	0.0 kVA	1	20 A		Lighting Stacks 1.129	6
7	Lighting-East Lib Commons		20 A	1	0.1 kVA	0.5 kVA					1	20 A		Lighting-East Lib Commons	8
9	Lighting-Meeting Rm		20 A	1			0.9 kVA	0.1 kVA			1	20 A		Lighting-Central Lib Commons	10
11	Lighting-Meeting Rm		20 A	1					0.5 kVA	0.1 kVA	1	20 A		Lighting-Meeting Rm	12
13	Lighting-Meeting Rm		20 A	1	0.1 kVA	0.2 kVA					1	20 A		Lighting-Meeting Rm	14
15	Lighting-Meeting Rm		20 A	1			0.1 kVA	0.5 kVA			1	20 A		Lighting - Handrail	16
17	Lighting - Handrail		20 A	1					0.5 kVA	1.1 kVA	1	20 A		Lighting Stacks 1.235	18
19	Lighting Stacks 1.228		20 A	1	1.5 kVA	0.3 kVA					1	20 A		Lighting Stacks 1.235	20
21	Lighting Stacks 1.228		20 A	1			1.5 kVA	0.6 kVA			1	20 A		Lighting Stacks 1.235	22
23	Lighting Stacks 1.222		20 A	1					1.5 kVA	0.3 kVA	1	20 A		Lighting Stacks 1.226	24
25	Lighting Stacks 1.222		20 A	1	0.4 kVA	0.3 kVA					1	20 A		Lighting Stacks 1.225	26
27	Lighting Mothers Room 1.239		20 A	1			2.6 kVA	0.1 kVA			1	20 A		Lighting Alcove 1.237	28
29	Lighting Emergent/Early Literacy Center 1.230		20 A	1					0.2 kVA	0.1 kVA	1	20 A		Lighting - Elevator Pit, Shaft	30
31	Lighting Room 1.002 - 1.007, 1.098		20 A	1	0.3 kVA	0.4 kVA					1	20 A		Lighting - Roof, Mechanical Room	32
33	Lcp-3		20 A	1			1.2 kVA	0.0 kVA			1	20 A		SPARE	34
35	Lighting Passageway 1.007		20 A	1					0.4 kVA	0.0 kVA	1	20 A		SPARE	36
37	SPARE		20 A	1	0.0 kVA	0.0 kVA					1	20 A		SPARE	38
39	SPARE		20 A	1			0.0 kVA	0.0 kVA			1	20 A		SPARE	40
41	SPARE		20 A	1					0.0 kVA	0.0 kVA	1	20 A		SPARE	42
				Total Load:	4.4 kVA		8.1 kVA		6.6 kVA						
				Total Amps:	16 A		31 A		25 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	18.0 kVA	125.00%	22.5 kVA		
Receptacle	0.0 kVA	0.00%	0.0 kVA	**Total Conn. Load:**	18.0 kVA
Motor	0.0 kVA	0.00%	0.0 kVA	**Total Est. Demand:**	22.49 kVA
Heating	0.0 kVA	0.00%	0.0 kVA	**Total Conn. Current:**	22 A
Cooling	0.0 kVA	0.00%	0.0 kVA	**Total Est. Demand Current:**	27 A
Other	0.0 kVA	0.00%	0.0 kVA		
Elevator	0.0 kVA	0.00%	0.0 kVA		
Spare	0.0 kVA	0.00%	0.0 kVA		
Electric Clothes Dryer	0.0 kVA	0.00%	0.0 kVA		
Kitchen Equipment	0.0 kVA	0.00%	0.0 kVA		

Notes:

Branch Panel: LL1A

Location: ELECTRICAL EQUIPMENT...
Supply From: LDP
Mounting: Surface
Enclosure: Type 1
Volts: 480/277 Wye
Phases: 3
Wires: 4
A.I.C. Rating: 42,000
Mains Type: MLO
Mains Rating: 100 A
Neutral Rating: 100.00%

Notes:

CKT	Circuit Description	Note	Trip	Pole	A		B		C		Pole	Trip	Note	Circuit Description	CKT
1	Lighting-Computer Lab		20 A	1	0.3 kVA	1.2 kVA					1	20 A		LCP-2 - Library North Elec Rm	2
3	Lighting-Computer Lab		20 A	1			0.2 kVA	1.1 kVA			1	20 A		Lighting Stacks 1.2121	4
5	Lighting-West Stacks		20 A	1					0.4 kVA	0.3 kVA	1	20 A		Lighting Stacks 1.212	6
7	Lighting-West Stacks		20 A	1	0.1 kVA	0.6 kVA					1	20 A		Lighting Stacks 1.212	8
9	Lighting-West Entry		20 A	1			0.1 kVA	0.2 kVA			1	20 A		Lighting-Maker Space	10
11	Lighting-North Rooms		20 A	1					1.9 kVA	1.5 kVA	1	20 A		Lighting Stacks 1.201	12
13	Lighting-West Lib Commons		20 A	1	0.5 kVA	0.4 kVA					1	20 A		Lighting Stacks 1.207	14
15	Lighting-Central Lib Commons		20 A	1			0.1 kVA	1.5 kVA			1	20 A		Lighting Stacks 1.207	16
17	Lighting-Maker Space		20 A	1					0.2 kVA	0.6 kVA	1	20 A		Lighting Stacks 1.202	18
19	Lighting Bookstore 1.115		20 A	1	0.1 kVA	0.3 kVA					1	20 A		Lighting Stacks 1.225	20
21	Lighting Bookstore 1.115		20 A	1			0.1 kVA	2.5 kVA			1	20 A		Lighting Toilet 1.214	22
23	Lighting-North Reading		20 A	1					0.2 kVA	0.1 kVA	1	20 A		Lighting Corridor 1.211	24
25	SPARE		20 A	1	0.0 kVA	0.0 kVA					1	20 A		SPARE	26
27	SPARE		20 A	1			0.0 kVA	0.0 kVA			1	20 A		SPARE	28
29	SPARE		20 A	1					0.0 kVA	0.0 kVA	1	20 A		SPARE	30
31	SPARE		20 A	1	0.0 kVA	0.0 kVA					--	--	--	SPACE ONLY	32
33	SPARE		20 A	1			0.0 kVA	0.0 kVA			--	--	--	SPACE ONLY	34
35	SPARE		20 A	1					0.0 kVA	0.0 kVA	--	--	--	SPACE ONLY	36
37	SPACE ONLY	--	--	--	0.0 kVA	0.0 kVA					--	--	--	SPACE ONLY	38
39	SPACE ONLY	--	--	--			0.0 kVA	0.0 kVA			--	--	--	SPACE ONLY	40
41	SPACE ONLY	--	--	--					0.0 kVA	0.0 kVA	--	--	--	SPACE ONLY	42
				Total Load:	3.3 kVA		5.8 kVA		5.2 kVA						
				Total Amps:	12 A		22 A		20 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	13.2 kVA	125.00%	16.5 kVA		
Receptacle	0.0 kVA	0.00%	0.0 kVA	**Total Conn. Load:**	13.2 kVA
Motor	0.0 kVA	0.00%	0.0 kVA	**Total Est. Demand:**	16.49 kVA
Heating	0.0 kVA	0.00%	0.0 kVA	**Total Conn. Current:**	16 A
Cooling	0.0 kVA	0.00%	0.0 kVA	**Total Est. Demand Current:**	20 A
Other	0.0 kVA	0.00%	0.0 kVA		
Elevator	0.0 kVA	0.00%	0.0 kVA		
Spare	0.0 kVA	0.00%	0.0 kVA		
Electric Clothes Dryer	0.0 kVA	0.00%	0.0 kVA		
Kitchen Equipment	0.0 kVA	0.00%	0.0 kVA		

Notes:

Switchboard: LDP

Location: ELECTRICAL EQUIPMENT...
Supply From: MSB
Mounting:
Enclosure:
Volts: 480/277 Wye
Phases: 3
Wires: 4
A.I.C. Rating: 65,000
Mains Type: MCB
Mains Rating: 1200 A
MCB Rating: 1200 A
Neutral Rating: 100.00%

Notes:

CKT	Circuit Description	# of Poles	Trip Rating	Load	Remarks
1	PANEL - LM1	3	250 A	136.1 kVA	ELECTRONIC LSI TYPE CB
2	PANEL - LL1A	3	100 A	14.3 kVA	ELECTRONIC LSI TYPE CB
3	T-LR1A / PANEL - LR1A	3	125 A	74.1 kVA	ELECTRONIC LSI TYPE CB
4	T-LR1B / PANEL - LR1B	3	200 A	100.6 kVA	ELECTRONIC LSI TYPE CB
5	PANEL - LM2	3	400 A	135.1 kVA	ELECTRONIC LSI TYPE CB
6	SPARE	3	100 A	0.0 kVA	
7	SPARE	3	225 A	0.0 kVA	
8	SPARE	3	400 A	0.0 kVA	
9	Elevator Controller (25HP)	3	50 A	29.9 kVA	ELECTRONIC LSI TYPE CB
10	PANEL LL1B	3	100 A	19.1 kVA	
11	Surge Protection Device	3	60 A	0.0 kVA	
12	SPARE	3	225 A	0.0 kVA	
13	SPARE	3	100 A	0.0 kVA	
14	400A FULLY PREPARED SPACE	--	--	0.0 kVA	--
15	225A FULLY PREPARED SPACE	--	--	0.0 kVA	--
16	100A FULLY PREPARED SPACE	--	--	0.0 kVA	--
				507.0 kVA	
				610 A	

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting - Dwelling Unit	0.0 kVA	0.00%	0.0 kVA		
Receptacle	139.5 kVA	53.58%	74.7 kVA	**Total Conn. Load:**	507.0 kVA
Motor	90.2 kVA	113.11%	102.1 kVA	**Total Est. Demand:**	462.0 kVA
Heating	172.9 kVA	100.00%	172.9 kVA	**Total Conn. Current:**	610 A
Cooling	0.5 kVA	100.00%	0.5 kVA	**Total Est. Demand Current:**	556 A
Other	31.7 kVA	100.00%	31.7 kVA		
Elevator	38.6 kVA	98.88%	38.1 kVA		
Spare	0.0 kVA	0.00%	0.0 kVA		
Electric Clothes Dryer	0.0 kVA	0.00%	0.0 kVA		
Kitchen Equipment	0.0 kVA	0.00%	0.0 kVA		

Notes:

Branch Panel: LR1B

Location: ELECTRICAL EQUIPMENT...
Supply From: T-LR1B
Mounting: Surface
Enclosure: Type 1
Volts: 120/208 Wye
Phases: 3
Wires: 4
A.I.C. Rating: 10,000
Mains Type: MCB
Mains Rating: 250 A
MCB Rating: 250 A
Neutral Rating: 100.00%

Notes: PROVIDE DOUBLE TUB, 54 CIRCUIT PER SECTION, PANELBOARD.

CKT	Circuit Description	Note	Trip	Pole	A		B		C		Pole	Trip	Note	Circuit Description	CKT
1	Recept.-Corr. 1.002, LULA Mach. Rm. 1.004, Fire...		20 A	1	0.8 kVA	0.8 kVA					1	20 A		Recept.-East Perimeter Bench	2
3	Recept.-Green Room 1.003		20 A	1			0.8 kVA	0.4 kVA			1	20 A		Floor Box-Stacks 1.134	4
5	LULA Elevator Sump Pump		20 A	2					0.7 kVA	0.2 kVA	1	20 A		Floor Box-Reading 1.130	6
7					0.7 kVA	0.4 kVA					1	20 A		Floor Box-Stacks 1.129	8
9	Recept.-LULA Elevator Pit		20 A	1			0.2 kVA	0.8 kVA			1	20 A		Recept.-East Com. 1.127, Stacks 1.129&1.134,...	10
11	Door Power-Green Room 1.003		20 A	1					0.5 kVA	1.2 kVA	1	20 A		Plugmold-Stacks 1.134	12
13	AV Rack - Green Room 1.003		20 A	1	0.4 kVA	0.6 kVA					1	20 A		Recept.-Meeting Room 1.133	14
15	Security Gate - Corridor 1.002		20 A	1			0.5 kVA	0.6 kVA			1	20 A		Recept.-Meeting Room 1.133	16
17	Fire/Smoke Dampers		20 A	1					0.8 kVA	0.6 kVA	1	20 A		Recept.-Meeting Room 1.133	18
19	SPARE		20 A	1	0.0 kVA	0.6 kVA					1	20 A		Recept.-Meeting Room 1.133	20
21	SPARE		20 A	1			0.0 kVA	0.6 kVA			1	20 A		Recept.-Meeting Room 1.133	22
23	SPARE		20 A	1					0.0 kVA	0.6 kVA	1	20 A		Recept.-Meeting Room 1.133	24
25	SPARE		20 A	1	0.0 kVA	0.6 kVA					1	20 A		Recept.-Meeting Room 1.133	26
27	LULA Elevator Control Power		30 A	3			2.9 kVA	0.6 kVA			1	20 A		Recept.-Meeting Room 1.133	28
29									2.9 kVA	0.6 kVA	1	20 A		Recept.-Meeting Room 1.133	30
31					2.9 kVA	0.6 kVA					1	20 A		Recept.-Meeting Room 1.133	32
33	LULA Elevator Lighting Power		15 A	1			1.4 kVA	0.6 kVA			1	20 A		Recept.-Meeting Room 1.133	34
35	Recept.-West Perimeter Bench		20 A	1					1.0 kVA	0.6 kVA	1	20 A		Recept.-Meeting Room 1.133	36
37	Recept. - South Perimeter Bench		20 A	1	0.8 kVA	0.6 kVA					1	20 A		Recept.-Meeting Room 1.133	38
39	Floor Box-Stacks 1.138		20 A	1			0.4 kVA	0.2 kVA			1	20 A		Floor Box-Stage 1.001	40
41	Floor Box-Reading 1.135		20 A	1					0.2 kVA	0.2 kVA	1	20 A		Floor Box-Stage 1.001	42
43	Recept.-Stacks 1.134		20 A	1	0.4 kVA	0.2 kVA					1	20 A		Floor Box-Stage 1.001	44
45	Recept.-Stacks 1.134&1.138, Reading 1.135		20 A	1			1.0 kVA	0.4 kVA			1	20 A		Recept.-Stage 1.001	46
47	Plugmold-Private Carrel 1.103&1.104		20 A	1					1.0 kVA	0.6 kVA	1	20 A		Recept.-Meeting Room 1.133	48
49	Recept.-Private Carrel 1.103&1.104		20 A	1	0.8 kVA	0.6 kVA					1	20 A		Recept.-Meeting Room 1.133	50
51	Recept.-Men 1.141, Women 1.142		20 A	1			0.8 kVA	0.5 kVA			1	20 A		Door Power-East Entry 1.128, Archives 1.132	52
53	Hand Dryer-Women 1.142	1	20 A	1					0.5 kVA	0.4 kVA	1	20 A		Floor Box-Memory Lab 1.131, Archives 1.132	54
55	Hand Dryer-Women 1.142	1	20 A	1	0.5 kVA	0.8 kVA					1	20 A		Recept.-Memory Lab 1.131, Archives 1.132	56
57	Hand Dryer-Men 1.141	1	20 A	1			0.5 kVA	1.2 kVA			1	20 A		Plugmold-Memory Lab 1.131	58
59	Hand Dryer-Men 1.141	1	20 A	1					0.5 kVA	1.0 kVA	1	20 A		Acoustic Banners-Meeting Room 1.133	60
61	EWC-Alcove 1.139		20 A	1	0.2 kVA	0.4 kVA					1	20 A		Projector-Meeting Room 1.133	62
63								0.0 kVA			1	20 A		SPARE	64
65	Recept.-Janitor 1.140		20 A	1					0.5 kVA	0.0 kVA	1	20 A		SPARE	66
67	Door Power-West Entry 1.101, Reading 1.135		20 A	1	1.0 kVA	0.0 kVA					1	20 A		SPARE	68
69	Floor Receptacle - Exterior East		20 A	1			0.4 kVA	0.0 kVA			1	20 A		SPARE	70
71	Floor Receptacle - Exterior East		20 A	1					0.4 kVA	0.0 kVA	1	20 A		SPARE	72
73	Floor Receptacle - Exterior West		20 A	1	0.4 kVA	0.0 kVA					1	20 A		SPARE	74
75	Floor Receptacle - Exterior West		20 A	1			0.4 kVA	0.0 kVA			1	20 A		SPARE	76
77	SPARE		20 A	1					0.0 kVA	0.0 kVA	1	20 A		SPARE	78
79	SPARE		20 A	1	0.0 kVA	0.0 kVA					1	20 A		SPARE	80
81	SPARE		20 A	1			0.0 kVA	0.0 kVA			1	20 A		SPARE	82
83	SPARE		20 A	1					0.0 kVA	0.0 kVA	1	20 A		SPARE	84
85	SPARE		20 A	1	0.0 kVA	0.0 kVA					1	20 A		SPARE	86
87	SPARE		20 A	1			0.0 kVA	0.0 kVA			1	20 A		SPARE	88
89	SPARE		20 A	1					0.0 kVA	0.0 kVA	1	20 A		SPARE	90
91	SPACE ONLY	--	--	--	0.0 kVA	0.0 kVA					--	--	--	SPACE ONLY	92
93	SPACE ONLY	--	--	--			0.0 kVA	0.0 kVA			--	--	--	SPACE ONLY	94
95	SPACE ONLY	--	--	--					0.0 kVA	0.0 kVA	--	--	--	SPACE ONLY	96
97	SPACE ONLY	--	--	--	0.0 kVA	0.0 kVA					--	--	--	SPACE ONLY	98
99	SPACE ONLY	--	--	--			0.0 kVA	0.0 kVA			--	--	--	SPACE ONLY	100
101	SPACE ONLY	--	--	--					0.0 kVA	0.0 kVA	--	--	--	SPACE ONLY	102
103	PANEL - LR2B		150 A	3	10.8 kVA	0.0 kVA					--	--	--	SPACE ONLY	104
105							9.2 kVA	0.0 kVA			--	--	--	SPACE ONLY	106
107									8.8 kVA	0.0 kVA	--	--	--	SPACE ONLY	108
				Total Load:	25.9 kVA		24.4 kVA		23.8 kVA						
				Total Amps:	216 A		204 A		199 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	1.4 kVA	125.00%	1.8 kVA		
Receptacle	49.7 kVA	60.06%	29.9 kVA	**Total Conn. Load:**	74.1 kVA
Motor	4.1 kVA	104.25%	4.3 kVA	**Total Est. Demand:**	54.78 kVA
Heating	0.0 kVA	0.00%	0.0 kVA	**Total Conn. Current:**	206 A
Cooling	0.0 kVA	0.00%	0.0 kVA	**Total Est. Demand Current:**	152 A
Other	10.2 kVA	100.00%	10.2 kVA		
Elevator	8.6 kVA	100.00%	8.6 kVA		
Spare	0.0 kVA	0.00%	0.0 kVA		
Electric Clothes Dryer	0.0 kVA	0.00%	0.0 kVA		
Kitchen Equipment	0.0 kVA	0.00%	0.0 kVA		

Notes: 1. PROVIDE LOCKABLE CIRCUIT BREAKER.

Branch Panel: LR1A

Location: ELECTRICAL EQUIPMENT...
Supply From: T-LR1A
Mounting: Surface
Enclosure: Type 1
Volts: 120/208 Wye
Phases: 3
Wires: 4
A.I.C. Rating: 10,000
Mains Type: MCB
Mains Rating: 250 A
MCB Rating: 250 A
Neutral Rating: 100.00%

Notes:

CKT	Circuit Description	Note	Trip	Pole	A		B		C		Pole	Trip	Note	Circuit Description	CKT
1	Recept.-West Perimeter Bench		20 A	1	1.0 kVA	0.8 kVA					1	20 A		Receptacle Stacks 1.117	2
3	Recept. - North Perimeter Bench		20 A	1			0.8 kVA	0.4 kVA			1	20 A		Floor Box-Bookstore 1.115	4
5	Floor Box-Stacks 1.107		20 A	1					0.4 kVA	0.2 kVA	1	20 A		Floor Box-Reading 1.116	6
7	Floor Box-Reading 1.112		20 A	1	0.2 kVA	0.4 kVA					1	20 A		Floor Box-Stacks 1.117	8
9	Floor Box-Bookstore 1.115		20 A	1			0.4 kVA	1.0 kVA			1	20 A		Recept.-Reading 1.116, Stacks 1.117	10
11	Recept.-Stacks 1.107, Reading 1.112		20 A	1					0.8 kVA	1.2 kVA	1	20 A		Floor Box-Library Staff/Storage 1.118	12
13	Other		20 A	1	0.5 kVA	0.8 kVA					1	20 A		Recept.-Lib Staff/Stor. 1.118, Maker Space 1.121,...	14
15	Receptacle Electrical Equipment 1.111		20 A	1			0.4 kVA	0.7 kVA			1	20 A		Plugmold-Library Staff/Storage 1.118	16
17	Hand Dryer-Family Toilet 1.113	1	20 A	1					0.5 kVA	0.6 kVA	1	20 A		Recept.-Handling 1.119, Elev. Mach. Rm. 1.120	18
19	Receptacle Recording Studio 1.110		20 A	1	1.1 kVA	1.2 kVA					1	20 A		Plug Mold - Computer Lab 1.122	20
21	Plugmold-Private Carrel 1.105&1.106		20 A	1			1.0 kVA	1.0 kVA			1	20 A		Plug Mold - Maker Space 1.121	22
23	Recept.-Private Carrel 1.105&1.106		20 A	1					0.8 kVA	0.8 kVA	1	20 A		Floor Box - Computer Lab 1.122	24
25	Floor Box - Business Center & Support 1.108		20 A	1	1.6 kVA	1.2 kVA					1	20 A		Floor Box - Computer Lab 1.122	26
27	Recept. - Business Center & Support 1.108		20 A	1			0.4 kVA	0.8 kVA			1	20 A		Floor Box - Maker Space 1.121	28
29	Recept. - Printer Business Center & Support 1.108		20 A	1					0.2 kVA	0.8 kVA	1	20 A		Floor Box - Maker Space 1.121	30
31	Recept. - Business Center & Support 1.108		20 A	1	0.4 kVA	1.0 kVA					1	20 A		Plug Mold - Maker Space 1.121	32
33	Receptacle -Material Handler		40 A	3			3.8 kVA	1.0 kVA			1	20 A		Plug Mold - Computer Lab 1.122	34
35									3.8 kVA	1.5 kVA	1	20 A		Door Power-North Entry, Library Staff/Storage 1.118	36
37					3.8 kVA	0.7 kVA					2	20 A		Sump Pump - Library Elev. Pit	38
39	Receptacle Electrical Equipment 1.111		20 A	1			0.2 kVA	0.7 kVA							40
41	FACP-L Electrical Equipment 1.111	2	20 A	1					0.1 kVA	0.2 kVA	1	20 A		Recept. - Library Elev Pit	42
43	Elevator Cab Lights Elevator Machine Room 1.120		20 A	1	1.0 kVA	0.4 kVA					1	20 A		Receptacle Telecom Equipment 1.123	44
45	Receptacle Telecom Equipment 1.123		20 A	1			0.4 kVA	0.4 kVA			1	20 A		Receptacle Telecom Equipment 1.123	46
47	Receptacle Telecom Equipment 1.123		20 A	1					0.4 kVA	0.4 kVA	1	20 A		Receptacle Telecom Equipment 1.123	48
49	Receptacle Telecom Equipment 1.123		20 A	1	0.4 kVA	2.0 kVA					2	30 A		Receptacle Telecom Equipment 1.123	50
51	Receptacle Telecom Equipment 1.123		30 A	2			2.0 kVA	2.0 kVA							52
53									2.0 kVA	0.8 kVA	1	20 A		Receptacle Bookstore 1.115	54
55	Receptacle East Library Commons 1.127		20 A	1	0.8 kVA	0.4 kVA					1	20 A		Receptacle Bookstore 1.115	56
57	Floor Box-East Library Commons 1.127		20 A	1			0.8 kVA	0.4 kVA			1	20 A		Receptacle Bookstore 1.115	58
59	TVs & Floor Box-East Entry 1.128		20 A	1					0.4 kVA	0.4 kVA	1	20 A		Receptacle Bookstore 1.115	60
61	TVs & Floor Box-East Entry 1.128		20 A	1	0.4 kVA	0.8 kVA					1	20 A		Floor Box-West Library Commons 1.102	62
63	TVs & Floor Box-East Entry 1.128		20 A	1			1.2 kVA	0.4 kVA			1	20 A		TVs & Floor Box-West Entry 1.101	64
65	Floor Box-East Entry 1.128		20 A	1					0.0 kVA	0.4 kVA	1	20 A		TVs & Floor Box-West Entry 1.101	66
67	SPARE		20 A	1	0.0 kVA	1.2 kVA					1	20 A		TVs & Floor Box-West Entry 1.101	68
69	SPARE		20 A	1			0.0 kVA	1.0 kVA			1	20 A		Floor Box-West Entry 1.101	70
71	SPARE		20 A	1					0.0 kVA	0.0 kVA	1	20 A		SPARE	72
73	SPARE		20 A	1	0.0 kVA	0.0 kVA					1	20 A		SPARE	74
75	SPARE		20 A	1			0.0 kVA	0.0 kVA			1	20 A		SPARE	76
77	SPARE		20 A	1					0.0 kVA	0.0 kVA	1	20 A		SPARE	78
79	PANEL - LR2A		150 A	3	14.2 kVA	0.0 kVA					1	20 A		SPARE	80
81							10.9 kVA	1.8 kVA			2	60 A		PANEL - ELR1 VIA ATS	82
83									12.2 kVA	1.4 kVA					84
				Total Load:	36.3 kVA		34.0 kVA		30.3 kVA						
				Total Amps:	307 A		288 A		252 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	1.0 kVA	125.00%	1.3 kVA		
Receptacle	89.8 kVA	55.57%	49.9 kVA	**Total Conn. Load:**	100.6 kVA
Motor	0.5 kVA	105.00%	0.5 kVA	**Total Est. Demand:**	60.97 kVA
Heating	0.0 kVA	0.00%	0.0 kVA	**Total Conn. Current:**	279 A
Cooling	0.0 kVA	0.00%	0.0 kVA	**Total Est. Demand Current:**	169 A
Other	9.3 kVA	100.00%	9.3 kVA		
Elevator	0.0 kVA	0.00%	0.0 kVA		
Spare	0.0 kVA	0.00%	0.0 kVA		
Electric Clothes Dryer	0.0 kVA	0.00%	0.0 kVA		
Kitchen Equipment	0.0 kVA	0.00%	0.0 kVA		

Notes: 1. PROVIDE LOCKABLE CIRCUIT BREAKER. 2. PROVIDE RED, LOCKABLE CIRCUIT BREAKER.

Branch Panel: LM1

Location: ELECTRICAL EQUIPMENT...
Supply From: LDP
Mounting: Surface
Enclosure: Type 1
Volts: 480/277 Wye
Phases: 3
Wires: 4
A.I.C. Rating: 65,000
Mains Type: MLO
Mains Rating: 250 A
Neutral Rating: 100.00%

Notes:

CKT	Circuit Description	Note	Trip	Pole	A		B		C		Pole	Trip	Note	Circuit Description	CKT
1	PTU-1-3		30 A	3	5.3 kVA	4.3 kVA					3	25 A		PTU-1-2	2
3							5.3 kVA	5.4 kVA							4
5									6.6 kVA	4.3 kVA					6
7	PTU-1-1		30 A	3	5.6 kVA	6.1 kVA					3	30 A		PTU-2-1	8
9							4.5 kVA	5.0 kVA							10
11									4.5 kVA	5.0 kVA					12
13	PTU-2-2		25 A	3	4.3 kVA	5.5 kVA					3	35 A		PTU-2-3	14
15							5.4 kVA	5.5 kVA							16
17									4.3 kVA	6.8 kVA					18
19	VTU-1-9,-10		20 A	1	4.0 kVA	12.0 kVA					1	60 A		EWH-1 (12KW) - Janitor 1.140	20
21	VTU-1-3,-7		20 A	1			1.5 kVA	3.3 kVA			1	15 A		UH-1	22
23	VTU-2-2		20 A	1					3.5 kVA	0.0 kVA	--	--	--	SPACE ONLY	24
25	CRAC-1		15 A	3	1.6 kVA	0.0 kVA					--	--	--	SPACE ONLY	26
27							1.6 kVA	4.0 kVA			1	20 A		VTU-1-1,-11	28
29									1.6 kVA	3.0 kVA	1	20 A		VTU-1-4,-6,-8	30
31	SPACE ONLY	--	--	--	0.0 kVA	2.0 kVA					1	20 A		VTU-2-3,-8	32
33	SPACE ONLY	--	--	--			0.0 kVA	3.5 kVA			1	20 A		VTU-2-5,-7	34
35	SPACE ONLY	--	--	--					0.0 kVA	0.2 kVA	1	20 A		VTU-2-4, -6 (No Heat)	36
37	SPACE ONLY	--	--	--	0.0 kVA	0.5 kVA					1	20 A		VTU-1-12 (No Heat)	38
39	SPACE ONLY	--	--	--			0.0 kVA	0.0 kVA			--	--	--	SPACE ONLY	40
41	SPACE ONLY	--	--	--					0.0 kVA	0.0 kVA	--	--	--	SPACE ONLY	42
				Total Load:	51.2 kVA		45.0 kVA		39.9 kVA						
				Total Amps:	188 A		165 A		144 A						

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	0.0 kVA	0.00%	0.0 kVA		
Receptacle	0.0 kVA	0.00%	0.0 kVA	**Total Conn. Load:**	136.1 kVA
Motor	0.0 kVA	0.00%	0.0 kVA	**Total Est. Demand:**	136.07 kVA
Heating	123.9 kVA	100.00%	123.9 kVA	**Total Conn. Current:**	164 A
Cooling	0.0 kVA	0.00%	0.0 kVA	**Total Est. Demand Current:**	164 A
Other	12.2 kVA	100.00%	12.2 kVA		
Elevator	0.0 kVA	0.00%	0.0 kVA		
Spare	0.0 kVA	0.00%	0.0 kVA		
Electric Clothes Dryer	0.0 kVA	0.00%	0.0 kVA		
Kitchen Equipment	0.0 kVA	0.00%	0.0 kVA		

Notes:

LL1B	LL1A	LDP
LR1B	LR1A	LM1

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LIBRARY AND EVENT CENTER

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DATE	SUBMISSION	NO
10.22.19	CONSTRUCTION DOCUMENTS	

PANEL SCHEDULES

PROJ. NO. E-16078.00
DRAWN KW
SHEET E813

Branch Panel: LR2B

Location: ELECTRICAL EQUIPMENT...
Supply From: LR1B
Mounting: Surface
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 10,000
Mains Type: MCB
Mains Rating: 225 A
MCB Rating: 150 A
Neutral Rating: 100.00%

Notes: PROVIDE SINGLE TUB, 60 CIRCUIT PANELBOARD.

CKT	Circuit Description	Note	Trip	Pole	A	B	C	Pole	Trip	Note	Circuit Description	CKT
1	EF-1		20 A	1	0.5 kVA 0.5 kVA			1	20 A		EF-2	2
3	EF-3		20 A	1		0.7 kVA 0.7 kVA		1	20 A		EF-4	4
5	EF-5		20 A	1			0.5 kVA 0.8 kVA	1	20 A		Receptacle Room 1.236, 1.235	6
7	EF-6		20 A	1	0.5 kVA 0.8 kVA			1	20 A		Receptacle Room 1.235, 1.228	8
9	SPARE		20 A	1		0.0 kVA 0.8 kVA		1	20 A		Receptacle Room 1.226, 1.202	10
11	SPARE		20 A	1			0.0 kVA 0.0 kVA	1	20 A		SPARE	12
13	SPARE		20 A	1	0.0 kVA 0.2 kVA			1	20 A		Receptacle Electrical Equipment 1.238	14
15	SPARE		20 A	1		0.0 kVA 0.0 kVA		1	20 A		SPARE	16
17	SPARE		20 A	1			0.0 kVA 0.8 kVA	1	20 A		Floor Box - Stacks 1.228	18
19	SPARE		20 A	1	0.0 kVA 0.8 kVA			1	20 A		Floor Box - Stacks 1.228	20
21	Recept. - Mothers Room 1.239, Janitor 1.241		20 A	1		0.8 kVA 0.8 kVA		1	20 A		Floor Box - Stacks 1.227	22
23	Recept. - UIC Fridge Mothers Room 1.239		20 A	1			0.2 kVA 0.8 kVA	1	20 A		Floor Box - Stacks 1.227	24
25	Recept. - Men 1.242, Women 1.243		20 A	1	0.8 kVA 0.8 kVA			1	20 A		Floor Box - Stacks 1.228	26
27	Hand Dryer-Men 1.242	1	20 A	1		0.5 kVA 0.4 kVA		1	20 A		AV Rack - Youth Storage 1.234	28
29	Hand Dryer-Women 1.243	1	20 A	1			0.5 kVA 0.6 kVA	1	20 A		Recept. - Collaboration Room 1.231	30
31	EWC - Alcove 1.240		20 A	1	0.2 kVA 0.8 kVA			1	20 A		Floor Box & TV - Collaboration Room 1.231	32
33	Hand Dryer-Women 1.243	1	20 A	1		0.5 kVA 0.6 kVA		1	20 A		Recept. - Collaboration Room 1.229	34
35	Hand Dryer-Men 1.242	1	20 A	1			0.5 kVA 0.8 kVA	1	20 A		Floor Box & TV - Collaboration Room 1.229	36
37	Plugmold-Private Carrel 1.203&1.204		20 A	1	1.0 kVA 0.8 kVA			1	20 A		Recept. - Emergent / Early Literacy Center 1.230	38
39	Recept.-Private Carrel 1.203&1.204		20 A	1		0.8 kVA 1.0 kVA		1	20 A		Plug Mold - Youth Stor. 1.234, Stacks 1.235	40
41	Floor Box - Stacks 1.202		20 A	1			0.4 kVA 0.5 kVA	1	20 A		Room Partition - Community Room 1.232	42
43	Motorized Dampers - SW 2nd Floor		20 A	1	0.5 kVA 0.9 kVA			1	20 A		Plug Mold - Stacks 1.225	44
45	SPARE		20 A	1		0.0 kVA 0.8 kVA		1	20 A		Floor Box - Community Room 1.232	46
47	SPARE		20 A	1			0.0 kVA 0.8 kVA	1	20 A		Floor Box - Community Room 1.232	48
49	SPARE		20 A	1	0.0 kVA 0.8 kVA			1	20 A		Floor Box - Community Room 1.232	50
51	SPARE		20 A	1		0.0 kVA 0.4 kVA		1	20 A		Recept. - Community Room 1.232	52
53	SPARE		20 A	1			0.0 kVA 0.8 kVA	1	20 A		Recept. - Imagination Room 1.233	54
55	SPARE		20 A	1	0.0 kVA 0.8 kVA			1	20 A		Projector - Community Room 1.232, Imagination...	56
57	SPARE		20 A	1		0.0 kVA 0.4 kVA		1	20 A		Floor Box - Stacks 1.226	58
59	SPARE		20 A	1			0.0 kVA 0.8 kVA	1	20 A		TV - Community Room 1.232	60
					Total Load: 10.8 kVA	9.2 kVA	8.8 kVA					
					Total Amps: 90 A	77 A	74 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	0.0 kVA	0.00%	0.0 kVA		
Receptacle	22.3 kVA	72.42%	16.2 kVA	**Total Conn. Load:**	28.8 kVA
Motor	4.0 kVA	104.35%	4.2 kVA	**Total Est. Demand:**	22.85 kVA
Heating	0.0 kVA	0.00%	0.0 kVA	**Total Conn. Current:**	80 A
Cooling	0.0 kVA	0.00%	0.0 kVA	**Total Est. Demand Current:**	63 A
Other	2.5 kVA	100.00%	2.5 kVA		
Elevator	0.0 kVA	0.00%	0.0 kVA		
Spare	0.0 kVA	0.00%	0.0 kVA		
Electric Clothes Dryer	0.0 kVA	0.00%	0.0 kVA		
Kitchen Equipment	0.0 kVA	0.00%	0.0 kVA		

Notes: 1. PROVIDE LOCKABLE CIRCUIT BREAKER.

Branch Panel: LR2A

Location: ELECTRICAL EQUIPMENT...
Supply From: LR1A
Mounting: Surface
Enclosure: Type 1

Volts: 120/208 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 10,000
Mains Type: MCB
Mains Rating: 225 A
MCB Rating: 150 A
Neutral Rating: 100.00%

Notes: PROVIDE SINGLE TUB, 60 CIRCUIT PANELBOARD.

CKT	Circuit Description	Note	Trip	Pole	A	B	C	Pole	Trip	Note	Circuit Description	CKT
1	Recept.-Private Carrel 1.205&1.206		20 A	1	0.8 kVA 1.0 kVA			1	20 A		Plug Mold-Stacks 1.212	2
3	Plugmold-Private Carrel 1.205&1.206		20 A	1		1.0 kVA 0.6 kVA		1	20 A		Recept.-Workstations 1.213	4
5	Motorized Dampers - NW 2nd Floor		20 A	1			0.5 kVA 0.6 kVA	1	20 A		Recept.-Workstations 1.213	6
7	Fridge - Staff Breakroom 1.209		20 A	1	0.6 kVA 0.8 kVA			1	20 A		Floor Box-Workstations 1.213	8
9	Fridge - Staff Breakroom 1.209		20 A	1		0.6 kVA 0.8 kVA		1	20 A		Floor Box-Workstations 1.213	10
11	Recept.-Staff Breakroom 1.209		20 A	1			0.6 kVA 0.8 kVA	1	20 A		Floor Box-Workstations 1.213	12
13	Recept.-Staff Breakroom 1.209		20 A	1	0.6 kVA 0.8 kVA			1	20 A		Floor Box-Workstations 1.213	14
15	Small App.-Staff Breakroom 1.209		20 A	1		0.5 kVA 0.8 kVA		1	20 A		Recept.-Business Manager 1.218	16
17	Small App-Staff Breakroom 1.209		20 A	1			0.5 kVA 0.8 kVA	1	20 A		Recept.-Development Director 1.219	18
19	Small App-Staff Breakroom 1.209		20 A	1	0.5 kVA 0.8 kVA			1	20 A		Recept.-Assistant Director 1.220	20
21	Small App-Staff Breakroom 1.209		20 A	1		0.5 kVA 0.2 kVA		1	20 A		Printer-Development Director 1.219	22
23	Disposal-Staff Breakroom 1.209		20 A	1			0.6 kVA 0.8 kVA	1	20 A		Recept.-Director 1.221	24
25	Recept.-Collaboration Room 1.210		20 A	1	0.6 kVA 0.4 kVA			1	20 A		Recept.-Washer/Dryer 1.217, Storage 1.223	26
27	Recept.-Collaboration Room 1.210		20 A	1		0.8 kVA 0.2 kVA		1	20 A		Washer-Washer / Dryer 1.217	28
29	Floor Box-Collaboration Room 1.210		20 A	1			0.4 kVA 2.3 kVA	2	30 A		Dryer-Washer / Dryer 1.217	30
31	Recept.-Teen Storage 1.208, Corr. 1.211, Toilet...		20 A	1	1.0 kVA 2.3 kVA							32
33	Hand Dryer-Toilet 1.214	1	20 A	1		0.5 kVA 0.2 kVA		1	20 A		Printer-Print Room 1.216	34
35	FATC-2L-Electrical Equipment 1.215	2	20 A	1			0.1 kVA 0.4 kVA	1	20 A		Recept.-Print Room 1.216	36
37	Floor Box-Workstations 1.213		20 A	1	0.4 kVA 0.4 kVA			1	20 A		Recept.-Print Room 1.216	38
39	Floor Box-Workstations 1.213		20 A	1		0.4 kVA 1.2 kVA		1	20 A		Recept. & TV-Teen / Tween Event Room 1.224	40
41	Dishwasher-Staff Breakroom 1.209		20 A	1			0.6 kVA 1.2 kVA	1	20 A		Recept. & TV-Teen / Tween Event Room 1.224	42
43	Receptacle Room 1.207, 1.212		20 A	1	0.8 kVA 0.4 kVA			1	20 A		Floor Box-Teen / Tween Event Room 1.224	44
45	Receptacle Room 1.222, 1.212		20 A	1		0.8 kVA 1.0 kVA		1	20 A		Acoustic Banners & Door Power	46
47	DDC Panel - 2nd Fl North Elec Rm		20 A	1			0.5 kVA 0.8 kVA	1	20 A		Floor Box-Stacks 1.222	48
49	AV Rack Teen / Tween Storage 1.208		20 A	1	0.4 kVA 0.8 kVA			1	20 A		Floor Box-Stacks 1.222	50
51	SPARE		20 A	1		0.0 kVA 0.8 kVA		1	20 A		Floor Box-Stacks 1.222	52
53	SPARE		20 A	1			0.0 kVA 0.8 kVA	1	20 A		Floor Box-Stacks 1.226	54
55	SPARE		20 A	1	0.0 kVA 0.8 kVA			1	20 A		Floor Box-Stacks 1.226	56
57	SPARE		20 A	1		0.0 kVA 0.0 kVA		1	20 A		SPARE	58
59	SPARE		20 A	1			0.0 kVA 0.0 kVA	1	20 A		SPARE	60
					Total Load: 14.2 kVA	10.9 kVA	12.2 kVA					
					Total Amps: 120 A	91 A	103 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	0.0 kVA	0.00%	0.0 kVA		
Receptacle	34.7 kVA	64.41%	22.4 kVA	**Total Conn. Load:**	37.3 kVA
Motor	0.5 kVA	105.00%	0.5 kVA	**Total Est. Demand:**	24.93 kVA
Heating	0.0 kVA	0.00%	0.0 kVA	**Total Conn. Current:**	103 A
Cooling	0.0 kVA	0.00%	0.0 kVA	**Total Est. Demand Current:**	69 A
Other	2.1 kVA	100.00%	2.1 kVA		
Elevator	0.0 kVA	0.00%	0.0 kVA		
Spare	0.0 kVA	0.00%	0.0 kVA		
Electric Clothes Dryer	0.0 kVA	0.00%	0.0 kVA		
Kitchen Equipment	0.0 kVA	0.00%	0.0 kVA		

Notes: 1. PROVIDE LOCKABLE CIRCUIT BREAKER. 2. PROVIDE RED, LOCKABLE CIRCUIT BREAKER.

Branch Panel: LM2

Location: ELECTRICAL EQUIPMENT...
Supply From: LDP
Mounting: Surface
Enclosure: Type 1

Volts: 480/277 Wye
Phases: 3
Wires: 4

A.I.C. Rating: 65,000
Mains Type: MLO
Mains Rating: 250 A
Neutral Rating: 100.00%

Notes:

CKT	Circuit Description	Note	Trip	Pole	A	B	C	Pole	Trip	Note	Circuit Description	CKT
1					15.8 kVA 12.8 kVA							2
3	RTU-3		90 A	3		15.8 kVA 12.8 kVA		3	70 A		RTU-4	4
5							15.8 kVA 12.8 kVA					6
7	VTU-3-1,-2,-14		20 A	1	2.5 kVA 4.0 kVA			1	20 A		VTU-3-17	8
9	VTU-5,-6,-10		20 A	1		2.5 kVA 4.0 kVA		1	20 A		VTU-3-3,-4	10
11	VTU-3-15		20 A	1			3.0 kVA 2.0 kVA	1	20 A		VTU-3-7,-8,-9	12
13	VTU-3-13		20 A	1	4.0 kVA 1.5 kVA							14
15	VTU-4-2,-9		20 A	1		2.0 kVA 1.5 kVA		3	20 A		VTU-4-8	16
17	VTU-4-1,-3		20 A	1			1.5 kVA 1.5 kVA					18
19	VTU-4-4,-6,-7		20 A	1	3.0 kVA 1.5 kVA							20
21	VTU-4-5,-12		20 A	1		3.5 kVA 1.5 kVA		3	20 A		VTU-4-10	22
23	VTU-4-11		20 A	1			4.0 kVA 1.5 kVA					24
25	VTU-3-11		20 A	1	3.0 kVA 0.2 kVA							26
27	VTU-3-16 (No Heat)		20 A	1		0.5 kVA 0.2 kVA		3	25 A		CRCU-1	28
29	VTU-4-13 (No Heat)		20 A	1			0.5 kVA 0.2 kVA					30
31	SPACE ONLY	--	--	--	0.0 kVA 0.0 kVA			--	--	--	SPACE ONLY	32
33	SPACE ONLY	--	--	--		0.0 kVA 0.0 kVA		--	--	--	SPACE ONLY	34
35	SPACE ONLY	--	--	--			0.0 kVA 0.0 kVA	--	--	--	SPACE ONLY	36
37	SPACE ONLY	--	--	--	0.0 kVA 0.0 kVA			--	--	--	SPACE ONLY	38
39	SPACE ONLY	--	--	--		0.0 kVA 0.0 kVA		--	--	--	SPACE ONLY	40
41	SPACE ONLY	--	--	--			0.0 kVA 0.0 kVA	--	--	--	SPACE ONLY	42
					Total Load: 48.2 kVA	44.2 kVA	42.7 kVA					
					Total Amps: 175 A	160 A	154 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	0.0 kVA	0.00%	0.0 kVA		
Receptacle	0.0 kVA	0.00%	0.0 kVA	**Total Conn. Load:**	135.1 kVA
Motor	85.6 kVA	113.82%	97.5 kVA	**Total Est. Demand:**	146.95 kVA
Heating	49.0 kVA	100.00%	49.0 kVA	**Total Conn. Current:**	163 A
Cooling	0.5 kVA	100.00%	0.5 kVA	**Total Est. Demand Current:**	177 A
Other	0.0 kVA	0.00%	0.0 kVA		
Elevator	0.0 kVA	0.00%	0.0 kVA		
Spare	0.0 kVA	0.00%	0.0 kVA		
Electric Clothes Dryer	0.0 kVA	0.00%	0.0 kVA		
Kitchen Equipment	0.0 kVA	0.00%	0.0 kVA		

Notes:

Branch Panel: ELR1

Location: ELECTRICAL EQUIPMENT...
Supply From: LR1A
Mounting: Surface
Enclosure: Type 1

Volts: 120/208 Single
Phases: 1
Wires: 3

A.I.C. Rating: 10,000
Mains Type: MCB
Mains Rating: 60 A
MCB Rating: 60 A
Neutral Rating: 100.00%

Notes:

CKT	Circuit Description	Note	Trip	Pole	A	B	Pole	Trip	Note	Circuit Description	CKT
1	SP-2 - Fire Riser 1.005		20 A	2	0.7 kVA 0.7 kVA		2	20 A		SP-2 - Fire Riser 1.005	2
3						0.7 kVA 0.7 kVA					4
5	Sump Pump Control Power-Fire Riser 1.005		20 A	1	0.4 kVA 0.0 kVA		--	--	--	SPACE ONLY	6
7	SPACE ONLY	--	--	--		0.0 kVA 0.0 kVA	--	--	--	SPACE ONLY	8
9	SPACE ONLY	--	--	--	0.0 kVA 0.0 kVA		--	--	--	SPACE ONLY	10
11	SPACE ONLY	--	--	--		0.0 kVA 0.0 kVA	--	--	--	SPACE ONLY	12
13	SPACE ONLY	--	--	--	0.0 kVA 0.0 kVA		--	--	--	SPACE ONLY	14
15	SPACE ONLY	--	--	--		0.0 kVA 0.0 kVA	--	--	--	SPACE ONLY	16
17	SPACE ONLY	--	--	--	0.0 kVA 0.0 kVA		--	--	--	SPACE ONLY	18
19	SPACE ONLY	--	--	--		0.0 kVA 0.0 kVA	--	--	--	SPACE ONLY	20
21	SPACE ONLY	--	--	--	0.0 kVA 0.0 kVA		--	--	--	SPACE ONLY	22
23	SPACE ONLY	--	--	--		0.0 kVA 0.0 kVA	--	--	--	SPACE ONLY	24
25	SPACE ONLY	--	--	--	0.0 kVA 0.0 kVA		--	--	--	SPACE ONLY	26
27	SPACE ONLY	--	--	--		0.0 kVA 0.0 kVA	--	--	--	SPACE ONLY	28
29	SPACE ONLY	--	--	--	0.0 kVA 0.0 kVA		--	--	--	SPACE ONLY	30
31	SPACE ONLY	--	--	--		0.0 kVA 0.0 kVA	--	--	--	SPACE ONLY	32
33	SPACE ONLY	--	--	--	0.0 kVA 0.0 kVA		--	--	--	SPACE ONLY	34
35	SPACE ONLY	--	--	--		0.0 kVA 0.0 kVA	--	--	--	SPACE ONLY	36
37	SPACE ONLY	--	--	--	0.0 kVA 0.0 kVA		--	--	--	SPACE ONLY	38
39	SPACE ONLY	--	--	--		0.0 kVA 0.0 kVA	--	--	--	SPACE ONLY	40
41	SPACE ONLY	--	--	--	0.0 kVA 0.0 kVA		--	--	--	SPACE ONLY	42
			Total Load:		1.8 kVA	1.4 kVA					
			Total Amps:		17 A	14 A					

Load Classification	Connected Load	Demand Factor	Estimated Demand	Panel Totals	
Lighting	0.0 kVA	0.00%	0.0 kVA		
Receptacle	0.0 kVA	0.00%	0.0 kVA	**Total Conn. Load:**	3.3 kVA
Motor	0.0 kVA	0.00%	0.0 kVA	**Total Est. Demand:**	3.26 kVA
Heating	0.0 kVA	0.00%	0.0 kVA	**Total Conn. Current:**	16 A
Cooling	0.0 kVA	0.00%	0.0 kVA	**Total Est. Demand Current:**	16 A
Other	3.3 kVA	100.00%	3.3 kVA		
Elevator	0.0 kVA	0.00%	0.0 kVA		
Spare	0.0 kVA	0.00%	0.0 kVA		
Electric Clothes Dryer	0.0 kVA	0.00%	0.0 kVA		
Kitchen Equipment	0.0 kVA	0.00%	0.0 kVA		

Notes:

LR2B	LR2A	LM2
		ELR1

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PANEL SCHEDULES

PROJ. NO. E-16078.00 **SHEET**
DRAWN KW
E814

DESIGN CRITERIA

ENTIRE SPACE (EXCEPT AS NOTED):

OCCUPANCY CLASSIFICATION:	LIGHT HAZARD
SYSTEM TYPE:	WET PIPE
DESIGN DENSITY:	.10 GPM/SQ.FT.
HYDRAULIC REMOTE AREA:	1,500 SQ. FT.
SPRINKLER ORIFICE SIZE:	1/2"
DURATION OF SUPPLY:	60 - 90 MIN.
MAX. COVERAGE/SPRINKLER HEAD:	225 SQ. FT. OR SPRINKLER LISTING
HOSE STREAM ALLOWANCE:	100 GPM

STORAGE, MECH./ELEC. ROOMS:

OCCUPANCY CLASSIFICATION:	ORDINARY HAZARD GROUP I
SYSTEM TYPE:	WET PIPE
DESIGN DENSITY:	.15 GPM/SQ.FT.
HYDRAULIC REMOTE AREA:	1,500 SQ. FT.
SPRINKLER ORIFICE SIZE:	1/2"
DURATION OF SUPPLY:	60 - 90 MIN.
MAX. COVERAGE/SPRINKLER HEAD:	130 SQ. FT. OR SPRINKLER LISTING
HOSE STREAM ALLOWANCE:	250 GPM

STANDPIPE:

SYSTEM DESCRIPTION:	NOT REQUIRED

REFERENCE PUBLICATIONS:

THE FOLLOWING PUBLICATIONS SHALL BE USED AS A REFERENCE FOR DESIGN OF THE FIRE SUPPRESSION SYSTEM ON THIS PROJECT.

1. FLORIDA FIRE PREVENTION CODE, SIXTH EDITION
2. NFPA 13, STANDARD FOR THE INSTALLATION OF SPRINKLER SYSTEMS, 2013 EDITION FOR FIRE PROTECTION, 2013 EDITION
3. NFPA 25, STANDARD FOR THE INSPECTION, TESTING, AND MAINTENANCE OF WATER-BASED FIRE PROTECTION SYSTEMS, 2014 EDITION

SPRINKLER TYPE CRITERIA:

SPRINKLERS IN PUBLIC SPACES TO BE CONCEALED (CUSTOM COLER COVERPLATE), AND SHALL BE RATED AT 165°F WITH A 5.6 K-FACTOR.

ALL SPRINKLERS IN OFFICES AND BACK OF HOUSE SPACES TO HAVE SEMI-RECESSED SPRINKLERS (CHROME FINISH), AND SHALL BE RATED AT 165°F WITH A 5.6 K-FACTOR.

ALL SPRINKLERS IN AREAS WITH NO CEILINGS TO HAVE BRASS UPRIGHT SPRINKLERS, AND SHALL BE RATED AT 165° F WITH A 5.6 K-FACTOR. PROVIDE SPRINKLER HEAD WITH GUARDS IN MECHANICAL/ELECTRICAL ROOMS.

FLORIDA ADMINISTRATIVE CODE CHAPTER 61G15-32 NOTES:

1. THE FIRE PROTECTION SYSTEM SCOPE OF WORK SHALL INCLUDE THE PREPARATION OF THE FIRE PROTECTION SYSTEM LAYOUT DOCUMENTS (WORKING PLANS). PROVIDE ALL EQUIPMENT, MATERIALS, COMPONENTS, ASSEMBLIES AND SUPPORT SYSTEMS REQUIRED, AS DESCRIBED, IN NFPA 13. THE FIRE PROTECTION CONTRACTOR SHALL CONDUCT A HYDRANT FLOW TEST AND PERFORM HYDRAULIC CALCULATIONS FOR PREPARATION OF THE FIRE PROTECTION SYSTEM LAYOUT DOCUMENTS (WORKING PLANS).
2. THE FIRE PROTECTION DESIGN, CALCULATIONS, INSTALLATION AND THE ACCEPTANCE TESTING OF THE FIRE PROTECTION SYSTEM SHALL BE IN ACCORDANCE WITH "DESIGN CRITERIA" AND ALL LOCAL CODES REQUIRED BY THE AUTHORITY HAVING JURISDICTION.
3. AREA OCCUPANCIES AND HAZARD CLASSIFICATIONS ARE LISTED IN THE DESIGN CRITERIA NOTE LOCATED ON THE CONTRACT DOCUMENTS.
4. THE STRUCTURAL SUPPORTS AND OPENINGS FOR THE FIRE PROTECTION SYSTEM HAVE BEEN COORDINATED WITH THE STRUCTURAL ENGINEER.
5. ALL SYSTEM CONTROL VALVES SHALL BE PROVIDED WITH TAMPER SWITCHES AND INTERFACE WITH THE FACP ON THE SUPERVISORY CIRCUIT, ALL FLOW SWITCHES SHALL INTERFACE WITH THE FACP ON THE ALARM CIRCUIT.
6. THE FIRE PROTECTION CONTRACTOR SHALL PREPARE AND PROVIDE FIRE PROTECTION SYSTEM LAYOUT DOCUMENTS WITH HYDRAULIC CALCULATIONS. FIRE PROTECTION SYSTEM LAYOUT DOCUMENTS WITH HYDRAULIC CALCULATIONS SHALL BE SUBMITTED TO THE ARCHITECT/ENGINEER AND THE LOCAL AHJ FOR ACCEPTANCE PRIOR TO PERMITTING.
7. ALL FIRE PROTECTION EQUIPMENT AND COMPONENTS SHALL BE LISTED AND TESTED FOR FIRE PROTECTION USE. ALL FIRE PROTECTION EQUIPMENT AND COMPONENTS SHALL BE THE U.L. LISTED AND FM APPROVED.
8. THE WATER SUPPLY FOR THE FIRE PROTECTION SYSTEM HAS NOT SHOWN ANY EVIDENCE OF MICROBIAL INDUCED CORROSION (MIC). THE FIRE PROTECTION CONTRACTOR SHALL NOTIFY THE ARCHITECT/ENGINEER OF ANY EVIDENCE OF MIC AND PROVIDE NECESSARY WATER TREATMENT AS NEED TO REDUCE OR ELMINATE MIC.

FIRE PROTECTION GENERAL NOTES

1. FIRE PROTECTION DESIGN SHALL COMPLY WITH NFPA 13, 14, 20, 24. THE FLORIDA FIRE PREVENTION CODE AND ALL APPLICABLE LOCAL CODES. REFER TO DESIGN CRITERIA REFERENCE PUBLICATIONS SECTION ON THIS SHEET.
2. FINAL INSPECTION AND APPROVAL BY LOCAL FIRE MARSHAL AND ARCHITECT/ENGINEER.
3. THE FIRE PROTECTION SYSTEMS SHOWN REPRESENT THE DESIGN INTENT OF THE ENGINEER. IN ACCORDANCE WITH STATE REGULATION 61G15-32, IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COORDINATE INSTALLATION WITH ALL OTHER TRADES. SUBMIT COMPLETE SPRINKLER SYSTEM LAYOUT DRAWINGS WITH ANY ADDITIONAL OFFSETS, SPRINKLERS OR SYSTEM COMPONENTS AS REQUIRED FOR A COMPLETE AND OPERABLE SYSTEM AND TO AVOID CONFLICTS WITH OTHER TRADES.
4. SPRINKLER SHOP DRAWINGS AND MATERIAL CUT SHEETS SHALL BE SUBMITTED TO THE ARCHITECT AND LOCAL FIRE MARSHAL FOR APPROVAL PRIOR TO ANY INSTALLATION.
5. PIPE ROUTING SHOWN IS SCHEMATIC ONLY. PROVIDE ALL ADDITIONAL OFFSETS REQUIRED FOR PROPER INSTALLATION AND COORDINATION WITH OTHER TRADES.
6. INSTALL PIPING IN AREAS WITH EXPOSED STRUCTURE AS HIGH AS POSSIBLE TO ALLOW THE OWNER MAXIMUM USE OF THE SPACE.
7. REFER TO ARCHITECTURAL REFLECTED CEILING PLANS FOR CEILING DESCRIPTIONS AND HEIGHTS.
8. COORDINATE SPRINKLERS WITH ALL DIFFUSERS, SPEAKERS, LIGHTING FIXTURES AND LISTING OF THE SPRINKLER.
9. CENTER SPRINKLERS IN THE CENTER OF CEILING TILE. PROVIDE ARMOVER OR SWING JOINT AS REQUIRED.
10. SPRINKLERS IN AREAS WITH EXPOSED STRUCTURE (OBSTRUCTED CONSTRUCTION) SHALL BE INSTALLED WITH DEFLECTOR 1" BELOW THE BOTTOM OF THE BEAM (MAXIMUM 22" BELOW ROOF DECK). EXPOSED BAR JOISTS THAT HAVE SPRAY-ON FIRE PROOFING THAT MAKES THE JOIST SOLID SHALL BE TREATED LIKE A BEAM WITH THE SPRINKLERS 1" BELOW THE BOTTOM OF THE FIRE PROOFING.
11. SLEEVE AND/OR FIRESTOP ALL PENETRATIONS THROUGH RATED WALLS, CEILINGS, AND FLOORS WITH UL LISTED ASSEMBLIES. PROVIDE FIRESTOP ASSEMBLIES EQUAL TO OR EXCEEDING THE RATING OF THE WALL, CEILING OR FLOOR. SEE ARCHITECTURAL DRAWINGS FOR RATINGS.
12. FURNISH ACCESS PANELS TO ALL VALVES ABOVE NON-ACCESSIBLE CEILINGS AND CHASES, FOR INSTALLATION BY GENERAL CONTRACTOR.
13. PROVIDE A PERMANENTLY ATTACHED NAME TAG TO THE RISER STATING THE REQUIRED DESIGN CRITERIA FOR EACH HYDRAULICALLY-DESIGNED SYSTEM.
14. PROVIDE SPRINKLERS UNDERNEATH ALL EXPOSED DUCTWORK WHICH IS OVER 48" WIDE AND SPACE HEADS AROUND ALL OBSTRUCTIONS IN ACCORDANCE WITH NFPA 13. HEADS UNDER DUCTS ARE NOT INDICATED ON THE DRAWINGS BUT ARE REQUIRED. PROVIDE IN ACCORDANCE WITH NFPA 13. COORDINATE SPRINKLER LOCATIONS UNDER DUCTWORK AND AROUND OBSTRUCTIONS WITH FINAL INSTALLED LOCATIONS.
15. PROVIDE SPRINKLERS AT THE TOP AND BOTTOM OF ALL STAIRWELLS.
16. PROVIDE SPRINKLER GUARDS ON ALL HEADS IN ELECTRIC ROOMS, TELEPHONE ROOMS, ELEVATOR ROOMS, ELEVATOR SHAFTS, STORAGE ROOMS, UTILITY ROOMS AND ON ANY HEADS LESS THAN 7'-0" ABOVE THE FLOOR.
17. PROVIDE HANGERS ON END HEADS IN PENDANT POSITION WITHIN 12" OF END OF LINE, IN ACCORDANCE WITH NFPA 13, WHEN SYSTEM PRESSURE EXCEEDS 100 PSI.
18. COORDINATE PIPING WITH ALL ELECTRICAL EQUIPMENT (PANELS, TRANSFORMERS, ETC.) PRIOR TO ANY INSTALLATION. DO NOT ROUTE ANY PIPING OVER ANY ELECTRICAL PANELS UNDER ANY CIRCUMSTANCES. REROUTE ANY PIPING RUN OVER ELECTRICAL EQUIPMENT.
19. PROVIDE 20-GAUGE STEEL SPRINKLER CANOPY SHIELD AT SPRINKLERS IN TRASH CHUTE PER NFPA #13.
20. PROVIDE INTERMEDIATE TEMPERATURE (200°F) SPRINKLERS IN ELEVATOR SHAFTS AND EQUIPMENT ROOMS PER NFPA 13.
21. INSULATE AND PROVIDE ALUMINUM JACKETING ON ALL WET BULK SUPPLY MAINS AND HOSE SUPPLY MAINS EXPOSED TO THE WEATHER.
22. ALL DRAIN AND DRY PIPE SYSTEM PIPING AND FITTINGS SHALL BE GALVANIZED BOTH INSIDE AND OUTSIDE.
23. PROVIDE TAMPER SWITCHES ON ALL CONTROL VALVES.
24. SLOPE ALL PIPING TO THE SYSTEM MAIN DRAIN AS REQUIRED TO INSURE PROPER DRAINAGE. INSTALL ADDITIONAL DRAINS AND PLUGS WHERE REQUIRED TO COMPLY WITH THE ABOVE REFERENCED CODES.
25. PROVIDE ROLL GROOVED OR CUT GROOVED COUPLINGS AND FITTINGS FROM A SINGLE MANUFACTURER.
26. THIS BUILDINGS STRUCTURAL SYSTEM HAS BEEN DESIGNED TO SUPPORT THE ADDITIONAL WEIGHT ASSOCIATED WITH THE SPRINKLER SYSTEM.
27. PAINT ALL SPRINKLER PIPING INSTALLED BELOW THE CEILINGS AND IN EXPOSED LOCATIONS. CLEAN, PRIME AND PAINT ALL EXPOSED PIPING RED, UNLESS OTHERWISE NOTED. COORDINATE ALL COLORS WITH THE ARCHITECT.
28. COORDINATE HANGER LOCATIONS WITH THE BUILDING STRUCTURE. SUPPORT PIPING IN ACCORDANCE WITH NFPA 13. PROVIDE ALL MISCELLANEOUS STEEL FRAMING AS REQUIRED TO SUPPORT PIPING. PROVIDE GALVANIZED OR COATED HANGERS AND RODS.
29. PROVIDE A TEMPORARY STANDPIPE SYSTEM WITH FIRE DEPARTMENT CONNECTIONS DURING CONSTRUCTION.

FIRE PROTECTION DRAWING INDEX

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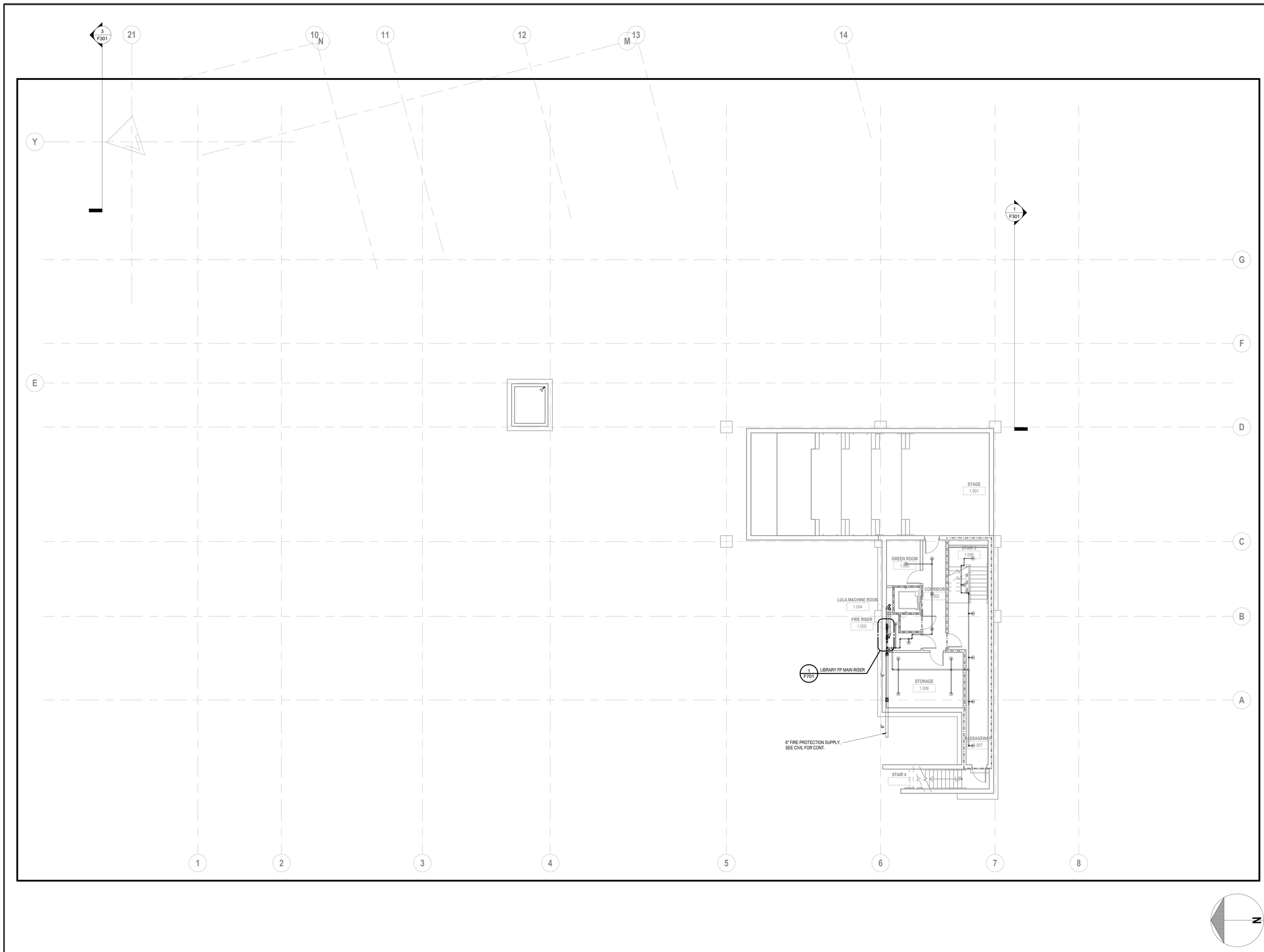
FIRE PROTECTION SYMBOLS, LEGEND, NOTES AND INDEX

PROJ. NO. E - 16078.00 SHEET
DRAWN DEP

F001



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FIRE PROTECTION PLAN - BASEMENT LEVEL - AREA 1 - LIBRARY

PROJ. NO. E - 16078.00
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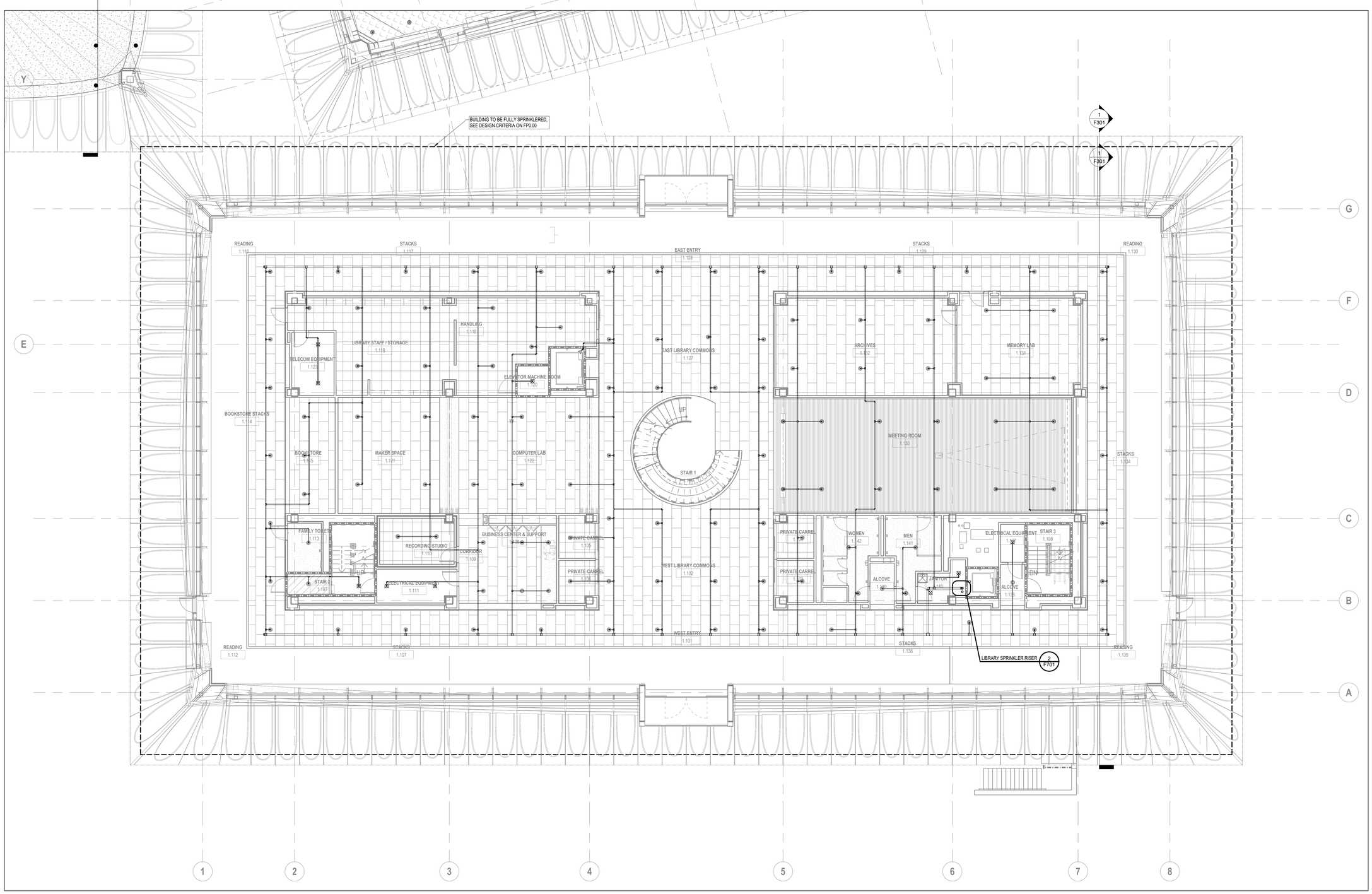
SHEET **F101**

A1 | **FIRE PROTECTION PLAN - BASEMENT LEVEL - AREA 1 - LIBRARY**
1/8" = 1'-0"



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FIRE PROTECTION PLAN - 1ST LEVEL - AREA 1 - LIBRARY

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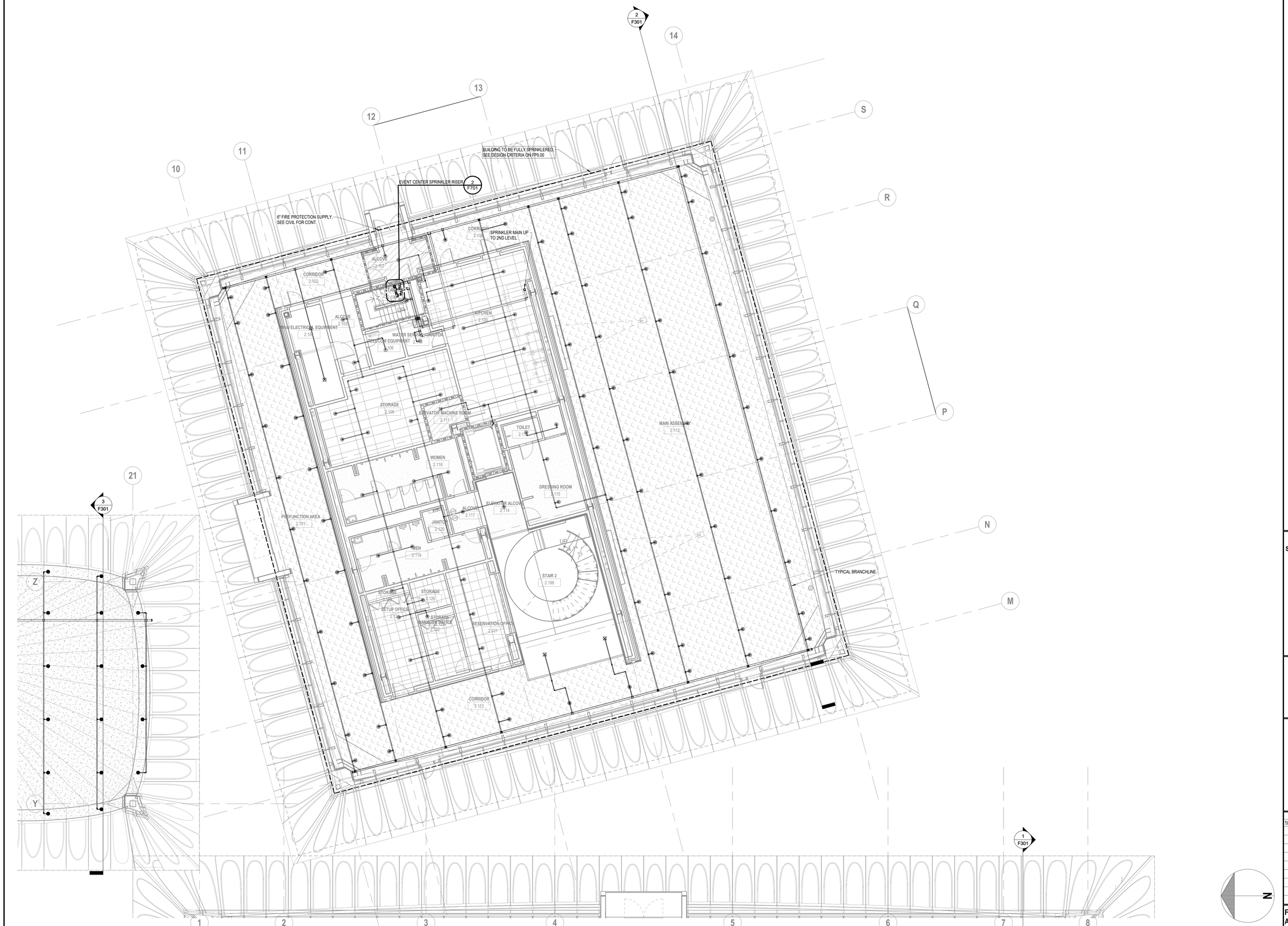
F111

A1 — **FIRE PROTECTION PLAN - 1ST LEVEL - AREA 1 - LIBRARY**
1/8" = 1'-0"



A1

1/8" = 1'-0"

FIRE PROTECTION PLAN - 1ST LEVEL - AREA 2 - EVENTS CENTER

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CITY OF WINTER PARK

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Hunton Brady ARCHITECTS

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FIRE PROTECTION PLAN - 1ST LEVEL - AREA 2 - EVENTS CENTER

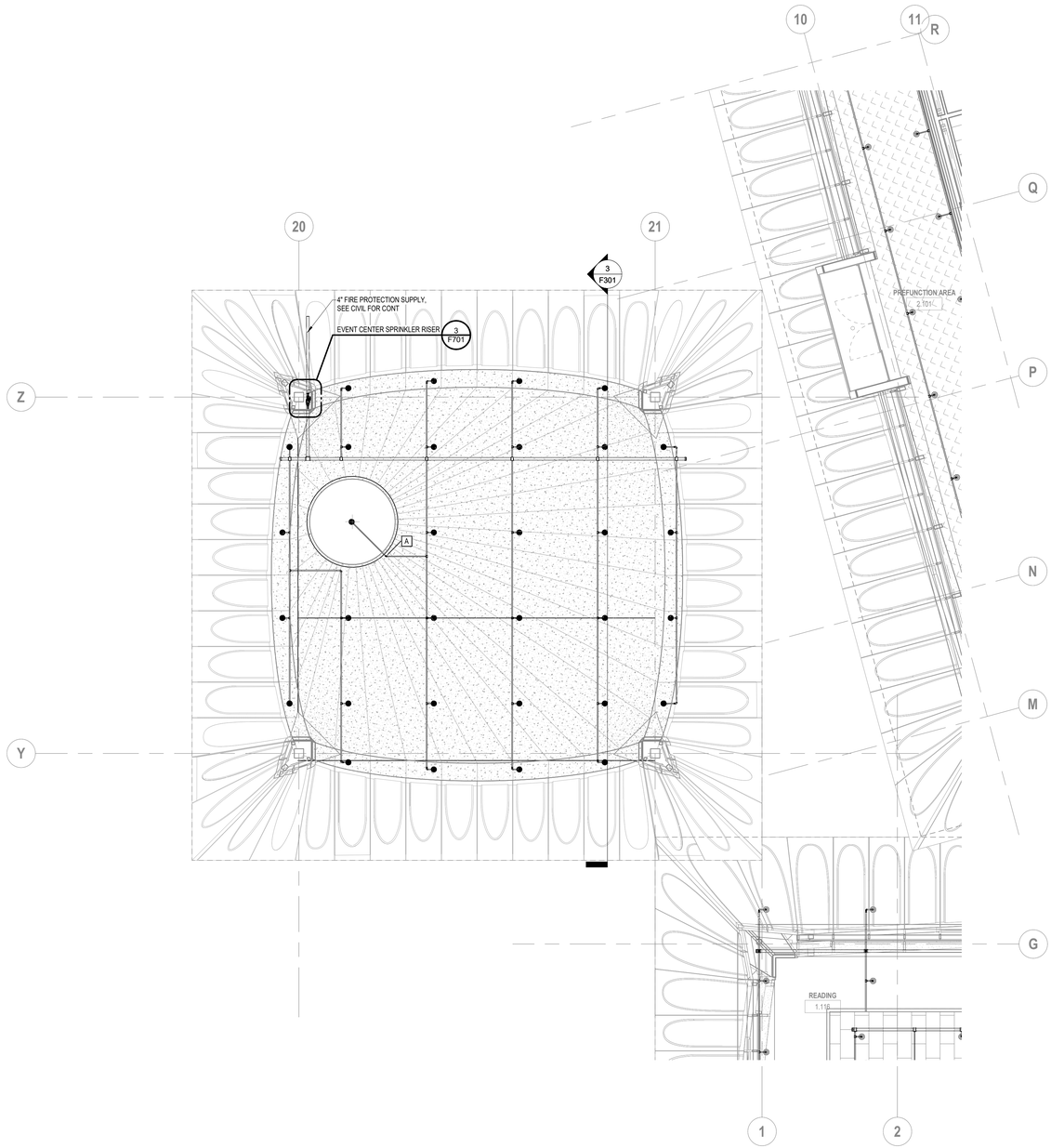
PROJ. NO. E - 16078.00 SHEET

DRAWN DEP

F112

FLOOR PLAN NOTES

A ROUTE BRANCHLINE BEHIND COLUMN TO SPRINKLER ABOVE.



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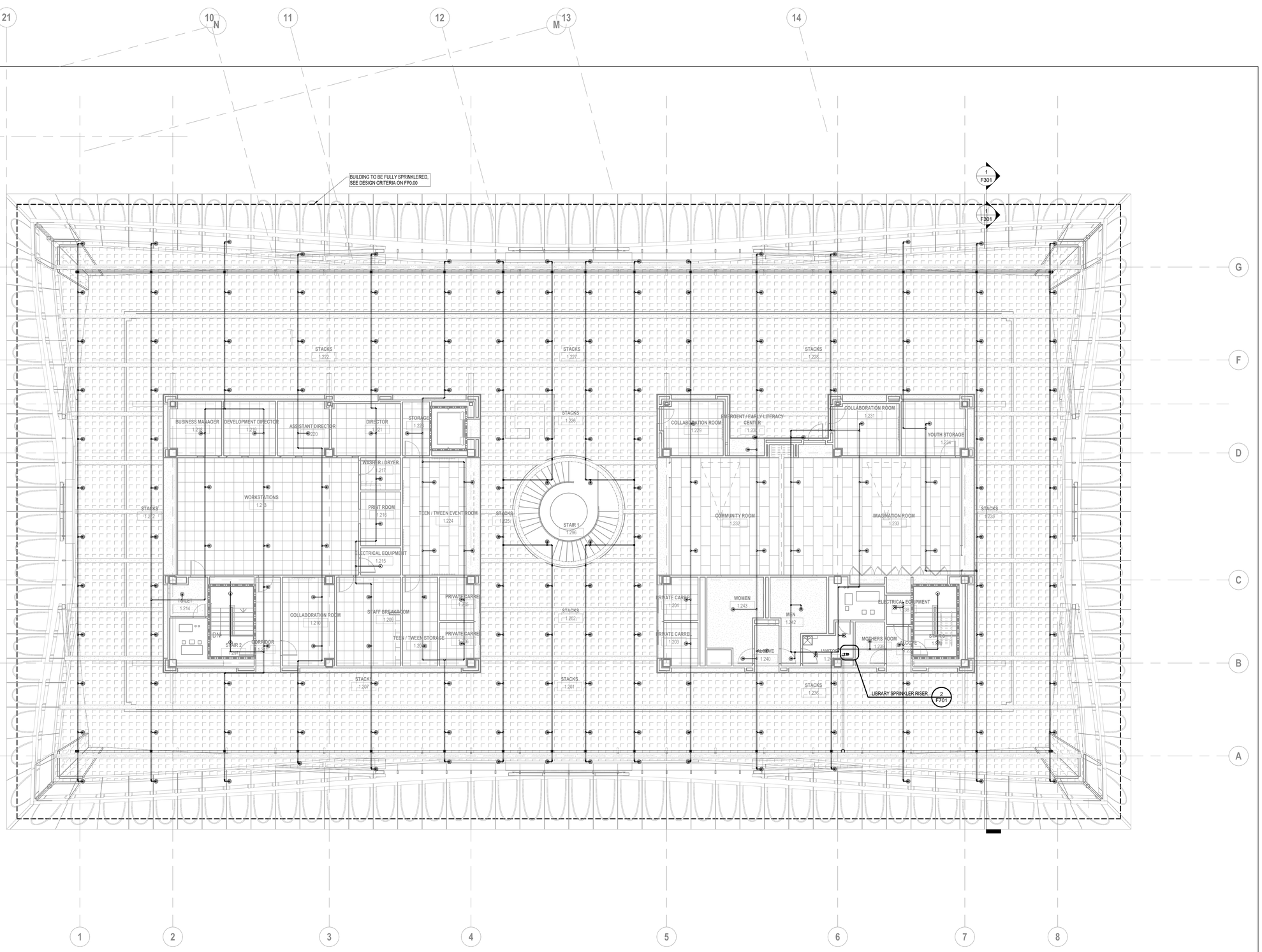
FIRE PROTECTION PLAN - 1ST LEVEL - AREA 3 - PORTE COCHERE

PROJ. NO. E - 16078.00
DRAWN DEP
SHEET **F113**

1 FIRE PROTECTION PLAN - 1ST LEVEL - AREA 3 - PORTE COCHERE
1/8" = 1'-0"



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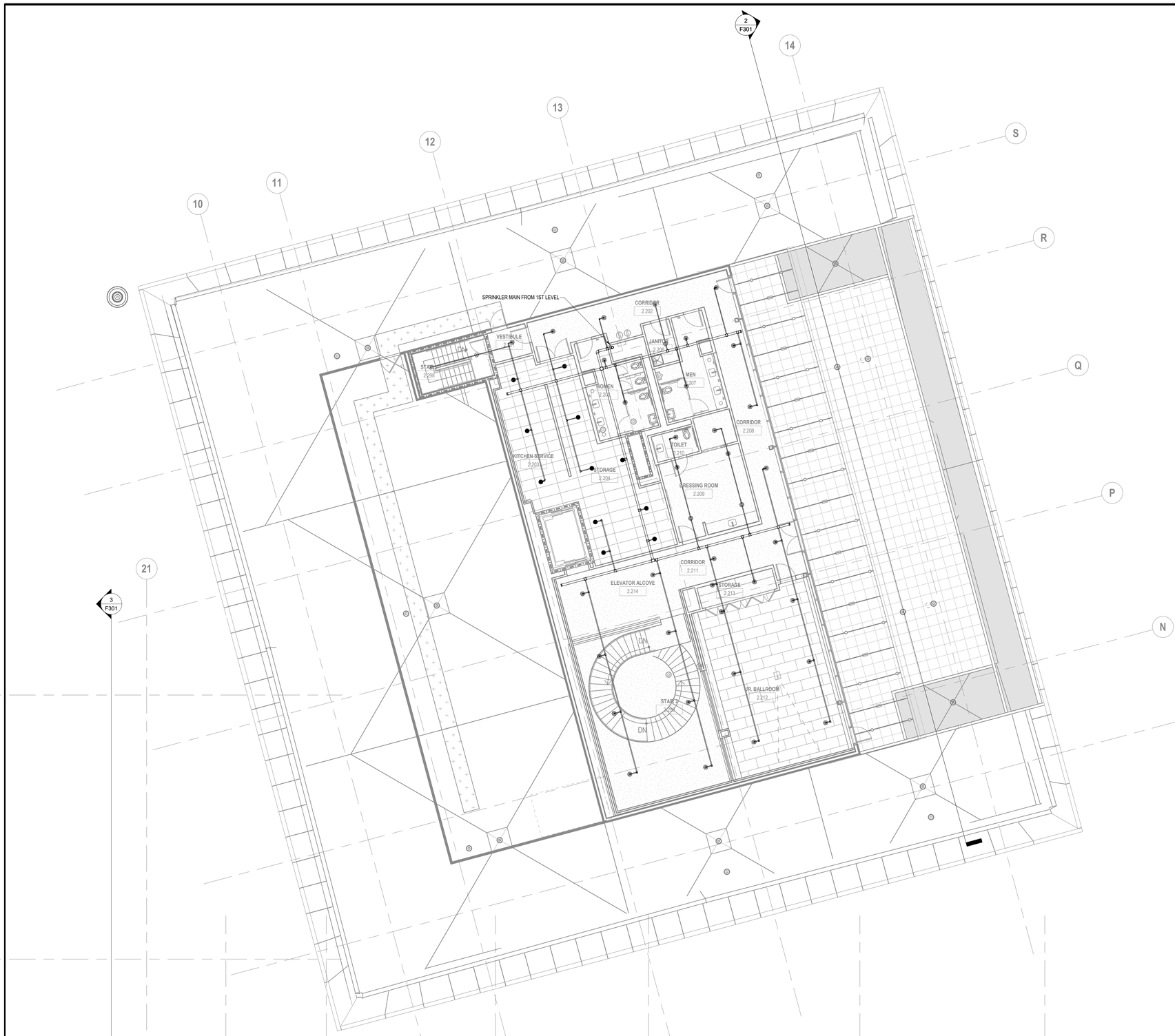
FIRE PROTECTION PLAN - 2ND LEVEL - AREA 1 - LIBRARY

PROJ. NO. E - 16078.00 SHEET
DRAWN DEP
F121

A1 **FIRE PROTECTION PLAN - 2ND LEVEL - AREA 1 - LIBRARY**

1/8" = 1'-0"



1 | FIRE PROTECTION PLAN - 2ND LEVEL - AREA 2 - EVENT CENTER

1/8" = 1'-0"

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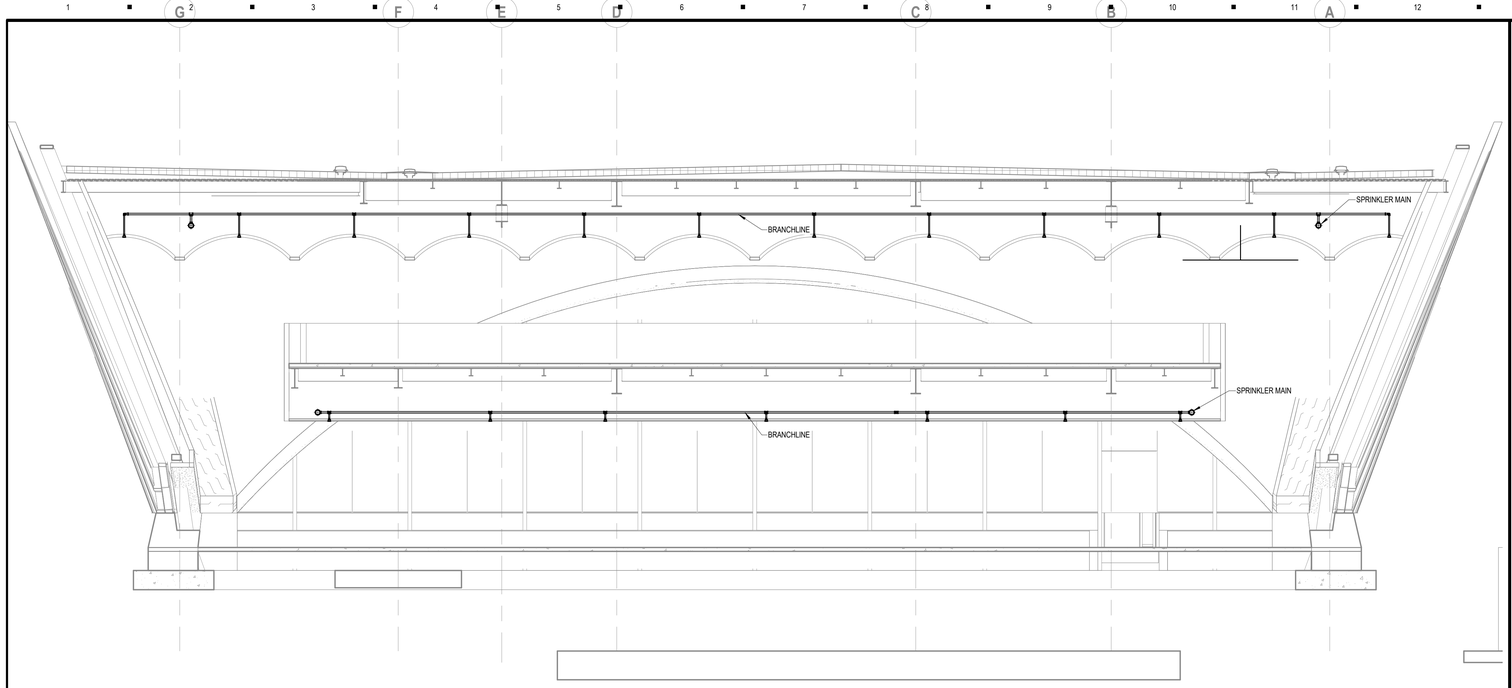
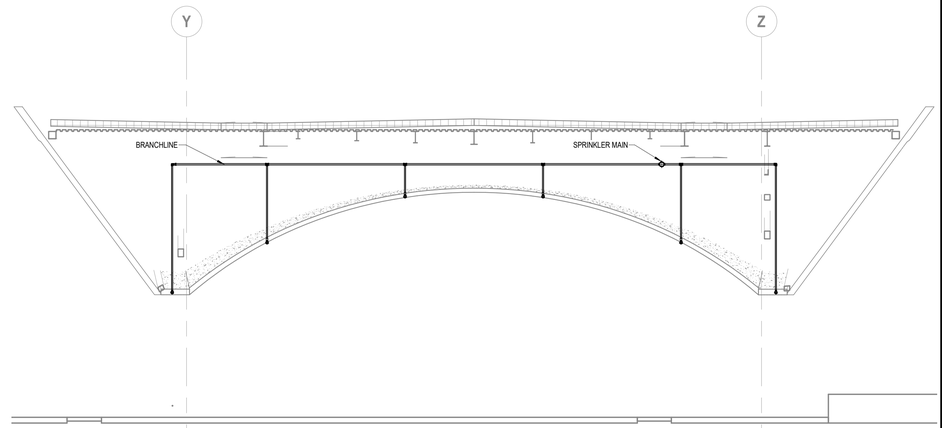
FIRE PROTECTION PLAN - 2ND LEVEL - AREA 2 - EVENTS CENTER

PROJ. NO. E - 16078.00
DRAWN DEP
SHEET **F122**



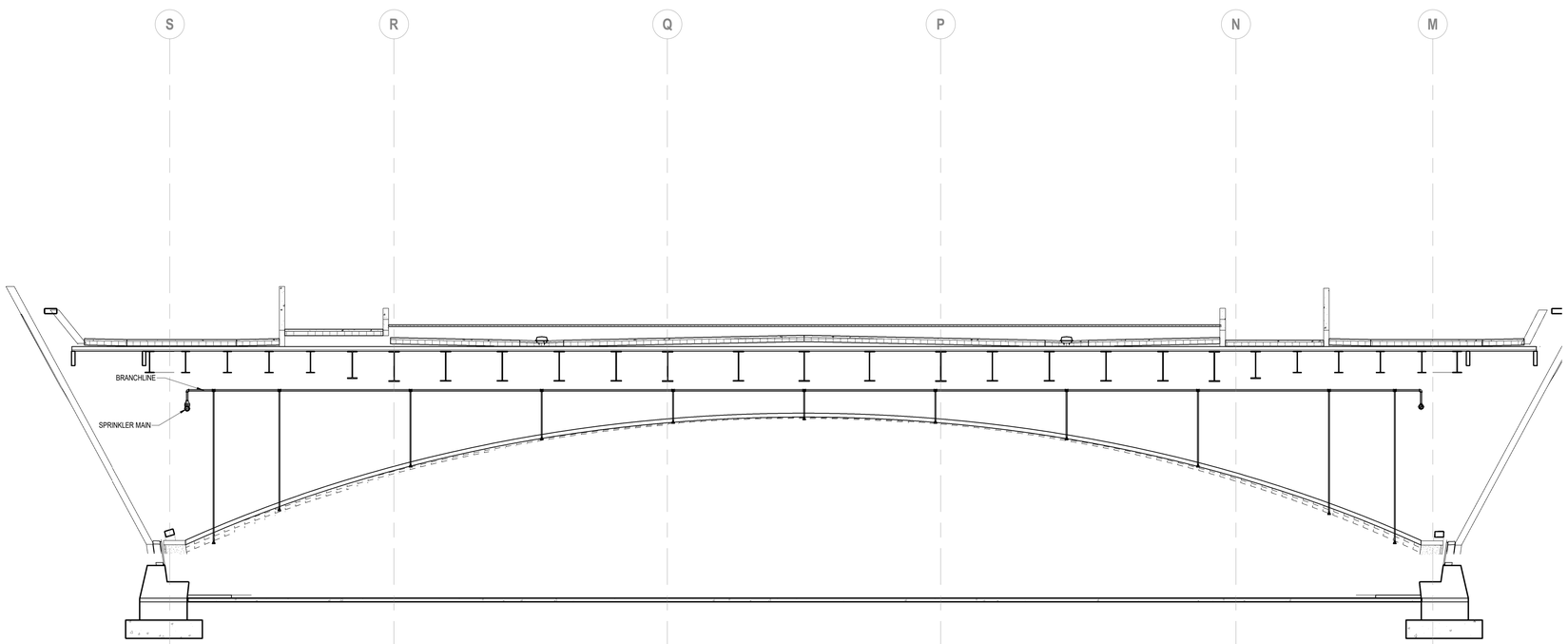
1 FIRE PROTECTION SECTION(LIBRARY)

3/16" = 1'-0"



3 FIRE PROTECTION SECTION(PORTE COCHERE)

3/16" = 1'-0"



2 FIRE PROTECTION SECTION(EVENT CENTER)

3/16" = 1'-0"

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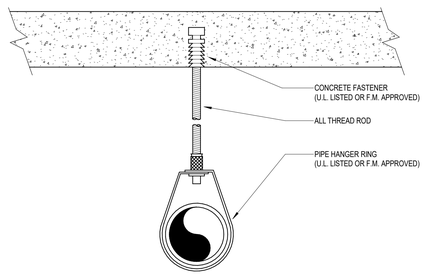
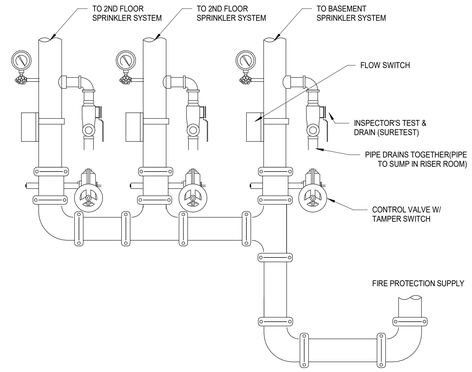
FIRE PROTECTION SECTIONS

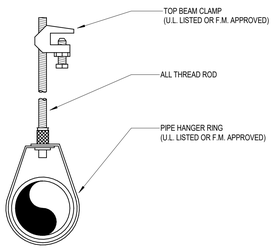
PROJ. NO. E - 16078.00 SHEET
DRAWN Author
F301



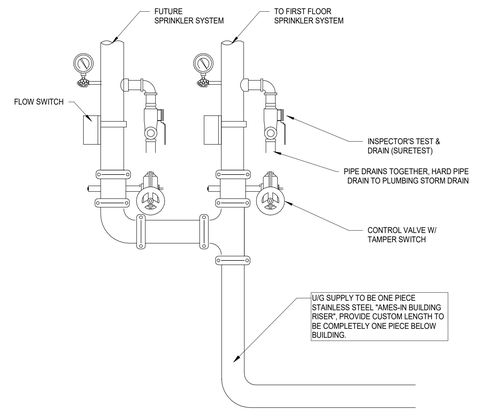
HANGER - CONCRETE
No Scale — 4



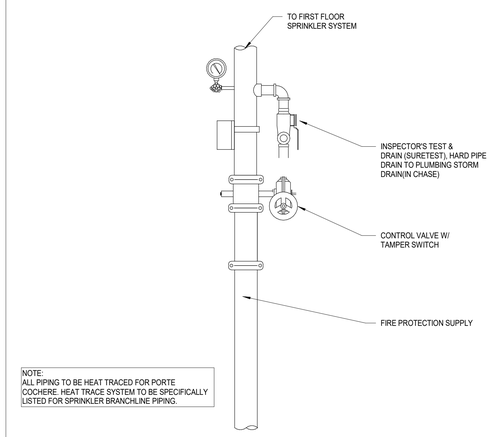
LIBRARY FP MAIN RISER
No Scale — 1



HANGER - STEEL
No Scale — 5



EVENT CENTER SPRINKLER RISER
No Scale — 2



PORTE COCHERE SPRINKLER RISER
No Scale — 3

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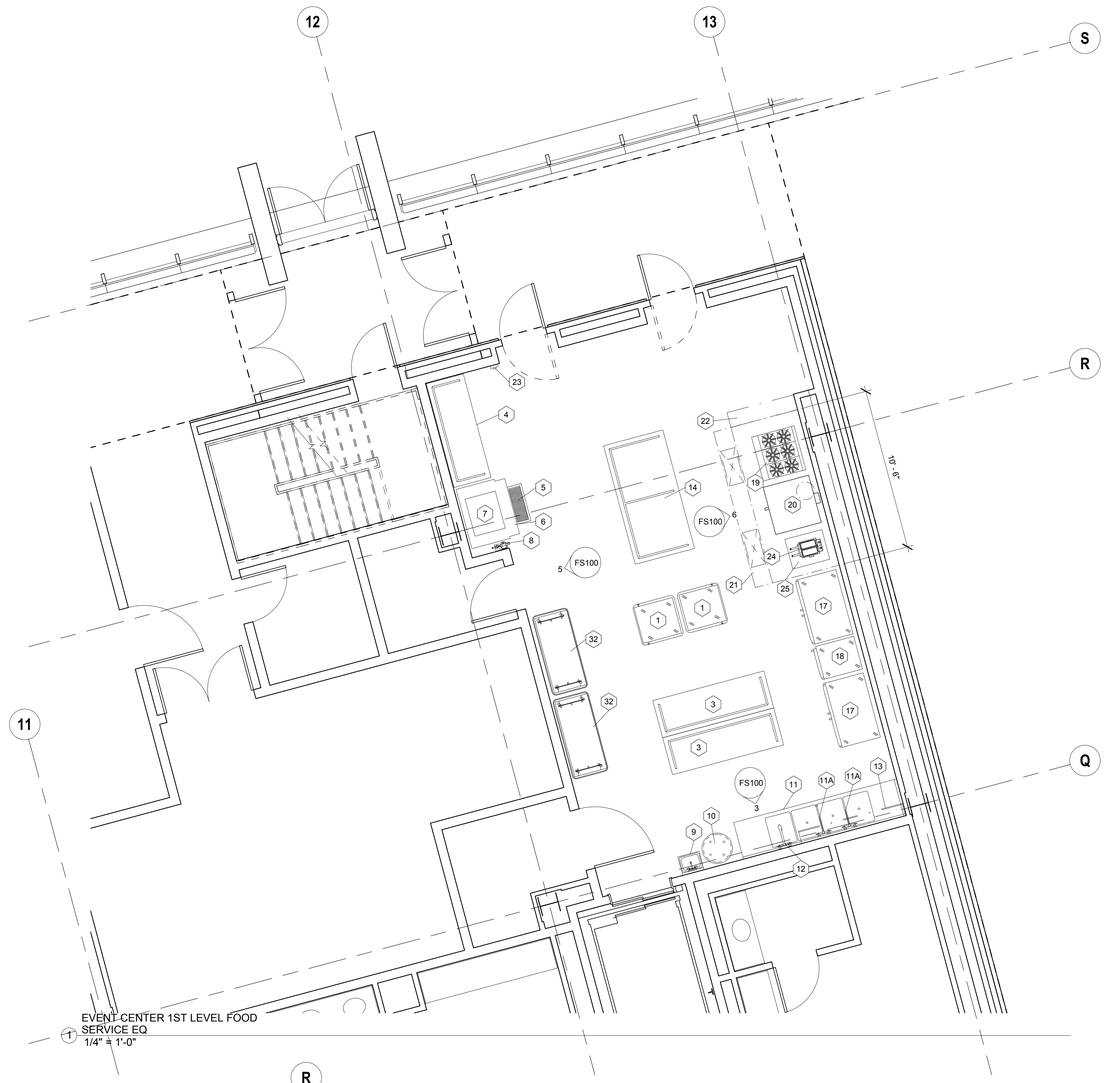
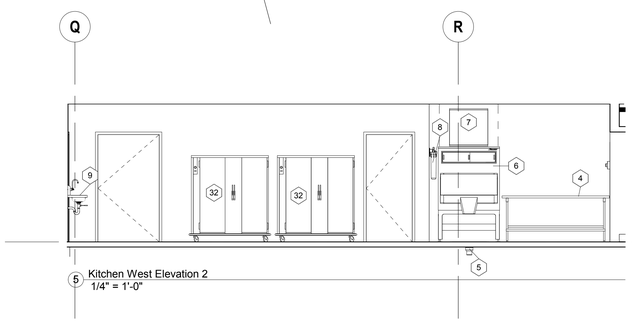
FIRE PROTECTION DETAILS

PROJ. NO. E - 16078.00 **SHEET**
DRAWN DEP
F701

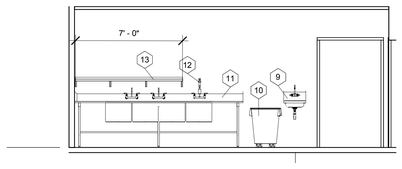


1 EVENT CENTER 1ST LEVEL FOOD SERVICE EQ
1/4" = 1'-0"



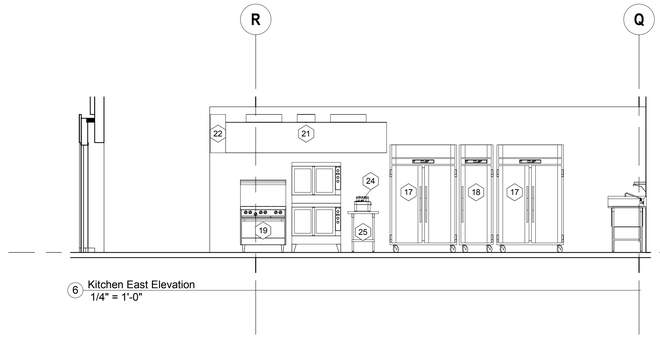
5 Kitchen West Elevation 2
1/4" = 1'-0"

9'1"-0" EVENT CENTER 1ST LEVEL FOOD SERVICE EQ



3 Kitchen South Elevationl
1/4" = 1'-0"

9'1"-0" EVENT CENTER 1ST LEVEL FOOD SERVICE EQ



6 Kitchen East Elevation
1/4" = 1'-0"

9'1"-0" EVENT CENTER 1ST LEVEL FOOD SERVICE EQ

EQUIPMENT SCHEDULE					
ITEM NUMBER	QTY	DESCRIPTION	STATUS	Manufacturer	Model
1	2	Heated Holding Cabinet	A	FWE	UHS-12
3	2	Work Table, Mobile	A	Custom Fabricated	
4	1	Work Table, Mobile	A	Custom Fabricated	
5	1	Floor Trough	A	IMC Teddy	FT-1230-SG
6	1	Ice Bin	A	Follett Corporation	DEV1010SG-48
7	1	Ice Maker wo/ Bin		Manitowoc Ice	IDT1200N-261
8	1	Water Filter	A	PENTAIR	EV929321
9	1	Hand Sink	A	Advance Tabco	7-PS-50
10	1	Waste Container	A	By Owner	Brute
11	1	Four Compartment Sink	A	Custom Fab	
11A	2	Splash Mounted Faucet	A	T&S Brass	B-0231
12	1	Pre-Rinse Faucet	A	T&S Brass	B-0133-BC
13	1	Wall Shelf	A	Custom Fab	
14	1	Work Table, Mobile	B	Custom Fabricated	
17	2	Refrigerator, Reach-In	A	Victory	RS-2D-S1
18	1	Freezer, Reach-In	A	Victory	FS-1D-S1
19	1	36" Restaurant Range, Gas	A	Garland	G36-6R
20	1	Electric Convection Oven	A	Blodgett	MARK V-100 Double
21	1	Exhaust Hood with Make-Up Air	A	CaptiveAire	5424 ND-2-PSP-F
22	1	Ventilator Control Panel	A	CaptiveAire	Custom
23	1	Remote Fire Pull	A	By Architect	FSRP-1
24	1	Counter Top Electric Fryer 15 lb 208V	G	Waring Commercial	WDF1500B
25	1	Work Table, Mobile	A	Custom Fabricated	
30	1	Wall Mount Hand Sink	A	Krowne Metal	HS-7
31	1	Stainless Utility Cart	A	Eagle Group	UC-422
32	2	Banquet Cabinet, Mobile, Heated	A	FWE	A-180-2
33	1	Three Compartment Sink	A	Custom Fab	
33A	2	Splash Mounted Faucet	A	T&S Brass	B-0231
34	1	Ventless Hood	A	Giles Foodservice Equipment	OVH-10-UCM
35	1	Heated Holding Cabinet	G	FWE	UHS-12
36	1	Work Table, Mobile	A	Custom Fabricated	
37	1	Refrigerator, Reach-In, Two Section	A	True	STG2R-2S
39	1	Water Filter	A	PENTAIR	EV929321
40	1	Convection Oven, Electric	A	Cadco	XAF-193
41	1	970 lb Ice Bin	A	Manitowoc Ice	D-970
42	1	522 lb Remote-Cooled Dice		Manitowoc Ice	IDT0500N-161
43	2	Corner Guard, U-Shaped	A	Fabrication	CG-L
44	4	Corner Guard, L-Shaped	A	Fabrication	CG-L
45	1	Wall Shelf	A	Custom Fab	
46	1	Wall Shelf	A	Custom Fab	
47	1	Floor Trough	A	IMC Teddy	FT-1230-SG

THIS DRAWING IS INTENDED TO PROVIDE INFORMATION TO BE INCLUDED ON THE ARCHITECTS / ENGINEERS DOCUMENTS. IT IS NOT INTENDED AND SHOULD NOT BE USED FOR CONSTRUCTION.

FOOD SERVICE EQUIPMENT CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS & DIMENSIONS & BE RESPONSIBLE FOR FIELD FIT & QUALITY OF WORK. NO ALLOWANCES SHALL BE MADE ON BEHALF OF THE FSE CONTRACTOR FOR ANY ERROR OR NEGLECT ON THEIR PART.

DIMENSIONED DRAWINGS TO BE PROVIDED BY FOOD SERVICE EQUIPMENT CONTRACTOR AFTER AWARD OF CONTRACT DURING CONSTRUCTION PHASE.

Disclaimer Note
1/4" = 1'-0"

STATUS LEGEND	
A	IN CONTRACT
B	EXISTING
C	EXISTING/ RELOCATE
D	EXISTING/ MODIFY
E	EXISTING/ RELOCATE/ MODIFY
F	BY PRODUCT SUPPLIER/ VENDOR
G	BY OWNER/ OPERATOR
H	SPECIFIED BY ARCH./ INT. DESIGNER
I	SPECIFIED BY ENGINEER
J	FUTURE

Status Legend
1/4" = 1'-0"

SEAL

FOR REFERENCE ONLY

Winter Park Library and Event Center

Hunton Brady ARCHITECTS

Adjaye Associates

DATE	SUBMISSION	NO
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Events Center Kitchen Equipment Plan, Schedule, & Elevations

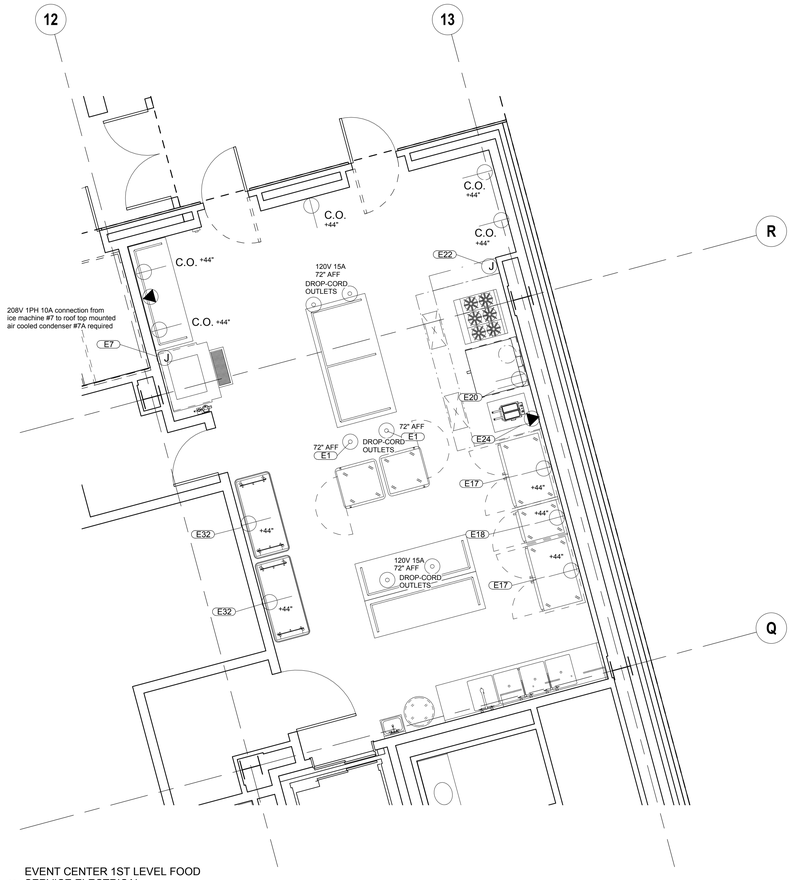
PROJ. NO. E-16078.00 SHEET
DRAWN POB

FS100

ELECTRICAL CONNECTION
LEGEND

	DUPLEX RECEPT., 20-AMP, 120-VOLT, GROUND TYPE, HORIZONTAL MOUNT
	SIMPLEX RECEPT., 20-AMP, 120-VOLT GROUND TYPE, HORIZONTAL MOUNT
	SPECIAL PURPOSE OUTLET, 120-VOLT GROUND TYPE, HORIZONTAL MOUNT
	SPECIAL PURPOSE OUTLET, 120/208-VOLT AS INDICATED, GROUND TYPE, HORIZONTAL MOUNT
J	JUNCTION BOX WITH CONDUIT, STUB AS INDICATED FOR DIRECT CONNECTION
	DROP CORD WITH TWIST LOCK
E	STUB-UP/ DFA MAIN FEED AS INDICATED. TERMINATES AS JUNCTION BOX (SEE ABOVE).
JD	J-BOX DATA
	FIELD WIRING
	SAFETY DISCONNECT SWITCH (SDS)
	TELEPHONE JACK
	SWITCH
	MANUAL PULL (FIRE SUPRESSION SYSTEM)
AFF	ABOVE FINISHED FLOOR
DFA	DOWN FROM ABOVE
BTC	BRANCH TO CONNECTION
C.O.	CONVENIENCE OUTLET
E.C.	ELECTRICAL CONTRACTOR
NIC	NOT IN CONTRACT

Electrical Legend
1/4" = 1'-0"



EVENT CENTER 1ST LEVEL FOOD SERVICE ELECTRICAL
1/4" = 1'-0"

ELECTRICAL NOTES

1. ELECTRICAL PLAN SHOWS ROUGH-IN AND CONNECTION LOCATIONS WITH CAPACITIES - SEE ROUGH-IN DRAWINGS FURNISHED BY THE FOOD SERVICE EQUIPMENT CONTRACTOR FOR ACTUAL ROUGH-IN LOCATIONS
2. ELECTRICAL SYSTEM IS DESIGNED FOR _____ VOLTS, _____ PHASE, _____ HERTZ, _____WIRE SYSTEM.
3. DIVISION 26 SHALL FURNISH AND INSTALL ALL JUNCTION BOXES, RECEPTACLES, COVER PLATES, PULL BOXES, CONDUIT AND WIRING EXCEPT WHERE NOTED.
4. ALL CONDUIT RUNS INDICATED FOR REFRIGERATION, DRINK AND LIQUOR SYSTEM LINES SHALL BE FURNISHED AND INSTALLED BY DIVISION 26 - CONDUIT SHALL HAVE 24" MINIMUM RADIUS BENDS. REFER TO BUILDING WORKS PLAN FOR ROUTING AND DETAILS.
5. DIVISION 26 TO FURNISH & INSTALL SAFETY DISCONNECT SWITCHES WHER REQUIRED, REFER TO ELECTRICAL SCHEDULE & CONTRACT DOCUMENTS. SDS TO BE S/S OR ALUMINUM.
6. FSE CONTRACTOR SHALL FURNISH AND INSTALL ALL ELECTRICAL WORK FOR FABRICATED EQUIPMENT ITEMS (CHEF'S COUNTER, TABLES, ETC.) AS NOTED: COMPLETEWITH JUNCTION BOXES, CONDUIT, SURFACE MOUNTED ELECTRIC BOXES, COVER PLATES, ELECTRIC RACEWAYS AND CIRCUIT BREAKER PANEL, WHEN SPECIFIED. DIVISION 26 SHALL PULL WIRING AND MAKE FINAL CONNECTION.
7. FOOD SERVICE EQUIPMENT CONTRACTOR SHALL FURNISH & INSTALL VAPOR PROOF VENTILATOR LIGHTS COMPLETE WITH LAMPS - INTERCONNECTING CONDUIT, WIRING AND WALL SWITCH FURNISHED AND INSTALLED BY DIVISION 26.
8. ADDITIONAL CONVENIENCE RECEPTACLES, TELEPHONE AND INTERCOM JACKS SHALL BE LOCATED BY THE ARCHITECT.
9. FOOD SERVICE EQUIPMENT CONTRACTOR SHALL FURNISH & INSTALL DISPOSER SWITCH - DIVISION 26 SHALL FURNISH AND INSTALL INTERCONNECTING CONDUIT AND WIRING BETWEEN SWITCH AND DISPOSER AND COMPONENTS.
10. DIVISION 26 TO FURNISH & INSTALL ALL INTERCONNECTING CONDUIT & WIRING BETWEEN MICROSWITCH FURNISHED WITH FIRE SUPPRESSION SYSTEM SUPPLIED BY THE FOOD SERVICE EQUIPMENT CONTRACTOR. CONTRACTORS FURNISHED BY DIVISION 26.
11. DIVISION 26 TO FURNISH & INSTALL SHUNT TRIP TYPE BREAKER DISCONNECT TO FOOD SERVICE EQUIPMENT UNDERNEATH EXHAUST VENTILATOR. COORDINATE SHUNT TRIP BREAKER REQUIREMENTS WITH FOOD SERVICE EQUIPMENT CONTRACTOR.
12. DIVISION 26 TO FURNISH & INSTALL INTERCONNECTION CONDUIT AND WIRING (2 WIRE 24 VDC) BETWEEN ALARM PANEL AND COLD STORAGE ROOM ALARM THERMOSTAT - PANEL AND THERMOSTAT FURNISHED AND INSTALLED BY THE FOOD SERVICE EQUIPMENT CONTRACTOR.
13. PRE - FABRICATED COLD STORAGE ROOMS ARE FURNISHED BY THE FOOD SERVICE EQUIPMENT CONTRACTOR COMPLETE WITH SPLICE BOXES, LIGHT FIXTURES, LAMPS, LIGHT SWITCHES AND DOOR HEATERS - DIVISION 26 TO INSTALL SAME AND SHALL FURNISH AND INSTALL INTERCONNECTING CONDUIT, WIRING, SEAL - OFFS, SEALANT AND MAKE ALL FINAL CONNECTIONS.
14. DIVISION 26 TO FURNISH & INSTALL ALL INTERCONNECTING CONDUIT AND WIRING BETWEEN FOOD SERVICE EQUIPMENT CONTRACTOR FURNISHED LOW TEMP COLD STORAGE ROOM EVAPORATOR TERMINAL BLOCK, SWITCH, FAN DOOR SWITCH AND COMPRESSOR CONTROL PANEL.
15. DIVISION 26 TO FURNISH & INSTALL ALL INTERCONNECTING CONDUIT AND WIRING BETWEEN FOOD SERVICE EQUIPMENT CONTRACTOR FURNISHED LOW TEMP COLD STORAGE ROOM EVAPORATOR TERMINAL BLOCK, ROOM THERMOSTAT, LIQUID LINE SOLENOID VALVE, FAN DOOR SWITCH/RELAY, EVAPORATOR COIL DRAIN LINE HEAT TAPE AND COMPRESSOR CONTROL PANEL.
16. DIVISION 26 TO FURNISH & INSTALL EMPTY CONDUIT WITH J-BOXES FOR INSTALLATION OF OWNER SUPPLIED ELECTRONIC CASH CONTROL SYSTEM. DIVISION 26 TO VERIFY INSTALLATION IN ACCORDANCE WITH OWNER'S REQUIREMENTS AND MANUFACTURER'S INSTRUCTIONS.

Electrical Notes
1/4" = 1'-0"

ELECTRICAL SCHEDULE

ITEM NUMBER	QTY	DESCRIPTION	VOLTS	PHASE	FL AMPS	HP	WATTS	CONN PLUG	CON N	RI HT +AFF	EL CONN TYPE	REMARKS
1	2	Heated Holding Cabinet	120 V	1	11 A		1350 W	NEMA 5-15P		+72" AFF		Drop Cord from Ceiling
7	1	Ice Maker wo/ Bin	208 V	1	20 A		4160 W		No	+72"		
17	2	Refrigerator, Reach-In	115 V	1	11 A	1/3		NEMA 5-15P	No	+44"		
18	1	Freezer, Reach-In	115 V	1	9 A	1/3		NEMA 5-15P	No	+44"		
19	1	36" Restaurant Range, Gas	0 V	0	0 A					+30"		
20	1	Electric Convection Oven	208 V	1	51 A		10608 W		Yes	+44"		
21	1	Exhaust Hood with Make-Up Air	120 V	1	15 A				Yes	+108"	-	-
22	1	Ventilator Control Panel	120 V	1	10 A				Yes	+108"		
24	1	Counter Top Electric Fryer 15 lb 208V	208 V	1	16 A		3300 W		Yes	+44"	CORD/PLUG	
32	2	Banquet Cabinet, Mobile, Heated	120 V	1	9 A		1050 W	Nema 5-15p	Yes	+44"		
34	1	Ventless Hood	208 V	1	3 A					+108"	Cord & Plug	
35	1	Heated Holding Cabinet	120 V	1	11 A		1350 W	NEMA 5-15P		+44"		
37	1	Refrigerator, Reach-In, Two Section	115 V	1	9 A	1/2	1047 W	5-15P	Yes	+44"		
40	1	Convection Oven, Electric	208 V	1	23 A		59000 W	NEMA L6-30P	Yes			
42	1	522 lb Remote-Cooled Dice	115 V	1	20 A		2300 W		Yes	+72"		

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FOR REFERENCE ONLY

Winter Park Library and Event Center

Hunton Brady ARCHITECTS

Adjaye Associates

DATE	SUBMISSION	NO
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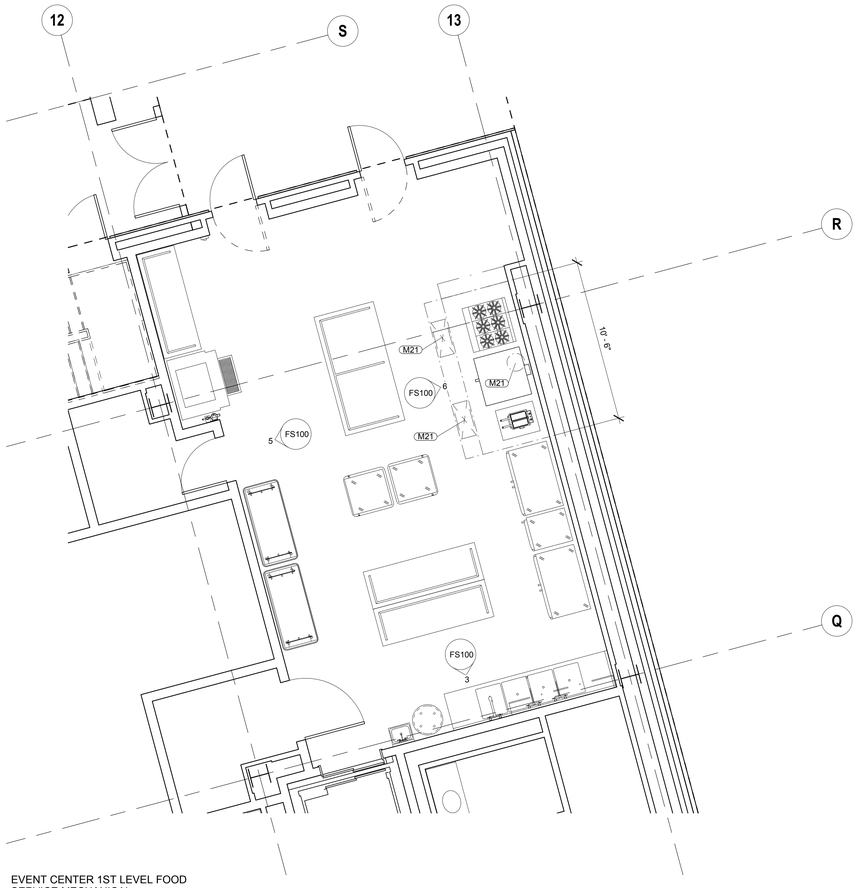
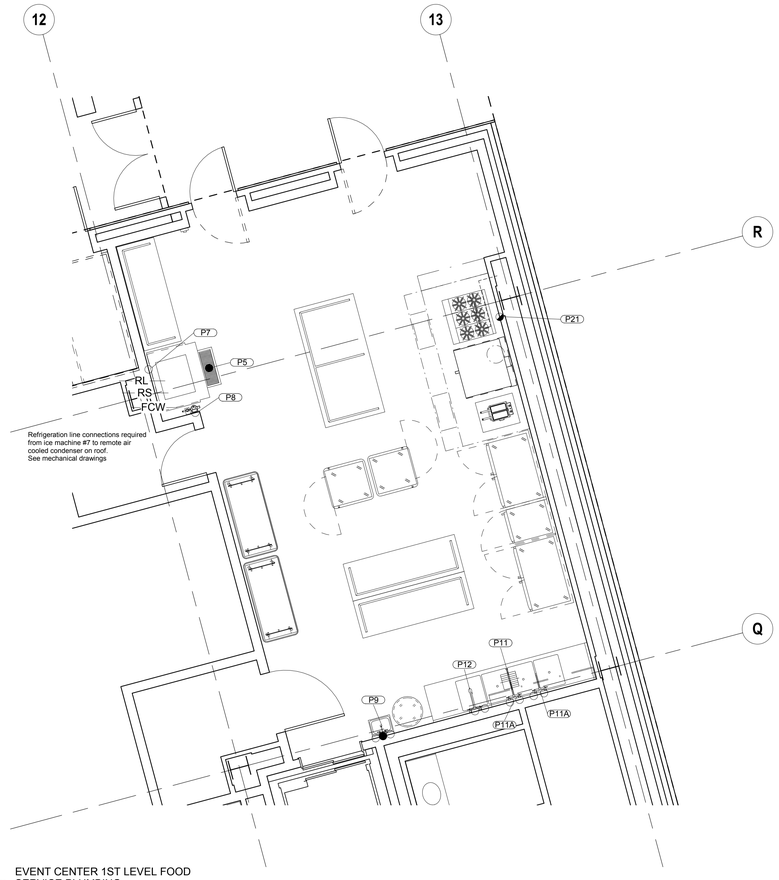
Events Center 1st Level Kitchen Electrical

PROJ. NO. E-16078.00
DRAWN Phil Bean
SHEET **FS101**



2 EVENT CENTER 1ST LEVEL FOOD SERVICE MECHANICAL
1/4" = 1'-0"



1 EVENT CENTER 1ST LEVEL FOOD SERVICE PLUMBING
1/4" = 1'-0"

MECHANICAL CONNECTION SCHEDULE

ITEM NUMBER	QTY	DESCRIPTION	EXHAUST				EXHAUST RI HT +AFF	MAKE UP AIR				MU RI HEIGHT +AFF	REMARKS
			VENT WIDTH	VENT DEPTH	VOLUME	STATIC PRESS		VENT WIDTH	VENT DEPTH	VOLUME	STATIC PRESS		
21	1	Exhaust Hood with Make-Up Air			2100 CFM	1.18 in-wg	8' - 6"	2' - 4"	1' - 0"	1722 CFM	0.21 in-wg	0' - 0"	ALL DUCTWORK PER NFPA96

MECHANICAL CONNECTION LEGEND

- EXHAUST DUCT CONNECTION
- MAKE-UP AIR DUCT CONNECTION
- DIRECT VENT, ATMOSPHERIC
- EXHAUST AIR CEILING GRILL

Mechanical Legend
1/4" = 1'-0"

PLUMBING CONNECTION LEGEND

- HW-HOT WATER, OR CW-COLD WATER
- GAS
- STEAM SUPPLY
- STEAM RETURN
- WASTE, DIRECT-CONNECTED UNLESS NOTED "OPEN HUB"
- FLOOR DRAIN
- FLOOR DRAIN WITH ATTACHED FUNNEL
- FLOOR SINK WITH HALF GRATE UNLESS NOTED OTHERWISE
- FIELD CONNECTIONS
- CWS — CONDENSER WATER SUPPLY
- CWR — CONDENSER WATER RETURN
- FCW — FILTERED COLD WATER
- RL — REFRIGERANT LIQUID
- RS — REFRIGERANT SUCTION
- AFF — ABOVE FINISHED FLOOR
- DFA — DOWN FROM ABOVE
- BTC — BRANCH TO CONNECTION
- P.C. — PLUMBING CONTRACTOR
- NIC — NOT IN CONTRACT

Plumbing Legend
1/4" = 1'-0"

PLUMBING SCHEDULE

ITEM NUMBER	QTY	DESCRIPTION	HOT WATER		COLD WATER	INDIRECT WASTE	DIRECT WASTE	GAS		RI HT +AFF	REMARKS
			SIZE	TEMP	SIZE			SIZE	INPUT		
7	1	Ice Maker w/ Bin			3/8"	0"	1/2"			+72"	
8	1	Water Filter			3/4"					+72"	
9	1	Hand Sink	1/2"	110 °F	1/2"		1 1/2"			+24"	
11	1	Four Compartment Sink				1 1/2"				+16"	
11A	2	Splash Mounted Faucet	1/2"	140 °F	1/2"					+16"	-
12	1	Pre-Rinse Faucet	1/2"	140 °F	1/2"					+16"	-
19	1	36" Restaurant Range, Gas						3/4"	188000.0 Btu/h	+30"	Verify Gas Type
30	1	Wall Mount Hand Sink	1/2"	110 °F	1/2"		1 1/2"			+24"	
33	1	Three Compartment Sink				1 1/2"				+16"	
33A	2	Splash Mounted Faucet	1/2"	140 °F	1/2"					+16"	-
39	1	Water Filter			3/4"					+72"	
41	1	970 lb Ice Bin				3/4"				+6"	
42	1	522 lb Remote-Cooled Dice			3/8"	1/2"				+72"	

SEAL

FOR REFERENCE ONLY

Winter Park Library and Event Center

Hunton Brady ARCHITECTS

Adjaye Associates

DATE	SUBMISSION	NO
10.22.19	CONSTRUCTION DOCUMENTS	

Events Center 1st Level Kitchen Mechanical

PROJ. NO. E-16078.00 SHEET
DRAWN Author

FS102

THIS DRAWING IS INTENDED TO PROVIDE INFORMATION TO BE INCLUDED ON THE ARCHITECTS / ENGINEERS DOCUMENTS. IT IS NOT INTENDED AND SHOULD NOT BE USED FOR CONSTRUCTION.

FOOD SERVICE EQUIPMENT CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS & DIMENSIONS & BE RESPONSIBLE FOR FIELD FIT & QUALITY OF WORK. NO ALLOWANCES SHALL BE MADE ON BEHALF OF THE FSE CONTRACTOR FOR ANY ERROR OR NEGLECT ON THEIR PART.

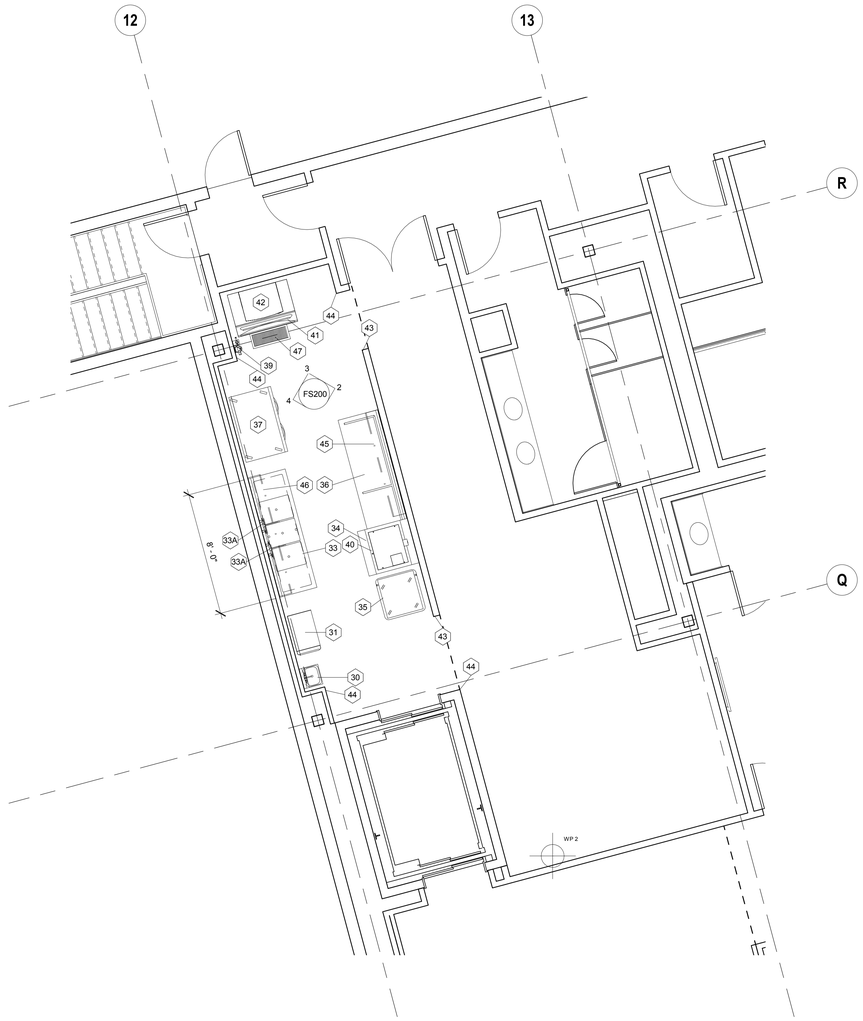
DIMENSIONED DRAWINGS TO BE PROVIDED BY FOOD SERVICE EQUIPMENT CONTRACTOR AFTER AWARD OF CONTRACT DURING CONSTRUCTION PHASE.

Disclaimer Note
1/4" = 1'-0"

STATUS LEGEND

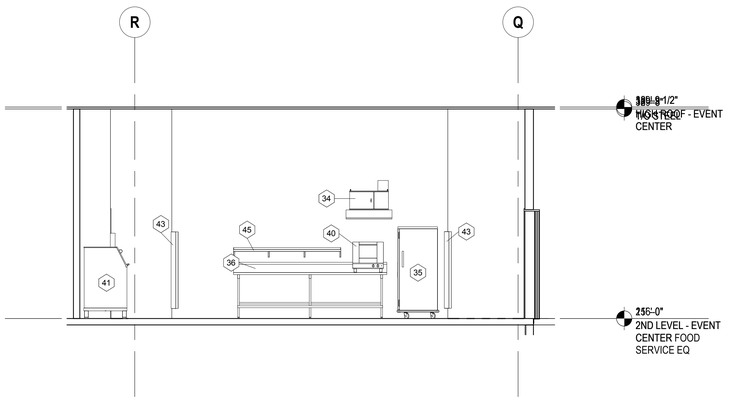
A	IN CONTRACT
B	EXISTING
C	EXISTING/ RELOCATE
D	EXISTING/ MODIFY
E	EXISTING/ RELOCATE/ MODIFY
F	BY PRODUCT SUPPLIER/ VENDOR
G	BY OWNER/ OPERATOR
H	SPECIFIED BY ARCH./ INT. DESIGNER
I	SPECIFIED BY ENGINEER
J	FUTURE

Status Legend
1/4" = 1'-0"

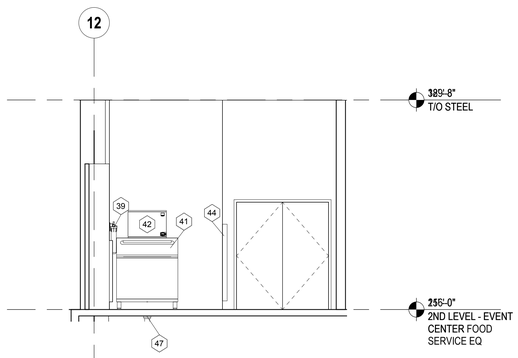


EQUIPMENT SCHEDULE

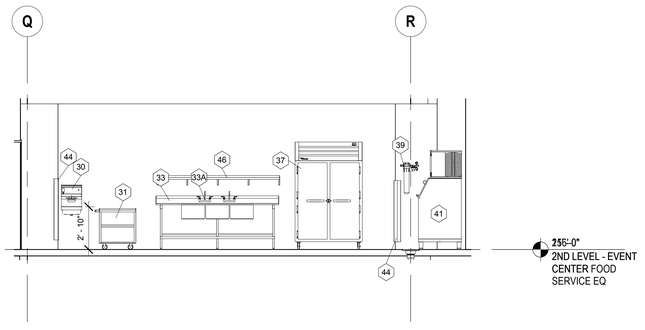
ITEM NUMBER	QTY	DESCRIPTION	STATUS	Manufacturer	Model
1	2	Heated Holding Cabinet	A	FWE	UHS-12
3	2	Work Table, Mobile	A	Custom Fabricated	
4	1	Work Table, Mobile	A	Custom Fabricated	
5	1	Floor Trough	A	IMC Teddy	FT-1230-SG
6	1	Ice Bin	A	Follett Corporation	DEV1010SG-48
7	1	Ice Maker wo/ Bin		Manitowoc Ice	IDT1200N-261
8	1	Water Filter	A	PENTAIR	EV929321
9	1	Hand Sink	A	Advance Tabco	7-PS-50
10	1	Waste Container	A	By Owner	Brute
11	1	Four Compartment Sink	A	Custom Fab	
11A	2	Splash Mounted Faucet	A	T&S Brass	B-0231
12	1	Pre-Rinse Faucet	A	T&S Brass	B-0133-BC
13	1	Wall Shelf	A	Custom Fab	
14	1	Work Table, Mobile	B	Custom Fabricated	
17	2	Refrigerator, Reach-In	A	Victory	RS-2D-S1
18	1	Freezer, Reach-In	A	Victory	FS-1D-S1
19	1	36" Restaurant Range, Gas	A	Garland	G36-6R
20	1	Electric Convection Oven	A	Blodgett	MARK V-100 Double
21	1	Exhaust Hood with Make-Up Air	A	CaptiveAire	5424 ND-2-PSP-F
22	1	Ventilator Control Panel	A	CaptiveAire	Custom
23	1	Remote Fire Pull	A	By Architect	FSRP-1
24	1	Counter Top Electric Fryer 15 lb 208V	G	Waring Commercial	WDF1500B
25	1	Work Table, Mobile	A	Custom Fabricated	
30	1	Wall Mount Hand Sink	A	Krowne Metal	HS-7
31	1	Stainless Utility Cart	A	Eagle Group	UC-422
32	2	Banquet Cabinet, Mobile, Heated	A	FWE	A-180-2
33	1	Three Compartment Sink	A	Custom Fab	
33A	2	Splash Mounted Faucet	A	T&S Brass	B-0231
34	1	Ventless Hood	A	Giles Foodservice Equipment	OVH-10-UCM
35	1	Heated Holding Cabinet	G	FWE	UHS-12
36	1	Work Table, Mobile	A	Custom Fabricated	
37	1	Refrigerator, Reach-In, Two Section	A	True	STG2R-2S
39	1	Water Filter	A	PENTAIR	EV929321
40	1	Convection Oven, Electric	A	Cadco	XAF-193
41	1	970 lb Ice Bin	A	Manitowoc Ice	D-970
42	1	522 lb Remote-Cooled Dice		Manitowoc Ice	IDT0500N-161
43	2	Corner Guard, U-Shaped	A	Fabrication	CG-L
44	4	Corner Guard, L-Shaped	A	Fabrication	CG-L
45	1	Wall Shelf	A	Custom Fab	
46	1	Wall Shelf	A	Custom Fab	
47	1	Floor Trough	A	IMC Teddy	FT-1230-SG



2 Level 2 Pantry East Elevation
1/4" = 1'-0"



3 Level 2 Pantry North Elevation
1/4" = 1'-0"



4 Level 2 Pantry West Elevation
1/4" = 1'-0"

SEAL

FOR REFERENCE ONLY

Winter Park Library and Event Center

Hunton Brady ARCHITECTS

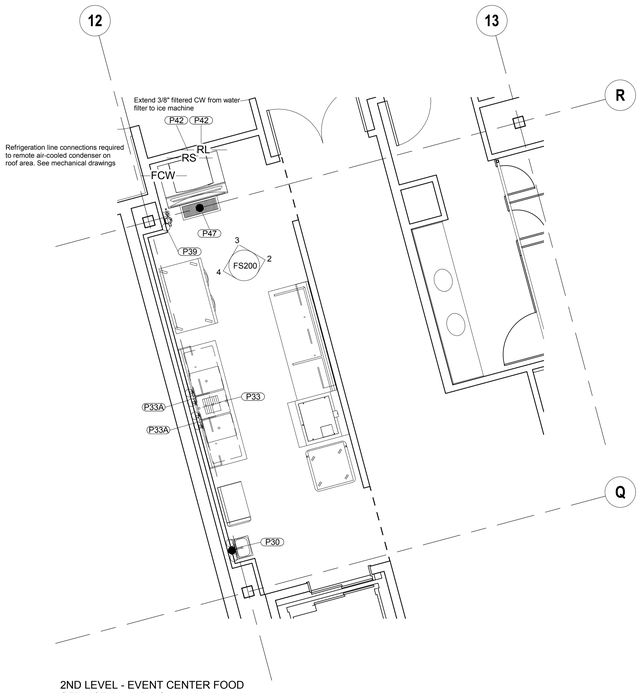
Adjaye Associates

DATE	SUBMISSION	NO
10.22.19	CONSTRUCTION DOCUMENTS	

Events Center Level 2 Equipment Plan, Schedule, & Elevations

PROJ. NO. E-16078.00 SHEET
DRAWN Phil Bean

FS200



2 2ND LEVEL - EVENT CENTER FOOD SERVICE PLUMBING
1/4" = 1'-0"

PLUMBING CONNECTION LEGEND

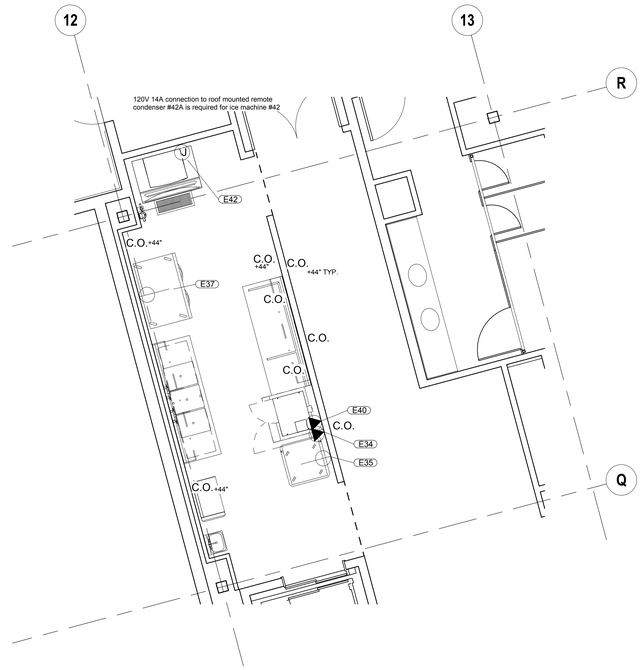
	HW-HOT WATER, OR CW-COLD WATER
	GAS
	STEAM SUPPLY
	STEAM RETURN
	WASTE, DIRECT-CONNECTED UNLESS NOTED "OPEN HUB"
	FLOOR DRAIN
	FLOOR DRAIN WITH ATTACHED FUNNEL
	FLOOR SINK WITH HALF GRATE UNLESS NOTED OTHERWISE
	FIELD CONNECTIONS
CWS	CONDENSER WATER SUPPLY
CWR	CONDENSER WATER RETURN
FCW	FILTERED COLD WATER
RL	REFRIGERANT LIQUID
RS	REFRIGERANT SUCTION
AFF	ABOVE FINISHED FLOOR
DFA	DOWN FROM ABOVE
BTC	BRANCH TO CONNECTION
P.C.	PLUMBING CONTRACTOR
NIC	NOT IN CONTRACT

Plumbing Legend
1/4" = 1'-0"

ELECTRICAL CONNECTION LEGEND

	DUPLEX RECEPT., 20-AMP, 120-VOLT, GROUND TYPE, HORIZONTAL MOUNT
	SIMPLEX RECEPT., 20-AMP, 120-VOLT GROUND TYPE, HORIZONTAL MOUNT
	SPECIAL PURPOSE OUTLET, 120-VOLT GROUND TYPE, HORIZONTAL MOUNT
	SPECIAL PURPOSE OUTLET, 120/208-VOLT AS INDICATED, GROUND TYPE, HORIZONTAL MOUNT
J	JUNCTION BOX WITH CONDUIT, STUB AS INDICATED FOR DIRECT CONNECTION
	DROP CORD WITH TWIST LOCK
E	STUB-UP/ DFA MAIN FEED AS INDICATED. TERMINATES AS JUNCTION BOX (SEE ABOVE).
JD	J-BOX DATA
	FIELD WIRING
	SAFETY DISCONNECT SWITCH (SDS)
	TELEPHONE JACK
S	SWITCH
P	MANUAL PULL (FIRE SUPRESSION SYSTEM)
AFF	ABOVE FINISHED FLOOR
DFA	DOWN FROM ABOVE
BTC	BRANCH TO CONNECTION
C.O.	CONVENIENCE OUTLET
E.C.	ELECTRICAL CONTRACTOR
NIC	NOT IN CONTRACT

Electrical Legend
1/4" = 1'-0"



1 2ND LEVEL - EVENT CENTER FOOD SERVICE ELECTRICAL
1/4" = 1'-0"

PLUMBING NOTES

1. PLUMBING PLANS SHOWS ROUGH-IN AND CONNECTION LOCATIONS WITH CAPACITIES - SEE ROUGH-IN DRAWINGS FURNISHED BY THE FOOD SERVICE EQUIPMENT CONTRACTOR FOR ACTUAL ROUGH-IN LOCATIONS.
2. ROUGH-INS FOR WATER, WWASTE, FUEL GAS AND STEAM SERVICES SHALL EXTEND 6" (220 MM) BEYOND FINISH WALLS AND ABOVE FINISH FLOORS OR EQUIPMENT PADS - ALL FLOOR PENETRATIONS SHALL BE SEALED WATER TIGHT.
3. WATER PRESSURE IN FOOD, SERVICE AND BEVERAGES AREAS SHOULD BE 50 PSIG. (344,750 N/M) MAXIMUM - WATER PRESSURE AT DISHMACHINES, BOOSTER HEATERS, GLASS AND UTENSIL WASHERS TO BE 25 PSIG (172,375 M/M).
4. STEAM PRESSURE FOR FOOD SERVICE EQUIPMENT TO TO BE _____ UNLESS INDICATED OTHERWISE ON PLAN.
5. DIVISION 22 SHALL FURNISH AND INSTALL ALL NECESSARY VALVES, TRAPS, TAIL PIECES, LINE STRAINERS, PRESSURE REDUCING VALVES AND VACUUM BREAKERS AND CONNECT ALL WATER, FUEL GAS, STEAM AND WASTE LINES TO FOODSERVICE EQUIPMENT.
6. DIVISION 22 TO PROVIDE GAS SERVICES AT EQUIPMENT TO MAINTAIN AN 8" WATER COLUMN. FOOD SERVICE EQUIPMENT CONTRACTOR TO PROVIDE GAS PRESSURE REGULATORS AS REQUIRED BY CODE AND A.G.A. FOR INSTALLATION BY DIVISION 22 IN LINE BETWEEN BUILDING SERVICES AND EQUIPMENT.
7. DIVISION 22 SHALL INSTALL & CONNECT ALL FAUCETS AND DRAINS FURNISHED WITH FOOD SERVICE AND BEVERAGE EQUIPMENT.
8. DIVISION 22 SHALL FURNISH & INSTALL ALL INDIRECT WASTE LINES FROM FOOD SERVICE AND BEVERAGE EQUIPMENT (EXCEPT EVAPORATOR COILS IN COLD STORAGE ROOMS) TO FLOOR SINKS AND INSULATE WASTE LINES FROM ICE BINS, EVAPORATORS AND BAIN MARIES.
9. FOOD SERVICE EQUIPMENT CONTRACTOR SHALL FURNISH & INSTALL FIRE SUPPRESSION SYSTEM. FSE CONTRACTOR SHALL FURNISH & DIVISION 22 SHALL INSTALL NORMALLY OPEN MECHANICALLY ACTIVATED OR ELECTRICAL SOLENOID GAS SHUT-OFF VALVE ABOVE SUSPENDED CEILING TILE.
10. WHERE PERMITTED BY LOCAL CODE, FLOOR SINKS SHALL BE INSTALLED FLUSH WITH FINISH FLOOR WITH GRATE COVER AS INDICATED.
11. THIS PLUMBING PLAN IS INTENDED TO SHOW DRAINAGE REQUIREMENTS FOR FOODSERVICE EQUIPMENT ONLY. IT IS THE PLUMBING ENGINEER'S RESPONSIBILITY TO CONFIRM DRAIN TYPE, CAPACITY & ELEVATION TO SATISFY LOCAL CODE REQUIREMENTS.
12. SEWAGE AND LIQUID WASTES (ROOF DRAINS) ARE TO BE CARRIED TO THE SEWER IN A MANNER THAT PROTECTS THE PREMISES, THE PERSONNEL AND CONTENTS WITHIN THE ESTABLISHMENT FROM CONTAMINATION. THE PLUMBING ENGINEER IS TO DESIGN WASTE PIPING SYSTEMS THAT CONFORM TO LOCAL HEALTH CODE REQUIREMENTS. PARTICULAR ATTENTION NEEDS TO BE GIVEN TO ANY LOCAL REQUIREMENTS PREVENTING WASTE PIPING (EXPOSED OR CONCEALED) FROM BEING ROUTED OVERHEAD IN AREAS USED FOR FOOD STORAGE, PREPARATION, SERVICE, WAREWASHING AND TRANSPORTATION.
13. GENERAL PURPOSE AREA DRAINS SHALL BE LOCATED AND SPECIFIED BY THE PLUMBING ENGINEER. THIS IS OF PARTICULAR IMPORTANCE WHEN LOCAL CODES REQUIRE THAT DRAINS ACCEPTING INDIRECT WASTE BE SET ABOVE THE FINISHED FLOOR.
14. DIVISION 22 TO RUN WASTES TO GREASE INTERCEPTOR PER LOCAL CODES. GREASE INTERCEPTOR, IF REQUIRED, IS TO BE SIZED AND LOCATED BY THE PLUMBING ENGINEER. WASTE ROUGH-IN FOR DISCHARGE PIPING FROM A SURFACE MOUNTED GREASE INTERCEPTOR IS TO BE DIMENSIONED BY THE PLUMBING ENGINEER.
15. DIVISION 22 SHALL INSTALL WATER FILTER SYSTEMS PROVIDED BY THE FOOD SERVICE EQUIPMENT CONTRACTOR TO SERVICE ICE MAKERS, COFFEE MAKERS/ URNS, SODA SYSTEMS, STEAMERS, ETC.
16. FOOD SERVICE EQUIPMENT CONTRACTOR TO PROVIDE , DIVISION 22 TO INSTALL, FLEXIBLE CONNECTORS FOR FOODSERVICE & BEVERAGE EQUIPMENT REQUIRING GAS, WATER & STEAM CONNECTIONS. REFER TO PLUMBING SCHEDULE AND CONTRACT DOCUMENTS.

Plumbing Notes
1/4" = 1'-0"

ELECTRICAL NOTES

1. ELECTRICAL PLAN SHOWS ROUGH-IN AND CONNECTION LOCATIONS WITH CAPACITIES - SEE ROUGH-IN DRAWINGS FURNISHED BY THE FOOD SERVICE EQUIPMENT CONTRACTOR FOR ACTUAL ROUGH-IN LOCATIONS
2. ELECTRICAL SYSTEM IS DESIGNED FOR _____ VOLTS, _____ PHASE, _____ HERTZ, _____WIRE SYSTEM.
3. DIVISION 26 SHALL FURNISH AND INSTALL ALL JUNCTION BOXES, RECEPTACLES, COVER PLATES, PULL BOXES, CONDUIT AND WIRING EXCEPT WHERE NOTED.
4. ALL CONDUIT RUNS INDICATED FOR REFRIGERATION, DRINK AND LIQUOR SYSTEM LINES SHALL BE FURNISHED AND INSTALLED BY DIVISION 26 - CONDUIT SHALL HAVE 24" MINIMUM RADIUS BENDS. REFER TO BUILDING WORKS PLAN FOR ROUTING AND DETAILS.
5. DIVISION 26 TO FURNISH & INSTALL SAFETY DISCONNECT SWITCHES WHER REQUIRED, REFER TO ELECTRICAL SCHEDULE & CONTRACT DOCUMENTS. SDS TO BE S/S OR ALUMINUM.
6. FSE CONTRACTOR SHALL FURNISH AND INSTALL ALL ELECTRICAL WORK FOR FABRICATED EQUIPMENT ITEMS (CHEF'S COUNTER, TABLES, ETC.) AS NOTED; COMPLETEWITH JUNCTION BOXES, CONDUIT, SURFACE MOUNTED ELECTRIC BOXES, COVER PLATES, ELECTRIC RACEWAYS AND CIRCUIT BREAKER PANEL, WHEN SPECIFIED. DIVISION 26 SHALL PULL WIRING AND MAKE FINAL CONNECTION.
7. FOOD SERVICE EQUIPMENT CONTRACTOR SHALL FURNISH & INSTALL VAPOR PROOF VENTILATOR LIGHTS COMPLETE WITH LAMPS - INTERCONNECTING CONDUIT, WIRING AND WALL SWITCH FURNISHED AND INSTALLED BY DIVISION 26.
8. ADDITIONAL CONVENIENCE RECEPTACLES, TELEPHONE AND INTERCOM JACKS SHALL BE LOCATED BY THE ARCHITECT.
9. FOOD SERVICE EQUIPMENT CONTRACTOR SHALL FURNISH & INSTALL DISPOSER SWITCH - DIVISION 26 SHALL FURNISH AND INSTALL INTERCONNECTING CONDUIT AND WIRING BETWEEN SWITCH AND DISPOSER AND COMPONENTS.
10. DIVISION 26 TO FURNISH & INSTALL ALL INTERCONNECTING CONDUIT & WIRING BETWEEN MICROSWITCH FURNISHED WITH FIRE SUPPRESSION SYSTEM SUPPLIED BY THE FOOD SERVICE EQUIPMENT CONTRACTOR. CONTRACTORS FURNISHED BY DIVISION 26.
11. DIVISION 26 TO FURNISH & INSTALL SHUNT TRIP TYPE BREAKER DISCONNECT TO FOOD SERVICE EQUIPMENT UNDERNEATH EXHAUST VENTILATOR. COORDINATE SHUNT TRIP BREAKER REQUIREMENTS WITH FOOD SERVICE EQUIPMENT CONTRACTOR.
12. DIVISION 26 TO FURNISH & INSTALL INTERCONNECTION CONDUIT AND WIRING (2 WIRE 24 VDC) BETWEEN ALARM PANEL AND COLD STORAGE ROOM ALARM THERMOSTAT - PANEL AND THERMOSTAT FURNISHED AND INSTALLED BY THE FOOD SERVICE EQUIPMENT CONTRACTOR.
13. PRE - FABRICATED COLD STORAGE ROOMS ARE FURNISHED BY THE FOOD SERVICE EQUIPMENT CONTRACTOR COMPLETE WITH SPLICE BOXES, LIGHT FIXTURES, LAMPS, LIGHT SWITCHES AND DOOR HEATERS - DIVISION 26 TO INSTALL SAME AND SHALL FURNISH AND INSTALL INTERCONNECTING CONDUIT, WIRING, SEAL - OFFS, SEALANT AND MAKE ALL FINAL CONNECTIONS.
14. DIVISION 26 TO FURNISH & INSTALL ALL INTERCONNECTING CONDUIT AND WIRING BETWEEN FOOD SERVICE EQUIPMENT CONTRACTOR FURNISHED LOW TEMP COLD STORAGE ROOM EVAPORATOR TERMINAL BLOCK, SWITCH, FAN DOOR SWITCH AND COMPRESSOR CONTROL PANEL.
15. DIVISION 26 TO FURNISH & INSTALL ALL INTERCONNECTING CONDUIT AND WIRING BETWEEN FOOD SERVICE EQUIPMENT CONTRACTOR FURNISHED LOW TEMP COLD STORAGE ROOM EVAPORATOR TERMINAL BLOCK, ROOM THERMOSTAT, LIQUID LINE SOLENOID VALVE, FAN DOOR SWITCH/RELAY, EVAPORATOR COIL DRAIN LINE HEAT TAPE AND COMPRESSOR CONTROL PANEL.
16. DIVISION 26 TO FURNISH & INSTALL EMPTY CONDUIT WITH J-BOXES FOR INSTALLATION OF OWNER SUPPLIED ELECTRONIC CASH CONTROL SYSTEM. DIVISION 26 TO VERIFY INSTALLATION IN ACCORDANCE WITH OWNER'S REQUIREMENTS AND MANUFACTURER'S INSTRUCTIONS.

Electrical Notes
1/4" = 1'-0"

SEAL

FOR REFERENCE ONLY

Winter Park Library and Event Center

Hunton Brady ARCHITECTS

Adjaye Associates

DATE	SUBMISSION	NO
10.22.19	CONSTRUCTION DOCUMENTS	

Events Center Level 2 Pantry Electrical and Plumbing

PROJ. NO. E-16078.00 SHEET
DRAWN Author

FS201

HOOD INFORMATION – 3974668

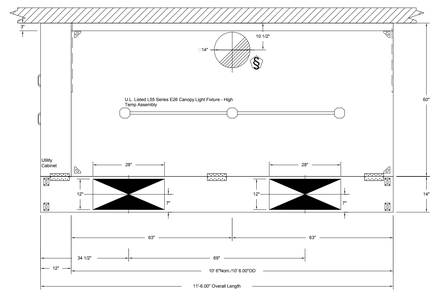
HOOD NO.	TAG	MODEL	LENGTH	MAX. COOKING TEMP.	APPLIANCE DUTY	DESIGN CFM/ft	TOTAL EXH. CFM	EXHAUST PLENUM RISER(S) WIDTH	LENG.	HEIGHT	DIA.	CFM	VEL.	S.P.	TOTAL SUPPLY CFM	HOOD CONSTRUCTION	HOOD CONFIG END TO END	ROW
1		6024 ND-2-PSP-F	10' 6"	450 Deg.	Medium	200	2100			4"	14"	2100	1964	-1.176"	1722	430 SS Where Exposed	ALONE	ALONE

HOOD INFORMATION:

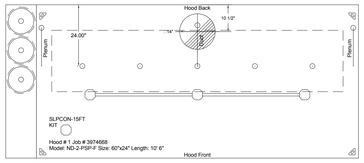
HOOD NO.	TAG	FILTER(S) TYPE	QTY.	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	LIGHT(S) QTY.	TYPE	WIRE GUARD	LOCATION	SIZE	UTILITY CABINET(S) FIRE SYSTEM TYPE	FIRE SYSTEM SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY	FIRE SYSTEM PIPING	HOOD HANGING WGHT
1		Captrate Solo Filter	7	16"	16"	85% See Filter Spec.	3	L55 Series E26	NO	Left	12"x60"x24"	Cas Electric Wet Chemical	4.0/4.0/4.0	DCV-1111	1 Light 1 Fan	YES	1125 LBS

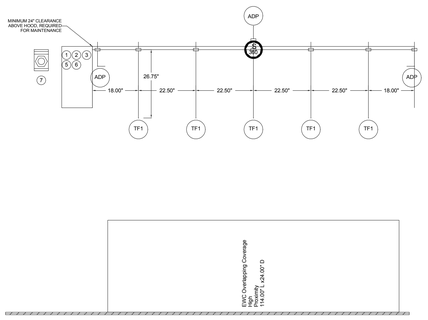
Fire System Information – 3974668

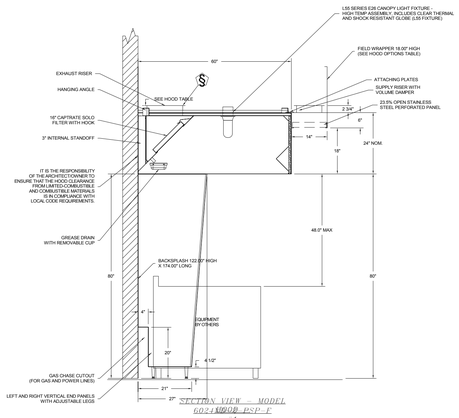
FIRE SYSTEM NO.	Tag	TYPE	SIZE	FLOW POINTS	INSTALLATION SYSTEM	LOCATION ON HOOD
1		Cas Electric Wet Chemical	4.0/4.0/4.0	13	Fire Cabinet Left	Left



PLAN VIEW – HOOD
10' 6.00" LONG
6024ND-2-PSP-F







SECTION VIEW – MODEL
6024ND2-PSP-F
#1

NOTES
- FIELD PIPE DROPS AS SHOWN
  SLEEVING, ELBOWS, TEES, AND NOZZLES SUPPLIED BY CAS
- RELOCATE NOZZLES IF FLOW PATTERN IS BLOCKED BY SHELVING, SALAMANDERS, ETC.
- IF APPLICABLE, PRE-PIPED CHARBROILER DROPS ARE SHIPPED LOOSE.
- FACTORY PIPING EXTENDS A MAXIMUM OF 6" ABOVE THE TOP OF THE HOOD.

- APPLIANCE DIMENSIONS LISTED REPRESENT THE COOKING SURFACE SIZE, NOT THE OVERALL APPLIANCE SIZE.

- THIS FIRE SYSTEM COMPLIES WITH U.L. 300 REQUIREMENTS

- MINIMUM 24" CLEARANCE ABOVE HOOD, REQUIRED FOR MAINTENANCE

Job #: 3974668
Job Name: WINTER PARK LIBRARY EWC

System Size: CAS-EWC-SP-3 Total FP required: 13
Hood # 1 10' 6.00" Long x 60" Wide x 24" High
Riser # 1 Size: 14" Dia.

- SOLID-FUEL APPLIANCES (EXTRA HEAVY-DUTY RATED 700°F) REQUIRE AN ADDITIONAL FIRESTAT AT END OF THE EXHAUST DUCT NEAR EXHAUST FAN IF THE DUCT IS MORE THAN 10 FT LONG OR CONTAINS ANY HORIZONTAL SECTIONS.
- SOLID-FUEL APPLICATIONS WHERE THE DUCTWORK EXCEEDS 50 FT IN LENGTH WILL REQUIRE A THIRD FIRESTAT, MOUNTED IN A SERVICEABLE LOCATION, IDEALLY AT THE END OF A HORIZONTAL RUN OR TRANSITION. CONSULT ENGINEERING ON DUCT LENGTHS OVER 100 FT.
- HEAVY-DUTY APPLIANCES (RATED 600°F) WILL REQUIRE AN ADDITIONAL DOWNSTREAM FIRESTAT IN THE EVENT THAT THE DUCTWORK CONTAINS ANY HORIZONTAL RUNS OVER 25 FT IN LENGTH.
- MEDIUM TO LIGHT-DUTY APPLIANCES (RATED 450°F) WILL NOT REQUIRE ANY ADDITIONAL DOWNSTREAM DETECTION.

LEGEND – FIRE CABINET CAS--EWC SYSTEM

1	4 GALLON TANK	
2	PRIMARY ACTUATOR RELEASE	
3	SECONDARY ACTUATOR RELEASE	
4	PRESSURE SUPERVISION SWITCH	
5	PRIMARY HOSE ASSEMBLY	
6	SECONDARY HOSE ASSEMBLY	
7	REMOTE MANUAL ACTUATION DEVICE	
TF1	NOZZLE ASSEMBLY (TF1)	
ADP	NOZZLE ASSEMBLY (ADP)	
S	SWIVEL ADAPTER	

EQUIPMENT SHALL BE PROVIDED BY THE FOOD SERVICE EQUIPMENT CONTRACTOR AND INSTALLED BY THE GENERAL CONTRACTOR

1 Mechanical Details 1
1/2" = 1'-0"

CAPTIVE-AIRE
Commercial Kitchen Systems
Office
165 Sabal Palm Dr., Suite 135, Longwood, FL. 32779 PHONE: (407) 682-0317 FAX: (919) 227-5078 EMAIL: mgoff@captiveaire.com

WINTER PARK LIBRARY EWC
ORLANDO, FL. 32814

9/10/2019
3974668
NJL
3/4" = 1'-0"
MASTER DRAWING

SEAL

FOR REFERENCE ONLY

Winter Park Library and Event Center

Hunton Brady ARCHITECTS
Adjaye Associates

DATE	SUBMISSION	NO
10.22.19	CONSTRUCTION DOCUMENTS	

Food Service Mechanical Details

PROJ. NO. E-16078.00 SHEET
DRAWN NL/ST
FS202

EXHAUST FAN INFORMATION - JOB#3974668

FAN UNIT NO.	TAG	FAN UNIT MODEL #	CFM	ESP.	RPM	H.P.	B.H.P.	□	VOLT	FLA	DISCHARGE VELOCITY	WEIGHT (LBS.)	SONES
1		USBI18DD-RM	2100	2.000	1275	1.500	1.1440	3	208	6.6	1076 FPM	395	18.2

CONDENSER DETAILS

FAN UNIT NO.	TAG	FAN UNIT MODEL #	CONDENSER NO.	TONNAGE	VOLTAGE	PHASE	FREQUENCY	MCA	RLA	MAX. FUSE SIZE	MIN. WIRE SIZE	SEER
2		A1-D.250-15D-MPU	1	3	208-230	3 PHASE	60 Hz	14.5 Amps	11.9 Amps	20 Amps	14 AWG	14

MUA FAN INFORMATION - JOB#3974668

FAN UNIT NO.	TAG	FAN UNIT MODEL #	BLOWER	HOUSING	MIN CFM	DESIGN CFM	ESP.	RPM	H.P.	B.H.P.	□	VOLT	FLA	COOLING COIL ENTERING DB TEMP.	COOLING COIL ENTERING WB TEMP.	COOLING COIL LEAVING DB TEMP.	COOLING COIL LEAVING WB TEMP.	COOLING COIL TOTAL CAPACITY	COOLING COIL SENSIBLE CAPACITY	COOLING COIL LATENT CAPACITY	WEIGHT (LBS.)	SONES	BURNER EFFICIENCY(%)
2		A1-D.250-15D-MPU	15MF-1-MOD	A1-D.250	1000	1722	0.550	1998	1.500	1.2320	3	208	4.4	93.0°F	76.0°F	80.4°F	70.5°F	36.0 MBH	22.9 MBH	13.1 MBH	1076	20	92

GAS FIRED MAKE-UP AIR UNIT(S)

FAN UNIT NO.	TAG	INPUT BTUs	OUTPUT BTUs	TEMP. RISE	REQUIRED INPUT GAS PRESSURE	GAS TYPE
2		61754	56814	31 deg F	7 in. w.c. - 14 in. w.c.	Natural

FAN #2 A1-D.250-15D-MPU - HEATER

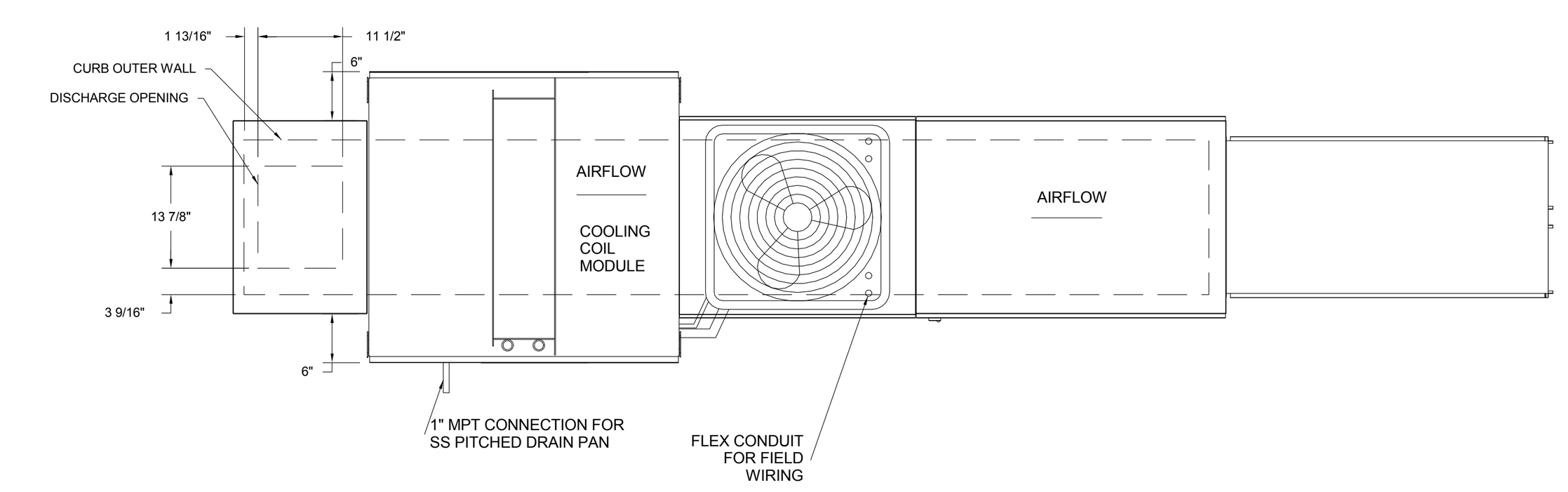
PIPING. (1,100 TO 1,800 CFM) NOT BUILT WITH OPPOSITE SIDE CONTROLS OR OPPOSITE AIRFLOW DIRECTION. CONDENSERS REQUIRE SEPARATE 208V, 3 PHASE POWER SUPPLY UNLESS ORDERED WITH SINGLE POINT CONNECTION. COIL = 2EZ1001N

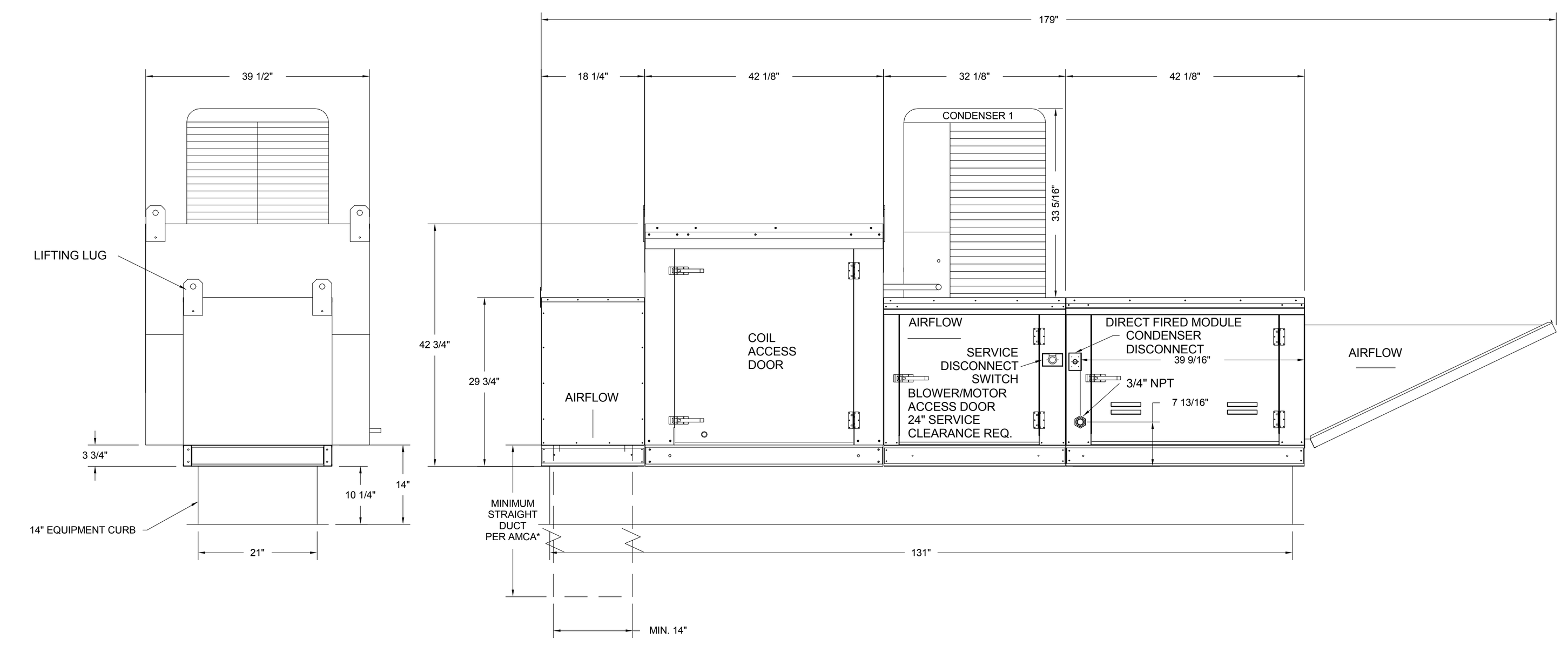
ELECTRICIAN FROM DCV TO MUA SWITCH.

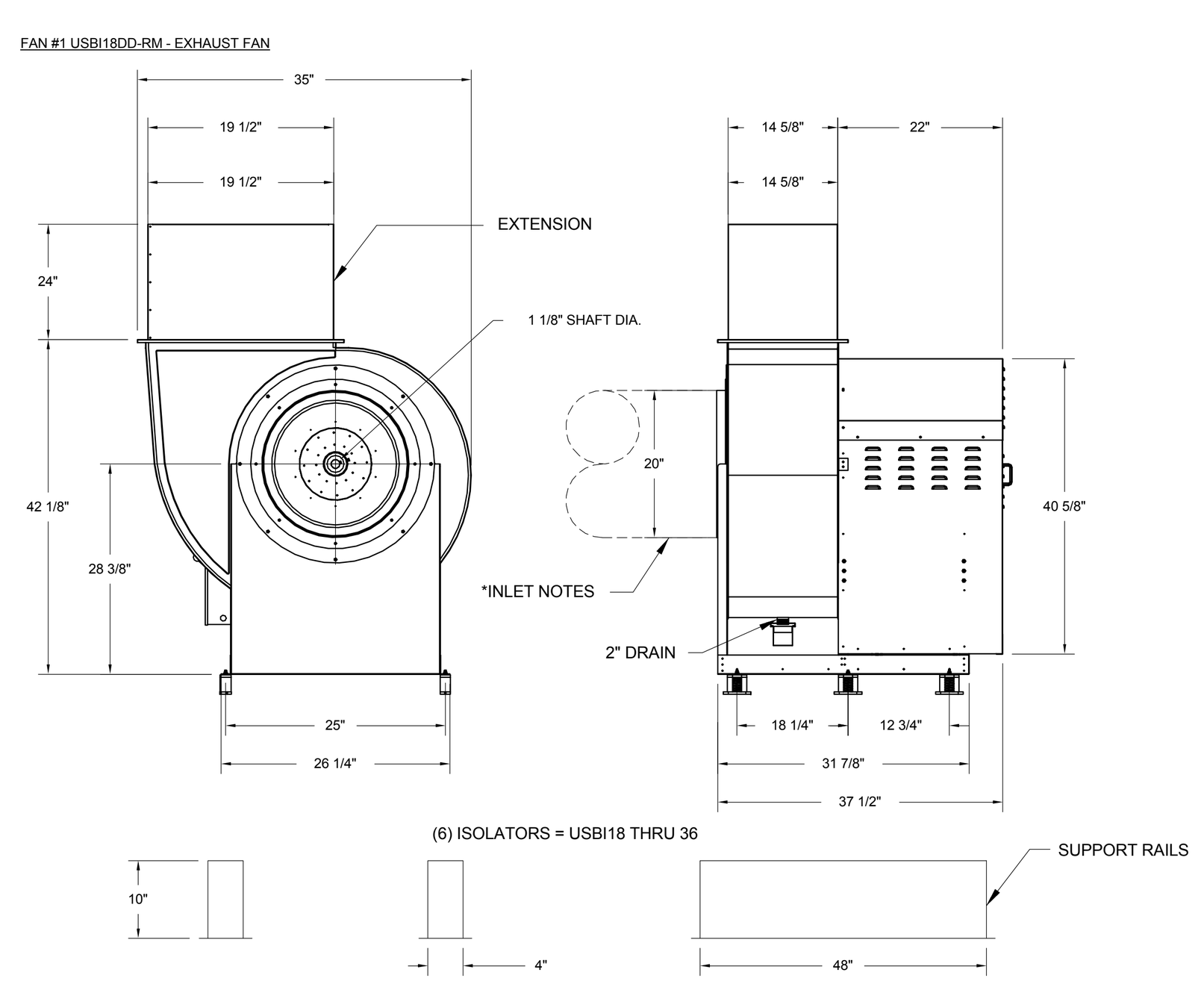
*NOTE: SUPPLY DUCT MUST BE INSTALLED TO MEET SMACNA STANDARDS. A MINIMUM STRAIGHT DUCT LENGTH MUST BE MAINTAINED DOWNSTREAM OF UNIT DISCHARGE AS OUTLINED IN AMCA PUBLICATION 201. DO NOT RELY ON UNIT TO SUPPORT DUCT IN ANY WAY. FAILURE TO PROPERLY SIZE DUCTWORK MAY CAUSE SYSTEM EFFECTS AND REDUCE PERFORMANCE OF THE EQUIPMENT.
SUGGESTED STRAIGHT DUCT SIZE IS 14" x 14"

SUPPLY SIDE HEATER INFORMATION:

WINTER TEMPERATURE = 44°F.
TEMP. RISE = 31°F.
BTUs CALCULATED OFF ACTUAL AIR DENSITY
OUTPUT BTUs AT ALTITUDE OF 0.0 ft. = 57030
INPUT BTUs AT ALTITUDE OF 0.0 ft. = 61989
OUTPUT BTUs AT ALTITUDE OF 105 ft. = 56814
INPUT BTUs AT ALTITUDE OF 105 ft. = 61754







FEATURES:

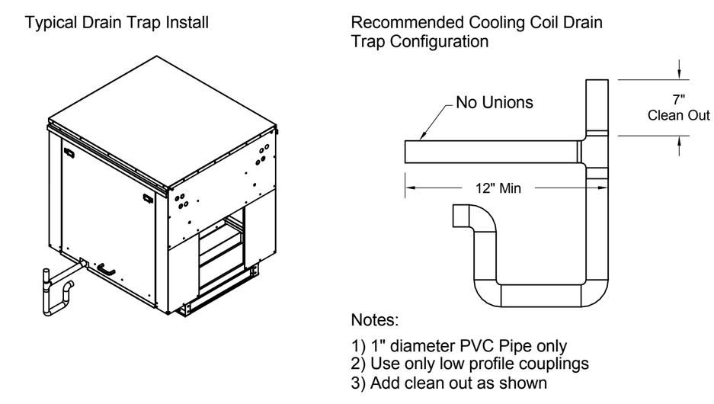
- ROOF MOUNTED FANS
- UL705
- UL762 AND ULC-S645 (RESTAURANT MODEL)
- HIGH HEAT OPERATION DIRECT DRIVE 350°F (176°C)
- HIGH HEAT OPERATION BELT DRIVE 350°F (176°C)
- HEAT SLINGER
- WEATHERPROOF DISCONNECT
- GREASE CLASSIFICATION TESTING
- 2" DRAIN
- MOTOR WEATHER COVER
- FULLY SEALED SCROLL HOUSING
- SCROLL ACCESS DOOR
- FLANGE 1 1/4" - 11 THRU 20.
- FLANGE 2" - 24 THRU 36.

OPTIONS

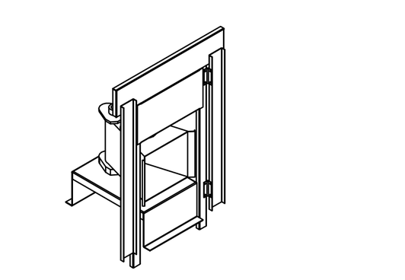
BI18 - 24" DISCHARGE EXTENSION.
BI - DISCHARGE ORIENTATION VERTICAL UPPER LEFT - CW INLET SIDE.
BI18 - INLET CONNECTION STANDARD 20" FLANGED GREASE DUCT.
UTILITY SET GREASE CUP.
UTILITY SET - SPRING VIBRATION ISOLATORS - BI18 / EQUIVALENT SIZED
UTILITY SET - INDOOR/OUTDOOR USE.

Typical Drain Trap Install

Recommended Cooling Coil Drain Trap Configuration



Notes:
1) 1" diameter PVC Pipe only
2) Use only low profile couplings
3) Add clean out as shown



Direct Fired (DF) Profile Plate Assembly

NORMAL TEMPERATURE TEST DIRECT DRIVE
EXHAUST FAN MUST OPER...
WHILE EXHAUSTING AIR A...
UNTIL ALL FAN PARTS HAV...
THERMAL EQUILIBRIUM, AN...
DETERIORATING EFFECTS TO THE FAN WHICH WOULD CAUSE UNSAFE OPERATION.

EQUIPMENT SHALL BE PROVIDED BY THE FOOD SERVICE EQUIPMENT CONTRACTOR AND INSTALLED BY THE MECHANICAL CONTRACTOR

CAPTIVEAIRE
Central Florida Office
165 Sabal Palm Dr., Suite 108, Longwood, FL 32779

WINTER PARK LIBRARY EWC
ORLANDO, FL, 32814

3974668
SPT
MASTER DRAWING

1 Mechanical Details 2
1/2" = 1'-0"

SEAL

FOR REFERENCE ONLY

Winter Park Library and Event Center

Hunton Brady ARCHITECTS

Adjaye Associates

DATE	SUBMISSION	NO
10.22.19	CONSTRUCTION DOCUMENTS	

Food Service Mechanical Details

PROJ. NO. E-16078.00 SHEET
DRAWN Author

FS203

CITY OF WINTER PARK

LIBRARY AND EVENTS CENTER

1050 W. MORSE BOULEVARD
WINTER PARK, FLORIDA 32890

HUNTON BRADY PROJECT NO.E - 16078.00

Hunton Brady ARCHITECTS

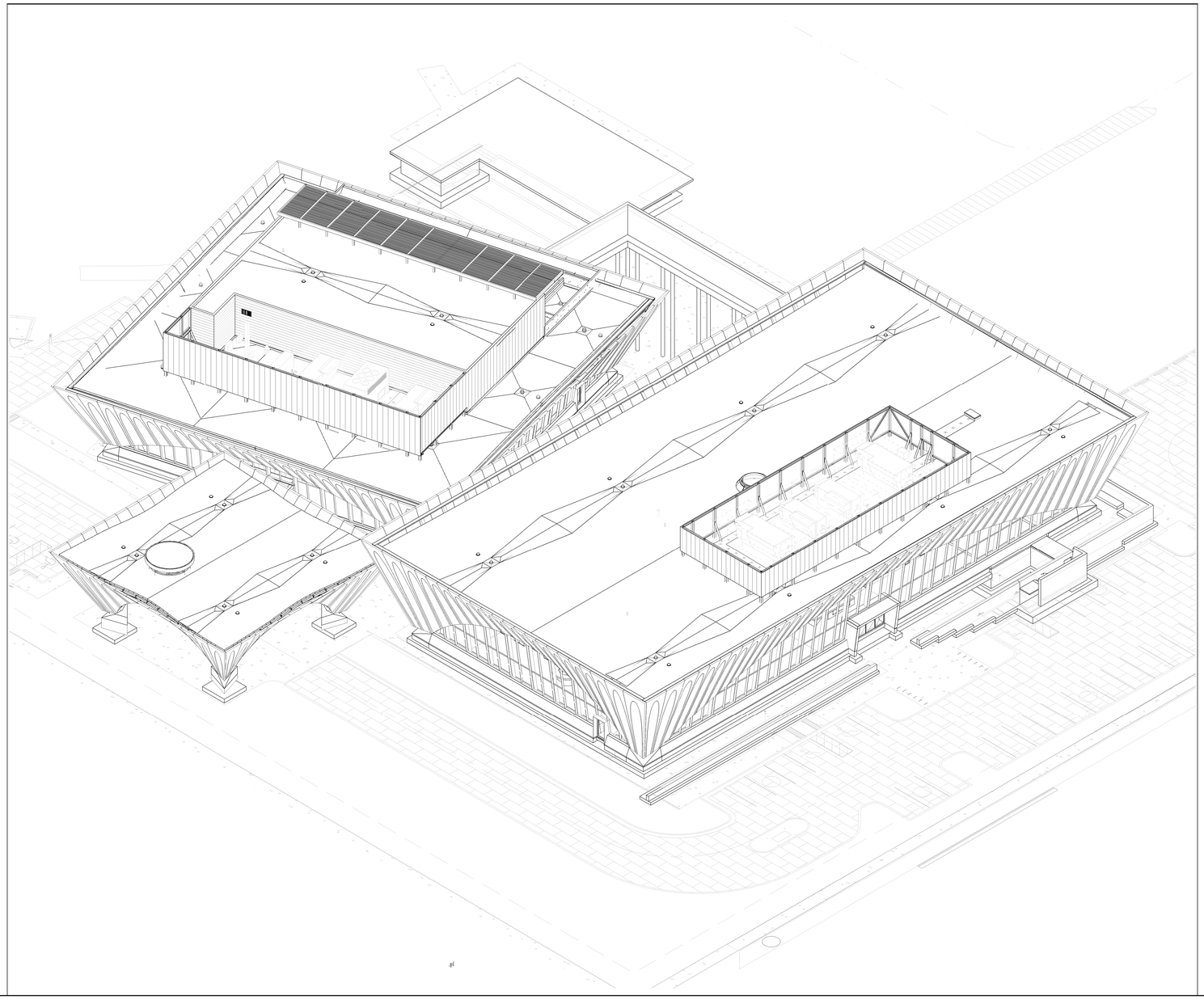
10.22.19 CONSTRUCTION DOCUMENTS

VICINITY MAP

LEGAL DESCRIPTION

A PORTION OF LAKE ISLAND ESTATES, AS RECORDED IN PLAT BOOK M, PAGE 95, OF THE PUBLIC RECORDS OF ORANGE COUNTY, FLORIDA; BEING MORE PARTICULARLY AS FOLLOWS:

ALL OF BLOCKS 3, 4, 6, 7, 8, 9, 11, 12 & 13, TOGETHER WITH THAT PORTION OF CURRIER AVENUE (A 50' WIDE PLATTED RIGHT-OF-WAY) BEING BOUNDED TO THE SOUTH BY THE EASTERLY EXTENSION OF THE SOUTHERLY LINE OF BLOCK 3, AND BOUNDED TO THE NORTH BY THE EASTERLY EXTENSION OF THE NORTH LINE OF SAID BLOCK 9 AND THAT PORTION OF GORDON STREET (A 50' WIDE PLATTED RIGHT-OF-WAY) BEING BOUNDED TO THE WEST BY THE SOUTHERLY EXTENSION OF THE WESTERLY LINE OF BLOCK 9 AND BOUNDED TO THE EAST BY THE SOUTHERLY EXTENSION OF THE EAST LINE OF SAID BLOCK 9, AND THAT PORTION OF NEW ENGLAND AVENUE (A 50' WIDE PLATTED RIGHT-OF-WAY) BEING BOUNDED TO THE EAST BY THE SOUTHERLY EXTENSION OF THE EASTERLY LINE OF SAID BLOCK 11 AND BOUNDED TO THE WEST BY THE SOUTHERLY EXTENSION OF THE WESTERLY LINE OF SAID BLOCK 11 AND THAT PORTION OF LYMAN AVENUE (A 50' WIDE PLATTED RIGHT-OF-WAY) BEING BOUNDED TO THE EAST BY THE SOUTHERLY EXTENSION OF THE EAST LINE OF SAID BLOCK 7 AND BOUNDED TO THE WEST BY THE SOUTHERLY EXTENSION OF THE WESTERLY LINE OF SAID BLOCK 6 AND THAT PORTION OF WARD AVENUE (A 50' WIDE PLATTED RIGHT-OF-WAY) BEING BOUNDED TO THE SOUTH BY THE EASTERLY EXTENSION OF THE SOUTH LINE OF SAID BLOCK 4 AND BOUNDED TO THE NORTH BY THE EASTERLY EXTENSION OF THE NORTH LINE OF SAID BLOCK 6.



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License AAC001744

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212.965.8477

OWNER'S REPRESENTATIVE
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Columbus, OH 43215
614.280.4000

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407.270.7800

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407.841.9050

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New York , NY 10013
212.675.7760

ENVELOPE CONSULTANT
THORTON TOMASETTI
51 Madison Avenue
New York, NY 10010
917.661.7800

FOOD SERVICE CONSULTANT
FOODSERVICE DESIGN ASSOCIATES
11 Shiloh Lane
Norwich, Vermont 05055
802.649.0212

VOLUME 2

E - 16078.00

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SEAL

CITY OF WINTER PARK
LIBRARY AND EVENTS CENTER

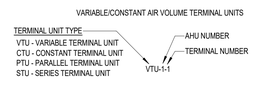
Hunton Brady ARCHITECTS

Adjaye Associates

DATE	SUBMISSION	NO
10.22.19	CONSTRUCTION DOCUMENTS	

DRAWING INDEX - VOLUME 2

PROJ. NO. E - 16078.00 **SHEET**
DRAWN JR
G012



HVAC SYMBOL LEGEND

SYMBOL	DESCRIPTION
	-CEILING DIFFUSER, ROUND NECK (CEILING DIFFUSERS ARE 4-WAY THROW UNO)
	-ROUND DIFFUSER
	-CEILING RETURN
	-CEILING EXHAUST
	-CEILING DIFFUSER, RECTANGULAR OR SQUARE NECK (CEILING DIFFUSERS ARE 4-WAY THROW UNO)
	-SUPPLY REGISTER OR GRILLE (VERTICAL MOUNT, SIDEWALL)
	-RETURN/EXHAUST REGISTER OR GRILLE (VERTICAL MOUNT, SIDEWALL)
	-REVISION REFERENCE
	-DETAIL REFERENCE: TOP-DETAIL#, BOTTOM-DRAWING# SHOWN ON
	-THERMOSTAT/TEMPERATURE SENSOR
	-HUMIDISTAT/HUMIDITY SENSOR
	-DUCT SMOKE DETECTOR
	-CONNECT TO EXISTING
	-DEMOLISH TO POINT INDICATED
	-MOTORIZED CONTROL DAMPER
	-TEMPERATURE SENSOR
	-PRESSURE SENSOR
	-BACKDRAFT DAMPER
	-NEUTRAL RELATIVE PRESSURE
	-POSITIVE RELATIVE PRESSURE
	-NEGATIVE RELATIVE PRESSURE
	-SHEET NOTE CALLOUT
	-SHEET NOTE CALLOUT
	-SHEET NOTE CALLOUT
	-CEILING MOUNTED ACCESS DOOR
	-CONDENSATE
	-REFRIGERANT LIQUID
	-REFRIGERANT SUCTION
	-TEE, OUTLET DOWN
	-TEE, OUTLET UP
	-45° PIPE RISE (R) / DROP (D)
	-PIPE ANCHORS
	-CONCENTRIC REDUCER
	-ECCENTRIC REDUCER
	-ELBOW, TURNED DOWN
	-ELBOW, TURNED UP

SYMBOL	DESCRIPTION
	-FIRE DAMPER (WITH ACCESS PANEL)
	-FIRE & SMOKE DAMPER (WITH ACCESS PANEL)
	-MOTOR OPERATED CONTROL DAMPER (MOD)
	-AIR FLOW MEASURING STATION
	-MANUAL BALANCING DAMPER
	-UNDERCUT DOOR
	-ACCESS DOORS, VERTICAL OR HORIZONTAL
	-FLEXIBLE CONNECTION
	-FLAT OVAL DUCT
	-NEW DUCTWORK, FIRST DIMENSION IS SIDE SHOWN
	-DUCT ELBOW, POSITIVE PRESSURE (SUPPLY), FIRST DIMENSION INDICATES SIDE TO WHICH ARROW IS POINTING
	-DUCT ELBOW, EXHAUST
	-DUCT ELBOW, NEGATIVE PRESSURE, RETURN
	-DUCT ELBOW UP THROUGH ROOF OR SLAB ABOVE
	-RECTANGULAR DUCT SECTION UP, POSITIVE PRESSURE, SUPPLY OR OUTSIDE AIR
	-RECTANGULAR DUCT SECTION UP, NEGATIVE PRESSURE, RETURN
	-RECTANGULAR DUCT SECTION UP, EXHAUST
	-ROUND DUCT SECTION UP
	-EXHAUST DUCT UP THROUGH SLAB W/ FAN ON ROOF ABOVE
	-EXHAUST FAN ON ROOF W/ DUCT DOWN THROUGH ROOF

SYMBOL	DESCRIPTION
	-TERMINAL UNIT, VARIABLE/CONSTANT AIR VOLUME WITH ELECTRIC HEAT
	-TERMINAL UNIT, VARIABLE/CONSTANT AIR VOLUME, FAN POWERED
	-TERMINAL UNIT, VARIABLE/CONSTANT AIR VOLUME, FAN POWERED, WITH ELECTRIC HEAT
	-CHANGE OF ELEVATION
	-FLEXIBLE DUCT
	-TRANSITION, CONCENTRIC
	-TRANSITION, ECCENTRIC
	-TRANSITION, SQUARE TO ROUND
	-SQUARE THROAT TEE
	-RADIUS TEE
	-RECTANGLE-TO-ROUND TAKE-OFF
	-STANDARD BRANCH TAKE-OFF
	-SPIN-IN TAKE-OFF
	-SQUARE THROAT ELBOW W/TURNING VANES
	-RADIUS ELBOW
	-RECTANGULAR/ROUND BRANCH TAKE-OFF OR ROUND/ROUND BRANCH TAKE-OFF

NOTE: SOME SYMBOLS SHOWN ON THIS LEGEND MAY NOT PERTAIN TO THIS PROJECT

VENTILATION CALCULATION

AREA SERVED	DESIGN OCCUPANCY	VENTILATION RATE CFM/PERSON	SYSTEM AREA (S.F.)	VENTILATION RATE (CFM/S.F.)	UNCORRECTED OA CFM	APPENDIX A CALCULATED Evz	CALCULATED VENTILATION RATE CFM	DESIGN VENTILATION RATE CFM
RTU-1	135	5.6	9,910	.11	1,838	0.51	3,605	4,120
RTU-2	172	5	6,020	.1	1,467	0.33	4,445	4,550
RTU-3	104	5	6,484	.1	1,156	0.49	2,358	2,900
RTU-4	139	5	5,000	.09	1,140	0.52	2,193	2,200
RTU-5	147	6.3	9,556	.07	1,590	0.54	2,944	4,550
RTU-6	300	5	2,600	.06	1,656	-	2,070	2,180
RTU-7	300	5	2,600	.06	1,656	-	2,070	2,180
						TOTAL	19,685	22,680

NOTES;

1. DESIGN BASED ON THE VENTILATION RATE PROCEDURE PER ASHRAE STANDARD 62.1. CALCULATIONS FOR RTU-1 THROUGH RTU-5 ARE BASED ON A MULTI-ZONE CALCULATION, AND THE Evz WAS DETERMINED FROM APPENDIX A. RTU-6 AND RTU-7 ARE SINGLE ZONE UNITS.
2. THE DESIGN WILL NEED TO BE RE-EVALUATED IF, AT A LATER TIME, CHANGES OCCUR IN THE USAGE OF THE SPACE, OR IF UNUSUALLY STRONGSOURCES OF SPECIFIC CONTAMINANTS ARE INTRODUCED INTO THE SPACE.

Library Air Balance Table

	Supply Air	Outside Air	Exhaust Air	Relief Air	Net
RTU-1	11000 CFM	+4120 CFM	-	-2555 CFM	+1565 CFM
RTU-2	10000 CFM	+4550 CFM	-	-3150 CFM	+1400 CFM
RTU-3	7150 CFM	+2900 CFM	-	-1680 CFM	+1220 CFM
RTU-4	5850 CFM	+2200 CFM	-	-1540 CFM	+660 CFM
EF-1	-	-	-225 CFM	-	-225 CFM
EF-2	-	-	-300 CFM	-	-300 CFM
EF-3	-	-	-600 CFM	-	-600 CFM
EF-4	-	-	-640 CFM	-	-640 CFM
EF-5	-	-	-225 CFM	-	-225 CFM
EF-6	-	-	-300 CFM	-	-300 CFM
-	-	-	-	-	-
NET BUILDING PRESSURIZATION					+2555 CFM

Event Center Air Balance Table

	Supply Air	Outside Air	Exhaust Air	Relief Air	Net
RTU-5	11300 CFM	+4550 CFM	-	-	+4550 CFM
RTU-6	5500 CFM	+2180 CFM	-	-1600 CFM	+580 CFM
RTU-7	5500 CFM	+2180 CFM	-	-1600 CFM	+580 CFM
MAU-1	1720 CFM	+1720 CFM	-	-	+1720 CFM
EF-7	-	-	-725 CFM	-	-725 CFM
EF-8	-	-	-300 CFM	-	-300 CFM
EF-9	-	-	-2100 CFM	-	-2100 CFM
EF-10	-	-	-1200 CFM	-	-1200 CFM
NET BUILDING PRESSURIZATION					+3105 CFM

HVAC ABBREVIATIONS

SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION
AFF	-ABOVE FINISHED FLOOR	LD	-LINEAR DIFFUSER
AFR	-ABOVE FINISHED ROOF	MBH	-THOUSAND BTUs PER HOUR
AHU	-AIR HANDLING UNIT	MCA	-MINIMUM CIRCUIT AMPS
AP	-ACCESS PANEL	MOCP	-MAXIMUM OVER CURRENT PROTECTION
BOP	-BOTTOM OF PIPE	MOD	-MOTOR OPERATED CONTROL DAMPER
BHP	-BRAKE HORSEPOWER	NC	-NORMALLY CLOSED
BTU	-BRITISH THERMAL UNIT	NO	-NORMALLY OPEN
CL	-CENTER LINE	NTS	-NOT TO SCALE
CFM	-CUBIC FEET PER MINUTE	OA	-OUTSIDE AIR
CD	-CEILING DIFFUSER	OAL	-OUTSIDE AIR LOUVER
CO	-CLEAN OUT	PSI	-POUNDS PER SQUARE INCH
CV	-CONSTANT VOLUME	PSIG	-PSI GAUGE
ΔP	-CHANGE IN PRESSURE	PVC	-POLYVINYL CHLORIDE
ΔT	-CHANGE IN TEMPERATURE	RA	-RETURN AIR
CU	-CONDENSING UNIT	RHC	-REHEAT COIL
DDC	-DIRECT DIGITAL CONTROLS	RPM	-REVOLUTIONS PER MINUTE
DN	-DOWN	RS/L	-REFRIGERANT SUCTION & LIQUID
EAT	-ENTERING AIR TEMPERATURE	RTU	-ROOFTOP AIR HANDLING UNIT
ESP	-EXTERNAL STATIC PRESSURE	SA	-SUPPLY AIR
FCU	-FAN COIL UNIT	SD	-SMOKE DETECTOR
FD	-FIRE DAMPER	SP	-STATIC PRESSURE
FF	-FINAL FILTERS	TSP	-TOTAL STATIC PRESSURE
FLA	-FULL LOAD AMPS	UNO	-UNLESS NOTED OTHERWISE
FPM	-FEET PER MINUTE	V/PH	-VOLTS/PHASE
GPM	-GALLONS PER MINUTE	VAV	-VARIABLE AIR VOLUME
HGRH	-HOT GAS REHEAT	VFD	-VARIABLE FREQUENCY DRIVE
KW	-KILOWATT		
LAT	-LEAVING AIR TEMPERATURE		
LD	-LINEAR DIFFUSER		

HVAC DRAWING INDEX

SHEET	DESCRIPTION
M001	MECHANICAL SYMBOLS, LEGENDS, GENERAL NOTES AND INDEX
M002	COMMISSIONING AND KITCHEN NOTES
M101	MECHANICAL PLAN - BASEMENT LEVEL - AREA 1 - LIBRARY
M111	MECHANICAL PLAN - 1ST LEVEL - AREA 1 - LIBRARY
M112	MECHANICAL PLAN - 1ST LEVEL - AREA 2 - EVENTS CENTER
M121	MECHANICAL PLAN - 2ND LEVEL - AREA 1 - LIBRARY
M122	MECHANICAL PLAN - 2ND LEVEL - AREA 2 - EVENTS CENTER
M131	MECHANICAL PLAN - ROOF LEVEL - AREA 1 - LIBRARY
M401	MECHANICAL SECTIONS & ENLARGED PLANS
M501	KITCHEN CONSULTANT DRAWINGS
M701	MECHANICAL DETAILS
M702	MECHANICAL DETAILS
M703	MECHANICAL DETAILS
M704	MECHANICAL DETAILS
M705	MECHANICAL DETAILS
M706	AHU COMPONENT DIAGRAMS
M707	AHU COMPONENT DIAGRAMS
M801	MECHANICAL SCHEDULES
M802	MECHANICAL SCHEDULES
M803	MECHANICAL SCHEDULES
M901	MECHANICAL CONTROLS
M902	MECHANICAL CONTROLS
M903	MECHANICAL CONTROLS
M904	MECHANICAL CONTROLS

HVAC EQUIPMENT TAGS

THERMAL DESIGN BASIS

1. Outdoor cooling design temperature: 94°F DB / 77°F WB (ASHRAE 0.4% rounded).
2. Outdoor heating design temperature: 38°F DB (ASHRAE 99.6% rounded).
3. Occupancy: Room by room basis with no occupant diversity.
4. Average Heat Gain per Person: 250 BTUH sensible / 200 BTUH latent.
5. Lighting Heat Gain: Conservative LED lighting power densities from 0.66 W/S.F. to 0.9 W/S.F. depending on room usage.
6. Misc Cooling Loads: Room by room basis.
7. Electrical Rooms: Transformer waste heat gain sized per electrical transformer sizing.
8. Roof Assembly: Assembly R-value of R-25.
9. Glazing: U=0.28, SHGC = 0.25.
10. Wall: Assembly R-value of R-6.6.

HVAC GENERAL NOTES

GENERAL:

1. EXISTING EQUIPMENT, SERVICES AND CONSTRUCTION ITEMS INDICATED ON THE DRAWINGS ARE SHOWN FOR REFERENCE ONLY AND MAY NOT ACCURATELY SHOW ACTUAL EXISTING CONDITIONS. THE EXISTING EQUIPMENT, SERVICES AND CONSTRUCTION LAYOUTS SHOWN ARE NOT AS-BUILT DRAWINGS. THEY ARE BASED ON LIMITED FIELD OBSERVATIONS AND FROM VARIOUS PRIOR RECORD DRAWINGS NOT PRODUCED BY THIS ARCHITECT-ENGINEER. IT IS TO BE UNDERSTOOD THAT UNFORESEEN CONDITIONS PROBABLY EXIST AND THAT EXISTING AND NEW WORK MAY NOT BE FIELD LOCATED EXACTLY AS SHOWN ON THE DRAWINGS. VERIFY EXISTING CONDITIONS IN FIELD AND INCLUDE ALL NECESSARY DEVIATIONS IN THIS CONTRACT. NEW WORK MAY NOT BE ABLE TO BE FIELD LOCATED EXACTLY AS SHOWN ON THE DRAWINGS. COORDINATE WITH FIELD CONDITIONS AND PROVIDE NECESSARY ADAPTATIONS TO SUIT EXISTING CONDITIONS.

2. VISIT AND CAREFULLY EXAMINE THOSE PORTIONS OF THE BUILDING AND SITE AFFECTED BY THIS WORK BEFORE SUBMITTING PROPOSALS, SO AS TO BECOME FAMILIAR WITH EXISTING CONDITIONS AND DIFFICULTIES THAT WILL AFFECT EXECUTION OF THE WORK. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH EXAMINATION HAS BEEN MADE AND LATER CLAIMS FOR LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED WILL NOT BE RECOGNIZED.

3. VERIFY EXISTING CONDITIONS IN FIELD AND COORDINATE WITH ALL TRADES PRIOR TO FABRICATING OR INSTALLING EQUIPMENT AND SYSTEMS. COORDINATE NEW WORK WITH EXISTING ELEMENTS SUCH AS THE BUILDING STRUCTURE AND ARCHITECTURAL FEATURES, SPRINKLER PIPING, LIGHTS, PLUMBING, AND ELECTRICAL CONDUIT. FIELD MODIFICATIONS SUCH AS OFFSETS IN PIPING OR DUCTWORK (INCLUDING DIVIDED DUCTWORK) NEEDED DUE TO OBSTRUCTIONS OR INTERFERENCES SHALL BE PROVIDED AT NO ADDITIONAL COST.

4. INTERRUPTIONS TO EXISTING SERVICES SHALL BE SCHEDULED WITH THE OWNER, AND SHALL NOT BE MADE WITHOUT THE PRIOR WRITTEN CONSENT OF THE OWNER'S REPRESENTATIVE AND PROPER COORDINATION WITH OTHER TRADES. PRE-WORK SHALL BE PERFORMED TO MAKE THE SHUTDOWN PERIOD AS BRIEF AS POSSIBLE.

5. CONTRACTOR SHALL BE RESPONSIBLE TO REMOVE, STORE, AND REINSTALL/REPAIR CEILING SYSTEM(S) AS REQUIRED TO PERFORM THE REQUIRED WORK. CONTRACTOR SHALL REPLACE ANY DAMAGED LAY-IN CEILING SYSTEM COMPONENTS (MATCHING EXISTING), INCLUDING STAINED TILES, PRIOR TO REINSTALLATION. REPAIR ANY DISTURBED HARD (NON LAY-IN) CEILINGS TO MATCH EXISTING.

6. COORDINATION OF NEW WORK WITH EXISTING EQUIPMENT, INCLUDING REMOVING, RELOCATING, REROUTING, EXTENDING WITH NEW MATERIALS, AND REINSTALLING EXISTING PIPING, DUCTWORK, CONDUITS, WIRING, TUBING, SUPPORTS, STRUCTURES, AND OTHER EQUIPMENT, AS DETERMINED DURING CONSTRUCTION AND SITE VISITS, AND AS DIRECTED BY THE ARCHITECT-ENGINEER SHALL BE NECESSARY AND SHALL ALSO BE CONSIDERED AS PART OF THIS CONTRACT.

7. PATCHING OF EXISTING WALL OR SLAB OPENINGS NOT BEING REUSED SHALL BE BY GENERAL CONTRACTOR (GC). HVAC CONTRACTOR TO COORDINATE WITH GC.

8. ALL WORK SHALL COMPLY WITH APPLICABLE CODES AND STANDARDS.

9. PRIME CONTRACTOR IS RESPONSIBLE TO HAVE LICENSED AND QUALIFIED SUBCONTRACTORS PERFORMING ALL WORK.

10. ALL WORK SHALL BE CONSTRUCTED TO MEET THE PHASING REQUIREMENTS OF THE PROJECT AS OUTLINED IN THE DRAWINGS AND SPECIFICATIONS, OR AS DICTATED BY THE OWNER AND/OR ARCHITECT.

11. PRIOR TO BID, CHECK LEAD TIMES OF ALL EQUIPMENT IN THE PROJECT. IF NECESSARY TO MEET THE PROJECT SCHEDULE, BID SHALL INCLUDE THE COST TO ACCELERATE DELIVERY OF CRITICAL MATERIALS AND EQUIPMENT. ALLOW TIME FOR NORMAL SHOP DRAWING PREPARATION AND REVIEW.

12. CONTRACTOR SHALL NOT CONCEAL ANY WORK UNTIL INSPECTED BY MECHANICAL INSPECTOR. CONTRACTOR SHALL NOTIFY ENGINEER OF A SCHEDULED INSPECTION TIME WITHIN 72 HOURS. GENERAL CONTRACTOR SHALL NOT CONCEAL WORK UNTIL APPROVED, REGARDLESS OF SCHEDULE.

13. ALL CHANGES MADE IN THE FIELD SHALL BE RECORDED BY THE CONTRACTOR(S) ON AS-BUILT DRAWINGS, SHOP DRAWINGS, AND IN MAINTENANCE MANUALS.

14. DRAWINGS ARE DIAGRAMMATIC IN NATURE. COORDINATE EXACT LOCATION OF ALL EQUIPMENT MOUNTED IN CEILING CAVITY SO ALL SERVICEABLE COMPONENTS CAN BE EASILY ACCESSED BY REMOVING CEILING TILES ONLY. REMOVAL OR RELOCATION OF LIGHTING FIXTURES FOR SERVICE ACCESS IS NOT ACCEPTABLE. THE CONTRACTOR SHALL REINSTALL EQUIPMENT THAT HAS INADEQUATE OR UNSAFE ACCESSIBILITY. LOCATE ALL EQUIPMENT WITH MANUFACTURER RECOMMENDED ACCESS FOR OPERATION AND MAINTENANCE.

15. PROVIDE ACCESS PANELS IN DUCTWORK, WALLS AND CEILINGS WHERE REQUIRED FOR OPERATION, BALANCING, INSPECTION AND MAINTENANCE OF ALL EQUIPMENT.

16. CONTRACTOR SHALL PROVIDE SHOP DRAWINGS PRIOR TO PROCURING OR INSTALLING EQUIPMENT AND SYSTEMS INDICATED ON CONTRACT DOCUMENTS. SUBMIT IN STRICT ACCORDANCE WITH THE SPECIFICATIONS. PRIOR TO SUBMITTAL, CONTRACTOR SHALL VERIFY THAT ADEQUATE SPACE EXISTS FOR THE SUBMITTED EQUIPMENT. SHOP DRAWINGS SHALL BE REVIEWED BY THE GENERAL CONTRACTOR, ENGINEER AND ARCHITECT.

17. PRIOR TO BID, COORDINATE ALL MECHANICAL WORK WITH ELECTRICAL WORK AND OTHER TRADES. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.

18. THE SIZE, LOCATION, WEIGHT, ELECTRICAL REQUIREMENTS AND SERVICE CLEARANCES OF EQUIPMENT INSTALLED BY MECHANICAL SHALL BE COORDINATED WITH ALL OTHER TRADES.

19. WHERE CROWDED LOCATIONS EXIST OR WHERE THERE IS A POSSIBILITY OF CONFLICT BETWEEN TRADES, CONTRACTOR SHALL MAKE COMPOSITE DRAWINGS SHOWING THE EXACT LOCATION OF PIPES, DUCTS, CONDUIT AND EQUIPMENT. DRAWINGS SHALL BE BASED ON FIELD MEASUREMENTS AND, AFTER CONSULTATION AND AGREEMENT BETWEEN THE TRADES, SHALL BE REVIEWED BY THE ENGINEER PRIOR TO INSTALLATION OF THE WORK.

20. MECHANICAL CONTRACTOR SHALL COORDINATE WITH ARCHITECT AND GENERAL CONTRACTOR THE REQUIREMENTS FOR STRUCTURAL SUPPORTS AND FRAMING FOR ALL MECHANICAL EQUIPMENT AND SYSTEMS. MECHANICAL AND GENERAL CONTRACTOR SHALL COORDINATE FABRICATION AND INSTALLATION OF ALL STRUCTURAL SUPPORTS AND FRAMING. MECHANICAL CONTRACTOR SHALL PROVIDE ALL NECESSARY STRUCTURAL SUPPORTS AND FRAMING FOR SUPPORT OF NEW DUCTWORK, PIPING AND MECHANICAL EQUIPMENT. PROVIDE SUPPORTS AS REQUIRED TO PROVIDE A VIBRATION-FREE, RIGID INSTALLATION.

21. NOTIFY ENGINEER OF ANY CONFLICTS PRIOR TO PURCHASING EQUIPMENT AND PRIOR TO CUTTING OPENINGS.

22. THE MECHANICAL CONTRACTOR SHALL BE RESPONSIBLE FOR ALL COSTS INCURRED BY HIS OR OTHER TRADES DUE TO SUBSTITUTION OF OTHER THAN SCHEDULED EQUIPMENT. WHEN EQUIPMENT FURNISHED IS DIFFERENT THAN INDICATED, THE COST OF ADDITIONAL ELECTRICAL SERVICE, STRUCTURAL AND RELATED WORK SHALL BE PAID BY THIS CONTRACTOR. WHEN EQUIPMENT FURNISHED IS DIFFERENT THAN INDICATED, THIS CONTRACTOR IS RESPONSIBLE FOR RESOLVING ALL RELATED FITMENT ISSUES AND SPACE CONSIDERATIONS.

23. SEE SPECIFICATIONS FOR ADDITIONAL INFORMATION AND ALL REQUIREMENTS NOT INDICATED ON THE DRAWINGS. IF THERE ARE ANY APPARENT CONFLICTS BETWEEN THE SPECIFICATIONS, DRAWINGS AND CODE REQUIREMENTS, THE MORE STRINGENT REQUIREMENTS SHALL APPLY.

24. ALL EQUIPMENT, PIPING AND VALVES SHALL HAVE IDENTIFICATION LABELS AND TAGS PER SPECIFICATIONS AND AS INDICATED.

25. ALL BARE METAL SURFACES SHALL BE PRIMED AND PAINTED TO PREVENT ANY RUST, INCLUDING, BUT NOT LIMITED TO, ANGLE FRAMING, UNIT SUPPORTS, MOUNTING HARDWARE, ETC.

26. LOCATE THERMOSTATS, TEMPERATURE SENSORS, HUMIDISTATS, AND HUMIDITY SENSORS AT 48" ABOVE FINISHED FLOOR UNLESS NOTED OTHERWISE. COORDINATE LOCATIONS WITH OTHER EQUIPMENT, FURNITURE, AND DOOR SWINGS.

27. CONTRACTOR SHALL PROVIDE 4" THICK REINFORCED CONCRETE PADS FOR ALL INTERIOR SLAB-MOUNTED EQUIPMENT. ALL OUTDOOR EQUIPMENT SHALL BE MOUNTED ON MINIMUM 6" THICK REINFORCED CONCRETE PADS ON GRADE. ALL PADS SHALL EXTEND 6" BEYOND EACH SIDE OF EQUIPMENT.

28. CONNECTION TO EQUIPMENT SHALL BE VERIFIED WITH MANUFACTURER'S CERTIFIED DRAWINGS. TRANSITIONS TO ALL EQUIPMENT SHALL BE VERIFIED AND PROVIDED FOR EQUIPMENT FURNISHED.

29. ALL MATERIALS AND EQUIPMENT INSTALLED IN RETURN AIR PLENUMS SHALL BE NON-COMBUSTIBLE AND UL APPROVED FOR USE IN A RETURN AIR PLENUM SPACE. ALL WIRING SHALL BE NON-COMBUSTIBLE OR SHALL BE ENCLOSED IN METAL CONDUIT OR PROTECTED BY A SHEET METAL COVER SECURED WITH METAL FASTENERS.

30. INSULATION, FITTINGS, COVERS AND FINISHES IN RETURN AIR PLENUM SHALL HAVE A MAXIMUM FLAME SPREAD RATING OF 25 AND A MAXIMUM SMOKE DEVELOPED RATING OF 50.

31. TEST AND BALANCE ALL NEW AND EXISTING AIR AND HYDRONIC DEVICES, SYSTEMS AND EQUIPMENT IN AFFECTED SYSTEMS. ALL EXISTING EQUIPMENT AFFECTED BY THIS SCOPE OF WORK SHALL BE PRETESTED PRIOR TO THE START OF DEMOLITION.

AIR-HANDLING UNITS, DUCTWORK AND AIR DISTRIBUTION:

32. COORDINATE DIFFUSER, GRILLE AND REGISTER LOCATIONS, WITH ARCHITECTURAL REFLECTED CEILING PLANS AND EQUIPMENT OF ALL TRADES.

33. TRAPPED CONDENSATE DRAINS FROM ALL COOLING EQUIPMENT SHALL BE PROVIDED FOR PROPER DRAINAGE, TO SUIT EQUIPMENT FURNISHED. SEE CONDENSATE TRAP DETAILS.

34. PROVIDE AN AUXILIARY DRAIN PAN AND DRAIN LINE UNDER ALL AIR HANDLING UNITS OR FAN COIL UNITS LOCATED ABOVE THE CEILING. SECONDARY DRAIN LINE SHALL RUN TO READILY VISIBLE LOCATION, OR PROVIDE FLOAT SWITCH TO SHUT DOWN UNIT.

35. DUCT SIZES AND ALL OPENINGS THROUGH BUILDING CONSTRUCTION SHALL SUIT EQUIPMENT FURNISHED.

36. DAMPERS AND INSIDE OF DUCTS VISIBLE THROUGH GRILLES, REGISTERS AND DIFFUSERS SHALL BE PAINTED FLAT BLACK.

37. ALL DUCTWORK IS SHOWN SCHEMATICALLY. PROVIDE ALL TRANSITIONS, TURNING VANES, ELBOWS, FITTINGS, ETC., TO ALLOW SMOOTH FLOWS. ALL SPLIT DUCT FITTINGS SHALL TRANSITION TO FULL SIZE OF THE SUM OF BOTH BRANCHES UPSTREAM OF SPLIT.

38. VERIFY FINISH WITH ARCHITECT PRIOR TO PURCHASING GRILLES, REGISTERS, DIFFUSERS, LOUVERS AND OTHER AIR DISTRIBUTION DEVICES.

39. DUCT RUNOUTS TO DIFFUSERS SHALL MATCH THE SIZE OF THE DIFFUSER NECK.

40. MAINTAIN 6" CLEARANCE BETWEEN DUCTWORK, PIPING, EQUIPMENT, ETC., AND ALL FIRE, SMOKE AND FIRE/SMOKE RATED PARTITIONS, TO ALLOW FOR INSPECTIONS OF RATED WALLS.

41. LOCATE ALL OUTSIDE AIR INTAKES A MINIMUM OF 10'-0" CLEAR FROM ALL PLUMBING VENTS AND EXHAUST AIR DISCHARGE LOCATIONS. LOWEST POINT OF EACH OUTSIDE AIR INTAKE SHALL BE A MINIMUM OF 24" ABOVE ROOF, PAVEMENT OR GRADE.

42. ALL DUCTS SHALL BE CONSTRUCTED AND SUPPORTED (AS A MINIMUM) AS SPECIFIED IN THE SMACNA "HVAC DUCT CONSTRUCTION STANDARDS - METAL AND FLEXIBLE", LATEST EDITION. MORE STRINGENT REQUIREMENTS OF THESE DRAWINGS AND/OR SPECIFICATIONS SHALL PREVAIL.

43. LOW PRESSURE SUPPLY AIR, RETURN AIR, TRANSFER AIR, OUTDOOR AIR AND EXHAUST AIR (NON-GREASE, NON-CORROSIVE) DUCTS SHALL BE CONSTRUCTED OF G90 (SINGLE-WALL) GALVANIZED STEEL UNLESS NOTED OTHERWISE. (+/- 2" PRESSURE CLASS UNLESS SPECIFIED OR NOTED OTHERWISE.)

44. FLEXIBLE DUCT SHALL BE PROVIDED WHERE INDICATED ON DRAWINGS. ALL FLEXIBLE DUCT SHALL BE SUITABLE FOR THE SERVICE INTENDED. NO LENGTH OF FLEXIBLE DUCT SHALL TURN MORE THAN A TOTAL OF 180 DEGREES. FLEXIBLE DUCT SHALL ONLY BE USED IN CONCEALED SPACES (ABOVE CEILINGS) AND NOT PASS THROUGH ANY WALL, FLOOR OR CEILING.

45. ALL HORIZONTAL SUSPENDED RECTANGULAR DUCTS SHALL BE SUPPORTED WITH GALVANIZED STEEL TRAPEZE HANGERS UNDER BOTTOM OF DUCTS. SECURELY FASTEN SUPPORTS TO THE BUILDING CONSTRUCTION IN AN APPROVED MANNER. RECTANGULAR DUCTS EIGHTEEN (18) INCHES OR LESS IN WIDTH MAY BE SUPPORTED WITH GALVANIZED STEEL STRAP HANGERS AROUND SIDES AND BOTTOM OF DUCTS IN LIEU OF TRAPEZE HANGERS.

46. ROUND AND OVAL DUCT SHALL BE SUPPORTED AS SHOWN ON THE DRAWINGS OR AS RECOMMENDED BY SMACNA MANUAL.

47. NO CEILINGS, PIPING OR EQUIPMENT SHALL BE SUPPORTED FROM THE DUCTWORK OR DUCT HANGERS.

48. THE DUCT SEALING MATERIAL SHALL BE OF LIQUID, MASTIC AND GASKET TYPES AND APPLIED PER THE MANUFACTURER'S WRITTEN RECOMMENDATIONS. HEAT AND PRESSURE SENSITIVE TAPES ARE NOT ACCEPTABLE AS A FINAL CLOSURE.

49. ALL FIBROUS GLASS DUCT INSULATION JOINTS, SEAMS AND CONNECTIONS (RIGID BOARD INSULATION OR DUCT WRAP) SHALL BE CLOSED WITH STAPLES, AND SEALED WITH GLASS FAB IMBEDDED IN MASTIC. HEAT AND PRESSURE SENSITIVE TAPES ARE NOT ACCEPTABLE AS A FINAL CLOSURE.

50. DUCT INSULATION: AS A MINIMUM, DUCT INSULATION SHALL MEET ALL OF THE CRITERIA PRESCRIBED IN FBC – MECHANICAL SECTION 604, AND FBC – ENERGY CONSERVATION. INSULATION FOR DUCTS CONVEYING CONDITIONED AIR (SA, RA, OA AND EA BETWEEN ISOLATION DAMPER AND LOUVER): INTERIOR DUCTS LOCATED BELOW ROOF INSULATION SHALL BE INSULATED TO A MINIMUM INSTALLED R-VALUE OF R-4.2. DUCTS LOCATED IN ATTIC SPACES SHALL BE INSULATED TO A MINIMUM INSTALLED R-VALUE OF R-6. EXTERIOR DUCTS SHALL BE INSULATED TO A MINIMUM INSTALLED R-VALUE OF R-8. DUCTS IN CONDITIONED SPACES SHALL BE INSULATED TO PREVENT CONDENSATION.

51. ALL HORIZONTAL OR VERTICAL DUCT BENDS AND ANGLED TURNS OF DUCTWORK SHALL BE RADIUSED ELBOWS WHEREVER POSSIBLE. WHERE A RADIUS ELBOW WILL NOT FIT, MITERED ELBOWS IN EXCESS OF 45° SHALL HAVE TURNING VANES INSTALLED.

52. BEVELED TAKE-OFFS AND DAMPERS SHALL BE INSTALLED IN ALL BRANCH DUCTWORK LEADING FROM THE MAIN TRUNK LINES.

53. DUCT SIZES SHOWN ARE MINIMUM CLEAR INSIDE DIMENSIONS. INCREASE OUTSIDE DIMENSIONS WERE REQUIRED FOR LINED OR DOUBLEWALL DUCT.

54. ANY LOW PRESSURE SUPPLY, RETURN, VENTILATION OR GENERAL EXHAUST AIR DUCT ON PLANS NOT INDICATED BY SIZE OR REQUIRING RESIZING DUE TO FIELD CONDITIONS SHALL BE SIZED BY CONTRACTOR PER THE TRANE 'DUCTULATOR' AT 0.08 IN. WATER/100 FT. OF DUCT STATIC PRESSURE.

55. PROVIDE FLEXIBLE DUCT CONNECTIONS ON ALL DUCTWORK CONNECTING TO EACH FAN, AIR-HANDLING UNIT AND FAN-COIL UNIT. (FLEX CONNECTION MAY BE OMITTED WHERE CONNECTING TO AN AHU HAVING INTERNAL FAN VIBRATION ISOLATION.)

56. SHUTOFF DAMPER CONTROLS: OUTDOOR AIR INTAKE DUCTS AND BUILDING EXHAUST DUCTS SHALL BE EQUIPPED WITH DAMPERS THAT AUTOMATICALLY SHUT WHEN THE SYSTEMS ARE NOT IN USE.

PIPING SYSTEMS:

57. ALL PIPING IS SHOWN SCHEMATICALLY. PROVIDE ALL TRANSITIONS, ELBOWS, FITTINGS, ETC., TO ALLOW SMOOTH FLOWS AND A COMPLETE SYSTEM.

58. UNLESS OTHERWISE NOTED, ALL EQUIPMENT AND VALVE DRAINS SHALL BE INDEPENDENTLY PIPED FULL SIZE TO THE NEAREST PLUMBING DRAIN.

59. SLEEVE AND SEAL ALL PIPING PENETRATIONS THROUGH BUILDING PARTITIONS AND FLOORS. PENETRATIONS THRU RATED PARTITIONS AND FLOORS SHALL BE IN ACCORDANCE WITH APPLICABLE UL PENETRATION DETAILS MATCHING BUILDING MATERIALS ENCOUNTERED.

60. PIPING INSULATION: AS A MINIMUM, PIPING INSULATION SHALL MEET ALL OF THE CRITERIA PRESCRIBED IN FBC –MECHANICAL SECTION 1204, AND FBC –ENERGY CONSERVATION.

61. REFRIGERANT PIPING SHALL BE ACR COPPER, SIZED IN ACCORDANCE WITH MANUFACTURER'S INSTALLATION GUIDELINES. PROVIDE 3/4" ARMAFLEX INSULATION ON SUCTION LINE. PROVIDE ALUMINUM JACKET WHEN LOCATED OUTDOORS. PROVIDE ALL REQUIRED LINE ACCESSORIES (I.E. FILTER DRYER, ISOLATION VALVE, SITE GLASS, RECEIVER, ETC...) IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS.

62. CONDENSATE PIPING: SHALL BE TYPE-L COPPER. INSULATE WITH ¾" ARMAFLEX INSULATION. PROVIDE WITH ALUMINUM JACKET WHEN LOCATED OUTDOORS.

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CITY OF WINTER PARK
LIBRARY AND EVENT CENTER

HuntonBrady ARCHITECTS
Adjaye Associates

DATE	SUBMISSION	NO
10.22.19	CONSTRUCTION DOCUMENTS	

MECHANICAL SYMBOLS, LEGENDS, GENERAL NOTES AND INDEX

PROJ. NO. E-16078.00
DRAWN TJA
SHEET M001

COMMISSIONING NOTES

MECHANICAL SYSTEMS FLORIDA BUILDING CODE COMMISSIONING AND COMPLETION REQUIREMENTS

CX.1 – Commissioning Description: Commissioning (Cx) is the comprehensive and systematic process of verifying that the building systems perform interactively in accordance with the design intent, the construction documents and the User's operational needs. The Cx process shall encompass and coordinate the equipment and system documentation, equipment start up, control system calibration, test and balance, functional performance testing and user training. The Contractor shall perform Commissioning to achieve the following specific objectives according to the Contract Documents:

- Verify and document that all components requiring service receive complete pre-functional checkout by the installing contractor and can be accessed, serviced, and replaced without disturbing nearby components, including other equipment, ducts, piping, etc.
- Verify and document that equipment and systems are installed, started and receive adequate operational checkout in accordance with the contract documents, the manufacturer's recommendations and industry accepted standards.
- Verify and document the proper functional performance and integration of equipment and systems based on the design criteria and contract documents.
- Verify the completeness of Operations and Maintenance materials.

CX.1.1 – Commissioning Authority (CxA): The Contractor shall retain the services of a Commissioning Authority (CxA) acceptable to the Owner and Engineer of Record (EOR). The CxA, a registered design professional or approved agency independent from the design or construction of the project shall be the single point of contact for the Cx team management. Documentation of the Cx process and preparation and distribution of key management reports is the responsibility of CxA. The CxA shall also provide an advisory role to the Construction Team and shall ensure that Cx activities are executed in accordance with the accepted processes, plans and specifications.

CX.2 – Requirements: Prior to passing the final Mechanical Inspection by the AHJ, the EOR must provide evidence of mechanical systems commissioning and completion. Copies of all documentation shall be given by the CxA to the EOR and Owner, and shall be made available to the AHJ upon request.

CX.2.1 – Commissioning Plan (Cx Plan): The Contractor shall provide a Commissioning Plan developed by the CxA, a registered design professional or approved agency. The general Cx requirements shall be detailed in the Cx Plan. The Cx Plan shall provide guidance in the execution of the Cx process. The Contractor shall be familiar with all parts of the Cx Plan and shall execute all Cx responsibilities assigned to them in accordance with the Cx Plan. The Cx Plan shall include, as a minimum, the following items:

- A narrative description of the activities that will be accomplished during each phase of commissioning, including the personnel intended to accomplish each of the activities.
- A listing of the specific equipment, appliances or systems to be tested and a description of the tests to be performed.
- Functions to be tested, including, but not limited to calibrations and economizer controls.
- Conditions under which the test will be performed. At a minimum, testing shall affirm winter and summer design conditions and full outside air conditions.
- Measurable criteria for performance.

CX.2.2 – Air Distribution System Testing, Adjusting and Balancing (TAB): The Contractor shall provide a written balance report to the Owner and Engineer of Record (EOR) for all HVAC systems serving zones with a total conditioned area exceeding 5,000 SF. Air distribution systems shall be tested, adjusted, and balanced by a licensed engineer or a company or individual holding a current certification from a recognized testing and balancing agency organization in accordance with generally accepted engineering standards.

CX.2.2.1 – Air System Balancing: Air system balancing shall be accomplished in a manner to first minimize throttling losses, then for fans with fan system power greater than 1 hp, fan speeds shall be adjusted to meet design flow conditions. Balancing procedures shall be in accordance with the National Environmental Balancing Bureau (NEBB) Procedural Standards, the Associated Air Balance Council (AABC) National Standards, or equivalent procedures.

- Exception: Damper throttling may be used for air system balancing with fan motors of 1 hp or less, or if throttling results in no greater than 1/3 hp fan horsepower draw above that required if the fan speed were adjusted.

Building envelope pressurization shall be tested and confirmed positive to help prevent infiltration of outdoor air with its excess latent load.

Commercial kitchen hood exhaust cfm shall be sized to prevent building depressurization. Discharge dampers shall be prohibited on constant volume fans and variable volume fans with motors 10 hp and larger.

CX.2.2.2 – Hydronic Systems Balancing: Individual hydronic heating and cooling coils shall be equipped with means for balancing and measuring flow. Hydronic systems shall be proportionately balanced in a manner to first minimize throttling losses, then the pump impeller shall be trimmed or pump speed shall be adjusted to meet design flow conditions.

Each hydronic system shall have either the capability to measure pressure across the pump, or test ports at each side of each pump.

CX.2.3 – Functional Performance Testing (FPT): Functional performance testing shall be conducted.

CX.2.3.1 – Pre-Functional Checklists (PFC), Start-Up and Operational Checkout: Pre-functional checklists are important to ensure that the equipment and systems are properly installed and operational. They help to ensure that functional performance tests may proceed without unnecessary delays. Each piece of equipment shall receive a pre-functional checklist. No sampling strategies may be used. All related checkout and startup procedures shall be documented by the Contractor. Checkout and startup reports shall be submitted to the CxA for review and approval. All pre-functional checkouts for a given system must be successfully completed prior to formal functional performance testing of that system.

The CxA or the contractor shall develop the pre-functional checklists. The PFC and startup forms may be independent or on a consolidated form. The contractor shall determine which trade is responsible for executing and documenting each of the line item tasks and note on the form. Each form may have more than one trade responsible for its execution. Only individuals that have direct knowledge and witnessed that a line item task on the Pre-functional Checklist was actually performed shall initial or check that item off.

Contractor shall submit fully executed Pre-functional Checklists upon their completion for approval prior to the start of functional performance testing.

CX.2.3.1.1 – Deficiencies: The responsible trade shall clearly list, at the bottom of the procedure form or on an attached sheet, any outstanding items of the pre-functional checklist, startup and checkout procedures that were not completed successfully. The forms and any outstanding deficiencies shall be provided to the CxA. The installing Subcontractors or vendors shall correct all areas deficient or incomplete in the checklists in a timely manner. The CxA shall verify corrected deficiencies as required.

CX.2.3.1.2 – Scheduling: The Contractor shall work with the CxA to schedule the commissioning activities. The Contractor shall integrate commissioning activities into the master schedule to track the critical path to project completion.

CX.2.3.1.3 – Submittals: The Contractor shall provide submittals for all equipment to be commissioned to the CxA.

- At a minimum, the submittals shall include the manufacturer and model number, the manufacturer's printed installation and detailed start-up procedures, full sequences of operation, O&M data, performance data and control drawings.
- In addition, the installation and checkout materials that are actually shipped inside the equipment and the actual field checkout sheet forms to be used by the factory or field technicians shall be submitted to the CxA.
- All documentation requested by the CxA shall be included by the Subcontractors in their O&M manual contributions.

CX.2.3.2 – Functional Performance Testing (FPT): The objective of Functional Performance Testing is to demonstrate that each system is operating according to the Design Intent and Contract Documents. The CxA shall develop functional performance testing procedures and submit for review and comment by the Contractor. The Contractor shall execute the FPTs and the CxA shall record the results. The CxA shall submit test results and provide support documentation in accordance with the Commissioning Plan.

Complete functional performance testing prior to acceptance. The Subcontractors, under the observation of the CxA, shall conduct functional performance testing. The CxA and Building Owner shall be invited to witness the testing. The CxA shall document the results.

In general, Functional Performance Testing will be conducted only after pre-functional checklists and startup has been satisfactorily completed. The control system shall be sufficiently pre-tested by the Contractor before it is used to verify performance of other components or systems. The air balancing and water balancing shall be completed before Functional Performance Testing of air-related or water-related equipment or system's scheduled.

Random sampling (not less than 25% of the total number of each) is permitted for Functional Performance Test procedures execution on multiple identical pieces of non-life safety or otherwise non-critical equipment for each individual systems type.

- Exception: Major HVAC equipment (chillers, cooling towers, boilers, hydronic pumps, AHUs of greater than 5000 cfm) shall not be sampled. Each piece of this equipment shall be tested as described herein.

The CxA shall record the results of the Functional Performance Tests. All items of non-conformance issues shall be noted and reported on Commissioning Field Reports and/or a Commissioning Issues Log.

Correction of minor items of non-compliance identified may be made during the tests at the discretion of the CxA. In such cases, the item of non-compliance and resolution shall be documented on the Functional Test Procedure form.

The CxA shall note each satisfactorily demonstrated function on the test form. Formal approval of the Functional Test shall be made later after review by the CxA. The CxA will give final approval on each test, and provide signed copies to the Contractor.

The Contractor shall provide all standard and specialized testing equipment required to perform pre-functional checklists, startup and initial checkout, and Functional Performance Testing. All testing equipment shall be of sufficient quality and accuracy to test and/or measure system performance with the tolerances specified in the Specifications. Frequency of calibration shall be in accordance with applicable NEBB or AABC requirements.

CX.2.3.2.1 – Equipment: Equipment functional performance testing shall demonstrate the installation and operation of components, systems, and system-to-system interfacing relationships in accordance with approved plans and specifications such that operation, function and maintenance serviceability for each of the commissioned systems shall be confirmed. Testing shall include all modes and sequence of operation, including under full-load, part-load and the following emergency conditions:

- All modes as described in the sequence of operation;
- Redundant or automatic back-up mode;
- Performance of alarms: and
- Mode of operation upon a loss of power and restoration of power.

CX.2.3.2.2 – Controls: HVAC control systems shall be tested to document that control devices, components, equipment, and systems are calibrated, adjusted and operate in accordance with approved plans and specifications. Sequences of operation shall be functionally tested to document they operate in accordance with approved plans and specifications.

CX.2.3.2.3 – Economizers: Air economizers shall undergo a functional test to determine that they operate in accordance with manufacturer's specifications.

CX.2.4 – Preliminary Commissioning Report: A preliminary report of commissioning test procedures and results shall be completed and certified by the CxA (a registered design professional or approved agency) and provided to the EOR and building owner. The report shall be identified as "Preliminary Commissioning Report" and shall identify:

- Itemization of deficiencies found during testing required by this section that have not been corrected at the time of report preparation.
- Deferred tests that cannot be performed at the time of report preparation because of climatic conditions.
- Climatic conditions required for performance of the deferred tests.

CX.2.4.1 – Acceptance of Report: Buildings, or portions thereof, shall not pass the final mechanical inspection until such time as the AHJ has received a letter of transmittal from the building owner acknowledging that the building owner has received the Preliminary Commissioning Report.

CX.2.4.2 – Copy of Report: A copy of the Preliminary Commissioning Report shall be made available for review by the AHJ.

CX.2.5 – Documentation Requirements: The documents described herein shall be provided to the building owner within 90 days of the date of receipt of the certificate of occupancy.

CX.2.5.1 – Drawings: Construction documents shall include the location and performance data on each piece of equipment. The Contractor or CxA shall contact the EOR should any information be unclear.

CX.2.5.2 – Manuals: The CxA shall facilitate and confirm that an operating and maintenance manual is developed, provided and includes all of the following:

- Submittal data stating equipment size and selected options for each piece of equipment requiring maintenance.
- Manufacturer's operation manuals and maintenance manuals for each piece of equipment requiring maintenance, except equipment not furnished as part of the project. Required routine maintenance actions shall be clearly identified.
- Name and address of at least one local service agency.
- HVAC controls system maintenance and calibration information, including wiring diagrams, schematics, and control sequence descriptions. Desired or field-determined setpoints shall be permanently recorded on control drawings at control devices or, for digital control systems, in system programming instructions.
- A narrative of how each system is intended to operate, including recommended setpoints.

CX.2.5.3 – System Balancing Report (TAB Report): A written report describing the activities and measurements completed as required above.

CX.2.5.4 – Final Commissioning Report: A report of test procedures and results identified as "Final Commissioning Report" shall be delivered to the building owner and shall include:

- Results of functional performance tests.
- Disposition of deficiencies found during testing, including details of corrective measures used or proposed.
- Functional performance test procedures used during the commissioning process including measurable criteria for test acceptance, provided herein for repeatability.
- Description of deferred tests which cannot be performed at the time of report preparation due to climatic conditions.

GENERAL NOTES FOR KITCHEN HOODS, VENTILATION SYSTEM DUCTS AND EXHAUST EQUIPMENT

GENERAL:

1. COMMERCIAL KITCHEN HOODS, GREASE DUCTS AND EXHAUST EQUIPMENT, MAKE-UP AIR AND FIRE SUPPRESSION SYSTEMS SHALL COMPLY WITH THE REQUIREMENTS OF FLORIDA BUILDING CODE - MECHANICAL SECTION 506-509, AND THE REQUIREMENTS OF NFPA 96.

2. "TYPE I" HOODS, DUCTS AND EXHAUST EQUIPMENT SHALL BE PROVIDED WHERE COOKING APPLIANCES PRODUCE GREASE OR SMOKE, SUCH AS OCCURS WITH GRIDDLES, FRYERS, BROILERS, OVENS, RANGES AND WOK RANGES. "TYPE II" HOODS, DUCTS AND EXHAUST EQUIPMENT SHALL BE PROVIDED WHERE COOKING OR DISHWASHING APPLIANCES PRODUCE HEAT OR STEAM AND DO NOT PRODUCE GREASE OR SMOKE, SUCH AS STEAMERS, KETTLES, PASTA COOKERS AND DISHWASHING MACHINES.

DUCT SYSTEMS:

3. MAKE UP AIR DUCTS CONNECTING TO OR WITHIN 18 INCHES OF A TYPE I HOOD SHALL BE METALLIC AND SHALL BE CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH SMACNA STANDARDS. DUCT INSULATION INSTALLED WITHIN 18 INCHES OF A TYPE I HOOD SHALL BE NONCOMBUSTIBLE OR SHALL BE LISTED FOR THE APPLICATION.

4. GREASE DUCT MATERIALS: GREASE DUCTS SERVING TYPE I HOODS SHALL BE CONSTRUCTED OF STEEL NOT LESS THAN 0.055 INCH (16 GAGE) IN THICKNESS OR STAINLESS STEEL NOT LESS THAN 0.044 INCH (18 GAGE) IN THICKNESS. (EXCEPTION: LISTED AND LABELED FACTORY-BUILT COMMERCIAL KITCHEN GREASE DUCTS SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THE TERMS OF THE LISTING.)

5. GREASE DUCT JOINTS, SEAMS AND PENETRATIONS: JOINTS, SEAMS AND PENETRATIONS OF GREASE DUCTS SHALL BE MADE WITH A CONTINUOUS LIQUID-TIGHT WELD MADE ON THE EXTERNAL SURFACE OF THE DUCT SYSTEM. (EXCEPTIONS: PENETRATIONS SHALL NOT BE REQUIRED TO BE WELDED WHERE SEALED BY DEVICES THAT ARE LISTED FOR THE APPLICATION. INTERNAL WELDING SHALL NOT BE PROHIBITED, PROVIDED THAT THE JOINT IS FORMED OR GROUND SMOOTH AND IS PROVIDED WITH READY ACCESS FOR INSPECTION.) DUCT JOINTS SHALL BE BUTT JOINTS OR OVERLAPPING DUCT JOINTS OF EITHER THE TELESCOPING OR BELL TYPE. OVERLAPPING JOINTS SHALL BE INSTALLED TO PREVENT LEDGES AND OBSTRUCTIONS FROM COLLECTING GREASE OR INTERFERING WITH GRAVITY DRAINAGE TO THE INTENDED COLLECTION POINT. THE DIFFERENCE BETWEEN THE INSIDE CROSS-SECTIONAL DIMENSIONS OF OVERLAPPING SECTIONS OF DUCT SHALL NOT EXCEED 0.25 INCH. THE LENGTH OF OVERLAP FOR OVERLAPPING DUCT JOINTS SHALL NOT EXCEED 2 INCHES.

6. GREASE DUCT-TO-HOOD JOINTS: DUCT-TO-HOOD JOINTS SHALL BE MADE WITH CONTINUOUS INTERNAL OR EXTERNAL LIQUID-TIGHT WELDED JOINTS. SUCH JOINTS SHALL BE SMOOTH, ACCESSIBLE FOR INSPECTION, AND WITHOUT GREASE TRAPS. (EXCEPTIONS: FLANGED AND BOLTED CONNECTIONS MAY BE MADE AS SPECIFICALLY ALLOWED BY CODE. LISTED AND LABELED DUCT-TO-HOOD COLLAR CONNECTIONS MAY BE MADE AS SPECIFICALLY ALLOWED BY CODE.)

7. GREASE DUCT-TO-EXHAUST FAN CONNECTIONS: DUCT-TO-EXHAUST FAN CONNECTIONS SHALL BE FLANGED AND GASKETED AT THE BASE OF THE FAN FOR VERTICAL DISCHARGE FANS; SHALL BE FLANGED, GASKETED AND BOLTED TO THE INLET OF THE FAN FOR SIDE-INLET UTILITY FANS; AND SHALL BE FLANGED, GASKETED AND BOLTED TO THE INLET AND OUTLET OF THE FAN FOR IN-LINE FANS. WHERE A VIBRATION ISOLATION CONNECTION TO FAN IS SPECIFIED, VIBRATION ISOLATION CONNECTOR SHALL CONSIST OF NONCOMBUSTIBLE PACKING IN A METAL SLEEVE JOINT OF APPROVED DESIGN OR SHALL BE A COATED-FABRIC FLEXIBLE DUCT CONNECTOR LISTED AND LABELED GREASE DUCT APPLICATION.

8. GREASE DUCT SUPPORTS: GREASE DUCT BRACING AND SUPPORTS SHALL BE OF NONCOMBUSTIBLE MATERIAL SECURELY ATTACHED TO THE STRUCTURE AND DESIGNED TO CARRY GRAVITY AND SEISMIC LOADS AS REQUIRED BY THE FLORIDA BUILDING CODE. BOLTS, SCREWS, RIVETS AND OTHER MECHANICAL FASTENERS SHALL NOT PENETRATE DUCT WALLS.

9. GREASE DUCT SIZING/AIR VELOCITY: DUCTS SHALL BE SIZED AS INDICATED ON THE DRAWINGS. WHERE SIZES ARE NOT SHOWN, OR CHANGES MUST BE MADE TO DO UNFORESEEN FIELD CONDITIONS, GREASE DUCT SYSTEMS SERVING A TYPE I HOOD SHALL BE DESIGNED AND INSTALLED SO AS TO PROVIDE AN AIR VELOCITY WITHIN THE DUCT SYSTEM BETWEEN 1,500 FPM AND 2,500 FPM. (EXCEPTION: THE VELOCITY LIMITATIONS SHALL NOT APPLY WITHIN DUCT TRANSITIONS UTILIZED TO CONNECT DUCTS TO DIFFERENTLY SIZED OR SHAPED OPENINGS IN HOODS AND FANS, PROVIDED THAT SUCH TRANSITIONS DO NOT EXCEED 3 FEET IN LENGTH AND ARE DESIGNED TO PREVENT THE TRAPPING OF GREASE.)

10. GREASE DUCT CLEARANCES: GREASE DUCT SYSTEMS AND EXHAUST EQUIPMENT SERVING A TYPE I HOOD SHALL HAVE A CLEARANCE TO COMBUSTIBLE CONSTRUCTION OF NOT LESS THAN 18 INCHES, AND SHALL HAVE A CLEARANCE TO NONCOMBUSTIBLE CONSTRUCTION AND GYPSUM WALLBOARD ATTACHED TO NONCOMBUSTIBLE STRUCTURES OF NOT LESS THAN 3 INCHES. (EXCEPTION: LISTED AND LABELED FACTORY-BUILT COMMERCIAL KITCHEN GREASE DUCTS AND EXHAUST EQUIPMENT INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THE TERMS OF THE LISTING.)

11. PREVENTION OF GREASE ACCUMULATION: DUCT SYSTEMS SERVING A TYPE I HOOD SHALL BE CONSTRUCTED AND INSTALLED SO THAT GREASE CANNOT COLLECT IN ANY PORTION THEREOF, AND THE SYSTEM SHALL SLOPE NOT LESS THAN ¼ INCH PER FOOT (2-PERCENT SLOPE) TOWARD THE HOOD OR TOWARD AN APPROVED GREASE RESERVOIR. WHERE HORIZONTAL DUCTS EXCEED 75 FEET IN LENGTH, THE SLOPE SHALL NOT BE LESS THAN ONE INCH PER FOOT (8.3-PERCENT SLOPE).

12. CLEANOUTS AND OTHER OPENINGS: GREASE DUCT SYSTEMS SHALL NOT HAVE OPENINGS THEREIN OTHER THAN THOSE REQUIRED FOR PROPER OPERATION AND MAINTENANCE OF THE SYSTEM. ANY PORTION OF SUCH SYSTEM HAVING SECTIONS NOT PROVIDED WITH ACCESS FROM THE DUCT ENTRY OR DISCHARGE SHALL BE PROVIDED WITH CLEANOUT OPENINGS. CLEANOUT OPENINGS SHALL BE EQUIPPED WITH TIGHT-FITTING DOORS CONSTRUCTED OF STEEL HAVING A THICKNESS NOT LESS THAN THAT REQUIRED FOR THE DUCT. DOORS SHALL BE EQUIPPED WITH A SUBSTANTIAL METHOD OF LATCHING, SUFFICIENT TO HOLD THE DOOR TIGHTLY CLOSED. DOORS SHALL BE DESIGNED SO THAT THEY ARE OPERABLE WITHOUT THE USE OF A TOOL. DOOR ASSEMBLIES, INCLUDING ANY FRAMES AND GASKETING, SHALL BE APPROVED FOR THE PURPOSE, AND SHALL NOT HAVE FASTENERS THAT PENETRATE THE DUCT. LISTED AND LABELED ACCESS DOOR ASSEMBLIES SHALL BE INSTALLED IN ACCORDANCE WITH THE TERMS OF THE LISTING. A SIGN SHALL BE PLACED ON ALL ACCESS PANELS STATING: "ACCESS PANEL - DO NOT OBSTRUCT" IN LETTERS AT LEAST 1 INCH HIGH. (WHERE DUCTWORK IS LARGE ENOUGH TO ALLOW ENTRY OF PERSONNEL, NOT LESS THAN ONE APPROVED OR LISTED OPENING HAVING DIMENSIONS NOT LESS THAN 20 INCHES BY 20 INCHES SHALL BE PROVIDED IN THE HORIZONTAL SECTIONS, AND IN THE TOP OF VERTICAL RISERS. WHERE SUCH ENTRY IS PROVIDED, THE DUCT AND ITS SUPPORTS SHALL BE CAPABLE OF SUPPORTING THE ADDITIONAL LOAD, AND THE CLEANOUTS SPECIFIED ABOVE ARE NOT REQUIRED.)

13. GREASE DUCT HORIZONTAL CLEANOUTS: CLEANOUTS LOCATED ON HORIZONTAL SECTIONS OF DUCTS SHALL BE SPACED NOT MORE THAN 20 FEET APART. THE CLEANOUTS SHALL BE LOCATED ON THE SIDE OF THE DUCT WITH THE OPENING NOT LESS THAN 1.5 INCHES ABOVE THE BOTTOM OF THE DUCT, AND NOT LESS THAN 1 INCH BELOW THE TOP OF THE DUCT. THE OPENING MINIMUM DIMENSIONS SHALL BE 12 INCHES ON EACH SIDE. WHERE THE DIMENSIONS OF THE SIDE OF THE DUCT PROHIBIT THE CLEANOUT INSTALLATION PRESCRIBED HEREIN, THE OPENINGS SHALL BE ON THE TOP OF THE DUCT OR THE BOTTOM OF THE DUCT. WHERE LOCATED ON THE TOP OF THE DUCT, THE OPENING EDGES SHALL BE A MINIMUM OF 1 INCH FROM THE EDGES OF THE DUCT. WHERE LOCATED IN THE BOTTOM OF THE DUCT, CLEANOUT OPENINGS SHALL BE DESIGNED TO PROVIDE INTERNAL DAMMING AROUND THE OPENING, SHALL BE PROVIDED WITH GASKETING TO PRECLUDE GREASE LEAKAGE, SHALL PROVIDE FOR DRAINAGE OF GREASE DOWN THE DUCT AROUND THE DAM, AND SHALL BE APPROVED FOR THE APPLICATION. WHERE THE DIMENSIONS OF THE SIDES, TOP OR BOTTOM OF THE DUCT PRECLUDE THE INSTALLATION OF THE PRESCRIBED MINIMUM-SIZE CLEANOUT OPENING, THE CLEANOUT SHALL BE LOCATED ON THE DUCT FACE THAT AFFORDS THE LARGEST OPENING DIMENSION AND SHALL BE INSTALLED WITH THE OPENING EDGES AT THE DISTANCES FROM THE DUCT EDGES AS DESCRIBED ABOVE.

14. GREASE DUCT ENCLOSURE: A GREASE DUCT SERVING A TYPE I HOOD THAT PENETRATES A FIRE RATED CEILING, FIRE RATED WALL OR FLOOR SHALL BE ENCLOSED FROM THE POINT OF PENETRATION TO THE OUTLET TERMINAL. A DUCT SHALL ONLY PENETRATE EXTERIOR WALLS AT LOCATIONS WHERE UNPROTECTED OPENINGS ARE PERMITTED BY THE BUILDING CODE. DUCTS SHALL BE ENCLOSED IN ACCORDANCE WITH THE BUILDING CODE REQUIREMENTS FOR SHAFT CONSTRUCTION. THE DUCT ENCLOSURE SHALL BE SEALED AROUND THE DUCT AT THE POINT OF PENETRATION AND VENTED TO THE OUTSIDE OF THE BUILDING THROUGH THE USE OF WEATHER-PROTECTED OPENINGS. THE ENCLOSURE SHALL BE SEPARATED FROM THE DUCT BY A MINIMUM OF 6 INCHES AND A MAXIMUM OF 12 INCHES AND SHALL SERVE A SINGLE GREASE EXHAUST DUCT SYSTEM. (EXCEPTIONS: THE SHAFT ENCLOSURE SHALL NOT BE REQUIRED WHERE A DUCT PENETRATION IS PROTECTED WITH A THROUGH-PENETRATION FIRESTOP SYSTEM CLASSIFIED, AND INSTALLED AS TESTED, IN ACCORDANCE WITH ASTM E 814. THE SYSTEM SHALL HAVE AN F AND T RATING OF NOT LESS THAN 1 HOUR, BUT NOT LESS THAN THE REQUIRED FIRE-RESISTANCE RATING OF THE ASSEMBLY BEING PENETRATED AND WHERE THE SURFACE OF THE DUCT IS CONTINUOUSLY COVERED ON ALL SIDES FROM THE POINT AT WHICH THE DUCT PENETRATES A CEILING, WALL OR FLOOR TO THE OUTLET TERMINAL WITH A CLASSIFIED AND LABELED MATERIAL, SYSTEM, METHOD OF CONSTRUCTION OR PRODUCT SPECIFICALLY EVALUATED FOR SUCH PURPOSE, IN ACCORDANCE WITH A NATIONALLY RECOGNIZED STANDARD FOR SUCH ENCLOSURES. A DUCT ENCLOSURE SHALL NOT BE REQUIRED FOR A GREASE DUCT THAT PENETRATES ONLY A NON FIRE-RESISTANCE-RATED ROOF/CEILING ASSEMBLY.)

15. GREASE DUCT FIRE-RESISTIVE ACCESS OPENING: WHERE CLEANOUT OPENINGS ARE LOCATED IN DUCTS WITHIN A FIRE-RESISTANCE-RATED ENCLOSURE, ACCESS OPENINGS SHALL BE PROVIDED IN THE ENCLOSURE AT EACH CLEANOUT POINT. ACCESS OPENINGS SHALL BE EQUIPPED WITH TIGHT-FITTING SLIDING OR HINGED DOORS THAT ARE EQUAL IN FIRE-RESISTIVE PROTECTION TO THAT OF THE SHAFT OR ENCLOSURE. AN APPROVED SIGN SHALL BE PLACED ON ACCESS OPENING PANELS WITH WORDING AS FOLLOWS: "ACCESS PANEL. DO NOT OBSTRUCT."

16. EXHAUST OUTLETS SERVING TYPE I HOODS: EXHAUST OUTLETS FOR GREASE DUCTS SERVING TYPE I HOODS SHALL THAT TERMINATE ABOVE THE ROOF SHALL HAVE THE DISCHARGE OPENING LOCATED NOT LESS THAN 40 INCHES ABOVE THE ROOF SURFACE. EXHAUST OUTLETS TERMINATING THROUGH EXTERIOR WALLS SHALL DISCHARGE WHERE THE SMOKE, GREASE, GASES, VAPORS, AND ODORS IN THE DISCHARGE FROM SUCH TERMINATIONS DO NOT CREATE A PUBLIC NUISANCE OR A FIRE HAZARD. SUCH TERMINATIONS SHALL NOT BE LOCATED WHERE PROTECTED OPENINGS ARE REQUIRED BY THE FLORIDA BUILDING CODE. OTHER EXTERIOR OPENINGS SHALL NOT BE LOCATED WITHIN 3 FEET OF SUCH TERMINATIONS. EXHAUST OUTLETS SHALL BE LOCATED NOT LESS THAN 10 FEET HORIZONTALLY FROM PARTS OF THE SAME OR CONTIGUOUS BUILDINGS, ADJACENT PROPERTY LINES AND AIR INTAKE OPENINGS INTO ANY BUILDING AND SHALL BE LOCATED NOT LESS THAN 10 FEET ABOVE THE ADJOINING GRADE LEVEL. (EXCEPTIONS: EXHAUST OUTLETS SHALL TERMINATE NOT LESS THAN 5 FEET FROM AN ADJACENT BUILDING, ADJACENT PROPERTY LINE AND AIR INTAKE OPENINGS INTO A BUILDING WHERE AIR FROM THE EXHAUST OUTLET DISCHARGES AWAY FROM SUCH LOCATIONS. THE MINIMUM HORIZONTAL DISTANCE BETWEEN VERTICAL DISCHARGE FANS AND PARAPET-TYPE BUILDING STRUCTURES SHALL BE 2 FEET PROVIDED THAT SUCH STRUCTURES ARE NOT HIGHER THAN THE TOP OF THE FAN DISCHARGE OPENING.)

17. DUCTS SERVING TYPE II HOODS: DUCTS AND PLENUMS SERVING TYPE II HOODS SHALL BE CONSTRUCTED OF RIGID METALLIC MATERIALS. DUCT CONSTRUCTION, INSTALLATION, BRACING AND SUPPORTS SHALL COMPLY WITH CHAPTER 6 OF THE FLORIDA BUILDING CODE - MECHANICAL. DUCTS SUBJECT TO POSITIVE PRESSURE AND DUCTS CONVEYING MOISTURE-LADEN OR WASTE-HEAT-LADEN AIR SHALL BE CONSTRUCTED, JOINED AND SEALED IN AN APPROVED MANNER.

EXHAUST EQUIPMENT/FANS:

18. EXHAUST EQUIPMENT: EXHAUST EQUIPMENT, INCLUDING FANS AND GREASE RESERVOIRS, SHALL BE OF AN APPROVED DESIGN OR SHALL BE LISTED FOR THE APPLICATION. EXHAUST FAN HOUSINGS SERVING A TYPE I HOOD SHALL BE CONSTRUCTED AS REQUIRED FOR GREASE DUCTS. (EXCEPTION: FANS LISTED AND LABELED IN ACCORDANCE WITH UL 762.) EXHAUST FAN MOTORS SHALL BE LOCATED OUTSIDE OF THE EXHAUST AIR STREAM.

19. EXHAUST FAN DISCHARGE: EXHAUST FANS SHALL BE POSITIONED SO THAT THE DISCHARGE WILL NOT IMPINGE ON THE ROOF, OTHER EQUIPMENT OR APPLIANCES OR PARTS OF THE STRUCTURE. A VERTICAL DISCHARGE FAN SHALL BE MANUFACTURED WITH AN APPROVED DRAIN OUTLET AT THE LOWEST POINT OF THE HOUSING TO PERMIT DRAINAGE OF GREASE TO AN APPROVED GREASE RESERVOIR.

20. EXHAUST FAN MOUNTING: AN UPBLAST FAN SHALL BE HINGED AND SUPPLIED WITH A FLEXIBLE WEATHERPROOF ELECTRICAL CABLE TO PERMIT INSPECTION AND CLEANING. THE EXHAUST DUCTWORK SHALL EXTEND A MINIMUM OF 18 INCHES ABOVE THE ROOF SURFACE BEFORE CONNECTING TO THE FAN.

21. CLEARANCES: EXHAUST EQUIPMENT SERVING A TYPE I HOOD SHALL HAVE A CLEARANCE TO COMBUSTIBLE CONSTRUCTION OF NOT LESS THAN 18 INCHES. (EXCEPTION: FACTORY-BUILT EXHAUST EQUIPMENT LISTED FOR A LESSER CLEARANCE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THE TERMS OF THE LISTING.)

KITCHEN HOODS:

22. COMMERCIAL KITCHEN EXHAUST HOODS SHALL BE TYPE I OR TYPE II AND SHALL CAPTURE AND CONFINE COOKING VAPORS AND RESIDUES. FACTORY-BUILT COMMERCIAL EXHAUST HOODS SHALL BE TESTED IN ACCORDANCE WITH UL 710, LISTED, LABELED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THE TERMS OF THE LISTING. FACTORY-BUILT COMMERCIAL COOKING RECIRCULATING SYSTEMS SHALL BE TESTED IN ACCORDANCE WITH UL 197, LISTED, LABELED AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS AND THE TERMS OF THE LISTING.

23. A TYPE I OR TYPE II HOOD SHALL BE INSTALLED AT OR ABOVE ALL COMMERCIAL COOKING APPLIANCES. WHERE ANY COOKING APPLIANCE UNDER A SINGLE HOOD REQUIRES A TYPE I HOOD, A TYPE I HOOD SHALL BE INSTALLED. WHERE A TYPE II HOOD IS REQUIRED, A TYPE I OR TYPE II HOOD SHALL BE INSTALLED.

24. TYPE I HOODS SHALL BE INSTALLED WHERE COOKING APPLIANCES PRODUCE GREASE OR SMOKE, SUCH AS OCCURS WITH GRIDDLES, FRYERS, BROILERS, OVENS, RANGES AND WOK RANGES. TYPE II HOODS SHALL BE INSTALLED WHERE COOKING OR DISHWASHING APPLIANCES PRODUCE HEAT OR STEAM AND DO NOT PRODUCE GREASE OR SMOKE, SUCH AS STEAMERS, KETTLES, PASTA COOKERS AND DISHWASHING MACHINES.

25. FIRE SUPPRESSION SYSTEM: COMMERCIAL FOOD HEAT-PROCESSING APPLIANCES REQUIRED TO HAVE A TYPE I HOOD SHALL BE PROVIDED WITH AN APPROVED AUTOMATIC FIRE SUPPRESSION SYSTEM COMPLYING WITH THE FLORIDA BUILDING CODE AND THE FLORIDA FIRE PREVENTION CODE. PROVIDE SYSTEM INTEGRAL TO HOOD.

26. TYPE I HOOD MATERIALS: TYPE I HOODS SHALL BE CONSTRUCTED OF STEEL NOT LESS THAN 0.043 INCH (18 GAGE) IN THICKNESS, OR STAINLESS STEEL NOT LESS THAN 0.037 INCH (20 GAGE) IN THICKNESS.

27. TYPE II HOOD MATERIALS: TYPE II HOODS SHALL BE CONSTRUCTED OF STEEL NOT LESS THAN 0.030 INCH (22 GAGE) IN THICKNESS, STAINLESS STEEL NOT LESS THAN 0.024 INCH (24 GAGE) IN THICKNESS, COPPER SHEETS WEIGHING NOT LESS THAN 24 OUNCES PER SQUARE FOOT, OR OF OTHER APPROVED MATERIAL AND GAGE.

28. SUPPORTS: TYPE I HOODS SHALL BE SECURED IN PLACE BY NONCOMBUSTIBLE SUPPORTS. ALL TYPE I AND TYPE II HOOD SUPPORTS SHALL BE ADEQUATE FOR THE APPLIED LOAD OF THE HOOD, THE UNSUPPORTED DUCTWORK, THE EFFLUENT LOADING, AND THE POSSIBLE WEIGHT OF PERSONNEL WORKING IN OR ON THE HOOD.

29. TYPE I HOOD JOINTS, SEAMS AND PENETRATIONS: EXTERNAL HOOD JOINTS, SEAMS AND PENETRATIONS SHALL BE MADE WITH A CONTINUOUS EXTERNAL LIQUID-TIGHT WELD TO THE LOWEST OUTERMOST PERIMETER OF THE HOOD. INTERNAL HOOD JOINTS, SEAMS, PENETRATIONS, FILTER SUPPORT FRAMES, AND OTHER APPENDAGES ATTACHED INSIDE THE HOOD SHALL NOT BE REQUIRED TO BE WELDED BUT SHALL BE OTHERWISE SEALED TO BE GREASE TIGHT. (EXCEPTIONS: PENETRATIONS SHALL NOT BE REQUIRED TO BE WELDED WHERE SEALED BY DEVICES THAT ARE LISTED FOR THE APPLICATION. INTERNAL WELDING OF SEAMS, JOINTS, AND PENETRATIONS OF THE HOOD SHALL NOT BE PROHIBITED, PROVIDED THAT THE JOINT IS FORMED SMOOTH OR GROUND SO AS TO NOT TRAP GREASE, AND IS READILY CLEANABLE. EXTERNAL HOOD JOINTS AND SEAMS TESTED AND LISTED IN ACCORDANCE WITH THE REQUIREMENTS OF UL 710 SHALL NOT BE REQUIRED TO BE WELDED.)

30. TYPE II HOOD JOINTS, SEAMS AND PENETRATIONS: JOINTS, SEAMS AND PENETRATIONS FOR TYPE II HOODS SHALL COMPLY WITH CHAPTER 6 OF THE FLORIDA BUILDING CODE - MECHANICAL, SHALL BE SEALED ON THE INTERIOR OF THE HOOD AND SHALL PROVIDE A SMOOTH SURFACE THAT IS READILY CLEANABLE AND WATER TIGHT.

31. CLEANING AND GREASE GUTTERS: A HOOD SHALL BE DESIGNED TO PROVIDE FOR THOROUGH CLEANING OF THE ENTIRE HOOD. GREASE GUTTERS SHALL DRAIN TO AN APPROVED COLLECTION RECEPTACLE THAT IS FABRICATED, DESIGNED AND INSTALLED TO ALLOW ACCESS FOR CLEANING.

32. CLEARANCES FOR TYPE I HOOD: A TYPE I HOOD SHALL BE INSTALLED WITH A CLEARANCE TO COMBUSTIBLES OF NOT LESS THAN 18 INCHES. (EXCEPTION: CLEARANCE SHALL NOT BE REQUIRED FROM GYPSUM WALLBOARD ATTACHED TO NONCOMBUSTIBLE STRUCTURES PROVIDED THAT A SMOOTH, CLEANABLE, NONABSORBENT AND NONCOMBUSTIBLE MATERIAL IS INSTALLED BETWEEN THE HOOD AND THE GYPSUM WALLBOARD OVER AN AREA EXTENDING NOT LESS THAN 18 INCHES IN ALL DIRECTIONS FROM THE HOOD.)

33. HOODS PENETRATING A CEILING: TYPE I HOODS OR PORTIONS THEREOF PENETRATING A CEILING, WALL OR FURRED SPACE SHALL COMPLY WITH ALL THE REQUIREMENTS FOR TYPE I HOOD EXHAUST DUCTS.

34. GREASE FILTERS: TYPE I HOODS SHALL BE EQUIPPED WITH LISTED GREASE FILTERS DESIGNED FOR THE SPECIFIC PURPOSE. GREASE-COLLECTING EQUIPMENT SHALL BE PROVIDED WITH ACCESS FOR CLEANING. THE LOWEST EDGE OF A GREASE FILTER LOCATED ABOVE THE COOKING SURFACE SHALL BE NOT LESS THAN THE HEIGHT SPECIFIED IN FLORIDA BUILDING CODE - MECHANICAL TABLE 507.11. FILTERS SHALL BE OF SUCH SIZE, TYPE AND ARRANGEMENT AS WILL PERMIT THE REQUIRED QUANTITY OF AIR TO PASS THROUGH SUCH UNITS AT RATES NOT EXCEEDING THOSE FOR WHICH THE FILTER OR UNIT WAS DESIGNED OR APPROVED. FILTER UNITS SHALL BE INSTALLED IN FRAMES OR HOLDERS SO AS TO BE READILY REMOVABLE WITHOUT THE USE OF SEPARATE TOOLS, UNLESS DESIGNED AND INSTALLED TO BE CLEANED IN PLACE AND THE SYSTEM IS EQUIPPED FOR SUCH CLEANING IN PLACE. REMOVABLE FILTER UNITS SHALL BE OF A SIZE THAT WILL ALLOW THEM TO BE CLEANED IN A DISHWASHING MACHINE OR POT SINK. FILTER UNITS SHALL BE ARRANGED IN PLACE OR PROVIDED WITH DRIP-INTERCEPTING DEVICES TO PREVENT GREASE OR OTHER CONDENSATE FROM DRIPPING INTO FOOD OR ON FOOD PREPARATION SURFACES. LISTED GREASE FILTERS SHALL CONFORM TO THE REQUIREMENTS OF UL 1046. FILTERS SHALL BE INSTALLED AT AN ANGLE OF NOT LESS THAN 45 DEGREES FROM THE HORIZONTAL AND SHALL BE EQUIPPED WITH A DRIP TRAY BENEATH THE LOWER EDGE OF THE FILTERS.

35. CANOPY SIZE AND LOCATION: THE INSIDE LOWER EDGE OF CANOPY-TYPE COMMERCIAL COOKING HOODS SHALL OVERHANG OR EXTEND A HORIZONTAL DISTANCE OF NOT LESS THAN 6 INCHES BEYOND THE EDGE OF THE COOKING SURFACE, ON ALL OPEN SIDES. THE VERTICAL DISTANCE BETWEEN THE FRONT LOWER LIP OF THE HOOD AND THE COOKING SURFACE SHALL NOT EXCEED 4 FEET. (EXCEPTION: THE HOOD SHALL BE PERMITTED TO BE FLUSH WITH THE OUTER EDGE OF THE COOKING SURFACE WHERE THE HOOD IS CLOSED TO THE APPLIANCE SIDE BY A NONCOMBUSTIBLE WALL OR PANEL.)

36. CAPACITY OF HOODS: COMMERCIAL FOOD SERVICE HOODS SHALL EXHAUST A MINIMUM NET QUANTITY OF AIR DETERMINED IN ACCORDANCE WITH FLORIDA BUILDING CODE - MECHANICAL SECTION 507. THE NET QUANTITY OF EXHAUST AIR SHALL BE CALCULATED BY SUBTRACTING ANY AIRFLOW SUPPLIED DIRECTLY TO A HOOD CAVITY FROM THE TOTAL EXHAUST FLOW RATE OF A HOOD. WHERE ANY COMBINATION OF EXTRA-HEAVY-DUTY, HEAVY-DUTY, MEDIUM-DUTY, AND LIGHT-DUTY COOKING APPLIANCES ARE UTILIZED UNDER A SINGLE HOOD, THE HIGHEST EXHAUST RATE REQUIRED BY THE CODE SHALL BE USED FOR THE ENTIRE HOOD.

37. NONCANOPY SIZE AND LOCATION: NONCANOPY-TYPE HOODS SHALL BE LOCATED A MAXIMUM OF 3 FEET ABOVE THE COOKING SURFACE. THE EDGE OF THE HOOD SHALL BE SET BACK A MAXIMUM OF 1 FOOT FROM THE EDGE OF THE COOKING SURFACE.

38. EXHAUST OUTLETS: EXHAUST OUTLETS LOCATED WITHIN THE HOOD SHALL BE LOCATED SO AS TO OPTIMIZE THE CAPTURE OF PARTICULATE MATTER. EACH OUTLET SHALL SERVE NOT MORE THAN A 12-FOOT SECTION OF HOOD.

39. PERFORMANCE TEST: A PERFORMANCE TEST SHALL BE CONDUCTED UPON COMPLETION AND BEFORE FINAL APPROVAL OF THE INSTALLATION OF A VENTILATION SYSTEM SERVING COMMERCIAL COOKING APPLIANCES. THE TEST SHALL VERIFY THE RATE OF EXHAUST AIRFLOW REQUIRED BY FLORIDA BUILDING CODE - MECHANICAL SECTION 507, MAKEUP AIRFLOW REQUIRED BY FLORIDA BUILDING CODE - MECHANICAL SECTION 508, AND PROPER OPERATION. VERIFY CAPTURE AND CONTAINMENT PERFORMANCE OF THE EXHAUST SYSTEM. THIS FIELD TEST SHALL BE CONDUCTED WITH ALL APPLIANCES UNDER THE HOOD AT OPERATING TEMPERATURES. CAPTURE AND CONTAINMENT SHALL BE VERIFIED VISUALLY BY OBSERVING SMOKE OR STEAM PRODUCED BY ACTUAL OR SIMULATED COOKING, SUCH AS WITH SMOKE CANDLES, SMOKE PUFFERS, ETC.

MAKE-UP AIR:

40. FOR MECHANICAL MAKEUP AIR SYSTEMS, THE EXHAUST AND MAKEUP AIR SYSTEMS SHALL BE ELECTRICALLY INTERLOCKED TO ENSURE THAT MAKEUP AIR IS PROVIDED WHENEVER THE EXHAUST SYSTEM IS IN OPERATION.

41. THE MAKEUP AIR SHALL NOT REDUCE THE EFFECTIVENESS OF THE EXHAUST SYSTEM.

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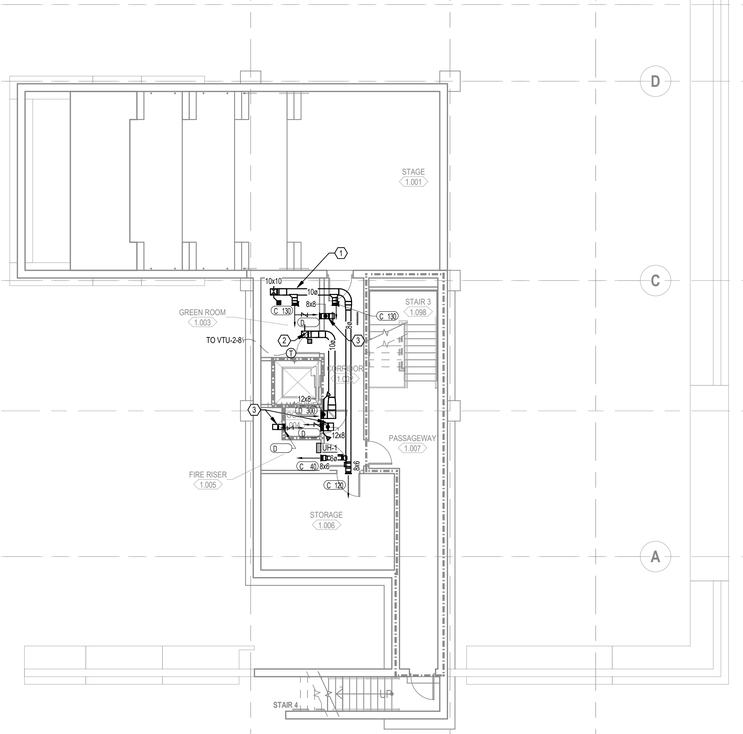
COMMISSIONING AND KITCHEN NOTES

PROJ. NO. E-16078.00
DRAWN TJA
SHEET M002

KEY NOTES:

1. EXPOSED SUPPLY DUCTWORK SHALL BE DOUBLE-WALL INSULATED DUCTWORK. ROUND EXPOSED SUPPLY DUCTWORK SHALL BE DOUBLE-WALL INSULATED SPIRAL DUCTWORK.
2. EXPOSED EXHAUST DUCTWORK SHALL BE SINGLE-WALL UN-INSULATED DUCTWORK. EXPOSED ROUND EXHAUST DUCTWORK SHALL BEB SINGLE-WALL UN-INSULATED SPIRAL DUCTWORK.
3. PROVIDE 1" INTERNAL LINER.



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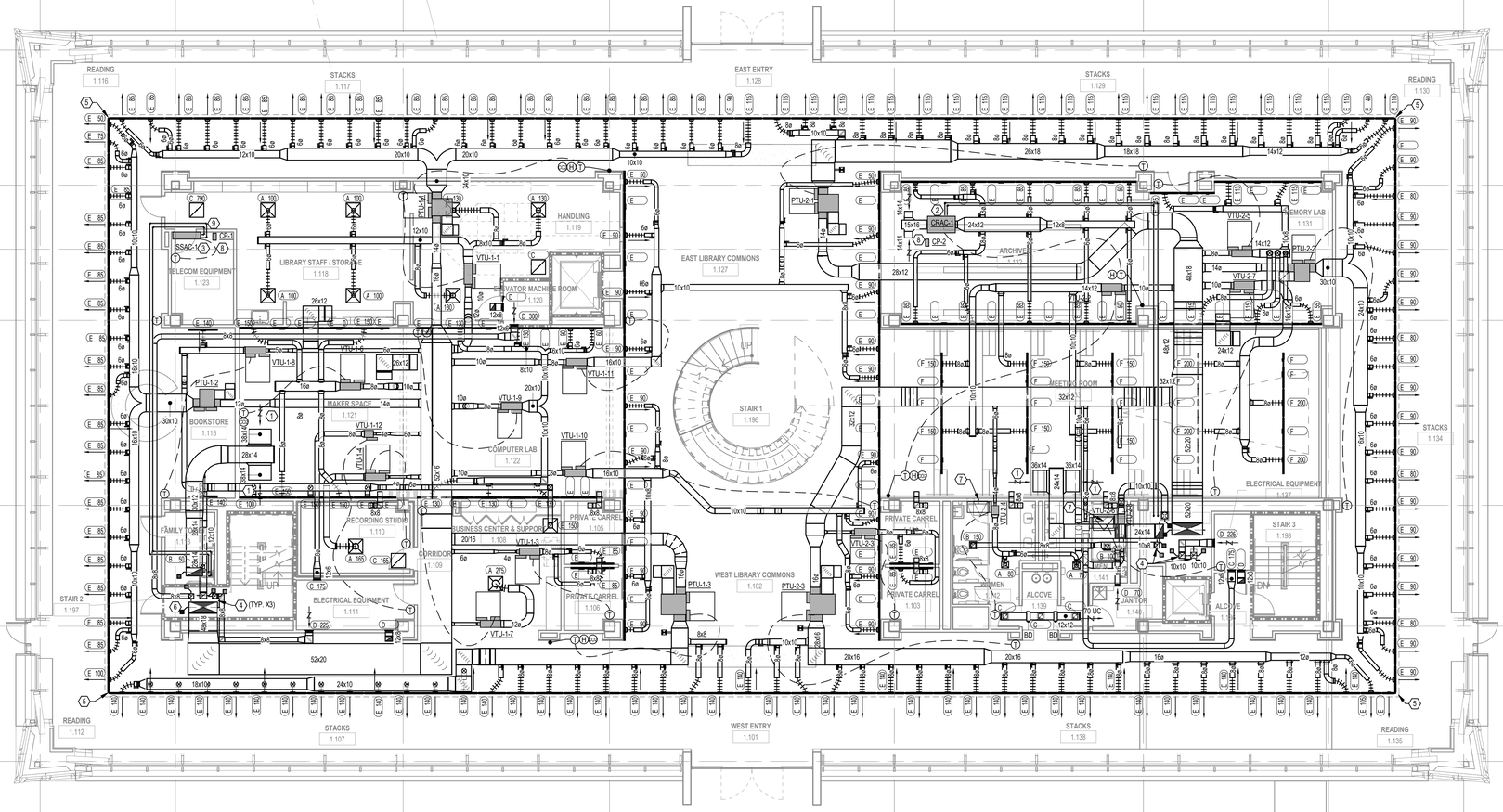
MECHANICAL PLAN - BASEMENT LEVEL - AREA 1 - LIBRARY

PROJ. NO. E-16078.00 SHEET
DRAWN TJA
M101

A1 **MECHANICAL PLAN - BASEMENT LEVEL - LIBRARY**
1/8" = 1'-0"



KEYNOTES:

1. ALL RETURN GRILLES OPEN TO THE PLENUM SHALL HAVE A TRANSFER BOOT OR SITE BAFFLE. SEE DETAIL 3/M702 FOR TYPE B RETURN GRILLE TRANSFER BOOT. PROVIDE PRICE RETURN AIR SIGHT BAFFLES FOR ALL RETURN LINEAR DIFFUSERS OPEN TO THE PLENUM.

2. ALL PRICE SDVQ TERMINAL UNITS REQUIRE ADDITIONAL LENGTH FOR INTEGRAL SILENCER. COORDINATE LOCATION TO MAINTAIN REQUIRED LENGTH FOR INTEGRAL SILENCER.

KEYNOTES:

1. RETURN AIR OPENINGS SIZED FOR 400 FPM.
2. ROUTE REFRIGERANT TO CRCU-1 ON ROOF. SIZE REFRIGERANT PIPING BASED ON MANUFACTURER'S INSTALLATION GUIDELINES. SEE PLUMBING DRAWINGS FOR WATER LINE TO CRAC-1 FOR HUMIDIFICATION.
3. ROUTE REFRIGERANT TO SSCU-1 ON ROOF. SIZE REFRIGERANT PIPING BASED ON MANUFACTURER'S INSTALLATION GUIDELINES.
4. ROUTE EXHAUST DUCTWORK UP TO EXHAUST FAN ON ROOF.
5. PROVIDE MC90° MITERED SECTION AT CORNER.
6. SHAFT WALL CEILING BELOW DUCTWORK AND PIPING. SEE ARCHITECTURAL DRAWINGS FOR CEILING.
7. PROVIDE CEILING ACCESS PANEL. ACCESS PANEL SHALL BE SIZED TO ALLOW THE REPLACEMENT OF EQUIPMENT ABOVE CEILING WITHOUT THE NEED TO DEMOLISH ADJACENT HARD CEILING.
8. ROUTE CONDENSATE PIPING TO NEAREST HUB DRAIN. REFER TO PLUMBING DRAWINGS FOR HUB DRAIN LOCATIONS.
9. 3/8" RL AND 5/8" RS PIPING UP TO SSCU-1.

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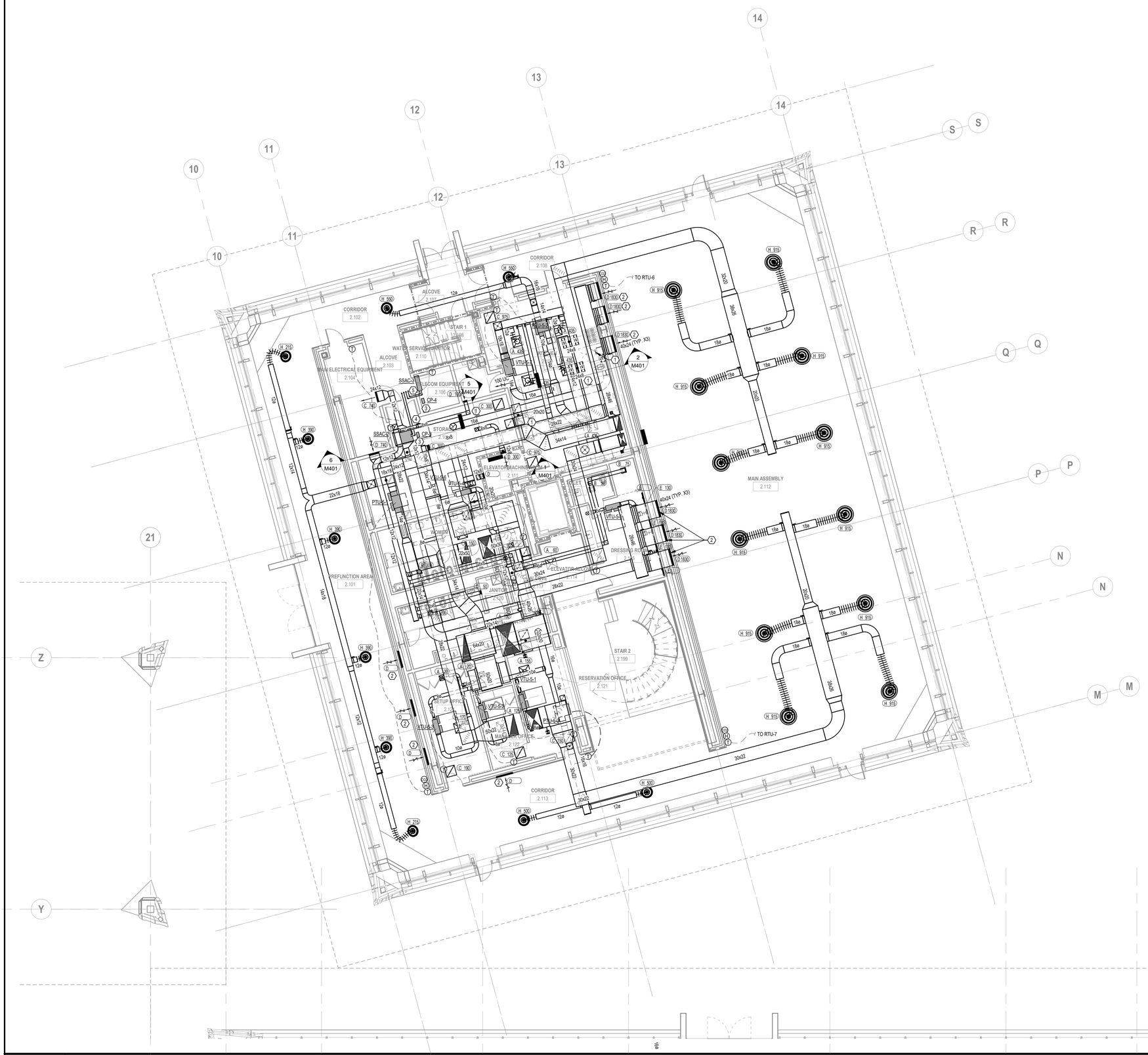
MECHANICAL PLAN - 1ST LEVEL - AREA 1 - LIBRARY

PROJ. NO.	E-16078.00
DRAWN	TJA
SHEET	M111

A1 — **MECHANICAL PLAN - 1ST LEVEL - LIBRARY**

1/8" = 1'-0"



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MECHANICAL PLAN - 1ST LEVEL - AREA 2 - EVENTS CENTER

PROJ. NO. E-16078.00
DRAWN TJA
SHEET **M112**

A1
1/8" = 1'-0"

MECHANICAL PLAN - 1ST LEVEL - EVENTS CENTER

KEYNOTES:

1. ALL RETURN GRILLES OPEN TO THE PLENUM SHALL HAVE A TRANSFER BOOT OR SITE BAFFLE. SEE DETAIL 3/M702 FOR TYPE B RETURN GRILLE TRANSFER BOOT. PROVIDE PRICE RETURN AIR SIGHT BAFFLES FOR ALL RETURN LINEAR DIFFUSERS OPEN TO THE PLENUM.

2. ALL PRICE SDVQ TERMINAL UNITS REQUIRE ADDITIONAL LENGTH FOR INTEGRAL SILENCER. COORDINATE LOCATION TO MAINTAIN REQUIRED LENGTH FOR INTEGRAL SILENCER.

KEYNOTES:

1. DRYER EXHAUST DUCT UP TO GOOSENECK ON ROOF. SEE DETAIL 5 ON M703.
2. RETURN AIR OPENINGS SIZED FOR 400 FPM.
3. 40x20 TYPE D RETURN GRILLE.
4. PROVIDE CEILING ACCESS PANEL. ACCESS PANEL SHALL BE SIZED TO ALLOW THE REPLACEMENT OF EQUIPMENT ABOVE CEILING WITHOUT THE NEED TO DEMOLISH ADJACENT HARD CEILING.

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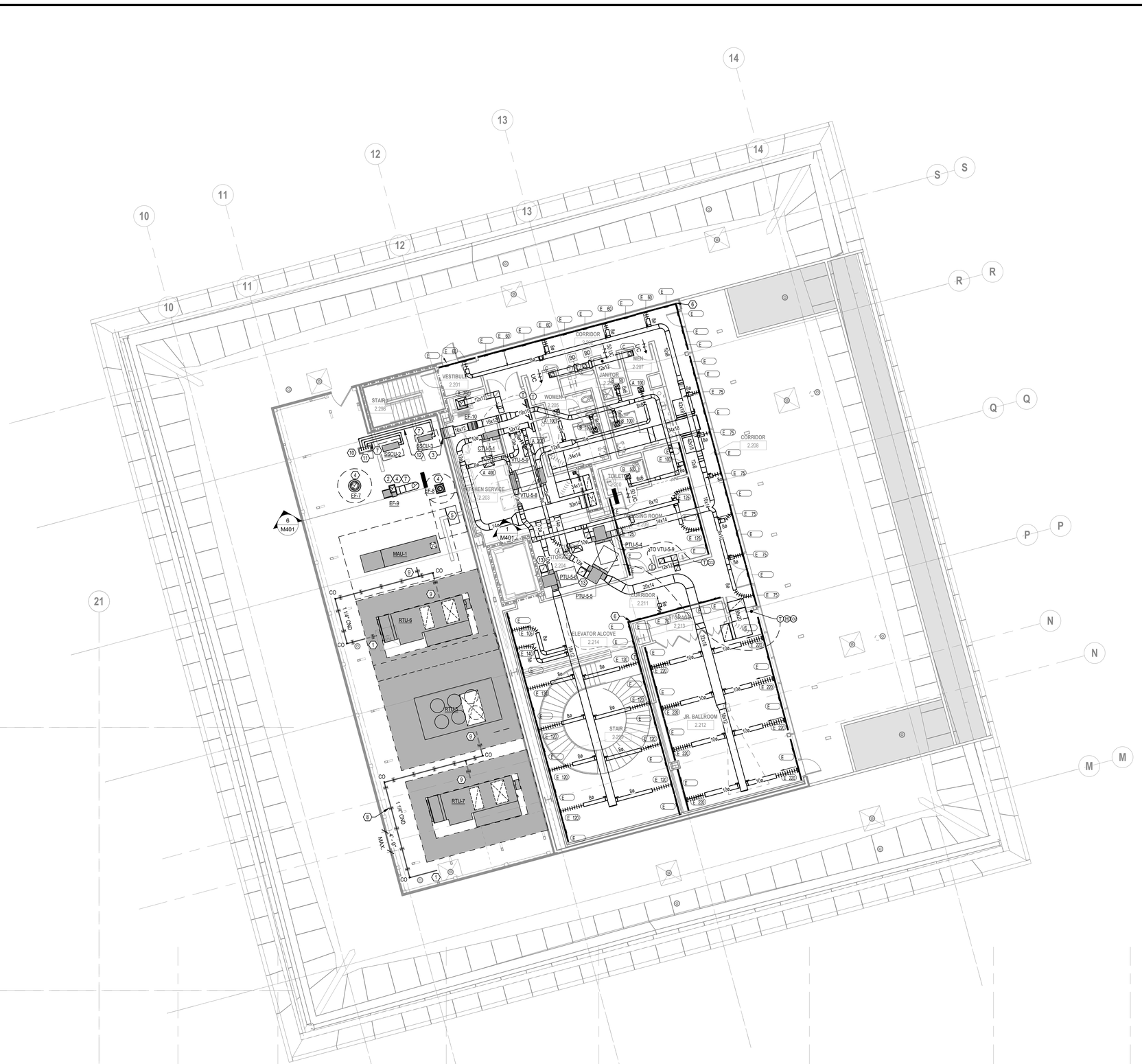
MECHANICAL PLAN - 2ND LEVEL - AREA 1 - LIBRARY

PROJ. NO. E-16078.00
DRAWN TJA
SHEET **M121**

A1 | **MECHANICAL PLAN - 2ND LEVEL - LIBRARY**

1/8" = 1'-0"



KEYNOTES:

1. ALL RETURN GRILLES OPEN TO THE PLENUM SHALL HAVE A TRANSFER BOOT OR SITE BAFFLE. SEE DETAIL 3/M702 FOR TYPE B RETURN GRILLE TRANSFER BOOT. PROVIDE PRICE RETURN AIR SIGHT BAFFLES FOR ALL RETURN LINEAR DIFFUSERS OPEN TO THE PLENUM.

2. ALL PRICE SDVQ TERMINAL UNITS REQUIRE ADDITIONAL LENGTH FOR INTEGRAL SILENCER. COORDINATE LOCATION TO MAINTAIN REQUIRED LENGTH FOR INTEGRAL SILENCER.

KEYNOTES:

1. 1-1/4" CONDENSATE DRAIN TO TERMINATE IN PRIMARY ROOF DRAIN.
2. PROVIDE DUCTWORK FROM DISCHARGE OF EF-9 UP TO HEIGHT OF SCREEN WALL COORDINATE HEIGHT OF SCREEN WALL WITH ARCHITECT.
3. LOUVER FREE AREA OF 1.6 SQ. FT. REQUIRED FOR EXHAUST AIR DISCHARGE. REFER TO ARCHITECTURAL DRAWINGS FOR EXACT LOUVER SIZE AND LOCATION. REFERENCE LOUVER PLENUM DETAIL 10/M702.
4. MAINTAIN A MINIMUM OF 10'-0" BETWEEN EXHAUST FAN AND ANY OUTSIDE AIR INTAKE.
5. ICE MACHINE CONDENSING UNIT PROVIDE BY FOOD SERVICE. DIVISION 23 TO PROVIDE CONDENSING UNIT SUPPORT.
6. PROVIDE MC90° MITERED SECTION AT CORNER.
7. PROVIDE ROOFTOP EQUIPMENT SUPPORT. REFER TO DETAIL 1/M702. CLEARANCE BELOW ELEVATED EQUIPMENT SHALL COMPLY WITH FLORIDA BUILDING CODE - BUILDING TABLE 1510.10.
8. ROOFTOP PIPE CHANNEL SUPPORT EQUAL TO CLEARLINE TECHNOLOGIES C-PORT C-SERIES WITH 14 GAUGE GALVANIZED ALUMINUM CHANNEL.
9. MECHANICAL CONTRACTOR TO REDUCE, EXTEND AND CONNECT CONDENSATE DRAIN TO ROOFTOP UNIT.
10. REFRIGERANT PIPING DOWN THROUGH ROOF. PROVIDE PIPE PORTAL. REFERENCE DETAIL 12/M703.
11. 3/8" RL AND 5/8" RS PIPING DOWN TO SSAC-2.
12. 1/4" RL AND 1/2" RS PIPING DOWN TO SSAC-3.
13. INTAKE SILENCER TURNED VERTICAL TO MAINTAIN REQUIRED CLEARANCES OF TERMINAL UNITS. COORDINATE SPACE FOR TOP FILTER ACCESS.

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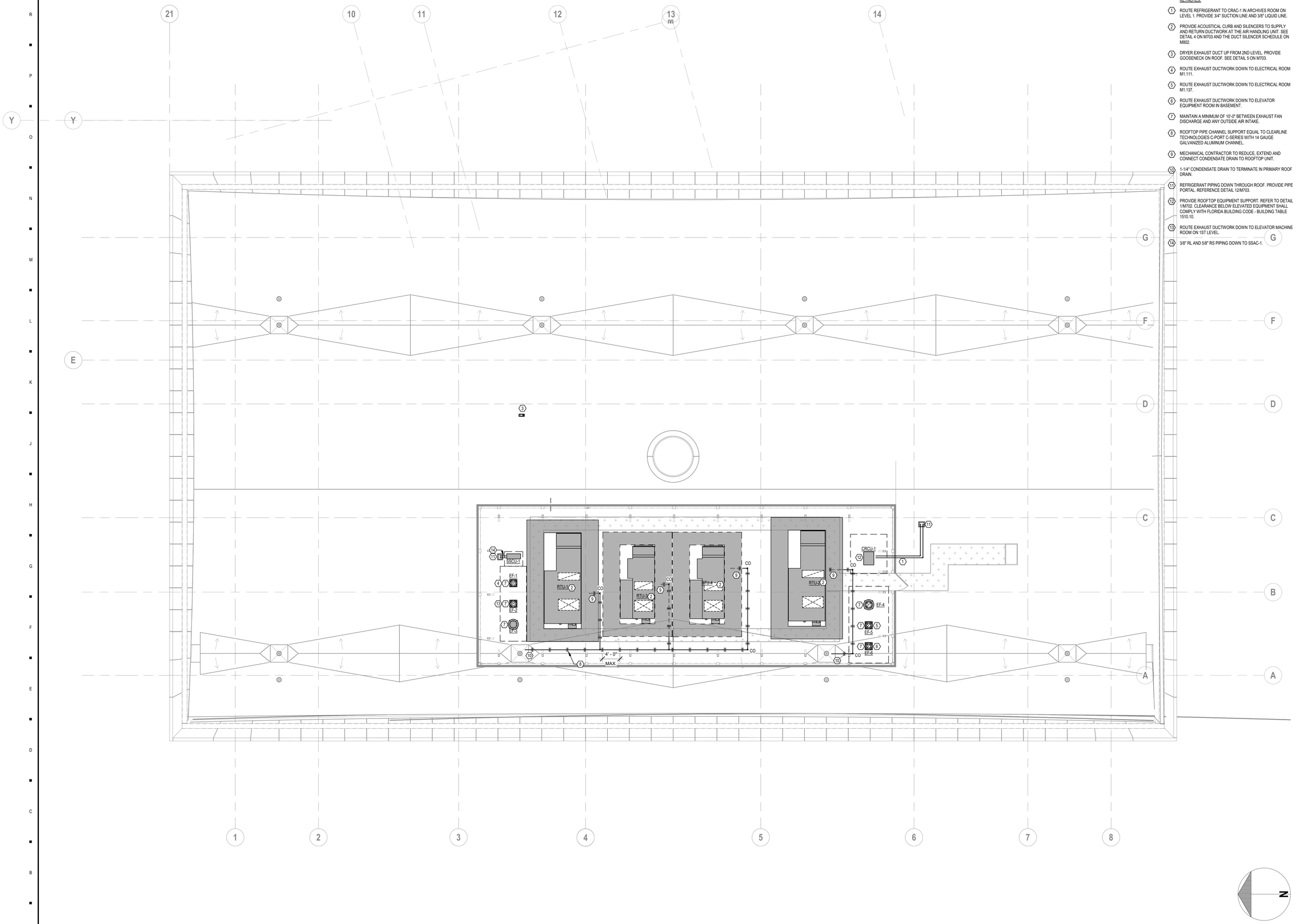
MECHANICAL PLAN - 2ND LEVEL - AREA 2 - EVENTS CENTER

PROJ. NO. E-16078.00
DRAWN TJA
SHEET **M122**

A1 **MECHANICAL PLAN - 2ND LEVEL - EVENTS CENTER**
1/8" = 1'-0"



KEYNOTES:

1. ROUTE REFRIGERANT TO CRAC-1 IN ARCHIVES ROOM ON LEVEL 1. PROVIDE 3/4" SUCTION LINE AND 3/8" LIQUID LINE.
2. PROVIDE ACOUSTICAL CURB AND SILENCERS TO SUPPLY AND RETURN DUCTWORK AT THE AIR HANDLING UNIT. SEE DETAIL 4 ON M703 AND THE DUCT SILENCER SCHEDULE ON M802.
3. DRYER EXHAUST DUCT UP FROM 2ND LEVEL. PROVIDE GOOSENECK ON ROOF. SEE DETAIL 5 ON M703.
4. ROUTE EXHAUST DUCTWORK DOWN TO ELECTRICAL ROOM M1.111.
5. ROUTE EXHAUST DUCTWORK DOWN TO ELECTRICAL ROOM M1.137.
6. ROUTE EXHAUST DUCTWORK DOWN TO ELEVATOR EQUIPMENT ROOM IN BASEMENT.
7. MAINTAIN A MINIMUM OF 10'-0" BETWEEN EXHAUST FAN DISCHARGE AND ANY OUTSIDE AIR INTAKE.
8. ROOFTOP PIPE CHANNEL SUPPORT EQUAL TO CLEARLINE TECHNOLOGIES C-PORT C-SERIES WITH 14 GAUGE GALVANIZED ALUMINUM CHANNEL.
9. MECHANICAL CONTRACTOR TO REDUCE, EXTEND AND CONNECT CONDENSATE DRAIN TO ROOFTOP UNIT.
10. 1-1/4" CONDENSATE DRAIN TO TERMINATE IN PRIMARY ROOF DRAIN.
11. REFRIGERANT PIPING DOWN THROUGH ROOF. PROVIDE PIPE PORTAL. REFERENCE DETAIL 12/M703.
12. PROVIDE ROOFTOP EQUIPMENT SUPPORT. REFER TO DETAIL 1/M702. CLEARANCE BELOW ELEVATED EQUIPMENT SHALL COMPLY WITH FLORIDA BUILDING CODE - BUILDING TABLE 1510.10.
13. ROUTE EXHAUST DUCTWORK DOWN TO ELEVATOR MACHINE ROOM ON 1ST LEVEL.
14. 3/8" RL AND 5/8" RS PIPING DOWN TO SSAC-1.

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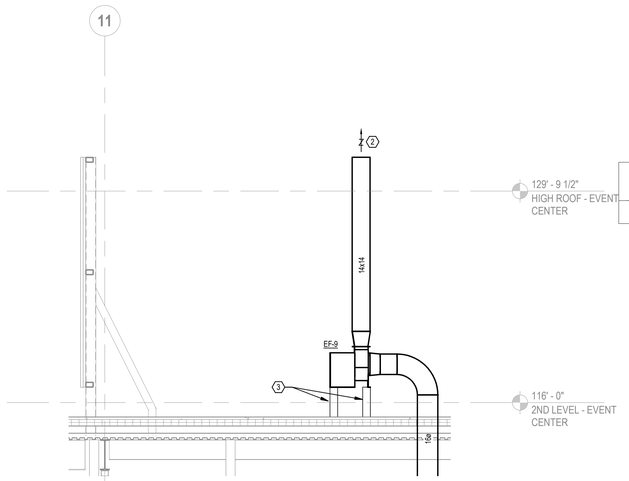
MECHANICAL PLAN - ROOF LEVEL - AREA 1 - LIBRARY

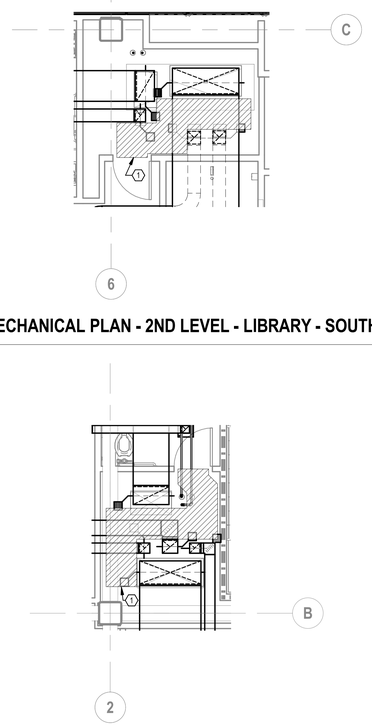
PROJ. NO. E-16078.00
DRAWN TJA
SHEET **M131**

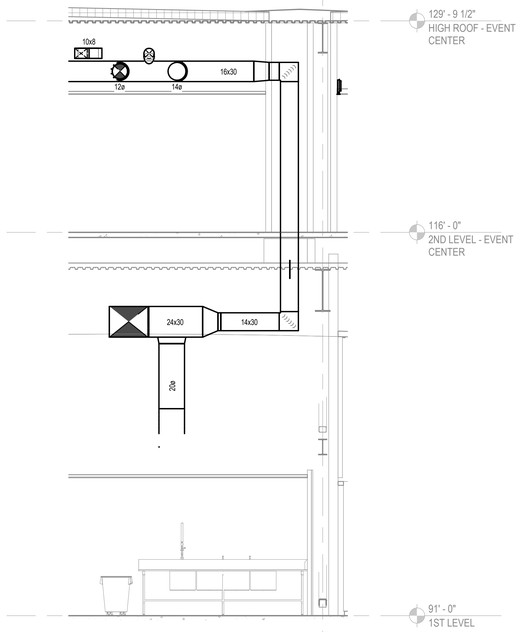
A1 MECHANICAL ROOF PLAN - LIBRARY
1/8" = 1'-0"



3 MECHANICAL PLAN - 2ND LEVEL - LIBRARY - SOUTH SHAFT

1/4" = 1'-0"





KEYNOTES:

1. F/S DAMPER ACCESS WALKING PATH.
2. PROVIDE DUCTWORK FROM DISCHARGE OF EF-9 UP TO HEIGHT OF SCREE WALL. COORDINATE HEIGHT OF SCREEN WALL WITH ARCHITECT.
3. ROOFTOP EQUIPMENT SUPPORT. REFER TO DETAIL 1/M702. CLEARANCE BELOW ELEVATED EQUIPMENT SHALL COMPLY WITH FLORIDA BUILDING CODE - BUILDING TABLE 1510.10.

6 EVENT CENTER - GREASE EXHAUST FAN SECTION

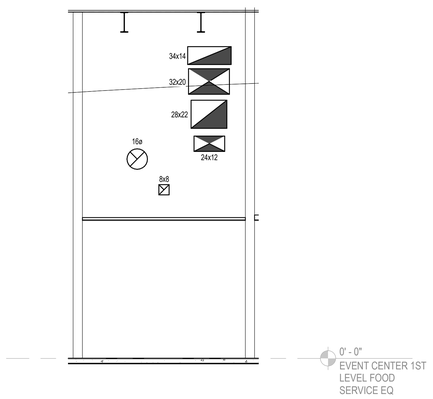
1/4" = 1'-0"

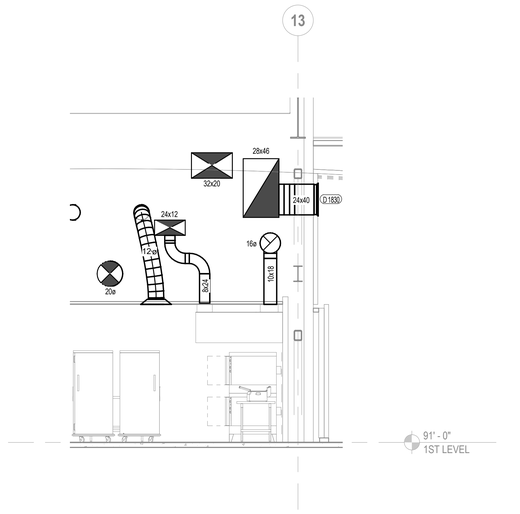
4 MECHANICAL PLAN - 2ND LEVEL - LIBRARY - NORTH SHAFT

1/4" = 1'-0"

1 EVENT CENTER - SECTION 1

1/4" = 1'-0"





5 EVENT CENTER - SECTION 3

1/4" = 1'-0"

2 EVENT CENTER - SECTION 2

1/4" = 1'-0"

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MECHANICAL SECTIONS & ENLARGED PLANS

PROJ. NO. E-16078.00
DRAWN TJA
SHEET **M401**

HOOD INFORMATION - Job#3974668

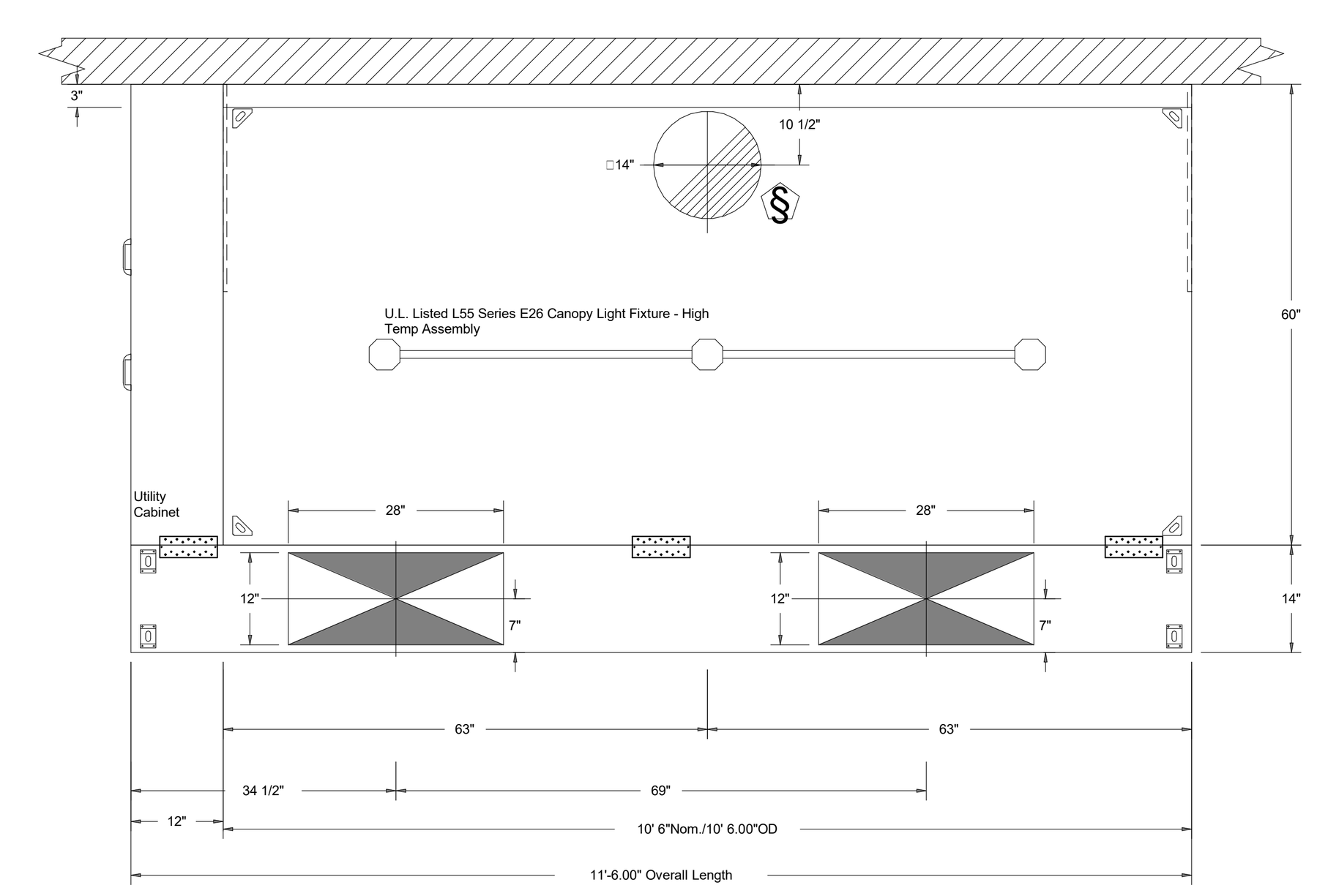
HOOD NO.	TAG	MODEL	LENGTH	MAX. COOKING TEMP.	APPLIANCE DUTY	DESIGN CFM/ft	TOTAL EXH. CFM	EXHAUST PLENUM RISER(S) WIDTH	LENG.	HEIGHT	DIA.	CFM	VEL.	S.P.	TOTAL SUPPLY CFM	HOOD CONSTRUCTION	HOOD CONFIG. END TO END	ROW
1		6024 ND-2-PSP-F	10' 6"	450 Deg.	Medium	200	2100			4"	14"	2100	1964	-1.176"	1722	430 SS Where Exposed	ALONE	ALONE

HOOD INFORMATION

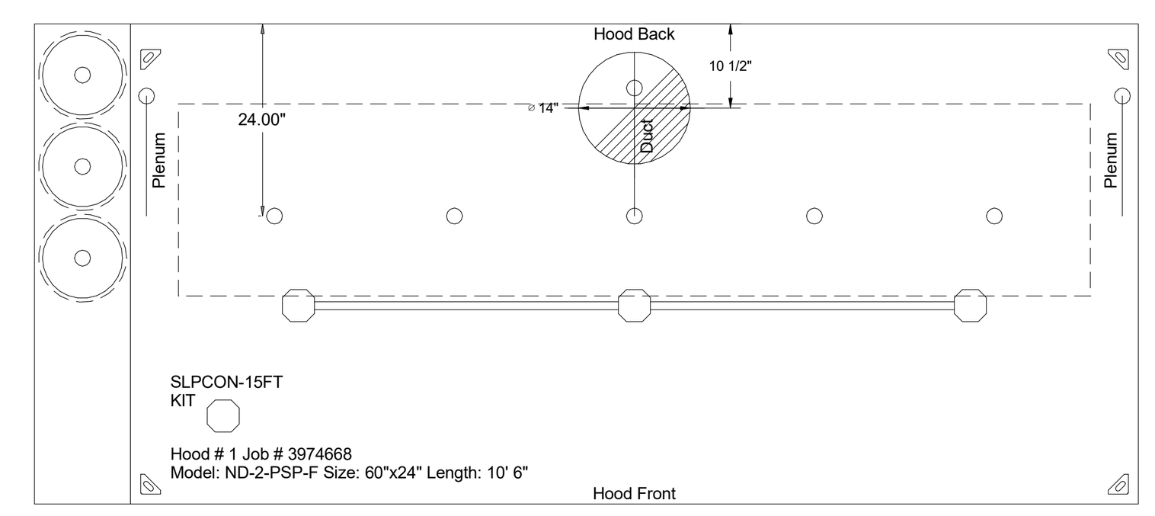
HOOD NO.	TAG	FILTER(S) TYPE	QTY.	HEIGHT	LENGTH	EFFICIENCY @ 7 MICRONS	LIGHT(S) QTY.	TYPE	WIRE GUARD	UTILITY CABINET(S) LOCATION	SIZE	FIRE SYSTEM TYPE	FIRE SYSTEM SIZE	ELECTRICAL MODEL #	SWITCHES QUANTITY	FIRE SYSTEM PIPING	HOOD HANGING WGHT
1		Captrate Solo Filter	7	16"	16"	85% See Filter Spec.	3	L55 Series E26	NO	Left	12"x60"x24"	Cas Electric Wet Chemical	4.0/4.0/4.0	DCV-1111	1 Light 1 Fan	YES	1125 LBS

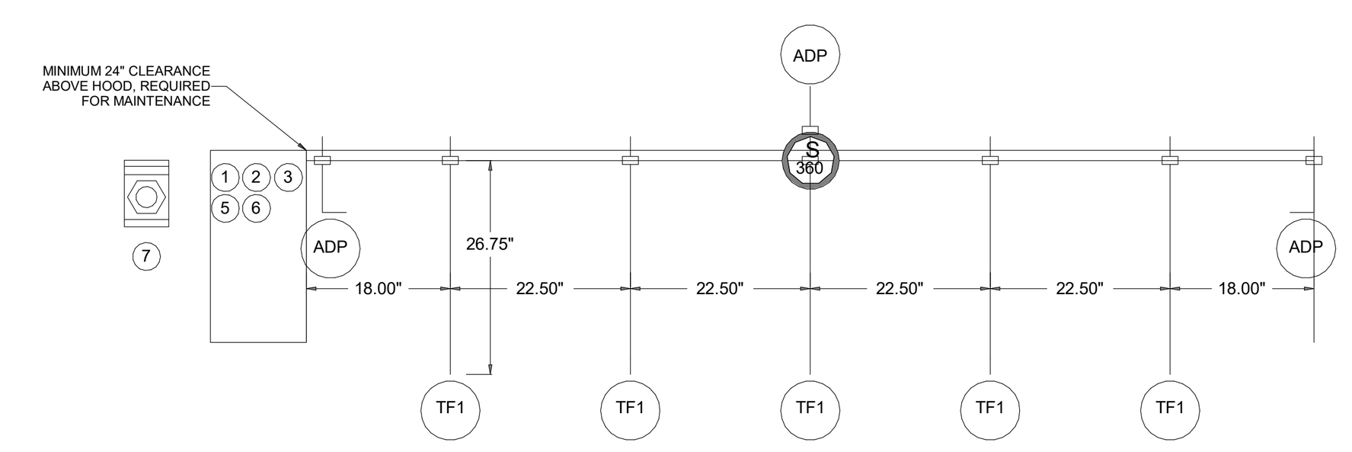
Fire System Information - Job#3974668

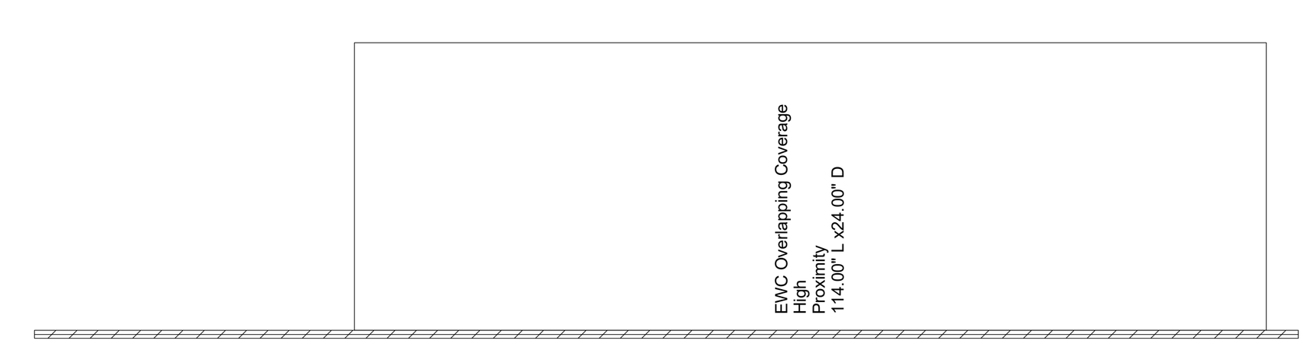
FIRE SYSTEM NO.	Tag	TYPE	SIZE	FLOW POINTS	INSTALLATION SYSTEM	LOCATION ON HOOD
1		Cas Electric Wet Chemical	4.0/4.0/4.0	13	Fire Cabinet Left	Left

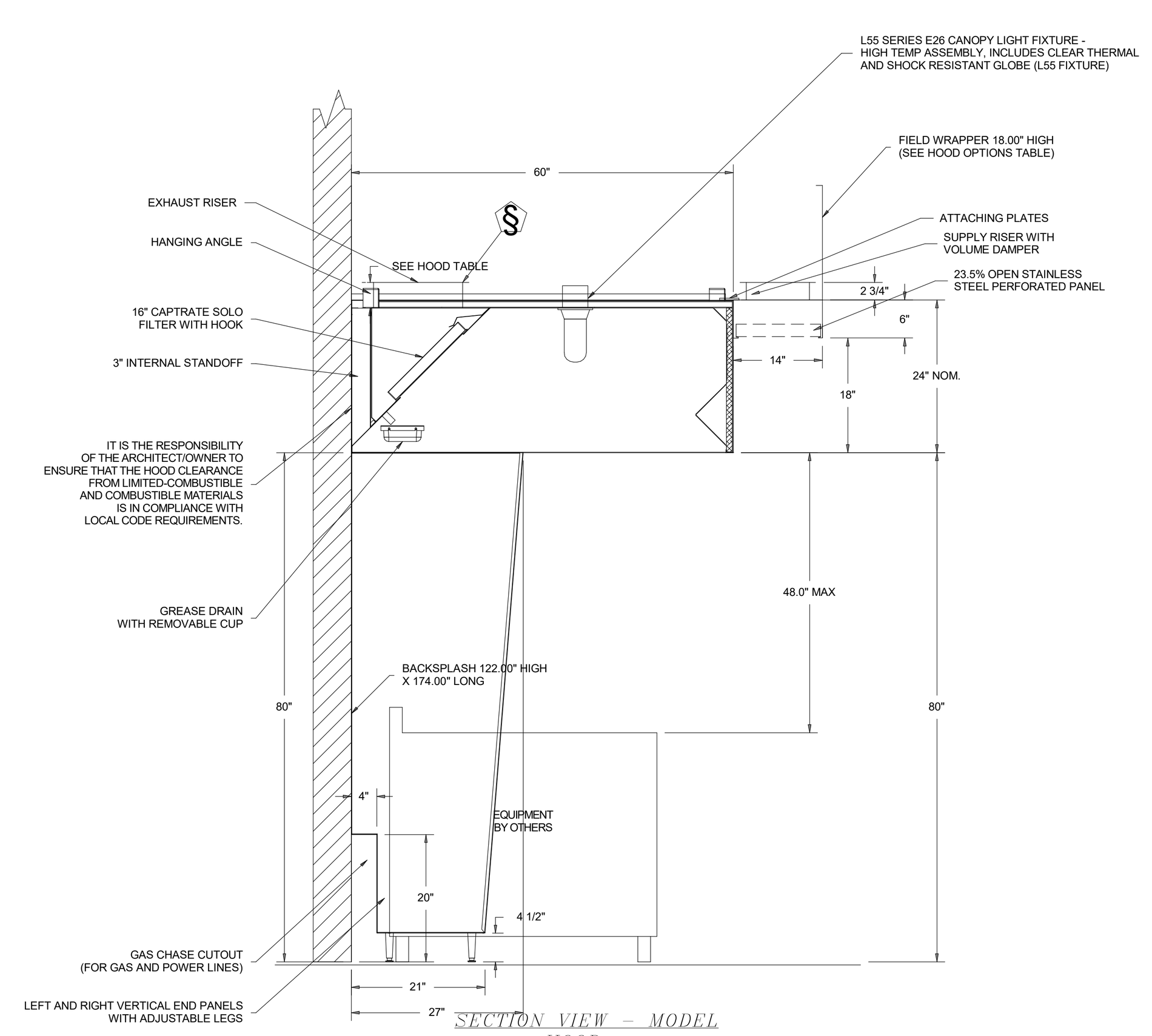


PLAN VIEW - Hood 10' 6.00" LONG 6024ND-2-PSP-F









SECTION VIEW - MODEL 6024ND-2-PSP-F #1

NOTES
- FIELD PIPE DROPS AS SHOWN
  SLEEVING, ELBOWS, TEES, AND NOZZLES SUPPLIED BY CAS
- RELOCATE NOZZLES IF FLOW PATTERN IS BLOCKED BY SHELVING, SALAMANDERS, ETC.
- IF APPLICABLE, PRE-PIPED CHARBROILER DROPS ARE SHIPPED LOOSE.
- FACTORY PIPING EXTENDS A MAXIMUM OF 6" ABOVE THE TOP OF THE HOOD.

- APPLIANCE DIMENSIONS LISTED REPRESENT THE COOKING SURFACE SIZE, NOT THE OVERALL APPLIANCE SIZE.

- THIS FIRE SYSTEM COMPLIES WITH U.L. 300 REQUIREMENTS

- MINIMUM 24" CLEARANCE ABOVE HOOD, REQUIRED FOR MAINTENANCE

Job #: 3974668
Job Name: WINTER PARK LIBRARY EWC

System Size: CAS-EWC-SP-3 Total FP required: 13
Hood # 1 10' 6.00" Long x 60" Wide x 24" High
Riser # 1 Size: 14" Dia.

- SOLID-FUEL APPLIANCES (EXTRA HEAVY-DUTY RATED 700°F) REQUIRE AN ADDITIONAL FIRESTAT AT END OF THE EXHAUST DUCT NEAR EXHAUST FAN IF THE DUCT IS MORE THAN 10 FT LONG OR CONTAINS ANY HORIZONTAL SECTIONS.
- SOLID-FUEL APPLICATIONS WHERE THE DUCTWORK EXCEEDS 50 FT IN LENGTH WILL REQUIRE A THIRD FIRESTAT, MOUNTED IN A SERVICEABLE LOCATION, IDEALLY AT THE END OF A HORIZONTAL RUN OR TRANSITION. CONSULT ENGINEERING ON DUCT LENGTHS OVER 100 FT.
- HEAVY-DUTY APPLIANCES (RATED 600°F) WILL REQUIRE AN ADDITIONAL DOWNSTREAM FIRESTAT IN THE EVENT THAT THE DUCTWORK CONTAINS ANY HORIZONTAL RUNS OVER 25 FT IN LENGTH.
- MEDIUM TO LIGHT-DUTY APPLIANCES (RATED 450°F) WILL NOT REQUIRE ANY ADDITIONAL DOWNSTREAM DETECTION.

LEGEND - FIRE CABINET CAS-EWC SYSTEM

1	4 GALLON TANK
2	PRIMARY ACTUATOR RELEASE
3	SECONDARY ACTUATOR RELEASE
4	PRESSURE SUPERVISION SWITCH
5	PRIMARY HOSE ASSEMBLY
6	SECONDARY HOSE ASSEMBLY
7	REMOTE MANUAL ACTUATION DEVICE
TF1	NOZZLE ASSEMBLY (TF1)
ADP	NOZZLE ASSEMBLY (ADP)
S	SWIVEL ADAPTER

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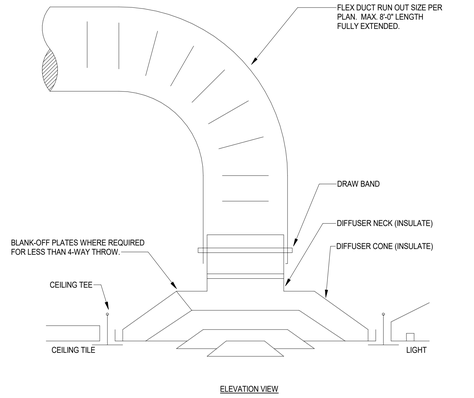
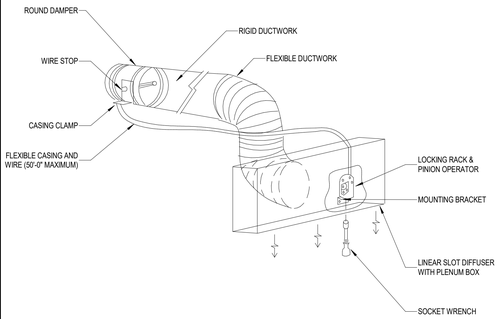
KITCHEN CONSULTANT DRAWINGS

PROJ. NO. E-16078.00 SHEET
DRAWN Author
M501

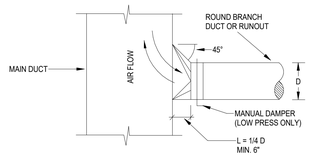


ELEVATION VIEW

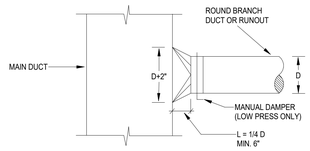
DIFFUSER MOUNTING DETAIL — 6
No Scale



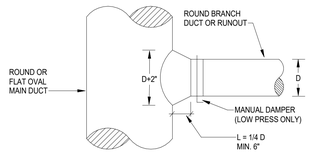
CABLE CONTROL VOLUME DAMPER — 7
No Scale



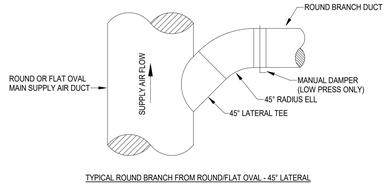
TYPICAL ROUND BRANCH ON RECTANGULAR MAIN - 45° ENTRY



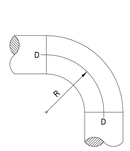
TYPICAL ROUND BRANCH ON RECTANGULAR MAIN - CONICAL



TYPICAL ROUND BRANCH FROM ROUND/FLAT OVAL - CONICAL

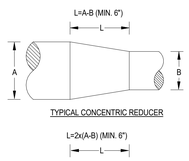


TYPICAL ROUND BRANCH FROM ROUND/FLAT OVAL - 45° LATERAL

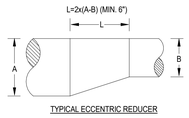


RADIUS ELL

- RADIUS ELLS SHALL BE USED IN ALL LOCATIONS WHERE SPACE PERMITS
- NOT RESTRICTED TO 90° - USE FOR ALL ANGLES
- LONG RADIUS (>1500 FPS): CENTERLINE RADIUS (R)=2(D)
- STANDARD RADIUS (1000-1500 FPS): CENTERLINE RADIUS (R)=1.5(D)
- SHORT RADIUS (<1000 FPS): CENTERLINE RADIUS (R)=(D)

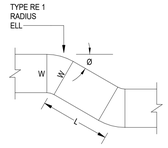


TYPICAL CONCENTRIC REDUCER

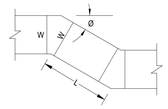


TYPICAL ECCENTRIC REDUCER

TYPICAL ROUND DUCT FITTING CONSTRUCTION — 4
No Scale



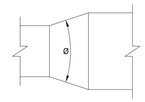
OFFSET TYPE 3 - RADIUSED



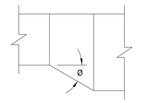
OFFSET TYPE 2 - MITERED

- FOR L<X, MAX ANGLE 15°
- FOR X<L<2X, MAX ANGLE 30°
- FOR 2X<L<3X, MAX ANGLE 45°
- FOR L>3X, NO ANGLE RESTRICTION (STANDARD ELBOWS GOVERN)

TYPICAL RECTANGULAR OFFSETS

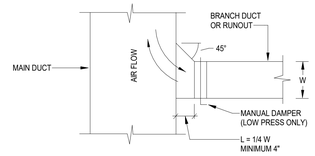


CONCENTRIC TRANSITION
Ø MAX = 45° DIVERGING, 60° CONVERGING

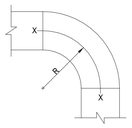


ECCENTRIC TRANSITION
Ø MAX = 30°

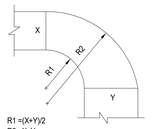
TYPICAL RECTANGULAR TRANSITIONS



TYPICAL RECTANGULAR BRANCH



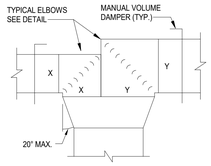
TYPE RE 1 - RADIUS



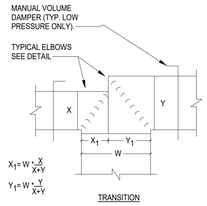
TYPE RE 5 - DUAL RADIUS

- TYPE RE 1 RADIUS ELLS SHALL BE USED IN ALL LOCATIONS WHERE SPACE PERMITS
- NOT RESTRICTED TO 90° - USE FOR ALL ANGLES
- LONG RADIUS (>1500 FPS): CENTERLINE RADIUS (R)=2(X)
- STANDARD (1000-1500 FPS): CENTERLINE RADIUS (R)=1.5(X)
- SHORT RADIUS (<1000 FPS): CENTERLINE RADIUS (R)=(X)

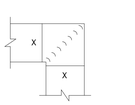
TYPICAL RADIUSED RECTANGULAR DUCT ELBOWS



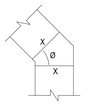
EQUAL



TRANSITION



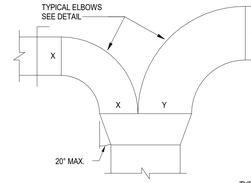
TYPE RE 2 - SQUARE THROAT



TYPE RE 6 - MITERED

- FOR USE ONLY WHERE SPACE DOES NOT PERMIT USE OF A RADIUSED ELL
- NOT RESTRICTED TO 90° - USE FOR ALL ANGLES
- PROVIDE DOUBLE THICKNESS VANES PER SMACNA DUCT CONSTRUCTION STANDARDS
- VANES SHALL BE UTILIZED IN ALL MITERED ELLS GREATER THAN 45° WHEN VELOCITY EXCEEDS 750 FPS
- FOR VERY LOW VELOCITY (<750 FPS) VANES MAY BE OMITTED

TYPICAL MITERED RECTANGULAR DUCT ELBOWS



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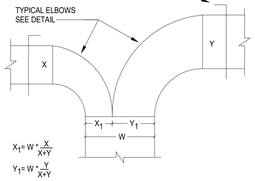
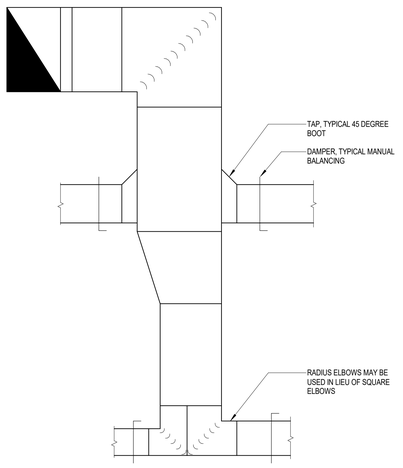


TRANSITION

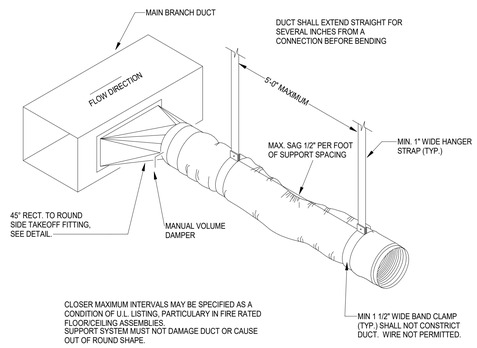
NOTE:
MANUAL VOLUME DAMPER REQUIRED WHERE BRANCH SERVES MULTIPLE DIFFUSERS/GRILLES.

TYPICAL 90° RECTANGULAR TEES

TYPICAL RECTANGULAR DUCT FITTING CONSTRUCTION — 1
No Scale

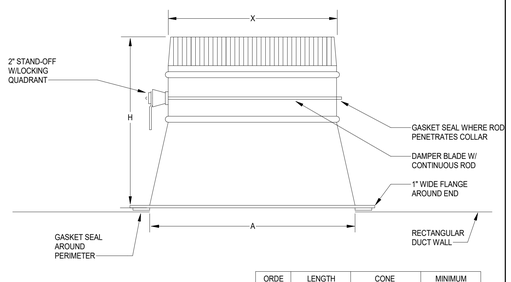


TYPICAL LOW PRESSURE DUCTWORK — 8
No Scale



CLOSER MAXIMUM INTERVALS MAY BE SPECIFIED AS A CONDITION OF U.L. LISTING, PARTICULARY IN FIRE RATED FLOOR/CEILING ASSEMBLIES. SUPPORT SYSTEM MUST NOT DAMAGE DUCT OR CAUSE OUT OF ROUND SHAPE.

FLEXIBLE DUCT SUPPORT DETAIL — 5
No Scale



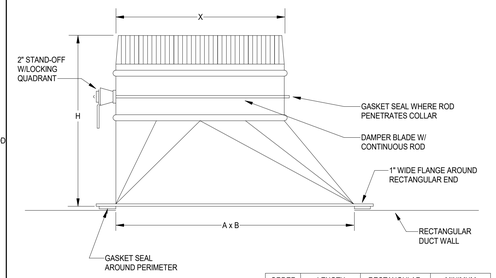
NOTES:

1. USE CONICAL BRANCH TAKEOFF FITTING FOR ALL DIFFUSER RUN-OUTS.
2. SPRAY PAINT ALL DAMPER HANDLES ORANGE.

ORDE R SIZE "X"	LENGTH W/ DAMPER "H"	CONE DIAMETER "A"	MINIMUM RECTANGULAR DUCT HEIGHT
4"	10"	5 7/8"	6"
5"	10"	6 7/8"	8"
6"	10"	7 7/8"	9"
7"	10"	8 7/8"	10"
8"	10"	9 7/8"	10"
9"	10"	10 7/8"	12"
10"	10"	11 7/8"	14"
12"	10"	13 7/8"	16"
14"	10"	15 7/8"	17"
16"	10"	17 7/8"	18"

- MINIMUM 26 GAUGE, G-90 GALVANIZED STEEL
- VOLUME DAMPER WITH 2" INSULATION BUILD-OUT AND LOCKING HAND QUADRANT
- BASIS OF DESIGN: FLEXMASTER "CB-D"

CONICAL DIFFUSER TAKEOFF FITTING DETAIL — 3
No Scale



NOTES:

1.USE RECTANGULAR TO ROUND BRANCH TAKEOFF FITTING FOR ALL DIFFUSER RUN-OUTS.

2. SPRAY PAINT ALL DAMPER HANDLES ORANGE.

ORDER SIZE "X"	LENGTH W/ DAMPER "H"	RECTANGULAR DUCT OPENING "A x B"	MINIMUM RECTANGULAR DUCT HEIGHT
5"	13"	5"x9"	7"
6"	13"	5"x9"	7"
7"	13"	5"x11"	7"
8"	13"	6"x12"	8"
9"	13"	7"x13"	9"
10"	13"	8"x14"	10"
12"	13"	10"x16"	12"
14"	13"	12"x18"	14"
16"	13"	14"x20"	16"

- MINIMUM 26 GAUGE, G-90 GALVANIZED STEEL
- 1" WIDE MOUNTING FLANGE WITH DIE FORMED CORNER CLIPS
- PRE-PUNCHED MOUNTING HOLES
- ADHESIVE COATED GASKET
- VOLUME DAMPER WITH 2" INSULATION BUILD-OUT AND LOCKING HAND QUADRANT
- BASIS OF DESIGN: FLEXMASTER "STOD"

BEVELED DIFFUSER TAKEOFF FITTING DETAIL — 2
No Scale

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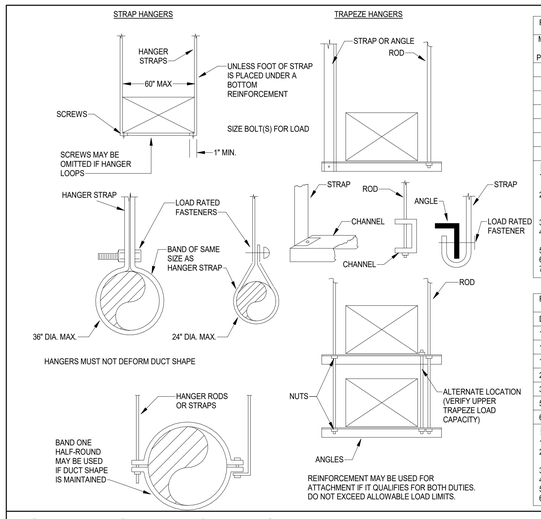


RECTANGULAR DUCT HANGER SCHEDULE

MAX. HALF OF DUCT PERIMETER	PAIR AT 10FT SPACING		PAIR AT 8FT SPACING		PAIR AT 5FT SPACING		PAIR AT 4FT SPACING	
	STRAP	ROD	STRAP	ROD	STRAP	ROD	STRAP	ROD
P/2=30"	1"x22 GA	1/4"	1"x22 GA	1/4"	1"x22 GA	1/4"	1"x22 GA	1/4"
P/2=72"	1"x18 GA	3/8"	1"x20 GA	1/4"	1"x22 GA	1/4"	1"x22 GA	1/4"
P/2=96"	1"x16 GA	3/8"	1"x18 GA	3/8"	1"x20 GA	3/8"	1"x22 GA	1/4"
P/2=120"	1.5"x16 GA	1/2"	1"x16 GA	3/8"	1"x18 GA	3/8"	1"x20 GA	1/4"
P/2=168"	1.5"x16 GA	1/2"	1.5"x16 GA	1/2"	1"x16 GA	3/8"	1"x18 GA	3/8"
P/2=192"	N/A	1/2"	1.5"x16 GA	1/2"	1"x16 GA	3/8"	1"x16 GA	3/8"
P/2>192"	SPECIAL ANALYSIS REQUIRED							

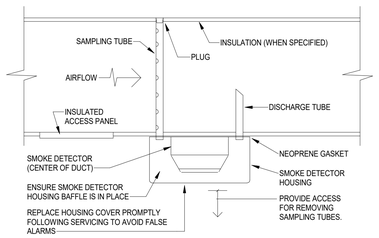
NOTES:
1. SCHEDULE CREATED FROM SMACNA "HVAC DUCT CONSTRUCTION STANDARDS", SECOND EDITION - 1995. SMACNA REQUIREMENTS GOVERN.
2. TABLE ALLOWS FOR TYPICAL DUCT WEIGHT WITH NORMAL REINFORCEMENT AND JOINTS, 1 LB/SF INSULATION WEIGHT, AND TRAPEZE WEIGHT, BUT NO EXTERNAL LOADS. IF HEAVIER DUCTS ARE TO BE INSTALLED (SUCH AS DOUBLE-WALL OR DENSE INSULATIONS), ADJUST HANGER SIZES TO BE WITHIN THEIR LOAD LIMITS.
3. STRAPS ARE TO BE GALVANIZED STEEL.
4. ALLOWABLE LOADS FOR P/2 ASSUME THAT DUCTS ARE 16 GA MAX., EXCEPT THAT WHEN MAXIMUM DUCT DIMENSION (W) IS OVER 60", THEN P/2 MAX. IS 1.25W.
5. WIRE IS NOT AN APPROVED HANGER.
6. STRAP AND ROD SIZES ARE MINIMUM ALLOWABLE.
7. FOR UPPER ATTACHMENTS, LOWER ATTACHMENTS, TRAPEZE SIZES, AND ROD/STRAP ALLOWABLE LOADS, SEE SMACNA MANUAL.

ROUND DUCT HANGER SCHEDULE

DIAMETER	MAX. SPACING	ROD	STRAP
10" & DN	12'	1/4"	1" x 22' GA.
11"-18"	12'	1/4"	1" x 22' GA.
19"-24"	12'	1/4"	1" x 22' GA.
25"-36"	12'	3/8"	1" x 20' GA.
37"-50"	12'	TWO(2) 3/8"	TWO(2) 1" x 20 GA.
51"-60"	12'	TWO(2) 3/8"	TWO(2) 1" x 18 GA.
61"-84"	12'	TWO(2) 3/8"	TWO(2) 1" x 16 GA.

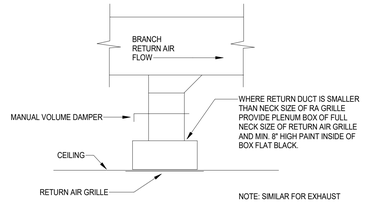
NOTES:
1. SCHEDULE CREATED FROM SMACNA "HVAC DUCT CONSTRUCTION STANDARDS", SECOND EDITION - 1995.
2. TALE ALLOWS FOR CONVENTIONAL WALL THICKNESS, AND JOINT SYSTEMS PLUS 1 LB/SF INSULATION WEIGHT. IF HEAVIER DUCTS ARE TO BE INSTALLED, ADJUST HANGER SIZES TO BE WITHIN THEIR LOAD LIMITS.
3. HANGER SPACING MAY BE ADJUSTED BY SPECIAL ANALYSIS.
4. STRAPS ARE TO BE GALVANIZED STEEL. WIRE IS NOT AN APPROVED HANGER.
5. STRAP AND ROD SIZES ARE MINIMUM ALLOWABLE.
6. FOR UPPER ATTACHMENTS, LOWER ATTACHMENTS, TRAPEZE SIZES, AND ROD/STRAP ALLOWABLE LOADS, SEE SMACNA MANUAL.

LOWER HANGER ATTACHMENTS
No Scale — 8



NOTES:
1. INSTALL IN STRICT ACCORDANCE WITH MANUFACTURER'S INSTALLATION INSTRUCTIONS.
2. NEW SMOKE DETECTOR TO BE FURNISHED BY ELECTRICAL (DIVISION 16) AND MOUNTED IN DUCTS BY MECHANICAL (DIVISION 15).
3. SAMPLING TUBE MUST BE INSTALLED ACROSS GREATEST DUCT DIMENSION.
4. WHERE DUCT ASPECT RATIO IS GREATER THAN 3 TO 1, INSTALL SAMPLING AND DISCHARGE TUBES IN THE LONG DIMENSION.
5. PROVIDE WITH WEATHERPROOF COVER FOR EXTERIOR MOUNTING WHERE REQUIRED.

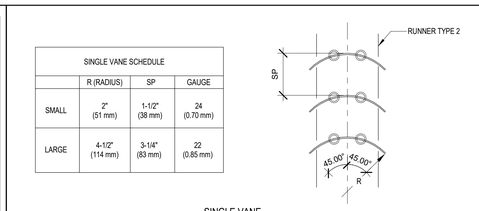
DUCT MOUNTED SMOKE DETECTOR DETAIL
No Scale — 9



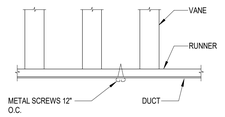
RETURN AIR BRANCH CONNECTION DETAIL
No Scale — 6

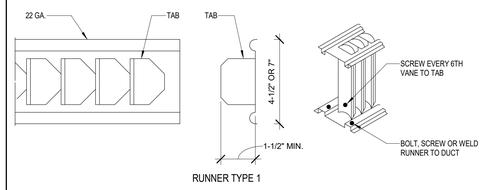
SINGLE VANE SCHEDULE

	R (RADIUS)	SP	GAUGE
SMALL	2" (51 mm)	1-1/2" (38 mm)	24 (0.70 mm)
LARGE	4-1/2" (114 mm)	3-1/4" (83 mm)	22 (0.85 mm)



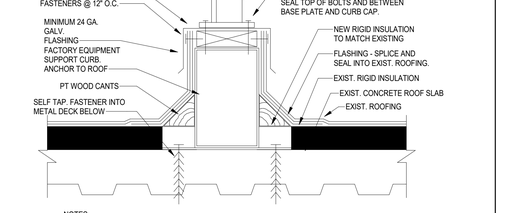
NOTES:
1. VANES SHALL BE SECURELY FASTENED TO RUNNERS
2. ALL VANES SHALL BE SECURE AND STABLE IN INSTALLED OPERATING POSITION.





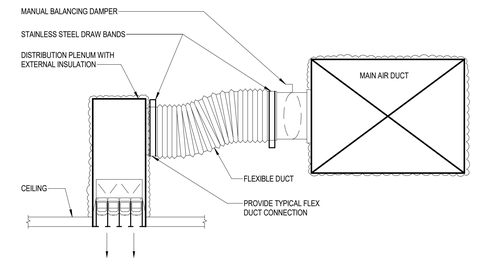
NOTE:
SEE MECHANICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.

TURNING VANES
No Scale — 4

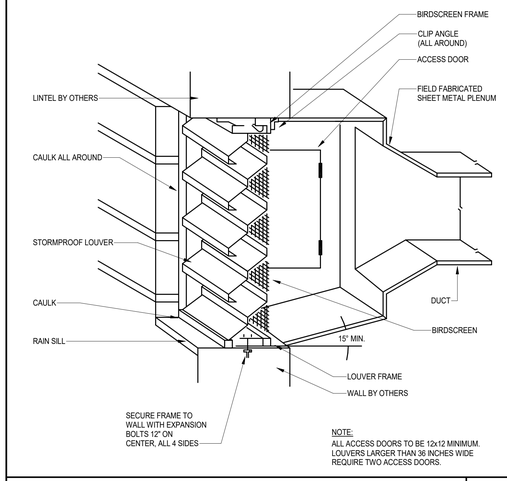


NOTES:
1. EACH CONDENSING UNIT SHALL HAVE (2) SUPPORTS, ONE DOWN EACH LONG SIDE OF UNIT.
2. ATTACH CONDENSING UNIT W/ VIBRATION ISOLATORS AT EACH MOUNTING POINT. TYPE AND SIZE OF VIBRATION ISOLATORS PER MANUFACTURER'S RECOMMENDATIONS BASED ON UNIT WEIGHT AND NUMBER OF SUPPORT LOCATIONS ON UNIT.
3. CONTRACTOR SHALL PROVIDE FACTORY ROOF CURBS SIMILAR IN SHAPE TO ABOVE AS MANUFACTURED BY A.E.S. INC., CUSTOM CURB INC., PATE CURBS, RPS CORP., OR OTHER MANUFACTURER. ROOF CURBS SHALL BE DESIGNED TO MEET THE SUPPORT REQUIREMENTS OF THE DUCTWORK WITH REGARD TO DIMENSIONS, ANCHORING POINTS, ROOF TYPE AND INSULATION, ETC. ROOF CURBS SHALL BE SUBMITTED TO ENGINEER FOR APPROVAL PRIOR TO ORDERING. FACTORY ROOF CURBS SHALL BE INCORPORATED INTO EXISTING ROOFING IN A MANNER SIMILAR TO ABOVE, WATERTIGHT, IN ACCORDANCE WITH THE SMACNA ARCHITECTURAL SHEET METAL MANUAL AND THE NATIONAL ROOFING CONTRACTORS ASSOCIATION ROOFING & WATERPROOFING MANUAL.

ROOFTOP MECH. EQUIPMENT SUPPORT DETAIL
No Scale — 1

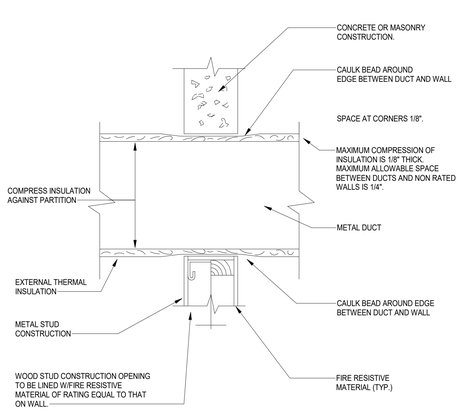


LINEAR DIFFUSER - VERTICAL CONFIGURATION
No Scale — 2

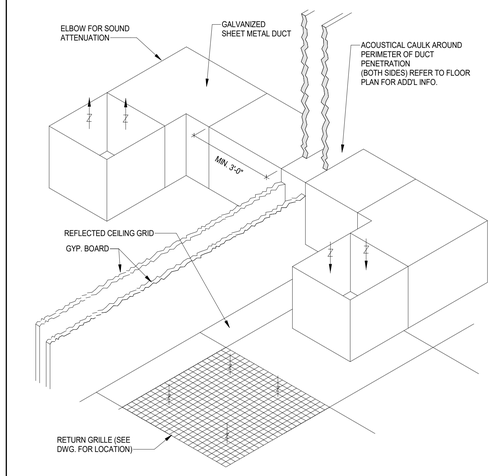


NOTE:
ALL ACCESS DOORS TO BE 12x12 MINIMUM. LOUVERS LARGER THAN 36 INCHES WIDE REQUIRE TWO ACCESS DOORS.

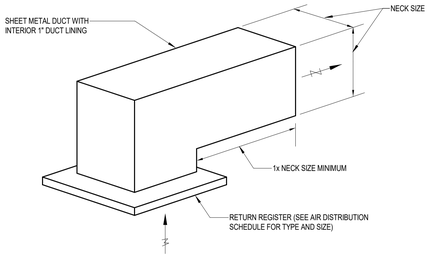
TYPICAL WALL LOUVER
NTS — 10



TYP. DUCT PENETRATION FOR NON RATED WALLS
No Scale — 7



PLENUM RETURN TRANSFER BOOT
No Scale — 5



TYPICAL RETURN AIR BOOT
No Scale — 3

TLC ENGINEERING SOLUTIONS
255 S. Orange Avenue
Suite 1600
Orlando, FL 32801
P 407.841.9050
COA 15
www.tlc-engineers.com
TLC No.: 117033

SEAL

CITY OF WINTER PARK
LIBRARY AND EVENT CENTER

Hunton Brady ARCHITECTS
Adjaye Associates

DATE	SUBMISSION	NO
10.22.19	CONSTRUCTION DOCUMENTS	

MECHANICAL DETAILS

PROJ. NO. E-16078.00 SHEET
DRAWN TJA
M702

WIND RESTRAINT REQUIREMENTS:

1. ALL ROOF- AND GROUND-MOUNTED MECHANICAL EQUIPMENT (GRAVITY AND POWERED VENTILATORS, ROOFTOP A/C UNITS, CONDENSING UNITS, FAN EQUIPMENT, ENERGY RECOVERY VENTILATORS, ETC.) SHALL BE FABRICATED TO RESIST THE EFFECTS OF WIND. WIND LOADS SHALL BE BASED ON A WIND SPEED OF 140 MPH, ACTING NORMAL TO THE BUILDING FACE. DESIGN ROOF- AND GROUND-MOUNTED MECHANICAL EQUIPMENT, INCLUDING COMPREHENSIVE ENGINEERING ANALYSIS BY A QUALIFIED PROFESSIONAL ENGINEER, USING STRUCTURAL AND WIND PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA INDICATED.

2. ALL ROOF- AND GROUND-MOUNTED MECHANICAL EQUIPMENT (GRAVITY AND POWERED VENTILATORS, ROOFTOP A/C UNITS, CONDENSING UNITS, FAN EQUIPMENT, ENERGY RECOVERY VENTILATORS, ETC.) SHALL BE ANCHORED TO RESIST THE EFFECTS OF WIND. WIND LOADS SHALL BE BASED ON A WIND SPEED OF 140 MPH, ACTING NORMAL TO THE BUILDING FACE. DESIGN ROOF- AND GROUND-MOUNTED MECHANICAL EQUIPMENT ANCHORAGE, INCLUDING COMPREHENSIVE ENGINEERING ANALYSIS BY A QUALIFIED PROFESSIONAL ENGINEER, USING STRUCTURAL AND WIND PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA INDICATED. CONTRACTOR SHALL PREPARE WIND-RESTRAINT DETAILS INDICATED TO COMPLY WITH PERFORMANCE REQUIREMENTS AND DESIGN CRITERIA, INCLUDING ANALYSIS DATA SIGNED AND SEALED BY THE QUALIFIED PROFESSIONAL ENGINEER RESPONSIBLE FOR THEIR PREPARATION.

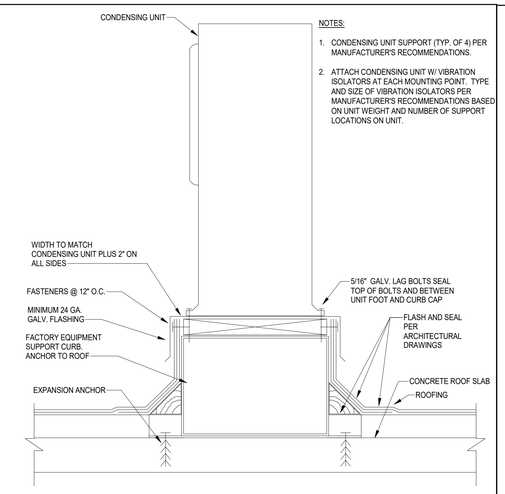
3. DESIGN ANALYSIS AND CALCULATIONS: PROVIDE TO SUPPORT SELECTION AND ARRANGEMENT OF WIND RESTRAINTS. INCLUDE CALCULATIONS OF COMBINED TENSILE AND SHEAR LOADS. PROVIDE REACTIONS AT CONNECTION POINTS TO THE BUILDING STRUCTURE.

4. FABRICATION AND ARRANGEMENT DETAILS: DETAIL ATTACHMENTS OF RESTRAINTS TO THE RESTRAINED ITEMS AND TO THE STRUCTURE. SHOW ATTACHMENT LOCATIONS, METHODS, AND SPACING. IDENTIFY COMPONENTS, LIST THEIR STRENGTHS, AND INDICATE DIRECTIONS AND VALUES OF FORCES TRANSMITTED TO THE STRUCTURE DURING WIND EVENTS. INCLUDE FABRICATION REQUIREMENTS OF THE EQUIPMENT CURB AND ITS ABILITY TO SUPPORT THE LATERAL LOAD IMPARTED BY THE EQUIPMENT DURING A WIND EVENT.

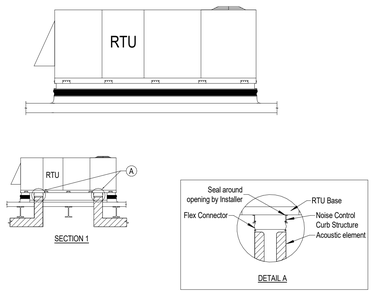
5. PREAPPROVAL AND EVALUATION DOCUMENTATION: PROVIDE, BY AN AGENCY ACCEPTABLE TO AUTHORITIES HAVING JURISDICTION, SHOWING MAXIMUM RATINGS OF RESTRAINT ITEMS AND THE BASIS FOR APPROVAL (TESTS OR CALCULATIONS).

6. WIND RESTRAINT QUALIFICATION CERTIFICATES: PROVIDE, FROM THE MANUFACTURER, FOR ALL ROOF- AND GROUND-MOUNTED MECHANICAL EQUIPMENT. INCLUDE DIMENSIONED OUTLINE DRAWINGS OF EQUIPMENT UNIT, IDENTIFYING CENTER OF GRAVITY AND LOCATION AND DESCRIPTION OF MOUNTING AND ANCHORAGE PROVISIONS. INCLUDE DETAILED DESCRIPTION OF EQUIPMENT ANCHORAGE DEVICES ON WHICH THE CERTIFICATION IS BASED AND THEIR INSTALLATION REQUIREMENTS.

WIND RESTRAINT REQUIREMENTS
No Scale — 10

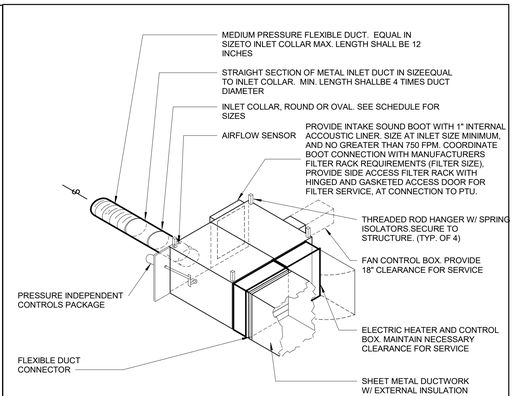


SPLIT DUCTLESS UNIT ROOF SUPPORT DETAIL
No Scale — 7



NOTE: SECTION 1 SHOWS A POSSIBLE CONFIGURATION FOR AIRFLOW PATHS AND ACOUSTIC ELEMENT CONFIGURATIONS. OTHER ARRANGEMENTS ARE POSSIBLE DEPENDING ON THE RTU CONFIGURATION AND OCCUPIED SPACE DUCTING REQUIREMENTS. DETAIL A SHOWS CORRECT INSTALLATION OF THE RTU ON CURB TO MAINTAIN AIR SEAL AND PREVENT SHORT CIRCUITING OF THE ISOLATION ELEMENTS.

NOISE CONTROL CURB (NCC-VCR) TYPICAL DETAIL
No Scale — 13



NOTE: UNIT SUPPORTS SHALL BE MOUNTED TO ALLOW ACCESS TO FAN, MOTOR AND DAMPER FOR SERVICE.

FAN POWERED TERMINAL UNIT W/ ELECTRIC HEAT
No Scale — 1

NOTES:
1. REFRIGERANT PIPING SHALL BE SIZED AND INSTALLED IN ACCORDANCE WITH AIR HANDLING UNIT AND CONDENSING UNIT MANUFACTURER RECOMMENDATIONS.
2. PIPING SHALL BE INSTALLED PARALLEL AND AT RIGHT ANGLES TO BUILDING CONSTRUCTION. REFER TO SPECIFICATIONS FOR INSTALLATION REQUIREMENTS.
3. PROVIDE FILTER/DRYER(S) IN REFRIGERANT LIQUID LINE AT LOCATION(S) RECOMMENDED BY EQUIPMENT MANUFACTURER.
4. PROVIDE AUXILIARY DRAIN PANS ON CEILING HUNG & CONCEALED AIR HANDLING UNITS IN ACCORDANCE WITH LOCAL CODE.

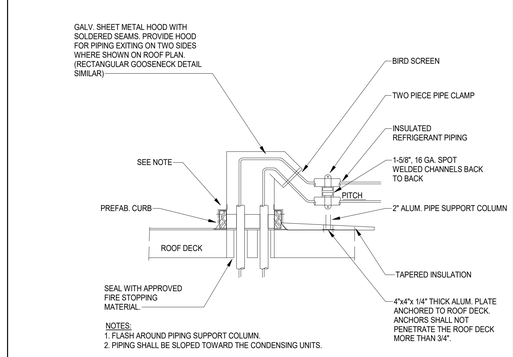
REFRIGERANT PIPING DIAGRAM
No Scale — 11

LITTLE GIANT MODEL VCMX-20ULS (1/30 HP, 115/1 PH,60 GPH @ 10' HEAD, OVERFLOW SAFETY SWITCH, THERMAL OVERLOAD PROTECTION)

CONDENSATE REMOVAL PUMP DETAIL
No Scale — 8

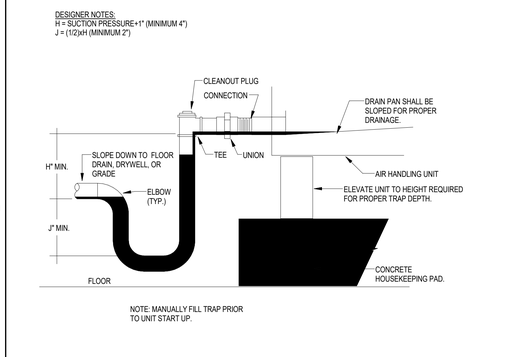
RECTANGULAR GOOSENECK
No Scale — 5

VARIABLE VOLUME TERMINAL W/ ELECTRIC HEAT
No Scale — 2



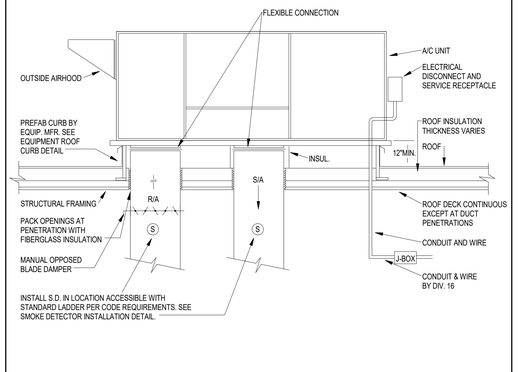
NOTES:
1. FLASH AROUND PIPING SUPPORT COLUMN.
2. PIPING SHALL BE SLOPED TOWARD THE CONDENSING UNITS.

TYPICAL REFRIGERANT PIPING ROOF CAP DETAIL
No Scale — 12

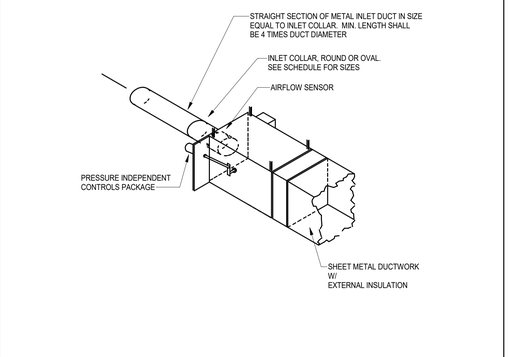


NOTE: MANUALLY FILL TRAP PRIOR TO UNIT START UP.

DRAW-THRU AHU CONDENSATE DETAIL
No Scale — 9



ROOFTOP UNIT INSTALLATION DETAIL
No Scale — 6



VARIABLE VOLUME TERMINAL NO HEATER
No Scale — 3

TLC ENGINEERING SOLUTIONS
255 S. Orange Avenue
Suite 1600
Orlando, FL 32801
P 407.841.9050
COA 15
www.tlc-engineers.com
TLC No.:117033

SEAL

CITY OF WINTER PARK
LIBRARY AND EVENT CENTER

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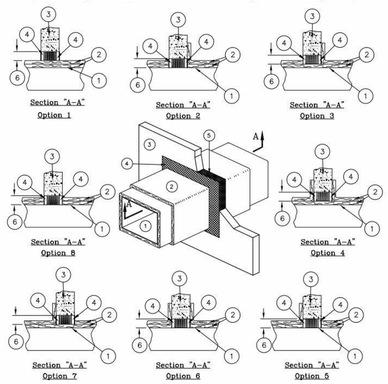
MECHANICAL DETAILS

PROJ. NO. E-16078.00 SHEET
DRAWN TJA
M703

FyreWrap® Elite® 1.5 Duct Insulation Through Penetration Firestops Wall FP-690
Intertek Design No. UNI/BI 120-02 & 120-14 F-Rating=2 Hrs. T-Rating=2 Hrs

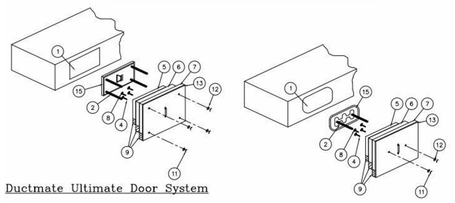


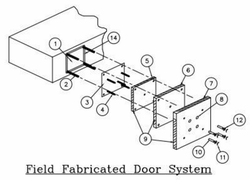
Legend:	
1	Grease Duct, max. 2401in²area, 49" max width
2	FyreWrap® Elite® 1.5 Duct Insulation, Two Layers
3	Fire-Resistive Concrete, Gypsum, or CMU block wall assembly, 2 hr. rated
4	Firestop Sealant, 1" depth, overlapping on wall and duct min. 1" (3M Fire Barrier 1000NS or Hilti FS-ONE or STI SpecSeal SSS or Tremco Fyre5il
5	Unfaced FyreWrap® Elite® 1.5 or 4 PCF Mineral Wool compressed (NOTE option 1 and 3&8 options 2-8, recessed 1" from both sides of wall
6	Annular space, 1" to 4"

FYREWRAP-2HR RATED FIRE WRAP INSTALLATION
No Scale

8

FyreWrap® Elite® 1.5 Duct Insulation
Commercial Kitchen Grease Duct System
Access Door Systems

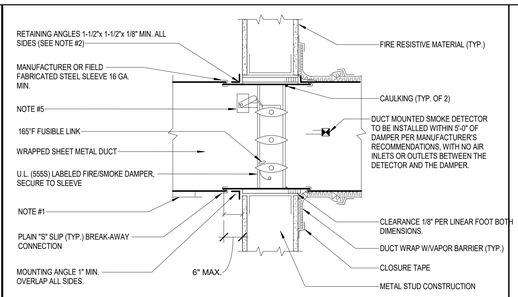




Legend:	
1	Access Door Opening
2	All Thread Rods
3	Access Door Cover Panel 16 Gauge (field fab. only)
4	Insulation Pins – Welded to Cover
5	First Layer FyreWrap® Elite® 1.5
6	Second Layer FyreWrap® Elite® 1.5, 1" Overlap
7	Third Layer FyreWrap® Elite® 1.5, 1" Overlap
8	Speed Clips/Washers
9	Cut Edges Sealed With Aluminum Foil Tape
10	Spool pieces for threaded rods (optional field fab. only)
11	Wing Nuts
12	Washers
13	Insulation plate
14	Ceramic fiber gasket, 1" thick
15	Pre-fabricated access door

FYREWRAP-2HR RATED FIRE WRAP INSTALLATION
No Scale

7



NOTES:

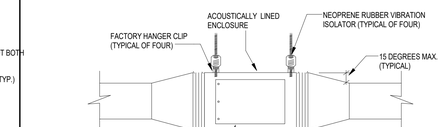
1. PROVIDE ACCESS DOOR & LABEL ON SIDE OR BOTTOM OF DUCT AS FOLLOWS:

DUCT WIDTH	DOOR SIZE
10" THRU 12"	8"X8"
14" THRU 20"	12"X12"
22" AND ABOVE	18"X18"

2. 1-1/2" x 1-1/2" x 1/8" RETAINING ANGLES SHALL LAP STRUCTURAL OPENING 1" MIN. & COVER CORNERS OF OPENINGS. ANGLES ATTACH TO SLEEVE ONLY AND MUST NOT BE ATTACHED TO EACH OTHER AT CORNERS OR TO WALL.
3. ALL ATTACHMENTS PER MANUFACTURER'S APPROVED INSTALLATION INSTRUCTION.
4. VERTICAL POSITION SHOWN. HORIZONTAL INSTALLATION SIMILAR.
5. ACTUATOR TO BE MOUNTED ON OUTSIDE OF DAMPER SLEEVE ON ACCESIBLE SIDE. ACTUATOR SHALL NOT INTERFERE WITH "S" JOINT. ACTUATOR ASSEMBLY TO BE U.L. LABELED.
6. VERIFY THAT ACCESS IS PROVIDED ON THE ACTUATOR SIDE OF THE WALL/FLOOR SO THAT THE LINK MAY BE SERVICED WITH THE DAMPER IN CLOSED POSITION.

FIRE & SMOKE DAMPER INSTALLATION
No Scale

4

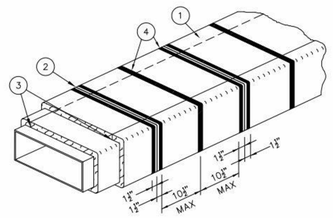


INLINE CENTRIFUGAL FAN DETAIL
No Scale

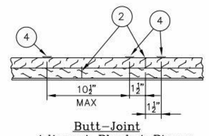
1

FyreWrap® Elite® 1.5 Duct Insulation
Commercial Kitchen Grease Duct System
ASTM E2336
2 Hour Fire-Rated Enclosure, Shaft Alternative
Zero Clearance to Combustibles
Butt Joint System

FP-959



* Applies to both horizontal and vertical duct orientations
** Review page 2 prior to installation for detailed instructions

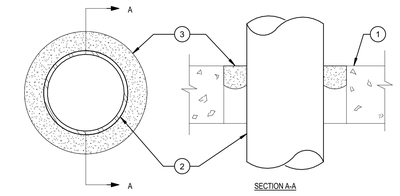


Butt-Joint
Adjacent Blanket Pieces

Legend:	
1	Two Layers of FyreWrap® Elite® 1.5 Duct Insulation (each 1.5", total thickness = 3")
2	1" Compressed Butt Joint (Transverse)
3	1" Compressed Butt Joint (Longitudinal)
4	½" Carbon or SS Banding Straps (2nd layer only)
5	Filament Tape (Optional)

FYREWRAP-2HR RATED FIRE WRAP INSTALLATION
No Scale

10



(Ref UL System #C-AJ-1027, 1997)

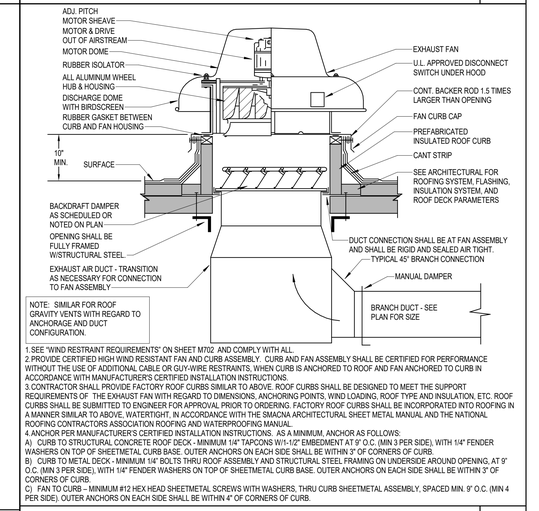
Notes:

1. Floor or Wall Assembly-Min 4-1/2 in. thick lightweight (100-150 pcf) concrete. Wall assembly may also be constructed of any UL Classified Concrete Blocks*. Max dia of circular through-opening is 12-1/4 in. *See Concrete Block (Cazt) category in fire resistance Directory for names of manufacturers.
2. Steel Pipe or Conduit-Nom 10 in. dia. (or smaller) Schedule 10S (or heavier) steel pipe, nominal 6 in. dia. (or smaller) rigid steel conduit or nom 4 in. dia. (or smaller) steel EMT. Max. one steel pipe per through-opening. Max. annular space between pipe or conduit and edge of through-opening not to exceed 3/4 in. Pipe or conduit to be rigidly supported on both sides of floor or wall assembly.
3. Fill, Void or Cavity Material*-Putty-Moldable putty material kneaded by hand and packed tightly into annular space, flush with top surface of floor. In wall assemblies, required putty thickness to be installed symmetrically on both sides of wall. The min. putty thickness and maximum through-opening sizes for the 2 and 3 Hr. Fire-Rated are specified in the following table:

Max. Through-Opening Sizes	Min. Fill Material Thickness	Fire Rating
6-1/4" in.	1/2" in.	2 hr.
12-1/4" in.	1" in.	3 hr.

FIRE RATED FLOOR / WALL PENETRATION
No Scale

5



NOTE: SIMILAR FOR ROOF GRAVITY VENTS WITH REGARD TO ANCHORAGE AND DUCT CONFIGURATION.

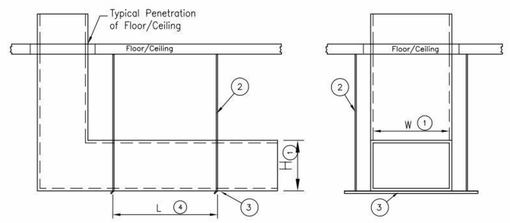
1. SEE "WIND RESTRAINT REQUIREMENTS" ON SHEET M702 AND COMPLY WITH ALL.
2. PROVIDE CERTIFIED HIGH WIND RESISTANT FAN AND CURB ASSEMBLY. CURB AND FAN ASSEMBLY SHALL BE CERTIFIED FOR PERFORMANCE WITHOUT THE USE OF ADDITIONAL CABLE OR GUY-WIRE RESTRAINTS, WHEN CURB IS ANCHORED TO ROOF AND FAN ANCHORED TO CURB IN ACCORDANCE WITH MANUFACTURER'S CERTIFIED INSTALLATION INSTRUCTIONS.
3. CONTRACTOR SHALL PROVIDE FACTORY ROOF CURBS SIMILAR TO ABOVE. ROOF CURBS SHALL BE DESIGNED TO MEET THE SUPPORT REQUIREMENTS OF THE EXHAUST FAN WITH REGARD TO DIMENSIONS, ANCHORING POINTS, WIND LOADING, ROOF TYPE AND INSULATION, ETC. ROOF CURBS SHALL BE SUBMITTED TO ENGINEER FOR APPROVAL PRIOR TO ORDERING. FACTORY ROOF CURBS SHALL BE INCORPORATED INTO ROOFING IN A MANNER SIMILAR TO ABOVE, WATERTIGHT, IN ACCORDANCE WITH THE SMACNA ARCHITECTURAL SHEET METAL MANUAL AND THE NATIONAL ROOFING CONTRACTORS ASSOCIATION ROOFING AND WATERPROOFING MANUAL.
4. ANCHOR PER MANUFACTURER'S CERTIFIED INSTALLATION INSTRUCTIONS. AS A MINIMUM, ANCHOR AS FOLLOWS:
A) CURB TO STRUCTURAL CONCRETE ROOF DECK - MINIMUM 1/4" TAPCONS W/1-1/2" EMBEDMENT AT 9' O.C. (MIN 3 PER SIDE), WITH 1/4" FENDER WASHERS ON TOP OF SHEETMETAL CURB BASE. OUTER ANCHORS ON EACH SIDE SHALL BE WITHIN 3" OF CORNERS OF CURB.
B) CURB TO METAL DECK - MINIMUM 1/4" BOLTS THRU ROOF ASSEMBLY AND STRUCTURAL STEEL FRAMING ON UNDERSIDE AROUND OPENING, AT 9' O.C. (MIN 3 PER SIDE), WITH 1/4" FENDER WASHERS ON TOP OF SHEETMETAL CURB BASE. OUTER ANCHORS ON EACH SIDE SHALL BE WITHIN 3" OF CORNERS OF CURB.
C) FAN TO CURB – MINIMUM #12 HEX HEAD SHEETMETAL SCREWS WITH WASHERS, THRU CURB SHEETMETAL ASSEMBLY, SPACED MIN. 9" O.C. (MIN 4 PER SIDE). OUTER ANCHORS ON EACH SIDE SHALL BE WITHIN 4" OF CORNERS OF CURB.

ROOFTOP CENTRIFUGAL EXHAUST FAN DETAIL
No Scale

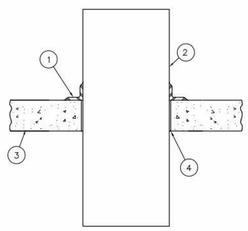
2

FyreWrap® Elite® 1.5 Duct Insulation
Typical Duct Support Details

FP-625R1



Typical Vertical Duct Support Details



Typical Horizontal Duct Support Details

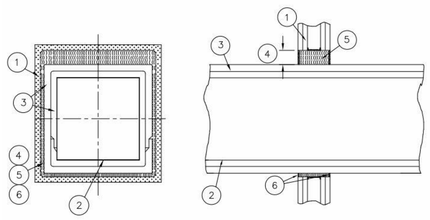
Legend:			
1	Max. Duct Size (HxW)	49"x49"	49"x49"
2	Steel Threaded Rod	⅜" diameter	½" diameter
3	Steel Angle	1½"x1½"x⅛"	2"x2"x¼"
4	Support System Spacing (L)	60"	72"

Legend:	
1	Duct Support Mechanism
2	Grease Duct
3	Fire Resistive Concrete Floor/Ceiling Assembly
4	Firestop System (Figure 4)

FYREWRAP-2HR RATED FIRE WRAP INSTALLATION
No Scale

9

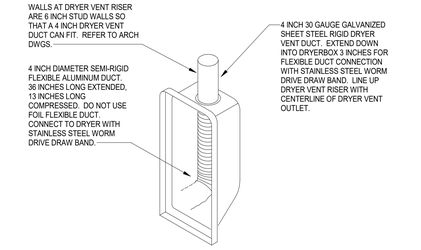
FyreWrap® Elite® 1.5 Duct Insulation
Through Penetration Firestop System
Intertek Design No. UNI/FRD 120-19
F-Rating = 2 hour, T-Rating = 2 hour



Legend:	
1	Gypsum Wallboard Assembly, 2 hr. rated
2	Grease Duct, 16 gauge, max. 70"x70"
3	FyreWrap® Elite® 1.5 Duct Insulation, Two Layers
4	Annular Space; min. 0" to max. 3"
5	Unfaced FyreWrap® Elite® 1.5 blanket compressed 48%
6	Specified Technologies spec seal SSS100 intumescent firestop sealant 1" nominal depth, both sides of wall and overlapped 1" onto duct and wall surfaces.

FYREWRAP-2HR RATED FIRE WRAP INSTALLATION
No Scale

6



TYPICAL DRYER VENT DETAIL
No Scale

3

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CITY OF WINTER PARK
LIBRARY AND EVENT CENTER

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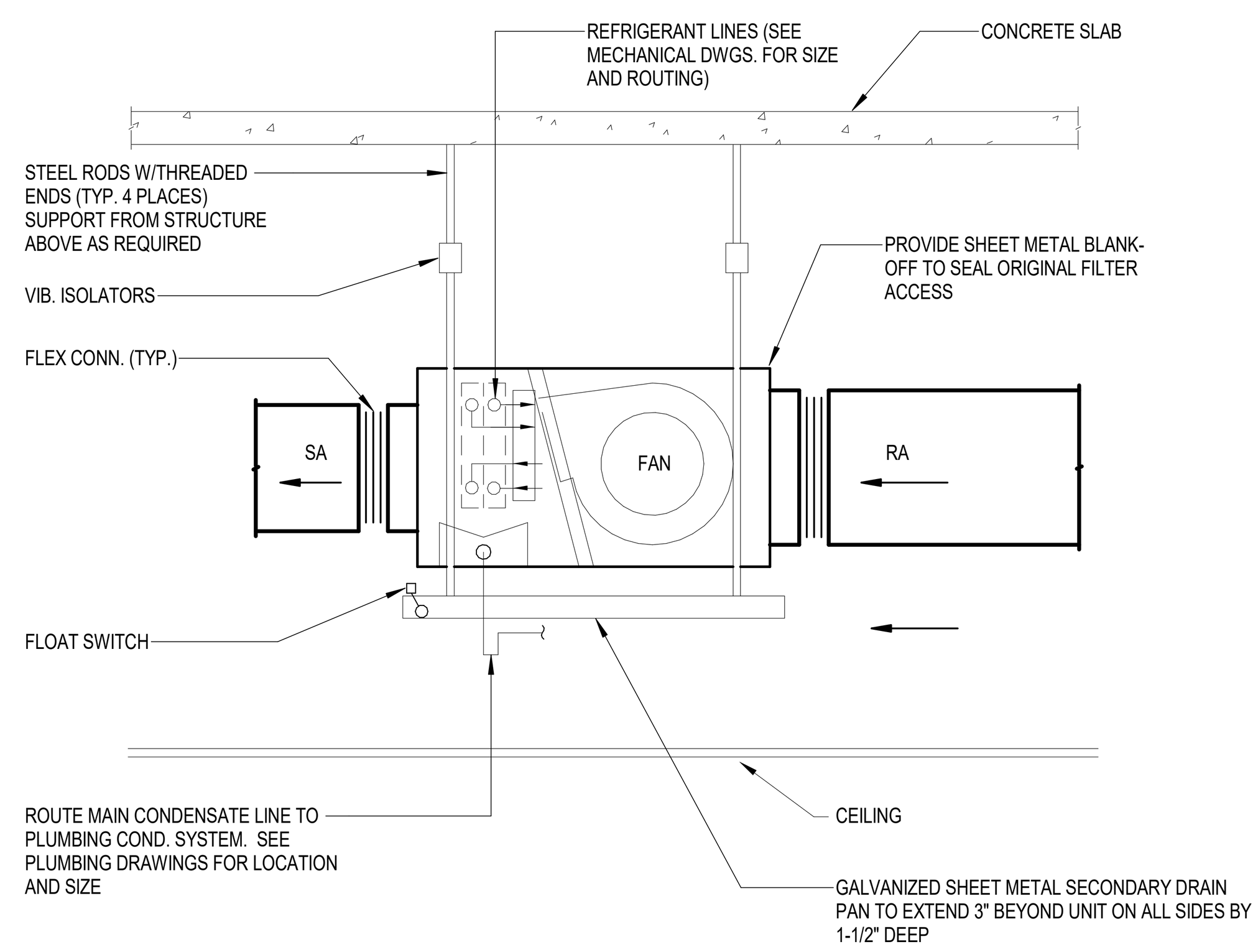
Adjaye Associates

DATE	SUBMISSION	NO
10.22.19	CONSTRUCTION DOCUMENTS	

MECHANICAL DETAILS

PROJ. NO. E-16078.00 SHEET
DRAWN TJA
M704



FAN COIL UNIT 7
No Scale

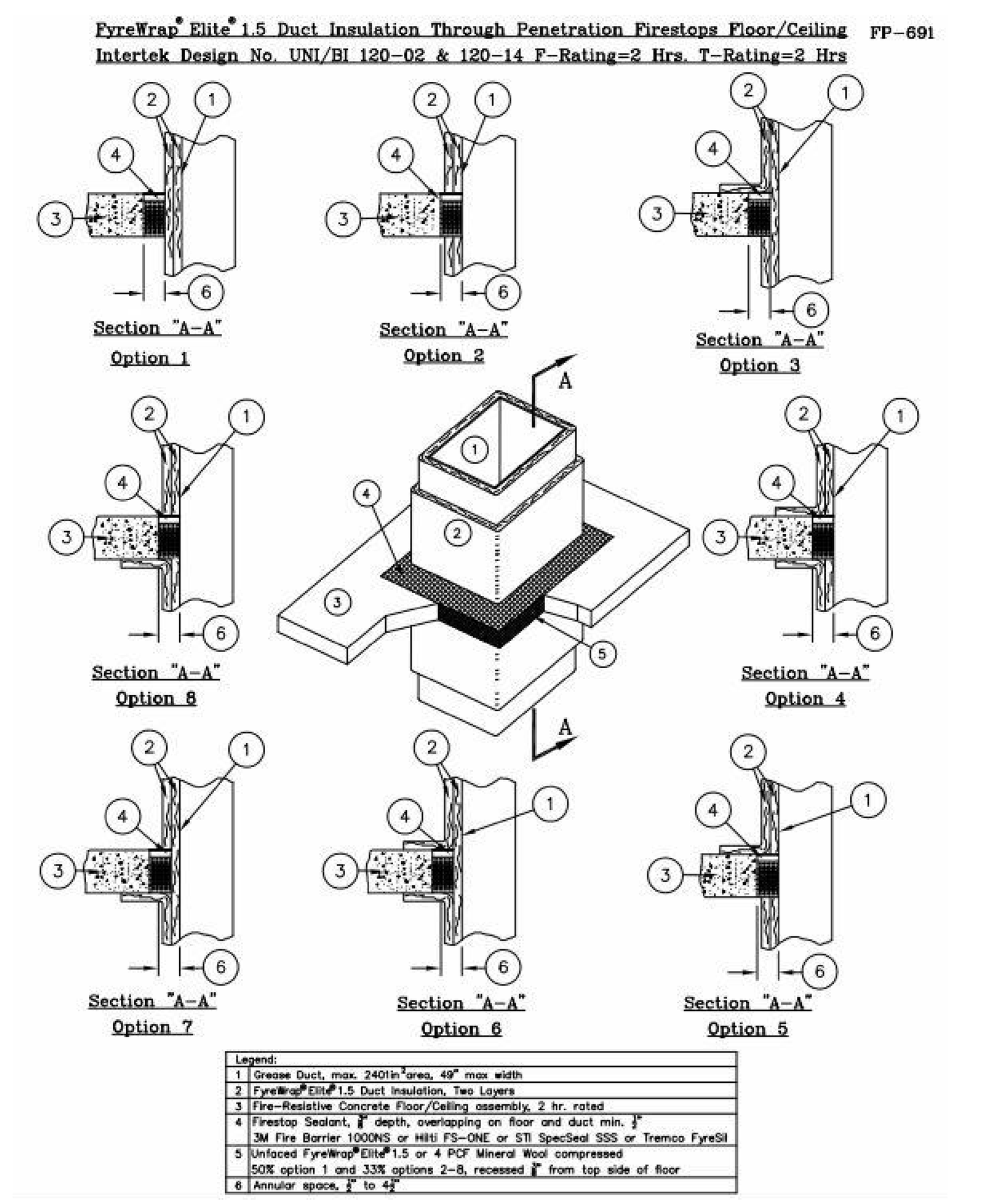
REFERENCE NOTES BELOW FOR ALL PIPES, DUCTWORK, EQUIPMENT, ETC. THAT ARE LOCATED ABOVE THE BARREL VAULT DOUBLE CEILING OR THAT PENETRATE THE BARREL VAULT DOUBLE CEILING:

1. ANY DUCTS, PIPES, OR BUILDING SERVICES THAT SERVE THE ROOM THAT HAS A SOUND ISOLATION CEILING, SHOULD BE LOCATED BELOW THE SOUND ISOLATION CEILING AND ABOVE THE FINISH CEILING. AS THESE BUILDING SERVICES PENETRATE THE FINISH CEILING THEY DO NOT REQUIRE ANY SPECIAL TREATMENT.

2. ANY DUCTS, PIPES, OR BUILDING SERVICES THAT GO OVER THE SPACE BUT DO NOT SERVE THE SPACE WITH THE SOUND ISOLATION CEILING SHOULD BE LOCATED ABOVE THE SOUND ISOLATION CEILING. THESE BUILDING SERVICES SHOULD NOT PENETRATE THE SOUND ISOLATION CEILING.

3. IF ANY ITEM OR BUILDING SERVICE IS REQUIRED TO PENETRATE THE SOUND ISOLATION CEILING, A ¼" GAP SHOULD BE PROVIDED AROUND THE ITEM WITH ACOUSTICAL SEALANT TO SEAL THE GAP AIR TIGHT.

BARREL VAULT DOUBLE CEILING NOTES 4
No Scale



FYREWRAP-2HR RATED FIRE WRAP INSTALLATION 1
No Scale

RECOMMENDED SILENCER AND DUCT LENGTHS FOR ROOMS WITH BACKGROUND NOISE LEVELS FROM NC 25 TO 40:

NOISE CRITERIA OF ROOM SERVED	VELOCITY IN DUCT NEAR TERMINAL SUPPLY/RETURN	SILENCER LENGTH	DUCT LENGTH TO FIRST INLET OR OUTLET	ACOUSTIC LINED FLEX DUCT REQUIRED
NC 25	350 / 425 FPM	7 FT TO 10 FT	70 FT TO 100 FT	6 FT TO 8 FT
NC 30	425 / 500 FPM	3 FT TO 7 FT	50 FT TO 70 FT	6 FT TO 8 FT
NC 35	500 / 600 FPM	3 FT TO 7 FT	50 FT	6 FT TO 8 FT
NC 40	600 / 700 FPM	- -	50 FT	- -

THE VALUES IN THE TABLE ARE RECOMMENDED BY THE ACOUSTICAL CONSULTANT.

RECOMMENDED SILENCER AND DUCT LENGTHS FOR VAV SYSTEMS SERVING ROOMS FROM NC 25 TO 35:

NOISE CRITERIA OF ROOM SERVED	VELOCITY IN DUCT NEAR TERMINAL SUPPLY/RETURN	SILENCER LENGTH	DUCT LENGTH TO FIRST INLET OR OUTLET	ACOUSTIC LINED FLEX DUCT REQUIRED
NC 25*	350 / 425 FPM	7 FT TO 10 FT	70 FT TO 100 FT	6 FT TO 8 FT
NC 30*	425 / 500 FPM	3 FT TO 7 FT	50 FT TO 70 FT	6 FT TO 8 FT
NC 35**	500 / 600 FPM	3 FT TO 7 FT	50 FT	6 FT TO 8 FT

THE VALUES IN THE TABLE ARE RECOMMENDED BY THE ACOUSTICAL CONSULTANT.
*DO NOT INSTALL VAV UNITS OVER ROOMS WITH NC RATINGS OF 30 OR LESS.
**IF VAV UNITS MUST BE INSTALLED OVER SPACES WITH NC RATINGS OF 35, PROVIDE A GYPSUM BOARD CEILING OR GYPSUM BOARD AROUND THE UNIT AND SELECT VAV UNITS FOR A RADIATED NC LEVELS OF 20 OR LESS.

RECOMMENDED SILENCER AND DUCT LENGTHS 5
No Scale

DUCT LOCATION	NC RATING OF ADJACENT SPACE	MAXIMUM AIRFLOW VELOCITY IN FEET PER MINUTE	
		RECTANGULAR	CIRCULAR
IN SHAFT OR ABOVE SOLID GYPSUM BOARD CEILING	25	1700	2500
	30	2100	3000
	35	2500	3500
	40	3000	4250
ABOVE SUSPENDED ACOUSTICAL TILE GRID CEILING	25	1200	2000
	30	1475	2500
	35	1750	3000
	40	2125	3750
DUCT EXPOSED IN OCCUPIED SPACE	25	950	1700
	30	1200	2150
	35	1450	2600
	40	1725	3250

THE VALUES IN THE TABLE ARE RECOMMENDED BY THE ACOUSTICAL CONSULTANT.

TYPICAL DUCT VELOCITIES 2
No Scale

SPACE	RECOMMENDED BACKGROUND SOUND LEVELS - NC	RECOMMENDED BACKGROUND SOUND LEVELS - dBA
AUDIO BOOTH	25	30
CONFERENCE ROOM (IF USED FOR TELECONFERENCING)	25	30
CONFERENCE ROOM (IF NOT USED FOR TELECONFERENCING)	30	35
LIBRARY SHELF AREAS	30	35
MEETING ROOM	30	35
STORY ROOM	30	35
COMMUNITY ROOM	30	35
PRIVATE CARREL	30	35
PRIVATE OFFICES	30	35
MAIN ASSEMBLY	30-35	35-40
JR BALLROOM	35	40
LOBBIES, CORRIDOR, CAFE, AND BOOKSTORE	40	45
STAFF BREAKROOM	40	45
DRESSING ROOM	40	45
OPEN OFFICE (NO SOUND MASKING)	40	45
OPEN OFFICE (WITH SOUND MASKING)	45	50

THE VALUES IN THE TABLE ARE RECOMMENDED BY THE ACOUSTICAL CONSULTANT.

NC LEVELS FOR LIBRARY/EVENTS CENTER SPACES 6
No Scale

NOISE CRITERIA OF ROOM SERVED	SUPPLY VS. RETURN	THROUGH THE AIR TERMINAL DEVICE	DEVICE TO 10' INCLUDING THE NECK	11' TO 20'	21' TO 30'	31' TO 50'	51' +
NC 25	SUPPLY	350	425	550	700	1000	1200
	RETURN	425	500	650	800	1000	1200
NC 30	SUPPLY	425	500	700	850	1100	1300
	RETURN	500	600	800	1000	1400	1800
NC 35	SUPPLY	500	600	800	1000	1400	1800
	RETURN	600	700	900	1150	1400	1800
NC 40	SUPPLY	600	700	900	1250	1600	2000
	RETURN	700	800	1000	1400	1600	2000

THE VALUES IN THE TABLE ARE RECOMMENDED BY THE ACOUSTICAL CONSULTANT.

TYPICAL VELOCITY AT A GIVEN DISTANCE TO TAKE-OFF 3
No Scale

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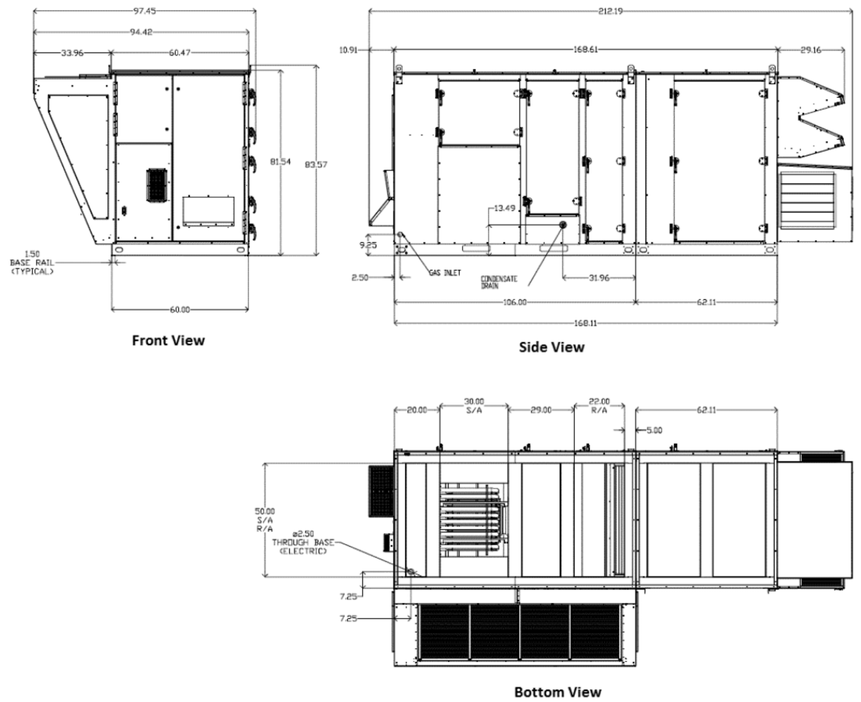
LIBRARY AND EVENT CENTER

HuntonBrady ARCHITECTS
Adjaye Associates

DATE	SUBMISSION	NO
10.22.19	CONSTRUCTION DOCUMENTS	

MECHANICAL DETAILS

PROJ. NO. E-16078.00 SHEET
DRAWN TJA
M705



Front View

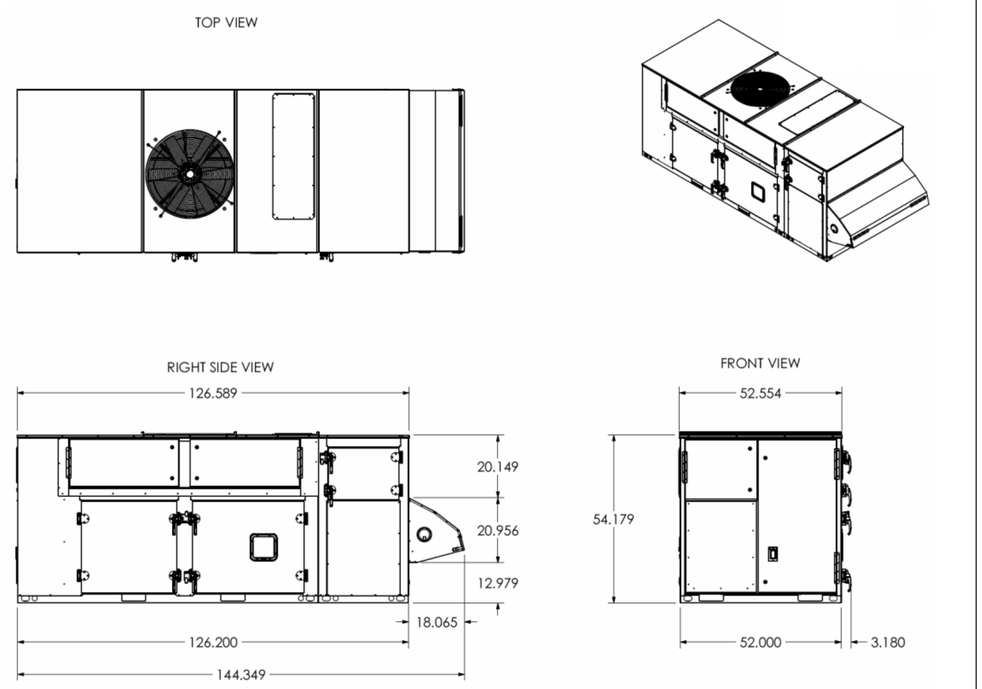
Side View

Bottom View

RTU-3 AND RTU-4 COMPONENT DIAGRAM

No Scale

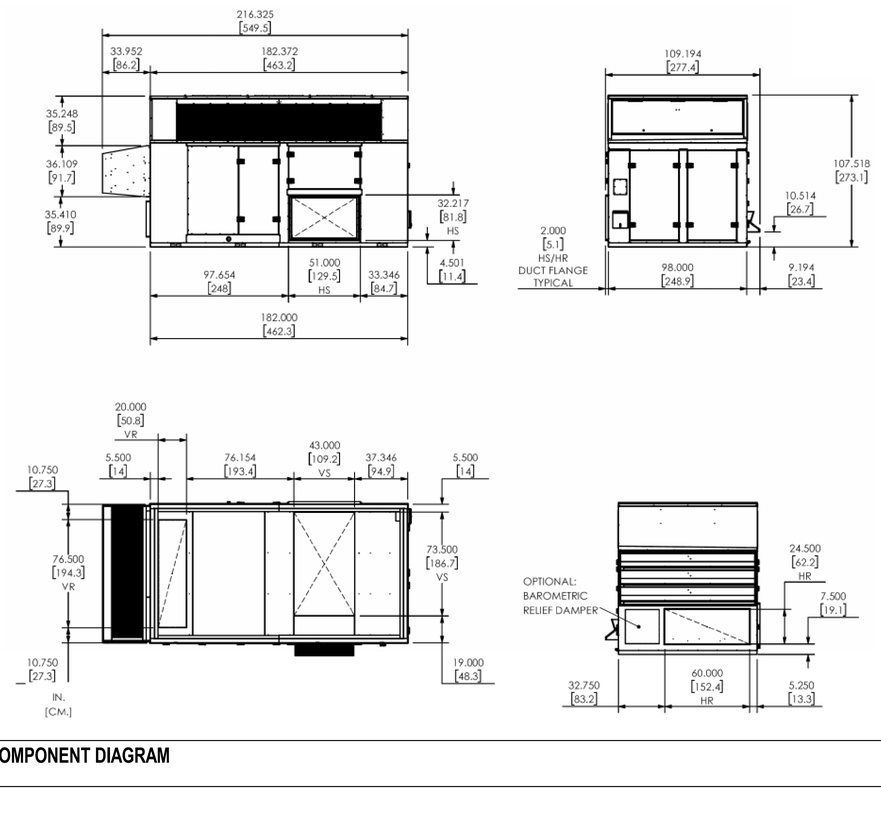
3



MAU-1 COMPONENT DIAGRAM

No Scale

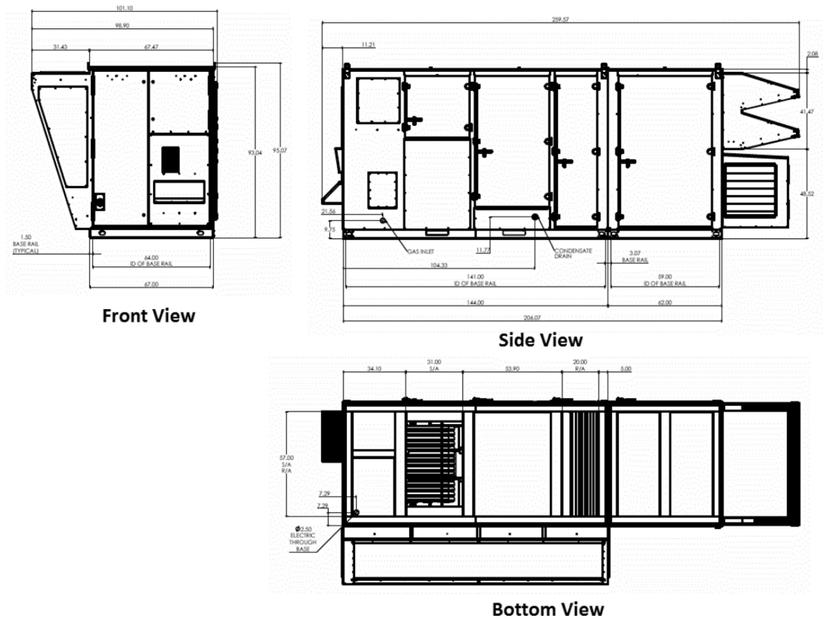
1



RTU-5 COMPONENT DIAGRAM

No Scale

4



Front View

Side View

Bottom View

RTU-1 AND RTU-2 COMPONENT DIAGRAM

No Scale

2

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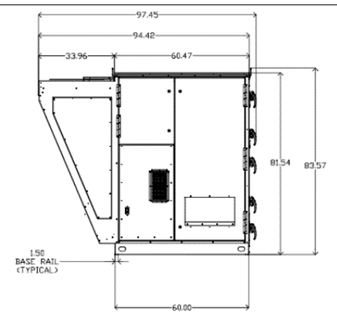
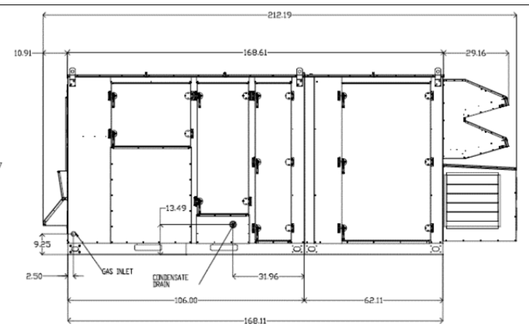
AHU COMPONENT DIAGRAMS

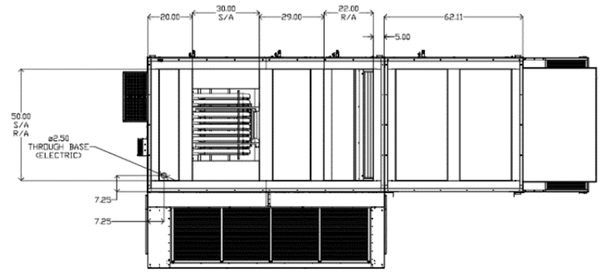
PROJ. NO. E-16078.00 SHEET
DRAWN TJA
M706



Front View



Side View



Bottom View

RTU-6 AND RTU-7 COMPONENT DIAGRAM

No Scale

1

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AHU COMPONENT DIAGRAMS

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SHEET
M707

AIR HANDLING UNIT SCHEDULE

PLAN MARK	BASIS OF DESIGN MFGR	MODEL NO.	TYPE	AREA SERVED	SUPPLY FAN AIRFLOW SUPPLY (CFM)	MIN. AIRFLOW (CFM)	OUTSIDE AIR (CFM)	ESP (IN. W.C.)	TSP (IN. W.C.)	RPM	MOTOR BHP	MOTOR HP (EACH)	NO. MOTORS	FAN TYPE	VFD
RTU-1	TRANE	OANDS040A4	PACKAGED RTU WITH HGRH AND ENERGY RECOVERY	LIBRARY 1ST FLOOR NORTH	11000	4120	4120	3.25	4.83	2456	11.83	15	2	DIRECT DRIVE	YES
RTU-2	TRANE	OANDS040A4	PACKAGED RTU WITH HGRH AND ENERGY RECOVERY	LIBRARY 1ST FLOOR SOUTH	10000	4550	4550	3.25	4.78	2373	10.52	7.5	2	DIRECT DRIVE	YES
RTU-3	TRANE	OAKD360A4	PACKAGED RTU WITH HGRH AND ENERGY RECOVERY	LIBRARY 2ND FLOOR NORTH	7150	2900	2900	2	3.62	2022	6.16	7.5	1	DIRECT DRIVE	YES
RTU-4	TRANE	OAKD264A4	PACKAGED RTU WITH HGRH AND ENERGY RECOVERY	LIBRARY 2ND FLOOR SOUTH	5850	2200	2200	2	3.5	1841	4.61	7.5	1	DIRECT DRIVE	YES
RTU-5	TRANE	OANG070C3	PACKAGED RTU WITH HGRH	EVENT CENTER CORE AREA	11300	4700	4550	3.25	4.24	1756	13.61	15	1	DIRECT DRIVE	YES
RTU-6	TRANE	OAKD240A4	PACKAGED RTU WITH HGRH AND ENERGY RECOVERY	EVENT CENTER BALLROOM EAST	5500	2360	2180	1.75	3.18	1746	3.93	5	1	DIRECT DRIVE	YES
RTU-7	TRANE	OAKD240A4	PACKAGED RTU WITH HGRH AND ENERGY RECOVERY	EVENT CENTER BALLROOM WEST	5500	2360	2180	1.75	3.18	1746	3.93	5	1	DIRECT DRIVE	YES

PLAN MARK	EXHAUST FAN EXHAUST (CFM)	ESP (IN. W.C.)	TSP (IN. W.C.)	RPM	MOTOR BHP	MOTOR HP	FAN TYPE	VFD	COMPRESSORS NO. DIGITAL SCROLL	NO. SCROLL	COOLING COIL ENTERING AIR DB (°F)	ENTERING AIR WB (°F)	LEAVING AIR DB (°F)	LEAVING AIR WB (°F)	REHEAT LEAVING AIR DB (°F)	REHEAT LEAVING AIR WB (°F)	CAPACITY SENSIBLE (MBH)	CAPACITY TOTAL (MBH)	AIR VELOCITY (FPM)	COIL AIR P.D. (IN. H20)	EER	HEATING PERFORMANCE AIRFLOW (CFM)	ENTERING AIR (°F)	LEAVING AIR (°F)	KW	HEATER CONTROL	COIL AIR PD (IN. H20)
RTU-1	2555	0.5	1.15	1001	0.72	3	DIRECT DRIVE	YES	1	2	80.3	67	52.7	52.4	-	-	335.6	487	384	0.34	10.5	-	-	-	-	-	-
RTU-2	3150	0.5	1.24	1091	0.96	3	DIRECT DRIVE	YES	1	2	80.5	67.2	51.5	51.3	-	-	319.9	480.2	349	0.3	11	-	-	-	-	-	-
RTU-3	1680	0.5	1.17	1267	0.48	1	DIRECT DRIVE	YES	1	1	80.7	67.3	51.9	51.7	-	-	227.3	337.8	357	0.31	12	-	-	-	-	-	-
RTU-4	1540	0.5	1.14		0.42	1	DIRECT DRIVE	YES	1	1	80	66.8	51.3	51.1	-	-	185.3	275	390	0.55	13.1	-	-	-	-	-	-
RTU-5	-	-			-	-	-	YES	1	3	84.44	70.22	52.2	52.1	-	-	403.1	646.5	330	0.38	10.9	-	-	-	-	-	-
RTU-6	1600	0.5	1.15	1244	0.45	1	DIRECT DRIVE	YES	1	1	79.9	66.7	51.8	51.8	-	-	170.4	245.2	366	0.49	14	5500	65.92	103.4	28	SCR	0.02
RTU-7	1600	0.5	1.15	1244	0.45	1	DIRECT DRIVE	YES	1	1	79.9	66.7	51.8	51.8	-	-	170.4	245.2	366	0.49	14	5500	65.92	103.4	28	SCR	0.02

NOTES:

1. SEE SPECIFICATIONS FOR APPROVED MANUFACTURERS AND ADDITIONAL REQUIREMENTS.
2. PERFORMANCE CAPACITIES SHOWN ARE MINIMUM.
3. FANS FOR VAV UNITS SHALL BE SELECTED WITH ALLOWANCE FOR MID-LIFE FILTER AIR PRESSURE DROP.
4. PROVIDE WITH STAINLESS STEEL DRAIN PANS AND COIL CASINGS.
5. COORDINATE DUCT CONNECTION ORIENTATIONS WITH PLANS.
6. MOTORS SHALL BE MOTOR MANUFACTURER'S HIGHEST "PREMIUM" EFFICIENCY OFFERING AVAILABLE.
7. PROVIDE DDC CONTROLS REFER TO CONTROL DRAWINGS.
8. RTU CASING SHALL BE DOUBLE-WALL, FOAM FILLED ALUMINUM PANELS, WITH A MINIMUM R-VALUE OF 6.2.
9. PROVIDE WITH PAINTED EXTERIOR FINISH.
10. PROVIDE WITH MOTORIZED EXHAUST AND OUTDOOR AIR DAMPERS.
11. PROVIDE EBTRON GOLD SERIES AIRFLOW MEASURMENT STATION. EXTEND INTAKE HOOD 1' FROM UNIT AND INSTALL AFMS IN THE 1' EXTENSION.
12. PROVIDE HOT GAS RE-HEAT.
13. SEE AIR HANDLING UNIT SCHEDULE CONTINUED AND SCHEDULE NOTES BELOW.

ROOFTOP UNIT CURB SCHEDULE

PLAN MARK	TYPE	CURB HEIGHT (IN)	SUPPLY AIR FLOW (CFM)	SUPPLY PRESSURE DROP (IN. W.G.)	MIN. DEFL. (IN)	WIND RESTRAINT REQ'D (MPH)	LEVEL REQUIRED	UNSILENCED	OCTAVE BAND CENTER FREQUENCY (HZ) / BACKGROUND SOUND LEVEL (DB) 63	125	250	500	1000	2000	4000	8000
MAU-1	NCC-VCR(SL)-L24049	26	1722	0.35	2	140	40	-	-	-	-	-	-	-	-	-
RTU-1	NCC-VCR(SL)-L24049	26	10500	0.35	2	140	30	60	65	64	70	64	66	60	54	49
RTU-2	NCC-VCR(SL)-L24049	26	9500	0.35	2	140	30	60	70	69	69	69	71	66	63	57
RTU-3	NCC-VCR(SL)-L24049	26	5500	0.35	2	140	30	59	60	58	66	58	61	55	51	46
RTU-4	NCC-VCR(SL)-L24049	26	4000	0.35	2	140	30	57	58	57	63	57	59	53	47	42
RTU-5	NCC-VCR(SL)-L24049	26	14000	0.35	2	140	40	67	67	69	78	77	76	69	65	60
RTU-6	NCC-VCR(SL)-L24049	26	5500	0.35	2	140	40	67	54	56	69	67	68	62	58	53
RTU-7	NCC-VCR(SL)-L24049	26	5500	0.35	2	140	30	67	54	56	69	67	68	62	58	53

NOTES:

1. BASIS OF DESIGN: VIBRO-ACOUSTICS.
2. SEE SPECIFICATIONS FOR OTHER APPROVED MANUFACTURERS AND ADDITIONAL REQUIREMENTS.
3. CURB MOUNTED ROOFTOP U NITS SHALL BE MOUNTED ON VIBRO-ACOUSTICS TYPE NCC-VCR ROOFTOP SPRING ISOLATION AND SOUND CONTROL CURB CONSISTING OF GALVANIZED CURB SECTIONS WITH INTEGRAL VERTICAL AND LATERALLY RESTRAINED ISOLATORS FORMED TO FIT THE CONTRACTOR SUPPLIED ROOFTOP EQUIPMENT. THE SPRING ISOLATION CURB AND ACOUSTICAL TREATMENT PACKAGE SHALL PROVIDE A SPACE AND ADJACENT SPACE NOISE CRITERIA AS SCHEDULED.
4. FOR NON-BASIS OF DESIGN NOISE CONTROL CURB PACKAGE PURCHASE, CONTRACTOR AND NON-BASIS OF DESIGN SUPPLIER SHOULD PROVIDE THE FOLLOWING INFORMATION:
   A. SUBMIT ACOUSTICAL CALCULATIONS TO DEMONSTRATE RESULTANT DUCTBORNE NOISE LEVELS IN THE OCCUPIED SPACES MEET SCHEDULED NC LEVEL.
   B. SUBMIT ACOUSTICAL CALCULATIONS TO DEMONSTRATE RESULTANT DUCT BREAKOUT NOISE LEVELS IN THE OCCUPIED SPACES MEET SCHEDULED NC LEVEL.
   C. SUBMIT ANALYSIS TO DEMONSTRATE THAT NOISE TRANSMISSION THROUGH THE ROOF WILL NOT EXCEED SCHEDULED NC LEVEL.
   D. SUBMIT CALCULATIONS AND PE STAMP TO DEMONSTRATE THAT CODE REQUIREMENTS HAVE BEEN MET FOR WIND RESTRAINT DESIGN.
   E. SUBMIT CALCULATION TO DEMONSTRATE THAT INSTALLED PRESSURE DROP WILL BE NO GREATER THAN SCHEDULED VALUES FOR SUPPLY AND RETURN AIR PATHS.
5. NOISE CURB SHALL HAVE SUPPLY AIR SOUND ATTENTUATOR PARTIALLY INSIDE THE CURB AND INTO THE CEILING SPACE. ATTENUATOR WITHIN CEILING SPACE SHALL BE SUPPORTED FROM ROOF/CEILING STRUCTURE PROVIDED BY THE INSTALLING CONTRACTOR.
6. NOISE CURB SHALL HAVE RETURN AIR SOUND ATTENTUATOR PARTIALLY INSIDE THE CURB AND INTO THE CEILING SPACE. ATTENUATOR WITHIN CEILING SPACE SHALL BE SUPPORTED FROM ROOF/CEILING STRUCTURE PROVIDED BY THE INSTALLING CONTRACTOR.
7. ATTENTUATOR SHALL HAVE HIGH TRANSMISSION LOSS (HTL) CASING TO PREVENT BREAK-OUT NOISE.
8. SUPPLY AND RETURN DUCT SILENCERS SHALL INTEGRAL TO THE CURB SYSTEMS.

AIR HANDLING UNIT SCHEDULE CONTINUED

PLAN MARK	ENERGY RECOVERY SUMMER PERFORMANCE OUTSIDE AIR ENTERING DB/WB (°F)	OUTSIDE AIR LEAVING DB/WB (°F)	EXHAUST ENTERING DB/WB (°F)	SENSIBLE CAPACITY (MBH)	TOTAL CAPACITY (MBH)	SENSIBLE EFF. (%)	LATENT EFF. (%)	WINTER PERFORMANCE OUTSIDE AIR ENTERING DB (°F)	LEAVING DB (°F)	EXHAUST ENTERING DB/WB (°F)	SENSIBLE CAPACITY (MBH)	TOTAL CAPACITY (MBH)	SENSIBLE EFF. (%)	TOTAL EFF. (%)	ERV AIR P.D. (IN. H20)	FILTERS OUTSIDE AIR	EXHAUST AIR	PRE-FILTER	FINAL FILTER	ELECTRICAL MCA	MOCP	V/PH/F	WEIGHT (LB)	OCTAVE BAND CENTER FREQUENCY (HZ) / STANDARD RADIATED SOUND POWER LEVEL (dBA) 63	125	250	500	1000	2000	4000	8000	TOTAL dBA
RTU-1	94/77	84.1/70.2	78/65	46.93	106.66	95	89	38/32	57.1/48.6	70/58	90.83	49.6	95	89	0.44	2" MERV 8	2" MERV 8	-	2" MERV 13	125.6	150	460/3/60	7811	57.5	80	82.3	85.7	87.3	87.5	83.6	75.2	93
RTU-2	94/77	83.6/69.8	78/65	54.5	125.93	91	85	38/32	58.3/49.5	70/58	105.82	165.69	91	86	0.53	2" MERV 8	2" MERV 8	-	2" MERV 13	109.4	125	460/3/60	7803	57.5	80	82.3	85.7	87.3	87.5	83.6	75.2	93
RTU-3	94/77	84.8/70.7	78/65	30.36	70.18	95	89	38/32	55.8/47.5	70/58	58.52	92.33	95	90	0.46	2" MERV 8	2" MERV 8	-	2" MERV 13	71.2	90	460/3/60	5225	56.3	76.1	81.6	85.5	86.7	86.6	82.2	73.8	92.2
RTU-4	94/77	83.2/69.5	78/65	27.34	62.8	93	87	38/32	59/49.9	70/58	53.18	82.72	93	87	0.43	2" MERV 8	2" MERV 8	-	2" MERV 13	57.6	70	460/3/60	5113	56.3	76.1	81.6	85.5	86.7	86.6	82.2	73.8	92.2
RTU-5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2" MERV 8	2" MERV 13	115.1	125	460/3/60	7039	56.4	65.4	73.4	80.4	81.4	80.4	82.4	77.4	87.4
RTU-6	97/77	82.9/69.3	78/65	27.93	64.38	91	86	38/32	59.7/50.5	70/58	54.46	84.79	92	86	0.44	2" MERV 8	2" MERV 8	-	2" MERV 13	55.6	60	460/3/60	5169	56.3	76.1	81.6	85.5	86.7	86.6	82.2	73.8	92.2
RTU-7	94/77	82.9/69.3	78/65	27.93	64.38	91	88	38/32	59.7/50.5	70/58	54.46	84.79	92	86	0.44	2" MERV 8	2" MERV 8	-	2" MERV 13	55.6	60	460/3/60	5169	56.3	76.1	81.6	85.5	86.7	86.6	82.2	73.8	92.2

NOTES:

1. PERFORMANCE CAPACITIES SHOWN ARE MINIMUM.
2. FANS FOR VAV UNITS SHALL BE SELECTED WITH ALLOWANCE FOR MID-LIFE FILTER AIR PRESSURE DROP.
3. MOTORS SHALL BE MOTOR MANUFACTURER'S HIGHEST "PREMIUM" EFFICIENCY OFFERING AVAILABLE.
4. INSTALL UNITS FOR PROPER WHEEL AND FILTERS ACCESS AND REPLACEMENT.
5. HEAT EXCHANGERS SHALL BE ARI CERTIFIED UNDER STD. 1060 FOR THERMAL PERFORMANCE AND ZERO LEAKAGE. HEAT EXCHANGERS SHALL BE UL LISTED.
6. PROVIDE SINGLE POINT POWER CONNECTION. FACTORY PROVIDED STEP DOWN TRANSFORMER FOR CONTROL POWER.
7. PROVIDE MERV 8 OA AND EA FILTERS. PROVIDE ONE (1) SET OF CONSTRUCTION AIR FILTERS AND ONE (1) SET OF NEW FILTERS TO BE INSTALLED AT TIME OF C.O.
8. PROVIDE DDC CONTROLS REFER TO CONTROL DRAWINGS.
9. RTU CASING SHALL BE DOUBLE-WALL, FOAM FILLED ALUMINUM PANELS, WITH A MINIMUM R-VALUE OF 6.2.
10. PROVIDE WITH WASHABLE WHEEL.
11. PROVIDE WITH PAINTED EXTERIOR FINISH.
12. PROVIDE WITH MOTORIZED EXHAUST AND OUTDOOR AIR DAMPERS.
13. SEE DIVISION 26 FOR DISCONNECT.

MAKE-UP AIR HANDLING UNIT SCHEDULE

PLAN MARK	BASIS OF DESIGN MFGR	MODEL NO.	TYPE	AREA SERVED	SUPPLY FAN AIRFLOW SUPPLY (CFM)	MIN. AIRFLOW (CFM)	OUTSIDE AIR (CFM)	ESP (IN. W.C.)	MOTOR BHP	MOTOR HP (EACH)	FAN RPM	NO. MOTORS	VFD	COOLING PERFORMANCE ENTERING AIR DB (°F)	ENTERING AIR WB (°F)	LEAVING AIR DB (°F)	LEAVING AIR WB (°F)	CAPACITY SENSIBLE (MBH)	CAPACITY TOTAL (MBH)	SEER	PRE-HEATING PERFORMANCE HEAT TYPE	CAPACITY (MBH)	TEMP RISE (°F)	FILTER MERV	FILTER TYPE	ELECTRICAL MCA	MAX FUSE SIZE	V/PH/F	WEIGHT (LB)
MAU-1	CAPTIVE AIRE	A1-D.15D-MPU	GAS-FIRE , DX MAKEUP AIR UNIT	EVENT CENTER - 1ST FLOOR KITCHEN HOOD	1722	1000	1722	0.55	0.793	1	1715	1	YES	93	76	80.4	70.5	22.9	36	14	GAS FIRED	56814	31	8	2" PLEATED	14.5	20	208/3/60	1076

NOTES:

1. MAKE-UP AIR UNIT PURCHASED BY FOOD SERVICE CONTRACTOR AND INSTALLED BY MECHANCIAL CONTRACTOR.
2. SEE FOOD SERVICE DRAWINGS AND SPECIFICATIONS.
3. VFD PURCHASED BY FOOD SERVICE CONTRACTOR AND INSTALLED BY DIV. 26.
4. PERFORMANCE CAPACITIES SHOWN ARE MINIMUM.
5. COORDINATE DUCT CONNECTION ORIENTATIONS WITH PLANS.
6. MOTORS SHALL BE MOTOR MANUFACTURER'S HIGHEST "PREMIUM" EFFICIENCY OFFERING AVAILABLE.
7. INSTALL UNITS FOR PROPER FILTER ACCESS AND REPLACEMENT.
8. PROVIDE SINGLE POINT POWER CONNECTION. FACTORY PROVIDED STEP DOWN TRANSFORMER FOR CONTROL POWER.
9. PROVIDE DDC CONTROLS REFER TO CONTROL DRAWINGS.
10. MAU CASING SHALL BE DOUBLE-WALL, FOAM FILLED ALUMINUM PANELS, WITH A MINIMUM R-VALUE OF 6.2.
11. PROVIDE WITH PAINTED EXTERIOR FINISH.
12. PROVIDE WITH MOTORIZED OUTDOOR AIR DAMPERS.
13. PROVIDE EBTRON GOLD SERIES AIRFLOW MEASURMENT STATION. EXTEND INTAKE HOOD 1' FROM UNIT AND INSTALL AFMS IN THE 1' EXTENSION.
14. PROVIDE HOT GAS RE-HEAT.
15. PROVIDE ONE (1) SET OF CONSTRUCTION AIR FILTERS AND ONE (1) SET OF NEW FILTERS TO BE INSTALLED AT TIME OF C.O.
16. SEE DIVISION 26 FOR DISCONNECT.

Tag No.	Flow Rate (cfm)	PD (in.w.g.)	PD Sys Effects (in.w.g.)	Size (in) W	H	L	Minimum Insertion Loss Hz 63	125	250	500	1000	2000	4000	8000	Manufacturer	Model No.	Remarks (Type of Silencer)
RTU1-S	+11000	0.21	0.25	31	57	108	8	19	32	44	48	49	41	26	Vibro-Acoustics	RED-MHV-24049	Casing to be HTL equivalent to 12 gauge duct wall to control breakout.Silencer meets NC30
RTU1-R	-11000	0.17	0.36	20	60	108	7	16	22	31	41	38	31	20	Vibro-Acoustics	RED-UHV-24049	Casing to be HTL equivalent to 16 gauge duct wall to control breakout. Silencer meets NC30
RTU2-S	+10000	0.23	0.28	31	57	84	8	19	31	45	55	52	39	29	Vibro-Acoustics	RED-MLV-24049	Casing to be HTL equivalent to 8 gauge duct wall to control breakout. Silencer meets NC30
RTU2-R	-10000	0.14	0.3	20	60	108	7	16	22	31	41	38	31	20	Vibro-Acoustics	RED-UHV-24049	Casing to be HTL equivalent to 12 gauge duct wall to control breakout. silencer meets NC30
RTU3-S	+7150	0.24	0.3	30	50	84	10	18	30	38	40	37	30	24	Vibro-Acoustics	RED-MLV-24049	Casing to be HTL equivalent to 8 gauge duct wall to control breakout. Silencer meets NC30
RTU3-R	-7150	0.11	0.23	22	50	84	6	14	21	34	37	36	29	25	Vibro-Acoustics	RED-HV-24049	Casing to be HTL equivalent to 12 gauge duct wall to control breakout. Silencer meets NC30
RTU4-R	-5850	0.11	0.24	22	50	60	6	13	22	28	38	46	30	23	Vibro-Acoustics	RED-MHV-24049	Casing to be HTL equivalent to 12 gauge duct wall to control breakout. Silencer meets NC30
RTU4-S	+5850	0.22	0.26	30	50	60	10	17	29	36	38	35	28	23	Vibro-Acoustics	RED-LV-24049	Casing to be HTL equivalent to 8 gauge duct wall to control breakout. Silencer meets NC30
RTU5-S	+11300	0.19	0.23	43	74	60	13	19	31	33	37	36	29	23	Vibro-Acoustics	RED-ULV-24049	Casing to be HTL equivalent to 8 gauge duct wall to control breakout. Silencer meets NC30
RTU5-R	-11300	0.29	0.35	20	64	84	9	14	27	40	49	45	35	27	Vibro-Acoustics	RED-MHV-24049	Casing to be HTL equivalent to 14 gauge duct wall to control breakout. Silencer meets NC30
RTU6-R	-5500	0.17	0.21	22	50	60	7	16	29	34	47	49	38	29	Vibro-Acoustics	RED-MLV-24049	Casing to be HTL equivalent to 14 gauge duct wall to control breakout. Silencer meets NC40
RTU6-S	+5500	0.07	0.08	30	50	60	7	11	15	27	24	23	20	15	Vibro-Acoustics	RED-MHV-24049	Casing to be HTL equivalent to 14 gauge duct wall to control breakout. Silencer meets NC40
RTU7-S	+5500	0.18	0.22	30	50	60	8	15	29	34	47	49	39	31	Vibro-Acoustics	RED-LV-24049	Casing to be HTL equivalent to 8 gauge duct wall to control breakout. Silencer meets NC30
RTU7-R	-5500	0.17	0.21	22	50	60	7	16	29	34	47	49	38	29	Vibro-Acoustics	RED-MLV-24049	Casing to be HTL equivalent to 8 gauge duct wall to control breakout. Silencer meets NC30
MAU1-S	+1720	0.29	0.32	12	25	60	9	14	25	32	38	39	28	19	Vibro-Acoustics	RED-MLV-24049	Silencer meets NC40

NOTES:

1. BASIS OF DESIGN: VIBRO-ACOUSTICS.
2. SUPPLY AND RETURN DUCT SILENCERS SHALL INTEGRAL TO THE CURB SYSTEMS.
3. NON BASIS OF DESIGN (SILENCER MANUFACTURER) SHALL PROVIDE ACOUSTICAL ANALYSIS WITH PE/P.ENG. STAMP SHOWING SILENCER MEETS NC LEVEL AS SCHEDULED DURING SUBMITTAL REVIEW.
4. NON BASIS OF DESIGN (SILENCER MANUFACTURER) SHALL PROVIDE PRESSURE DROP CALCULATIONS WITH PE/P.ENG. STAMP TO DEMONSTRATE THE PRESSURE DROP INCLUDING SYSTEM EFFECT AS SCHEDULED DURING SUBMITTAL REVIEW.
5. ALTERNATIVE SILENCER MANUFACTURER MUST PROVIDE SILENCER INTERNAL GEOMETRY FOR ENGINEER'S APPROVAL DURING SUBMITTAL REVIEW.
6. FOR NON-BASIS OF DESIGN PRODUCT SUPPLIED, CONTRACTOR IS FINANCIALLY RESPONSIBLE TO ENSURE NOISE CONTROL SOLUTION IS DELIVERED AS PER NC LEVELS IN SPACES.

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CITY OF WINTER PARK
LIBRARY AND EVENT CENTER

Hunton Brady ARCHITECTS
Adjaye Associates

DATE	SUBMISSION	NO
10.22.19	CONSTRUCTION DOCUMENTS	

MECHANICAL SCHEDULES

PROJ. NO. E-16078.00 SHEET
DRAWN TJA
M801

AIR DISTRIBUTION SCHEDULE

PLAN MARK	CFM	NECK SIZE	FACE SIZE	DESCRIPTION	ADDITIONAL REQUIREMENTS
A	000-180 181-280 281-385 386-540 541-725 726-860 000-140 141-240	6" 8" 10" 12" 14" 16" 6" 8"	24x24 24x24 24x24 24x24 24x24 24x24 12X12 12X12	BASIS OF DESIGN: PRICE ASPD COLOR: WHITE MATERIAL: ALUMINUM OPPOSED BLADE DAMPERS: NO	SUPPLY CEILING DIFFUSER SURFACE-MOUNT: BORDER TYPE 31 WITH AMF FRAME LAY-IN: BORDER TYPE 31
B	000-145 146-315 316-480 481-630 631-825 826-1120 1121-1450 1451-1945	6x6 8x8 10x10 12x12 14x14 16x16 18x18 20x20	FACE SIZE EQUALS NECK SIZE PLUS 2".	BASIS OF DESIGN: PRICE-635 COLOR: WHITE MATERIAL: ALUMINUM VOLUME DAMPERS: NO 1/2" BLADE SPACING, LOUVERED FACE, SQUARE NECK & FACE. FOR RETURN & EXHAUST, SIZE PER SCHEDULE FOR TRANSFER, SEE PLANS FOR SIZE. SEE DETAIL 3/M702 FOR TRANSFER BOOT	RETURN/EXHAUST CEILING GRILLE SURFACE-MOUNT: BORDER TYPE F LAY-IN: BORDER TYPE TB W/24x24 FACE OR AS CALLED FOR IN CONTRACT DOCUMENTS.
C	000-180 181-275 276-360 361-540 541-900 901-1380 1381-2140	8x6 12x6 12x8 18x8 24x12 24x18 36x18	FACE SIZE EQUALS NECK SIZE PLUS 2".	BASIS OF DESIGN: PRICE-610 COLOR: WHITE MATERIAL: ALUMINUM OPPOSED BLADE DAMPERS: NO SINGLE DEFLECTION, 3/4" BLADE SPACING, FRONT BLADES PARALLEL TO LONG DIMENSION	SIDEWALL SUPPLY REGISTER SURFACE-MOUNT: BORDER TYPE F
D	000-180 181-275 276-360 361-540 541-900 901-1380 1381-2140 1381-2140 1381-2140	8x6 12x6 12x8 18x8 24x12 24x18 36x18 40x24 48x30	FACE SIZE EQUALS NECK SIZE PLUS 2".	BASIS OF DESIGN: PRICE-635 COLOR: WHITE MATERIAL: ALUMINUM OPPOSED BLADE DAMPERS: NO 0° FIXED DEFLECTION, 3/4" BLADE SPACING, FRONT BLADES PARALLEL TO LONG DIMENSION	RETURN/EXHAUST SIDEWALL GRILLE SURFACE-MOUNT: BORDER TYPE F
E	CFM/FT -	SLOTS 1	LENGTH SEE PLANS	BASIS OF DESIGN: PRICE AS/JS OPPOSED BLADE DAMPER: NO COLOR: BLACK MATERIAL: ALUMINUM ADJUSTABLE PATTERN CONTROLLER 1.5" SLOT FIELD FABRICATED PLENUM FOR SUPPLY AND PRICE RETURN AIR SIGHT BAFFLE FOR RETURN 4' LENGTH UNLESS INDICATED ON DRAWINGS.	SUPPLY/RETURN/EXHAUST LINEAR DIFFUSER SURFACE-MOUNT: BORDER TYPE 51
F	CFM/FT -	SLOTS 1	LENGTH SEE PLANS	BASIS OF DESIGN: PRICE AS/JS OPPOSED BLADE DAMPER: NO COLOR: BLACK MATERIAL: ALUMINUM 1.5" SLOT FIELD FABRICATED PLENUM FOR SUPPLY AND PRICE RETURN AIR SIGHT BAFFLE FOR RETURN 4' LENGTH UNLESS INDICATED ON DRAWINGS. SUPPORTED FROM STRUCTURE	SUPPLY/RETURN LINEAR DIFFUSER SURFACE-MOUNT: BORDER TYPE 51F
G	CFM/FT -	SLOTS 1	LENGTH SEE PLANS	BASIS OF DESIGN: PRICE AS/JS OPPOSED BLADE DAMPER: NO COLOR: BLACK MATERIAL: ALUMINUM ADJUSTABLE PATTERN CONTROLLER 1.5" SLOT FIELD FABRICATED 24" PLENUM FOR SUPPLY AND PRICE RETURN AIR SIGHT BAFFLE FOR RETURN 4' LENGTH UNLESS INDICATED ON DRAWINGS. SUPPORTED FROM STRUCTURE	SUPPLY/RETURN LINEAR DIFFUSER SURFACE-MOUNT: BORDER TYPE 51F
H	0-530 531-1180	12" 18"	-	BASIS OF DESIGN: PRICE ARCDA COLOR: AS SELECTED BY ARCHITECT MATERIAL: ALUMINUM	ROUND CONE DIFFUSER

NOTES:

1. AIR DISTRIBUTION DEVICES LOCATED WITHIN ACCOUSTICAL TILE CEILINGS SHALL BE PROVIDED WITH BORDER FOR LAY-IN MOUNTING. AIR DISTRIBUTION DEVICES LOCATED WITHIN GYPSUM BOARD CEILINGS OR WALLS SHALL BE PROVIDED WITH BORDER FOR SURFACE MOUNTING. REFER TO ARCHITECTURAL DOCUMENTS FOR CEILING TYPES.

2. AIR DISTRIBUTION DEVICES LOCATED IN SMALL ROOMS WHERE FULL 24x24 LAY-IN GRID SPACE IS NOT AVAILABLE SHALL BE PROVIDED WITH SURFACE MOUNTING BORDERS IN LIEU OF LAY-IN, AND SHALL BE SURFACE-MOUNTED IN A CEILING TILE. SECURE EACH SUCH DEVICE TO CEILING GRID WITH FIELD-FABRICATED SUPPORTS ON TOP SIDE OF TILE, SO THAT TILE DOES NOT SAG OR CRACK.

3. BRANCH DUCTWORK SHALL BE RAN FULL SIZE OF DIFFUSER/GRILLE NECK SIZE UNLESS OTHERWISE NOTED.

4. DIFFUSER/GRILLE SHALL BE PAINTED TO MATCH CEILING COLOR. REFER TO ARCHITECTURAL & INTERIOR DOCUMENTS FOR CEILING COLOR.

FAN SCHEDULE

PLAN MARK	BASIS OF DESIGN			AREA SERVED	CFM	ESP (IN-WG)	FAN RPM	MOTOR DATA					DRIVE TYPE	SONES	LOCATION	ACCESSORIES	FAN INTERLOCK	WEIGHT (LBS)
	MFGR	MODEL	TYPE					RPM	BHP	HP	V/PH/HZ	SPEED CONTROL						
EF-1	COOK	90C17DEC	ROOF MOUNTED DOWNBLAST	LIBRARY - 1ST FLOOR NORTH ELECTRICAL ROOM	225	0.35	1221	1725	28.5W	1/6	115/1/60	EC MOTOR	DIRECT	4.3	AREA 1 ROOF	1, 2, 3, 4, 10, 11, 20, 21	-	29
EF-2	COOK	90C17DEC	ROOF MOUNTED DOWNBLAST	LIBRARY - ELEV. MACHINE ROOM	300	0.5	1493	1725	54.6W	1/6	115/1/60	EC MOTOR	DIRECT	5.7	AREA 1 ROOF	1, 2, 3, 4, 10, 11, 20, 21	-	29
EF-3	COOK	101C17DEC	ROOF MOUNTED DOWNBLAST	LIBARY - NORTH GENERAL EXHAUST	600	0.4	1408	1725	74.3W	1/4	115/1/60	EC MOTOR	DIRECT	7.7	AREA 1 ROOF	1, 3, 4, 10, 11, 20, 21	RTU-1	32
EF-4	COOK	101C17DEC	ROOF MOUNTED DOWNBLAST	LIBRARY - SOUTH GENERAL EXHAUST	640	0.25	1340	1725	63.8W	1/4	115/1/60	EC MOTOR	DIRECT	7.3	AREA 1 ROOF	1, 3, 4, 10, 11, 20, 21	RTU-2	32
EF-5	COOK	90C17DEC	ROOF MOUNTED DOWNBLAST	LIBRARY - 1ST FLOOR SOUTH ELECTRICAL EQUIPMENT	225	0.25	1070	1725	20.6W	1/6	115/1/60	EC MOTOR	DIRECT	3.2	AREA 1 ROOF	1, 2, 3, 4, 10, 11, 20, 21	-	29
EF-6	COOK	90C17DEC	ROOF MOUNTED DOWNBLAST	LIBRARY - BASEMENT LULA MACHINE ROOM	300	0.25	1168	1725	30.4W	1/6	115/1/60	EC MOTOR	DIRECT	4.2	AREA 1 ROOF	1, 2, 3, 4, 10, 11, 20, 21	-	29
EF-7	COOK	120C17DEC	ROOF MOUNTED DOWNBLAST	EVENT CENTER - 1ST FLOOR GENERAL EXHAUST	725	0.35	1010	1725	78.1W	1/2	208/1/60	EC MOTOR	DIRECT	5.1	AREA 2 ROOF	1, 3, 4, 10, 11, 20, 21	RTU-5	66
EF-8	COOK	90C17DEC	ROOF MOUNTED DOWNBLAST	EVENT CENTER - 1ST FLOOR ELEVATOR EQUIPMENT ROOM	300	0.25	1168	1725	30.4W	1/6	115/1/60	EC MOTOR	DIRECT	4.2	AREA 1 ROOF	1, 2, 3, 4, 10, 11, 20, 21	-	29
EF-9	CAPTIVE AIRE	USBI-18DD-RM	ROOF MOUNTED UTILITY VENT SET GREASE EXHAUST FAN	EVENT CENTER - 1ST FLOOR KITCHEN GREASE EXHAUST HOOD	2100	2	1275	1275	1.144	1.5	208/3/60	VFD	DIRECT	-	AREA 2 ROOF	4, 6, 20, 21, 35	MAU-1	310
EF-10	COOK	120SQN17D (VF)	INLINE CENTRIFUGAL FAN	EVENT CENTER - 2ND FLOOR GENERAL EXHAUST	1200	0.35	1381	1725	.19	1/2	208/1/60	EC MOTOR	DIRECT	10.1	AREA 2 - SERVICE KITCHEN	1, 5, 10, 11, 31	RTU-5	137

ACCESSORIES:

1. BACKDRAFT DAMPER
2. THERMOSTAT
3. BIRDSCREEN
4. ROOF CURB
5. DISCONNECT SWITCH
6. DRAIN
7. EQUIPMENT SUPPORTS
8. INLET SCREEN
9. CURB-MOUNTED ROOF JACK
10. SPEED CONTROLLER
11. VIBRATION ISOLATORS
12. WEATHER COVER
13. 2 SPEED / 1 WINDING
14. FILTERS
15. FAN GUARD / SCREEN
16. COMPANION FLANGES
17. INSULATED HOUSING FOR SOUND CONTROL
18. HINGED CURB
19. SPARK / EXPLOSION PROOF
20. DUCT ROOF PENETRATION
21. NEMA 4 DISCONNECT
22. BELT TUNNEL
23. MOTOR HEAT SHIELD
24. STEEL WHEEL CONSTRUCTION
25. BOLTED ACCESS DOOR
26. STAINLESS STEEL UL-762
27. FACTORY GREASE CONTAINMENT RESERVOIR
28. SIDE OR BOTTOM ACCESS MOTOR
29. NOA RATED
30. CO2 SENSOR
31. CONTINUOUS OPERATION
32. ON / OFF SWITCH
33. MOTOR STARTER
34. 6" HOUSEKEEPING PAD
35. VARIABLE FREQUENCY DRIVE (VFD)

NOTES:

1. EF-8 PURCHASED BY FOOD SERVICE CONTRACTOR AND INSTALLED BY MECHANCIAL CONTRACTOR.
2. EF-9 VFD PURCHASED BY FOOD SERVICE CONTRACTOR AND INSTALLED BY ELECTRICAL CONTRACTOR.
3. SEE FOOD SERVICE DRAWINGS AND SPECIFICATIONS FOR EF-9 INFORMATION.

VAV UNIT SCHEDULE

PLAN MARK	BASIS OF DESIGN		INLET SIZE	AIRFLOW		MAX AIR PRESS. DROP (IN. WG)
	MFGR	MODEL		COOLING DESIGN (CFM)	COOLING MINIMUM (CFM)	
VTU-1-12	PRICE	SDV	4"	175	55	0.25
VTU-2-4	PRICE	SDV	4"	150	45	0.25
VTU-2-6	PRICE	SDV	4"	175	55	0.25
VTU-3-16	PRICE	SDV	5"	75	25	0.25
VTU-4-13	PRICE	SDV	4"	75	25	0.25

NOTES:

1. SEE SPECIFICATIONS FOR OTHER APPROVED MANUFACTURERS AND ADDITIONAL REQUIREMENTS.
2. UNITS SHALL BE PRESSURE INDEPENDENT, NORMALLY OPEN.
3. SOUND DATA SHALL BE OBTAINED FROM TESTS CONDUCTED IN ACCORDANCE WITH ARI STANDARD 880.
4. MAX NC-30 AT 1" W.C. INLET STATIC PRESSURE. PROVIDE FACTORY SOUND ATTENUATOR AS REQUIRED.
5. MANUFACTURER SHALL FACTORY MOUNT AND TEST CONTROLS ON ALL TERMINALS.
6. 1" RIGID INSULATION WITH FOIL FACE TOWARD AIRSTREAM.
7. AIR PRESSURE DROP INDICATED IS AT FULL-OPEN POSITION.
8. MINIMUM COOLING CFM SHALL BE AS SHOWN DURING OCCUPIED MODE, BUT SHALL BE ZERO (0) CFM (FULL-SHUTOFF) DURING UNOCCUPIED COOLING MODE.
9. SINGLE-POINT CONNECTIONS.
10. PROVIDE FACTORY-INSTALLED AND WIRED STEP-DOWN TRANSFORMER FOR CONTROL POWER. PROVIDE 277V PRIMARY TRANSFORMER VOLTAGE.
11. PROVIDE WITH FACTORY-MOUNTED INTEGRAL FUSED DISCONNET SWITCH.

UNIT HEATER SCHEDULE (ELECTRIC HEAT)

PLAN MARK	BASIS OF DESIGN			AREA SERVED	TOTAL CFM	HEATING COIL DATA				
						TEMP				
	MFGR	MODEL	TYPE			EAT	LAT	KW	V / PH	CONTROL
UH-1	TRANE	UHEC-031CACA	ELECTRIC UNIT HEATER	FIRE RISER ROOM	400	70	96	3.3	277 / 1	SCR

NOTES:

1. SEE SPECIFICATIONS FOR OTHER APPROVED MANUFACTURERS AND ADDITIONAL REQUIREMENTS.
2. INSTALL UNIT HEATER IN ACCORDANCE WITH MANUFACTURERS RECOMMENDATIONS AND REQUIRED CLEARANCES.
3. SEE DIVISION 26 FOR DISCONNECT.
4. PROVIDE UNIT HEATER WITH ADJUSTABLE AIR DEFLECTORS SET TO 30º DEFLECTION DOWN.
5. PROVIDE MANUFACTURERS STANDARD WALL MOUNTING KIT AND ADJUSTABLE THERMOSTAT.
6. UNIT CONSTRUCTION SHALL BE CORROSION RESISTANT 316 STAINLESS STEEL.

SINGLE DUCT VAV TERMINAL UNIT SCHEDULE (ELECTRIC HEAT)

PLAN MARK	MFGR	MODEL	INLET SIZE	AIRFLOW			SOUND DATA		MAX AIR PRESS. DROP (IN. WG)	ELECTRIC HEATING COIL DATA			
							MAX FLOW			TEMP			
				COOLING DESIGN (CFM)	COOLING MINIMUM (CFM)	HEATING DESIGN (CFM)	DISCHARGE NC	RADIATED NC		EAT (ºF)	LAT (ºF)	KW	HEATING CONTROL
VTU-1-1	PRICE	SDV	10"	790	240	240	26	24	0.25	55	81.3	2.0	SCR
VTU-1-3	PRICE	SDVQ	4"	170	55	55	<20	<20	0.25	55	72.2	0.5	SCR
VTU-1-4	PRICE	SDVQ	4"	165	50	50	<20	<20	0.25	55	77.8	0.5	SCR
VTU-1-6	PRICE	SDV	8"	600	180	180	24	20	0.25	55	77.8	1.5	SCR
VTU-1-7	PRICE	SDV	5"	275	155	155	28	<20	0.25	55	76.2	1.0	SCR
VTU-1-8	PRICE	SDV	5"	280	85	85	28	20	0.25	55	82.9	1.0	SCR
VTU-1-9	PRICE	SDV	8"	800	240	240	26	24	0.25	55	78.0	2.0	SCR
VTU-1-10	PRICE	SDV	8"	810	245	245	26	23	0.25	55	79.6	2.0	SCR
VTU-1-11	PRICE	SDV	8"	730	220	220	26	23	0.25	55	82.4	2.0	SCR
VTU-2-2	PRICE	SDV	10"	900	480	480	27	25	0.25	55	78.0	3.5	SCR
VTU-2-3	PRICE	SDVQ	4"	170	55	55	<20	<20	0.25	55	74.5	0.5	SCR
VTU-2-5	PRICE	SDV	8"	630	190	190	25	21	0.25	55	79.9	1.5	SCR
VTU-2-7	PRICE	SDV	10"	800	240	240	26	24	0.25	55	78.0	2.0	SCR
VTU-2-8	PRICE	SDV	8"	420	130	130	21	<20	0.25	55	91.5	1.5	SCR
VTU-3-1	PRICE	SDVQ	5"	75	45	45	<20	<20	0.25	55	76.1	0.5	SCR
VTU-3-2	PRICE	SDVQ	5"	75	45	45	<20	<20	0.25	55	76.1	0.5	SCR
VTU-3-3	PRICE	SDVQ	5"	75	45	45	<20	<20	0.25	55	78.2	0.5	SCR
VTU-3-4	PRICE	SDV	10"	300	120	120	24	22	0.25	55	140.6	3.5	SCR
VTU-3-5	PRICE	SDV	6"	460	165	165	21	<20	0.25	55	70.5	1.0	SCR
VTU-3-6	PRICE	SDVQ	4"	125	45	45	<20	<20	0.25	55	76.1	0.5	SCR
VTU-3-7	PRICE	SDV	4"	220	80	80	25	<20	0.25	55	75.9	0.5	SCR
VTU-3-8	PRICE	SDV	6"	400	120	120	29	24	0.25	55	75.8	1.0	SCR
VTU-3-9	PRICE	SDVQ	4"	170	55	55	<20	<20	0.25	55	78.0	0.5	SCR
VTU-3-10	PRICE	SDV	6"	300	90	90	25	20	0.25	55	81.3	1.0	SCR
VTU-3-11	PRICE	SDV	10"	1200	360	360	25	22	0.25	55	80.4	3.0	SCR
VTU-3-13	PRICE	SDV	10"	2415	725	725	24	21	0.25	55	72.4	4.0	SCR
VTU-3-14	PRICE	SDV	8"	420	130	130	21	<20	0.25	55	91.5	1.5	SCR
VTU-3-15	PRICE	SDV	10"	720	220	220	25	23	0.25	55	94.5	3.0	SCR
VTU-3-17	PRICE	SDV	10"	900	270	270	23	21	0.25	55	98.9	4.0	SCR
VTU-4-1	PRICE	SDVQ	5"	165	50	50	<20	<20	0.25	55	80.3	0.5	SCR
VTU-4-2	PRICE	SDVQ	4"	165	50	50	<20	<20	0.25	55	80.3	0.5	SCR
VTU-4-3	PRICE	SDV	5"	150	60	60	27	<20	0.25	55	94.5	1.0	SCR
VTU-4-4	PRICE	SDV	8"	600	330	330	24	20	0.25	55	74.2	2.0	SCR
VTU-4-5	PRICE	SDV	10"	1155	520	520	23	21	0.25	55	73.2	3.0	SCR
VTU-4-6	PRICE	SDVQ	5"	170	55	55	<20	<20	0.25	55	78.0	0.5	SCR
VTU-4-7	PRICE	SDVQ	5"	180	55	55	20	<20	0.25	55	78.0	0.5	SCR
VTU-4-8	PRICE	SDV	10"	900	270	315	23	21	0.25	55	97.6	4.5	SCR
VTU-4-9	PRICE	SDV	8"	450	135	135	21	<20	0.25	55	90.1	1.5	SCR
VTU-4-10	PRICE	SDV	10"	900	270	360	27	25	0.25	55	92.3	4.5	SCR
VTU-4-11	PRICE	SDV	10"	1220	370	370	24	21	0.25	55	89.2	4.0	SCR
VTU-4-12	PRICE	SDVQ	5"	50	15	15	<20	<20	0.25	55	107.7	0.5	SCR
VTU-5-1	PRICE	SDVQ	5"	155	50	50	<20	<20	0.25	38	85.4	1.0	SCR
VTU-5-2	PRICE	SDVQ	5"	125	45	45	<20	<20	0.25	38	90.7	1.0	SCR
VTU-5-3	PRICE	SDVQ	5"	210	65	65	20	<20	0.25	38	76.9	1.0	SCR
VTU-5-4	PRICE	SDV	6"	360	110	110	28	23	0.25	38	88.3	2.0	SCR
VTU-5-5	PRICE	SDV	6"	390	120	120	29	24	0.25	38	77.5	1.5	SCR
VTU-5-6	PRICE	SDV	6"	300	90	90	25	20	0.25	38	87.2	1.5	SCR
VTU-5-7	PRICE	SDV	14"	4125	1240	1240	23	27	0.25	38	55.2	7.0	SCR
VTU-5-8	PRICE	SDV	6"	200	60	60	24	<20	0.25	38	80.1	1.0	SCR
VTU-5-9	PRICE	SDV	6"	375	150	150	27	22	0.25	38	74.9	2.0	SCR

NOTES:

1. SEE SPECIFICATIONS FOR OTHER APPROVED MANUFACTURERS AND ADDITIONAL REQUIREMENTS.
2. UNITS SHALL BE PRESSURE INDEPENDENT, NORMALLY OPEN.
3. SOUND DATA SHALL BE OBTAINED FROM TESTS CONDUCTED IN ACCORDANCE WITH ARI STANDARD 880.
4. MAX NC-30 AT 1" W.C. INLET STATIC PRESSURE. PROVIDE FACTORY SOUND ATTENUATOR AS REQUIRED.
5. MANUFACTURER SHALL FACTORY MOUNT AND TEST CONTROLS ON ALL TERMINALS.
6. 1" RIGID INSULATION WITH FOIL FACE TOWARD AIRSTREAM.
7. UNITS WITH HEATERS SHALL BE VAV FOR COOLING AND CONSTANT VOLUME FOR HEATING.
8. AIR PRESSURE DROP INDICATED IS AT FULL-OPEN POSITION AND INCLUDES HEATING COIL DROP WHERE APPLICABLE.
9. MINIMUM COOLING CFM SHALL BE AS SHOWN DURING OCCUPIED MODE, BUT SHALL BE ZERO (0) CFM (FULL-SHUTOFF) DURING UNOCCUPIED COOLING MODE.
10. HEATING COILS LESS THAN 4.5KW SHALL BE 277V/1PH. HEATING COILS 4.5KW AND GREATER SHALL BE 480V/3PH. SINGLE-POINT CONNECTIONS.
11. PROVIDE FACTORY-INSTALLED AND WIRED STEP-DOWN TRANSFORMER FOR CONTROL POWER. TRANSFORMER INPUT VOLTAGE SHALL MATCH HEATER VOLTAGE.
12. PROVIDE WITH FACTORY-MOUNTED INTEGRAL FUSES TO MATCH EQUIPMENT MANUFACTURER'S NAMEPLATE RATING. DISCONNECT SWITCH TO BE PROVIDED BY DIVISION 26.
13. UNITS WITH "SDVQ" MODELS HAVE INTEGRATED SILENCERS. NON-BASIS OF DESIGN UNITS SHALL HAVE INTEGRATED SILENCERS AND MEET THE SCHEDULED ACOUSTICAL PERFORMANCE.

PARALLEL FAN-POWERED TERMINAL UNIT SCHEDULE (ELECTRIC HEAT)

PLAN MARK	BASIS OF DESIGN		INLET SIZE	PRIMARY AIR			FAN DATA		SOUND DATA				MAX AIR PRESS. DROP (IN. WG)	ELECTRIC HEATING COIL DATA					
										MAX FLOW									
	MFGR.	MODEL		COOLING DESIGN (CFM)	COOLING MINIMUM (CFM)	HEATING DESIGN (CFM)	FAN AIRFLOW (CFM)	MOTOR HP	INLET SOUND ATTENUATION	DISCHARGE NC	RADIATED NC	FAN RADIATED NC		EAT (ºF)	LAT (ºF)	KW	HEATING CONTROL	VOLTS	PHASE
PTU-1-1	PRICE	FDV4014	14"	1990	600	1500	900	0.5	IAS90	30	31	29	0.25	58.4	86.8	13.5	SCR	480	3
PTU-1-2	PRICE	FDV3012	12"	1755	530	1320	790	0.5	IAS90	28	29	28	0.25	58.4	89.5	13.0	SCR	480	3
PTU-1-3	PRICE	FDV5016	16"	3080	925	2315	1390	1	IAS90	28	30	33	0.25	58.4	80.2	16.0	SCR	480	3
PTU-2-1	PRICE	FDV4014	14"	2565	770	1925	1155	0.5	IAS90	28	28	29	0.25	58.4	83.0	15.0	SCR	480	3
PTU-2-2	PRICE	FDV3012	12"	1760	530	1325	795	0.5	IAS90	28	29	28	0.25	58.4	89.4	13.0	SCR	480	3
PTU-2-3	PRICE	FDV5016	16"	3180	955	2390	1435	1	IAS90	28	31	33	0.25	58.4	80.2	16.5	SCR	480	3
PTU-5-1	PRICE	FDV4014	14"	1990	600	1500	900	0.5	IAS90	29	30	28	0.25	52.4	84.5	15.5	SCR	480	3
PTU-5-2	PRICE	FDV2010	10"	1100	330	825	495	0.33	IAS90	28	29	26	0.25	52.4	81.1	7.5	SCR	480	3
PTU-5-3	PRICE	FDV2010	10"	1000	300	750	450	0.33	IAS90	26	28	26	0.25	52.4	82.9	7.5	SCR	480	3
PTU-5-4	PRICE	FDV2010	10"	690	210	525	315	0.33	IAS90	26	28	26	0.25	52.4	103.6	8.5	SCR	480	3
PTU-5-5	PRICE	FDV3012	12"	1760	530	1325	795	0.5	IAS90	29	30	30	0.25	52.4	77.4	10.5	SCR	480	3
PTU-5-6	PRICE	FDV2010	10"	1205	365	910	545	0.33	IAS90	26	28	25	0.25	52.4	76.7	7.0	SCR	480	3

NOTES:

1. SEE SPECIFICATIONS FOR OTHER APPROVED MANUFACTURERS AND ADDITIONAL REQUIREMENTS.
2. UNITS SHALL BE PRESSURE INDEPENDENT, NORMALLY OPEN.
3. SOUND DATA SHALL BE OBTAINED FROM TESTS CONDUCTED IN ACCORDANCE WITH ARI STANDARD 880.
4. MANUFACTURER SHALL FACTORY MOUNT AND TEST CONTROLS ON ALL TERMINALS.
5. 1" RIGID INSULATION WITH FOIL FACE TOWARD AIRSTREAM.
6. UNITS WITH HEATERS SHALL BE VAV FOR COOLING AND CONSTANT VOLUME FOR HEATING.
7. AIR PRESSURE DROP INDICATED IS AT FULL-OPEN POSITION AND INCLUDES HEATING COIL DROP WHERE APPLICABLE.
8. MINIMUM COOLING CFM SHALL BE AS SHOWN DURING OCCUPIED MODE, BUT SHALL BE ZERO (0) CFM (FULL-SHUTOFF) DURING UNOCCUPIED COOLING MODE.
9. HEATING COILS LESS THAN 4.5KW SHALL BE 277V/1PH. HEATING COILS 4.5KW AND GREATER SHALL BE 480V/3PH. SINGLE-POINT CONNECTIONS.
10. PROVIDE FACTORY-INSTALLED AND WIRED STEP-DOWN TRANSFORMER FOR CONTROL POWER. TRANSFORMER INPUT VOLTAGE SHALL MATCH HEATER VOLTAGE.
11. PROVIDE WITH FACTORY-MOUNTED INTEGRAL FUSES TO MATCH EQUIPMENT MANUFACTURER'S NAMEPLATE RATING. DISCONNECT SWITCH TO BE PROVIDED BY DIVISION 26.
12. PROVIDE ECM MOTORS WITH LOCAL ADJUSTMENT KNOB FOR EACH PTU, FOR TEST AND BALANCE.
13. PROVIDE ACOUSTICAL LAGGING BENEATH PTUS THAT EXTEND 2' BEYOND UNIT IN ALL DIRECTIONS.
14. ALL MOTORS SHALL BE CAPABLE OF TURNING DOWN THE FAN TO THE SCHEDULED AIRFLOW. FOR THE BASIS OF DESIGN UNIT, PROVIDE MOTOR CONSTANT TORQUE PROGRAMMING (I.E HTF PROGRAM) TO ALLOW FAN TURN DOWN TO SCHEDULED VALUES.

CONSTANT VOLUME TERMINAL UNIT SCHEDULE (ELECTRIC HEAT)

PLAN MARK	INLET SIZE	AIRFLOW			MAX AIR PRESS. DROP (IN. WG)	ELECTRIC HEATING COIL DATA			
						TEMP			
		COOLING DESIGN (CFM)	COOLING MINIMUM (CFM)	HEATING DESIGN (CFM)		EAT (ºF)	LAT (ºF)	KW	HEATING CONTROL
CTU-5-1	10"	750	750	750	0.25	55	76.1	5.0	SCR

NOTES:

1. SEE SPECIFICATIONS FOR OTHER APPROVED MANUFACTURERS AND ADDITIONAL REQUIREMENTS.
2. UNITS SHALL BE PRESSURE INDEPENDENT, NORMALLY OPEN.
3. SOUND DATA SHALL BE OBTAINED FROM TESTS CONDUCTED IN ACCORDANCE WITH ARI STANDARD 880.
4. MAX NC-30 AT 1" W.C. INLET STATIC PRESSURE. PROVIDE FACTORY SOUND ATTENUATOR AS REQUIRED.
5. MANUFACTURER SHALL FACTORY MOUNT AND TEST CONTROLS ON ALL TERMINALS.
6. 1" RIGID INSULATION WITH FOIL FACE TOWARD AIRSTREAM.
7. UNITS WITH HEATERS SHALL BE VAV FOR COOLING AND CONSTANT VOLUME FOR HEATING.
8. AIR PRESSURE DROP INDICATED IS AT FULL-OPEN POSITION AND INCLUDES HEATING COIL DROP WHERE APPLICABLE.
9. MINIMUM COOLING CFM SHALL BE AS SHOWN DURING OCCUPIED MODE, BUT SHALL BE ZERO (0) CFM (FULL-SHUTOFF) DURING UNOCCUPIED COOLING MODE.
10. HEATING COILS LESS THAN 4.5KW SHALL BE 277V/1PH. HEATING COILS 4.5KW AND GREATER SHALL BE 480V/3PH. SINGLE-POINT CONNECTIONS.
11. PROVIDE FACTORY-INSTALLED AND WIRED STEP-DOWN TRANSFORMER FOR CONTROL POWER. TRANSFORMER INPUT VOLTAGE SHALL MATCH HEATER VOLTAGE.
12. PROVIDE WITH FACTORY-MOUNTED INTEGRAL FUSES TO MATCH EQUIPMENT MANUFACTURER'S NAMEPLATE RATING. DISCONNECT SWITCH TO BE PROVIDED BY DIVISION 26.

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CONDENSATE PUMP SCHEDULE

MARK	MFGR	MODEL	VOLTS / PHASE	HP	GAL. PER HOUR	FT. HEAD
CP-1	LITTLE GIANT	VCMX-20ULS	120 / 1	1/30	60	10
CP-2	LITTLE GIANT	VCMX-20ULS	120 / 1	1/30	60	10
CP-3	LITTLE GIANT	VCMX-20ULS	120 / 1	1/30	60	10
CP-4	LITTLE GIANT	VCMX-20ULS	120 / 1	1/30	60	10

NOTES:

1. PROVIDE WITH MINIMUM 6 FOOT GROUNDED 3-PRONG PLUG.
2. PROVIDE WITH OVERFLOW DETECTION SWITCH.
3. PROVIDE WITH MINIMUM 3 YEAR WARRANTY.
4. CONDENSATE PUMP SHALL HAVE AUTOMATIC START AND STOP OPERATION.
5. PROVIDE WITH STAINLESS STEEL MOTOR SHAFT.

CONDENSING UNIT SCHEDULE

PLAN MARK	BASIS OF DESIGN		UNIT SERVED	NUM. OF FANS	NUMBER OF COMP.	COOLING DATA			ELECTRICAL DATA			REFRIG.
	MFGR	MODEL				TOTAL CAPACITY (BTUH)	SEER AT AHRI CONDITIONS	AMBIENT AIR TEMP (COOLING MODE, DEG. °F)	MCA	FUZE SIZE	VOLTS/ PH	
CRCU-1	STULZ	SCS-024	CRAC-1	1	1	18000	-	-	1	25	460/3	R-410A
SSCU-1	MITSUBISHI	PUY-24NHA7	SSAC-1	1	1	22724.6	21.4	94	19	25	208/1	R-410A
SSCU-2	MITSUBISHI	PUY-24NHA7	SSAC-2	1	1	22724.6	19.6	94	19	25	208/1	R-410A
SSCU-3	MITSUBISHI	PUY-A18NKA7	SSAC-3	1	1	17043.4	18.5	94	11	15	208/1	R-410A

NOTES:

1. SEE SPECIFICATIONS FOR OTHER APPROVED MANUFACTURERS AND ADDITIONAL REQUIREMENTS.
2. PROVIDE CURBING FOR MOUNTING UNIT TO ROOF. CURB SHALL BE FRAMED FOR A VIBRATION FREE INSTALLATION.
3. INSTALL AS DETAILED AND PER MANUFACTURERS WRITTEN INSTALLATION INSTRUCTIONS.
4. PROVIDE ALL CODE AND MANUFACTURERS REQUIRED CLEARANCES.
5. SEE DIVISION 26 FOR DISCONNECT.

ARCHIVES FAN COIL UNIT SCHEDULE

PLAN MARK	BASIS OF DESIGN			AREA SERVED	AIRFLOW	FAN DATA		COOLING DATA						HUMIDIFIER SECTION		FILTER SECTION			ELECTRICAL DATA			CONDENSATE PUMP	WEIGHT (LBS)
	MFGR	MODEL	TYPE		TOTAL CFM	ESP	MOTOR HP	EAT		LAT		CAPACITY		CAPACITY (LB/HR)	kW	FILTER TYPE	FILTER QUANTITY	FILTER EFFICIENCY	MCA	MOP	VOLTS / PHASE		
								DB	WB	DB	WB	SEN. BTU/H	TOTAL BTU/H										
CRAC-1	STULZ	TR-0HS-024-AHU	AIR-COOLED SPLIT SYSTEM	ARCHIVES 1.132	900	0.3	1/4	75	62.5	58.5	53.6	17261	23097	2-5	1.7	PLEATED	1	MERV 8	7.2	15	480 / 3	Yes	120

NOTES:

1. SEE SPECIFICATIONS FOR OTHER APPROVED MANUFACTURERS AND ADDITIONAL REQUIREMENTS.
2. PROVIDE ONE (1) SET OF CONSTRUCTION AIR FILTERS AND ONE (1) SET OF NEW FILTERS TO BE INSTALLED AT TIME OF C.O.
3. PROVIDE SINGLE POINT (SINGLE CIRCUIT) ELECTRICAL CONNECTION.
4. INSTALL PER MANUFACTURER'S WRITTEN INSALLATION INSTRUCTIONS.
5. PROVIDE ALL MANUFACTURER AND CODE REQUIRED CLEARANCES.
6. SEE DIVISION 26 FOR DISCONNECT.
7. ALL REFRIGERANT PIPING SHALL BE SIZED PER THE MANUFACTURERS REQUIREMENTS.
8. PROVIDE CONDENSATE PUMP. ROUTE CONDENSATE TO NEAREST HUB DRAIN. REFER TO PLUMBING DRAWINGS FOR HUB DRAIN LOCATIONS.
9. PROVIDE FLOAT SWITCH IN THE AUXILARY DRAIN PAN TIED INTO THE FAN SHUTDOWN FOR SECONDARY CONDENSATE DRAINAGE SYSTEM.
10. PROVIDE WITH STEAM GENERATING CANISTER HUMIDIFIER.
11. PROVIDE WITH DOUBLE SKIN PANELS.
12. PROVIDE FACTORY-INSTALLED STEP-DOWN TRANSFORMER FOR CONTROL POWER. POWER TO STEP-DOWN TRANSFORMER SHALL BE FACTORY WIRED, 277V PRIMARY FOR CONTROL POWER.
13. PROVIDE DRAIN COOLER OPTION FOR HUMIDIFIER.
14. PROVIDE DRAIN CONNECTION FROM HUMIDIFIER TO INDIRECT WASTE RECEPTOR.
15. PROVIDE DOMESTIC COLD WATER (DCW) CONNECTION WITH ISOLATION VALVE AND BACKFLOW PREVENTOR FOR HUMIDIFIER MAKE-UP WATER CONNECTION.
16. PROVIDE MASS DISPLACEMENT DCW FLOW METER ON DCW MAKE-UP LINE.
17. CONDENSING UNIT MATCH WILL AHU FOLLOWS SAME NUMBERING SEQUENCE, EXAMPLE: CRAC-1 = CRCU-1.
18. PROVIDE HOT GAS RE-HEAT FOR CRAC-1.

INDOOR FAN COIL UNITS

PLAN MARK	BASIS OF DESIGN			AREA SERVED	AIRFLOW	FAN DATA		COOLING DATA						HUMIDIFIER SECTION		FILTER SECTION			ELECTRICAL DATA			CONDENSATE PUMP	WEIGHT (LBS)
	MFGR	MODEL	TYPE		TOTAL CFM	ESP	MOTOR HP	EAT		LAT		CAPACITY		CAPACITY (LB/HR)	kW	FILTER TYPE	FILTER QUANTITY	FILTER EFFICIENCY	MCA	MOP	VOLTS / PHASE		
								DB	WB	DB	WB	SEN. BTU/H	TOTAL BTU/H										
SSAC-1	MITSUBISHI	PKA-A24KA7	WALL MOUNTED DX FCU	TELECOM EQUIPMENT 1.123	775	-	-	75	63	53.2	53.2	18063.9	22724.6	-	-	PLEATED	1	MERV 8	-	-	208 / 1	Yes	-
SSAC-2	MITSUBISHI	PEAD-A24AA7	DUCTED DX FCU	MAIN ELECTRICAL 2.109	740	0.8	-	75	63	54.7	54.7	16071.7	22724.6	-	-	PLEATED	1	MERV 8	-	-	208 / 1	Yes	-
SSAC-3	MITSUBISHI	PKA-A18HA7	WALL-MOUNTED DX FCU	TELECOM 2.108	425	-	-	75	63	48.5	48.5	12027	22724.6	-	-	PLEATED	1	MERV 8	-	-	208 / 1	Yes	-

NOTES:

1. SEE SPECIFICATIONS FOR OTHER APPROVED MANUFACTURERS AND ADDITIONAL REQUIREMENTS.
2. PROVIDE ONE (1) SET OF CONSTRUCTION AIR FILTERS AND ONE (1) SET OF NEW FILTERS TO BE INSTALLED AT TIME OF C.O.
3. PROVIDE SINGLE POINT (SINGLE CIRCUIT) ELECTRICAL CONNECTION. INDOOR UNIT POWER IS SERVED FROM OUTDOOR UNIT. INSTALL ELECTRICAL IN ACCORDANCE WITH MANUFACTURERS INSTALLATION GUIDELINES.
4. INSTALL PER MANUFACTURERS WRITTEN INSALLATION INSTRUCTIONS.
5. PROVIDE ALL MECHANICAL CODE AND ELECTRICAL CODE REQUIRED CLEARANCES.
6. SEE DIVISION 26 FOR DISCONNECT.
7. ALL REFRIGERANT PIPING SHALL BE SIZED PER THE MANUFACTURERS REQUIREMENTS.
8. CONDENSING UNIT MATCH WILL AHU FOLLOWS SAME NUMBERING SEQUENCE, EXAMPLE: SSAC-1 = SSCU-1.
9. PROVIDE CONDENSATE TRAP AND PIPING FROM UNIT TO NEAREST HUB DRAIN. SEE PLUMBING DRAWINGS FOR HUB DRAIN LOCATIONS.
10. PROVIDE FLOAT SWITCH IN THE AUXILARY DRAIN PAN TIED INTO THE FAN SHUTDOWN FOR SECONDARY CONDENSATE DRAINAGE SYSTEM.
11. PROVIDE HOT GAS RE-HEAT FOR CRAC-1.

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CONTROLS GENERAL NOTES

1. GENERAL NOTES ARE APPLICABLE AS STATED BELOW OR EXCEPT WHERE SPECIFICALLY INDICATED ON THE CONSTRUCTION DOCUMENTS.
2. WORK AND MATERIALS SHALL CONFORM TO THE REQUIREMENTS OF LATEST EDITION, STANDARDS OF UNIFORM BUILDING CODE, LATEST EDITION AND CODE.
3. FURNISH ELECTRICAL MATERIALS AND CONTROL EQUIPMENT PER THE "NATIONAL ELECTRICAL CODE". ALLOW REQUIRED WORKING SPACE PER THE "NATIONAL ELECTRICAL CODE".
4. ELECTRICAL EQUIPMENT (AC AND DC) SHALL HAVE APPLICABLE U.L. OR ETL. LABEL.
5. REFER TO GENERAL CONDITIONS OF THE SPECIFICATIONS FOR RESTRICTIONS ON DEMOLITION AND NEW CONSTRUCTION WORK.
6. VERIFY SITE CONDITIONS AND COORDINATE WITH OTHER WORK. CONFIRM SUBMITTAL REVIEW COMMENTS PRIOR TO PROCEEDING WITH INSTALLATION.
7. PRIOR TO THE START OF WORK, FIELD VERIFY EXACT LOCATIONS OF MECHANICAL AND ELECTRICAL EQUIPMENT, FIELD SENSORS, AND EQUIPMENT REQUIRING INTERFACE WITH CONTROLS.
8. SINGLE LINE DIAGRAMS, SCHEMATICS, DETAILS AND CONDUIT PATHS ARE CONCEPTUAL AND ILLUSTRATE THE FUNCTIONAL RELATIONSHIOPS AMONG SYSTEM COMPONENTS. ACCORDINGLY, APPLICATION ENGINEERING IS REQUIRED TO ACHIEVE THE SPECIFIED REQUIREMENTS.
9. OUTDOOR CONDUIT FITTINGS, CONNECTIONS, JUNCTION BOXES, PANELS AND PULL BOXES ARE TO BE WATERPROOF (NEMA 4). EXTERIOR CONTROL DEVICES AND EQUIPMENT SHALL BE WEATHERPROOF.
10. CONDUIT ROUTINGS ARE SHOWN DIAGRAMMATICALLY. PROVIDE ANY ADDITIONAL CONDUITS AS REQUIRED TO ACCOMMODATE FIELD CONDITIONS.
11. REFER TO DIVISION 26 FOR ELECTRICAL COMPONENT PRODUCT STANDARDS.
12. ELECTRICAL CONTROL GUTTERS TO HAVE SUFFICIENT SPACE TO ACCOMMODATE THE REQUIRED CONDUCTORS WITH 80% FREE VOLUME.
13. PANELS TO HAVE LOCKING DOORS AND BE KEYED ALIKE.
14. DEMONSTRATE A COMPLETE AND FULLY OPERATIONAL SYSTEM.
15. COORDINATE SHOP DRAWINGS WITH OTHER TRADES, INDICATING LOCATIONS OF LIGHT FIXTURES, CABLE TRAYS, BEAMS, ELECTRICAL AND DATA CONDUITS, WIRING AND OTHER RELATED ITEMS.
16. COORDINATE INTERPOSING RELAY COIL VOLTAGE AND CONTACTS TO THE APPLICATION.
17. REVIEW SPECIFICATIONS FOR WORK REQUIREMENTS.
18. CONTROLS CONTRACTOR IS TO REVIEW ALL MECHANICAL, ELECTRICAL AND PLUMBING PLANS AND SPECIFICATIONS.
19. CONTROLS CONTRACTOR TO REVIEW ALL EQUIPMENT QUANTITIES WITH MECHANICAL, ELECTRICAL AND PLUMBING PLANS.
20. EMERGENCY POWER TO SERVE CONTROLS ON EQUIPMENT SERVED BY EMERGENCY POWER.
21. ALL INPUTS, OUTPUTS, SET-POINTS AND DEADBANDS SHALL HAVE GRAPHIC INDICATION.
22. ALL EQUIPMENT SHALL HAVE INDEPENDENT EQUIPMENT GRAPHIC PAGES WITH DYNAMIC LINKS.
23. CONTROLS GRAPHICS PACKAGE SHALL INCLUDE FLOORPLANS WITH DYNAMIC GRAPHIC LINKS TO RESPECTIVE EQUIPMENT GRAPHIC PAGES. CONTROLS GRAPHICS PACKAGES SHALL ALSO INCLUDE, BUT NOT BE LIMITED TO, OVERALL SITE PLAN, OVERALL FLOOR PLANS AND ENLARGED FLOOR PLANS WITH DYNAMIC GRAPHIC LINKS.
24. SET-POINTS, RESET SCHEDULES AND DEAD BANDS SHALL BE USER ADJUSTABLE.
25. ALL INPUTS AND OUTPUTS SHALL BE TRENDED. TREND ALL ANALOG INPUTS/OUTPUTS AT 15 MINUTE INTERVALS (ADJ.). TRENT ALL BINARY/DIGITAL INPUTS/OUTPUTS BASED ON CHANGE OF STATE.
26. ALL PROCESS VARIABLES AND EQUIPMENT SHALL HAVE ALARMS AND NOTIFICATION UPON FAILURE OR NON STANDARD OPERATING CONDITIONS.

CONTROLS CABLE SCHEDULE

FUNCTION	TYPE
10/100 MBAUD ETHERNET CABLE (TIER 1 LAN), CATEGORY 5e 4 PAIR, 24 AWG, SOLID, 100% SHIELD, NON-PLENUM 15 pF/ft, 300 V RMS.	BELDEN 1533R OR EQUAL
10/100 MBAUD ETHERNET CABLE (TIER 1 LAN), CATEGORY 5e 4 PAIR, 24 AWG, SOLID, 100% SHIELD, PLENUM 15 pF/ft, 300 V RMS.	BELDEN 1533P OR EQUAL
BACNET MTSP CABLE (TIER 2 LAN), RS-485 1 PAIR, 24 AWG, STRANDED, 100% SHIELD, NON-PLENUM 12.8 pF/ft, 300 V RMS, 120 IMPEDANCE.	BELDEN 9841 OR EQUAL
BACNET MTSP CABLE (TIER 2 LAN), RS-485 1 PAIR, 24 AWG, STRANDED, 100% SHIELD, NON-PLENUM 12 pF/ft, 300 V RMS, 120 IMPEDANCE.	BELDEN 89841 OR EQUAL
1 PAIR, 18 AWG, WITH SHIELD, I/O CABLE, NON-PLENUM RATED	BELDEN 8760 OR EQUAL
1 PAIR, 18 AWG, WITH SHIELD, I/O CABLE, PLENUM RATED	BELDEN 88760 OR EQUAL
1 PAIR, 18 AWG, NO SHIELD, I/O CABLE, NON-PLENUM RATED	BELDEN 9740 OR EQUAL
1 PAIR, 18 AWG, NO SHIELD, I/O CABLE, PLENUM RATED	BELDEN 82740 OR EQUAL
3 CONDUCTOR, 18 AWG, WITH SHIELD, I/O CABLE, NON-PLENUM RATED	BELDEN 88770 OR EQUAL
3 CONDUCTOR, 18 AWG, WITH SHIELD, I/O CABLE, PLENUM RATED	BELDEN 8770 OR EQUAL
3 CONDUCTOR, 18 AWG, NO SHIELD, I/O CABLE, NON-PLENUM RATED	BELDEN 83653 OR EQUAL
3 CONDUCTOR, 18 AWG, NO SHIELD, I/O CABLE, PLENUM RATED	BELDEN 8791 OR EQUAL

CONTROLS SCOPE OF WORK MATRIX

WORK SCOPE	DIVISION 23 - MECHANICAL	DIVISION 26	DIVISION 23 - CONTROLS	NOTES/COMMENTS
120VAC/1PH/60~ WITH GROUND EMERGENCY POWER TO CONTROLS DEVICES AND CONTROLLERS		POWER TO CONTROLS DEVICES, ENCLOSURES AND DAMPERS. (CONDUIT, WIRE, CIRCUIT BREAKER)	PROVIDE AND MOUNT U.L. APPROVED CONTROLS TRANSFORMERS IN ENCLOSURE WITH CLASS II TRANSFORMERS	CONTROLS CONTRACTOR TO COORDINATE CONTROL VOLTAGES OF DAMPERS AND ACTUATORS. CONTROLS CONTRACTOR TO PROVIDE 120VAC CONDUIT AND WIRE NOT INDICATED ON ELECTRICAL DRAWINGS
120VAC/1PH/60~ WITH GROUND POWER (NORMAL OR E. POWER) TO ZONE TERMINAL UNIT CONTROLLERS			PROVIDE CONDUIT AND WIRE TO CONTROL PANELS	MUST INCLUDE GROUND WIRE
120VAC/1PH/60~ WITH GROUND EMERGENCY POWER TO BMS CONTROLLERS/ENCLOSURES (FCU'S, AHU'S, PLANT, TOWER, ETC.) AND FILE SERVER(S) AND WORKSTATIONS		PROVIDE ALL CONDUIT, WIRE, AND CIRCUIT BREAKER	PROVIDE UPS AND CONFIGURATION	
ZONE TERMINAL UNITS	PROVIDE FLOW CROSS, ENCLOSURE, SHIPPING		PROVIDE CONTROLLER SHIPPING TO BOX MANUFACTURER FOR MOUNTING	MOUNTING FEES BY BOX MANUFACTURER
TIER 1 BACNET TCP/IP CABLE			PROVIDE CABLE, CONDUIT, CONNECTORS, TERMINATIONS, ETC.	
FILE SERVERS, WORK-STATIONS, HUBS, PRINTERS, CABLES, UPS			PROVIDE FILE SERVER(S), WORKSTATIONS, HUBS, PRINTERS, MONITORS, CABLES. SOFTWARE INSTALLATION AND CONFIGURATION (APPLICATION SPECIFIC)	MUST CONFORM TO OWNERS IT EQUIPMENT STANDARD
TIER 2 BACNET MS/TP CABLE			PROVIDE CABLE, CONDUIT, TERMINATIONS	
PERIPHERAL DEVICES - AS APPLICABLE (SUPPLIED)	FLOW CONTROL DAMPERS TEMPERATURE CONTROL DAMPERS AIR HANDLING UNIT BASED AIR FLOW METERS/STATIONS COMBINATION SMOKE/FIRE DAMPERS WITH OPEN & CLOSED STATUS SWITCHES DIFFERENTIAL PRESSURE INDICATION (GAUGES) DUCT SMOKE DETECTORS	3 PHASE MOTOR STARTERS, DISCONNECTS	AIR HANDLING UNIT BASED AIR FLOW TRANSMITTERS FLOW CONTROL DAMPER ACTUATORS TEMPERATURE CONTROL DAMPER ACTUATORS TEMPERATURE SWITCHES TEMPERATURE ELEMENTS TEMPERATURE TRANSMITTERS AND THERMOWELLS PRESSURE TRANSMITTERS DIFFERENTIAL PRESSURE TRANSMITTERS MOISTURE SENSORS AND SWITCHES CURRENT SENSORS AND SWITCHES PROVIDE WIRE TERMINATIONS FOR FIRE LIFE SAFETY SHUTDOWN/INTERLOCK WIRING. COORDINATE WITH FA.	
SYSTEM INTERFACES - AS APPLICABLE (GATEWAYS)	VFD'S (BACNET)	EMERGENCY GENERATOR (BACNET) SWITCHGEAR (BACNET)	FIRE LIFE SAFETY-GATEWAY SECURITY SYSTEM - GATEWAY ELEVATORS - GATEWAY LIGHTING CONTROLS - GATEWAY	

AIR SIDE SYSTEM CONTROL DIAGRAM LEGEND

AI	ANALOG INPUT
AO	ANALOG OUTPUT
BI	BINARY/DIGITAL INPUT
BO	BINARY/DIGITAL OUTPUT
AFMS	AIR FLOW MEASURING STATION
DM	DAMPER MOTOR
DPS	DIFFERENTIAL PRESSURE SWITCH
DPT	DIFFERENTIAL PRESSURE TRANSDUCER
ERU	ENERGY RECOVERY UNIT
FZ	FREEZESTAT
HS	HUMIDITY SENSOR
NC	NORMALLY CLOSED
NO	NORMALLY OPEN
SD	SMOKE DETECTOR
SHS	SPACE HUMIDITY SENSOR
SPS	STATIC PRESSURE SWITCH
STS	SPACE TEMPERATURE SENSOR
TS	TEMPERATURE SENSOR

DIFFERENTIAL PRESSURE SWITCH (DPS) OR TRANSMITTER (DPT)

AVERAGING TEMPERATURE SENSOR

PROBE TYPE TEMPERATURE SENSOR

HUMIDITY SENSOR

TWO-WAY CONTROL VALVE

THREE-WAY CONTROL VALVE

DUCT MOUNTED SMOKE DETECTOR

MOTORIZED DAMPER AND ACTUATOR

SD — SMOKE DAMPER AND ACTUATOR

STARTER DISCONNECT

DISCONNECT

FAN

AIR FILTER

WALL-MOUNTED THERMOSTAT/TEMP. SENSOR HUMIDITY SENSOR, CO2 SENSOR, ETC. AS NOTED

C / C — COOLING COIL

AIRFLOW DIRECTION (BREAK INDICATES SEPARATION FROM AHU.)

VFD — VARIABLE FREQUENCY DRIVE

EDH — ELECTRIC DUCT HEATER

INTERLOCK RELAY

R — RELAY

AIR FLOW MEASUREMENT STATION

CURRENT SWITCH (CS) W/ HIGH AND LOW CURRENT SETTINGS OR TRANSMITTER (CT)

PM — POWER MONITOR

CABLE OR WIRE

END SWITCHES

GENERAL CONTROL NOTES:

1. SET-POINTS, RESET SCHEDULES AND DEAD BANDS SHALL BE USER ADJUSTABLE.
2. ALL INPUTS AND OUTPUTS SHALL BE TRENDED.
3. ALL PROCESS VARIABLES AND EQUIPMENT SHALL HAVE ALARMS AND NOTIFICATION UPON FAILURE OR NON STANDARD OPERATING CONDITIONS.

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M901

GENERAL NOTES:

1. FIRE ALARM SYSTEM IS TO BE STAND ALONE FROM BMS. REFER TO FIRE ALARM DRAWINGS FOR REQUIREMENTS.

2. ROUTERS SHOWN ARE TYPICAL AND DIAGRAMMATIC, PROVIDE ADDITIONAL ROUTERS FOR A COMPLETE SYSTEM.

3. TIER 1 CONTROLLERS SHOWN ARE TYPICAL AND DIAGRAMMATIC. PROVIDE ADDITIONAL CONTROLLERS IN ACCORDANCE WITHSPECIFICATIONS FOR A COMPLETE SYSTEM.

4. SYSTEM ARCHITECTURE SHALL OPTIMIZE GRAPHIC REFRESH RATES, TO INSURE SPECIFIED NETWORK SPEED AND REFRESH RATES ARE ACHIEVED.

5. TIER 2 CONTROLLERS SHOWN ARE TYPICAL AND DIAGRAMMATIC. PROVIDE ADDITIONAL CONTROLLERS AND REPEATERS FOR A COMPLETE SYSTEM.

6. PROVIDE NORMAL 120 VAC POWER WITH UPS BACKUP.

7. ROUTERS SHALL BE LABELED, LOCATED BELOW CEILING, AND IN MECHANICAL OR IDF ROOMS ONLY.

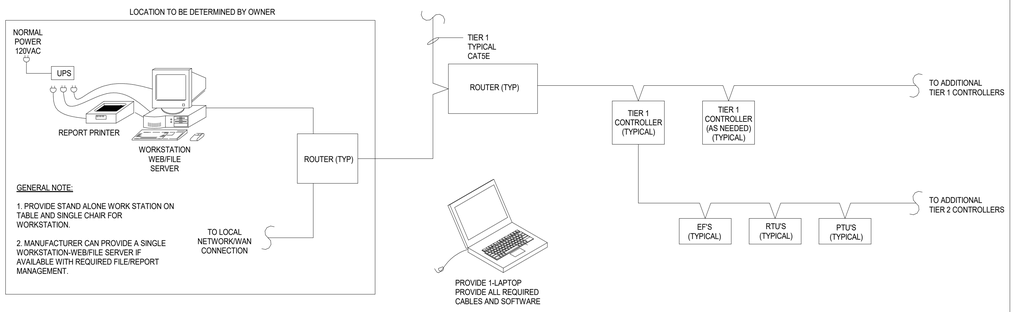
8. PROVIDE GATEWAY INTERFACE'S AS REQUIRED FOR A INTEGRATED SYSTEM.

9. ALL I/O SHALL HAVE GRAPHIC INDICATION.

10. ALL SEQUENCE OF OPERATIONS SHALL COMPLY WITH ASHRAE 90.1.

11. TEMPERATURE CONTROLS CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ANY POWER WIRING TO CONTROLLER NOT INDICATED IN THE DRAWINGS.

12. TEMPERATURE CONTROLS CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ANY INTERNET PROTOCOL (IP) CONNECTIONS NOT INDICATED IN THE CONTRACT DOCUMENTS.

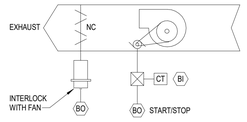


SYSTEM ARCHITECTURE DIAGRAM

No Scale

1

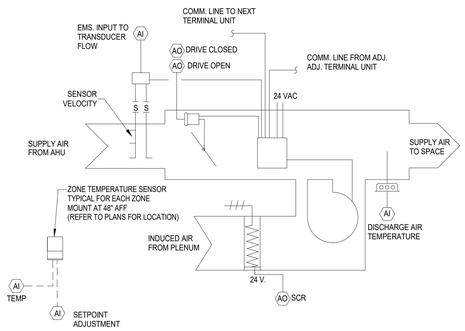
GENERAL EXHAUST FAN CONTROL POINT MATRIX								
	Hardware Points				Software Points			
Point Name	**AI**	**AO**	**BI**	**BO**	**Schedule**	**Trend**	**Alarm**	**Show On Graphic**
Exhaust Fan Start/Stop				■	■	■	■	■
Exhaust Fan Current Sensor			■			■	■	■



CONTROL DIAGRAM FOR ENVIRONMENTAL AIR EXHAUST FAN

5

PTU WITH ELECTRIC HEAT CONTROL POINT MATRIX								
	Hardware Points				Software Points			
Point Name	**AI**	**AO**	**BI**	**BO**	**Schedule**	**Trend**	**Alarm**	**Show On Graphic**
Zone Temperature	■					■		■
Zone Carbon Dioxide PPM	■					■		■
Zone Setpoint Adjust	■							■
Airflow	■					■		■
Discharge Air Temp.	■					■		■
Zone Humidity	■					■		■
Zone Damper		■						■
Zone Override			■			■		■
Reheating Stage 1				■		■		■
Zone Carbon Dioxide PPM Setpoint		■				■		■
Airflow Setpoint		■				■		■
Environmental Index	■					■		■
Percent of Time Satisfied	■					■		■
Schedule		■			■			■
Heating Setpoint		■				■		■
Cooling Setpoint		■				■		■
High Zone Temp							■	■
Low Zone Temp							■	■
High Zone CO2 Concentration							■	■
High Discharge Air Temp							■	■
Low Discharge Air Temp							■	■
Fan Start/Stop				■	■	■	■	■
Fan Current Sensor			■			■	■	■



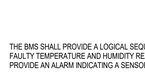
24 VOLT CONTROL POWER FOR VAV OPERATOR TO BE OBTAINED FROM A SEPARATE 24 VOLT CONTROLS TRANSFORMER LOCATED IN ELECTRIC HEATER CONTROL CABINET (FURNISHED TERMINAL UNIT).

PROVIDE EMS DISPLAY AND ALARMS FOR
SPACE TEMPERATURE (F)
OCCUPIED SPACE COOLING SETPOINT (F)
OCCUPIED SPACE HEATING SETPOINT (F)
AIRFLOW (CFM)
MAX AIRFLOW SETTING(CFM)
MIN AIRFLOW SETTING(CFM)
HEATING MIN AIRFLOW SETTING(CFM)
ELECTRIC HEAT OUTPUT (SCR)
COMMUNICATION STATUS

CONTROL DIAGRAM FOR PARALLEL FAN POWERED TERMINAL UNIT WITH ELECTRIC HEAT

No Scale

6



THE BMS SHALL PROVIDE A LOGICAL SEQUENCE TO ELIMINATE FAULTY TEMPERATURE AND HUMIDITY READINGS. BMS SHALL PROVIDE AN ALARM INDICATING A SENSOR FAILURE.

CONTROL DIAGRAM FOR OA TEMP, HUMIDITY AND CO2

2

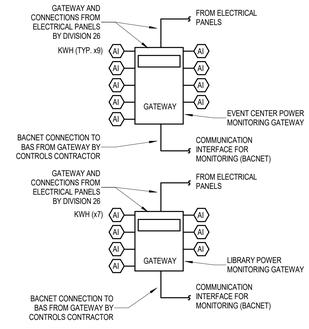
NETWORK CONTROLLERS AND BACNET CONNECTIONS SHALL BE AN EIA-485, MS/TP INTERFACE OPERATING AT 76.8 KBPS. THE CONNECTION SHALL BE TESTED BY THE BACNET TESTING LABS (BTL) AND BE BTL LISTED. THE BACNET INTERFACE SHALL CONFORM TO THE BACNET STANDARD DEVICE TYPE OF AN APPLICATIONS SPECIFIC CONTROLLER (B-ASC). THE INTERFACE SHALL SUPPORT ALL BIBBS DEFINED BY THE BACNET STANDARD PROFILE FOR A B-ASC INCLUDING, BUT NOT LIMITED TO.

1. DATA SHARING - READ PROPERTY - B.
2. DATA SHARING - WRITE PROPERTY - B.
3. DEVICE MANAGEMENT - DYNAMIC DEVICE BINDING (WHO-IS; I-AM).
4. DEVICE MANAGEMENT - DYNAMIC OBJECT BINDING (WHO-HAS; I-HAVE).
5. DEVICE MANAGEMENT - COMMUNICATION CONTROL - B.

IF ADDITIONAL HARDWARE IS REQUIRED TO OBTAIN THE BACNET INTERFACE, THE METER MANUFACTURER SHALL SUPPLY ONE BACNET GATEWAY PER DEVICE. MULTIPLE DEVICES SHARING ONE GATEWAY SHALL NOT BE ACCEPTABLE.

NOTE: BAS SHALL DISPLAY POWER MONITORING PER ASHRAE 90.1-8.4.3.

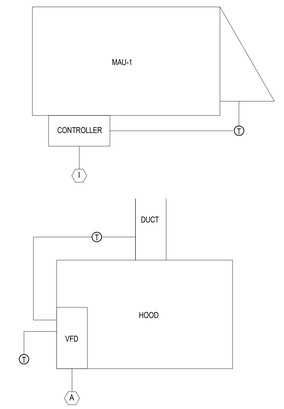
ENERGY METER CONTROL POINT MATRIX								
	Hardware Points				Software Points			
Point Name	**AI**	**AO**	**BI**	**BO**	**Schedule**	**Trend**	**Alarm**	**Show On Graphic**
kW Pulse	■							■
Current Demand Level								■
kW Demand						■		■
kW Peak Today						■		■
kW Peak Month-to-Date						■		■
kW Peak Year-to-Date						■		■
kWh Today						■		■
MWh Month-to-Date						■		■
MWh Year-to-Date						■		■
Meter Failure							■	■



BTU METER INTERFACE DIAGRAM

3

EXHAUST FAN CONTROL POINT MATRIX								
	Hardware Points				Software Points			
Point Name	**AI**	**AO**	**BI**	**BO**	**Schedule**	**Trend**	**Alarm**	**Show On Graphic**
Exhaust Fan Status			■		■	■	■	■
Exhaust Fan Speed	■					■	■	■
Exhaust Fan Fault			■			■	■	■
Hood Status			■			■	■	■
MAU OAD Status			■			■	■	■
MAU Fan Status			■			■	■	■
MAU Fault			■			■	■	■
MAU Fan Speed	■					■	■	■
Discharge Air Temp Setpoint		■				■	■	■
Discharge Air Temp.	■					■	■	■
MAU Heater Status			■			■	■	■
MAU Cooling Status			■			■	■	■
MAU Filter Alarm			■			■	■	■



KITCHEN HOOD MAKE-UP AIR CONTROL DIAGRAM

4

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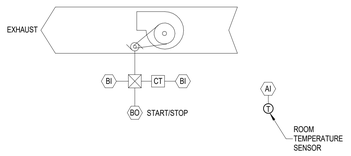


GENERAL EXHAUST FAN CONTROL POINT MATRIX								
	Hardware Points				Software Points			
Point Name	**AI**	**AO**	**BI**	**BO**	**Schedule**	**Trend**	**Alarm**	**Show On Graphic**
Exhaust Fan Start/Stop				■	■	■	■	■
Exhaust Fan Current Sensor			■			■	■	■

CONTROL DIAGRAM FOR ELECTRICAL ROOM EXHAUST FAN

No Scale

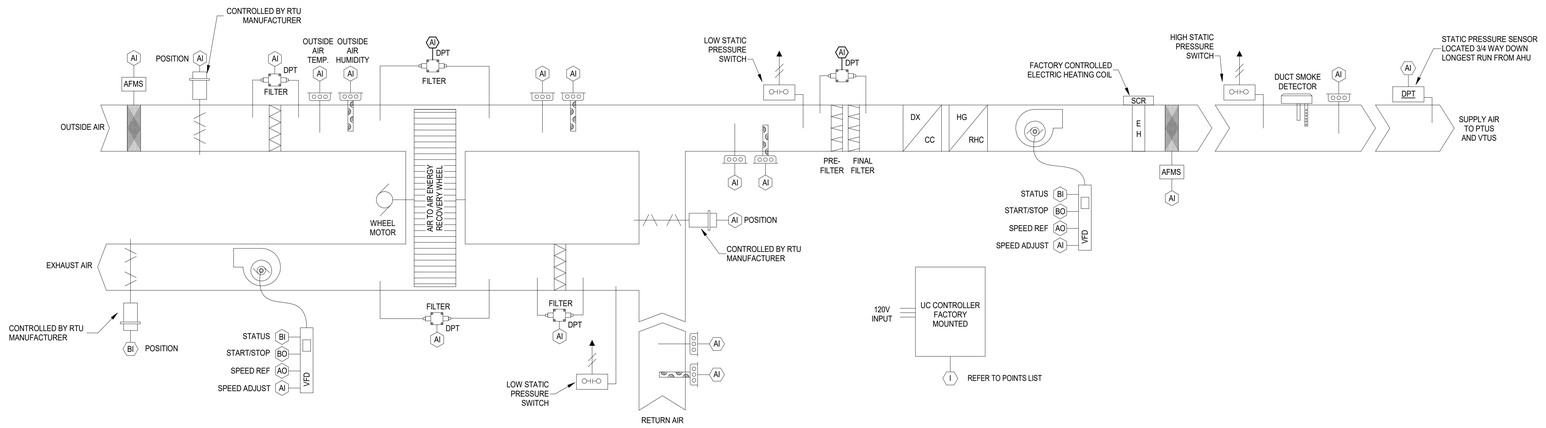
9

GENERATOR CONTROL POINT MATRIX								
	Hardware Points				Software Points			
Point Name	**AI**	**AO**	**BI**	**BO**	**Schedule**	**Trend**	**Alarm**	**Show On Graphic**
Generator Status Fault			■			■	■	■
Generator Alarm		■					■	■
Generator Run Time	■					■	■	■
Generatir Input Status	■					■	■	■
Generator Output Status	■					■	■	■
Generator Run Input				■		■	■	■

GENERATOR MONITORING

No Scale

9



VAV RTU WITH ENERGY RECOVERY CONTROL POINT MATRIX								
	Hardware Points				Software Points			
Point Name	**AI**	**AO**	**BI**	**BO**	**Schedule**	**Trend**	**Alarm**	**Show On Graphic**
Space Temperature	■					■	■	■
Spare RH	■					■	■	■
Space Temperature Setpoint		■				■		■
Space RH Setpoint		■				■		■
Discharge Air Setpoint		■				■		■
Discharge Air Setpoint	■					■	■	■
Supply Fan Speed	■					■	■	■
Supply Fan Speed Setpoint		■				■		■
Supply Fan Static Setpoint		■				■		■
Supply Fan Static	■					■	■	■
Supply Fan VFD Alarm			■			■	■	■
Supply Air Low Static			■			■	■	■
Supply Air High Static			■			■	■	■
Supply Fan Enable/Disable	■					■		■
Return Duct/Space Pressure	■					■	■	■
Exhaust Fan Speed	■					■		■
Exhasut Fan Speed Setpoint		■				■		■
Exhaust Air Static Setpoint		■				■		■
Exhaust Fan VFM Alarm	■					■		■
Exhaust Fan Enable/Disable	■					■		■
Outside Air Temperature	■					■		■
Exhaust Fan Low Static						■	■	■
Exhaust Fan High Static						■	■	■
Outside Air Humidity	■					■	■	■
ERV Enable/Disable				■	■	■		■
ERV Status			■			■	■	■
Outside Air Damper Position	■					■	■	■
Return Air Damper Position	■					■	■	■
Wheel Bypass Position	■					■	■	■
Outside Air Damper Position Setpoint		■				■		■
Return Air Damper Position Setpoint		■				■		■
Wheel Bypass Position Setpoint		■				■		■
Heating Enable/Disable				■		■		■
Heating SCR		■				■	■	■
Cooling LAT	■					■	■	■
Reheat LAT	■					■	■	■
Digital Circuit 1 Status			■			■	■	■
Digital Circuit 1 Speed	■					■	■	■
Digital Circuit 1 Head Pressure	■					■	■	■
Compressor Status			■			■	■	■
Condensing Fan Status			■			■		■
Condensing Fan Speed	■					■		■
Space CO2	■					■		■
OA CO2	■					■		■
DAT Low						■	■	■
DAT Exceed						■	■	■
Outside Air Damper Proving Switch						■	■	■
Supply Fan Failure						■	■	■
Filter Change Required						■	■	■

VAV DX AHU CONTROL DIAGRAM (AHU-XX)

No Scale

1

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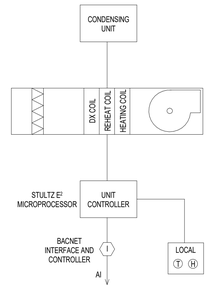
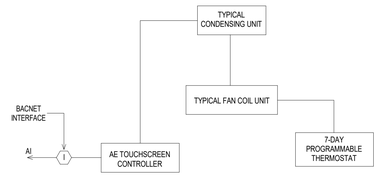
CRAC CONTROL POINT MATRIX								
	Hardware Points				Software Points			
Point Name	**AI**	**AO**	**BI**	**BO**	**Schedule**	**Trend**	**Alarm**	**Show On Graphic**
CRAC Status			■			■	■	■
CRAC Evap. Fan Speed	■					■	■	■
Condenser Fan Speed	■					■		■
CRAC Fan Speed	■					■		■
Compressor Speed	■					■		■
CRAC Fault Alarm			■				■	■
CRAC Alarm			■				■	■
CRAC Run Time	■					■	■	■
Return Temperature	■							■



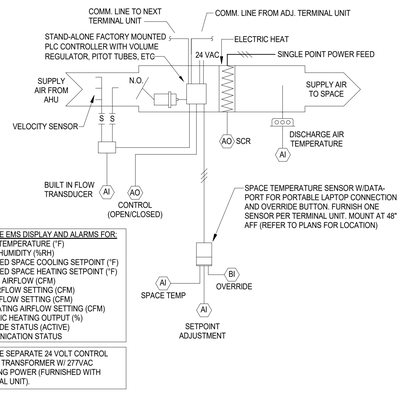
COMPUTER ROOM AC (CRAC) UNIT CONTROL — 7

VRF CONTROL POINT MATRIX								
	Hardware Points				Software Points			
Point Name	**AI**	**AO**	**BI**	**BO**	**Schedule**	**Trend**	**Alarm**	**Show On Graphic**
VRF Enable				■		■	■	■
Room Temperature Setpoint		■		■		■	■	■
Room Temperature	■					■	■	■
VRF Fault			■			■	■	■

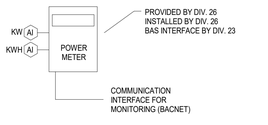


SPLIT SYSTEM CONTROL DIAGRAM — 1

VTU WITH ELECTRIC HEAT CONTROL POINT MATRIX								
	Hardware Points				Software Points			
Point Name	**AI**	**AO**	**BI**	**BO**	**Schedule**	**Trend**	**Alarm**	**Show On Graphic**
Zone Temperature	■					■		■
Zone Setpoint Adjust	■							■
Airflow	■					■		■
Discharge Air Temp.	■					■		■
Zone Damper		■						■
Airflow Setpoint		■				■		■
Schedule		■			■			■
Cooling Setpoint		■				■		■
Heating Coil Enable/Disable			■			■		■
Heating Coil Modulating Control		■				■		■



CONTROL DIAGRAM FOR EXHAUST FAN — 8
No Scale



ENERGY METER CONTROL POINT MATRIX								
	Hardware Points				Software Points			
Point Name	**AI**	**AO**	**BI**	**BO**	**Schedule**	**Trend**	**Alarm**	**Show On Graphic**
kW Pulse	■							■
Current Demand Level								■
kW Demand						■		■
kW Peak Today						■		■
kW Peak Month-to-Date						■		■
kW Peak Year-to-Date						■		■
kWh Today						■		■
MWh Month-to-Date						■		■
MWh Year-to-Date						■		■
Meter Failure							■	■

POWER METER INTERFACE DIAGRAM — 5

LIGHTING RELAY CONTROL POINT MATRIX								
	Hardware Points				Software Points			
Point Name	**AI**	**AO**	**BI**	**BO**	**Schedule**	**Trend**	**Alarm**	**Show On Graphic**
Lighting Output				■		■		■

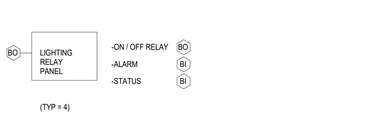
LIGHTING CONTROL PANEL — 2

ELEVATOR SUMP PUMP CONTROL POINT MATRIX								
	Hardware Points				Software Points			
Point Name	**AI**	**AO**	**BI**	**BO**	**Schedule**	**Trend**	**Alarm**	**Show On Graphic**
Elevator Sump Pump...			■				■	■

ELEVATOR SUMP ALARM — 6

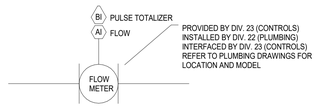
FIRE/SMOKE DAMPER CONTROL POINT MATRIX								
	Hardware Points				Software Points			
Point Name	**AI**	**AO**	**BI**	**BO**	**Schedule**	**Trend**	**Alarm**	**Show On Graphic**
Damper Status			■				■	■
Damper End Switch			■				■	■

SMOKE DAMPER END SWITCH ALARM — 3



ELEVATOR SUMP PUMP CONTROL POINT MATRIX								
	Hardware Points				Software Points			
Point Name	**AI**	**AO**	**BI**	**BO**	**Schedule**	**Trend**	**Alarm**	**Show On Graphic**
Elevator Sump Pump...			■				■	■

LIGHTING RELAY PANEL — 9



WATER METER CONTROL POINT MATRIX								
	Hardware Points				Software Points			
Point Name	**AI**	**AO**	**BI**	**BO**	**Schedule**	**Trend**	**Alarm**	**Show On Graphic**
Water Flow Rate	■							■
Demand						■		■
Peak Today						■		■
Peak Month-to-Date						■		■
Peak Year-to-Date						■		■
Usage Today						■		■
Usage Month-to-Date						■		■
Usage Year-to-Date						■		■
Meter Failure							■	■

GAS METER CONTROL POINT MATRIX								
	Hardware Points				Software Points			
Point Name	**AI**	**AO**	**BI**	**BO**	**Schedule**	**Trend**	**Alarm**	**Show On Graphic**
Gas Flow Rate	■							■
Demand						■		■
Peak Today						■		■
Peak Month-to-Date						■		■
Peak Year-to-Date						■		■
Usage Today						■		■
Usage Month-to-Date						■		■
Usage Year-to-Date						■		■
Meter Failure							■	■

TYPICAL GAS OR WATER METER INTERFACE — 4

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SEAL

CITY OF WINTER PARK
LIBRARY AND EVENT CENTER

Hunton Brady ARCHITECTS
Adjaye Associates

DATE	SUBMISSION	NO
10.22.19	CONSTRUCTION DOCUMENTS	

MECHANICAL CONTROLS

PROJ. NO. E-16078.00 **SHEET**
DRAWN TJA
M904

PLUMBING FIXTURE SCHEDULE

SEQUENCE	MARK	FIXTURE TYPE	FIXTURE MANUFACTURER	FIXTURE MODEL	TRIM MANUFACTURER	TRIM MODEL	FLOW RATE / FLUSH RATE / FLOW CYCLE	DESCRIPTION / SPECIFICATIONS
3WH	WC-1	WATER CLOSET	AMERICAN STANDARD	2257.101	SLOAN	ECOS 8111-1.28 OR	1.28 GPF	WALL HUNG VITREOUS CHINA, WITH SIPHON JETTED ELONGATED BOWL, BATTERY POWERED SENSOR FLUSH VALVE. REFER TO NOTES BELOW FOR ADDITIONAL REQUIREMENTS.
4WH	WC-2	WATER CLOSET (ACCESSIBLE)	AMERICAN STANDARD	2257.101	SLOAN	ECOS 8111-1.28 OR	1.28 GPF	WALL HUNG VITREOUS CHINA, WITH SIPHON JETTED ELONGATED BOWL, BATTERY POWERED SENSOR FLUSH VALVE. REFER TO NOTES BELOW FOR ADDITIONAL REQUIREMENTS.
101	U-1	URINAL	AMERICAN STANDARD	6590.001	SLOAN	ECOS 8186-0.125 OR	0.125 GPF	WALL HUNG VITREOUS CHINA, SIPHON JET URINAL, INTEGRAL TRAP, BATTERY POWERED SENSOR FLUSH VALVE. REFER TO NOTES BELOW FOR ADDITIONAL REQUIREMENTS.
102	U-2	URINAL (ACCESSIBLE)	AMERICAN STANDARD	6590.001	SLOAN	ECOS 8186-0.125 OR	0.125 GPF	WALL HUNG VITREOUS CHINA, SIPHON JET URINAL, INTEGRAL TRAP, BATTERY POWERED SENSOR FLUSH VALVE. REFER TO NOTES BELOW FOR ADDITIONAL REQUIREMENTS.
202.1	L-1	UNDERMOUNT LAVATORY	KOHLER	K-20000	SLOAN	SF-2250-BAT-C P-FCT-LAN-IR	0.5 GPM	VITREOUS CHINA, UNDERMOUNT, 13" X 18" RECTANGULAR, SINGLE HOLE GOOSENECK SENSOR FAUCET, THERMOSTATIC MIXING VALVE. REFER TO NOTES BELOW FOR ADDITIONAL REQUIREMENTS.
202.2	L-2	LAVATORY (ACCESSIBLE)	AMERICAN STANDARD	0356.421	SLOAN	SF-2250-BAT-C P-FCT-LAN-IR	0.5 GPM	WALL HUNG VITREOUS CHINA FOR CONCEALED ARMS SUPPORT, 20" X 18", SINGLE HOLE GOOSENECK SENSOR FAUCET, THERMOSTATIC MIXING VALVE. REFER TO NOTES BELOW FOR ADDITIONAL REQUIREMENTS.
202.3	L-3	UNDERMOUNT LAVATORY	KOHLER	K-20000	KOHLER	K-14410-4-BL	1.2 GPM	VITREOUS CHINA, UNDERMOUNT, 13" X 18" RECTANGULAR, BRASS FAUCET WITH LEVER HANDLES, 8" CENTERS, POP-UP DRAIN, BLACK MATTE FINISH, THERMOSTATIC MIXING VALVE. REFER TO NOTES BELOW FOR ADDITIONAL REQUIREMENTS.
501.1	S-1	SELF RIMMING SINK	ELKAY	LRADQ252165PD	KOHLER	K-7507	1.5 GPM	TYPE 304 18-8 STAINLESS STEEL 25" X 21-1/4" X 6 1/2" DEEP. INTERIOR AND TOP SURFACES SHALL BE POLISHED TO A HIGH LUSTER FINISH. PROVIDE SINK WITH CRUMB CUP STRAINER, 8" CHROME PLATED BRASS FAUCET.
501.2	S-2	SELF RIMMING SINK	ELKAY	DLRS3322104	MOEN	K-7507	1.5 GPM	TYPE 304 18-8 STAINLESS STEEL 33" X 22" X 10-1/8" DEEP. INTERIOR AND TOP SURFACES SHALL BE POLISHED TO A HIGH LUSTER FINISH. PROVIDE SINK WITH CRUMB CUP STRAINER, 8" CHROME PLATED BRASS FAUCET.
501.33	P__	FOOD SERVICE SINK/EQUIP	--	--	--	--	--	FOOD SERVICE SINK AND EQUIPMENT, SEE FOOD SERVICE DRAWINGS. REFER TO NOTES BELOW FOR ADDITIONAL REQUIREMENTS.
601	OB-1	WASHING MACHINE SUPPLY AND DRAIN BOX	GUY GREY	MWB19	N/A	N/A	N/A	11"x9" RECESSED SUPPLY BOX WITH WALL FLANGE MANUFACTURED FROM 18 GAUGE STEEL WITH WHITE POWDER COAT FINISH. FURNISH WITH SUPPLY VALVES AND 2" DRAIN OUTLET.
700	MS-1	MOP SINK	STERN-WILLIAMS	SB-900-BP	T & S BRASS	B-0665-BSTP	2.5 GPM	FLOOR MOUNTED PRECAST TERRAZO WITH STAINLESS STEEL CAP, 24"x24"x12", DRAIN BODY SHALL BE STAINLESS STEEL CAST INTEGRAL, AND SHALL PROVIDE FOR A CAULKED LEAD CONNECTION AND NOT LESS THAN 1" DEEP TO A 3" PIPE. REFER TO NOTES BELOW FOR ADDITIONAL REQUIREMENTS.
701	MS-2	MOP SINK	ELKAY	EFS2523C	T & S BRASS	B-0665-BSTP	2.5 GPM	FLOOR MOUNTED STAINLESS STEEL MOP SINK. PRECAST TERRAZO WITH STAINLESS STEEL CAP, 25"x23"x10". REFER TO NOTES BELOW FOR ADDITIONAL REQUIREMENTS.
800	EWC-1	ELECTRIC WATER COOLER W/BOTTLE FILLER	ELKAY	LZWS-LRPBM28K	N/A	N/A	9.0 GPH	TYPE 304 18-8 STAINLESS STEEL TWO-LEVEL WHEELCHAIR ACCESSIBLE WATER COOLER WITH RECESSED REFRIGERATION SYSTEM, WATER SENTRY FILTER SYSTEM AND STAINLESS STEEL WALL GRILL, CONTOURED BASIN RECESSED INTO STAINLESS STEEL TUBULAR SUPPORT ARM. RATED AT T.5 GPH, 5 FULL LOAD AMPS, 575 WATTS, 115 VOLTS, AND WEIGHTS 140 LBS.
900	RD-1	ROOF DRAIN (PRIMARY)	ZURN	ZC-100-ERC	N/A	N/A	--	15" DIAMETER, DURA COATED CAST IRON BODY WITH FLASHING CLAMP, SUMP RECEIVER AND UNDER DECK CLAMP, DRAIN SHALL HAVE COMBINATION MEMBRANE GRAVEL STOP AND GALVANIZED CAST IRON DOME.
901	RD-2	ROOF DRAIN (OVERFLOW)	ZURN	ZC-100-ERC-89	N/A	N/A	--	15" DIAMETER, DURA COATED CAST IRON BODY WITH 2" INTERNAL WATER DAM, FLASHING CLAMP, SUMP RECEIVER AND UNDER DECK CLAMP, DRAIN SHALL HAVE COMBINATION MEMBRANE GRAVEL STOP AND GALVANIZED CAST IRON DOME.
913	PD-1	PLANTER DRAIN	WATTS	FD-890	N/A	N/A		PLANTER DRAIN, EPOXY COATED CAST IRON BODY, MULTI-LEVEL PLANTER DRAIN WITH BOTTOM FLASHING CLAMP AND STAINLESS STEEL SCREENED ALUMINUM DOME, PERFORATED ABS STANDPIPE, UPPER SELF LOCKING STAINLESS STEEL SCREENED ALUMINUM DOME. TOP DOME PAINTED WITH 2 COATS OF BLACK EPOXY.
1003	FD-1	FLOOR DRAIN	WATTS	FD-1100-A	N/A	N/A	N/A	EPOXY COATED CAST IRON BODY WITH ANCHOR FLANGE, WEEPHOLES, ADJUSTABLE 6" ROUND STAINLESS STEEL STRAINER, NO-HUB OUTLET, AND TRAP PRIMER CONNECTION.
1011	FD-2	FLOOR DRAIN	WATTS	FD-1100-L	N/A	N/A	N/A	EPOXY COATED CAST IRON BODY WITH ANCHOR FLANGE, WEEPHOLES, ADJUSTABLE 6" SQUARE STAINLESS STEEL STRAINER, NO-HUB OUTLET, AND TRAP PRIMER CONNECTION.
1021	FS-1	FLOOR SINK	WATTS	FS-750	N/A	N/A	N/A	12"x12"x10" DEEP SANITARY FLOOR SINK WITH WHITE ACID RESISTANT PORCELAIN ENAMEL COATED INTERIOR, LOOSE SET PORCELAIN ENAMEL COATED CAST IRON GRATE, ALUMINUM DOME BOTTOM STRAINER, AND NO HUB OUTLET.
1060	DSN-1	DOWNSPOUT NOZZLE	WATTS	RD-940	N/A	N/A	N/A	CAST NICKEL BRONZE DOWNSPOUT NOZZLE WITH ANCHOR FLANGE, COUNTERSUNK MOUNTING HOLES. SEE PLANS FOR OUTLET SIZES REQUIRED.
1071	TD-1	TRENCH DRAIN	ZURN	Z882-HPDE	N/A	N/A	N/A	12" WIDE TOP MODULAR TRENCH DRAIN, HIGH DENSITY POLYETHYLENE CHANNEL WITH HEAL PROOF DUCTILE IRON GRATE WITH BOTTOM OUTLET. SEE PLANS FOR OUTLET SIZES REQUIRED.
1100	WH-1	WALL HYDRANT IN LOCKED BOX	WOODFORD	B65	N/A	N/A	N/A	FREEZE PROOF ENCLOSED WALL ANTI-SIPHON WALL HYDRANT COMPLETE WITH BRONZE CASING, VACUUM BREAKER, ALL BRONZE INTERIOR PARTS AND NON TURNING OPERATING ROD WITH FREE FLOATING COMPRESSION CLOSURE VALVE, WATER BOX DOOR SHALL BE BRASS CASTING WITH CHROME FINISH AND OPERATING KEY.
1102	HB-1	HOSE BIB	WOODFORD	24P-3/4 CP	N/A	N/A	N/A	ANTI-SIPHON VACUUM BREAKER PROTECTED HOSE BIB LOOSE KEY HANDLE, CHROME PLATED.
1105	YH-1	YARD HYDRANT IN LOCKED BOX	JR SMITH	5830	N/A	N/A	N/A	FREEZE PROOF ENCLOSED ANTI-SIPHON YARD HYDRANT COMPLETE WITH HEAVY DUTY GREY IRON CASTING WITH BLACK ENAMEL FINISH AND LOCKING DOOR AND OPERATING KEY.

NOTES:

1. WATER CLOSET HARDWARE:

   TOILET SEAT - BEMIS No. 1655SS, EXTRA HEAVY SOLID PLASTIC WITH STAINLESS STEEL SELF SUSTAINING CHECK HINGE, OPEN FRONT WITHOUT COVER.
   FIXTURE CARRIER - WATTS ISCA-102-LR, EXTRA-HEAVY DUTY (1,000 lbs) BARIATRIC CARRIER COMPLIANT WITH ASME A112.6.1M, SINGLE VERTICAL THIN WALL WATER CLOSET CARRIER WITH EPOXY COATED CAST IRON FITTING, NO HUB WASTE (3"), AND VENT (2") CONNECTIONS, EPOXY COATED CAST IRON PATENTED COMPRESSION SEAL FACE PLATE ASSEMBLY, EPOXY COATED CAST IRON FOOT SUPPORTS ADJUSTABLE FOR STANDARD AND WHEELCHAIR HEIGHT, ADJUSTABLE ABS NIPPLE WITH INTEGRAL TEST CAP AND NEOPRANE BOWL GASKET, PLATED HARDWARE AND CHROME CAP NUTS.

2. URINAL HARDWARE:

   FIXTURE CARRIER - WATTS No. CA-321, FULLY ADJUSTABLE URINAL CARRIER WITH HEAVY GAUGE STEEL OFFSET UPRIGHTS, ADJUSTED TO ACCESSIBLE HEIGHT.

3. LAVATORY HARDWARE:

   STRAINER/TRAP - McGUIRE No. 155A/8902, CHROME PLATED STRAINER, CAST GRID STRAINER WITH 1-1/4" TAILPIECE, PLATED 17 GAUGE 1-1/4" X 1-1/2" BRASS P-TRAP WITH CLEANOUT. (ADA DEPTH SINKS SHALL HAVE OFFSET TAILPIECES McGUIRE No. 155WC/8902).
   SUPPLIES - McGUIRE No. 2165CC, 1/2" COMPRESSION X 3/8" COMPRESSION CHROME PLATED ANGLE SUPPLY STOPS WITH CHROME PLATED 12" FLEXIBLE RISERS AND ESCUTCHEONS.
   INSULATION KIT - EXPOSED SUPPLIES AND TRAPS ARE TO BE PROTECTED WITH INSULATION KITS EQUAL TO PLUMBERX No. 4333.
   FIXTURE CARRIER - WATTS No. WCA-411, CONCEALED ARMS FLOOR MOUNTED CARRIER COATED STEEL UPRIGHTS WITH WELDED FEET, CAST IRON ADJUSTABLE HEADERS, STEEL SLEEVES, ALIGNMENT TRUSS AND FASTENERS.
   THERMOSTATIC MIXING VALVE - PROVIDE THERMOSTATIC MIXING VALVE WHERE NOT PROVIDED BY FAUCET MANUFACTURER.

4. SINK HARDWARE:

   TRAP - McGUIRE No. 8912, CHROME PLATED 17 GAUGE 1-1/2" X 1-1/2" BRASS P-TRAP WITH CLEANOUT. (ADA DEPTH SINKS SHALL HAVE OFFSET TAILPIECES McGUIRE No. 155WC/8902).
   SUPPLIES - McGUIRE No. 2165CC, 1/2" COMPRESSION X 3/8" COMPRESSION CHROME PLATED ANGLE SUPPLY STOPS WITH CHROME PLATED 12" FLEXIBLE RISERS AND ESCUTCHEONS.

5. MOP SINK HARDWARE:

   HOSE AND WALL HOOK - STERN WILLIAMS No. T-35, 36" LONG HOSE AND STAINLESS STEEL WALL BRACKET.

6. ELECTRIC WATER COOLER / DRINKING FOUNTAIN HARDWARE:

   FIXTURE CARRIER - WATTS No. CA-431-1, FLOOR MOUNTED BI-LEVEL WATER COOLER CARRIER WITH HEAVY GAUGE STEEL UPRIGHTS WITH INTEGRAL WELDED FEET, UNIVERSAL STEEL HANGER SUPPORT PLATE, AND PLATED HARDWARE.

GAS WATER HEATER SCHEDULE

MARK	MANUFACTURER	MODEL	FUEL TYPE	GAS INPUT (BTU/HR)	GAS PRESSURE (MAX.)	RECOVERY (GPH) @ 70°F	STORAGE CAPACITY (GAL)	STORAGE TEMP (°F)	ELECTRICAL VOLTAGE	ELECTRICAL PHASE	ELECTRICAL HERTZ	DIMENSIONS DIAMETER	DIMENSIONS HEIGHT	OPERATING WEIGHT (LBS)
GWH-1	A. O. Smith	BTH-120	NATURAL	120,000 Btu/h	10.5 in-wg	197	60	140	120 V	1	60 Hz	2'-3 3/4"	55 1/2"	1000

ELECTRIC WATER HEATER SCHEDULE

MARK	MANUFACTURER	MODEL	STORAGE CAPACITY (GAL)	STORAGE TEMP (°F)	DELIVERY TEMP (°F)	ELECTRICAL KW	ELECTRICAL VOLTS	ELECTRICAL PHASE	ELECTRICAL HERTZ	RECOVERY (60 °F RISE)	DIMENSIONS	OPERATING WEIGHT (LBS)
EWH-1	LOCHINVAR	HCW12 050	50	130	110	12	277	1	60	31	48" (Height) x 20" (Dia.)	690

PLUMBING SYMBOLS

SYMBOL	DESCRIPTION
CD	- CONDENSATE DRAIN PIPING
CW	- DOMESTIC COLD WATER PIPING
HW	- DOMESTIC HOT WATER PIPING
HWR	- DOMESTIC HOT WATER RETURN PIPING
GR	- DOMESTIC HOT WATER RETURN PIPING
S	- SANITARY WASTE PIPING
V	- VENT PIPING
ST	- STORM DRAIN PIPING
STO	- OVERFLOW STORM DRAIN PIPING
G	- FUEL GAS PIPING
	- HOSE BIBB OR WALL HYDRANT
CO	- CLEANOUT PLUG
CO	- WALL CLEANOUT
CO	- FLOOR CLEANOUT / EXTERIOR CLEANOUT
FD	- FLOOR DRAIN
FS	- FLOOR SINK
DD	- DECK DRAIN
	- SHUT-OFF VALVE
	- BALL VALVE
	- CALIBRATED BALANCING VALVE
	- CHECK VALVE (SWING)
	- PRESSURE REDUCING VALVE
S	- SOLENOID OPERATING VALVE
	- GAS COCK
	- GAS PRESSURE REGULATOR
4" P4.101 (DETAIL No. / SHEET No. SHOWN ON)	- DETAIL REFERENCE
4" S (PIPE SIZE — PLUMBING SYSTEM)	- PIPE TAG
1	- REVISION REFERENCE

NOTE: SOME SYMBOLS SHOWN ON THIS LEGEND MAY NOT PERTAIN TO THIS PROJECT

PLUMBING ABBREVIATIONS

ABBREVIATION		DESCRIPTION
CA	-	COMPRESSED AIR
AFF	-	ABOVE FINISH FLOOR
AW	-	ACID WASTE
AV	-	ACID VENT
CB	-	CATCH BASIN
CD	-	CONDENSATE DRAIN
CFH	-	CUBIC FEET PER HOUR
CO	-	CLEANOUT
CONT	-	CONTINUATION
CW	-	DOMESTIC COLD WATER
DI	-	DEIONIZED WATER
DN	-	DOWN
DS	-	DOWNSPOUT
DWG	-	DRAWING
EXIST	-	EXISTING
°F	-	DEGREE FAHRENHEIT
FCO	-	FLOOR CLEANOUT
FD	-	FLOOR DRAIN
FOF	-	FUEL OIL FILL
FOG	-	FUEL OIL GAGE
FOR	-	FUEL OIL RETURN
FOS	-	FUEL OIL SUPPLY
FOV	-	FUEL OIL VENT
FS	-	FLOOR SINK
FSE#	-	FOODSERVICE EQUIPMENT NUMBER
G	-	GAS
GPH	-	GALLONS PER HOUR
GPM	-	GALLONS PER MINUTE
GR	-	KITCHEN WASTE (GREASE)
HB	-	HOSE BIBB
HD	-	HUB DRAIN
HW	-	DOMESTIC HOT WATER
HWR	-	DOMESTIC HOT WATER RECIRCULATING
IE	-	INVERT ELEVATION
IW	-	INDIRECT WASTE
KW	-	KILOWATT
LBS	-	POUNDS
MH	-	MANHOLE
NC	-	NORMALLY CLOSED
NIC	-	NOT IN CONTRACT
NO	-	NORMALLY OPEN
NP	-	NON-POTABLE WATER
NTS	-	NOT TO SCALE
OD	-	OUTSIDE DIAMETER
PRV	-	PRESSURE REDUCING VALVE
PSI	-	POUNDS PER SQUARE INCH
PVC	-	POLYVINYL CHLORIDE PIPE
RD	-	ROOF DRAIN
RPBP	-	REDUCED PRESSURE BACKFLOW PREVENTOR
SAN	-	SANITARY
SD	-	STORM DRAIN
SF	-	SQUARE FEET
SH	-	SHEET
ST	-	STORM
STO	-	OVERFLOW STORM DRAIN
SW	-	SOFT COLD WATER
V	-	VENT
VAC	-	VACUUM
VC	-	VACUUM CLEANING
VTR	-	VENT THRU ROOF
WCO	-	WALL CLEANOUT
WTR	-	WATER

PLUMBING GENERAL NOTES

1. REFERENCE THE SPECIFICATIONS FOR MATERIAL AND EQUIPMENT INSTALLATION STANDARDS.
2. THE PLUMBING INSTALLATION SHALL COMPLY WITH ALL STATE AND LOCAL CODES.
3. UTILITIES AND SERVICES INDICATED ARE TAKEN FROM VARIOUS OLD AND NEW SURVEYS, AS-BUILT RECORDS AND FIELD INVESTIGATIONS. UNFORSEEN CONDITIONS PROBABLY EXIST AND NEW WORK MAY NOT BE FIELD LOCATED EXACTLY AS SHOWN ON DRAWINGS. COOPERATION WITH OTHER TRADES IN ROUTING AND BURIAL DEPTHS, AS DETERMINED DURING CONSTRUCTION, WILL BE NECESSARY.
4. FIELD VERIFY EXISTING INSTALLATIONS. MODIFY EXISTING PLUMBING SYSTEMS, WHICH ARE TO REMAIN ACTIVE, TO FACILITATE RECONNECTION AND EXTENSION OF THE NEW WORK.
5. NOTIFY OWNER AT LEAST 24 HOURS PRIOR TO INTERRUPTING EXISTING SERVICE. SCHEDULE DISCONNECTION AND TIE-INS TO MINIMIZE DISRUPTION OF SERVICES. SERVICES ARE NOT TO BE LEFT DISRUPTED DURING NON-NORMAL CONTRACTOR WORKING HOURS.
6. PLANS ARE NOT COMPLETELY TO SCALE. PIPE ROUTING SHOWN IS SCHEMATIC AND IS NOT INTENDED TO INDICATE EXACT ROUTING. CONTRACTOR SHALL PROVIDE ANY ADDITIONAL OFFSETS AND FITTINGS REQUIRED FOR PROPER INSTALLATION AND TO MAINTAIN CLEARANCES. VERIFY STRUCTURAL, MECHANICAL AND ELECTRICAL INSTALLATIONS AND OTHER POTENTIAL OBSTRUCTIONS AND ROUTE PIPING TO AVOID INTERFERENCES.
7. PROVIDE ALL OFFSETS AND FITTINGS AND MAKE CONNECTION TO SITE UTILITIES.
8. CONCEAL PIPING ABOVE CEILINGS, WITHIN WALLS OR CHASES EXCEPT IN MECHANICAL ROOMS OR AS SPECIFICALLY NOTED.
9. PROVIDE ACCESS PANELS FOR ALL VALVES CONCEALED IN WALLS OR ABOVE NON-ACCESSIBLE CEILINGS.
10. SLEEVE AND/OR FIRESTOP ALL PENETRATIONS THROUGH RATED WALLS, CEILINGS, AND FLOORS WITH UL LISTED ASSEMBLIES. FIRESTOP ASSEMBLIES SHALL BE EQUAL TO OR EXCEED THE RATING OF THE WALL, CEILING OR FLOOR. SEE ARCHITECTURAL DRAWINGS FOR FINAL FINISHES.
11. FLASH AND COUNTER-FLASH ROOF PENETRATIONS.
12. WHEN BEAM SLEEVE PENETRATIONS ARE NECESSARY, COORDINATE PENETRATIONS WITH ALL TRADES. THE ARCHITECT AND THE STRUCTURAL ENGINEER.
13. PROVIDE FOUNDATION PAD PENETRATION SLEEVES. ALLOW 1" MINIMUM CLEARANCE BETWEEN SLEEVE INSIDE SURFACE AND PIPE EXTERIOR.
14. SEE ARCHITECTURAL DRAWINGS FOR FIXTURE LOCATIONS AND MOUNTING HEIGHTS.
15. PROVIDE AUTOMATIC TRAP PRIMERS FOR FLOOR DRAIN TRAP SEALS.
16. PROVIDE AN AIR GAP, WHEN REQUIRED BY CODE, SERVING INDIVIDUAL FIXTURES, DEVICES, APPLIANCES AND APPARATUS.
17. ALL EXPOSED PIPE AND FITTINGS IN FINISHED AREAS SHALL BE CHROME PLATED.
18. MOUNT HOSE BIBBS 24" ABOVE FINISHED GRADE.
19. PROVIDE CLEANOUTS IN ACCORDANCE WITH ALL STATE AND LOCAL CODES. INSTALL CLEANOUT WITH COVER FLUSH TO FINISH SURFACE.
20. COORDINATE EXACT FLOOR DRAIN LOCATIONS WITH ARCHITECTURAL DRAWINGS. SET FLOOR DRAINS BELOW FINISHED FLOOR TO ALLOW FOR FLOOR SLOPING TO THE DRAIN.
21. COORDINATE PIPING WITH ALL ELECTRICAL EQUIPMENT (PANELS, TRANSFORMERS, ETC.) PRIOR TO ANY INSTALLATION. DO NOT ROUTE ANY PIPING OVER ANY ELECTRICAL PANELS UNDER ANY CIRCUMSTANCES. ANY PIPING RUN OVER PANELS SHALL BE RE-ROUTED AT NO ADDITIONAL COST.
22. ALL WALL MOUNTED LAVATORIES SHALL BE ATTACHED TO FLOOR MOUNTED CARRIER DESIGNED TO WITHSTAND A VERTICAL LOAD OF 250 POUNDS ON THE FRONT OF THE FIXTURE.
23. PROVIDE SANITARY WASTE, VENT, DOMESTIC WATER, ETC. ROUGH-IN AND MAKE FINAL CONNECTIONS (TO INCLUDE PROVIDING ALL NECESSARY RELATED STOPS, VALVES, TRAPS, ETC. AND MAKE READY FOR USE) TO ALL EQUIPMENT, WHETHER FURNISHED BY THIS CONTRACTOR OR FURNISHED BY OTHERS.
24. ALL MATERIALS AND EQUIPMENT INSTALLED IN RETURN AIR PLENUMS SHALL BE NON-COMBUSTIBLE AND UL APPROVED FOR USE IN A RETURN AIR PLENUM SPACE. IF MATERIALS ARE NOT NON-COMBUSTIBLE IN RETURN AIR PLENUMS, THEY SHALL BE REPLACED OR WRAPPED WITH A UL LISTED FIRE RATED FIRE WRAP (I.E. FYREWRAP 0.5 PLENUM INSULATION OR APPROVED EQUAL) AND INSTALLED IN ACCORDANCE WITH THE MANUFACTURES UL LISTED DETAILS AND RECOMMENDATIONS AT NO ADDITIONAL COST. (NOTE: REFER TO MECHAICAL DRAWINGS FOR RETURN AIR PLENUM LOCATIONS.)
25. PIPING, INSULATION, FITTINGS, MATERIALS, COVERS AND FINISHES IN RETURN AIR PLENUM SHALL HAVE A MAXIMUM FLAME SPREAD RATING OF 25 AND A MAXIMUM SMOKE DEVELOPED RATING OF 50.

PLUMBING DRAWING INDEX

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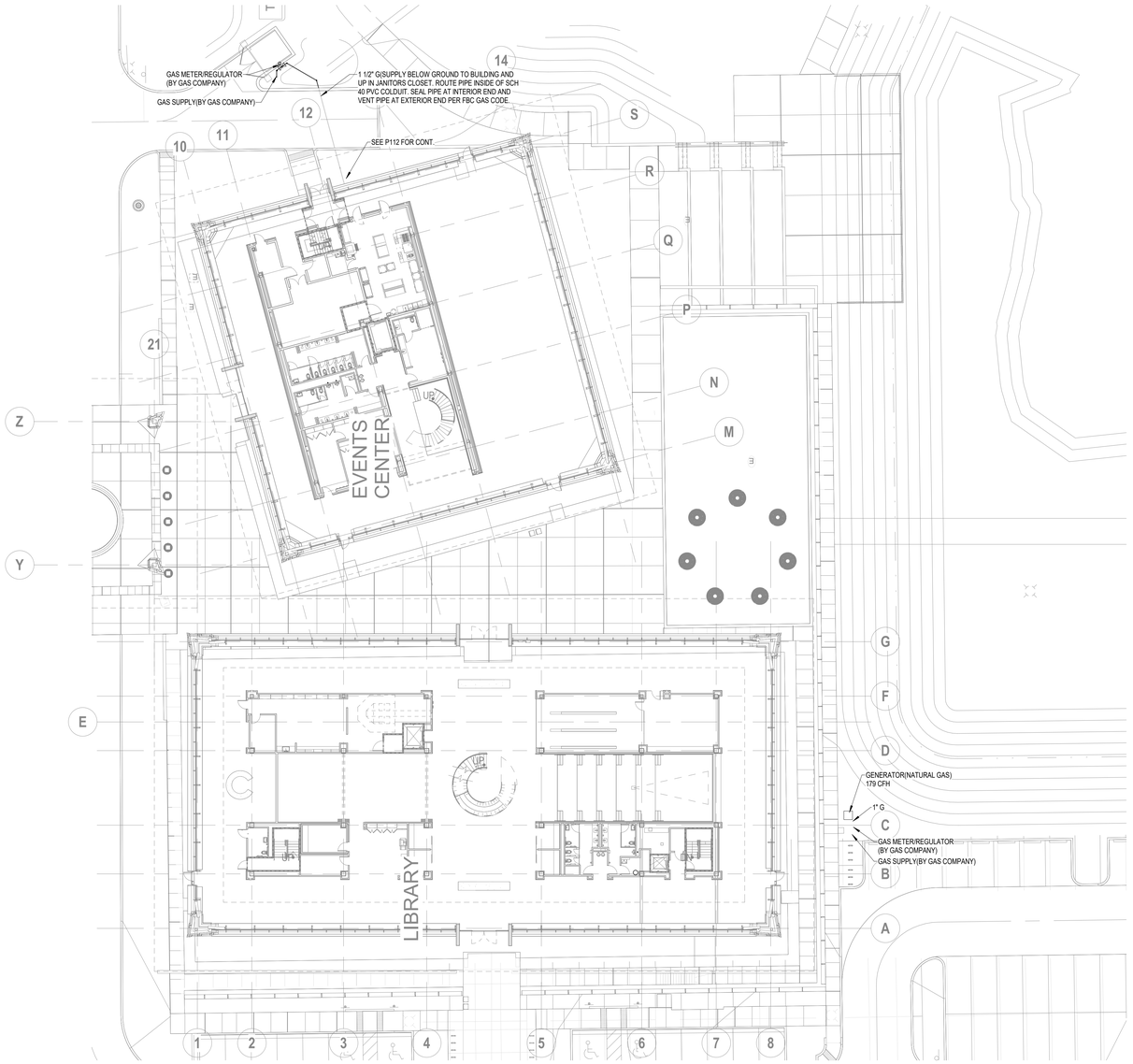
PLUMBING SYMBOLS, LEGEND, NOTES AND INDEX

PROJ. NO. E - 16078.00 SHEET
DRAWN DEP
P001



1 **PLUMBING PLAN SITE**

1" = 20'-0"

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PLUMBING SITE PLAN

PROJ. NO. E - 16078.00 **SHEET** P011
DRAWN DEP

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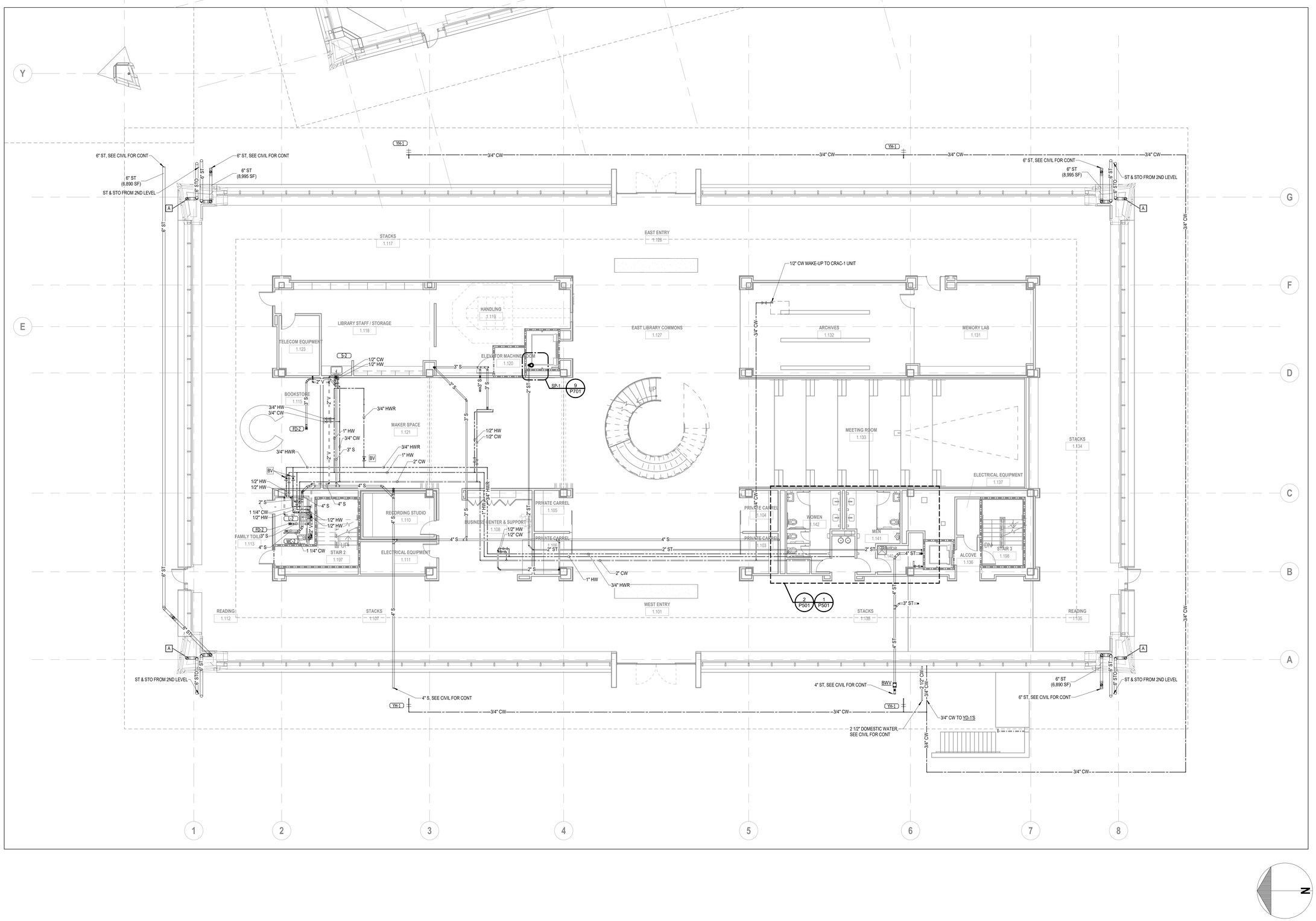
PLUMBING PLAN - BASEMENT LEVEL - AREA 1 - LIBRARY

PROJ. NO. E - 16078.00 SHEET
DRAWN DEP
P101

A1 | **PLUMBING PLAN - BASEMENT LEVEL - AREA 1 - LIBRARY**
1/8" = 1'-0"

FLOOR PLAN NOTES

A STO DN, TERMINATE ABOVE GRADE AT BOTTOM OF PRECAST ENCLOSURE



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PLUMBING PLAN - 1ST LEVEL - AREA 1 - LIBRARY

PROJ. NO. E - 16078.00 SHEET
DRAWN DEP
P111

A1 **PLUMBING PLAN - 1ST LEVEL - AREA 1 - LIBRARY**

1/8" = 1'-0"

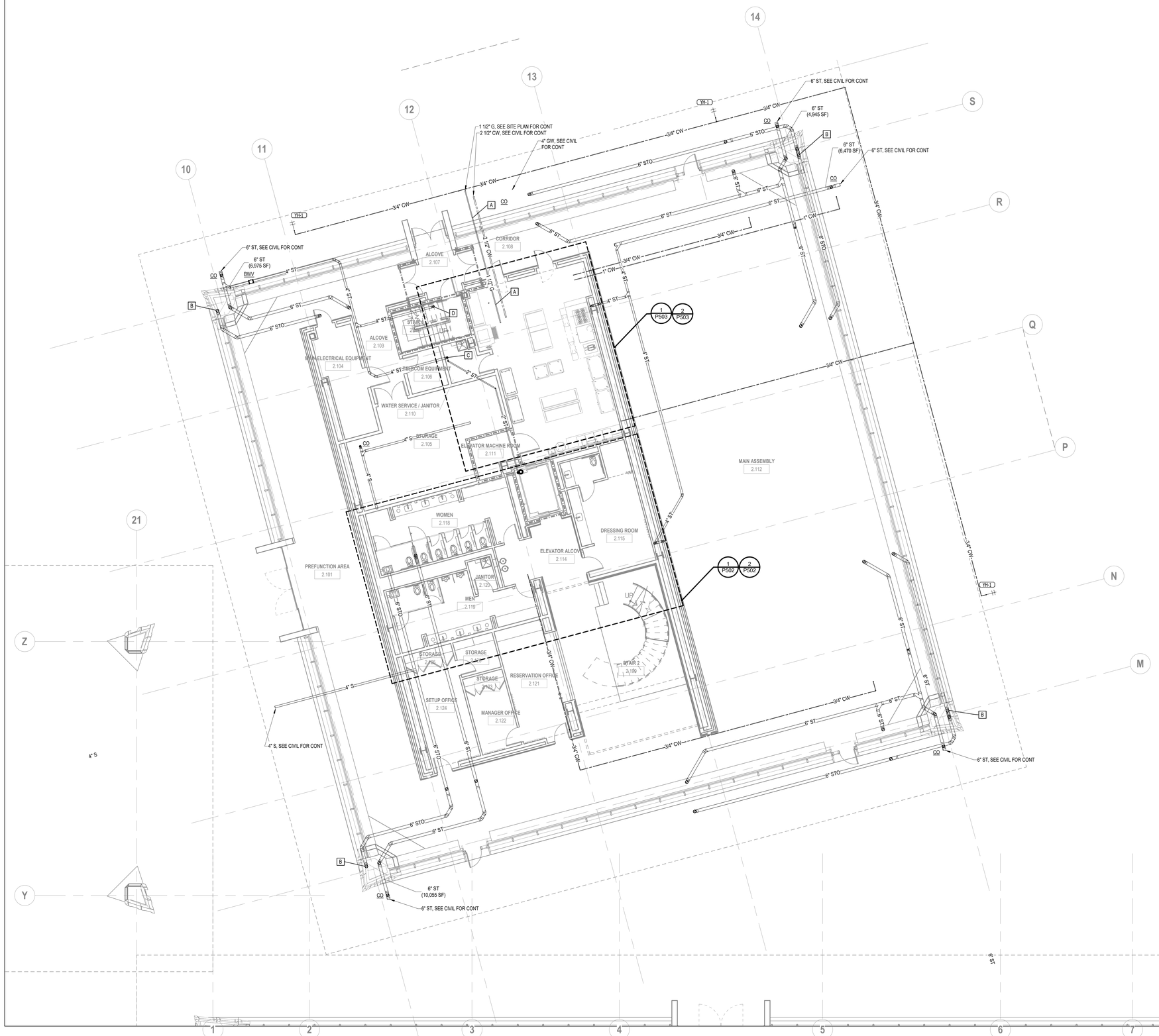
FLOOR PLAN NOTES

A 1 1/4 G SUPPLY TO BUILDING. ROUTE PIPE INSIDE OF SCH 40 PVC CONDUIT. SEAL PIPE AT INTERIOR END AND VENT PIPE AT EXTERIOR END PER FBC GAS CODE.

B STO DN. TERMINATE ABOVE GRADE AT BOTTOM OF PRECAST ENCLOSURE

C 4" HUB DRAIN FOR ELEVATOR SUMP PUMP & MECH CD

D 4" HUB DRAIN FOR FIRE PROTECTION DRAIN. MAKE HARD CONNECTION TO FIRE PROTECTION DRAIN.



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PLUMBING PLAN - 1ST LEVEL - AREA 2 - EVENTS CENTER

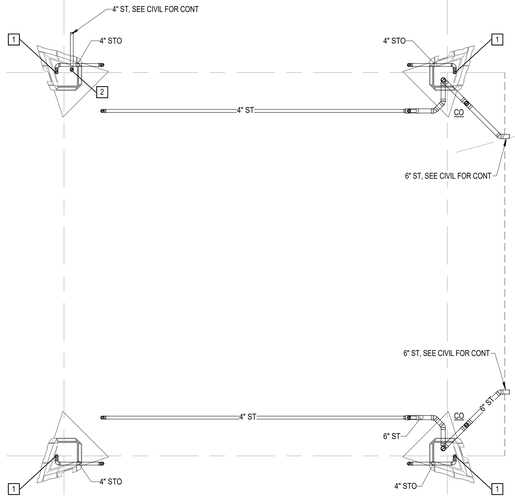
PROJ. NO. E - 16078.00 SHEET
DRAWN DEP
P112

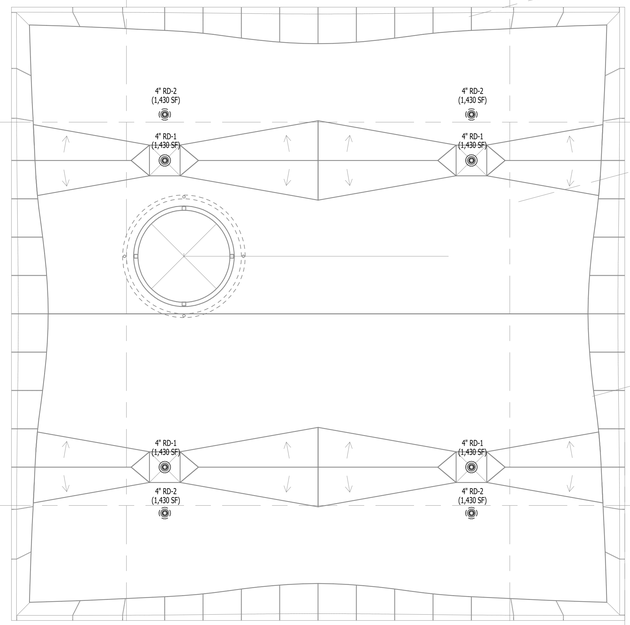
A1
1/8" = 1'-0"

PLUMBING PLAN - 1ST LEVEL - AREA 2 - EVENTS CENTER

FLOOR PLAN NOTES

1. 4" STO DN, TERMINATE ABOVE GRADE AT BOTTOM OF PRECAST ENCLOSURE
2. 4" ST HD, FOR CONNECTION OF FIRE PROTECTION DRAIN





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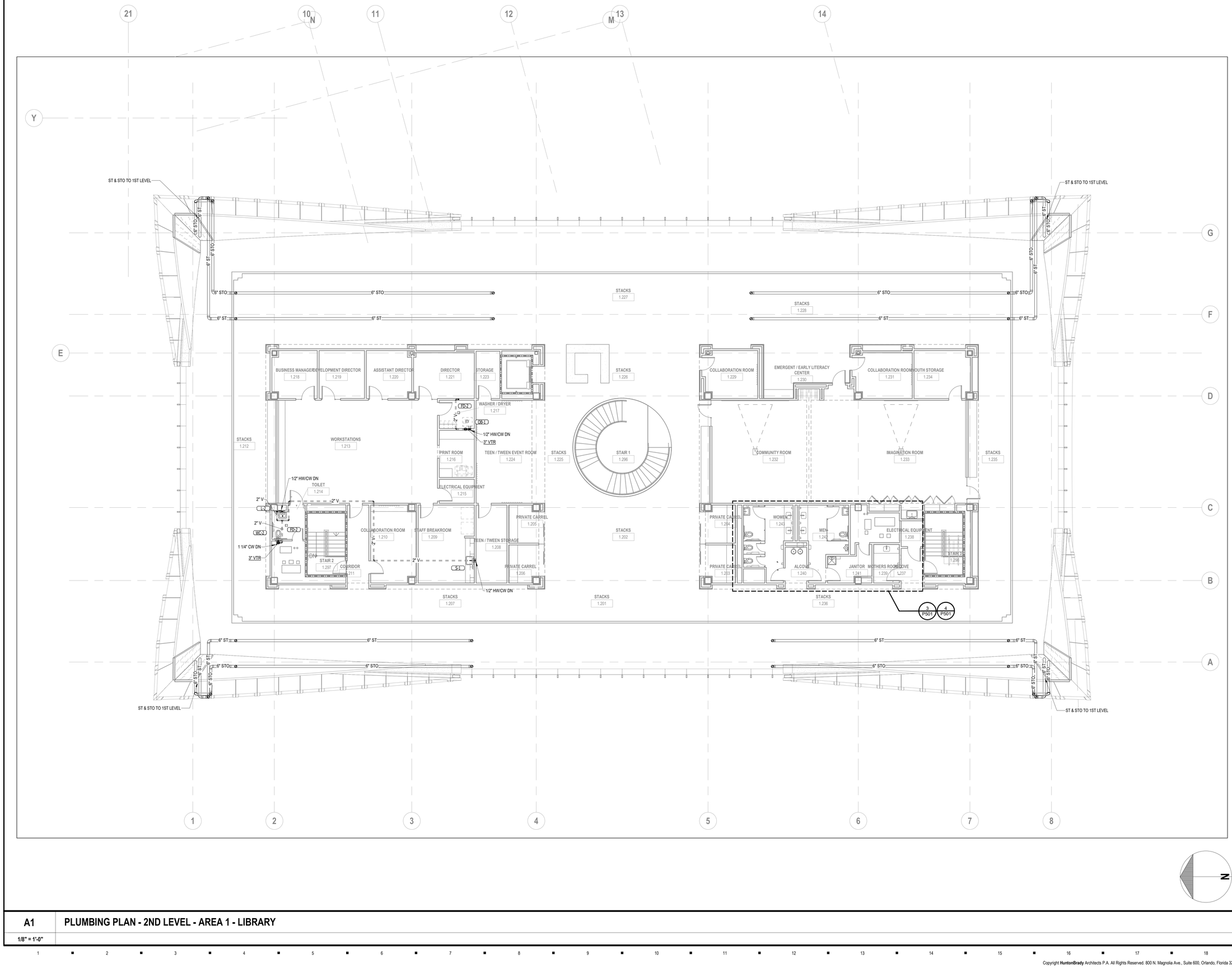
PLUMBING PLAN - 1ST LEVEL AND ROOF - AREA 3 - PORTE COCHERE

PROJ. NO. E - 16078.00 SHEET
DRAWN DEP
P113

A1	PLUMBING PLAN - 1ST LEVEL - AREA 3 - PORTE COCHERE	A2	PLUMBING PLAN - ROOF LEVEL - PORTE COCHERE
1/8" = 1'-0"		1/8" = 1'-0"	



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PLUMBING PLAN - 2ND LEVEL - AREA 1 - LIBRARY

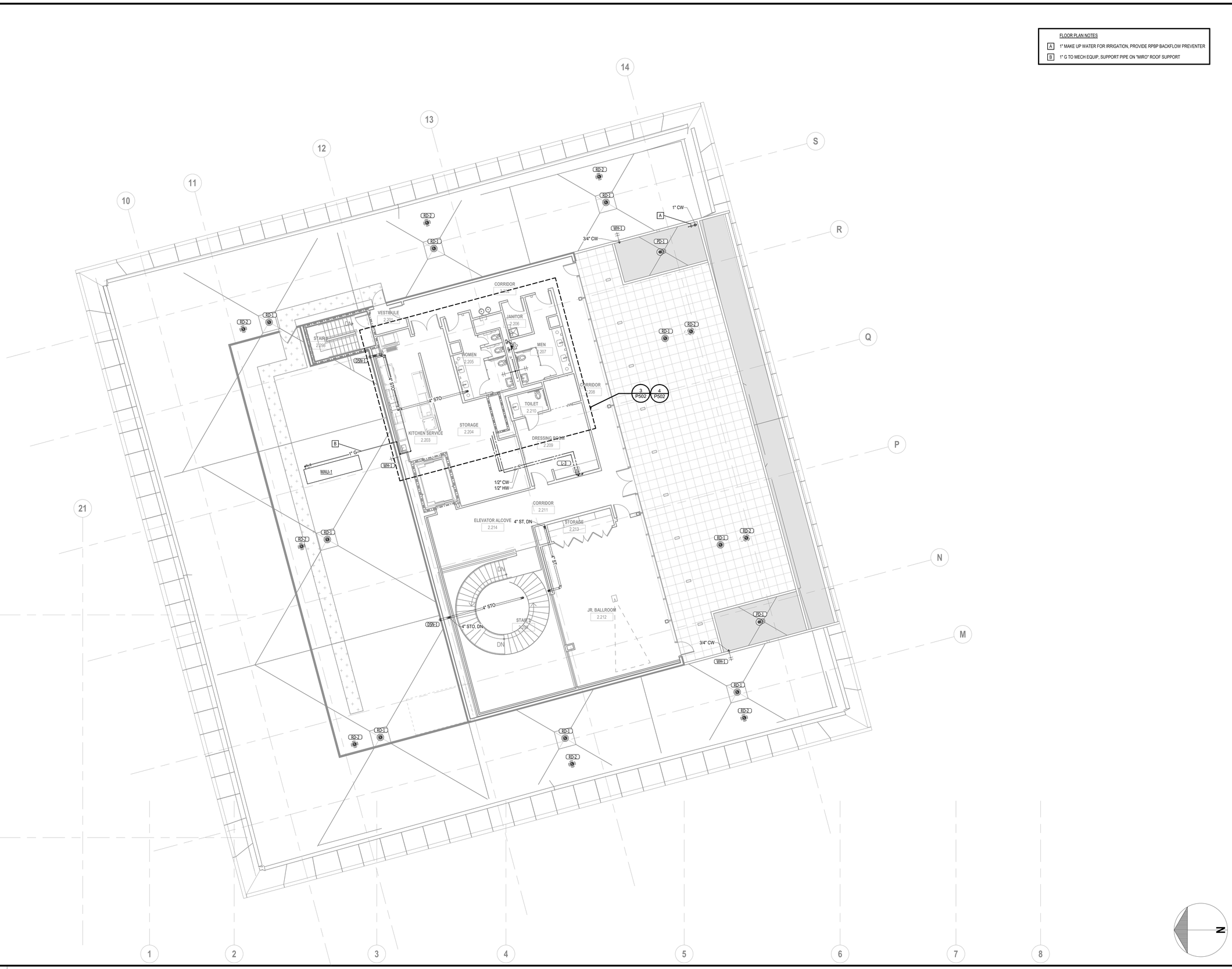
PROJ. NO. E - 16078.00
DRAWN DEP
SHEET **P121**

A1 — **PLUMBING PLAN - 2ND LEVEL - AREA 1 - LIBRARY**
1/8" = 1'-0"

FLOOR PLAN NOTES

A 1" MAKE UP WATER FOR IRRIGATION, PROVIDE RPBP BACKFLOW PREVENTER

B 1" G TO MECH EQUIP, SUPPORT PIPE ON "MIRO" ROOF SUPPORT



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PLUMBING PLAN - 2ND LEVEL - AREA 2 - EVENTS CENTER

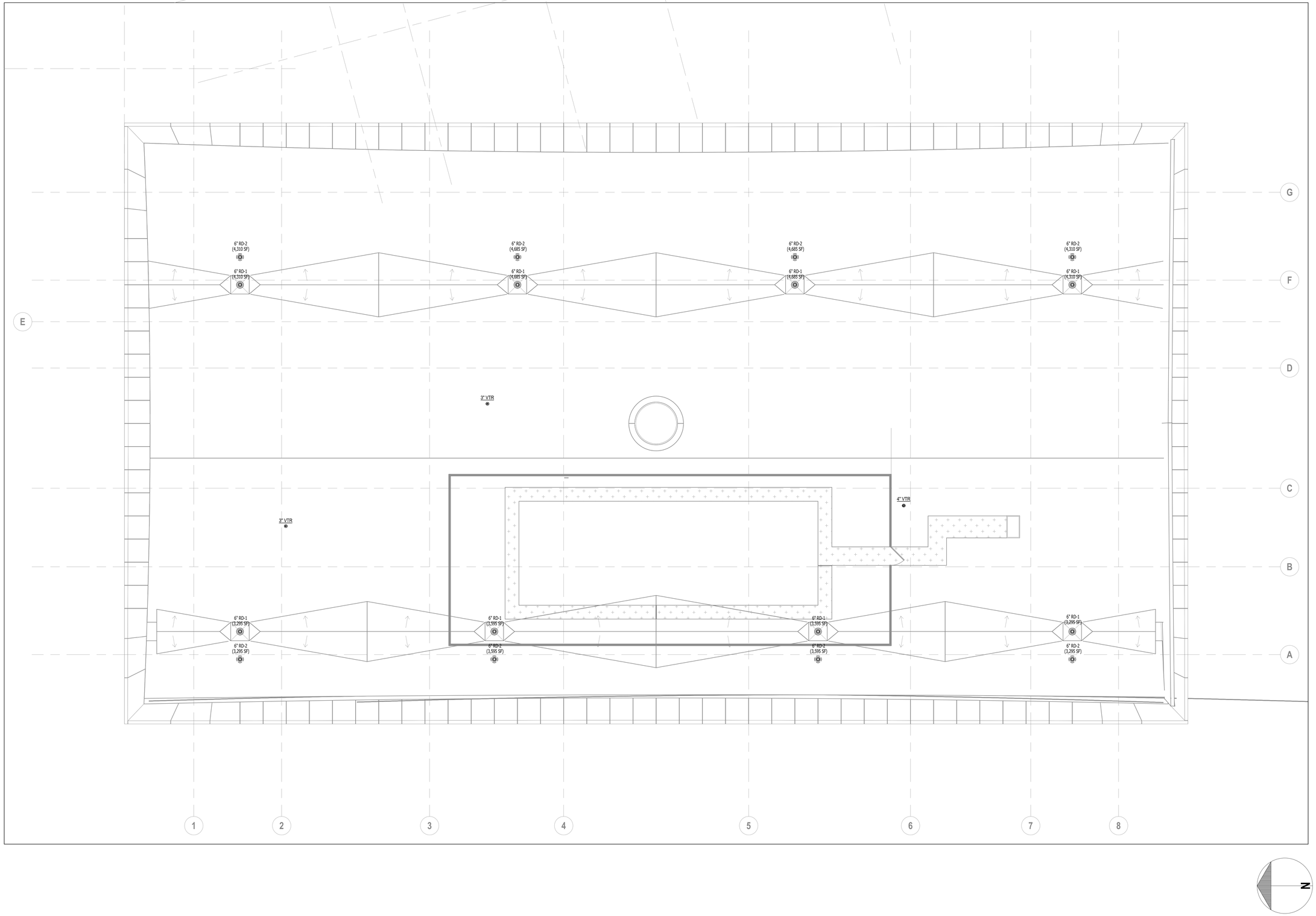
PROJ. NO. E - 16078.00 SHEET

DRAWN DEP

P122

A1 **PLUMBING PLAN - 2ND LEVEL - AREA 2 - EVENTS CENTER**

1/8" = 1'-0"



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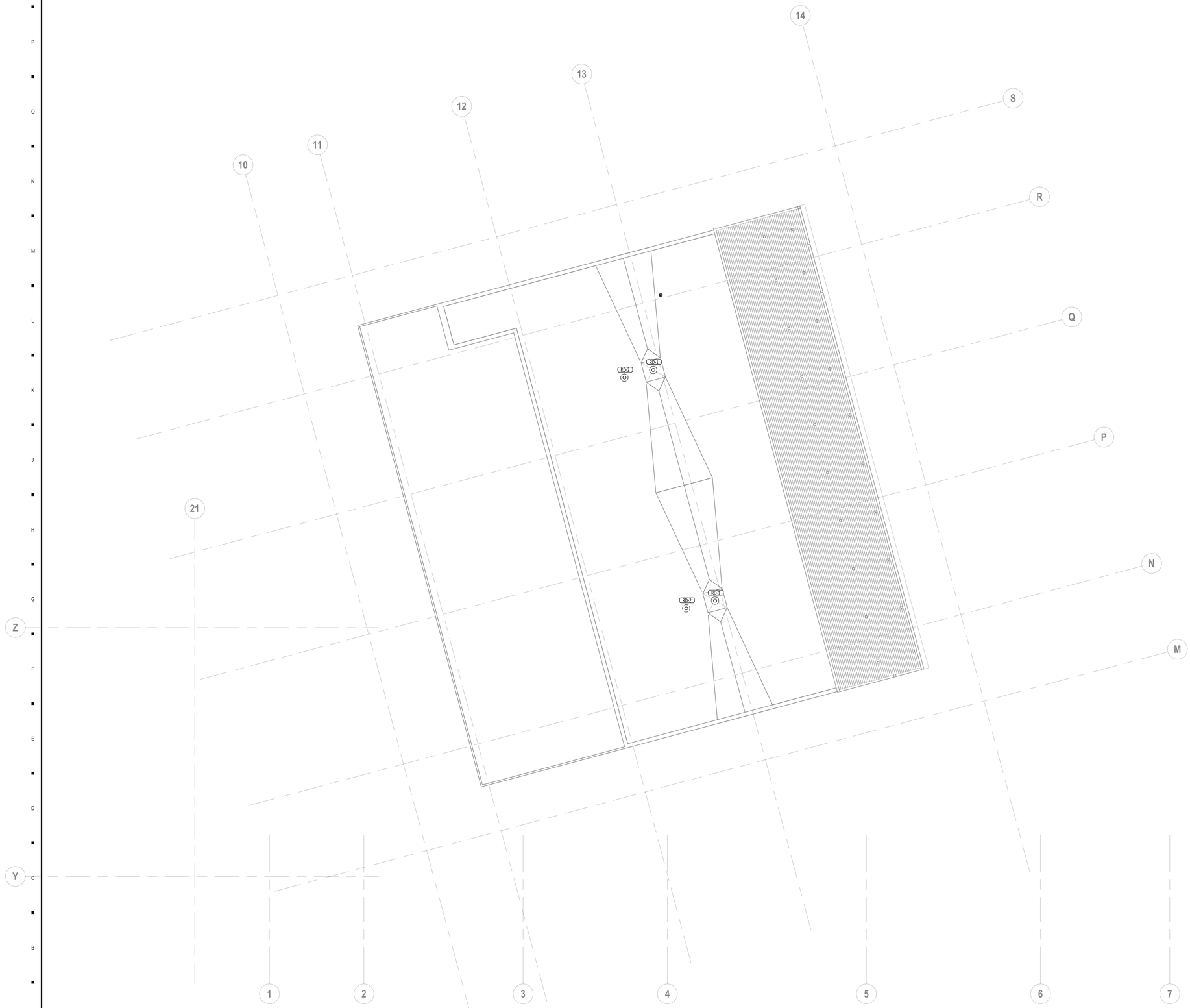
PLUMBING ROOF PLAN - AREA 1 - LIBRARY

PROJ. NO. E - 16078.00 SHEET
DRAWN DEP
P131

A1 **PLUMBING ROOF PLAN - AREA 1 - LIBRARY**
1/8" = 1'-0"



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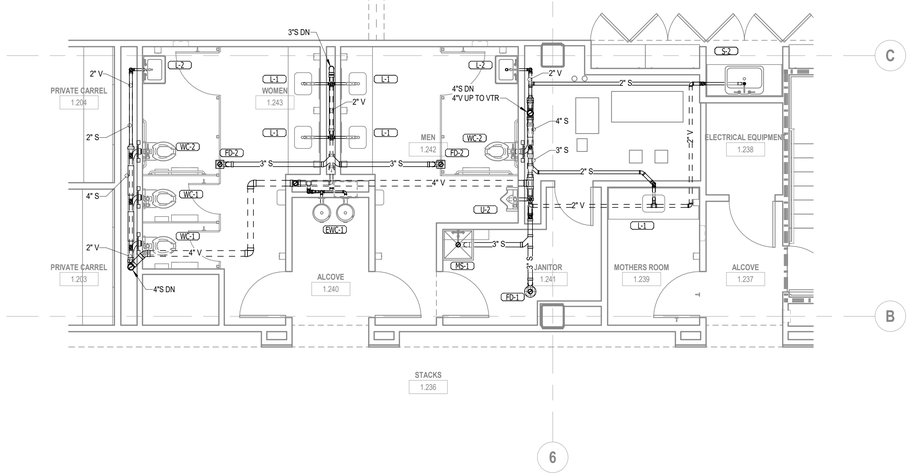
PLUMBING HIGH ROOF PLAN - AREA 2 - EVENTS CENTER

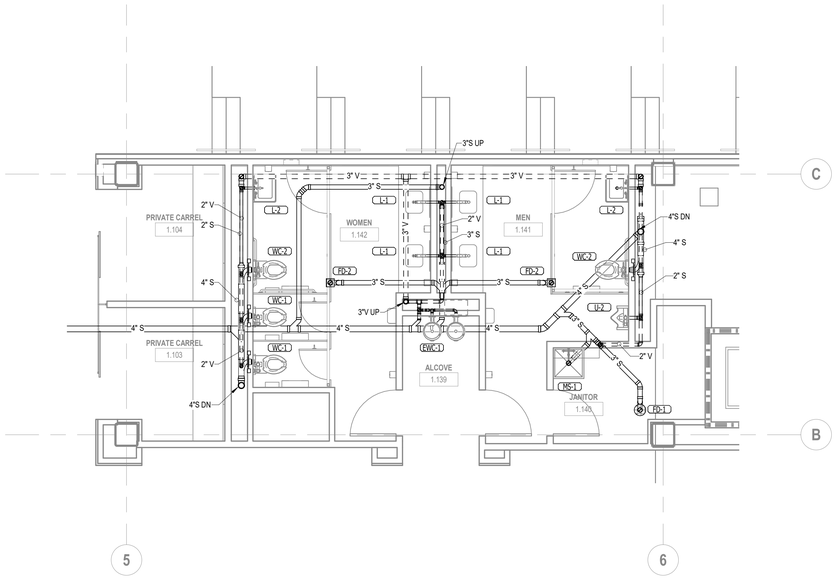
PROJ. NO. E - 16078.00 SHEET
DRAWN DEP
P132

A1
1/8" = 1'-0"
PLUMBING HIGH ROOF PLAN - AREA 2 - EVENTS CENTER



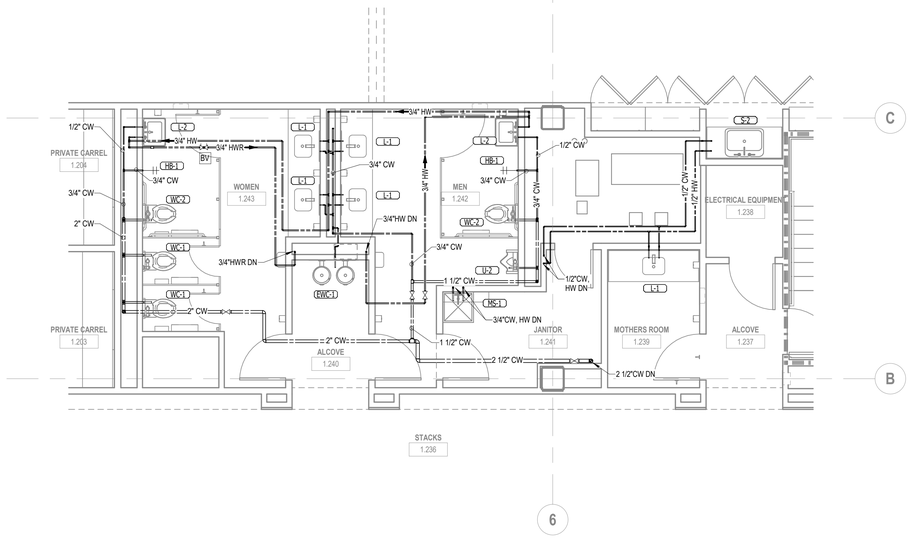
3 ENLARGED GRAVITY PLAN - LIBRARY(MEN 1.242/WOMEN 1.243)

1/4" = 1'-0"



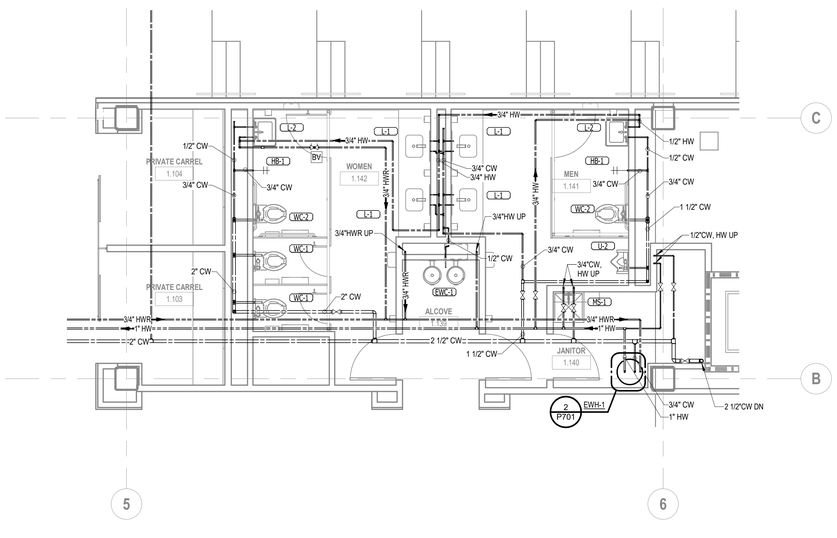
1 ENLARGED GRAVITY PLAN LIBRARY(MEN 1.141/WOMEN 1.142)

1/4" = 1'-0"



4 ENLARGED PRESSURE PLAN - LIBRARY(MEN 1.242/WOMEN 1.243)

1/4" = 1'-0"



2 ENLARGED PRESSURE PLAN LIBRARY(MEN 1.141/WOMEN 1.142)

1/4" = 1'-0"

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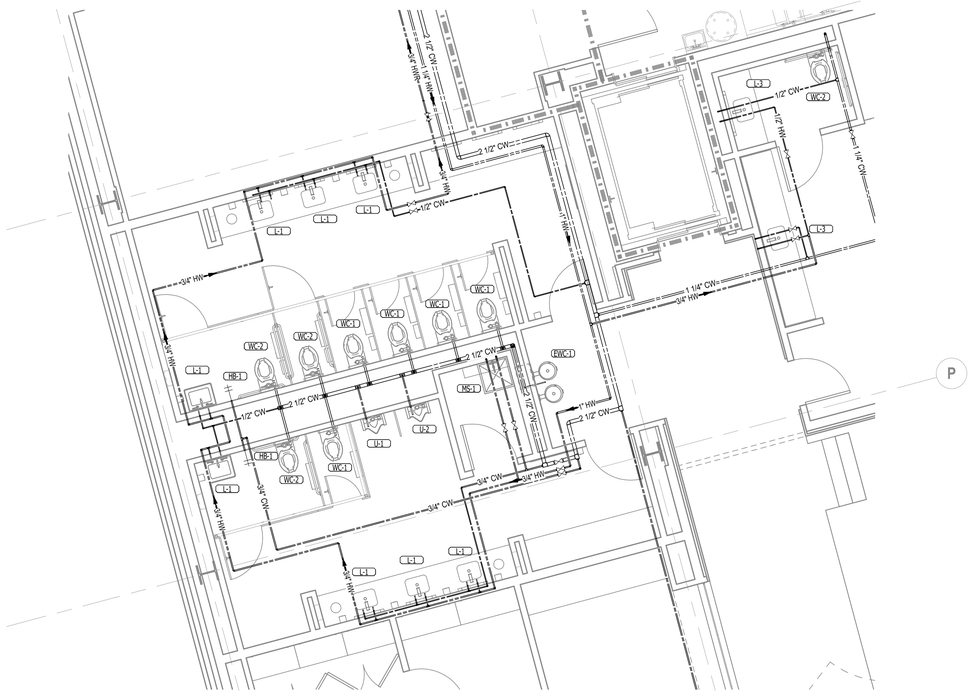
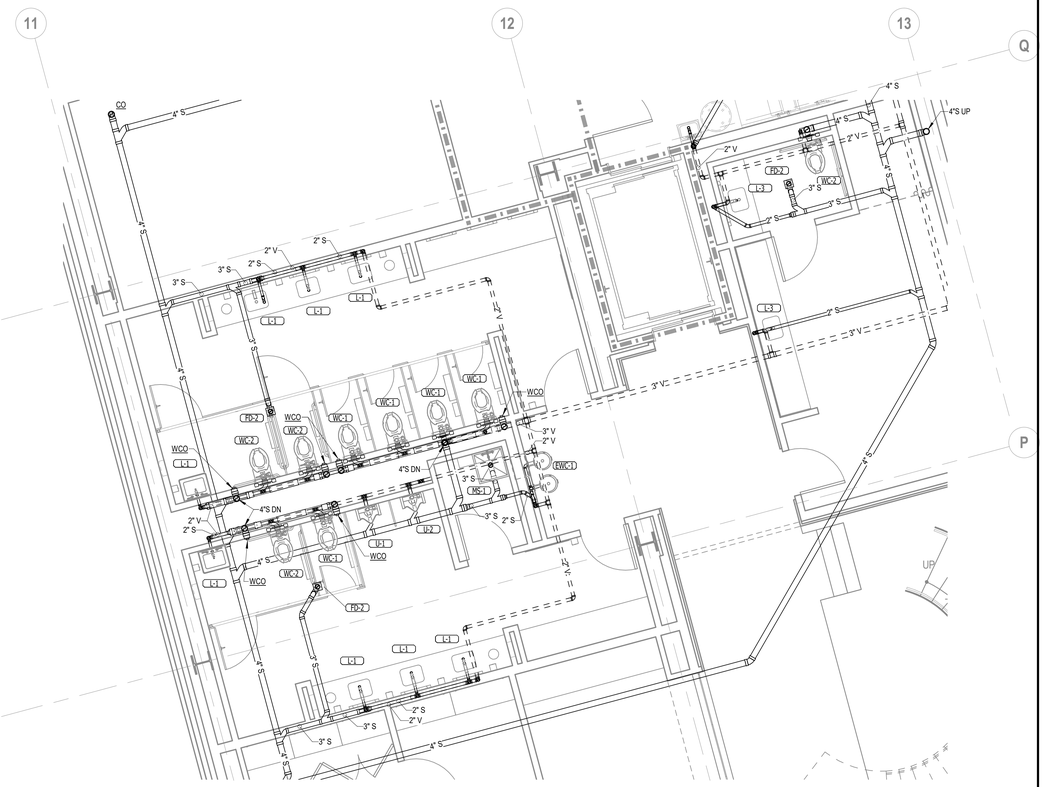
PLUMBING ENLARGED PLANS

PROJ. NO. E - 16078.00 SHEET
DRAWN DEP
P501



2 ENLARGED PRESSURE PLAN - EVENTS CENTER(WOMEN 2.118/MEN 2.119)

1/4" = 1'-0"

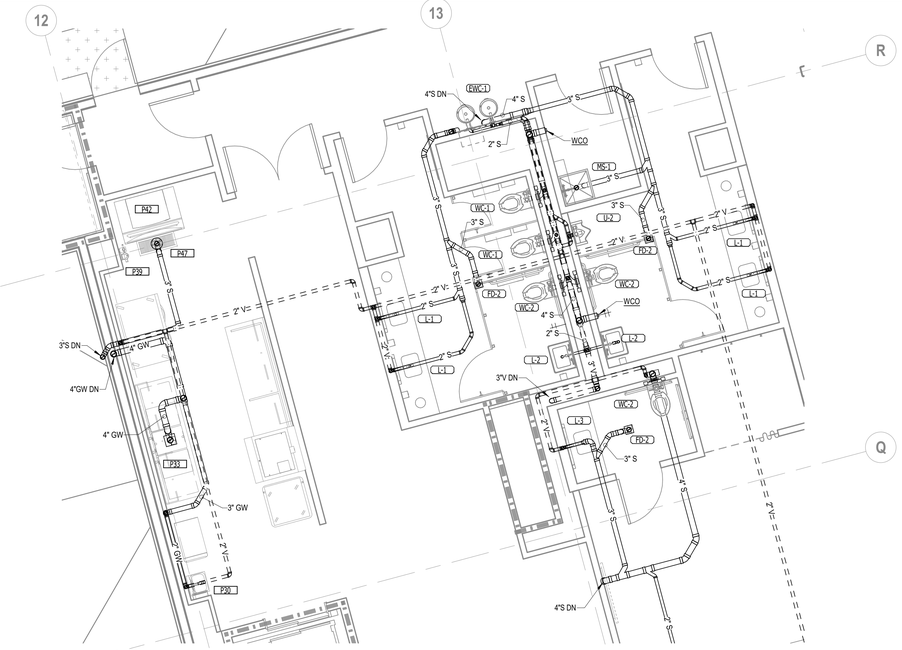


1 ENLARGED GRAVITY PLAN - EVENTS CENTER(WOMEN 2.118/MEN 2.119)

1/4" = 1'-0"

4 ENLARGED PRESSURE PLAN- EVENTS CENTER(MEN 2.207/WOMEN 2.205)

1/4" = 1'-0"



3 ENLARGED GRAVITY PLAN- EVENTS CENTER(MEN 2.207/WOMEN 2.205)

1/4" = 1'-0"

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PLUMBING ENLARGED PLANS

PROJ. NO. E - 16078.00 SHEET
DRAWN DEP
P502

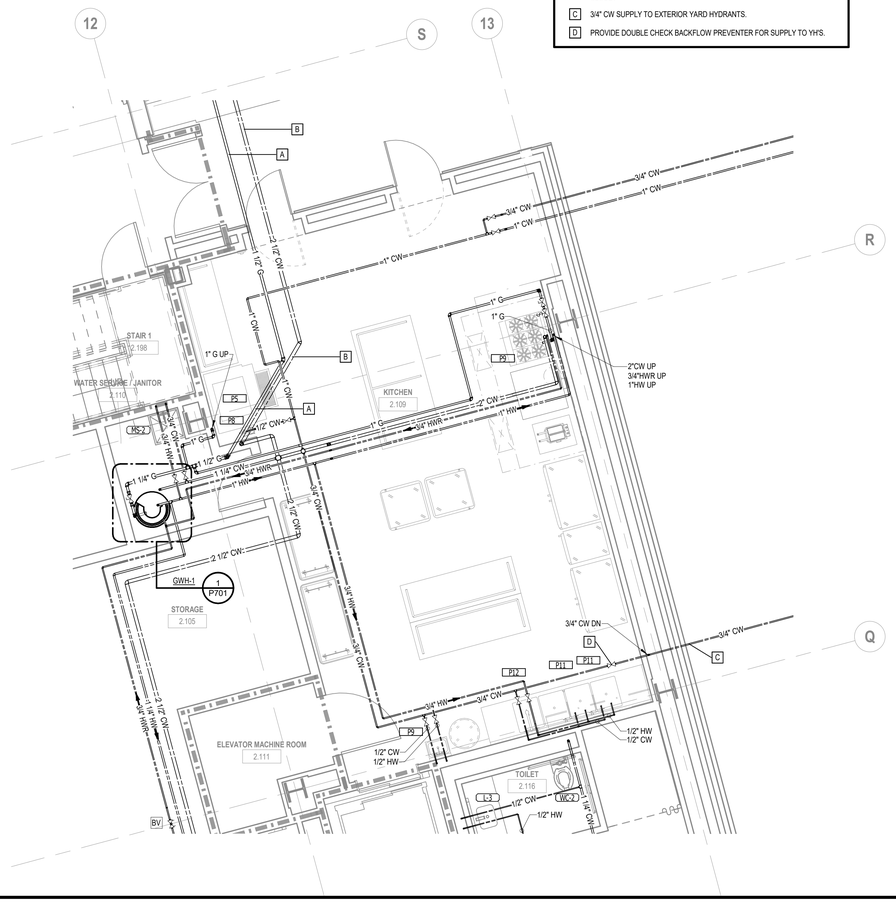
FLOOR PLAN NOTES

A 1 1/4 G SUPPLY BELOW GROUND TO BUILDING AND UP IN JANITORS CLOSET. ROUTE PIPE INSIDE OF SCH 40 PVC CONDUIT. SEAL PIPE AT INTERIOR END AND VENT PIPE AT EXTERIOR END PER FBC GAS CODE.

B 2 1/2" CW SUPPLY BELOW GROUND TO BUILDING AND UP IN JANITORS CLOSET

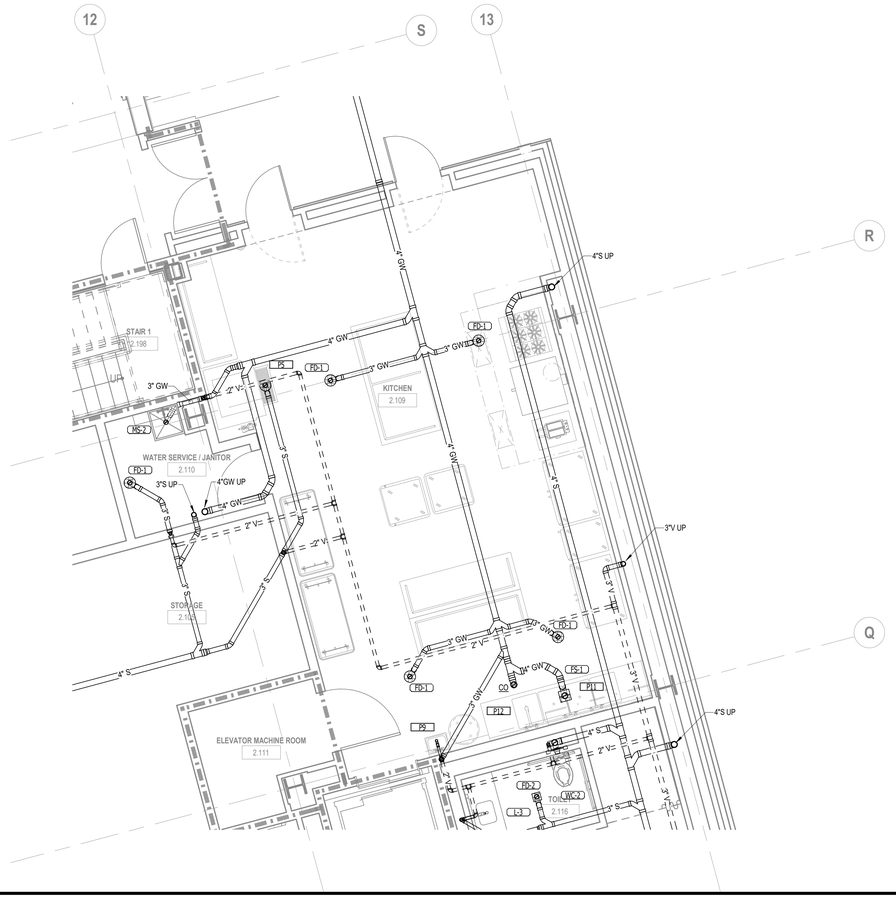
C 3/4" CW SUPPLY TO EXTERIOR YARD HYDRANTS.

D PROVIDE DOUBLE CHECK BACKFLOW PREVENTER FOR SUPPLY TO YH'S.



2 ENLARGED PRESSURE PLAN - EVENTS CENTER(KITCHEN 2.109)

1/4" = 1'-0"



1 ENLARGED GRAVITY PLAN - EVENTS CENTER(KITCHEN 2.109)

1/4" = 1'-0"

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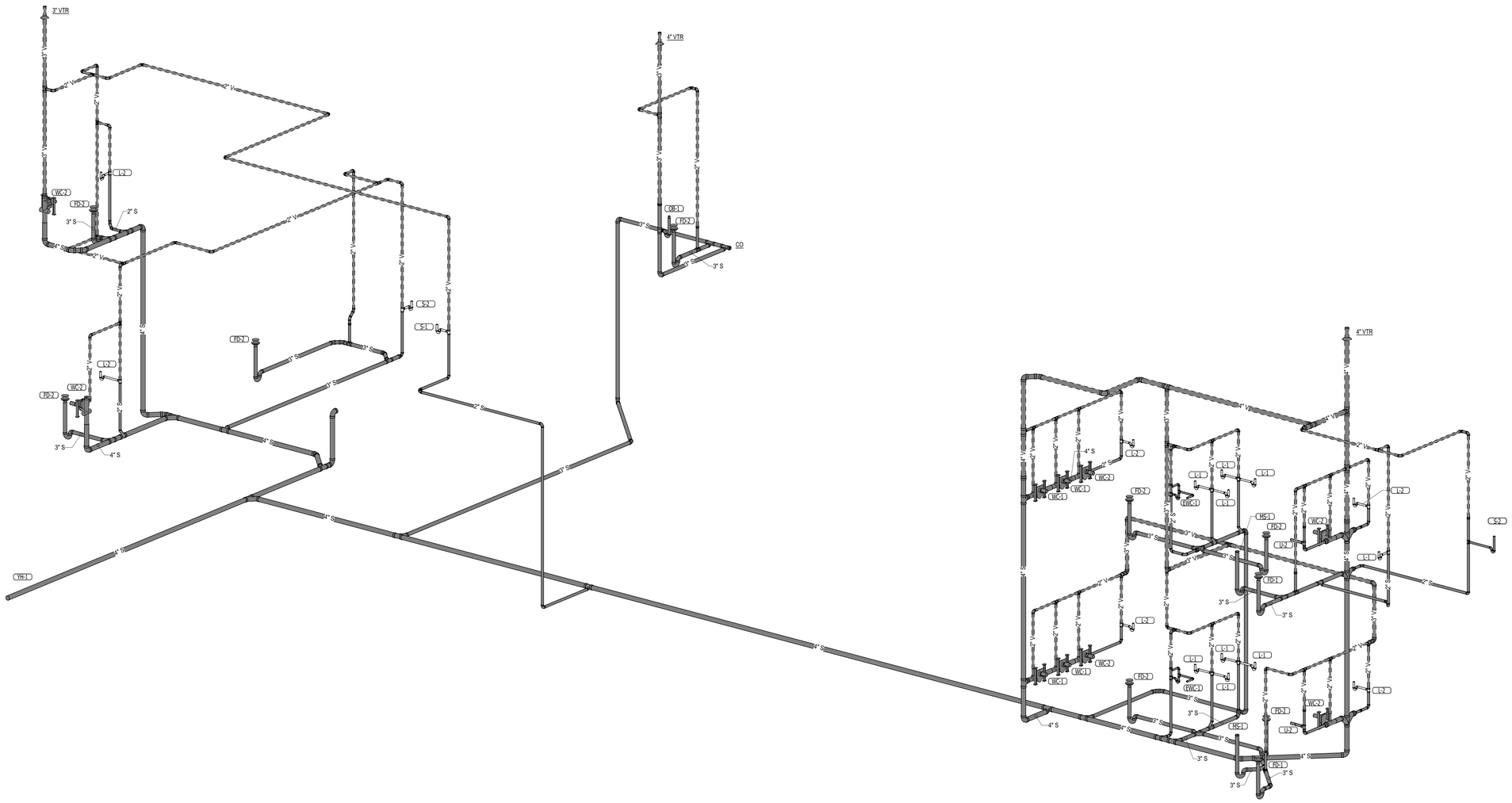
PLUMBING ENLARGED PLANS

PROJ. NO. E - 16078.00 SHEET
DRAWN Author
P503



1 SANITARY RISER(LIBRARY)

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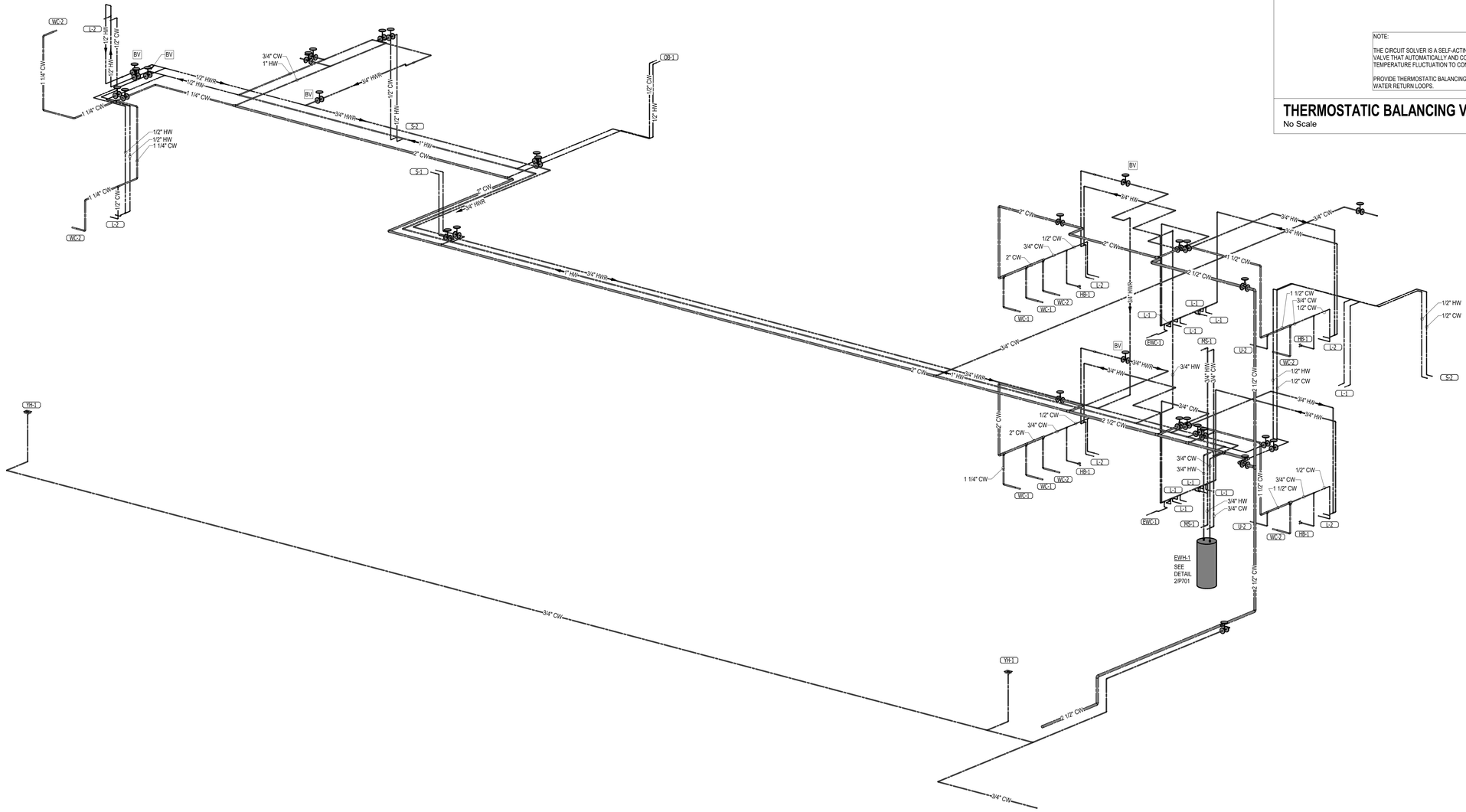
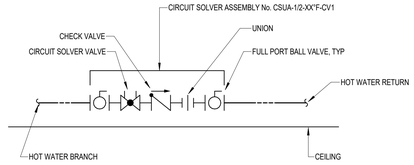
PLUMBING RISERS

PROJ. NO. E - 16078.00 SHEET
DRAWN Author
P601





NOTE:

THE CIRCUIT SOLVER IS A SELF-ACTING THERMOSTATIC RECIRCULATION VALVE THAT AUTOMATICALLY AND CONTINUOUSLY RESPONDS TO WATER TEMPERATURE FLUCTUATION TO CONTROL FLOW TO THE RETURN.

PROVIDE THERMOSTATIC BALANCING VALVE ON ALL INDIVIDUAL HOT WATER RETURN LOOPS.

THERMOSTATIC BALANCING VALVE(BV)

No Scale

2

1 WATER RISER(LIBRARY)

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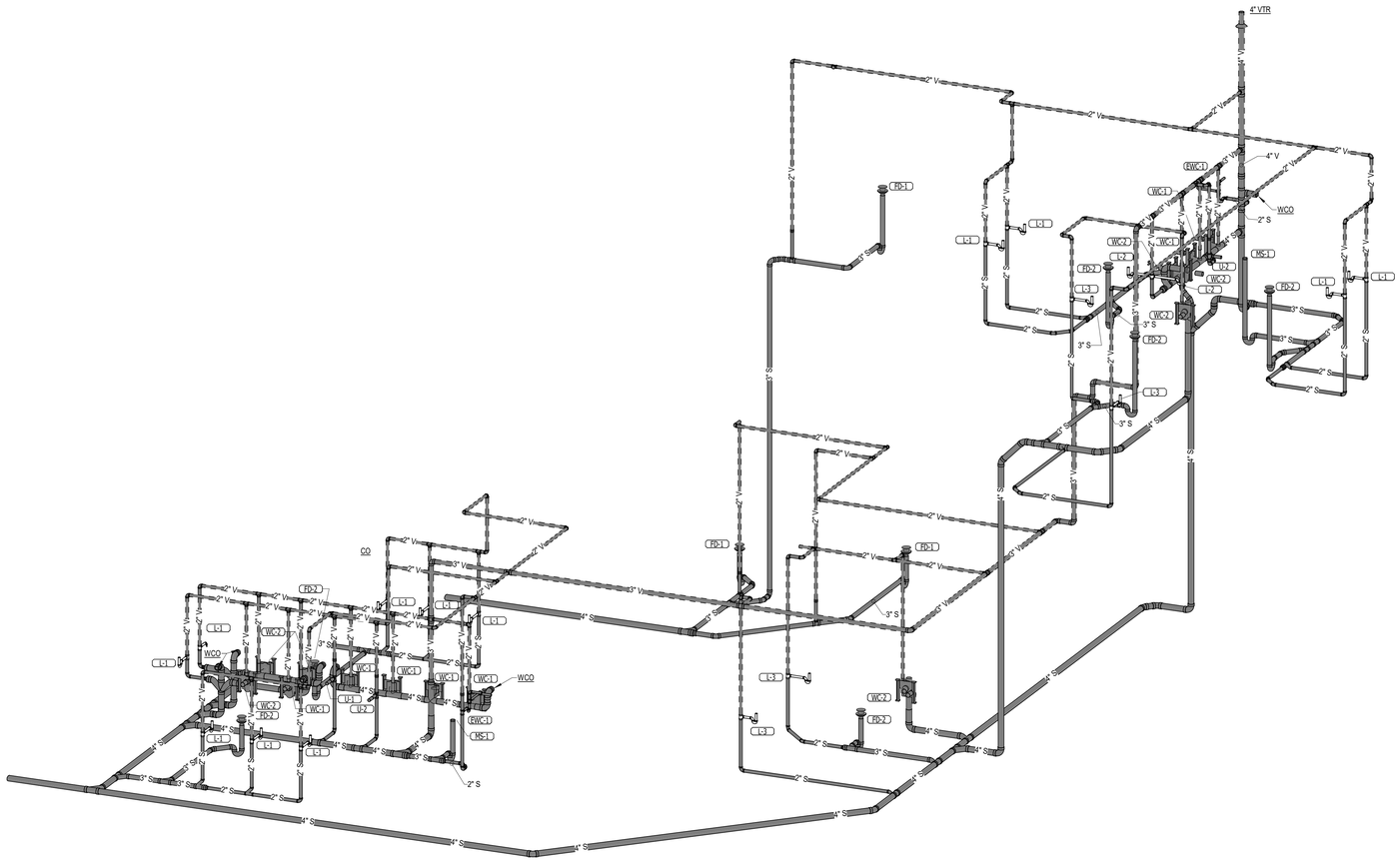
PLUMBING RISERS

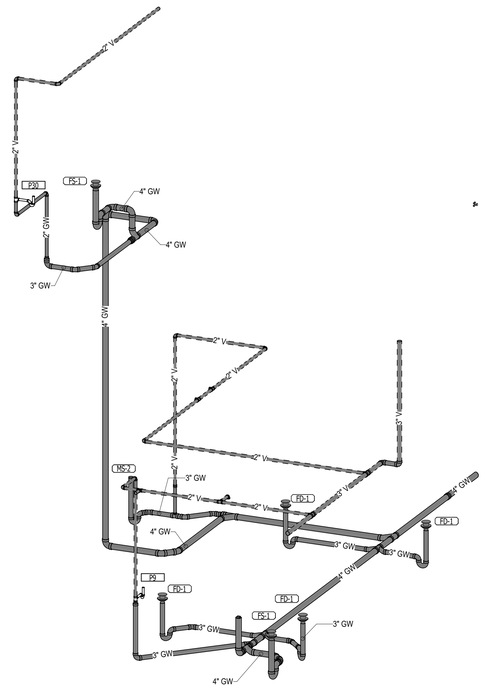
PROJ. NO. E - 16078.00 SHEET

DRAWN Author

P602



1 SANITARY RISER(EVENTS CENTER)



2 GREASE RISER(EVENTS CENTER)

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PLUMBING RISERS

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DRAWN Author
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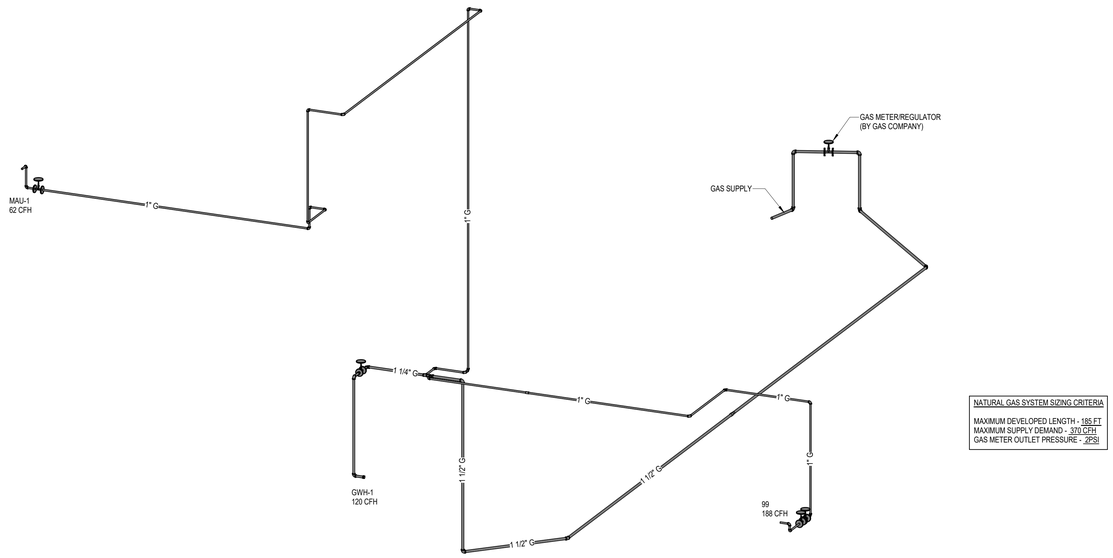
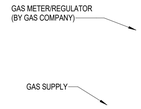


NATURAL GAS SYSTEM SIZING CRITERIA

MAXIMUM DEVELOPED LENGTH - 185 FT
MAXIMUM SUPPLY DEMAND - 370 CFH
GAS METER OUTLET PRESSURE - .2PSI

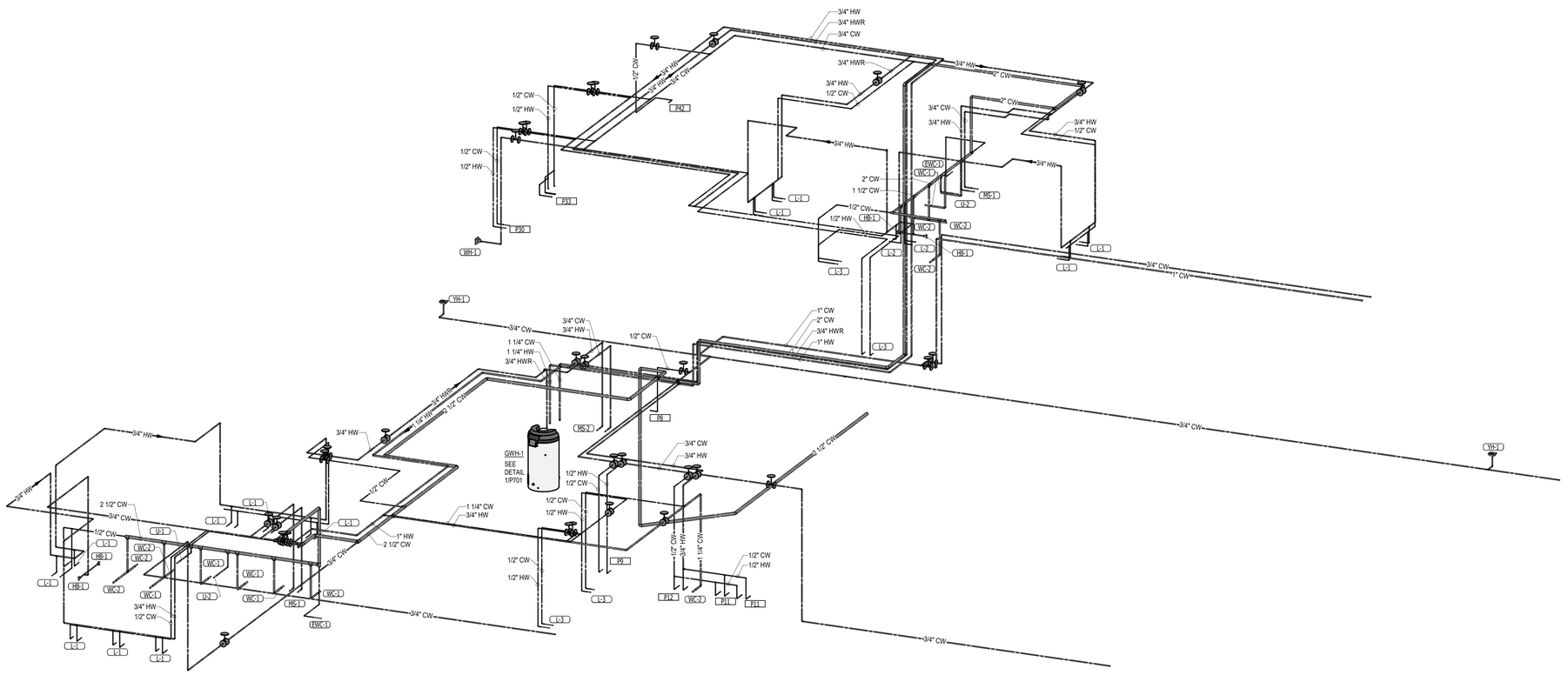
2 GAS RISER(EVENTS CENTER)



NATURAL GAS SYSTEM SIZING CRITERIA

MAXIMUM DEVELOPED LENGTH - 3 FT
MAXIMUM SUPPLY DEMAND - 179 CFH
GAS METER OUTLET PRESSURE - .2PSI

3 GAS RISER(LIBRARY)



1 WATER RISER(EVENTS CENTER)

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CITY OF WINTER PARK
LIBRARY AND EVENTS CENTER

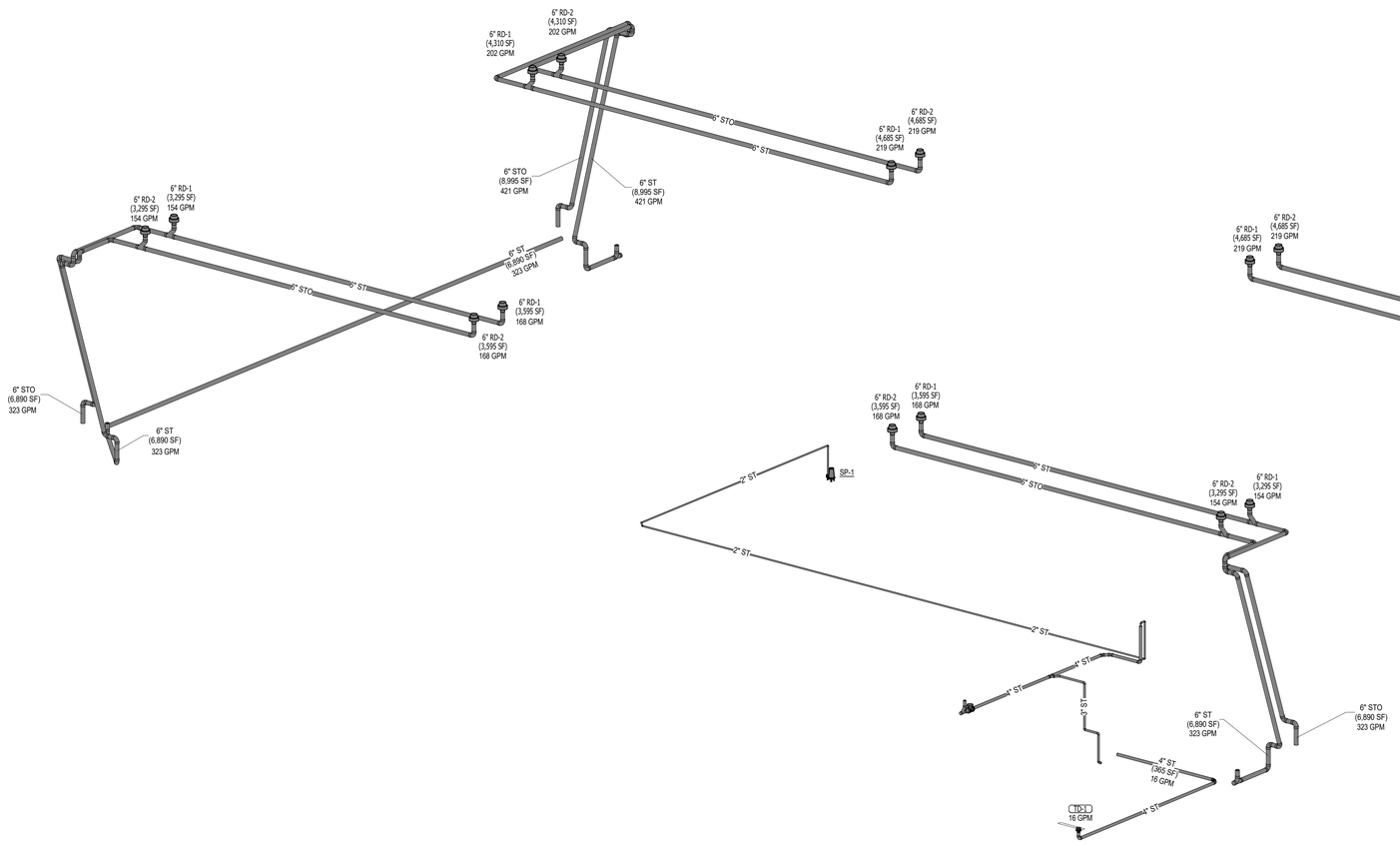
Hunton Brady ARCHITECTS

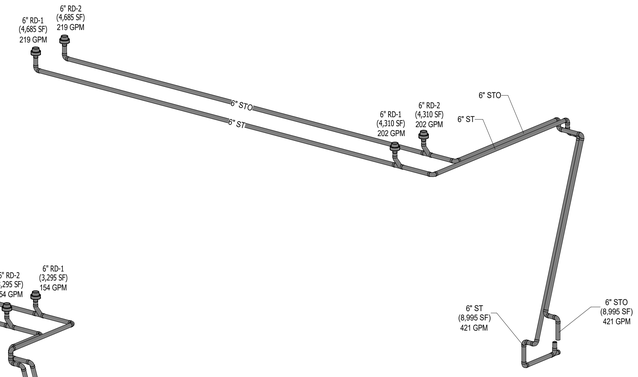
Adjaye Associates

DATE	SUBMISSION	NO
10.22.19	CONSTRUCTION DOCUMENTS	

PLUMBING RISERS

PROJ. NO. E - 16078.00 SHEET
DRAWN Author
P604





1	STORM RISER(LIBRARY)

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PLUMBING RISERS

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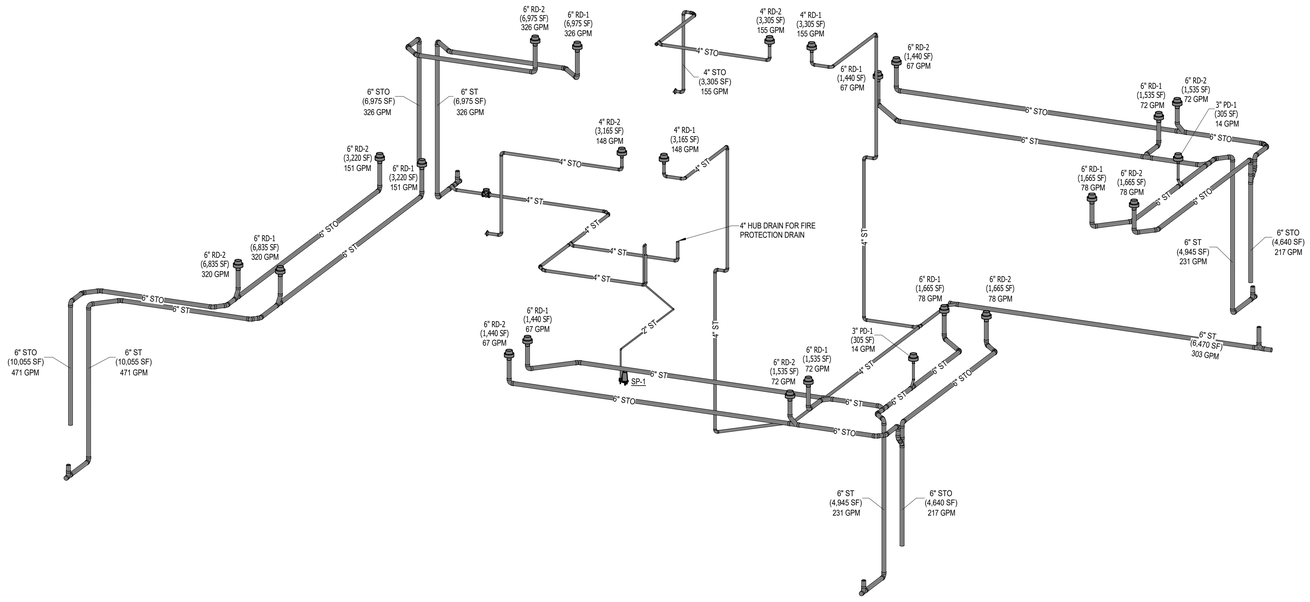
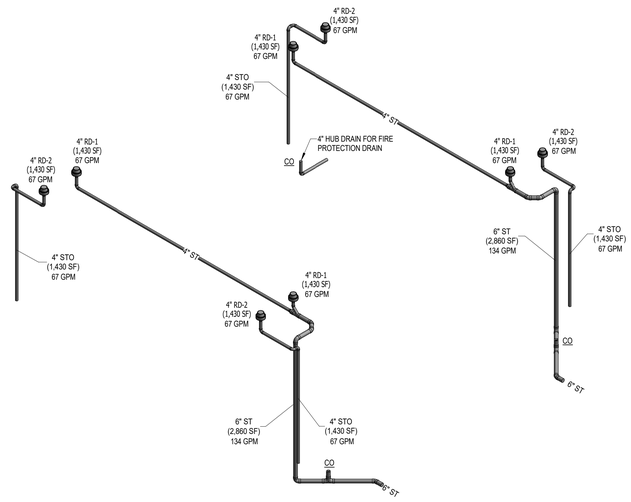
SHEET P605



1 STORM RISER(EVENTS CENTER)



2 STORM RISER(PORTA COCHERE)

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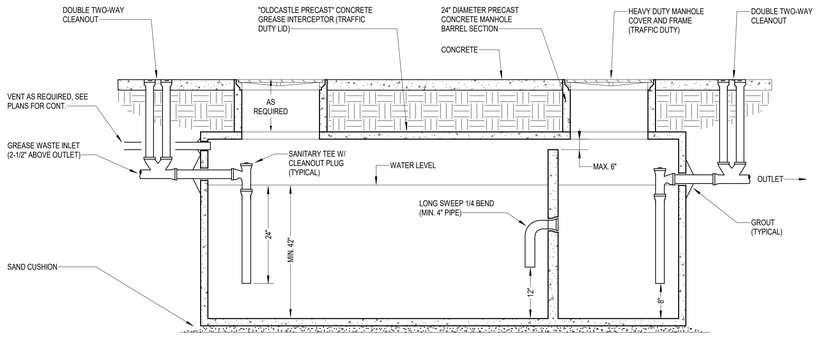
PLUMBING RISERS

PROJ. NO. E - 16078.00 **SHEET**
DRAWN Author
P606



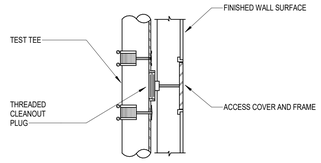
NOTE:

THIS DETAIL SHOWS RELATED GREASE INTERCEPTOR APPURTENANCES. REFER TO PLUMBING FLOOR PLANS FOR QUANTITIES AND LOCATION OF INTERCEPTORS.

GREASE INTERCEPTOR(4100 GALLON MINIMUM, TOTAL GALLONS)

No Scale

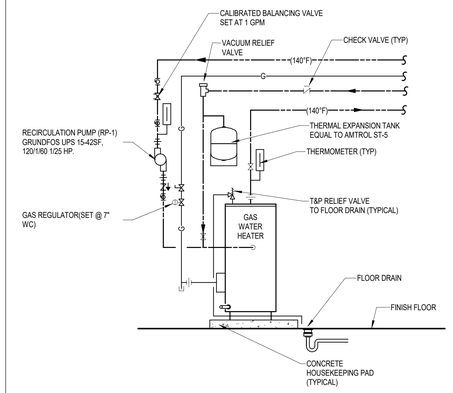
7



WALL CLEANOUT

No Scale

4



NOTE:

PROVIDE 4" PVC FLUE EXHAUST AND FLUE INTAKE. INSTALL PER MANUFACTURER REQUIREMENTS AND FBC GAS.

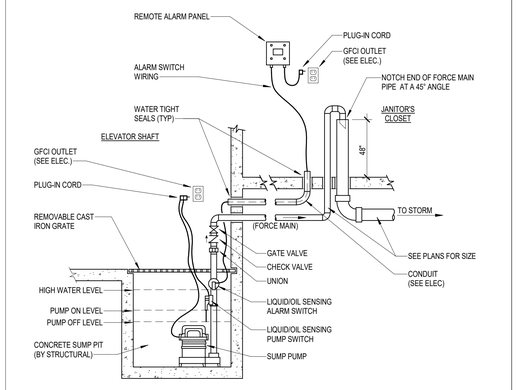
PROVIDE WITH OPTIONAL CONCENTRIC VENT KIT.

PROVIDE OPTIONAL CONDENSATE NEUTRALIZATION KIT

GAS WATER HEATER

No Scale

1



SUMP PUMP

PROVIDE SUMP PUMP SYSTEM WITH OIL SMART PUMP SWITCH AND OIL SMART ALARM PANEL WITH EXTRA LONG PIGGYBACK ELECTRICAL POWER CORD. SYSTEM TO INCLUDE SIMPLEX CONTROL PANEL WITH ALARM BEACON LIGHT, ALARM HORN, PUMP RUN LIGHT AND DRY AUXILIARY ALARM CONTACTS. PRESET ON/OFF POINTS DIFFERENTIATE OIL OR WATER TO ALERT MAINTENANCE OF OIL OR WATER DETECTED. PUMP TO BE 4/10 HP(8.5 AMPS) 115/1/60.

BASIS OF DESIGN

ZOELLER PACKAGED SYSTEM: **940-0006**
INCLUDES PUMP (N152), ALARM PANEL (10-1526), & PUMP SWITCH (10-1528)

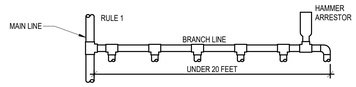
SUMP PUMP - OIL SENSING - SIMPLEX SYSTEM

No Scale

9

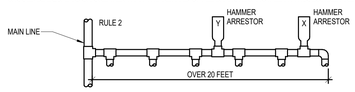
RULE 1: BRANCH LINES OF 20 FEET OR LESS.

THE HAMMER ARRESTOR TO BE PLACED AT THE END OF THE BRANCH LINE BETWEEN THE LAST TWO FIXTURES.



RULE 2: BRANCH LINES OVER 20 FEET

AN ADDITIONAL HAMMER ARRESTOR (Y) TO BE PLACED AS SHOWN (BELOW). THE ADDITIONAL UNIT PLACED AT THE MIDPOINT OF THE RUN LONGER THAN 20 FEET. THE SUM OF THE FIXTURE UNIT RATINGS OF (X) AND (Y) COMBINED, SHOULD BE EQUAL TO OR GREATER THAN THE DEMAND OF ALL BRANCHES. INSTALL IN A ACCESSIBLE AREA



SHOCK ARRESTOR SCHEDULE

MARK	FIXTURE UNITS	MANUFACTURER	MODEL	N.P.T.
SA-A	1-11	PRECISION PLUMBING PRODUCTS	SC-500A	1/2"
SA-B	12-32	PRECISION PLUMBING PRODUCTS	SC-750B	3/4"
SA-C	33-60	PRECISION PLUMBING PRODUCTS	SC-1000C	1"
SA-D	61-113	PRECISION PLUMBING PRODUCTS	SC-1250D	1"
SA-E	114-154	PRECISION PLUMBING PRODUCTS	SC-1500E	1"
SA-F	155-330	PRECISION PLUMBING PRODUCTS	SC-2000F	1"

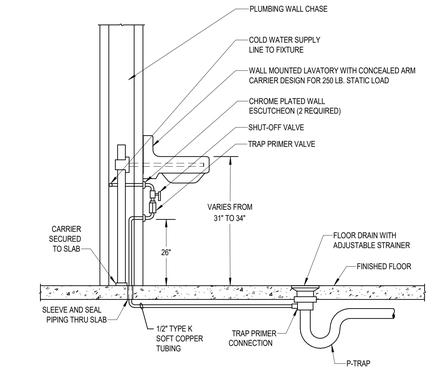
NOTES:

1. PISTON OPERATED, TYPE "K" COPPER BARREL WITH BRASS THREADED ADAPTOR. ALL JOINTS SHALL BE MADE WITH 95-5 LEAD FREE SOLDER. THE PISTON SHALL BE EQUIPPED WITH TWO (2) "O" RINGS TO PROVIDE A PERMANENT MECHANICAL BARRIER BETWEEN FLUID AND PRE-LOAD AIR CHARGE. ARRESTORS MAY BE INSTALLED IN VERTICAL AND HORIZONTAL POSITION. THE ARRESTOR SHALL BE FULLY GUARANTEED FOR ENTIRE SYSTEM LIFE.

SHOCK ARRESTOR

No Scale

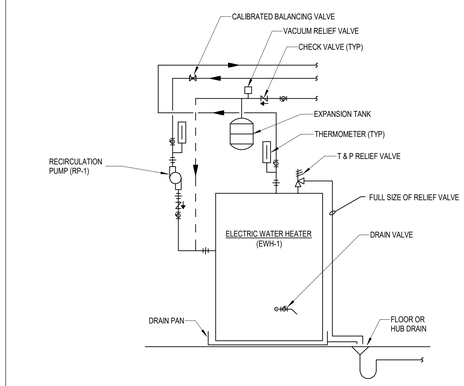
8



TRAP PRIMER

No Scale

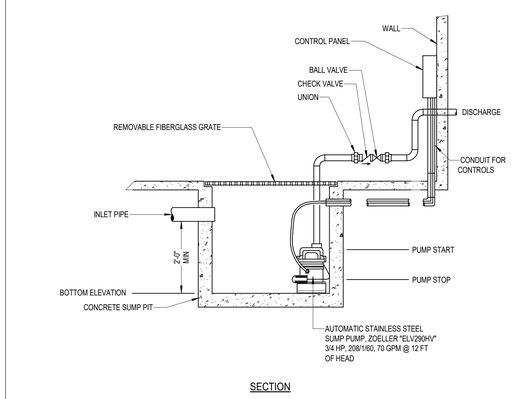
5



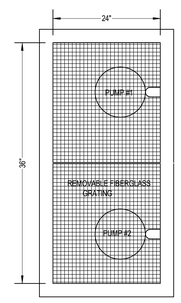
ELECTRIC WATER HEATER

No Scale

2



SECTION

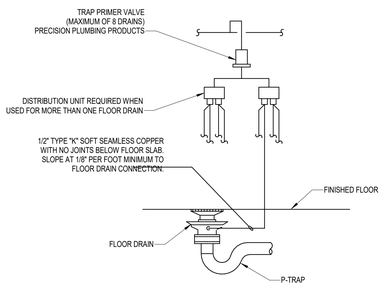


PLAN

SUMP PUMP

No Scale

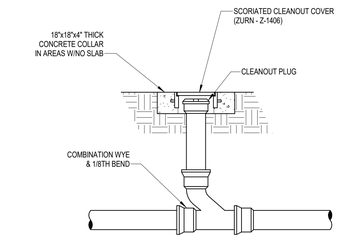
10



TRAP PRIMER

No Scale

6



EXTERIOR CLEANOUT

No Scale

3

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PLUMBING DETAILS

PROJ. NO. E - 16078.00 SHEET

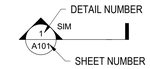
DRAWN DEP

P701

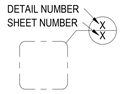
STRUCTURAL ABBREVIATIONS

ACI	AMERICAN CONCRETE INSTITUTE
ADD	ADDITIVE
ADDL	ADDITIONAL
AFF	ABOVE FINISHED FLOOR
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AISI	AMERICAN IRON AND STEEL INSTITUTE
ALT	ALTERNATE/ALTERNATIVE
ALUM	ALUMINUM
ARCH	ARCHITECTURE/ARCHITECTURAL
ASTM	AMERICAN SOCIETY OF TESTING MATERIALS
AWS	AMERICAN WELDING SOCIETY
B/	BOTTOM OF
BCX	BOTTOM CHORD EXTENSION
BF	BRACED FRAME
BLDG	BUILDING
BLK	BLOCK
BM	BEAM
BOT	BOTTOM
BP	BASE PLATE/BEARING PLATE
BRG	BEARING
BTWN	BETWEEN
C	CHANNEL
CB	CONCRETE BEAM
CC	CONCRETE COLUMN
CF	CUBIC FEET (FOOT)
CFS	COLD FORMED STEEL
CIP	CAST IN PLACE
CJ	CONTRACTION JOINT
CL	CENTERLINE
CLR	CLEAR/CLEARANCE
CM	CONCRETE MASONRY
CMU	CONCRETE MASONRY UNIT
CO	COMPANY
COL	COLUMN
CONC	CONCRETE
CONT	CONTINUOUS
CONN	CONNECTION
CONST	CONSTRUCTION
COORD	COORDINATE
CSJ	CONSTRUCTION JOINT
CTR	CENTER
CTRD	CENTERED
CY	CUBIC YARD
DEPT	DEPARTMENT
DET	DETAIL
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DIST	DISTANCE
DL	DEAD LOAD
DN	DOWN
DWG	DRAWING
EA	EACH
EE	EACH END
EF	EACH FACE
EHPA	EMERGENCY HURRICANE PROTECTION AREA
EJ	EXPANSION JOINT
ELEC	ELECTRIC/ELECTRICAL
EL	ELEV ELEVATION
ENGR	ENGINEER
EOD	EDGE OF DECK
EOR	ENGINEER OF RECORD
EOS	EDGE OF SLAB
EQ SP	EQUAL SPACED
ES	EACH SIDE
EW	EACH WAY
EXIST	EXISTING
EXP	EXPANSION
EXT	EXTERIOR
F	FOUNDATION
FD	FLOOR DRAIN
FDN	FOUNDATION
FF	FINISHED FLOOR
FIN	FINISH
FIN GR	FINISH GRADE
FLR	FLOOR
FS	FAR SIDE
FT	FEET/FOOT
FTG	FOOTING
GA	GAGE/GAUGE
GALV	GALVANIZED
GB	GRADE BEAM
GC	GENERAL CONTRACTOR
GEN	GENERAL
GL	GRID LINE
GS	GALVANIZED STEEL
HD	HOT DIPPED
HDG	HOT DIPPED GALVANIZED
HORIZ	HORIZONTAL
HSA	HEADED STUD ANCHOR
HSS	HOLLOW STRUCTURAL SECTION
HT	HEIGHT
I	MOMENT OF INERTIA
ID	INSIDE DIAMETER
I.F.	INSIDE FACE
IN	INCH
INT	INTERIOR
JST	JOIST
JT	JOINT
K	KIP (1000 LB)
KLF	KIPS PER LINEAL FOOT
KSI	KIPS PER SQUARE INCH
KWY	KEYWAY
LB	POUND
LGTH	LENGTH
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LONG	LONGITUDINAL
LSL	LAMINATED STRAND LUMBER
LT WT	LIGHT WEIGHT
LVL	LAMINATED VENEER LUMBER
MATL	MATERIAL
MAX	MAXIMUM
MB	MASONRY BEAM
MC	MISCELLANEOUS CHANNEL/MASONRY COLUMN
MECH	MECHANICAL
MET	METAL
MFR	MANUFACTURE/MANUFACTURER
MID	MIDDLE
MIN	MINIMUM
MISC	MISCELLANEOUS
MO	MASONRY OPENING
MPH	MILES PER HOUR
NGVD	NATIONAL GEODETIC VERTICAL DATUM
NIC	NOT IN CONTRACT
NO	NUMBER
NS	NEAR SIDE
NTS	NOT TO SCALE
OC	ON CENTERS
OD	OUTSIDE DIAMETER
O.F.	OUTSIDE FACE
OPNG	OPENING
OPP	OPPOSITE
OSB	ORIENTED STRAND BOARD
P/C	PRECAST CONCRETE/PILE CAP
P/T	POST TENSIONED
PAR	PARALLEL
PCB	PRECAST CONCRETE BEAM
PCC	PRECAST CONCRETE COLUMN
PCF	POUNDS PER CUBIC FEET
PEMB	PRE-ENGINEERED METAL BUILDING
PEN	PENETRATION
P.J.	PANEL JOINT CENTERLINE
PL	PLATE
PLF	POUNDS PER LINEAR FOOT
PLMG	PLUMBING
PLY	PLYWOOD
PREFAB	PREFABRICATED
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PSL	PARALLEL STRAND LUMBER
PT	PRESSURE TREATED
R/W	REINFORCED WITH
RD	ROOF DRAIN
REF	REFERENCE
REINF	REINFORCING
REQD	REQUIRED
REV	REVISION
RTU	ROOF TOP UNIT
SB	SOFFIT BEAM
SCHED	SCHEDULE
S.F.	SQUARE FEET
SF	STRIP FOUNDATION
SIM	SIMILAR
SPC	SPACE/SPACES
SPECS	SPECIFICATIONS
SQ	SQUARE
SS	STAINLESS STEEL
STD	STANDARD
STIFF	STIFFENER
STL	STEEL
STRUCT	STRUCTURAL
SYM	SYMMETRICAL
T/	TOP OF
TB	TIE BEAM
T&B	TOP AND BOTTOM
TCX	TOP CHORD EXTENSION
TDS	TURN DOWN SLAB
TE	THICKENED EDGE
TEMP	TEMPERATURE
TENS	TENSION
THD	THREAD/THREADED
THK	THICK
TOL	TOLERANCE
TRANS	TRANSVERSE
TS	TUBE STEEL
T.S.	THICKENED SLAB
TWF	THICKENED WALL FOUNDATION
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
VOL	VOLUME
W	WIDE FLANGE SECTION
W/	WITH
W/O	WITHOUT
WD	WOOD
WF	WALL FOOTING
WP	WATERPROOF
W.P.	WORKING POINT
WS	WELDED STUD
WT	WEIGHT/STRUCTURAL TEE SECTION
WWF	WELDED WIRE FABRIC
@	AT DESIGNATION
#	POUNDS / REBAR SIZE NUMBER
+/-	PLUS OR MINUS
L	ANGLE
C.L.	CENTER LINE
&	AND
Sx	SECTION MODULUS
Ix	MOMENT OF INERTIA

STRUCTURAL SYMBOLS AND LEGEND



SECTION / DETAIL MARK



PLAN / DETAIL MARK

ELEVATION MARK

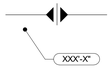
RECESS OR STEP IN SLAB

SLOPED SURFACE

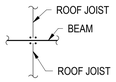
PITCHED ROOF

PLAN KEY NOTE

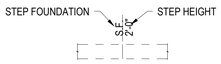

MOMENT CONNECTION



JOIST BEARING ELEVATION



BOLTED JOIST CONNECTION



STEPPED FOUNDATION

COLUMN AND FOUNDATION TYPE MARKS

SPOT ELEVATION, TYPICALLY TOP OF ITEM TAGGED (T/WALL, T/FOUNDATION, ETC)

PANEL TYPE SEE SCHEDULE

WALL TYPE DESIGNATION TAG

INCREASED FLOOR LOAD AREA IN PSF

WALL TYPES

LOAD BEARING MASONRY WALL

NON-LOAD BEARING MASONRY WALL

TILT-UP/PRECAST CONCRETE WALL

CIP CONCRETE WALL

STUD WALL

NOTE: SYMBOLS AND LEGEND SHOWN ARE GENERIC AND DO NOT NECESSARILY INDICATE ACTUAL OCCURRENCES IN THESE DRAWINGS.

SPAN DIRECTION

NORTH ARROW

COLUMN GRID LINE

CIP CONCRETE COLUMN ABOVE

TILT-UP/PRECAST CONCRETE COLUMN ABOVE

CONCRETE COLUMN BELOW

METAL DECK

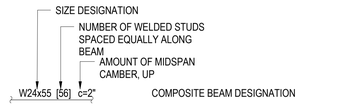
CONCRETE SLAB ON METAL DECK

CAST-IN-PLACE CONCRETE SLAB

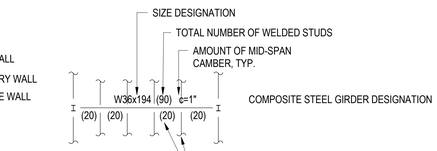
GRATING

ELEVATED CAST-IN-PLACE CONCRETE SLAB

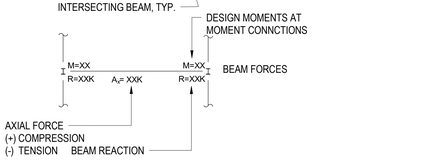
EARTH



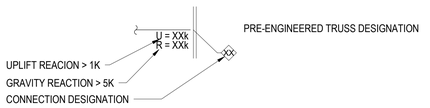
COMPOSITE BEAM DESIGNATION



COMPOSITE STEEL GIRDER DESIGNATION



BEAM FORCES



PRE-ENGINEERED TRUSS DESIGNATION

STRUCTURAL SHEET INDEX

SHEET #	SHEET TITLE
S001	ABBREVIATIONS SYMBOLS AND SHEET INDEX
S002	STRUCTURAL GENERAL NOTES
S003	STRUCTURAL GENERAL NOTES CONTINUED AND THRESHOLD INSPECTION PLAN
S004	COMPONENT WIND CRITERIA
S100	FOUNDATION PLAN - BASEMENT LEVEL - OVERALL
S101	FOUNDATION / SLAB PLAN - BASEMENT LEVEL - AREA 1 - LIBRARY
S110	FOUNDATION / SLAB PLAN - 1ST LEVEL - OVERALL
S111	FOUNDATION / SLAB PLAN - 1ST LEVEL - AREA 1 - LIBRARY
S112	FOUNDATION / SLAB PLAN - 1ST LEVEL - AREA 2 - EVENT CENTER
S113	FOUNDATION / FRAMING PLAN - 1ST LEVEL & ROOF FRAMING PLAN - AREA 3 - PORTE COCHERE
S120	FRAMING PLAN - 2ND LEVEL - OVERALL
S121	FRAMING PLAN - 2ND LEVEL - AREA 1 - LIBRARY
S130	ROOF FRAMING PLAN - OVERALL
S131	ROOF FRAMING PLAN - AREA 1 - LIBRARY
S132	ROOF FRAMING PLAN - AREA 2 - EVENT CENTER
S133	HIGH ROOF FRAMING PLAN - AREA 2 EVENT CENTER
S501	ENLARGED PLANS
S502	ENLARGED PLAN - CORNER COLUMN BASE LIBRARY
S503	ENLARGED PLAN - CORNER COLUMN BASE EVENT CENTER
S504	ENLARGED PLAN - CORNER COLUMN BASE PORTE COCHERE
S601	EXTERIOR FRAMING ELEVATIONS - LIBRARY
S602	EXTERIOR FRAMING ELEVATIONS - LIBRARY
S603	EXTERIOR FRAMING ELEVATIONS - EVENT CENTER
S604	EXTERIOR FRAMING ELEVATIONS - EVENT CENTER
S605	EXTERIOR FRAMING ELEVATIONS - PORTE COCHERE
S611	INTERIOR FRAMING ELEVATIONS - LIBRARY
S612	INTERIOR FRAMING ELEVATIONS - EVENT CENTER
S613	INTERIOR FRAMING ELEVATIONS - EVENT CENTER
S701	FOUNDATION SECTIONS & DETAILS
S702	FOUNDATION SECTIONS & DETAILS
S711	FRAMING SECTIONS & DETAILS
S712	FRAMING SECTIONS & DETAILS
S713	FRAMING SECTIONS & DETAILS
S714	FRAMING SECTIONS & DETAILS
S715	FRAMING SECTIONS & DETAILS
S716	FRAMING SECTIONS & DETAILS
S717	FRAMING SECTIONS & DETAILS

Grand total: 37

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CITY OF WINTER PARK

LIBRARY AND EVENTS CENTER

Hunton Brady ARCHITECTS

Adjaye Associates

DATE	SUBMISSION	NO
10.22.19	CONSTRUCTION DOCUMENTS	

ABBREVIATIONS SYMBOLS AND SHEET INDEX

PROJ. NO. E - 16078.00 SHEET

DRAWN DLL

S001

TO THE BEST OF THE STRUCTURAL ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM CODES AS DETERMINED BY LOCAL AUTHORITY IN ACCORDANCE WITH CHAPTER 553, FLORIDA STATUES.

STRUCTURAL GENERAL NOTES

1000 GENERAL NOTES:

1. STRUCTURAL DRAWINGS SHALL BE USED IN CONJUNCTION WITH PROJECT SPECIFICATIONS AND ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, AND SITE DRAWINGS. CONSULT THESE DRAWINGS FOR OPENINGS, DEPRESSIONS, EQUIPMENT WEIGHTS AND LOCATIONS, EMBEDDED ITEMS AND OTHER DETAILS NOT SHOWN ON STRUCTURAL DRAWINGS.
2. DIMENSIONS AND CONDITIONS MUST BE VERIFIED IN THE FIELD. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER OF RECORD BEFORE PROCEEDING WITH THE AFFECTED PART OF THE WORK.
3. NO STRUCTURAL MEMBER OR COMPONENT SHALL BE CUT, NOTCHED, OR OTHERWISE ALTERED UNLESS APPROVED IN WRITING BY THE ENGINEER OF RECORD. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL COSTS INCURRED BY THE ENGINEER OF RECORD FOR REVIEW OF ANY SUCH DEVIATIONS.
4. DO NOT SCALE DRAWINGS.
5. THE STRUCTURE IS DESIGNED TO BE SELF-SUPPORTING AND STABLE AFTER THE BUILDING IS COMPLETE. IT IS THE CONTRACTOR'S RESPONSIBILITY TO DETERMINE ERECTION PROCEDURES AND SEQUENCE TO INSURE SAFETY OF THE BUILDING AND ITS COMPONENTS DURING ERECTION. THIS INCLUDES THE ADDITION OF NECESSARY SHORING, SHEETING, TEMPORARY BRACING, GUYS OR TIE-DOWNS.
6. DETAILS LABELED "TYPICAL DETAILS" ON THE DRAWINGS SHALL APPLY TO ALL SITUATIONS OCCURRING ON THE PROJECT THAT ARE THE SAME OR SIMILAR TO THOSE SPECIFICALLY DETAILED. THE APPLICABILITY OF THE DETAIL TO ITS LOCATION ON THE DRAWINGS CAN BE DETERMINED BY THE TITLE OF DETAIL. SUCH DETAILS SHALL APPLY WHETHER OR NOT THEY ARE REFERENCED AT EACH LOCATION. QUESTIONS REGARDING APPLICABILITY OF TYPICAL DETAILS SHALL BE DETERMINED BY THE ENGINEER OF RECORD.
7. THE GENERAL CONTRACTOR SHALL COMPARE THE ARCHITECTURAL, MECHANICAL, ELECTRICAL, PLUMBING, CIVIL AND STRUCTURAL DRAWINGS AND REPORT ANY DISCREPANCIES BETWEEN EACH SET OF DRAWINGS AND WITHIN EACH SET OF DRAWINGS TO THE ARCHITECT AND ENGINEER OF RECORD PRIOR TO THE FABRICATION AND INSTALLATION OF ANY STRUCTURAL MEMBERS.
8. THE CONTRACT STRUCTURAL DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE, AND DO NOT INDICATE THE METHOD OR MEANS OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, PROCEDURES, TECHNIQUES, SEQUENCE AND SAFETY. THE ENGINEER DOES NOT HAVE CONTROL OR CHARGE OF, AND SHALL NOT BE RESPONSIBLE FOR, CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES, FOR SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK, FOR THE ACTS OR OMISSION OF THE CONTRACTOR, SUBCONTRACTOR OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
9. THE STRUCTURAL ENGINEER'S OBLIGATIONS TO REVIEW SHOP DRAWINGS AND OTHER SUBMITTALS AND TO RETURN THEM IN A TIMELY MANNER ARE CONDITIONED UPON THE PRIOR REVIEW AND APPROVAL OF THE SHOP DRAWINGS OR SUBMITTALS BY THE CONTRACTOR AS REQUIRED IN THE CONSTRUCTION CONTRACT AND THE CONTRACTOR'S SUBMITTAL OF THE SHOP DRAWINGS AND OTHER SUBMITTALS IN ACCORDANCE WITH A WRITTEN SCHEDULE DISTRIBUTED IN ADVANCE TO THE ENGINEER IDENTIFYING THE DATES FOR THE SUBMITTAL OF THE VARIOUS SHOP DRAWINGS AND SUBMITTALS.
10. PERIODIC SITE OBSERVATION BY FIELD REPRESENTATIVES OF TLC ENGINEERING SOLUTIONS IS SOLELY FOR DETERMINING IF THE WORK OF THE CONTRACTOR IS PROCEEDING IN GENERAL ACCORDANCE WITH THE STRUCTURAL CONTRACT DOCUMENTS. THIS LIMITED SITE OBSERVATION SHALL NOT BE CONSTRUED AS EXHAUSTIVE OR CONTINUOUS TO CHECK THE QUALITY OR QUANTITY OF THE WORK.
11. ALL STRUCTURES REQUIRE PERIODIC MAINTENANCE TO EXCEED LIFESPAN AND TO ENSURE STRUCTURAL INTEGRITY FROM EXPOSURE TO THE ENVIRONMENT. A PLANNED PROGRAM OF MAINTENANCE SHALL BE ESTABLISHED BY THE OWNER. THIS PROGRAM SHALL INCLUDE ITEMS SUCH AS, BUT NOT LIMITED TO, PAINTING OF STRUCTURAL STEEL, PROTECTIVE COATINGS FOR CONCRETE, SEALANTS, CAULKED JOINTS, EXPANSION JOINTS, CONTROL JOINTS, SPALLS AND CRACKS IN CONCRETE, AND PRESSURE WASHING OF EXPOSED STRUCTURAL ELEMENTS EXPOSED TO SALT ENVIRONMENT OR OTHER HARSH CHEMICALS.
12. STRUCTURAL ENGINEER OF RECORD IS NOT RESPONSIBLE FOR THE DESIGN OF STEEL STAIRS, HANDRAILS, CURTAIN WALL/WINDOW WALL SYSTEMS, COLD-FORMED FRAMING, OR OTHER SYSTEMS NOT SHOWN IN THE STRUCTURAL DOCUMENTS. SUCH SYSTEMS SHALL BE DESIGNED, FURNISHED, AND INSTALLED AS REQUIRED BY OTHER PORTIONS OF THE CONTRACT DOCUMENTS.
13. IN THE PROFESSIONAL OPINION OF TLC ENGINEERING SOLUTIONS. THE STRUCTURAL CONTRACT DOCUMENTS FOR THIS PROJECT HAVE BEEN PREPARED IN ACCORDANCE WITH THE DESIGN CRITERIA AS SET FORTH IN THE FLORIDA BUILDING CODE.
14. NO PROVISIONS HAVE BEEN MADE FOR VERTICAL OR HORIZONTAL EXPANSION.
15. THE USE OF REPRODUCTIONS OF THESE CONTRACT DOCUMENTS AND USE OF CAD FILES BY ANY CONTRACTOR, SUBCONTRACTOR, ERECTOR, FABRICATOR OR MATERIAL SUPPLIER IN LIEU OF PREPARATION OF SHOP DRAWINGS SIGNIFY HIS ACCEPTANCE OF ALL INFORMATION SHOWN HEREON AS CORRECT, AND OBLIGATES HIMSELF TO ANY JOB EXPENSE, REAL OR IMPLIED, ARISING DUE TO ANY ERRORS THAT MAY OCCUR HEREON.

1060 DESIGN LOADS:

1. THE STRUCTURAL SYSTEM FOR THIS BUILDING HAS BEEN DESIGNED IN ACCORDANCE WITH THE FLORIDA BUILDING CODE, 2017 EDITION.
2. THE FOLLOWING SUPERIMPOSED LOADINGS HAVE BEEN UTILIZED:

2.1 LIVE LOADS

ROOF	20 PSF
LIBRARY	150 PSF
FLOOR (LIGHT STORAGE)	125 PSF
FLOOR (PUBLIC ASSEMBLY)	100 PSF
STAIRS AND EXITS	100 PSF

2.2 WIND: PER FLORIDA BUILDING CODE AND ASCE 7-10
SEE SHEET S004 FOR COMPONENTS AND CLADDING PRESSURES.

V_{ULT} =	150 MPH (3-SECOND GUST)
V_{ASD} =	116 MPH (3-SECOND GUST)
RISK CATEGORY =	III
EXPOSURE CATEGORY =	C
INTERNAL PRESSURE COEFFICENT =	± 0.18

1330 SHOP DRAWING REVIEW:

1. SHOP DRAWINGS SHALL ADEQUATELY DEPICT THE STRUCTURAL ELEMENTS AND CONNECTIONS SHOWN ON THE CONTRACT DOCUMENTS. SHOP DRAWINGS WILL BE REVIEWED FOR GENERAL COMPLIANCE WITH THE DESIGN INTENT OF THE CONTRACT DOCUMENTS ONLY. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY COMPLIANCE WITH THE CONTRACT DOCUMENTS AS TO QUANTITY, LENGTH, ELEVATIONS, DIMENSIONS, ETC. REVIEW OF SUBMITTALS AND SHOP DRAWINGS DOES NOT RELIEVE THE CONTRACTOR OF FULL RESPONSIBILITY FOR ERRORS AND OMISSIONS ASSOCIATED WITH THE PREPARATION OF THE SHOP DRAWINGS.
2. SHOP DRAWINGS SHALL BE REVIEWED BY THE CONTRACTOR AND MARKED "APPROVED" PRIOR TO SUBMITTAL TO THE ARCHITECT/ENGINEER. NON-CONFORMING DRAWINGS SUBMITTALS WILL BE RETURNED WITHOUT REVIEW.
3. THE CONTRACT DOCUMENTS WILL GOVERN OVER THE SHOP DRAWINGS UNLESS OTHERWISE SPECIFIED IN WRITING BY THE ENGINEER OF RECORD.
4. CHANGES AND ADDITIONS MADE ON RE-SUBMITTALS SHALL BE CLEARLY FLAGGED AND NOTED. THE PURPOSE OF THE RE-SUBMITTALS SHALL BE CLEARLY NOTED ON THE LETTER OF TRANSMITTAL. ARCHITECT/ENGINEER OF RECORD REVIEW WILL BE LIMITED TO THOSE ITEMS CAUSING THE RE-SUBMITTAL. CONTRACTOR IS RESPONSIBLE FOR COSTS CAUSED BY MULTIPLE RE-SUBMITTALS (MORE THAN ONE) AT ARCHITECT/ENGINEERS' CURRENT HOURLY RATES.

1334 REQUEST FOR INTERPRETATION (RFI):

1. RFI SHALL ORIGINATE WITH CONTRACTOR AND SHALL BE SUBMITTED IN THE FORM SPECIFIED WITHIN CONTRACT DOCUMENTS. RFI SHALL BE SUBMITTED IN A PROMPT MANNER AS TO AVOID DELAYS IN CONTRACTORS WORK.
2. RFI SHALL BE SUBMITTED AS SPECIFIED WITHIN THE CONTRACT DOCUMENTS AND SHALL BE FORWARDED TO THE ENGINEER VIA THE ARCHITECT OR DIRECTLY BY CONTRACTOR TO ENGINEER WHEN APPROVED BY THE ARCHITECT.
3. RFI SHALL CONTAIN AND STATE THE CLARIFICATION/ PROBLEM/ DISCREPANCY,THE CONTRACTORS SUGGESTION FOR RESOLUTION OF THE CLARIFICATION/ PROBLEM/ DISCREPANCY, AND THE COST IMPACT, IF ANY, ASSOCIATED WITH THE RESOLUTION.
4. ENGINEER SHALL TAKE UP TO 5 BUSINESS DAYS TO REVIEW, PROVIDE A RESPONCE, AND RETURN RFI'S. HOWEVER, THE ENGINEER WILL ATTEMPT TO EXPEDITE THE REVIEW OF ALL RFI'S WITHIN A REASONABLE TIME FRAME.
5. THE ENGINEER SHALL NOT BE RESPONSIBLE FOR DETERMINING THE COST OR COST EFFECTIVENESS OF THE RESPONSE TO TO THE PROPOSED RESOLUTION.
6. RFI RESPONSES ARE NOT INTENDED TO AUTHORIZE ANY INCREASE IN CONSTRUCTION COST, SCHEDULE OR TIME EXTENSIONS, OR CONSTRUCTION IN CONFLICT WITH ANY APPLICABLE CODES OR SPECIFIED DESIGN STANDARDS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO NOTIFY THE DESIGN TEAM IMMEDIATELY OF ANY PERCEIVED SCOPE, SCHEDULE, COST IMPACTS, OR ADJUSTMENTS. IF THE CONTRACTOR REQUESTS ANY ADDITIONAL COST, INCREASE IN SCHEDULE OR ADJUSTMENT IN SCOPE, THE CONTRACTOR SHALL NOT PROCEED WITH ADDITIONAL WORK UNTIL APPROVED IN WRITING BY THE CONSTRUCTION ADMINISTRATOR.

2310 FOUNDATIONS – W/SOIL REPORTS:

1. SEE THE FOLLOWING REPORT FOR COMPLETE GEOTECHNICAL RECOMMENDATIONS AND INSTALLATION PROCEDURES. SITE PREPARATION AND FOUNDATION INSTALLATION SHALL COMPLY WITH:

REPORT No.	18-6303
PREPARED BY:	ARDAMAN & ASSOCIATES
DATED:	MAY 14, 2018, REVISED AUGUST 13, 2019

2. BASED ON THIS INFORMATION, FOUNDATION DESIGN IS BASED ON A NET ALLOWABLE SOIL BEARING PRESSURE OF 2000 PSF
3. THE GEOTECHNICAL RECOMMENDATION REPORT SHALL BE CONSIDERED PART OF THESE CONSTRUCTION DOCUMENTS.

2466 AUGERCAST PILES:

1. AUGERCAST PILING SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE GEOTECHNICAL RECOMMENDATIONS AND INSTALLATION PROCEDURES CONTAINED IN THE FOLLOWING GEOTECHNICAL REPORT REFERENCED ABOVE.
2. PILES SHOULD BE REINFORCED AS INDICATED IN "TYPICAL AUGERCAST PILE DETAIL".
3. GROUT SHALL BE PER AN APPROVED MIX DESIGN PROPORTIONED TO ACHIEVE A STRENGTH AT 28 DAYS OF 5,000 PSI. GROUT SHALL HAVE A MAXIMUM FLOW RATE OF 15 TO 25 SECONDS. SUBMIT PROPOSED MIX DESIGN WITH RECENT FIELD OR LAB CYLINDER TESTS FOR REVIEW PRIOR TO USE.
4. GROUT SHALL BE TESTED IN ACCORDANCE WITH ASTM STANDARDS UTILIZING 2" X 2" CUBES. CUBES SHALL BE MADE AND CURED IN ACCORDANCE WITH ASTM C109.
5. WHEN IN CLUSTERS OF TWO OR MORE, INDIVIDUAL PILES SHALL BE INSTALLED WITHIN 3 INCHES OF DESIGN LOCATION. THE CUMULATIVE LOCATION OF PILE GROUP CENTER OF GRAVITY SHALL NOT EXCEED 1-1/2". SINGLE PILES SHALL BE INSTALLED WITHIN 1-1/2 INCHES OF DESIGN LOCATION. VARIATION FROM PLUMB SHALL NOT EXCEED 1/2 INCH IN TWO FEET.
6. ADJACENT PILES SHALL NOT BE PLACED UNTIL THE GROUT IN THE PILES HAS SET FOR 12 HOURS IN ORDER THAT THERE WILL BE NO INTER CONNECTION BETWEEN ADJACENT PILES WHILE THE GROUT IS IN A FLUID STATE.
7. AN AS-BUILT SURVEY OF PILE LOCATIONS SHALL BE PERFORMED BY A FLORIDA REGISTERED LAND SURVEYOR. PILES SHALL BE LOCATED ON THE AS-BUILT DRAWINGS HORIZONTALLY AND VERTICALLY FROM THE COLUMN CENTERLINES. SUBMIT THE AS-BUILT DRAWINGS TO THE STRUCTURAL ENGINEER FOR APPROVAL.
8. CONTRACTOR IS RESPONSIBLE FOR ENGINEERING COSTS ASSOCIATED WITH REDESIGNS CAUSED BY IMPROPER PILE LOCATIONS.
9. THE DESIGN IS BASED ON A MAXIMUM WORKING CAPACITY OF 20 TONS PER PILE IN COMPRESSION AND 23 TONS PER PILE IN TENSION AND 3 TONS PER PILE LATERAL. PILE DIAMETER SHALL BE 14" INCHES BY 70 FEET LONG BELOW GRADE BEAM.
10. WHERE THE PILE CUTOFF IS NEAR THE SURFACE OR ABOVE THE BOTTOM OF THE EXCAVATION. METAL SLEEVES OR CASING OF THE PROPER DIAMETER AND AT LEAST 18 INCHES IN LENGTH SHALL BE PLACED AROUND THE PILE TOPS. (SPECIAL CONDITIONS MAY REQUIRE METAL SLEEVES OF ADDITIONAL LENGTH.)
11. INSTALLATION OF PILING SHALL BE MONITORED BY A LICENSED GEOTECHNICAL ENGINEER. REPORTS OF ALL WORK SHALL BE SUBMITTED FOR REVIEW. REPORT SHALL INCLUDE PILE DEPTH, PILE GROUT VOLUME, GROUT FACTOR, CONCRETE COVERAGE ON THE REINFORCING STEEL, GROUT DELIVERY DATES, MISCELLANEOUS OBSERVATIONS, AND OTHER INFORMATION AS REQUIRED.

CONCRETE:

1. SHALL BE PER AN APPROVED MIX DESIGN PROPORTIONED TO ACHIEVE A STRENGTH AT 28 DAYS AS LISTED BELOW WITH A PLASTIC AND WORKABLE MIX:

LOCATION	STRENGTH	SLUMP	MAX AGGREGATE	WCM RATIO (MAX)
BEAMS,COLUMNS & WALLS	5000 PSI	4-6"	ASTM #57	0.42
GROUND FLOOR SLABS & GRADE BEAMS	4000 PSI	4-6"	ASTM #57	0.42
OTHER STRUCTURAL CONCRETE	4000 PSI	4-6"	ASTM #57	0.45

2. CONCRETE SHALL BE PLACED AND CURED ACCORDING TO ACI STANDARDS AND SPECIFICATIONS.
3. SUBMIT PROPOSED MIX DESIGN WITH RECENT FIELD CYLINDER OR LAB TESTS FOR REVIEW PRIOR TO USE. MIX SHALL BE UNIQUELY IDENTIFIED BY MIX NUMBER OR OTHER POSITIVE IDENTIFICATION. MIX SHALL MEET THE REQUIREMENTS OF ASTM C33 FOR COARSE AGGREGATE.
4. THE MAXIMUM TIME ALLOWED FROM THE TIME THE MIXING WATER IS ADDED UNTIL IT IS DEPOSITED IN ITS FINAL POSITION SHALL NOT EXCEED ONE AND ONE HALF (1-1/2) HOURS. IF FOR ANY REASON THERE IS A LONGER DELAY THAN THAT STATED ABOVE, THE CONCRETE SHALL BE DISCARDED. IT SHALL BE THE RESPONSIBILITY OF THE TESTING LAB TO NOTIFY THE OWNER'S REPRESENTATIVE AND THE CONTRACTOR OF ANY NONCOMPLIANCE WITH THE ABOVE.
5. SLABS SHALL BE CURED USING A DISSIPATING CURING COMPOUND MEETING ASTM STANDARD C309 TYPE 1-CLASS D AND SHALL HAVE A FUGITIVE DYE. THE COMPOUND SHALL BE PLACED AS SOON AS THE FINISHING IS COMPLETED OR AS SOON AS THE WATER HAS LEFT THE UNFINISHED CONCRETE. SCUFFED OR BROKEN AREAS IN THE CURING MEMBRANE SHALL BE RECOATED DAILY.
6. CALCIUM CHLORIDES SHALL NOT BE UTILIZED; OTHER ADMIXTURES MAY BE USED ONLY WITH THE APPROVAL OF THE ENGINEER.
7. CONCRETE MIX DESIGNS SHALL INCLUDE A WRITTEN DESCRIPTION INDICATING WHERE EACH PARTICULAR MIX IS TO BE PLACED WITHIN THE STRUCTURE.
8. CONDUITS, PIPES AND SLEEVES SHALL BE PLACED AND SPACED IN ACCORDANCE WITH ACI 318, 6.3.
9. CONCRETE DESIGN MIX SUBMITTALS SHALL INCLUDE TESTED, STATISTICAL BACK-UP DATA PER CHAPTER 5 OF ACI 318.
10. WHEN WATER-BASED ADHESIVE ARE BEING USED ON CONCRETE SURFACES THE CONTRACTOR SHALL VERIFY THAT THE WATER CONTENT OF THE CONCRETE IS WITHIN THE ALLOWABLE RANGE BEFORE INSTALLATION
11. FLYASH, WHEN USED, SHALL BE LIMITED TO 20% OF THE CEMENTITIOUS MATERIAL. USE HIGH RANGE WATER REDUCING ADMIXTURE TO INCREASE SLUMP. DO NOT ADD WATER IN THE FIELD WITHOUT PRIOR WRITTEN ACCEPTANCE FROM CONTRACTING OFFICER.
12. ALL PUMPED CONCRETE WITH 3/4" OR LARGER AGGREGATE IS TO CONTAIN A HIGH RANGE WATER REDUCING AGENT. MINIMUM SIZE OF DISCHARGE TO BE 4" I.D.
13. A 2" I.D. DISCHARGE MAY BE USED WITH 3/8" AGGREGATE. USE HIGH RANGE WATER REDUCING ADMIXTURE IF NECESSARY TO INCREASE SLUMPS BEYOND THAT NOTED ABOVE.
14. CHAMFER ALL EDGES OF EXPOSED CONCRETE 3/4" UNLESS NOTED OTHERWISE.
15. AT CHANGES IN DIRECTION OF CONCRETE WALLS, BEAMS AND STRIP FOOTINGS, PROVIDE CORNER BARS OF SAME SIZE AND QUANTITY (U.N.O.) AS HORIZONTAL STEEL, REFER TO TYPICAL DETAIL.
16. FOOTING SIZES SHOWN ARE FOR FOOTINGS CONSTRUCTED WITH SIDE FORMS. IF SOIL MATERIAL CAN HOLD A VERTICAL SHAPE, THE SOIL CAN BE USED AS AN EARTH FORM PROVIDED OVERALL FOOTING WIDTH IS INCREASED 4", AND CODE COVER INCREASED BY 2". ALL SLOUGHED MATERIAL SHALL BE REMOVED FROM EXCAVATION BEFORE AND DURING PLACEMENT OF CONCRETE.
17. SLEEVE ALL PENETRATIONS THROUGH BEAMS AND SLABS INDIVIDUALLY. CORE DRILLING SHALL NOT BE PERMITTED. SUBMIT LOCATION AND SIZE OF SLEEVES THROUGH BEAMS TO CONTRACTING OFFICER FOR REVIEW PRIOR TO CASTING CONCRETE.
18. ALL EMBEDDED ITEMS SHALL BE SECURELY TIED IN PLACE PRIOR TO CONCRETE PLACEMENT.
29. PLACE CONCRETE PER ACI 304. USE INTERNAL MECHANICAL VIBRATION FOR ALL CONCRETE. LIMIT MAXIMUM FREE FALL DROP OF COLUMN OR WALL CONCRETE TO 6'-0" FOR #57 AGGREGATE AND 8'-0" FOR #89 AGGREGATE. IN SLABS, GRADE BEAMS, FOOTINGS, ETC., LIMIT FREE FALL DROP TO 3'-0". ALL PRECAUTIONS SHOULD BE TAKEN TO VOID SEGREGATION OF CONCRETE DURING PLACEMENT.
20. PROVIDE VAPOR RETARDER UNDER BOTTOM OF ALL SLABS AND BEAMS CAST IN CONTACT WITH EARTH.

3314 WELDED WIRE FABRIC:

1. SHALL CONFORM TO ASTM A-185, FREE FROM OIL, SCALE AND RUST AND PLACED IN ACCORDANCE WITH THE TYPICAL PLACING DETAILS OF ACI STANDARDS AND SPECIFICATIONS.
2. MINIMUM LAP SHALL BE TWO PANELS.
3. USE OF FLAT MANUFACTURED SHEETS IS REQUIRED (NO ROLLS).
4. FABRIC SHALL BE SUPPORTED ON CHAIRS TO MAINTAIN PROPER LOCATION OF 1 1/2" FROM TOP OF SLAB.

5120 STRUCTURAL STEEL:

1. STEEL WORK SHALL BE NEW AND CONFORM TO THE AISC SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS. – ALLOWABLE STRESS DESIGN AND LOAD AND RESISTANCE FACTOR DESIGN.
2. MATERIAL SHALL CONFORM TO THE FOLLOWING, EXCEPT AS NOTED:

WIDE FLANGE SHAPES	ASTM A992 (Fy=50 KSI)
ANGLES, CHANNELS AND PLATES	ASTM A36 (Fy=36 KSI)
PIPE	ASTM A53, GRADE B (Fy=35 KSI)
RECTANGULAR HSS	ASTM A500, GRADE B (Fy=46 KSI)
ROUND HSS	ASTM A500, GRADE B (Fy=42 KSI)
HIGH STRENGTH BOLTS	ASTM A325
THREADED RODS	ASTM A36 (Fy=36 KSI)
S.M. AND HP SHAPES	ASTM A36 (Fy=36 KSI)
HEAVY HEX NUTS	ASTM A563
HARDENED STEEL WASHERS	ASTM F436
DIRECT TENSION INDICATORS	ASTM F959, TYPE 325
ANCHOR RODS	ASTM F1554 GR. 36 (Fy=36 KSI)
HEADED STUD ANCHORS	ASTM A108 (Fy=50 KSI)
TWIST-OFF TENSION CONTROL BOLTS	ASTM F1852

3. CONNECTIONS:
   A. BOLTS SHALL BE HIGH-STRENGTH, BEARING TYPE. TIGHTEN BY AN AISC APPROVED METHOD.
   B. WELDING ELECTRODES SHALL BE PER AWS D1.1. RETURN FILLET WELDS FOR FRAMED CONNECTIONS 1/2" AT EACH END.
   C. FIELD CONNECTIONS SHALL BE MADE WITH 3/4" BOLTS, EXCEPT AS NOTED OTHERWISE.
   D. DESIGN BEAM CONNECTIONS TO DEVELOP THE REACTIONS SHOWN. IF NOT SHOWN, DESIGN CONNECTIONS TO DEVELOP THE REACTIONS DUE TO THE MAXIMUM ALLOWABLE UNIFORM LOAD FOR THE BEAM SIZE AND SPAN SHOWN, ASSUMING FULL LATERAL SUPPORT PER AISC BEAM (ALLOWABLE UNIFORM LOAD) TABLE VALUE FOR THE CORRESPONDING SPAN, U.N.O.
   E. DESIGN DIAGONAL BRACING CONNECTIONS TO DEVELOP THE REACTIONS SHOWN. IF REACTIONS ARE NOT SHOWN, DESIGN CONNECTIONS TO DEVELOP FULL TENSION CAPACITY OF THE DIAGONAL BRACING MEMBER.
   F. CALCULATIONS AND SHOP DRAWINGS FOR STRUCTURAL STEEL CONNECTIONS SHALL BE SUBMITTED FOR APPROVAL PRIOR TO FABRICATION AND SHALL BE SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE IN WHICH THE PROJECT RESIDES.
4. ALL STRUCTURAL STEEL EXPOSED TO EXTERIOR CONDITIONS SHALL BE HOT DIPPED GALVANIZED PER ASTM A123 AND ALL FASTENERS AND HARDWARE SHALL BE HOT DIPPED GALVANIZED PER ASTM A153.
5. GROUT UNDER BEARING. PLATES SHALL BE NON-METALLIC, NON-SHRINK TYPE WITH A COMPRESSIVE STRENGTH OF AT LEAST 5,000 PSI IN 28 DAYS.
6. COMPOSITE FLOOR MEMBERS ARE DESIGNED TO BE UNSHORED UNLESS OTHERWISE NOTED. THE WEIGHT OF THE WET CONCRETE WILL RESULT IN DEFLECTIONS OF THE SUPPORTING STEEL DECK, BEAMS, AND GIRDERS. ALL OVERRUNS OF CONCRETE QUANTITIES ARE TO BE ANTICIPATED AND INCLUDED IN THE CONTRACTOR'S BID. THE CONTRACTOR SHALL COORDINATE EMBEDDED ITEMS REQUIRED FOR ARCHITECTURAL, STRUCTURAL, AND MECHANICAL ELEMENTS. CONCRETE FLOORS UTILIZING UNSHORED CONSTRUCTION SHALL BE SCREEDED LEVEL.
7. SIZE AND SPACING OF CONDUITS IN COMPOSITE SLABS SHALL COMPLY WITH THE REQUIREMENTS OF ASCE 3-91 UNLESS NOTED OTHERWISE ON DRAWINGS.
8. LENGTH OF SHEAR STUD CONNECTIONS IN COMPOSITE SLABS SHALL EQUAL THE DEPTH OF THE COMPOSITE DECK PLUS 1-1/2" (U.N.O.).
9. THE CAMBER OF STEEL MEMBERS SHALL BE VERIFIED IN THE SHOP AND THE FIELD. WHEN NO CAMBER IS INDICATED, TURN THE MEMBER NATURAL CAMBER UP.
10. IT IS THE INTENTION OF THESE DESIGN DOCUMENTS TO DELEGATE THE DESIGN OF ALL STRUCTURAL STEEL CONNECTIONS TO A QUALIFIED SPECIALTY PROFESSIONAL ENGINEER, REGISTERED IN THE STATE OF FLORIDA. THIS REQUIREMENT EXTENDS TO ALL CONNECTIONS, WITH THE EXCEPTION OF THOSE SPECIFICALLY FULLY DESIGNED IN THE DESIGN DOCUMENTS. IT IS ANTICIPATED THAT PROSPECTIVE STRUCTURAL STEEL FABRICATORS WILL PERFORM NECESSARY INVESTIGATION TO DETERMINE THE FULL IMPACT OF CONNECTION CLEARANCE REQUIREMENTS, AS WELL AS THE POTENTIAL NECESSARY INTRODUCTION OF DOUBLER PLATES, CONTINUITY PLATES, AND/OR WEB FLANGE OR OTHER STIFFENERS PRIOR TO SUBMITTING ANY BID FOR THIS WORK.
11. PROVIDE SIGNED AND SEALED CALCULATIONS FOR ALL STRUCTURAL STEEL CONNECTION DESIGN PREPARED BY A PROFESSIONAL ENGINEER REGISTERED IN THE STATE OF FLORIDA. CALCULATIONS ARE TO BE SUBMITTED SIMULTANEOUSLY WITH CORRESPONDING SUBMITTAL.
12. HIGH STRENGTH BOLTS IN BEARING CONDITION SUPPORTING SIMPLE SPAN BEAMS NOT SUBJECT TO AXIAL LOADS MAY BE INSTALLED TO "SNUG TIGHT" CONDITION IF NORMAL, SHORT SLOTTED OR OVERSIZED HOLES ARE USED. THE ENGINEER OF RECORD WILL BE THE ULTIMATE AUTHORITY IN THE USE OF "SNUG TIGHT" BOLTS.
13. APPLY FIREPROOFING TO STEEL STRUCTURE CALCULATING THE THICKNESS OF FIREPROOFING BY COMPARING THE ACTUAL MEMBER SIZE TO THE MEMBER SIZE USED IN THE DESIGNATED UL RATING AND ADJUSTING APPROPRIATELY.

TO THE BEST OF THE STRUCTURAL ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM CODES AS DETERMINED BY LOCAL AUTHORITY IN ACCORDANCE WITH CHAPTER 553, FLORIDA STATUES.

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STRUCTURAL GENERAL NOTES

PROJ. NO. E - 16078.00 SHEET
DRAWN DLL
S002

STRUCTURAL GENERAL NOTES CONTINUED

5122 WELDING:

1. WELDING SHALL BE DONE BY WELDERS WITH CURRENT CERTIFICATION IN ACCORDANCE WITH AWS D1.1.
2. WELDS SHOWN ON STRUCTURAL DRAWINGS ARE MINIMUM DESIGN REQUIREMENTS. THE FABRICATOR'S SHOP DRAWINGS SHALL REFLECT WELDS IN ACCORDANCE WITH AWS REQUIREMENTS.
3. FULL PENETRATION GROOVE WELDS SHALL BE INSPECTED BY ULTRASONIC TESTING. TWENTY-FIVE PERCENT OF THE WELDS SHALL BE INSPECTED AT RANDOM UNLESS NOTED OTHERWISE. SEE SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS.
4. UNLESS NOTED OTHERWISE ON THE DRAWINGS, GROOVE WELDS SHALL BE FULL PENETRATION.
5. MINIMUM TENSILE STRENGTH OF ELECTRODE MATERIAL, F_{EXX} = 70ksi, U.N.O.

5124 SHEAR STUD CONNECTORS:

1. SHEAR STUD CONNECTORS SHALL BE FABRICATED AND INSTALLED IN ACCORDANCE WITH AWS D1.1 "STRUCTURAL WELDING CODE", SECTION 7 - STUD WELDING.
2. ATTACHMENT OF STUDS SHALL BE SUFFICIENT TO DEVELOP THE FULL CAPACITY OF EACH INDIVIDUAL STUD.
3. STUDS SHALL BE TYPE 'B', HEADED STUDS HAVING A MINIMUM TENSILE STRENGTH OF 65,000 PSI. AND SHALL BE OF LENGTH AND DIAMETER SHOWN ON STRUCTURAL DRAWINGS.

5230 COMPOSITE STEEL DECK:

1. SHALL BE GALVANIZED, CORRUGATED STEEL COMPOSITE DECK OF GAGE AND DEPTH INDICATED ON DRAWINGS, CONFORMING TO STEEL DECK INSTITUTE SPECIFICATION FOR COMPOSITE FLOOR DECK.
2. DECK SHALL HAVE DEFORMATIONS TO PROVIDE ADEQUATE MECHANICAL INTERLOCKING BETWEEN DECK AND CONCRETE FOR COMPOSITE ACTION.
3. PROVIDE 5/8" DIAMETER PUDDLE WELDS AT 12" C/C AT EACH SUPPORT.
4. SIDE LAPS BETWEEN DECKS SHALL BE WELDED OR FASTENED USING #10 TEK SCREWS AT A MAXIMUM SPACING OF 36 INCHES.
5. BUTTON PUNCHING OF SIDE LAPS IS NOT PERMITTED.

5310 STEEL ROOF DECK:

1. DECK CENTERING SHALL BE PLACED IN CONFORMANCE WITH MANUFACTURER'S RECOMMENDATIONS AND SHALL BE CONTINUOUS OVER AT LEAST 3 SPANS
2. DECK SHALL BE TOPPED WITH TYPE II INSULATING FILL CONSISTING OF RIGID INSULATING BOARD IMBEDDED WITH TWO OR MORE INCHES OF LIGHT WEIGHT INSULATING CONCRETE OVER THE TOP (MAX. 30 p.c.f. OVEN DRY DENSITY).
3. FASTEN DECK TO STRUCTURAL STEEL SUPPORTS BY WELDING THROUGH WELDING WASHERS IN A PATTERN AS INDICATED ON PLANS. FASTEN SIDE LAPS AS INDICATED ON PLANS.
4. DECK SUBMITTALS SHALL INCLUDE THE INTENDED FASTENING PATTERNS AND THE CAPACITY OF EACH PATTERN IN UPLIFT AND DIAPHRAGM ACTION.

5400 STRUCTURAL COLD-FORMED STEEL (CFS) (ALL APPLICATIONS):

1. ALL COLD FORMED STEEL FRAMING SHALL CONFORM TO THE AISI/COFS/NASPEC 2001 NORTH AMERICAN SPECIFICATION FOR THE DESIGN OF COLD-FORMED STEEL STRUCTURAL MEMBERS, THE AISI MANUAL COLD-FORMED STEEL DESIGN (2002 EDITION), AISI CODE OF STANDARD PRACTICE FOR COLD-FORMED STEEL STRUCTURAL FRAMING (2006 EDITION), AISI/COFS/GP-2004 STANDARD FOR COLD-FORMED STEEL FRAMING – GENERAL PROVISIONS (2004 EDITION) AND COLD-FORMED STEEL ENGINEERS INSTITUTE (CFSEI) PUBLICATIONS, AS MODIFIED OR CLARIFIED HEREIN.
2. SUBMIT PROPOSED LIGHT GAGE CFS MANUFACTURERS DATA AND LOAD TABLES FOR REVIEW.
3. ATTACHMENTS, CLOSURES, HARDWARE, ETC., SHALL BE AS SHOWN AND/OR IN ACCORDANCE WITH THE MANUFACTURERS RECOMMENDATIONS.
4. TOLERANCES TO COMPLY WITH ASTM C955.
5. WELDING TO COMPLY WITH COLD-FORMED STEEL ENGINEERS INSTITUTE TECH NOTE 5606-1 – WELDING COLD-FORMED STEEL.
6. REPAIR DAMAGED OR UNCOATED GALVANIZED COATINGS PER ASTM A780.

5714 STEEL STAIRS:

1. ENGINEERED STEEL STAIR SYSTEM AND CONNECTIONS OF SAME TO THIS STRUCTURE SHALL BE DESIGNED BY AN ENGINEER REGISTERED IN THE STATE OF FLORIDA.
2. THE CONFIGURATION OF THE STEEL STAIR SYSTEM SHALL BE AS SHOWN ON THE ARCHITECTURAL DRAWINGS.
3. STEEL STAIR SYSTEM AND CONNECTIONS SHALL BE DESIGNED FOR APPLICABLE LOADS AS INDICATED ON THE DRAWINGS AND IN THE FLORIDA BUILDING CODE.
4. THE LOADS SHALL BE CLEARLY INDICATED ON SHOP DRAWINGS.
5. SHOP DRAWINGS SHALL SHOW AND SPECIFY CONNECTIONS UTILIZED WITHIN THE STEEL STAIR SYSTEM AS WELL AS CONNECTIONS TO AND LOADS IMPOSED UPON THE STRUCTURAL SYSTEM SHOWN ON THESE DRAWINGS.
6. SHOP DRAWINGS AND CALCULATIONS SHALL BE SIGNED AND SEALED BY AN ENGINEER REGISTERED IN THE STATE OF FLORIDA.

THRESHOLD INSPECTION PLAN

GENERAL

1. PER FLORIDA STATUTE §553.79, THE FOLLOWING PLAN PROVIDES SPECIFIC PROCEDURES AND SCHEDULES SO THE BUILDING CAN BE INSPECTED FOR COMPLIANCE WITH THE PERMITTED DOCUMENTS. THIS PLAN SHALL BE AVAILABLE AT THE JOBSITE FOR USE BY THE BUILDING OFFICIAL, SPECIAL INSPECTOR OR THE DESIGNATED REPRESENTATIVE. NOTWITHSTANDING THE PRECEDING, DURING THE COURSE OF CONSTRUCTION THE SPECIAL INSPECTOR MAY OBSERVE ITEMS NOT SPECIFICALLY LISTED BELOW WHICH HE DETERMINES NEED TO BE INSPECTED. FLORIDA STATUTE §553.79 LISTS A NUMBER OF RESPONSIBILITIES THAT ARE IN NO WAY EXEMPTED BY THE FOLLOWING.
2. THIS PLAN SHALL NOT RELIEVE THE GENERAL CONTRACTOR OR HIS SUBCONTRACTORS OF ANY LIABILITY, RESPONSIBILITY OR CONTRACTUAL OBLIGATIONS RELATED TO THE CONSTRUCTION AND INSTALLATION OF THE STRUCTURAL COMPONENTS OF THE BUILDING, NOR DOES IT RELIEVE THE CONTRACTOR OF HIS RESPONSIBILITIES TO CARRY OUT HIS OWN QUALITY CONTROL INSPECTIONS AND TESTING. THIS PLAN INTENDS THAT ALL STRUCTURAL LOAD BEARING ELEMENTS **INCLUDING WIND LOADED ELEMENTS** BE INSPECTED FOR COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS.
3. THE CONTRACTOR SHALL COOPERATE WITH AND ASSIST THE SPECIAL INSPECTOR IN PERFORMING HIS INSPECTION DUTIES AS SPECIFIED BELOW. THE SPECIAL INSPECTOR SHALL HAVE FREE ACCESS TO THE PROJECT AT ALL TIMES. THE CONTRACTOR SHALL REVIEW THIS PLAN, COORDINATE AND SCHEDULE WORK TO ACCOMMODATE THE REQUIRED INSPECTIONS. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF TWENTY-FOUR (24) HOUR NOTICE TO THE SPECIAL INSPECTOR FOR ALL INSPECTIONS.
4. PER SECTION §553.79 5(A), THE PROFESSIONAL ENGINEER RESPONSIBLE FOR THE DESIGN OF THE SHORING AND RE-SHORING SHALL INSPECT IT FOR CONFORMANCE WITH THE PLANS SUBMITTED TO THE ENFORCING AGENCY AND FURNISH A SIGNED AND SEALED LETTER TO THE SPECIAL INSPECTOR STATING THE INSTALLATION IS IN CONFORMANCE WITH THE SUBMITTED PLANS, PRIOR TO CONCRETE PLACEMENT.
5. PER SECTION §553.79 7(C), EACH SHORING AND RE-SHORING INSTALLATION SHALL BE SUPERVISED, INSPECTED AND CERTIFIED BY THE CONTRACTOR TO BE IN COMPLIANCE WITH THE SHORING DOCUMENTS.

PROCEDURES AND SCHEDULE

1. THE THRESHOLD INSPECTOR SHALL PERFORM SITE VISITS AT A FREQUENCY DETERMINED BY HIM TO SATISFY HIM THAT THE INSPECTIONS ARE BEING PERFORMED BY HIS ON-SITE REPRESENTATIVE(S) IN ACCORDANCE WITH THIS PLAN.
2. THE CONTRACTOR SHALL ADVISE THE SPECIAL INSPECTOR IN ADVANCE OF CONSTRUCTION SCHEDULES AND PLANNED OPERATIONS IN ORDER TO ASSURE TIMELY AND APPROPRIATE OBSERVATION INSPECTION.
3. THE SPECIAL INSPECTOR SHALL COOPERATE WITH THE CONTRACTOR AND SHALL REFRAIN FROM DIRECTING WORK, AS THIS IS EXPRESSLY NOT PART OF THE SPECIAL INSPECTION.

SOIL COMPACTION & FOUNDATIONS

1. CONFIRM THAT A SOILS TESTING LABORATORY MONITORS SOIL COMPACTION, PILE INSTALLATION, AND PERFORMS TESTS TO VERIFY THAT THE INSTALLATIONS MEET THE REQUIREMENTS STATED IN THE PROJECT'S SPECIFICATIONS AND THE SOILS REPORT SUBMITTED BY ARDAMAN & ASSOCIATES. .
2. VERIFY THAT FOOTINGS AND FOUNDATIONS ARE IN CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS. SPECIFICALLY VERIFY SIZE, REINFORCING, CONFIGURATION, LAP SPLICES, LOCATION, ADDITIONAL BARS AT CORNERS AND INTERSECTIONS, COVER ON REINFORCING AND ORIENTATION.
3. MONITOR CONSTRUCTION TO ENSURE THAT THERE HAS BEEN NO UNDERMINING OR EXCAVATION UNDER EXISTING FOOTINGS FOR ANY REASON, E.G. TO INSTALL UNDERGROUND UTILITIES AND PIPING, ETC.
4. VERIFY THAT DE-WATERING METHODS ARE MAINTAINED DURING DEEP EXCAVATIONS AND THAT PROCEDURES DO NOT ADVERSELY AFFECT THE STRUCTURAL INTEGRITY OF THE FOUNDATIONS.

CONCRETE AND REINFORCEMENT

1. CONFIRM THAT THE CONTRACTOR HAS OBTAINED APPROVED SHOP DRAWINGS FOR SPECIFIED ITEMS PRIOR TO COMMENCING WORK. THIS INCLUDES, BUT IS NOT LIMITED TO, ANCHOR BOLTS, EMBEDDED ITEMS, STEEL REINFORCING, FORMWORK, SHORING AND CONCRETE MIX DESIGNS.
2. VERIFY THAT REINFORCING STEEL IS INSTALLED PER THE CONSTRUCTION DOCUMENTS AND APPROVED SHOP DRAWINGS. SPECIFICALLY VERIFY SIZE, GRADE, LAP SPLICE LENGTH AND LOCATION, QUANTITY AND/OR SPACING, BENDS OR OFFSETS AND COVERAGE. REPORT ANY DEVIATIONS TO THE GENERAL CONTRACTOR FROM THE CONTRACT DOCUMENTS BEFORE CONCRETE IS CAST AND CONFIRM CORRECTIONS ARE MADE.
3. VERIFY THAT DOWELS, ANCHOR BOLTS AND EMBEDDED ITEMS ARE PROPERLY INSTALLED AND SECURED IN PLACE PRIOR TO CONCRETE PLACEMENT.
4. VERIFY THAT REINFORCING IS NEW BILLET STEEL AND IS CLEAN OF ALL LOOSE, FLAKING RUST OR SCALE AND IS FREE OF GREASE OR OTHER FOREIGN MATERIALS WHICH COULD REDUCE OR PREVENT BOND.
5. VERIFY THAT DEBRIS AND FOREIGN MATERIAL HAS BEEN REMOVED FROM FORMS BEFORE CONCRETE IS PLACED.
6. COLUMNS: INSPECT REINFORCING STEEL AND OTHER EMBEDDED ITEMS. CHECK TIE SPACING.
7. ONE WAY SLABS: INSPECT REINFORCING STEEL, INCLUDING TEMPERATURE STEEL. CHECK THAT HOOKED BARS EXTEND TO FAR FACE OF SUPPORT.
8. CHECK THAT EXPANSION JOINT MATERIAL, ANCHORS AND OTHER EMBEDDED ITEMS ARE CORRECT AND HAVE BEEN POSITIONED AND SECURED IN PLACE SO THAT DISPLACEMENT IS NOT POSSIBLE.
   a. CHECK THAT CONDUITS PLACED IN THE SLAB ARE REASONABLY SPACED TO ENSURE INTEGRITY OF THE SLAB AND DO NOT VIOLATE REQUIREMENTS INDICATED IN THE CONTRACT DOCUMENTS.
   b. CONFIRM THAT LOAD CARRYING EMBEDDED ITEMS ARE PLACED IN COMPLIANCE WITH THE CONTRACT DOCUMENTS. RELOCATION OF EMBEDDED ITEMS IN CONFLICT WITH REINFORCING WILL NOT BE PERMITTED WITHOUT PRIOR APPROVAL OF THE ARCHITECT/ENGINEER.
9. OPENINGS: REPORT ALL SLAB OPENINGS LARGER THAN 12" AND NOT SHOWN ON THE CONTRACT DOCUMENTS TO THE ARCHITECT/ENGINEER. CHECK PLACEMENT OF ADDITIONAL REINFORCEMENT AROUND OPENINGS. NO SLEEVES OR OPENINGS WILL BE PERMITTED IN BEAMS WITHOUT PRIOR APPROVAL OF THE ARCHITECT/ENGINEER.
10. AS REQUIRED BY THE CONSTRUCTION DOCUMENTS, VERIFY THAT A TESTING LABORATORY IS PRESENT AT THE JOBSITE TO TAKE SLUMP TESTS AND CYLINDERS BEFORE CONCRETE IS PLACED IN FORMS.
11. CONFIRM THAT THE CONCRETE BEING PLACED AT THE JOBSITE MEETS THE PROJECT REQUIREMENTS REGARDING MIXING AND DELIVERY TIME, SLUMP, CONCRETE STRENGTH AND THAT THE PROPER MIX DESIGN IS USED.
12. VERIFY THAT THE CONTRACTOR DOES NOT ADD WATER TO THE CONCRETE AFTER SLUMP TESTS AND CYLINDERS HAVE BEEN MADE. IF ADDITIONAL WATER IS ADDED TO INCREASE SLUMP, ANOTHER SLUMP TEST IS TO BE TAKEN. IF THE SLUMP TEST DOES NOT MEET THE PROJECT'S REQUIREMENTS, THE CONCRETE IS SUBJECT TO REJECTION.
13. REVIEW THE GENERAL ARRANGEMENT OF FORMS FOR COMPLIANCE WITH FORMWORK SHOP DRAWINGS. CHECK THAT THE FORMWORK INSTALLATION, REMOVAL AND RE-SHORING PROCEDURES ARE ACCORDING TO THE CONSTRUCTION DOCUMENTS AND SUBMITTED SHOP DRAWINGS. INSPECT THE SHORING AND RE-SHORING FOR CONFORMANCE WITH THE SHORING AND RE-SHORING PLANS SUBMITTED TO THE ENFORCING AGENCY.
14. REVIEW THE TIME SEQUENCE OF FORM REMOVAL AND RE-SHORING PROCEDURES AND SCHEDULE FOR COMPLIANCE WITH FORMWORK, SHORING AND RE-SHORING DRAWINGS AND PROJECT SPECIFICATIONS.
15. FOOTING EDGES ARE TO BE FORMED UNLESS UNFORMED FOOTINGS ARE PERMITTED PER THE CONSTRUCTION DOCUMENTS. IF UNFORMED FOOTING EDGES CANNOT RETAIN SHAPE DURING PLACEMENT OF CONCRETE, THEN FOOTING EDGES SHALL BE FORMED. VERIFY THAT SLOUGHED SOIL HAS BEEN CLEANED OUT AND REMOVED FROM EXISTING FOOTING.
16. OBSERVE THE PLACEMENT OF AT LEAST 50% OF CONCRETE BEING PLACED FOR STRUCTURAL ELEMENTS TO ASSURE THAT HANDLING, PLACING, CONSOLIDATION, FINISHING AND CURING IS IN ACCORDANCE WITH THE PROJECT'S SPECIFICATIONS.
17. OBSERVATION OF PLACEMENT OF CONCRETE FOR SLABS ON GRADE, WHICH DO NOT SUPPORT BEARING WALLS, IS NOT REQUIRED BUT REINFORCEMENT MUST BE INSPECTED AS DISCUSSED ABOVE.

PRECAST WALL PANELS

1. CONFIRM THAT PLACEMENT AND INSTALLATION OF PANELS IS IN ACCORDANCE WITH APPROVED DRAWINGS.
2. CONFIRM THAT A TESTING LABORATORY INSPECTS WELDED CONNECTIONS. VERIFY THAT CONNECTIONS HAVE BEEN MADE PER STRUCTURAL DRAWINGS AND APPROVED SHOP DRAWINGS.

MASONRY

1. VERIFY THAT REQUIRED MASONRY SUBMITTALS, STRUCTURAL IN NATURE, HAVE BEEN ACCEPTED BY THE STRUCTURAL ENGINEER AND THAT COPIES ARE ON SITE.
2. VERIFY THAT MASONRY COMPONENTS USED ON THE JOB MATCH THE SUBMITTED ITEMS.
3. VERIFY THAT MASONRY IS PROPERLY INSTALLED. SPECIFICALLY CHECK FOR HORIZONTAL JOINT REINFORCING AND SIZE AND LOCATION OF FILLED CELL REINFORCING AND DOWELS.
4. VERIFY THAT FULL MORTAR BEDDING IS PLACED AROUND GROUT/CONCRETE FILLED CELLS.
5. VERIFY THAT INSPECTION/CLEAN-OUT HOLES ARE INSTALLED FOR **HIGHLIFT/LOWLIFT** GROUTING. ALSO, VERIFY THAT DEBRIS AND LOOSE MORTAR HAS BEEN REMOVED PRIOR TO CLOSING HOLE.
6. INSPECT AT LEAST 50% OF CONCRETE GROUT PLACEMENT FOR GROUTED MASONRY.

STRUCTURAL STEEL AND STEEL CONNECTIONS

1. CONFIRM THAT PLACEMENT OF STRUCTURAL STEEL AND METAL DECK IS IN ACCORDANCE WITH THE CONSTRUCTION DOCUMENTS AND APPROVED SHOP DRAWINGS.
2. CONFIRM THAT A TESTING LABORATORY INSPECTS BOLTED AND WELDED CONNECTIONS AND DECK WELDING PER THE REQUIREMENTS OF THE PROJECT DOCUMENTS.
3. VERIFY THAT THE ATTACHMENT OF THE METAL DECK IS PER THE PROJECT'S SPECIFICATIONS.
4. CONFIRM THAT CONNECTIONS MADE TO EXISTING FRAMING EMBEDS OR MEMBERS ARE MADE PER STRUCTURAL DETAILS.

LIGHTGAUGE METAL FRAMING

1. VERIFY THAT APPROVED SHOP DRAWINGS FOR EXTERIOR LIGHTGAUGE FRAMING ARE AVAILABLE AT THE JOBSITE AND THAT INSTALLATION OF MEMBERS IS IN ACCORDANCE WITH THESE DRAWINGS AND CONSTRUCTION DOCUMENTS.

REPORTING

1. DURING AN INSPECTION, IF A DEFICIENCY IS OBSERVED AND HAS NOT BEEN CORRECTED PRIOR TO LEAVING THE SITE, THE SPECIAL INSPECTOR SHALL INFORM THE CONTRACTOR OF THE DEFICIENCY. IF THE DEFICIENCY IS DISPUTED BY THE CONTRACTOR, IMMEDIATELY INFORM THE STRUCTURAL ENGINEER AS TO THE NATURE OF THE DEFICIENCY AND ITS EXTENT.
2. ADDITIONALLY, FOR THE ITEMS FOUND IN NON-CONFORMANCE WITH THE CONSTRUCTION DOCUMENTS AND NOT CORRECTED DURING THE INSPECTION, THE SPECIAL INSPECTOR SHALL MAINTAIN A LOG OF THE DEFICIENT ITEMS AT THE SITE. THE DEFICIENCIES SHALL BE CONSECUTIVELY NUMBERED AND INCLUDE DATE ITEM OBSERVED AND DATE ITEM CORRECTED. THE LOG SHALL BE SUBMITTED MONTHLY FOR REVIEW BY CONTRACTOR, ENGINEER OF RECORD AND BUILDING OFFICIAL.
3. IT IS NOT THE RESPONSIBILITY OF THE SPECIAL INSPECTOR TO SEEK A SOLUTION TO DEFICIENCIES AND UNDER NO CIRCUMSTANCES IS HE TO REDESIGN A DEFICIENT CONDITION OR ALLOW A DEVIATION WITHOUT PRIOR APPROVAL FROM THE STRUCTURAL ENGINEER. THE CONTRACTOR ALONE IS RESPONSIBLE FOR CONTACTING THE STRUCTURAL ENGINEER FOR SOLUTIONS TO DEVIATIONS AND NON-CONFORMING ITEMS.
4. THE SPECIAL INSPECTOR SHALL SUBMIT AN ORIGINAL SIGNED AND SEALED COPY OF WRITTEN REPORTS FOR EACH INSPECTION TO THE ENGINEER OF RECORD A MAXIMUM OF 3 DAYS AFTER PERFORMING SUCH INSPECTION. SUBMIT INSPECTION REPORTS TO THE BUILDING DEPARTMENT MONTHLY OR AS REQUESTED BY THE BUILDING OFFICIAL.
5. THE PRESENCE OF A SPECIAL INSPECTOR IN NO WAY LESSENS THE RESPONSIBILITY OF THE CONTRACTOR TO BUILD A QUALITY STRUCTURE IN TOTAL COMPLIANCE WITH THE CONSTRUCTION DOCUMENTS. THE SPECIAL INSPECTOR SHALL IMMEDIATELY NOTIFY THE STRUCTURAL ENGINEER OF RECORD IF THERE IS ANY FAILURE BY THE CONTRACTOR TO CONFORM TO CONSTRUCTION DOCUMENTS.

TO THE BEST OF THE STRUCTURAL ENGINEER'S KNOWLEDGE, THE PLANS AND SPECIFICATIONS COMPLY WITH THE APPLICABLE MINIMUM CODES AS DETERMINED BY LOCAL AUTHORITY IN ACCORDANCE WITH CHAPTER 553, FLORIDA STATUES.

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STRUCTURAL GENERAL NOTES CONTINUED AND THRESHOLD INSPECTION PLAN

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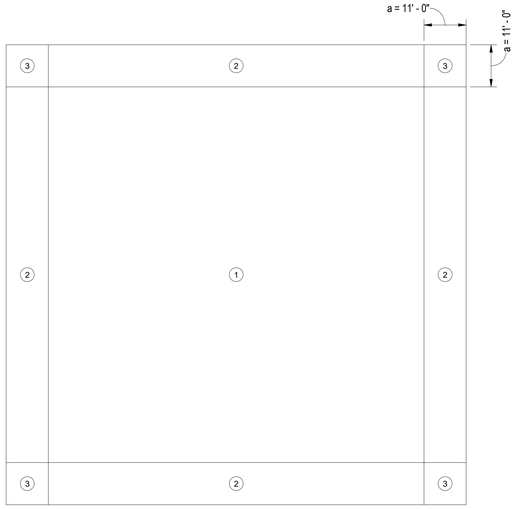
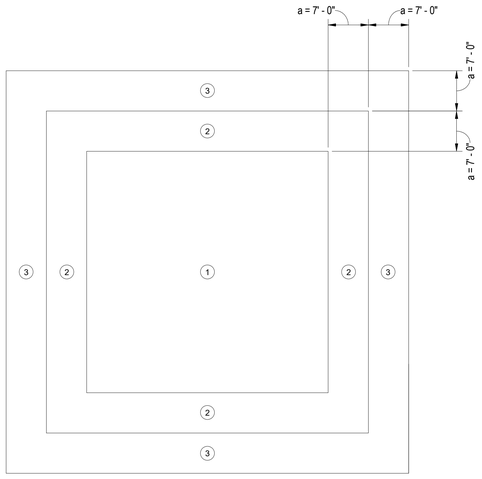


1 S004 WIND LOADING PLAN - EVENT CENTER

1/16" = 1'-0"

2 S004 WIND LOADING PLAN - LIBRARY

1" = 20'-0"



3 S004 WIND LOADING PLAN - PORTE COCHERE

3/32" = 1'-0"

ULTIMATE C&C WIND PRESSURES (ASCE 7-10)

BUILDING	a (FT)	Vult (MPH)	Vasd (MPH)	A (SF)	ZONE 1 (PSF)	ZONE 2 (PSF)	ZONE 3 (PSF)	ZONE 4 (PSF)	ZONE 5 (PSF)	ZONE 2H (PSF)	ZONE 3H (PSF)
EVENT CENTER	11	144	112	<10	+21.0 -51.5	+47.2 -86.5	+47.2 -86.5	+47.2 -51.1	+47.2 -62.9	+XX -XX	+XX -XX
				20	+19.7 -50.2	+45.1 -77.3	+45.1 -77.3	+45.1 -49.0	+45.1 -58.7	+XX -XX	+XX -XX
				50	+17.9 -48.5	+42.3 -65.1	+42.3 -65.1	+42.3 -46.3	+42.3 -53.2	+XX -XX	+XX -XX
				100+	+16.6 -47.2	+40.2 -55.9	+40.2 -55.9	+40.2 -44.2	+40.2 -49.0	+XX -XX	+XX -XX
LIBRARY	10	144	112	<10	+21.8 -53.7	+49.1 -90.1	+49.1 -90.1	+49.1 -53.2	+49.1 -65.5	+XX -XX	+XX -XX
				20	+20.5 -52.3	+47.0 -80.5	+47.0 -80.5	+47.0 -51.1	+47.0 -61.2	+XX -XX	+XX -XX
				50	+18.7 -50.5	+44.1 -67.8	+44.1 -67.8	+44.1 -48.2	+44.1 -55.4	+XX -XX	+XX -XX
				100+	+17.3 -49.1	+41.9 -58.2	+41.9 -58.2	+41.9 -46.0	+41.9 -51.1	+XX -XX	+XX -XX
PORTE COCHERE	7	135	105	<49	+28.3 -25.9	+42.4 -40.0	+56.5 -77.7	- -	- -	- -	- -
				>49<196	+28.3 -25.9	+42.4 -40.0	+42.4 -40.0	- -	- -	- -	- -
				>196	+28.3 -25.9	+28.3 -25.9	+28.3 -25.9	- -	- -	- -	- -

ULTIMATE C&C WIND PRESSURE PLAN NOTES:

1. WIND PRESSURE TABLE IS BASED ON FBC 2017/ASCE 7-10 ULTIMATE WIND SPEED, PRESSURES SHOWN ABOVE ARE ULTIMATE COMPONENTS AND CLADDING PRESSURES.

   A - INDICATES TRIBUTARY AREA IN S.F.
   a - INDICATES END ZONE WIDTH IN FT.
   Vult - INDICATES ULTIMATE DESIGN WIND SPEED IN MPH
   Vasd - INDICATES NOMINAL DESIGN WIND SPEED IN MPH

2. GROSS PRESSURES ARE FOR JOISTS, WINDOWS, DOORS, VENEER, LIGHT GAGE METAL FRAMING, METAL DECK ATTACHMENTS, ROOFING, ROOFING ACCESSORIES AND OTHER BUILDING COMPONENTS AND CLADDING.

3. GROSS PRESSURES SHALL BE LINEARLY INTERPOLATED FOR (A) NOT SHOWN IN TABLE.

4. POSITIVE PRESSURES INDICATE PRESSURES ACTING TOWARD A PROJECTED SURFACE. NEGATIVE PRESSURES INDICATE PRESSURES ACTING AWAY FROM A PROJECTED SURFACE.

5. ROOF AND ZONES (1) THRU (3)

6. WALL ZONES (4) AND (5)

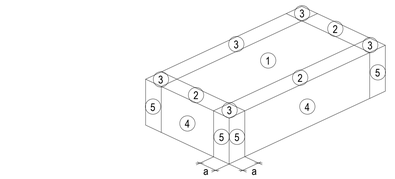
7. OVERHANG ZONES (2H) AND (3H) APPLY ONLY TO ROOF OVERHANGS WHERE THE COMPONENT OR CLADDING RECEIVES PRESSURE SIMULTANEOUSLY ON BOTH SIDES (UPWARD SUCTION ON TOP AND UPWARD PRESSURE ON BOTTOM, SUCH AS AT OPEN SOFFITS), AND IS CONTINUOUS WITH FIELD OF ROOF.

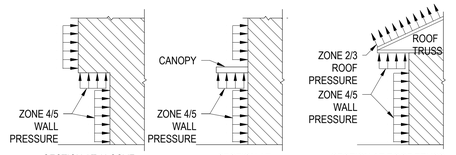
8. NET DESIGN ROOF PRESSURES SHALL BE CALCULATED USING THE SELFWEIGHT (DEAD LOAD) OF THE MATERIALS. HOWEVER, THE MAXIMUM REDUCTION OF WIND UPLIFT PRESSURES SHALL BE LIMITED TO THE SELF WEIGHT OF THE ROOF SYSTEM PLUS 5 PSF FOR SUPERIMPOSED DEAD LOADS.

9. INTERNAL PRESSURE COEFFICIENT FOR ENCLOSED BUILDING EQUALS +0.18 AND -0.18
   INTERNAL PRESSURE COEFFICIENT FOR OPEN STRUCTURE EQUALS +/- 0.00
   INTERNAL PRESSURE COEFFICIENT FOR PARTIALLY ENCLOSED STRUCTURE EQUALS +/- 0.55

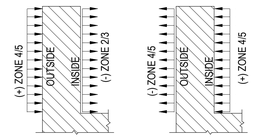
10. ROOF TOP EQUIPMENT SHALL BE DESIGNED FOR A LATERAL PRESSURE OF XX PSF AND A SIMULTANEOUS UPLIFT PRESSURE OF XX PSF (ROOF TOP EQUIPMENT PER FBC SECTION 1620.6 WITH Qh = XX PSF)

11. AT ALCOVES AND CANOPIES, THE TOTAL UPLIFT PRESSURE ON THE ALCOVE SOFFIT OR CANOPY SHALL EQUAL THE WALL PRESSURE IN THAT AREA.





SECTION AT ALCOVE | SECTION AT CANOPY | SECTION AT ROOF TRUSS



PARAPET LOAD CASE A (WINDWARD) | PARAPET LOAD CASE B (LEEWARD)

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COMPONENT WIND CRITERIA

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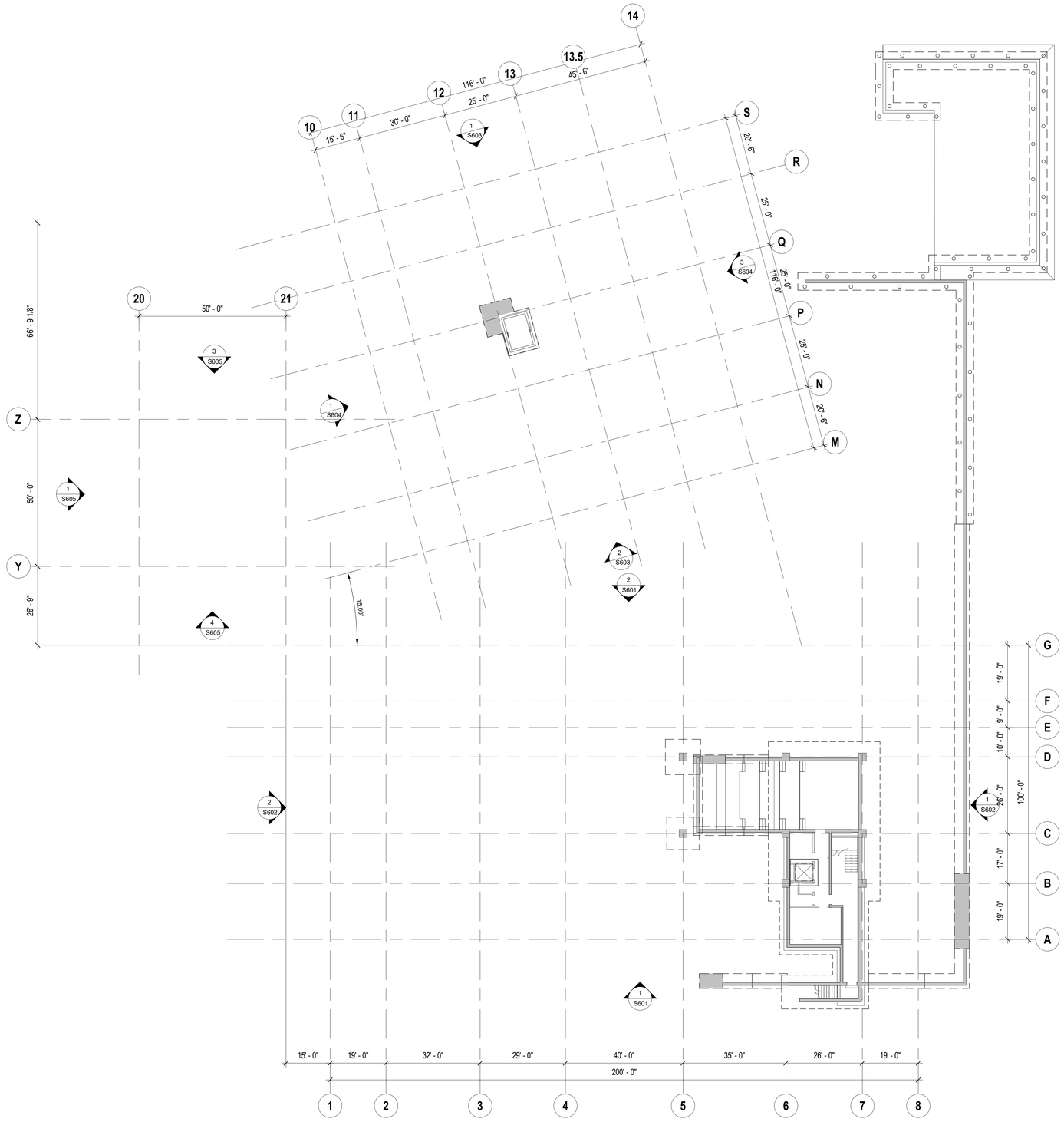

1 S100 FOUNDATION PLAN - BASEMENT LEVEL - OVERALL

1/16" = 1'-0"

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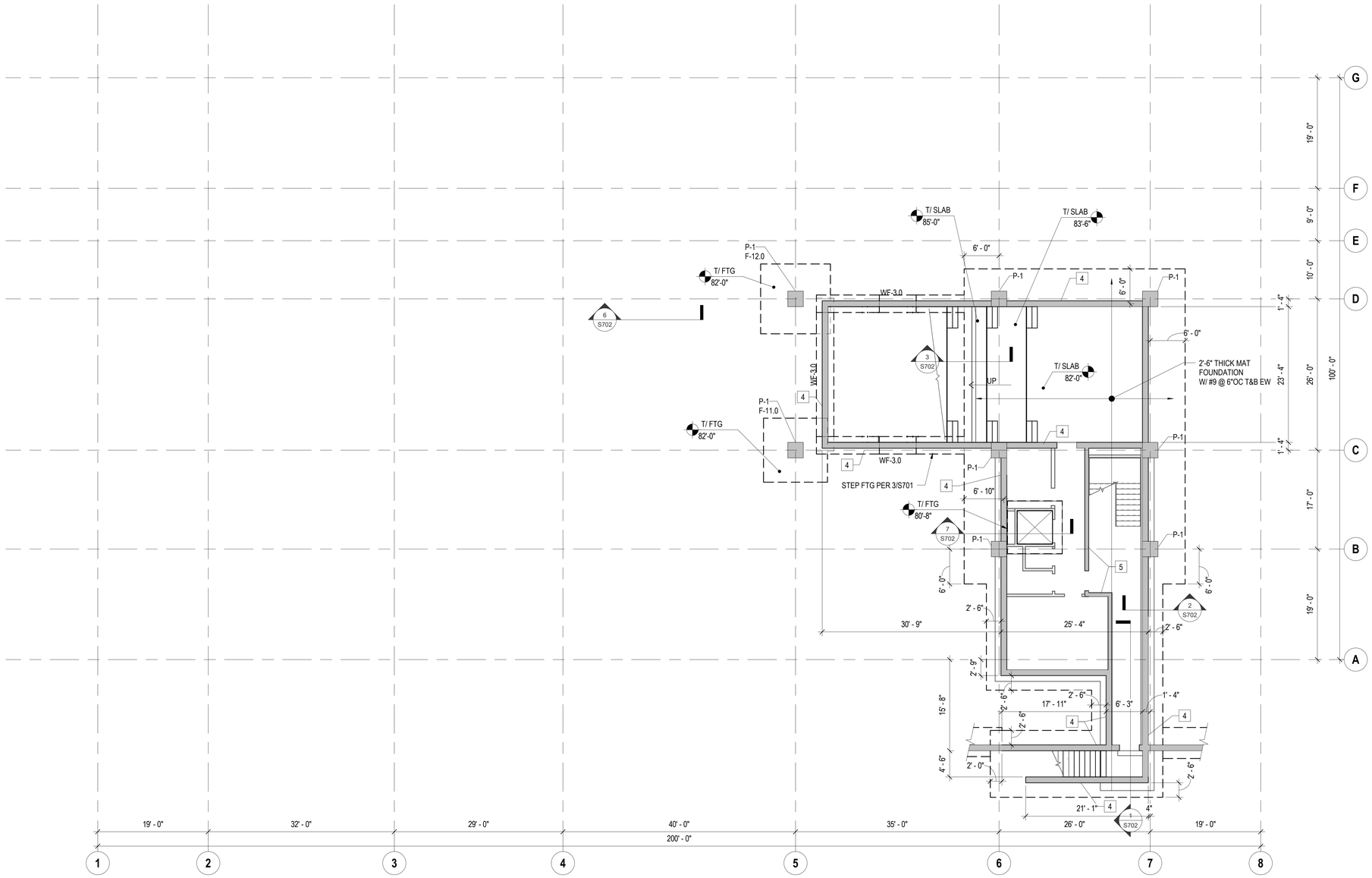
FOUNDATION PLAN - BASEMENT LEVEL - OVERALL

PROJ. NO. E - 16078.00 SHEET
DRAWN DLL
S100

T/FDN MAT/SLAB
84'-0" (TYP UNO)



1 S101 FOUNDATION/SLAB PLAN - BASEMENT LEVEL - AREA 1 - LIBRARY

1/8" = 1'-0"

FOUNDATION PLAN NOTES

1. REFER TO GENERAL STRUCTURAL NOTES AND PROJECT SPECIFICATIONS FOR DEFINITION OF SYMBOLS, ABBREVIATIONS, AND OTHER INFORMATION AND CRITERIA NOT SHOWN ON PLAN.
2. FOUNDATION SIZES INDICATED ARE BASED ON THE SUBSURFACE RECOMMENDATIONS PROVIDED BY THE GEO-TECHNICAL ENGINEER FOR THE PROJECT. REFER TO STRUCTURAL GENERAL NOTES FOR ADDITIONAL INFORMATION.
3. VERIFY ALL DIMENSIONS, ELEVATIONS, DEPRESSIONS, DRAIN LOCATIONS, FINISHES AND LIMITS THEREOF, AND INFORMATION NOT EXPLICITLY INDICATED ON CONTRACT DOCUMENTS WITH THE ARCHITECTURAL, CIVIL, AND MEP/FP DRAWINGS PRIOR TO CONSTRUCTION.
4. COLUMN AND WALL CENTERLINES SHALL COINCIDE WITH FOUNDATION CENTERLINES UNLESS NOTED OTHERWISE ON PLAN, SECTIONS, AND DETAILS.
5. ALL REINFORCING IN FOUNDATION CORNERS, INTERSECTIONS, TEES, AND CHANGES IN DIRECTION SHALL BE CONTINUOUS AND CORNER REINFORCING SHALL BE PROVIDED AND LAPPED.
6. SEE DETAIL X/SXXX FOR CONCRETE SLAB ON GRADE CONTROL JOINT INFORMATION
7. REFER TO CIVIL AND ARCHITECTURAL DRAWINGS FOR SLABS AND SLAB PADS OUTSIDE OF BUILDING FOOTPRINT.

FOUNDATION KEY NOTES

1 SLAB ON GRADE SHALL BE A MINIMUM OF 4" (TOTAL) THICKNESS WITH 6X6-W2.1XW2.1 WWF OVER "SAND-CHAIRS" AND SHALL BEAR ON COMPACTED TERMITE TREATED SOIL. SOIL SHALL BE COMPACTED TO A MINIMUM OF 95% PROCTOR DENSITY. PROVIDE A 10 MIL VAPOR BARRIER BENEATH SLAB.

2 PROVIDE (2) #4 X 4'-0" LONG REBAR CENTERED IN SLAB @ ALL RE-ENTRANT SLAB CORNERS - TYP.

3 PRE-ENGINEERED METAL STAIRS AND LANDINGS. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND ELEVATIONS. SUBMIT SIGNED & SEALED SHOP DRAWINGS FOR REVIEW.

4 12" REINF CONCRETE RETAINING WALL. DEWATER AND PLACE FIRST FLOOR SLAB PRIOR TO BACKFILLING.

5 8" REINF CONCRETE WALL.

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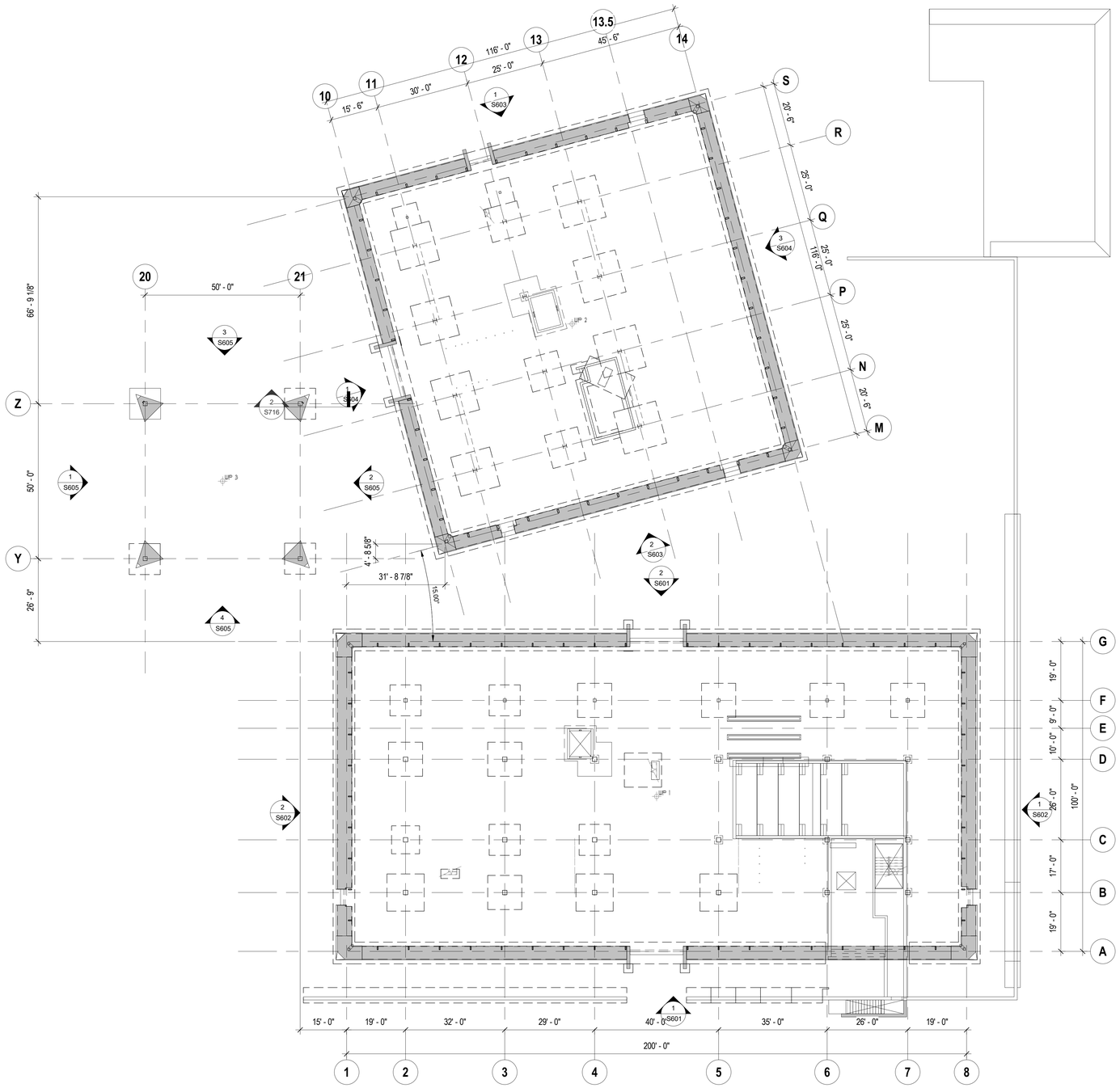

1 S110 FOUNDATION/SLAB PLAN - 1ST LEVEL - OVERALL

1/16" = 1'-0"

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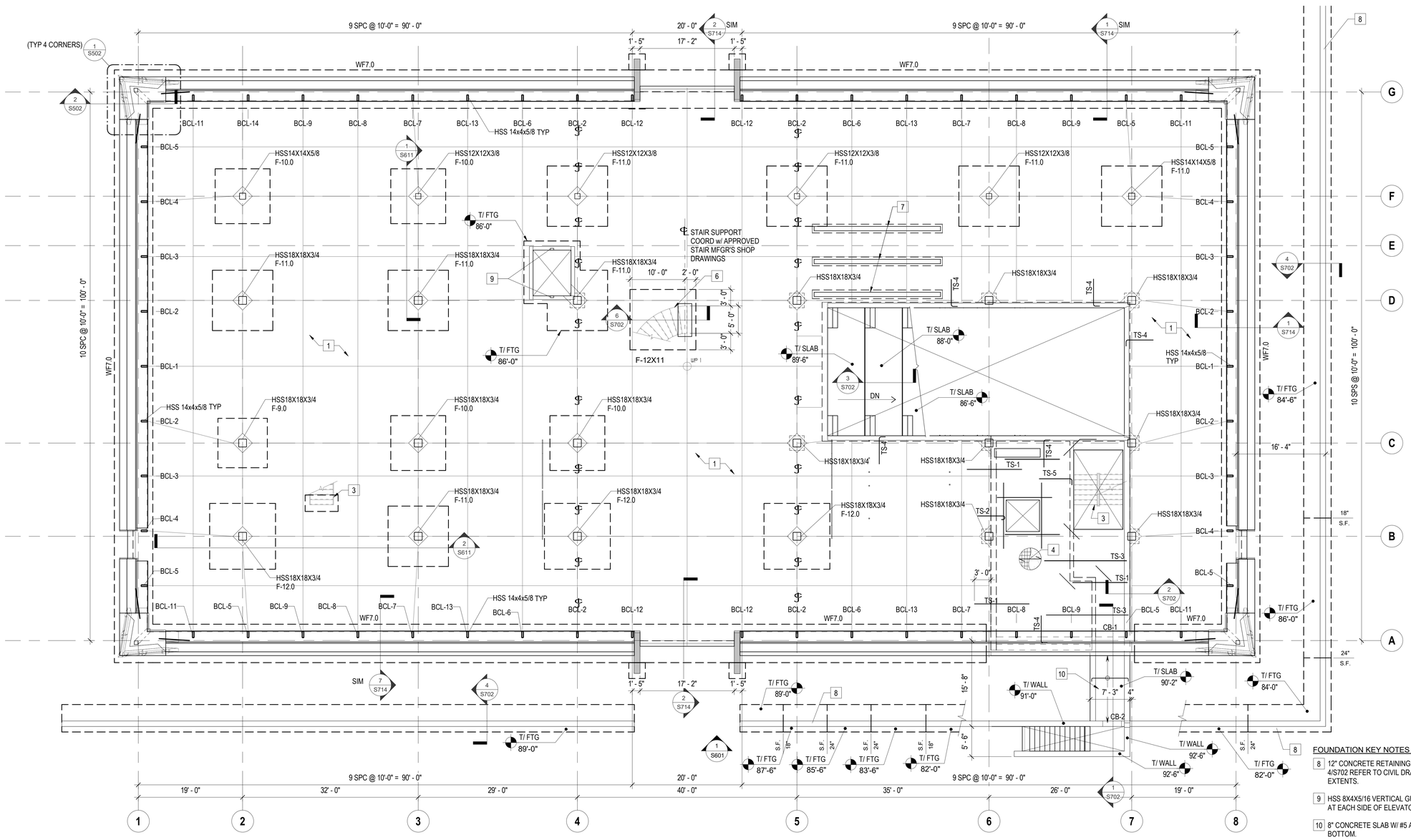
S110

T/ SLAB
91'-0" (TYP UNO)
T/ FOOTING
89'-0" (TYP UNO)

TOP BAR SCHEDULE	
Type Mark	Size
TS-1	#5x10'-0" TOP 6"OC
TS-2	#5x5'-0" + HK TOP AT 6"OC
TS-3	#5x15'-0" TOP AT 6" (9) 8" CONC SLAB REINF
TS-4	#4x5'-0" + HK TOP AT 12"OC w/ #4 T&B AT 12"OC (HK TOP)
TS-5	#5x6'-0" + HK TOP AT 6"OC



FOUNDATION PLAN NOTES

1. REFER TO GENERAL STRUCTURAL NOTES AND PROJECT SPECIFICATIONS FOR DEFINITION OF SYMBOLS, ABBREVIATIONS, AND OTHER INFORMATION AND CRITERIA NOT SHOWN ON PLAN.
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3. VERIFY ALL DIMENSIONS, ELEVATIONS, DEPRESSIONS, DRAIN LOCATIONS, FINISHES AND LIMITS THEREOF, AND INFORMATION NOT EXPLICITLY INDICATED ON CONTRACT DOCUMENTS WITH THE ARCHITECTURAL, CIVIL, AND MEP/FP DRAWINGS PRIOR TO CONSTRUCTION.
4. COLUMN AND WALL CENTERLINES SHALL COINCIDE WITH FOUNDATION CENTERLINES UNLESS NOTED OTHERWISE ON PLAN, SECTIONS, AND DETAILS.
5. ALL REINFORCING IN FOUNDATION CORNERS, INTERSECTIONS, TEES, AND CHANGES IN DIRECTION SHALL BE CONTINUOUS AND CORNER REINFORCING SHALL BE PROVIDED AND LAPPED.
6. SEE DETAIL X/SXXX FOR CONCRETE SLAB ON GRADE CONTROL JOINT INFORMATION
7. REFER TO CIVIL AND ARCHITECTURAL DRAWINGS FOR SLABS AND SLAB PADS OUTSIDE OF BUILDING FOOTPRINT.

FOUNDATION KEY NOTES

1. SLAB ON GRADE SHALL BE A MINIMUM OF 4" (TOTAL) THICKNESS WITH 6X6-W2.1XW2.1 WWF OVER "SAND-CHAIRS" AND SHALL BEAR ON COMPACTED TERMITE TREATED SOIL. SOIL SHALL BE COMPACTED TO A MINIMUM OF 95% PROCTOR DENSITY. PROVIDE A 10 MIL VAPOR BARRIER BENEATH SLAB.
2. PROVIDE (2) #4 X 4'-0" LONG REBAR CENTERED IN SLAB @ ALL RE-ENTRANT SLAB CORNERS - TYP.
3. PRE-ENGINEERED METAL STAIRS AND LANDINGS. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND ELEVATIONS. SUBMIT SIGNED & SEALED SHOP DRAWINGS FOR REVIEW.
4. INDICATES 12" THICK REINFORCED CONCRETE SLAB REINF W/#6 BOT AT 6"OC (#4 TEMP AT 8" OC).
5. 6" HIGH CONCRETE CURB.
6. STRUCTURAL STEEL MONUMENTAL STAIRCASE. (BY OTHERS)
7. TRENCH MIN 9 1/2" WIDE X 1 3/8" DEEP. REFER TO ARCHITECTURAL DRAWINGS AND APPROVED SHOP DRAWINGS EXACT LAYOUT.

FOUNDATION KEY NOTES - CONTINUED

8. 12" CONCRETE RETAINING WALL SEE DETAIL 4/S702 REFER TO CIVIL DRAWINGS FOR EXTENTS.
9. HSS 8X4X5/16 VERTICAL GUIDERAIL SUPPORT AT EACH SIDE OF ELEVATOR.
10. 8" CONCRETE SLAB W/ #5 AT 12"OC EACH WAY BOTTOM.

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1 S111 — FOUNDATION/SLAB PLAN - 1ST LEVEL - AREA 1 - LIBRARY
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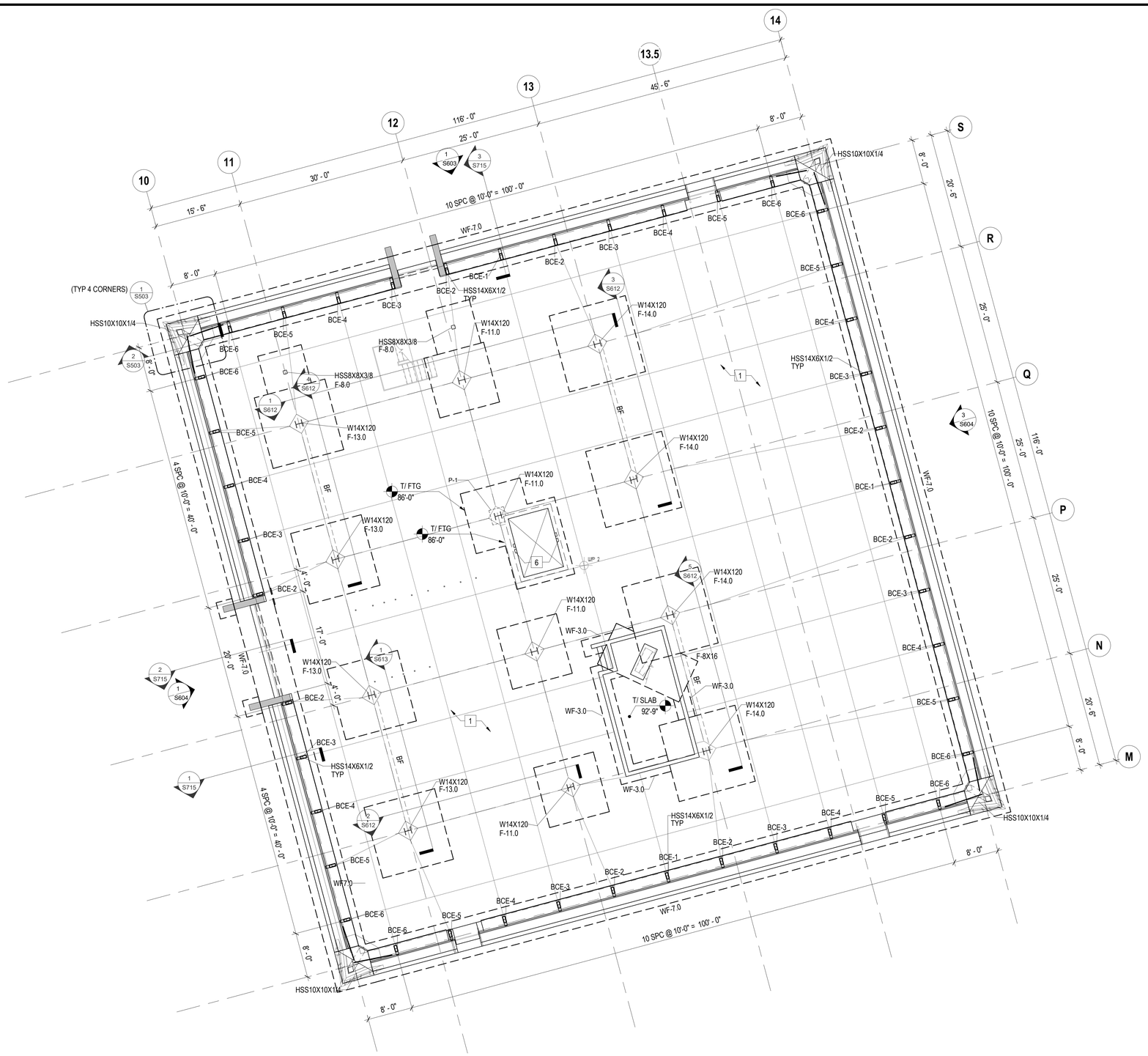

FOUNDATION PLAN NOTES

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FOUNDATION KEY NOTES

1. SLAB ON GRADE SHALL BE A MINIMUM OF 4" (TOTAL) THICKNESS WITH 6X6-W2.1XW2.1 WWF OVER "SAND-CHAIRS" AND SHALL BEAR ON COMPACTED TERMITE TREATED SOIL. SOIL SHALL BE COMPACTED TO A MINIMUM OF 95% PROCTOR DENSITY. PROVIDE A 10 MIL VAPOR BARRIER BENEATH SLAB.
2. PROVIDE (2) #4 X 4'-0" LONG REBAR CENTERED IN SLAB @ ALL RE-ENTRANT SLAB CORNERS - TYP.
3. PRE-ENGINEERED METAL STAIRS AND LANDINGS. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND ELEVATIONS. SUBMIT SIGNED & SEALED SHOP DRAWINGS FOR REVIEW.
4. INDICATES 12" THICK REINFORCED CONCRETE SLAB WITH SPAN IN DIRECTION INDICATED.
5. 6" HIGH CONCRETE CURB.
6. (2) HSS 8X4X3/8 VERTICAL GUIDE RAIL SUPPORTS AT EACH SIDE OF ELEVATOR.

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FOUNDATION / SLAB PLAN - 1ST LEVEL - AREA 2 - EVENT CENTER

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1 S112 — STRUCTURAL SLAB/FOUNDATION PLAN - 1ST LEVEL - AREA 2 - EVENTS CENTER
1/8" = 1'-0"

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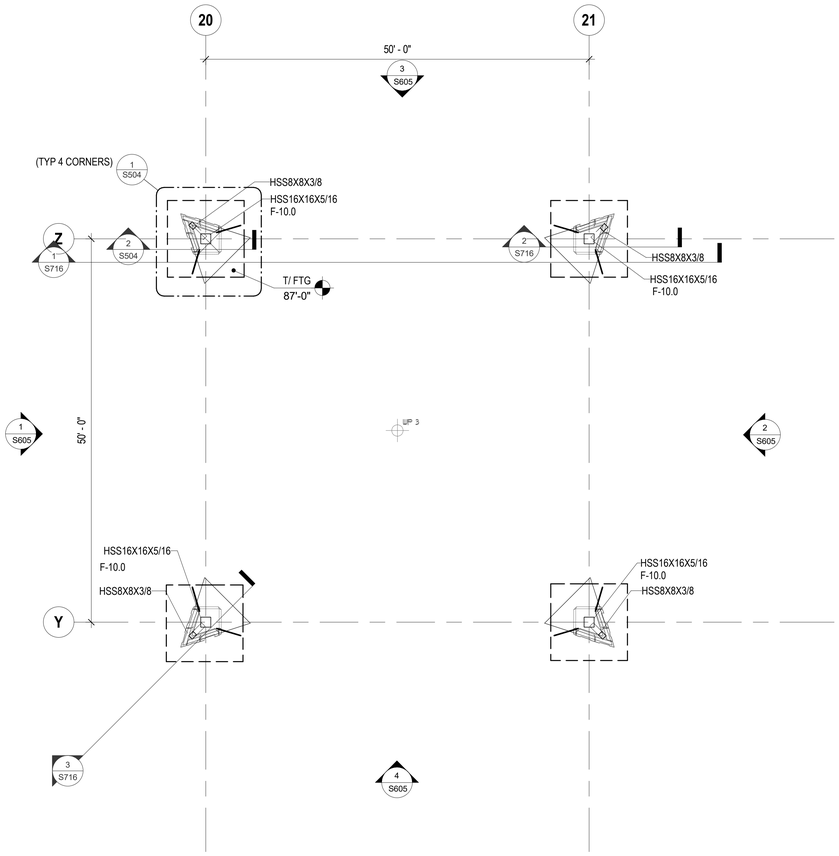
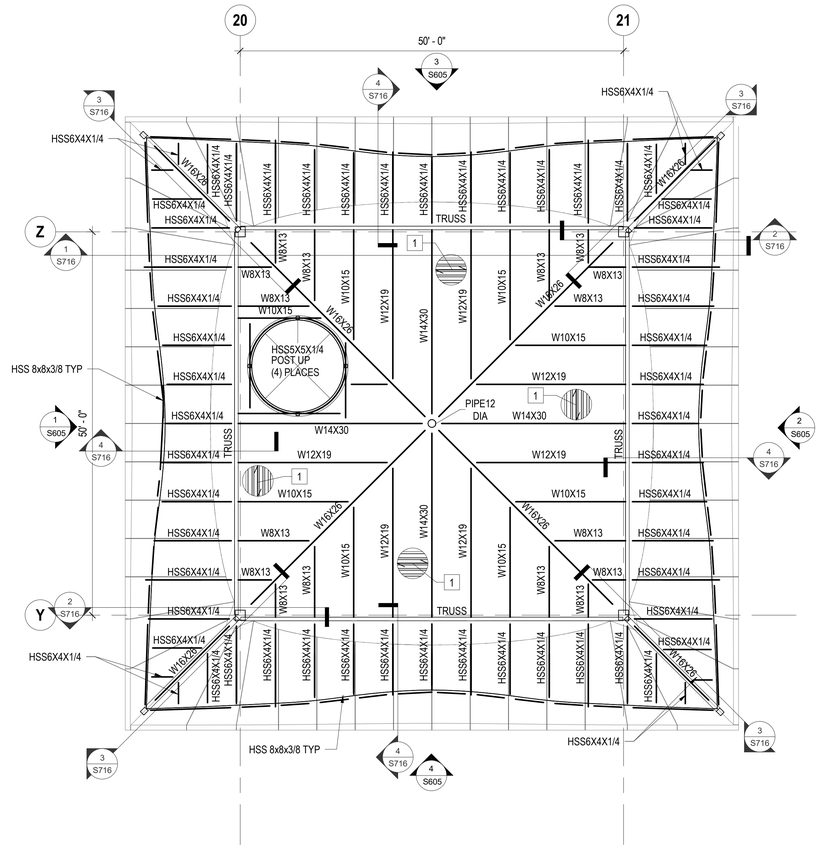


T/ SLAB
91'-0" (TYP UNO)
T/ FOOTING
89'-0" (TYP UNO)

1 S113 FOUNDATION/SLAB PLAN - 1ST LEVEL - AREA 3 - PORTE COCHERE

1/8" = 1'-0"



T/ STEEL
114'-10 1/2"
(TYP UNO)

2 S113 ROOF FRAMING PLAN - AREA 3 - PORTE COCHERE

1/8" = 1'-0"

ROOF FRAMING KEY NOTES

1 TYPICAL ROOF CONSTRUCTION: TAPERED RIGID INSULATION (SEE ARCHITECTURAL DRAWINGS) OVER 1-1/2" TYPE "B" 22 GAGE GALVANIZED STEEL ROOF DECK. REFER TO SYMBOLS ON PLAN FOR THE INTENDED SPAN DIRECTIONS OF THE METAL DECK.

N

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FOUNDATION / FRAMING PLAN - 1ST LEVEL & ROOF FRAMING PLAN - AREA 3 - PORTE COCHERE

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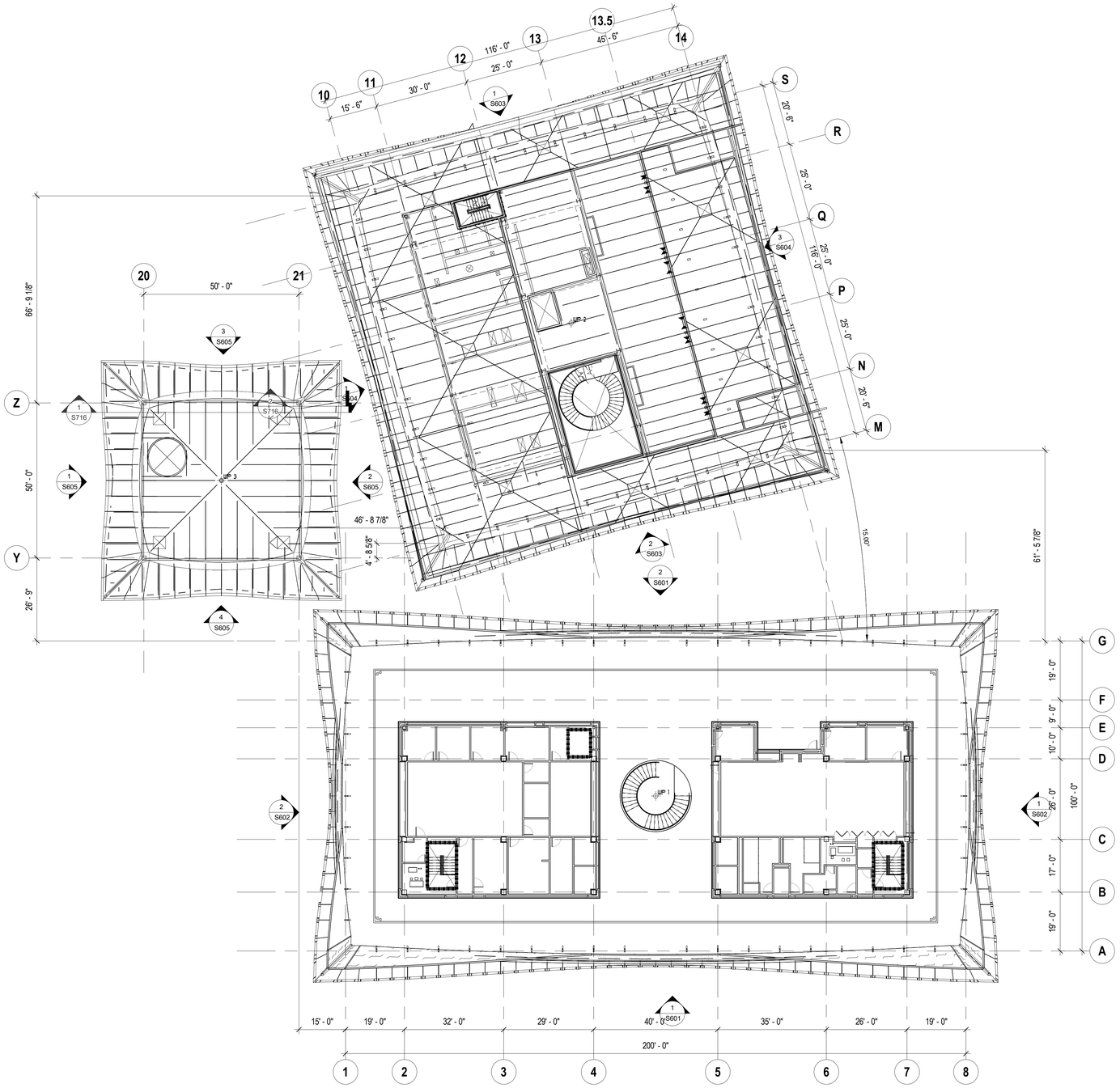

1 S120 FRAMING PLAN - 2ND LEVEL - OVERALL

1/16" = 1'-0"

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FRAMING PLAN - 2ND LEVEL - OVERALL

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PROJ. NO. E - 16078.00 SHEET
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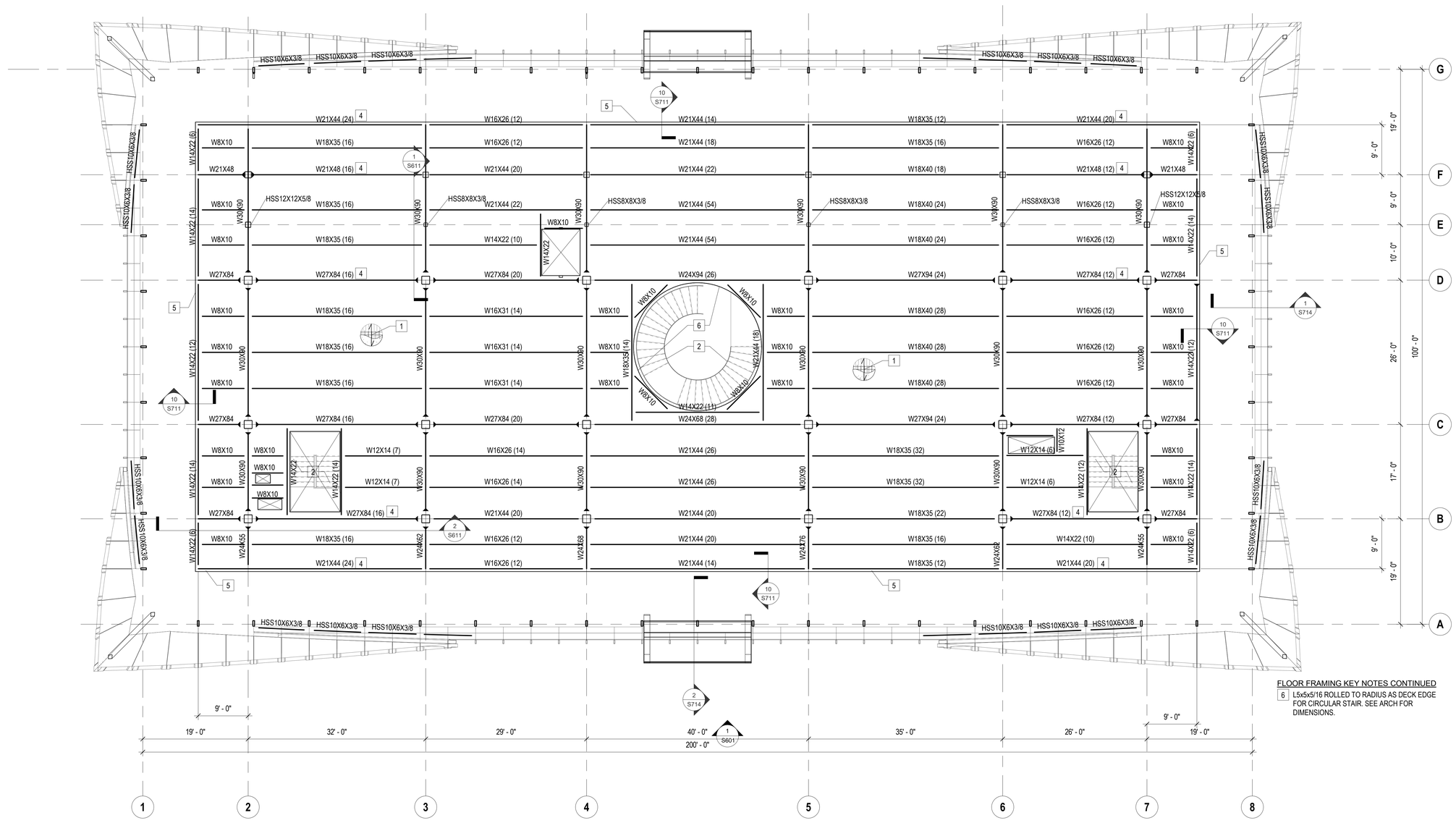
S120

T/ SLAB
107'-0" (TYP UNO)
T/ STEEL
106'-7" (TYP UNO)



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S121

FRAMING PLAN - 2ND LEVEL - AREA 1 - LIBRARY

1/8" = 1'-0"

FLOOR FRAMING PLAN GENERAL NOTES

1. REFER TO THE GENERAL STRUCTURAL NOTES & PROJECT SPECIFICATIONS FOR DEFINITION OF SYMBOLS, ABBREVIATIONS, AND OTHER INFORMATION / CRITERIA NOT SHOWN ON PLAN.
2. REFER TO THE GENERAL STRUCTURAL NOTES FOR REQUIREMENTS PERTAINING TO THE EXISTING CONSTRUCTION AS IT RELATES TO NEW WORK.
3. TYPICAL SECTIONS SHOWN ARE APPLICABLE TO SIMILAR CONDITIONS, EVEN IF SECTION MARKS ARE NOT SHOWN.
4. COORDINATE FINAL SIZE AND LOCATION OF ROOF PENETRATIONS, OPENINGS, AND CHASES WITH THE ARCHITECTURAL AND MEP/FP DRAWINGS. PROVIDE ADDITIONAL FRAMING / STRUCTURAL REINFORCEMENT FOR OPENINGS IN METAL ROOF DECK PER DETAIL X/SXXX WHERE SUCH IS REQUIRED BY THE DETAIL.
5. TOP-OF-STEEL ELEVATION SHALL BE AS REFERENCED IN THE "TYPICAL ELEVATION" NOTE ON THIS PLAN, EXCEPT AS NOTED OTHERWISE IN THE PLANS AND DETAILS. ELEVATIONS NOTED WITH A [+] OR [–] ARE REFERENCED FROM THE TYPICAL TOP-OF-STEEL ELEVATION.
6. UNLESS OTHERWISE NOTED OR DIMENSIONED ON PLAN, FRAMING IS LOCATED ON THE GRIDLINES AND THEN EQUALLY SPACED BETWEEN WITHIN THE BAYS.
7. STRUCTURAL STEEL CONNECTIONS DENOTED THUS ▸——— ARE MOMENT CONNECTIONS AND SHALL BE CONSTRUCTED PER THE ASSOCIATED DETAILS.
8. (##) AFTER A BEAM SIZE DENOTES THE NUMBER OF 3/4"øX4" LONG HEADED STUDS, EQUALLY SPACED ALONG THE BEAM SPAN.

FLOOR FRAMING KEY NOTES

1 TYPICAL FLOOR CONSTRUCTION: 3 1/2" NORMAL-WEIGHT CONCRETE OVER 1-1/2" TYPE "VL" 20 GAGE GALVANIZED COMPOSITE STEEL FLOOR DECK REINFORCED WITH 6x6-W2.1xW2.1 W.W.F. (5" TOTAL THICKNESS). REFER TO SYMBOLS ON PLAN FOR THE INTENDED SPAN DIRECTIONS OF THE COMPOSITE DECK.

2 PRE-ENGINEERED STEEL STAIR BY STAIR FABRICATOR'S ENGINEER. ANY FRAMING SHOWN IS CONCEPTUAL ONLY AND CONVEYS THE INTENT FOR SUPPORT LOCATIONS AND CONDITIONS. REFER TO ARCHITECTURAL DRAWINGS FOR DIMENSIONS AND ELEVATIONS, AND SUBMIT SIGNED AND SEALED SHOP DRAWINGS FOR REVIEW.

3 REFER TO DETAILS X/SXXX AND X/SXXX FOR ADDITIONAL FRAMING REQUIRED AROUND FLOOR OPENINGS BASED UPON OPENING SIZE, TYPICAL.

4 BRACE BOTTOM FLANGE OF NOTED STEEL FRAMING WITH KICKERS PER DETAIL X/SXXX.

5 PROVIDE MISC. STEEL FRAME AT GUARDRAIL /BOOKSHELF ALONG PERIMETER OF 2ND FL

FLOOR FRAMING KEY NOTES CONTINUED

6 L5x5x5/16 ROLLED TO RADIUS AS DECK EDGE FOR CIRCULAR STAIR. SEE ARCH FOR DIMENSIONS.

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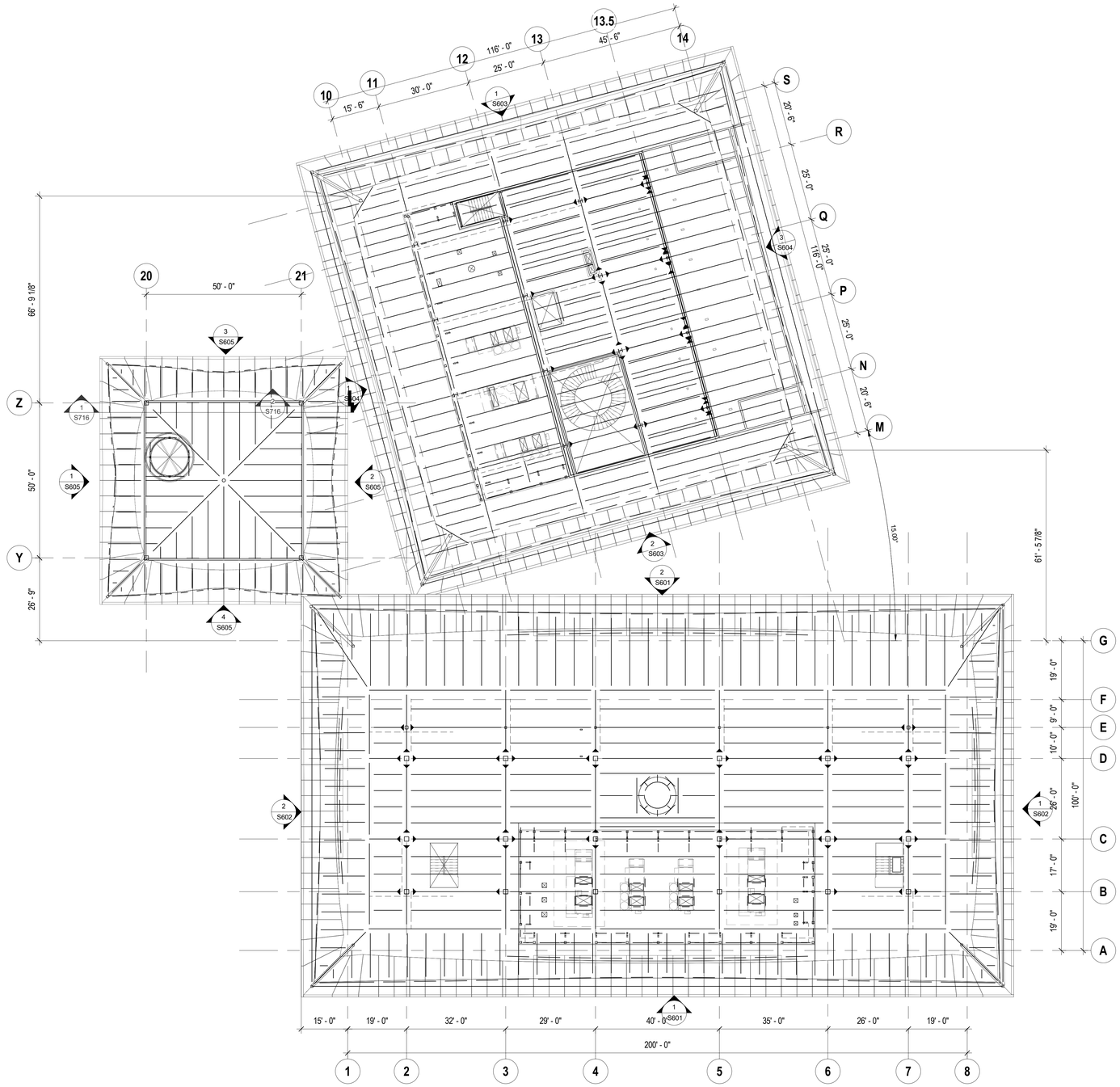

1 S130 ROOF FRAMING PLAN - OVERALL

1/16" = 1'-0"

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ROOF FRAMING PLAN - OVERALL

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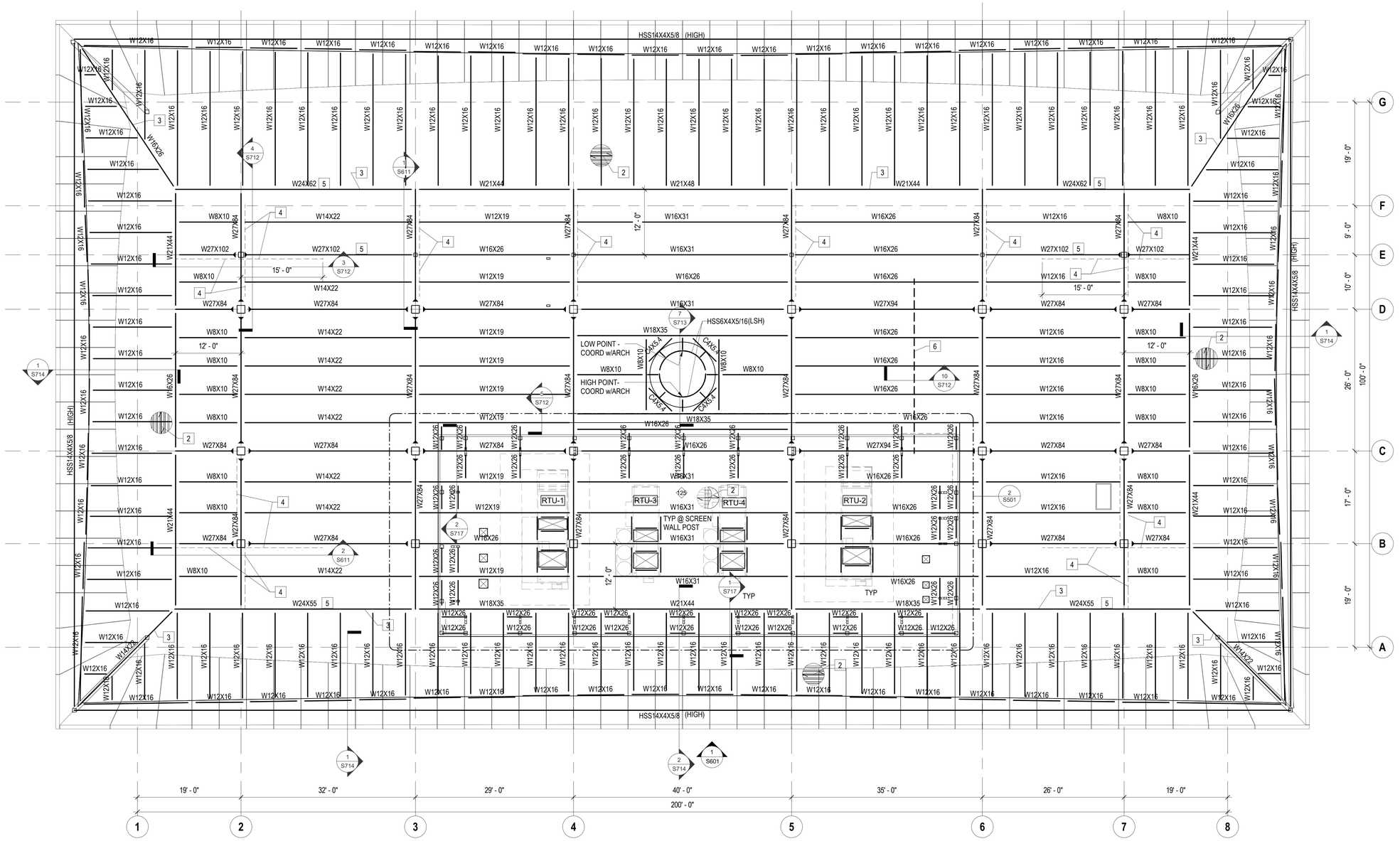
PROJ. NO. E - 16078.00
DRAWN DLL
SHEET **S130**



T/ STEEL
127'-10 1/2" (TYP UNO)

1
S131

ROOF FRAMING PLAN - AREA 1 - LIBRARY

1/8" = 1'-0"

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ROOF FRAMING PLAN GENERAL NOTES

1. REFER TO THE GENERAL STRUCTURAL NOTES & PROJECT SPECIFICATIONS FOR DEFINITION OF SYMBOLS, ABBREVIATIONS, AND OTHER INFORMATION / CRITERIA NOT SHOWN ON PLAN.
2. REFER TO THE GENERAL STRUCTURAL NOTES FOR REQUIREMENTS PERTAINING TO THE EXISTING CONSTRUCTION AS IT RELATES TO NEW WORK.
3. TYPICAL SECTIONS SHOWN ARE APPLICABLE TO SIMILAR CONDITIONS, EVEN IF SECTION MARKS ARE NOT SHOWN.
4. COORDINATE FINAL SIZE AND LOCATION OF ROOF PENETRATIONS, OPENINGS, AND CHASES WITH THE ARCHITECTURAL AND MEP/FP DRAWINGS. PROVIDE ADDITIONAL FRAMING / STRUCTURAL REINFORCEMENT FOR OPENINGS IN METAL ROOF DECK PER DETAIL X/SXXX WHERE SUCH IS REQUIRED BY THE DETAIL.
5. UNDERSIDE OF METAL DECK (U.M.D.) ELEVATION SHALL BE AS REFERENCED ON THIS PLAN, BOTH BY THE "TYPICAL ELEVATION" NOTE AND SPECIFIC EXCEPTIONS NOTED ON PLAN. ELEVATIONS DENOTED WITH A [+] OR [–] ARE REFERENCED FROM THE TYPICAL U.M.D. ELEVATION.
6. UNLESS OTHERWISE NOTED OR DIMENSIONED ON PLAN, FRAMING IS LOCATED ON THE GRIDLINES AND THEN EQUALLY SPACED BETWEEN WITHIN THE BAYS.
7. STRUCTURAL STEEL CONNECTIONS DENOTED THUS ▶—— ARE MOMENT CONNECTIONS AND SHALL BE CONSTRUCTED PER THE ASSOCIATED DETAILS.

ROOF FRAMING KEY NOTES

1	ACCESS HATCH FOR LADDER, SEE ARCHITECTURAL DRAWINGS.
2	TYPICAL ROOF CONSTRUCTION: TAPERED RIGID INSULATION (SEE ARCHITECTURAL DRAWINGS) OVER 1-1/2" TYPE "B" 22 GAGE GALVANIZED STEEL ROOF DECK. REFER TO SYMBOLS ON PLAN FOR THE INTENDED SPAN DIRECTIONS OF THE METAL DECK.
3	LOCATION OF DECK SPAN DIRECTION TRANSITION. SEE DETAIL X/SXXX.
4	DASHED LINE ADJACENT TO FRAMING DENOTES A (2)L6x6x3/8 (WITH 1/2" GAP) STEEL ANGLE KICKER BELOW. REFER TO DETAILS CUT ON PLAN FOR ADDITIONAL INFORMATION.
5	BRACE BOTTOM FLANGE OF NOTED STEEL FRAMING WITH KICKERS PER DETAIL X/SXXX.
6	OPERABLE PARTITION REF ARCH AND MANUFACTURERS DRAWINGS.

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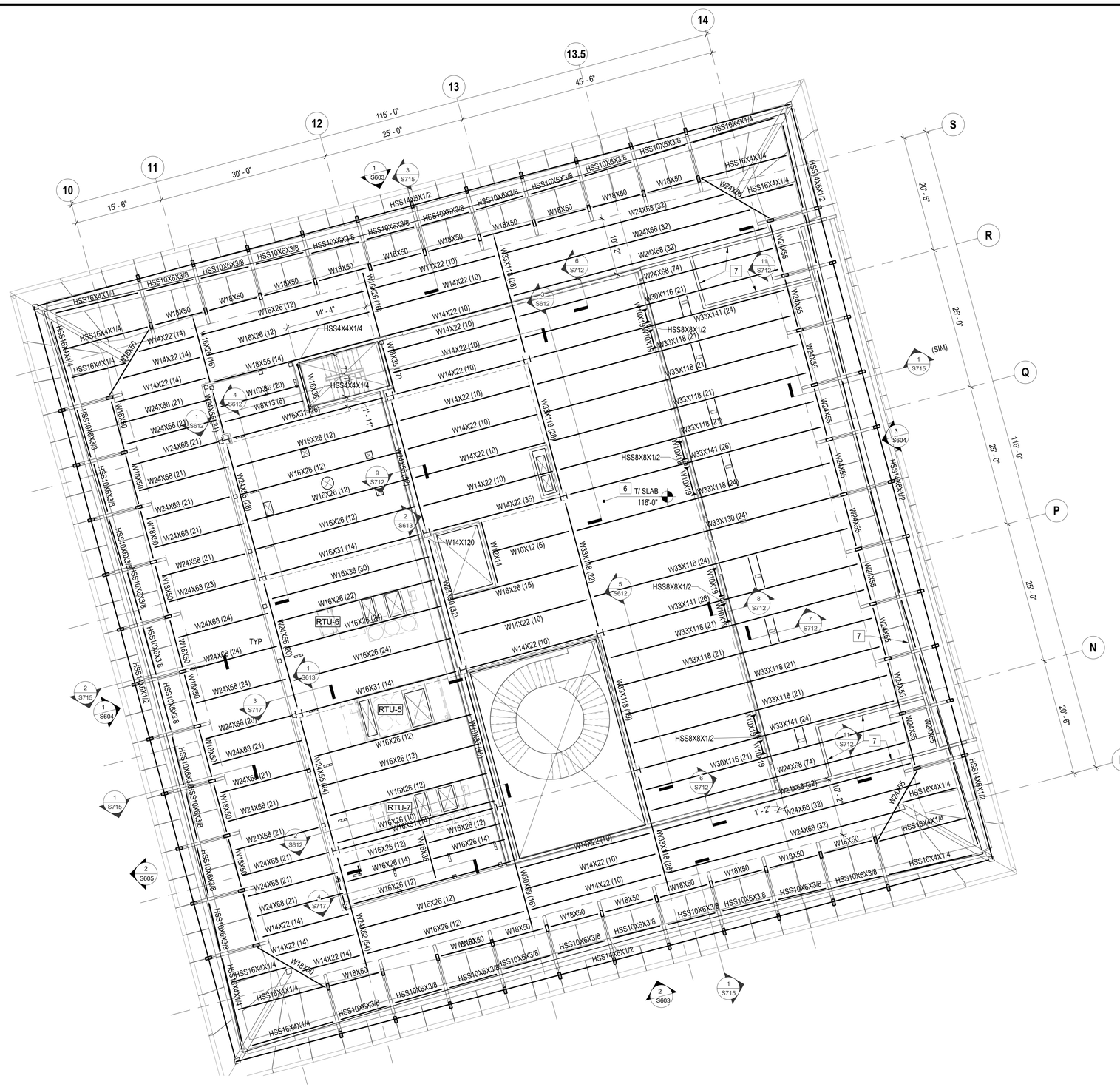

T/ SLAB
114'-0" (TYP UNO)
T/ STEEL
113'-7" (TYP UNO)

ROOF FRAMING PLAN GENERAL NOTES

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2. REFER TO THE GENERAL STRUCTURAL NOTES FOR REQUIREMENTS PERTAINING TO THE EXISTING CONSTRUCTION AS IT RELATES TO NEW WORK.
3. TYPICAL SECTIONS SHOWN ARE APPLICABLE TO SIMILAR CONDITIONS, EVEN IF SECTION MARKS ARE NOT SHOWN.
4. COORDINATE FINAL SIZE AND LOCATION OF ROOF PENETRATIONS, OPENINGS, AND CHASES WITH THE ARCHITECTURAL AND MEP/FP DRAWINGS. PROVIDE ADDITIONAL FRAMING / STRUCTURAL REINFORCEMENT FOR OPENINGS IN METAL ROOF DECK PER DETAIL X/SXXX WHERE SUCH IS REQUIRED BY THE DETAIL.
5. UNDERSIDE OF METAL DECK (U.M.D.) ELEVATION SHALL BE AS REFERENCED ON THIS PLAN, BOTH BY THE "TYPICAL ELEVATION" NOTE AND SPECIFIC EXCEPTIONS NOTED ON PLAN. ELEVATIONS DENOTED WITH A [+] OR [–] ARE REFERENCED FROM THE TYPICAL U.M.D. ELEVATION.
6. UNLESS OTHERWISE NOTED OR DIMENSIONED ON PLAN, FRAMING IS LOCATED ON THE GRIDLINES AND THEN EQUALLY SPACED BETWEEN WITHIN THE BAYS.
7. STRUCTURAL STEEL CONNECTIONS DENOTED THUS ▶— ARE MOMENT CONNECTIONS AND SHALL BE CONSTRUCTED PER THE ASSOCIATED DETAILS.

ROOF FRAMING KEY NOTES

1. ACCESS HATCH FOR LADDER, SEE ARCHITECTURAL DRAWINGS.
2. TYPICAL ROOF CONSTRUCTION: TAPERED RIGID INSULATION (SEE ARCHITECTURAL DRAWINGS) OVER 3 1/2" NORMAL WEIGHT CONCRETE OVER 1 1/2" TYPE "VL" 20 GA GALVANIZED COMPOSITE STEEL FLOOR DECK REINFORCED w/ 6X6 - W2.1XW2.1 WWF (5" TOTAL THICKNESS). REFER TO SYMBOLS ON PLAN FOR THE INTENDED SPAN DIRECTIONS OF THE METAL DECK.
3. LOCATION OF DECK SPAN DIRECTION TRANSITION. SEE DETAIL X/SXXX.
4. DASHED LINE ADJACENT TO FRAMING DENOTES A (2)L6x6x3/8 (WITH 1/2" GAP) STEEL ANGLE KICKER BELOW. REFER TO DETAILS CUT ON PLAN FOR ADDITIONAL INFORMATION.
5. BRACE BOTTOM FLANGE OF NOTED STEEL FRAMING WITH KICKERS PER DETAIL X/SXXX.
6. 4" CONCRETE SLAB REINF WITH #4 @ 12" OC EW OVER HIGH DENSITY FOAM.

ROOF FRAMING KEY NOTES CONTINUED

7. 6" CONCRETE PLANTER WALL SEE DETAIL 11/S712.

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ROOF FRAMING PLAN - AREA 2 - EVENT CENTER

PROJ. NO. E - 16078.00 SHEET
DRAWN DLL
S132

1 S132 ROOF FRAMING PLAN - AREA 2 - EVENTS CENTER
1/8" = 1'-0"

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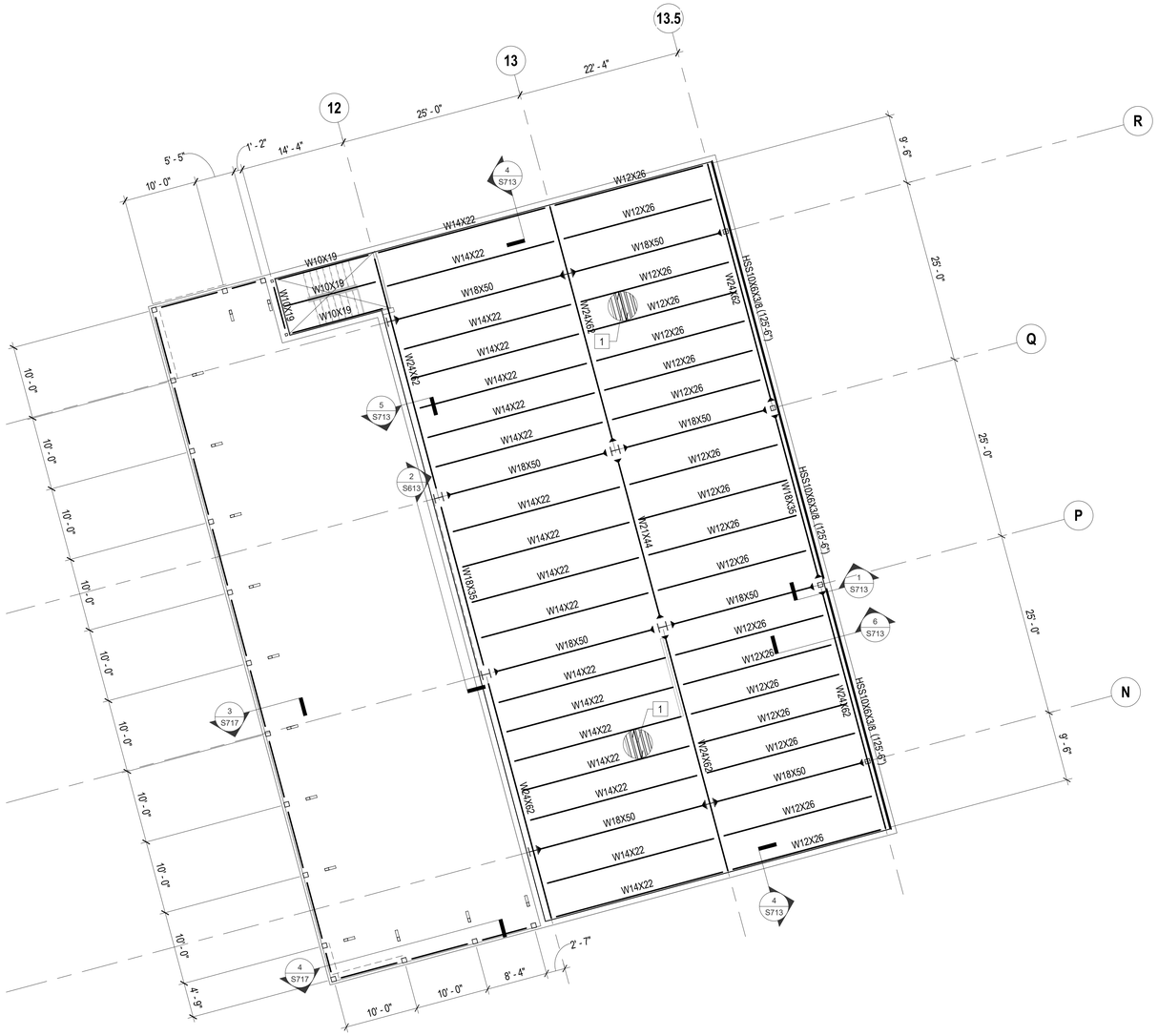

1 S133

HIGH ROOF FRAMING PLAN - AREA 2 - EVENTS CENTER

1/8" = 1'-0"

ROOF FRAMING KEY NOTES

1 TYPICAL ROOF CONSTRUCTION: TAPERED RIGID INSULATION (SEE ARCHITECTURAL DRAWINGS) OVER 1-1/2" TYPE "B" 22 GAGE GALVANIZED STEEL ROOF DECK. REFER TO SYMBOLS ON PLAN FOR THE INTENDED SPAN DIRECTIONS OF THE METAL DECK.

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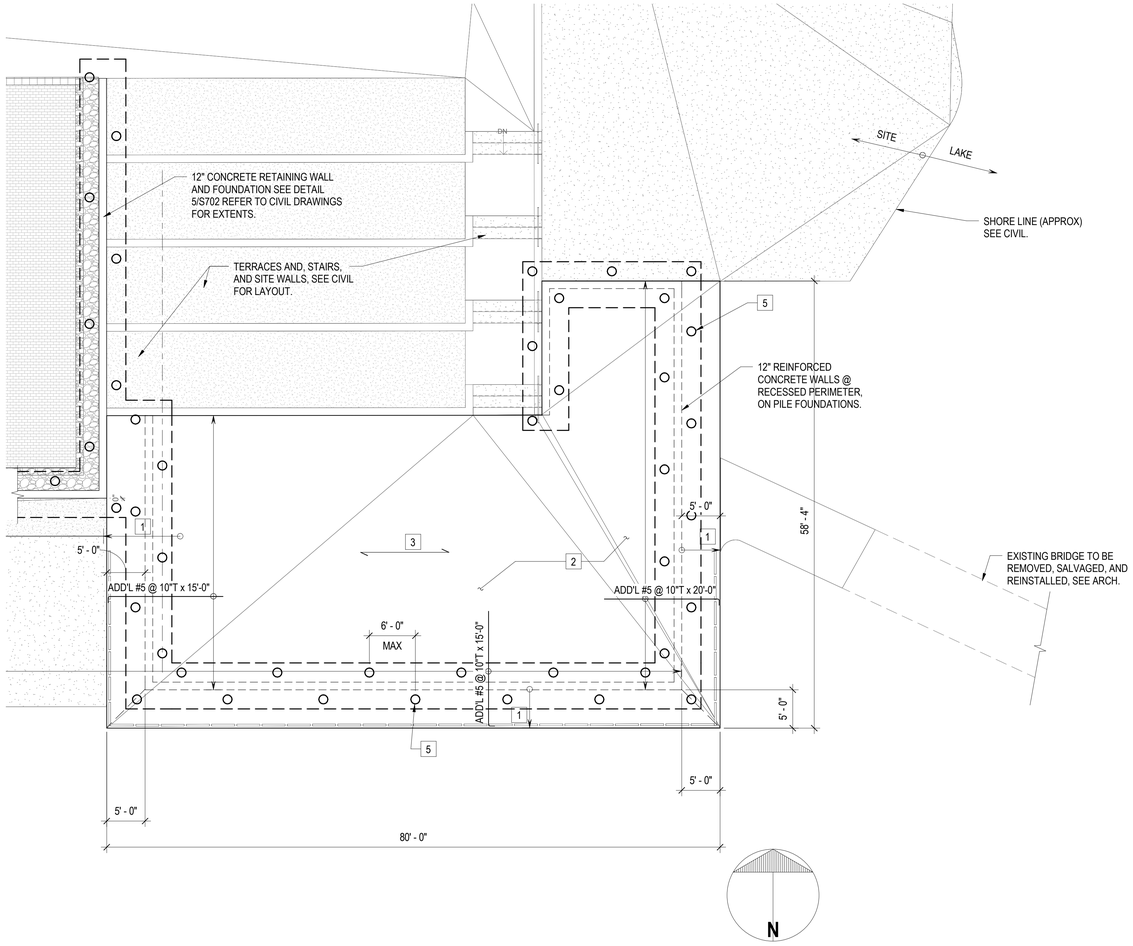
S133

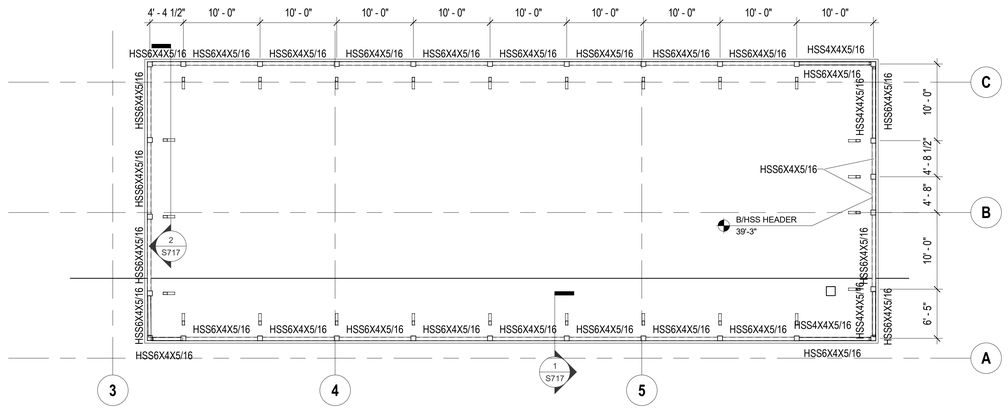


KEY NOTES

1. TAPER BOTTOM OF SLAB TO EDGE FROM FACE OF WALL, 10" THICKNESS TO 8" EDGE THICKNESS. AT ALL CANTILEVERERS PROVIDE ADDITIONAL TOP BARS SHOWN.
2. 10" CONCRETE SLAB REINFORCED WITH #5 @ 10" OC EPOXY COATED BARS TOP AND BOTTOM EA WAY.
3. SPAN DIRECTION OF SLAB. TOP AND BOTTOM BARS PARALLEL TO SPAN SHALL BE IN THE OUTERMOST LAYER.
4. JETTY HAS BEEN DESIGNED FOR 150PSF MAX SUPERIMPOSED LIVE LOAD.
5. 14" DIA. PILES, TWO ROWS AT 6'-0" OC, TYP.

1 S501 PARTIAL PLAN AT CONCRETE JETTY

1/8" = 1'-0"



2 S501 SCREEN WALL FRAMING PLAN - LIBRARY

1/8" = 1'-0"

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ENLARGED PLANS

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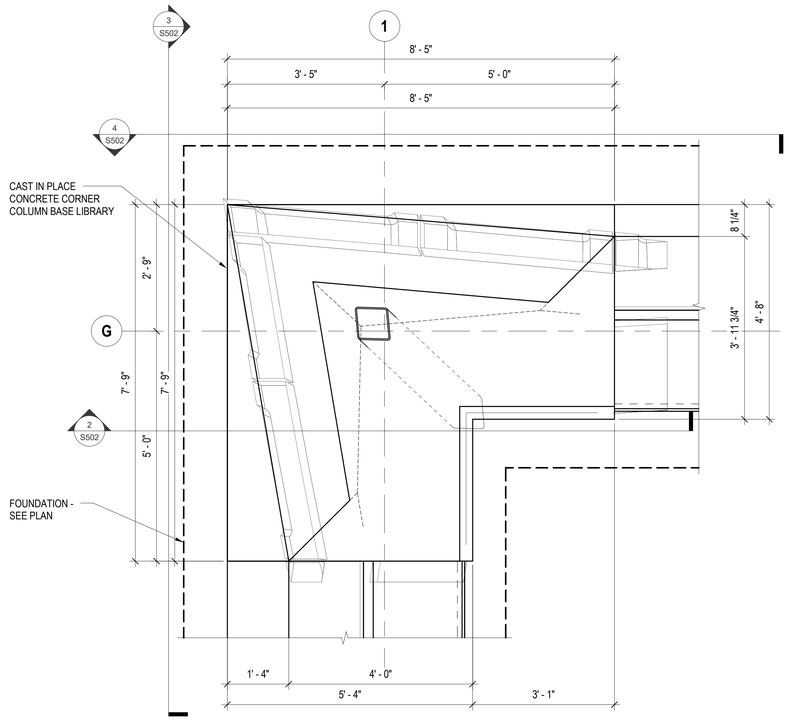
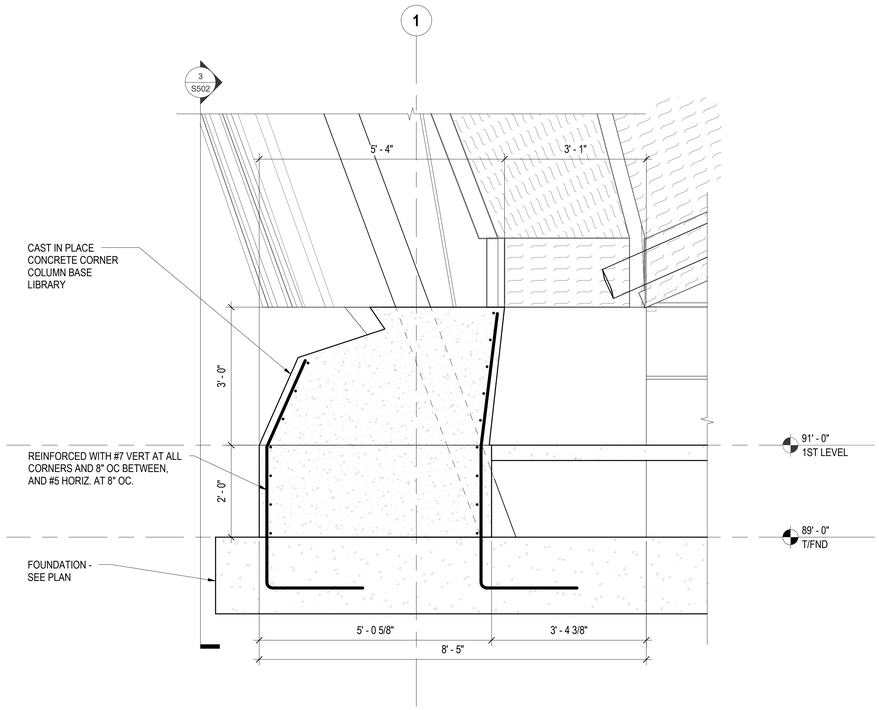
SHEET **S501**



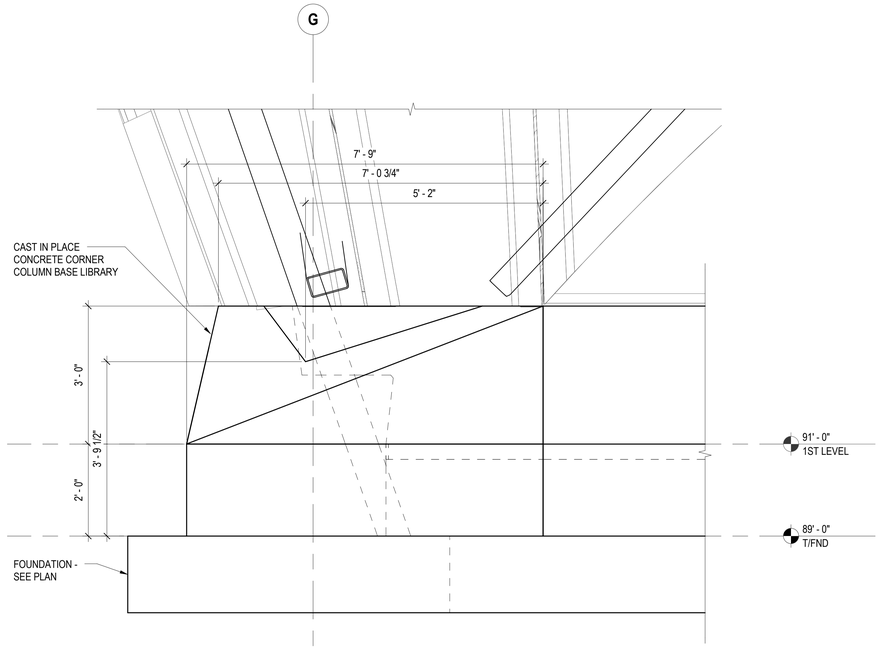
1 S502 ENLARGED PLAN - CORNER COLUMN BASE LIBRARY

3/4" = 1'-0"



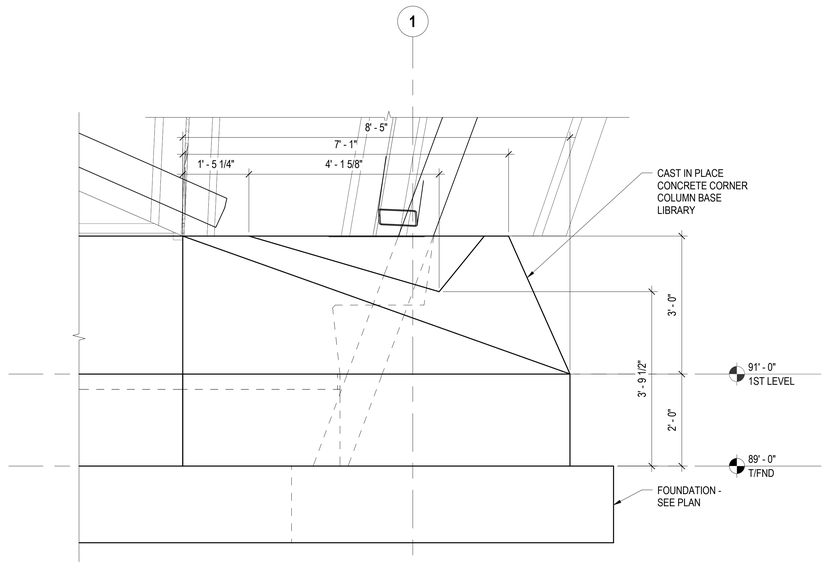
2 S502 SECTION - CORNER COLUMN BASE LIBRARY

3/4" = 1'-0"



3 S502 ELEVATION - CORNER COLUMN BASE LIBRARY

3/4" = 1'-0"



4 S502 ELEVATION - CORNER COLUMN BASE LIBRARY

3/4" = 1'-0"

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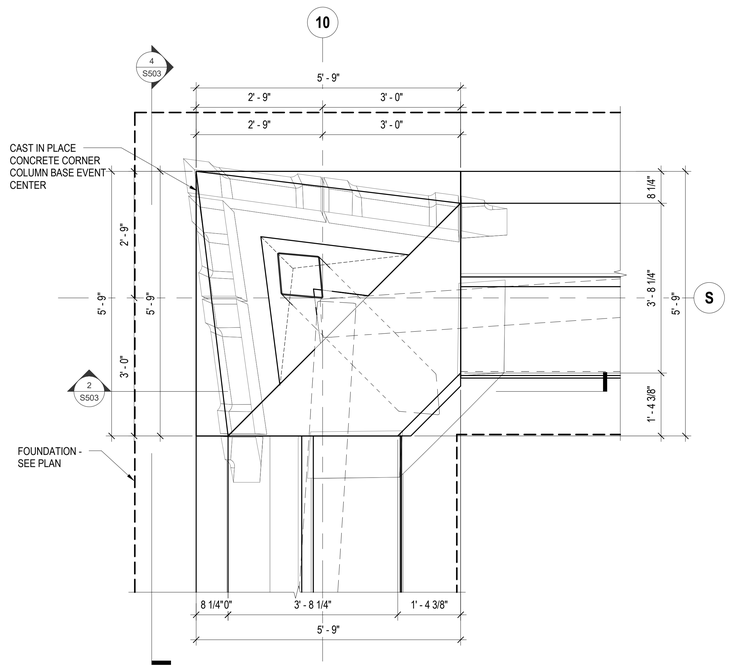
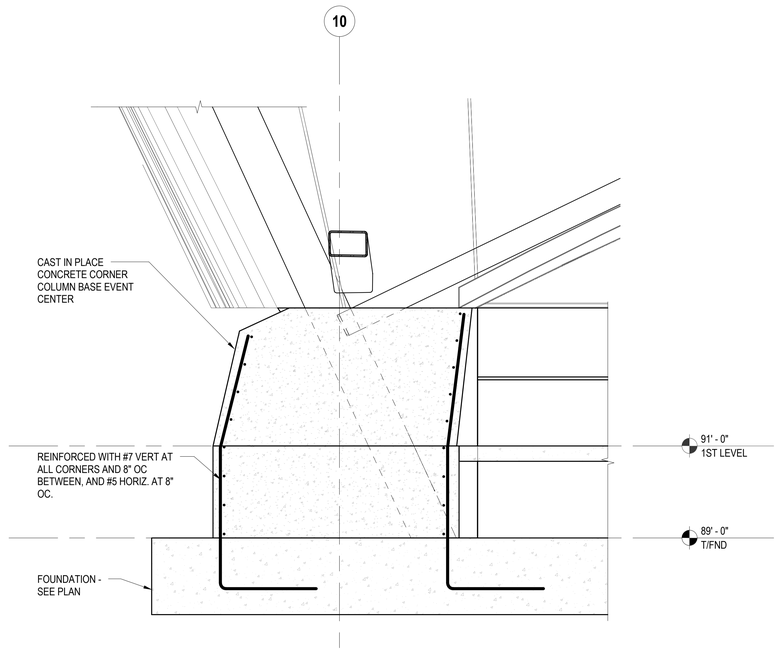


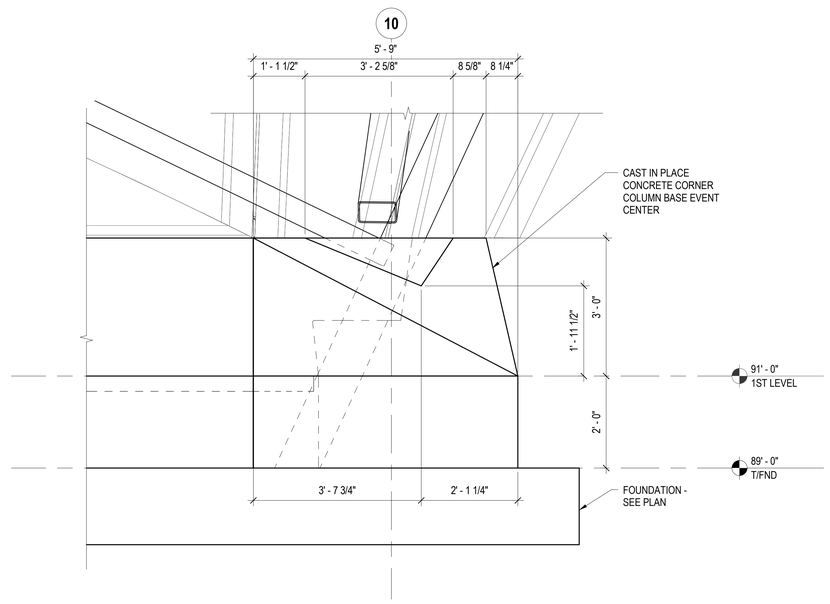
1 S503 ENLARGED PLAN - CORNER COLUMN BASE EVENT CENTER

3/4" = 1'-0"



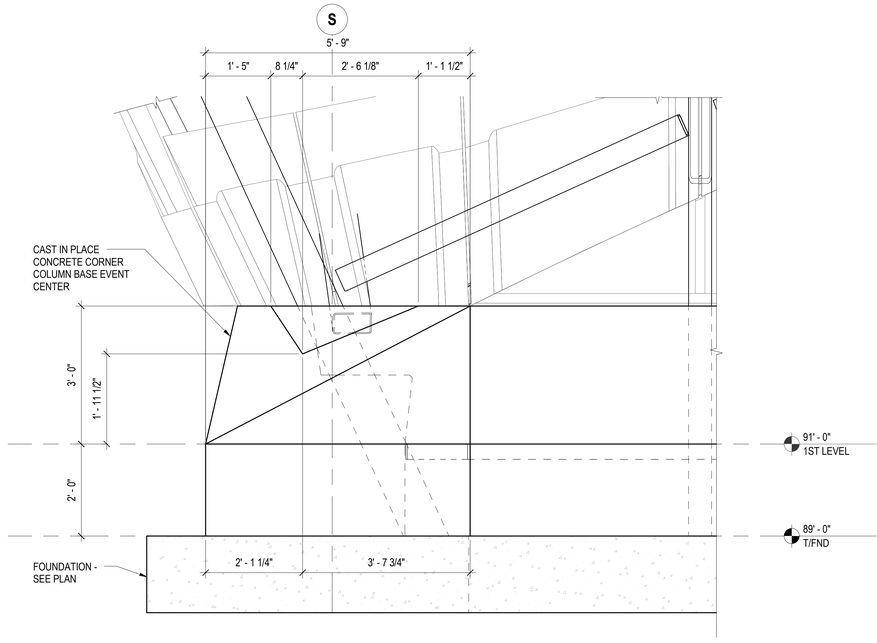
2 S503 SECTION - CORNER COLUMN BASE EVENT CENTER

3/4" = 1'-0"



3 S503 ELEVATION - CORNER COLUMN BASE EVENT CENTER

3/4" = 1'-0"



4 S503 ELEVATION - CORNER COLUMN BASE EVENT CENTER

3/4" = 1'-0"

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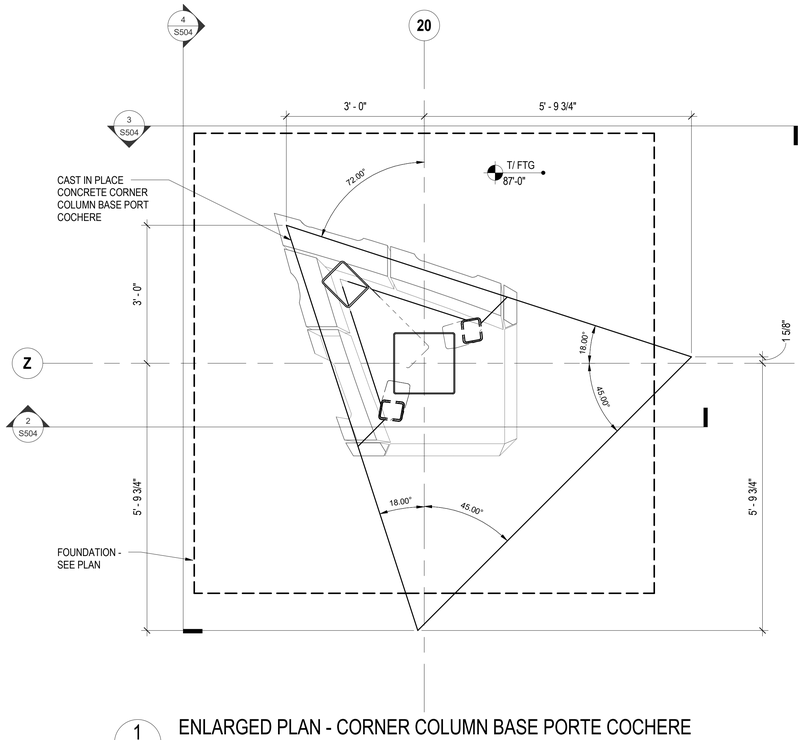
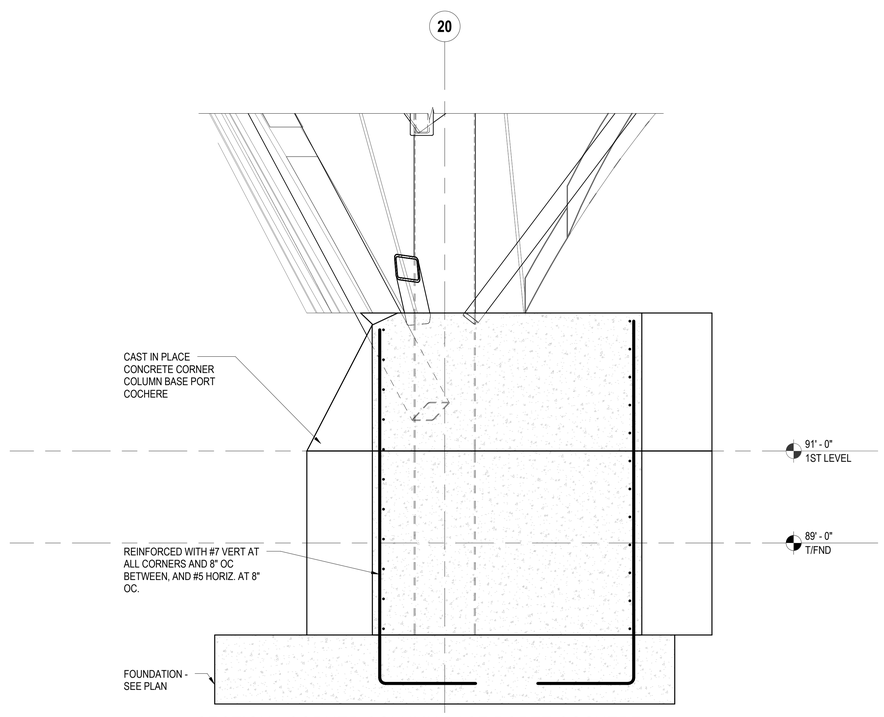


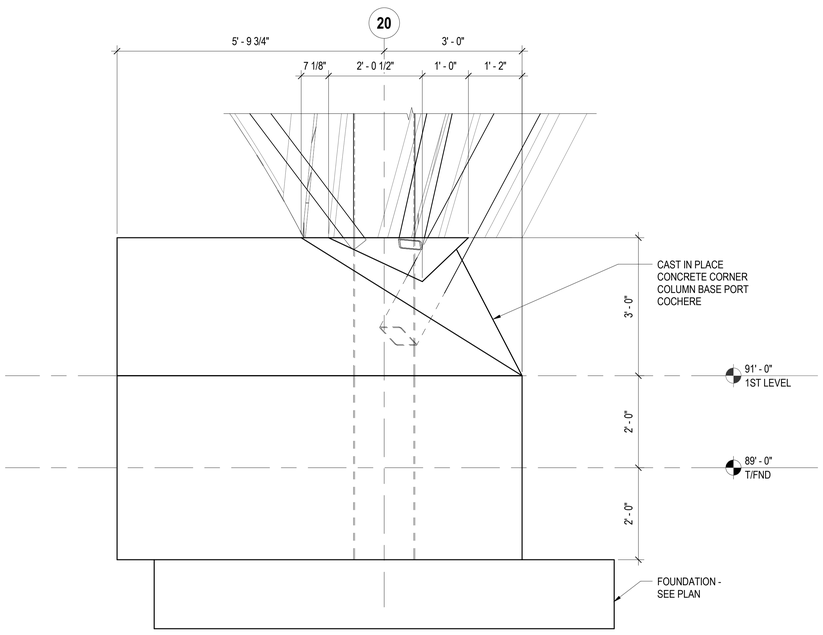
1 S504 ENLARGED PLAN - CORNER COLUMN BASE PORTE COCHERE

3/4" = 1'-0"



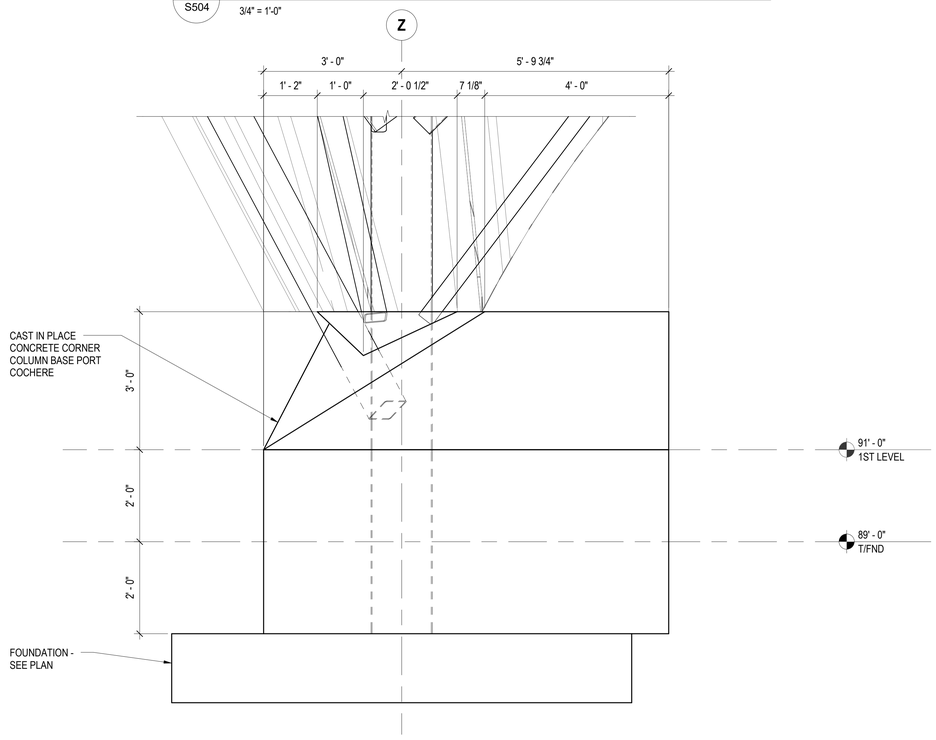
2 S504 SECTION - CORNER COLUMN BASE PORTE COCHERE

3/4" = 1'-0"



3 S504 ELEVATION - CORNER COLUMN BASE PORTE COCHERE

3/4" = 1'-0"



4 S504 ELEVATION - CORNER COLUMN BASE PORTE COCHERE

3/4" = 1'-0"

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ENLARGED PLAN - CORNER COLUMN BASE PORTE COCHERE

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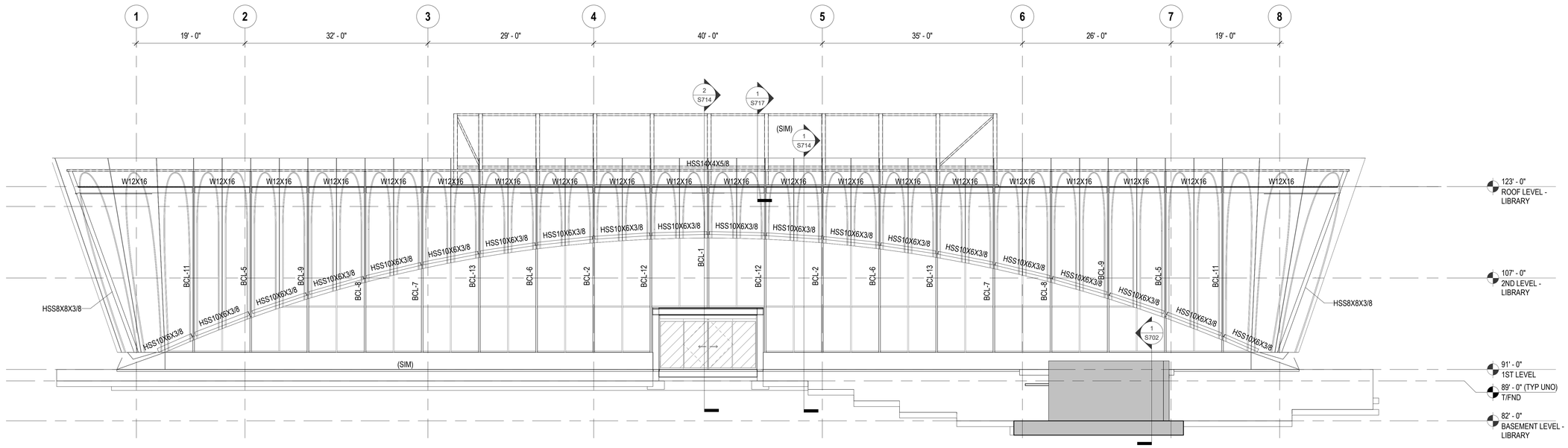
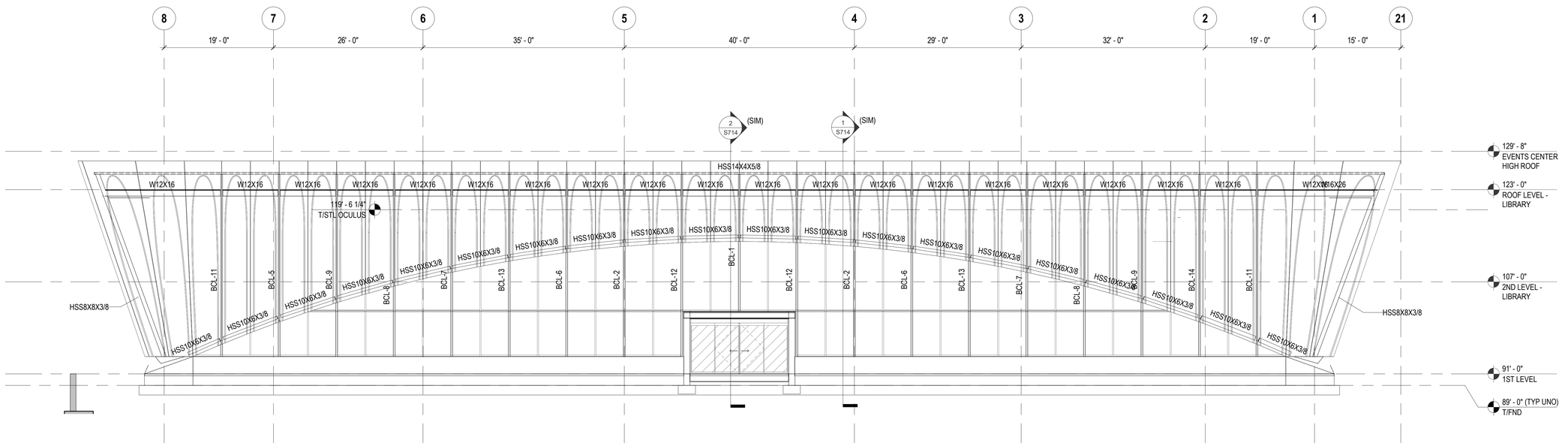


1 S601 FRAMING ELEVATION - LIBRARY - EAST

1/8" = 1'-0"



2 S601 FRAMING ELEVATION - LIBRARY - WEST

1/8" = 1'-0"

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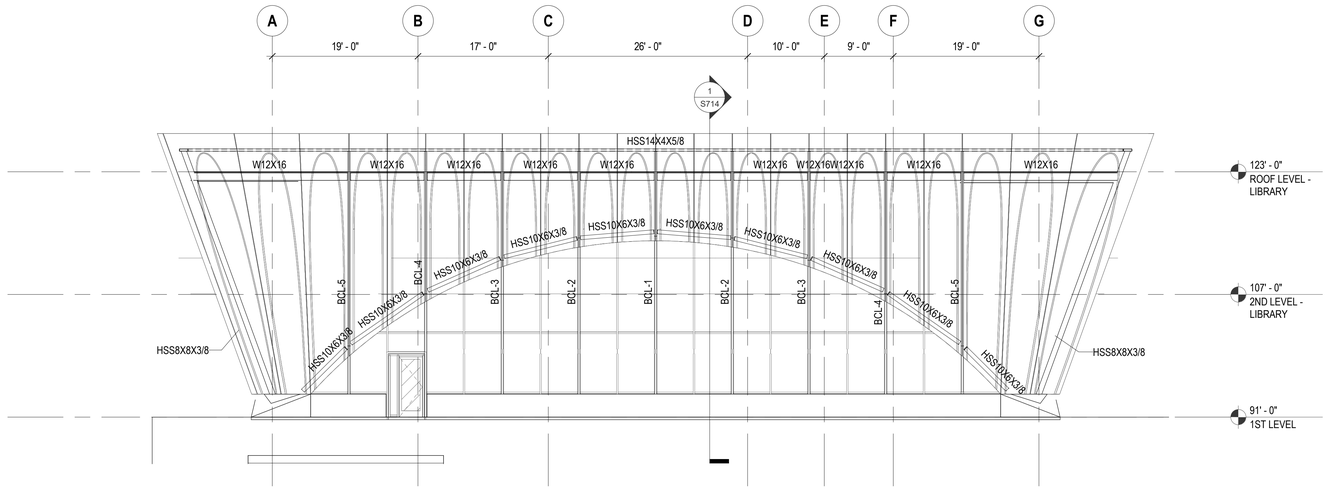
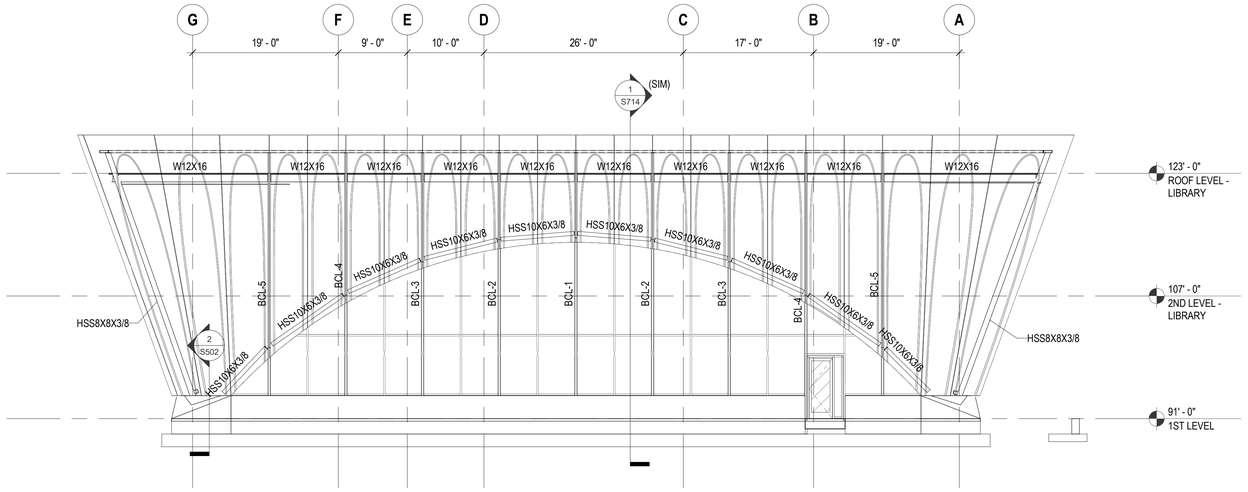


1 S602 FRAMING ELEVATION - LIBRARY - NORTH

1/8" = 1'-0"



2 S602 FRAMING ELEVATION - LIBRARY - SOUTH

1/8" = 1'-0"

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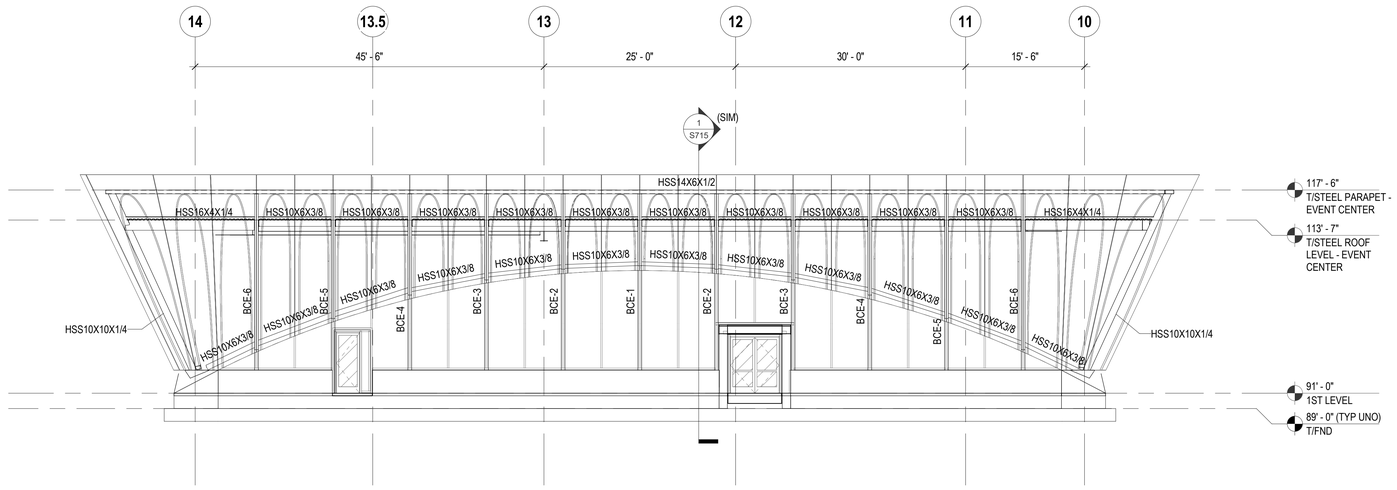
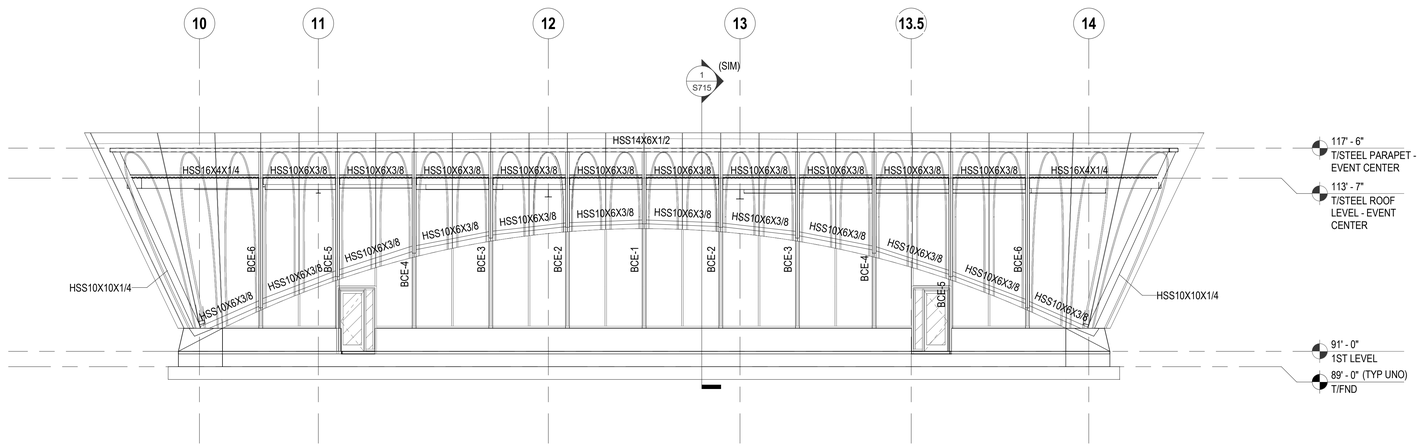


1 S603 FRAMING ELEVATION - EVENTS CENTER - EAST

1/8" = 1'-0"



2 S603 FRAMING ELEVATION - EVENTS CENTER - WEST

1/8" = 1'-0"

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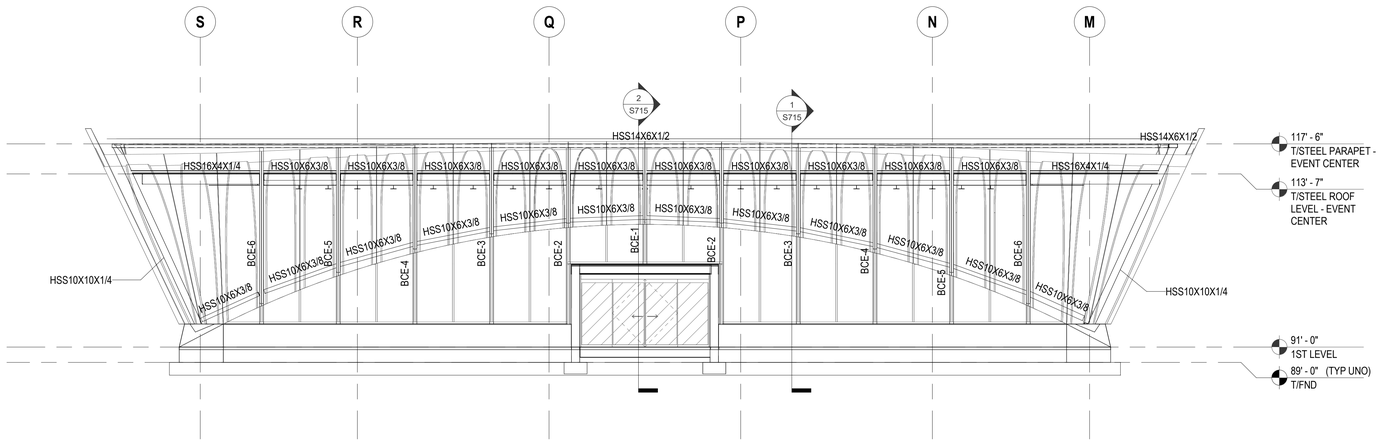
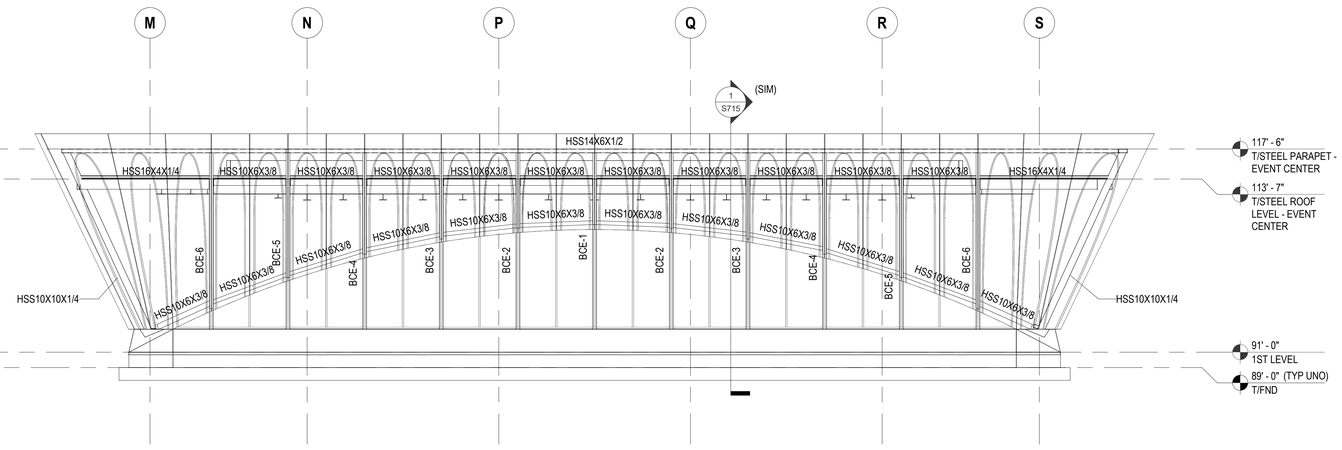


1 S604 FRAMING ELEVATION - EVENTS CENTER - NORTH

1/8" = 1'-0"



3 S604 FRAMING ELEVATION - EVENTS CENTER - SOUTH

1/8" = 1'-0"

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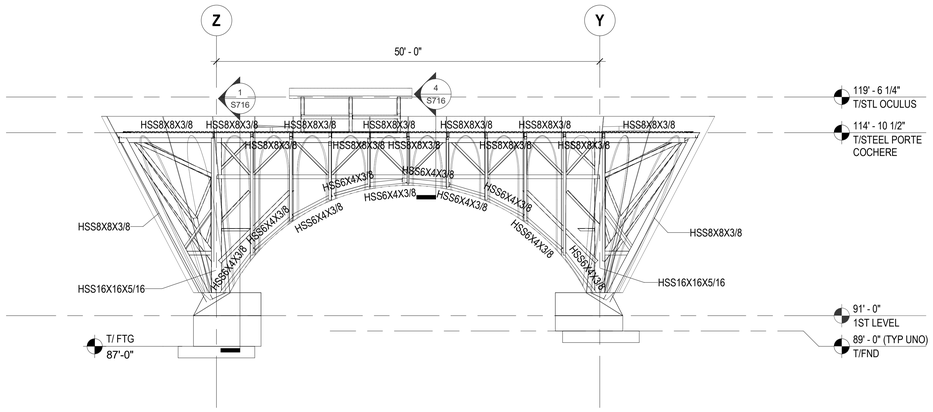
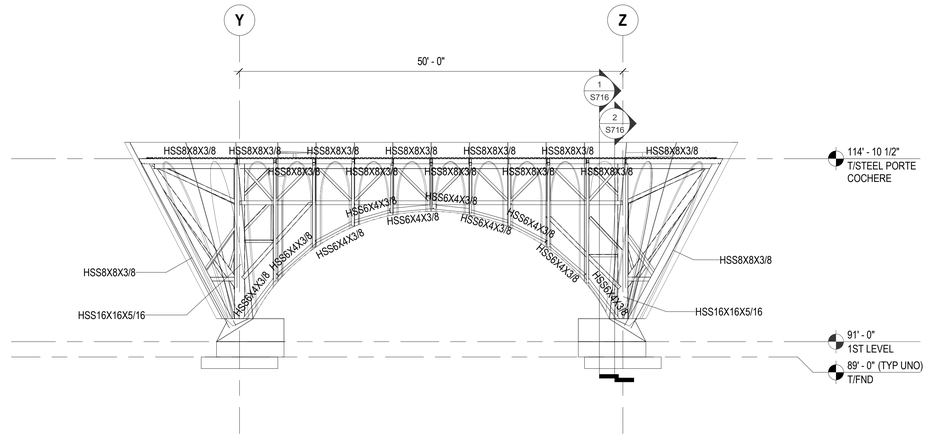


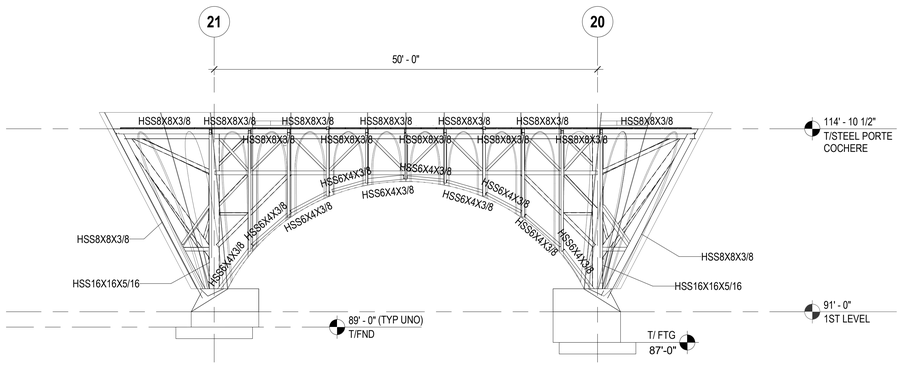
1 S605 FRAMING ELEVATION - PORTE COCHERE - NORTH

1/8" = 1'-0"



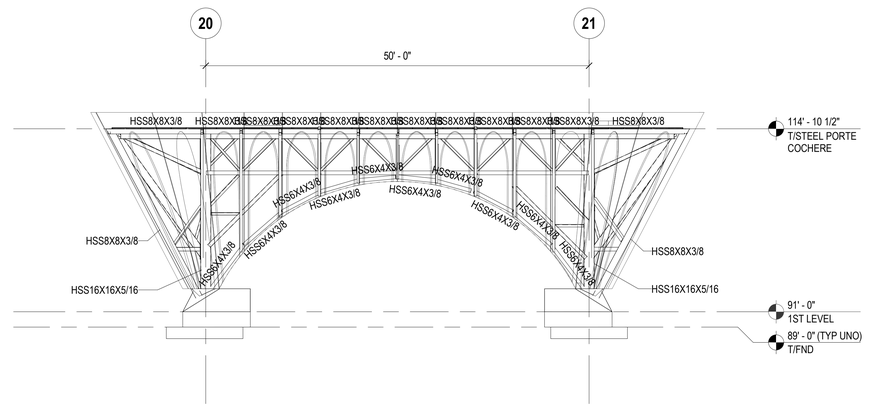
2 S605 FRAMING ELEVATION - PORTE COCHERE - SOUTH

1/8" = 1'-0"



3 S605 FRAMING ELEVATION - PORTE COCHERE - EAST

1/8" = 1'-0"



4 S605 FRAMING ELEVATION - PORTE COCHERE - WEST

1/8" = 1'-0"

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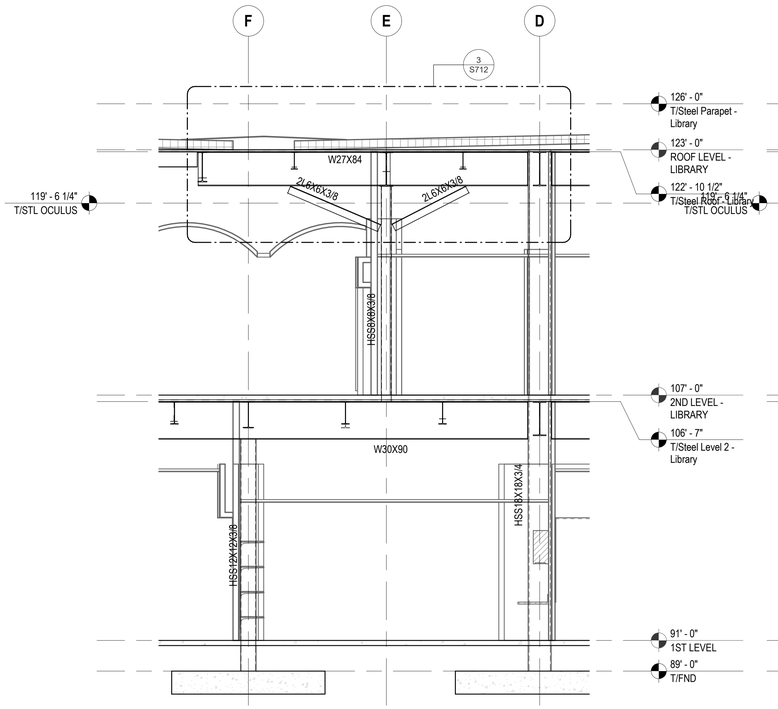
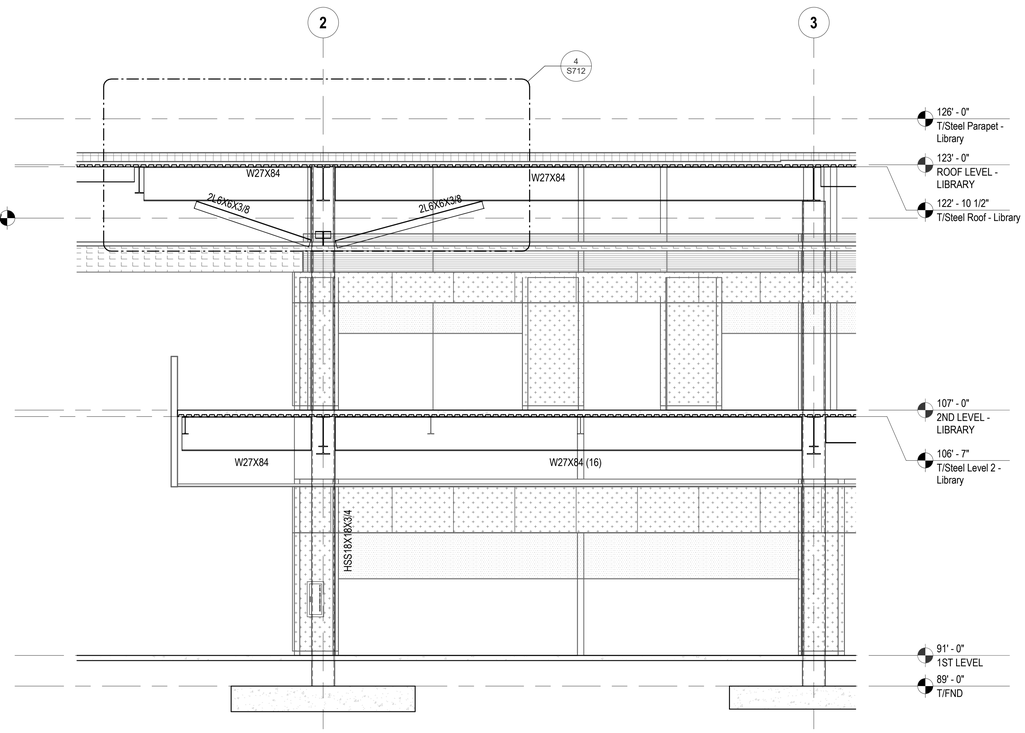
SHEET **S605**



1 INTERIOR FRAMING ELEVATION

S611

1/4" = 1'-0"



2 INTERIOR FRAMING ELEVATION

S611

1/4" = 1'-0"

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INTERIOR FRAMING ELEVATIONS - LIBRARY

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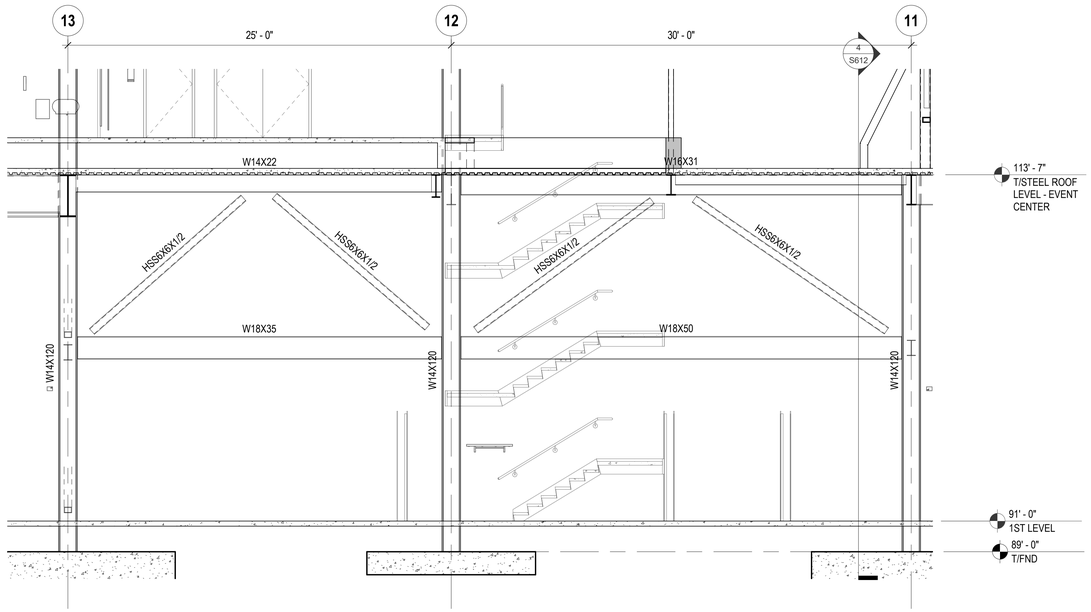
PROJ. NO. E - 16078.00 **SHEET**

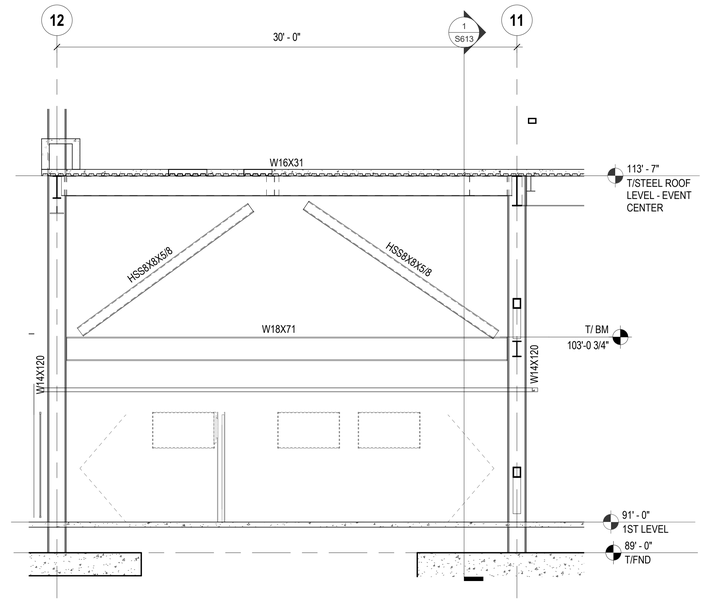
DRAWN DLL

S611



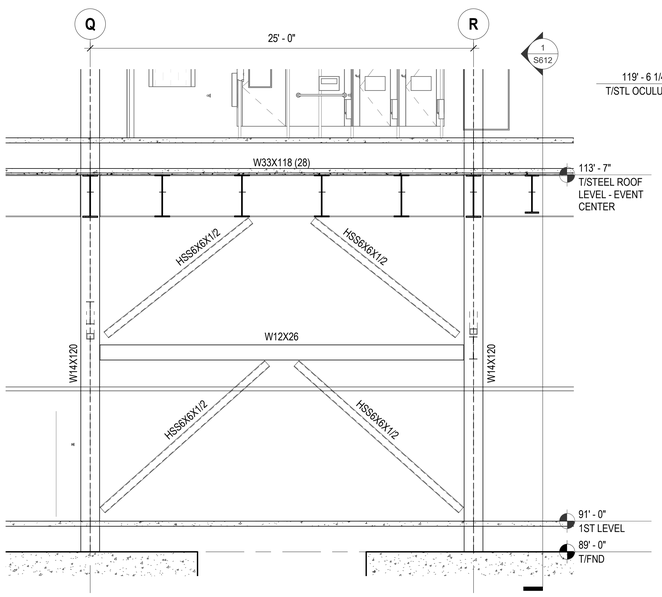
1 S612 ELEVATION - GRID 11 & 12 ON GRID R

1/4" = 1'-0"



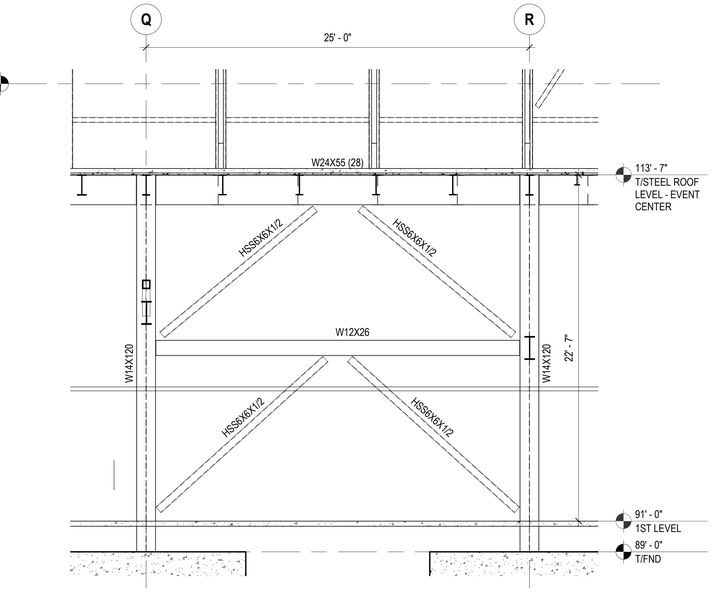
2 S612 ELEVATION - GRID 11 & 12 ON GRID N

1/4" = 1'-0"



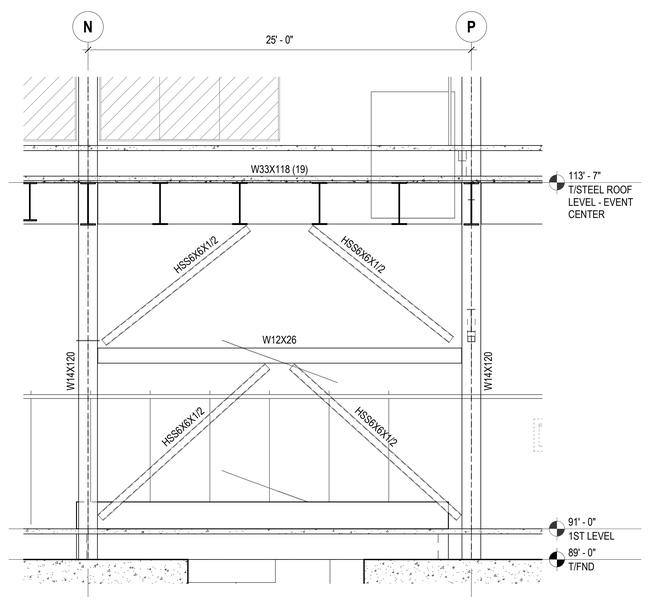
3 S612 ELEVATION - GRID Q & R ON GRID 13

1/4" = 1'-0"



4 S612 ELEVATION - GRID Q & R ON GRID 11

1/4" = 1'-0"



5 S612 ELEVATION - GRID N & P ON GRID 13

1/4" = 1'-0"

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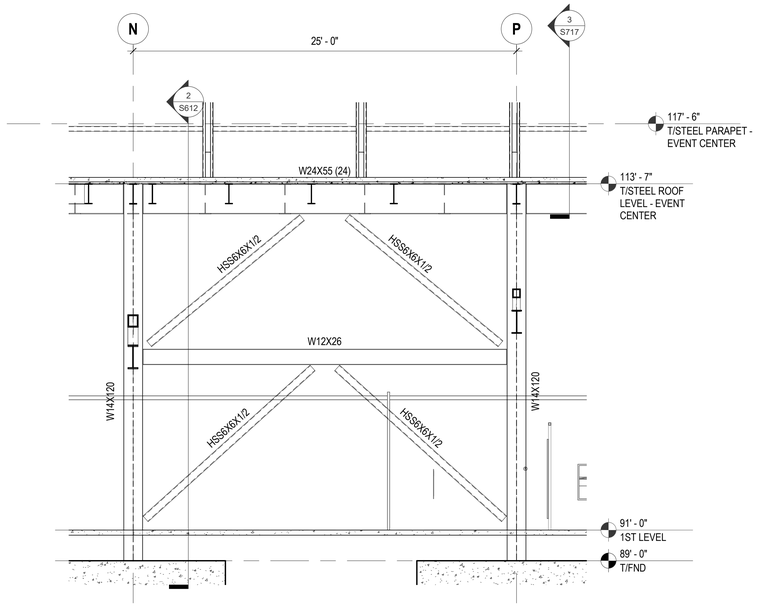
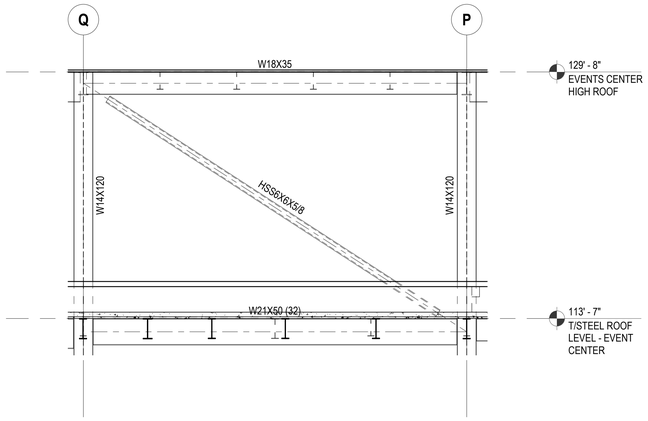
PROJ. NO. E - 16078.00 SHEET
DRAWN DLL
S612



1 S613 ELEVATION - GRID N & P ON GRID 11

1/4" = 1'-0"



2 S613 Detail 115

1/4" = 1'-0"

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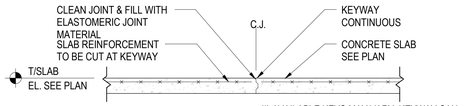
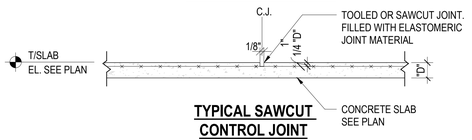
DRAWN DLL

S613



(*) AVAILABLE KEYS MAY VARY. KEYWAY CAN ALSO BE FORMED W/ HALF ROUND MATERIAL OF APPROX. THE SAME DIMENSIONS.

TYPICAL CONSTRUCTION JOINT

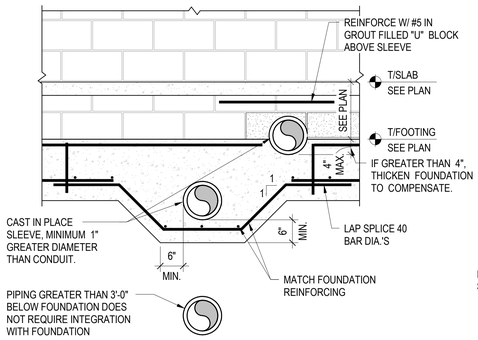


TYPICAL SAWCUT CONTROL JOINT

NOTE:
1. C.J. INDICATES CONTROL OR CONSTRUCTION JOINT.
2. CONTROL JOINTS SHALL BE SAWCUT AS SOON AS POSSIBLE WITHOUT RAVELING CONCRETE (4 TO 16 HOURS AFTER PLACEMENT MAX.)
3. JOINT PLACEMENT REQUIREMENTS:
   FOR ENCLOSED/INTERIOR AREAS. 15'-0" O.C. (MAX.) EACH WAY (UNO)
   FOR OUTSIDE/EXTERIOR AREAS. 12'-0" O.C. (MAX.) EACH WAY
   WHERE TOP OF SLAB SURFACES ARE TO BE FINISHED WITH TILE, GENERAL CONTRACTOR IS TO COORDINATE JOINT LOCATIONS WITH THAT OF MORTAR JOINTS.

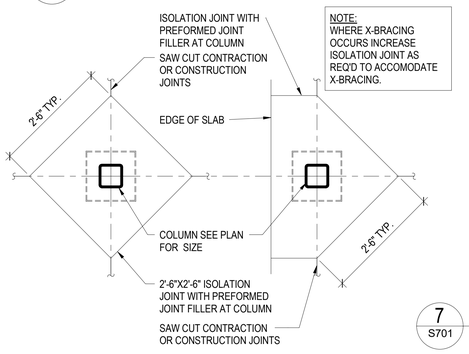
1 S701 TYPICAL SLAB CONSTRUCTION/CONTROL JOINTS

3/4" = 1'-0"



5 S701 TYPICAL FOUNDATION CONDUIT SLEEVE

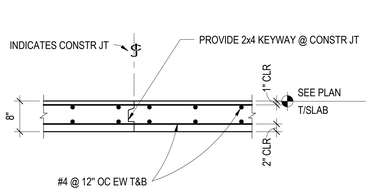
3/4" = 1'-0"



NOTE:
WHERE X-BRACING OCCURS INCREASE ISOLATION JOINT AS REQ'D TO ACCOMODATE X-BRACING.

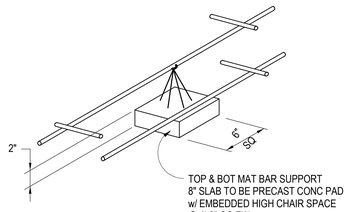
6 S701 TYP. S.O.G. JOINT DETAILS @ COLUMNS

3/4" = 1'-0"



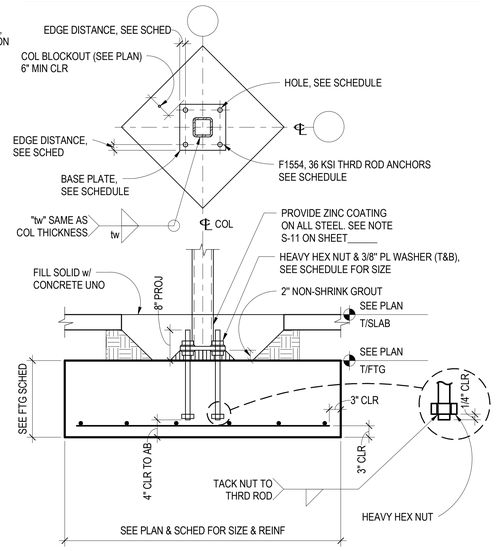
2 S701 TYP CONST JT DETAIL

3/4" = 1'-0"



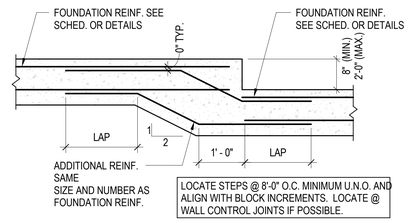
BASE PLATE SCHEDULE

COLUMN	BASE PLATE	ANCHORS	HOLE DIAMETER	MIN WASHER DIAMETER	ANCHOR ROD EDGE DISTANCE
HSS 14x6, HSS-14x4	PL 1"x10"x26"	(4) 1"Ø	1 5/16"	2 5/8"	2"
HSS-8x8	PL 1 1/4"x16"x16"	(4) 1"Ø	1 13/16"	2 5/8"	2"
HSS-10x10	PL 1 1/2"x18"x18"	(4) 1 1/4"Ø	2 1/16"	2 7/8"	2 1/4"
HSS-12x12	PL 1 1/2"x22"x22"	(4) 1 1/4"Ø	2 1/16"	2 7/8"	2 1/4"
HSS-14x14	PL 1 1/2"x24"x24"	(4) 1 1/4"Ø	2 1/16"	2 7/8"	2 1/4"
HSS-18x18	PL 1 1/2"x20"x27"	(4) 1 1/4"Ø	2 1/16"	2 7/8"	2 1/4"



7 S701 HSS COLUMN/FTG DETAIL

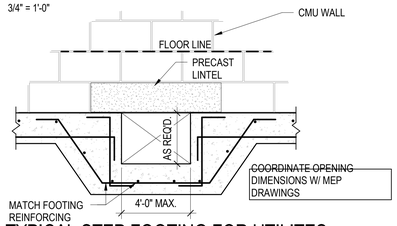
3/4" = 1'-0"



LOCATE STEPS @ 8'-0" O.C. MINIMUM U.N.O. AND ALIGN WITH BLOCK INCREMENTS. LOCATE @ WALL CONTROL JOINTS IF POSSIBLE.

3 S701 TYPICAL STEPPED FOUNDATION

3/4" = 1'-0"

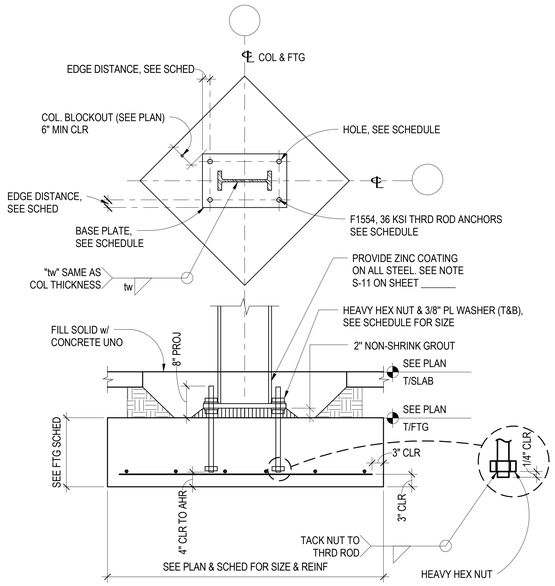


4 S701 TYPICAL STEP FOOTING FOR UTILITES

3/4" = 1'-0"

BASE PLATE SCHEDULE

COLUMN	BASE PLATE	ANCHORS	HOLE DIAMETER	MIN WASHER DIAMETER	ANCHOR ROD EDGE DISTANCE
W14x120	PL 1 1/2"x20"x24"	(4) 1 1/4"Ø	2 1/16"	2 7/8"	2 1/4"

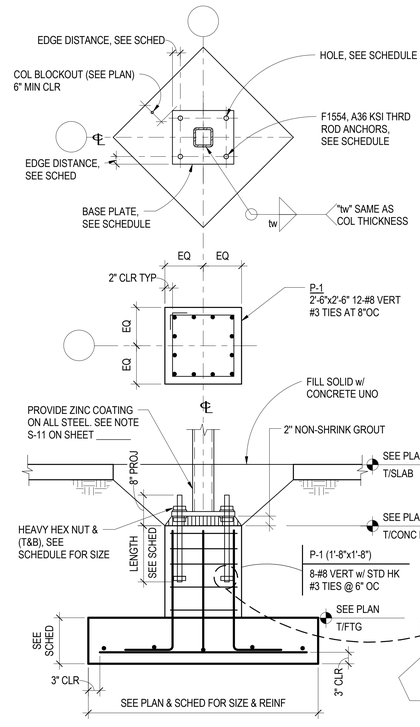


8 S701 W-COLUMN/FTG DETAIL

3/4" = 1'-0"

BASE PLATE SCHEDULE

COLUMN	BASE PLATE	ANCHORS	ANCHOR LENGTH	HOLE DIAMETER	MIN WASHER DIAMETER	ANCHOR ROD EDGE DISTANCE
HSS-18x18	PL 1 1/2"x2'-3"x1'-8"	(4) 1 1/4"Ø		2 1/16"	2 7/8"	2 1/4"

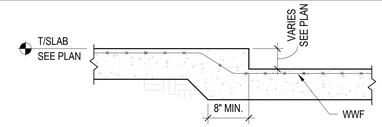


9 S701 HSS COLUMN/PIER AT FTG

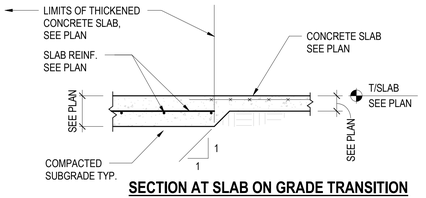
3/4" = 1'-0"

10 S701 TYP EQUIPMENT SUPPORT PADS

3/4" = 1'-0"



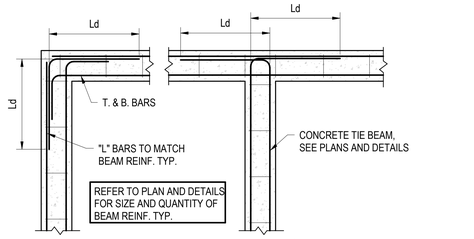
SECTION AT SLAB DEPRESSION



SECTION AT SLAB ON GRADE TRANSITION

11 S701 TYPICAL SLAB DETAILS

3/4" = 1'-0"



12 S701 TYPICAL CONC. TIE BEAM CORNER REINF.

3/4" = 1'-0"

COLUMN FOUNDATION SCHEDULE

MARK	SIZE LENGTH	SIZE WIDTH	THICKNESS	REINFORCEMENT
F-8.0	8' - 0"	8' - 0"	1' - 4"	(8) - #6 EW T&B
F-8X16	16' - 0"	8' - 0"	2' - 6"	SEE DETAIL 7/S702 SAME REINF'G
F-9.0	9' - 0"	9' - 0"	1' - 6"	(9) - #6 EW T&B
F-10.0	10' - 0"	10' - 0"	1' - 6"	(10) - #6 EW T&B
F-11.0	11' - 0"	11' - 0"	1' - 6"	(11) - #7 EW T&B
F-12.0	12' - 0"	12' - 0"	1' - 8"	(12) - #7 EW T&B
F-12X11	12' - 0"	11' - 0"	2' - 6"	SEE DETAIL 7/S702
F-13.0	13' - 0"	13' - 0"	2' - 0"	(14) - #8 EW T&B
F-14.0	14' - 0"	14' - 0"	2' - 4"	(14) - #9 EW T&B

WALL FOUNDATIONS SCHEDULE

MARK	WIDTH	THICKNESS	REINFORCEMENT	REMARKS
WF-3.0	3' - 0"	1' - 0"	(3) #5 CONT & #4 TRAN @ 16" OC T&B	
WF-7.0	7' - 0"	1' - 8"	(7) #6 CONT & #5 TRAN @ 16" OC T&B	

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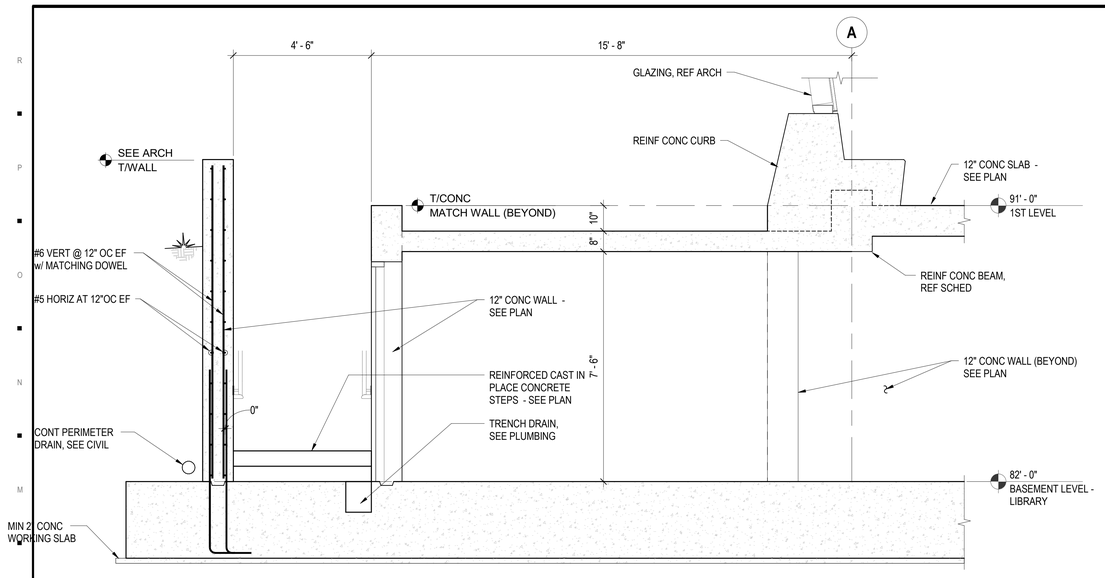
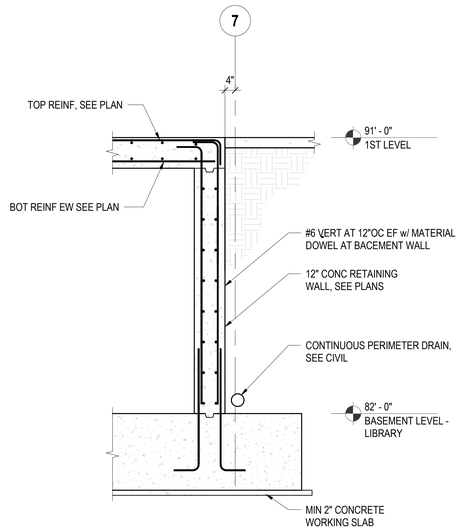
S701



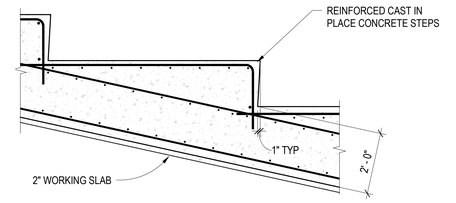
1 S702 LIBRARY FOUNDATION SECTION

1/2" = 1'-0"



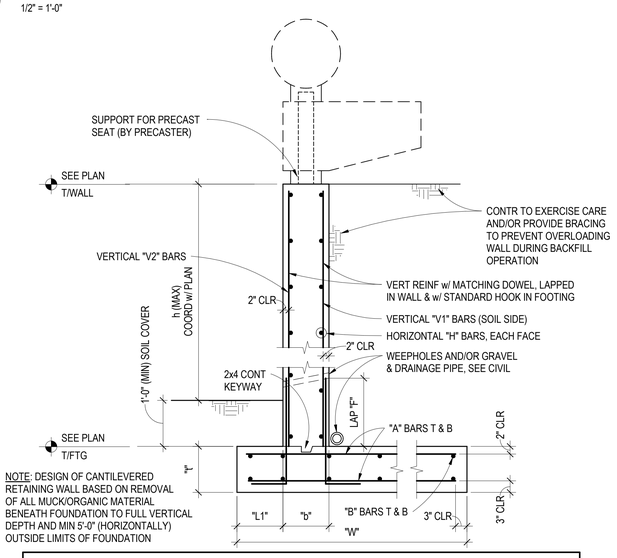
2 S702 LIBRARY FOUNDATION SECTION

1/2" = 1'-0"



3 S702 STEPS TO LIBRARY BASEMENT

1/2" = 1'-0"

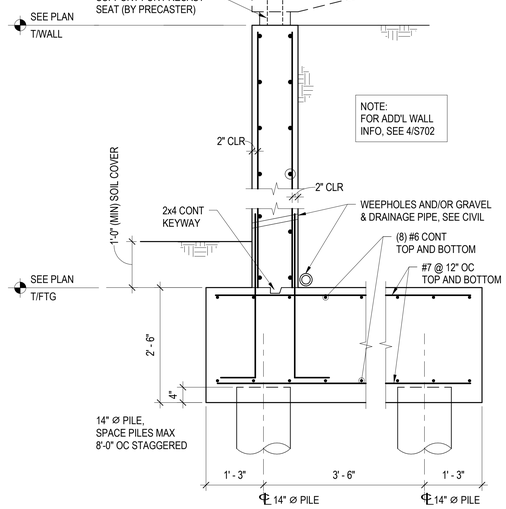


RETAINING WALL SCHEDULE

MARK	(h) MAX	W	L1	t	FTG REINF A	FTG REINF B	b	WALL REINFORCEMENT V1	WALL REINFORCEMENT V2	WALL REINFORCEMENT H	DOWEL LAP "F"
RW-1	4'-0"	4'-0"	1'-0"	1'-4"	#4 @ 18"	4-#5	12"	#5 @ 12"	#4 @ 18"	#4 @ 18"	2'-6"
RW-2	6'-0"	5'-0"	1'-0"	1'-4"	#5 @ 12"	6-#5	12"	#5 @ 12"	#4 @ 18"	#4 @ 18"	3'-0"
RW-3	9'-0"	7'-6"	1'-0"	1'-4"	#6 @ 12"	8-#5	12"	#6 @ 12"	#4 @ 18"	#4 @ 12"	3'-7"

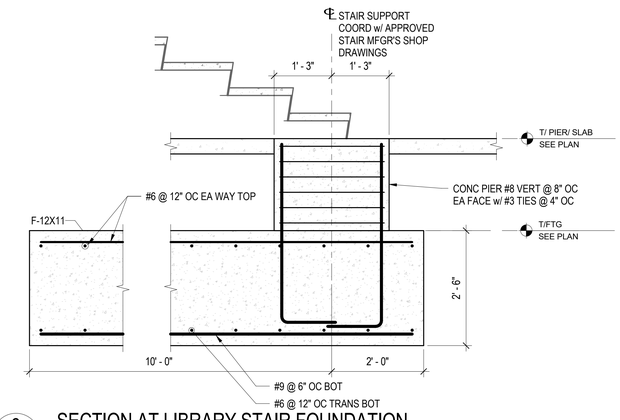
4 S702 TYP SITE RETAINING WALL SECTION AND SCHEDULE

3/4" = 1'-0"



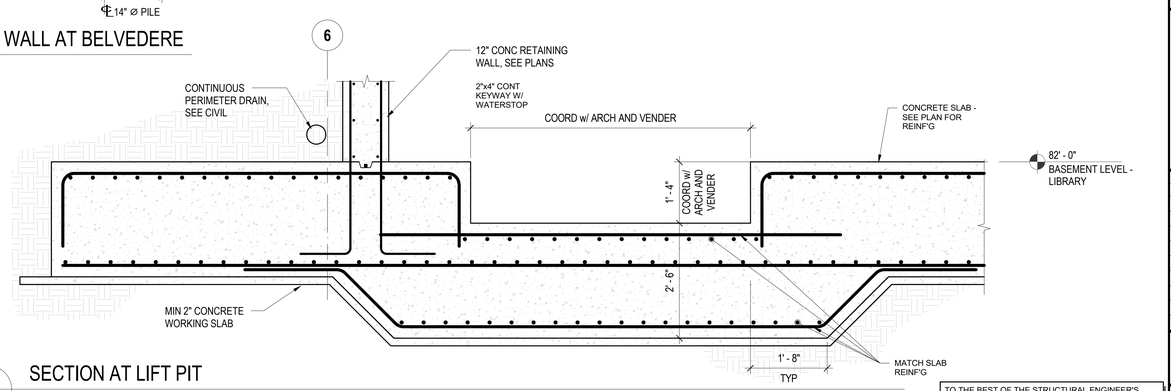
5 S702 PILE SUPPORTED RETAINING WALL AT BELVEDERE

3/4" = 1'-0"



6 S702 SECTION AT LIBRARY STAIR FOUNDATION

3/4" = 1'-0"



7 S702 SECTION AT LIFT PIT

3/4" = 1'-0"

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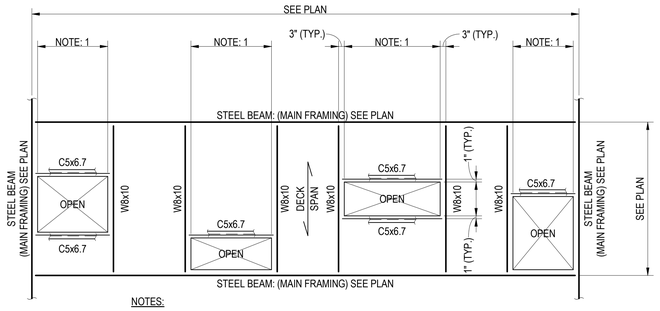
DRAWN DLL

S702

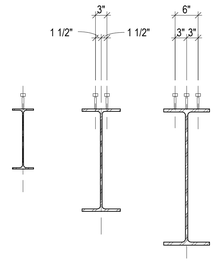


NOTES:

1. THESE DETAILS APPLY FOR THRU SLAB OPENINGS WHERE DIMENSION IS OF 4'-0" TO 8'-0" (MAX.) (OPENING EDGE TO OPENING EDGE). DIMENSION OF THRU SLAB OPENINGS IN THE DIRECTION PERPENDICULAR TO METAL DECK SPAN. COORDINATE EXACT SIZE AND LOCATION OF THRU SLAB OPENINGS WITH ARCHITECTURAL AND / OR MECHANICAL DRAWINGS.
2. THRU SLAB OPENINGS SHOWN HERE ARE OF VARIOUS SIZES AND LOCATIONS (THRU SLAB OPENINGS ARE NOT TO EXCEED 8'-0"). FOR THRU SLAB OPENINGS GREATER THAN 8'-0" SEE PLANS AND ADDITIONAL SECTIONS FOR FRAMING AND INFORMATION.
3. METAL DECK MANUFACTURER / SUPPLIER IS TO PROVIDE 14 GAGE (GALV.) METAL CLOSURE EDGE ALONG THRU SLAB OPENING EDGES UNLESS OTHER- WISE NOTED IN SECTIONS / DETAILS.

1 S711 TYPICAL ADD'L FRAMING FOR SLAB OPENINGS

3/4" = 1'-0"

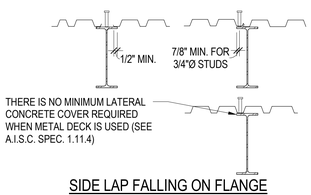


NOTES:

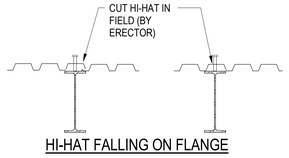
1. ALL SHEAR CONNECTOR STUDS SHALL BE 3/4"DIAM.x4"LG. SEE SHEET S-501 FOR FURTHER INFORMATION AND PLANS FOR NUMBER OF STUDS PER BEAM.
2. LOCATE SHEAR CONNECTOR STUDS IN ONE (1) ROW ON THE CENTER LINE OF STEEL BEAM'S WEB WHEN TOTAL NUMBER OF SHEAR CONNECTOR STUDS AND SPACING REQUIREMENTS ALLOW.
3. LOCATE SHEAR CONNECTOR STUDS IN TWO (2) OR THREE (3)-ROWS ONLY WHEN REQUIRED TO PLACE TOTAL NUMBER OF SHEAR CONNECTOR STUDS AND SPACING REQUIREMENTS EXCEEDS THAT OF ONE (1) ROW.
4. PROVIDE 1" (MIN.) PLACEMENT DISTANCE FROM FLANGE EDGE TO CENTER LINE OF SHEAR CONNECTOR STUDS.
5. FABRICATOR IS TO SUBMIT SHOP DRAWINGS FOR REVIEW AND APPROVAL WHICH INDICATES THE SIZE, LENGTH AND LOCATION OF SHEAR CONNECTOR STUDS.

4 S711 TYPICAL SHEAR CONNECTOR SPACING

3/4" = 1'-0"



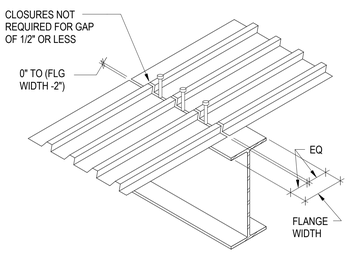
SIDE LAP FALLING ON FLANGE



HI-HAT FALLING ON FLANGE

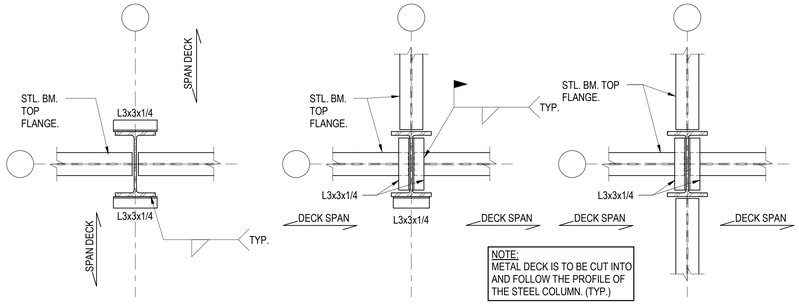
NOTES:

1. DECK SHALL BE FURNISHED IN MODULAR PANEL WIDTHS. ANY CUTTING THAT IS REQUIRED SHALL BE DONE BY THE DECK ERECTOR.
2. LATERAL AND LONGITUDINAL SPACING IS CONTROLLED BY SECTION 1.11.4 OF THE A.I.S.C. SPECIFICATIONS. FOR THE LOCATION OF THE STUD WITH RESPECT TO THE EDGE OF THE FLANGE, SEE THE STRUCTURAL WELDING CODE A.W.S., 428.8. (DETAIL 4).
3. WHEN STUDS ARE USED, DECK MUST NOT BE LAPPED IN ORDER TO PERMIT WELDING OF STUDS THROUGH SINGLE THICKNESS OF DECK. WELDING OF STUDS TO BEAM THROUGH (2) LAYERS OF DECK SHALL NOT BE PERMITTED.



2 S711 TYPICAL COMPOSITE DECK PLACEMENT DETAILS

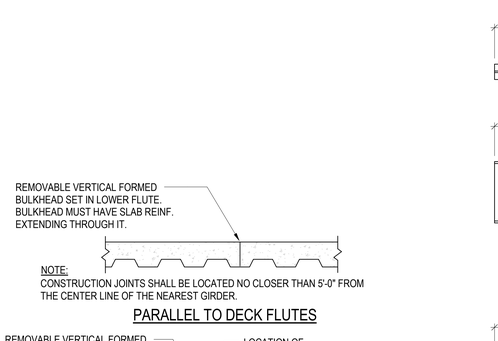
3/4" = 1'-0"



NOTE:
METAL DECK IS TO BE CUT INTO AND FOLLOW THE PROFILE OF THE STEEL COLUMN. (TYP.)

3 S711 TYPICAL METAL DECK SUPPORT AT STL. COL.

3/4" = 1'-0"

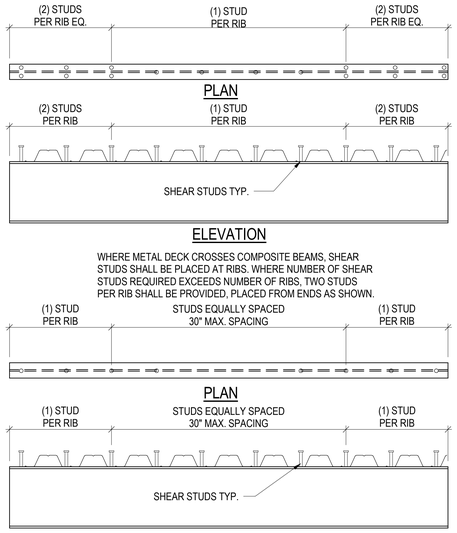


NOTES:

1. AT CONTRACTOR'S OPTION, PREFORMED PERMANENT METAL SHEAR KEY MAY BE USED W/ SLAB REINF. STOPPING EACH SIDE AND #3 DOWEL x 2'-0" CENTERED @ 18" O.C.
2. CONTRACTOR IS RESPONSIBLE FOR PROVIDING CHAIRS FOR WWF (IF USED) TO MAINTAIN CLEARANCE SHOWN. RAISING THE WWF DURING THE CONC. POUR IS NOT PERMITTED.

5 S711 TYPICAL SLAB ON METAL DECK CONSTRUCTION JOINT

3/4" = 1'-0"

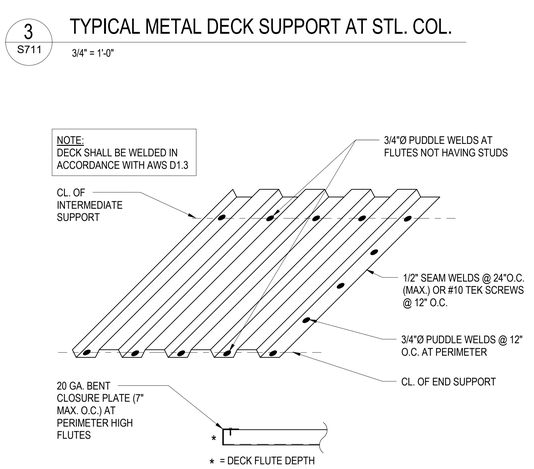


NOTE:

1. SEE SPECIFICATIONS FOR MIN. TRANSVERSE AND LONGITUDINAL STUD SPACING.

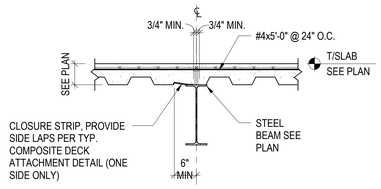
6 S711 TYP. BEAM STUD PLACEMENT DETAIL

3/4" = 1'-0"



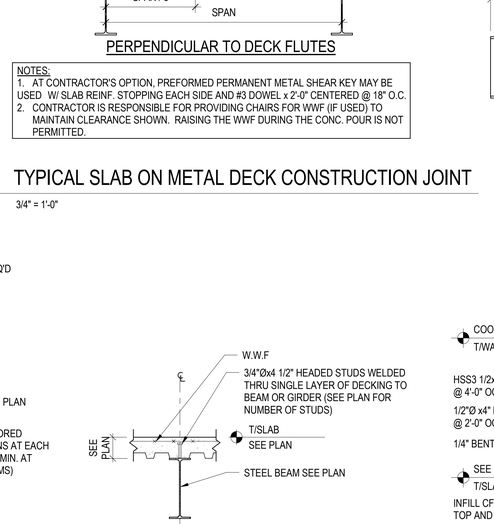
7 S711 TYP. FLOOR DECK ATTACHMENT DETAIL

3/4" = 1'-0"



8 S711 TYP. CLOSURE SECTION @ GIRDER

3/4" = 1'-0"

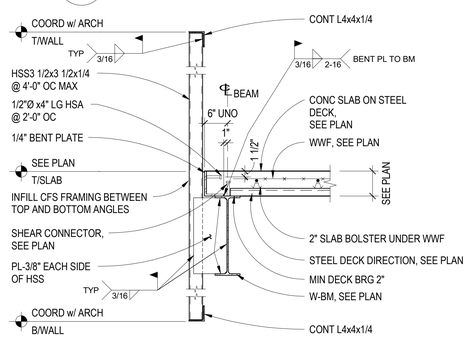


NOTES:

1. METAL DECK AND TOP FLANGES OF BEAMS SHALL BE FREE FROM PAINT, WATER, EXCESSIVE SCALE RUST OR OTHER MATERIALS INJURIOUS TO WELDING.
2. METAL DECK SHALL REST TIGHTLY AGAINST BEAM FLANGE.
3. STUDS SHALL BE WELDED ONLY THRU SINGLE THICKNESS OF METAL DECK.
4. DECK SHALL BE ATTACHED TO BEAMS NOT HAVING STUDS WITH 5/8" DIA. PUDDLE WELDS SPACED NOT MORE THAN 24" ON CENTER.
5. LENGTH OF SHEAR STUD CONNECTORS IN COMPOSITE SLAB TO BE DEPTH OF COMPOSITE DECK PLUS 1 1/2" U.N.O.

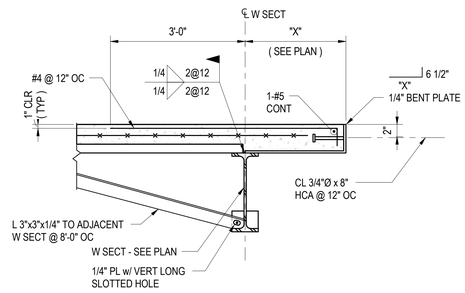
9 S711 TYP. COMPOSITE BEAM & SLAB DETAILS

3/4" = 1'-0"



10 S711 TYP SLAB EDGE AT STEEL BM

3/4" = 1'-0"



11 S711 EDGE OF SLAB AT EXTERIOR

3/4" = 1'-0"

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PROJ. NO. E - 16078.00 SHEET
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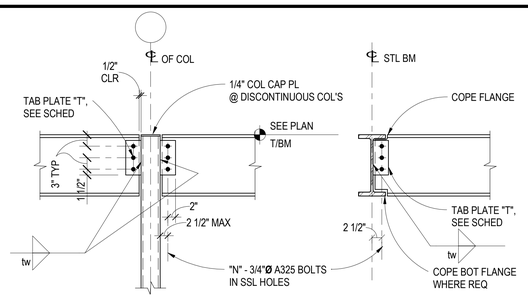
S711



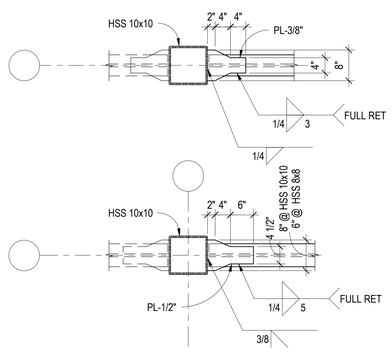
BEAM TO COLUMN **BEAM TO BEAM**

BEAM	PLATE "t"	"N" BOLTS	"tw" WELD *
W8,W10	1/4"	2	3/16"
W12,W14	1/4"	3	3/16"
W16	1/4"	4	3/16"
W18	1/4"	4	3/16"
W21	3/8"	5	5/16"

* tw SHALL BE THE EFFECTIVE THROAT FOR SKEWED CONNECTIONS

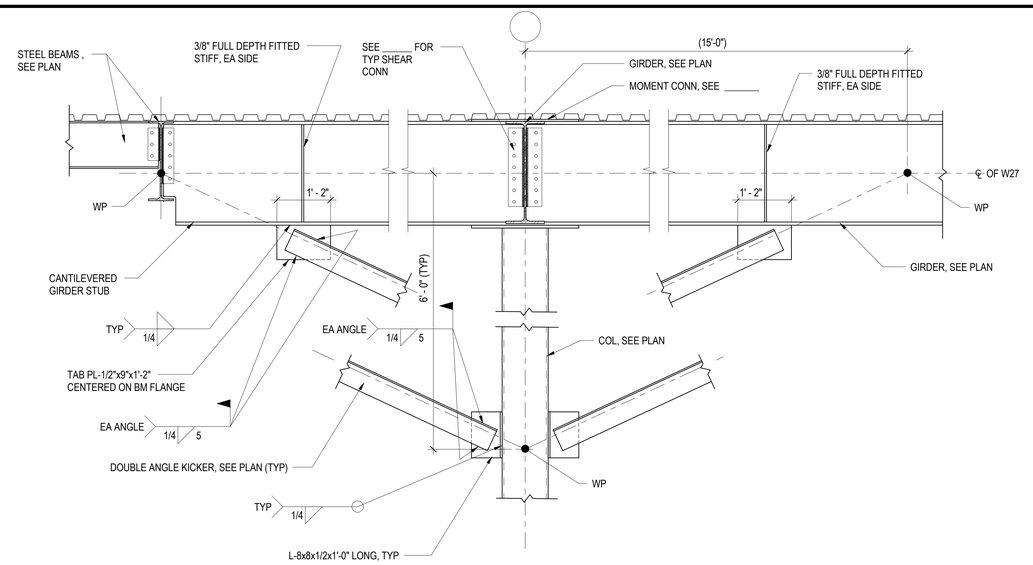
1 S712 BEAM TO BEAM/COL SHEAR TAB CONN

3/4" = 1'-0"



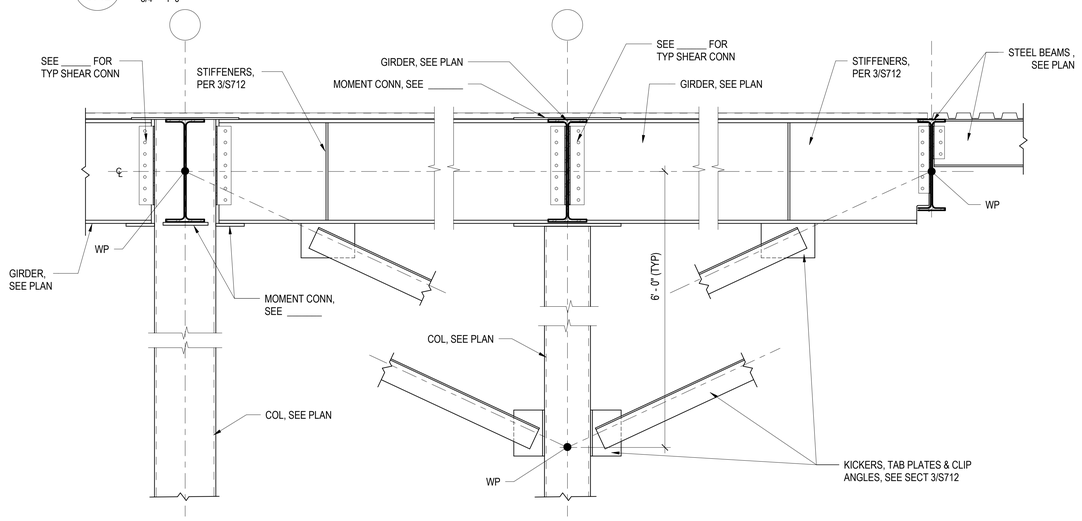
2 S712 STEEL BM/HSS COL MOMENT CONN

3/4" = 1'-0"



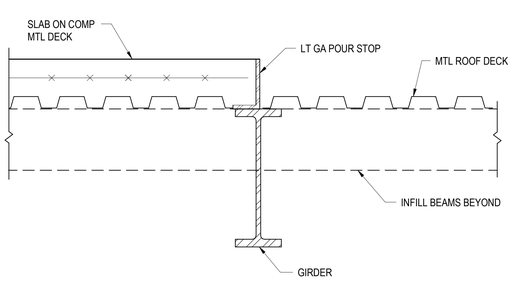
3 S712 KICKER FOR CANTILEVER - NORTH SOUTH

3/4" = 1'-0"



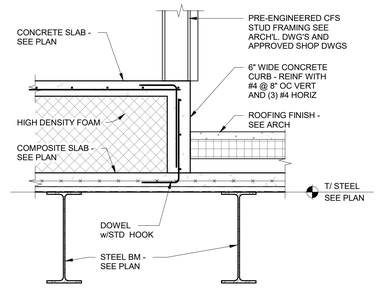
4 S712 KICKER FOR CANTILEVER - EAST WEST

3/4" = 1'-0"



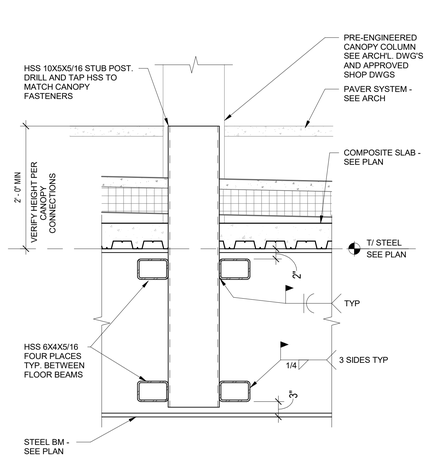
5 S712 DECK TYPE TRANSITION @ ROOF

1 1/2" = 1'-0"



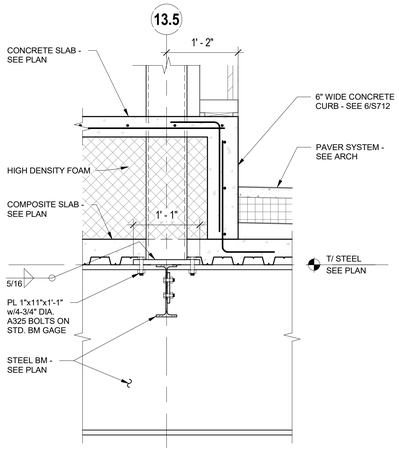
6 S712 SECTION AT EVENT CENTER

3/4" = 1'-0"



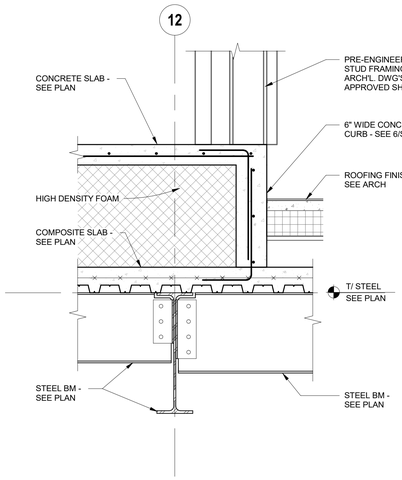
7 S712 SECTION AT EVENT CENTER

1" = 1'-0"



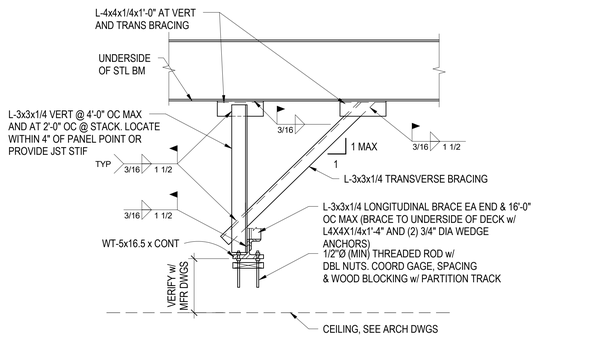
8 S712 SECTION AT EVENT CENTER

1" = 1'-0"



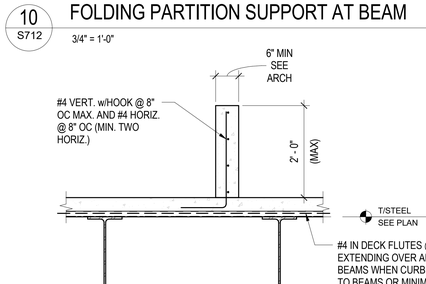
9 S712 SECTION AT EVENT CENTER

1" = 1'-0"



10 S712 FOLDING PARTITION SUPPORT AT BEAM

3/4" = 1'-0"



11 S712 SECTION AT PLANTER CURBS

3/4" = 1'-0"

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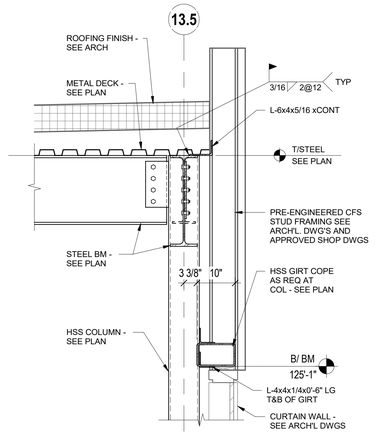
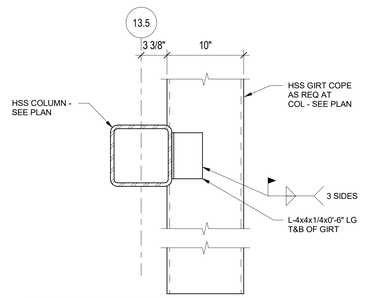


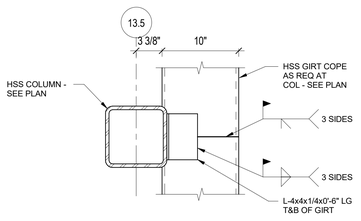
1 S713 — EVENT CENTER CURTAIN WALL SUPPORT

3/4" = 1'-0"



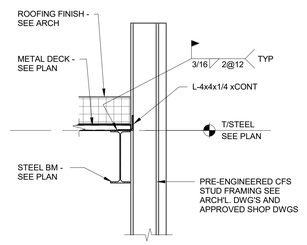
3 S713 — GIRT AT COLUMN

1 1/2" = 1'-0"



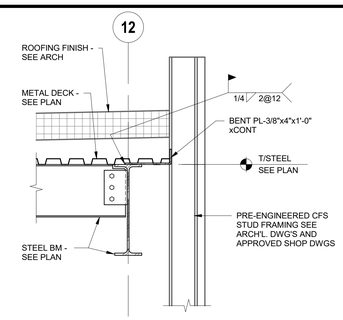
2 S713 — GIRT AT SPLICE

1 1/2" = 1'-0"



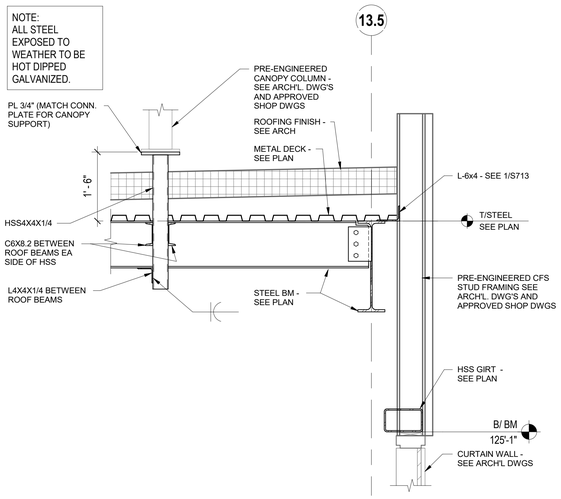
4 S713 — SECTION AT EVENT CENTER

3/4" = 1'-0"



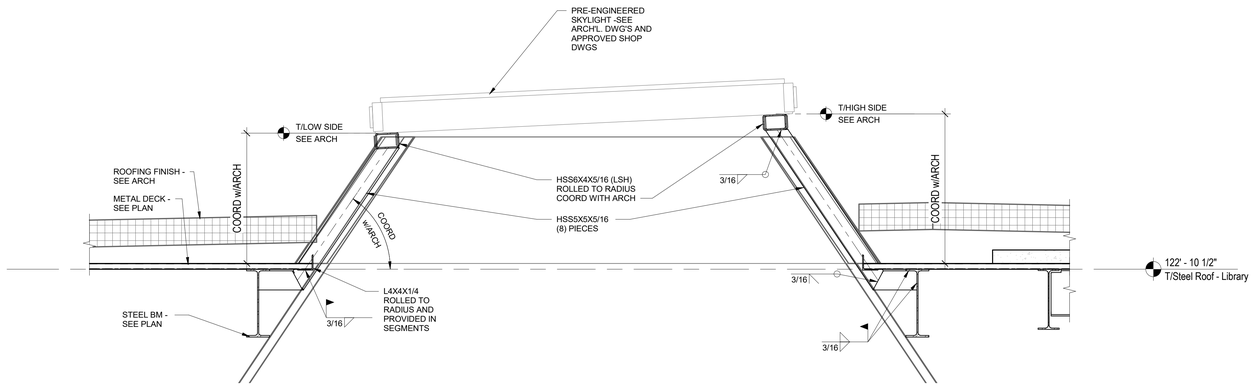
5 S713 — SECTION AT EVENT CENTER

3/4" = 1'-0"



6 S713 — SECTION AT CANOPY COLUMN

3/4" = 1'-0"



7 S713 — SECTION AT LIBRARY SKYLIGHT

3/4" = 1'-0"

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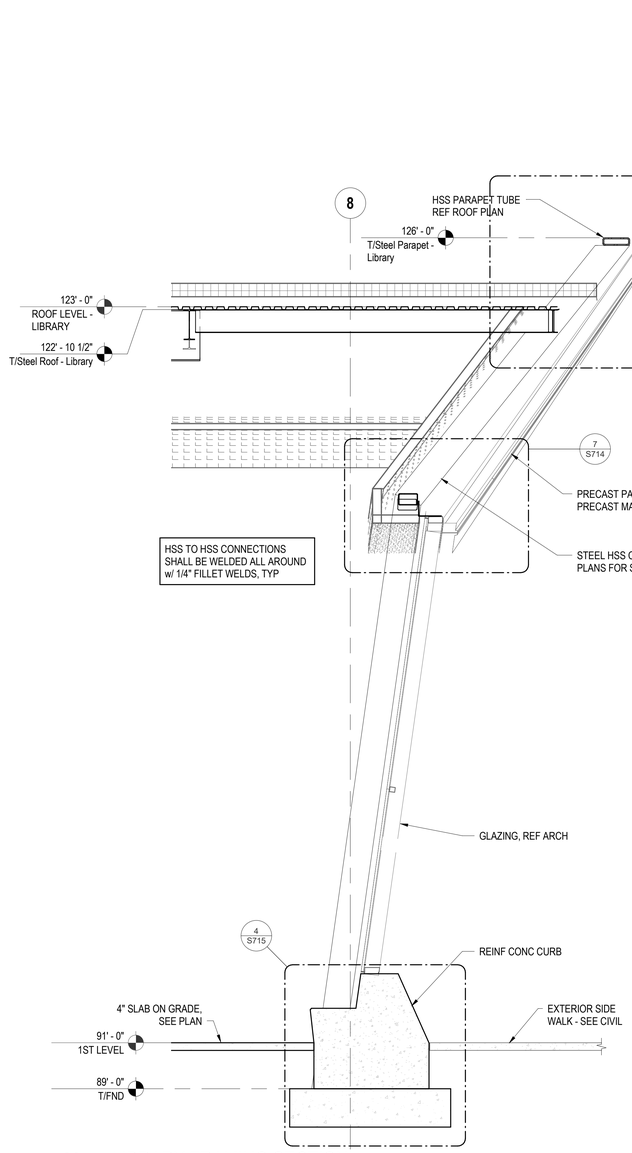
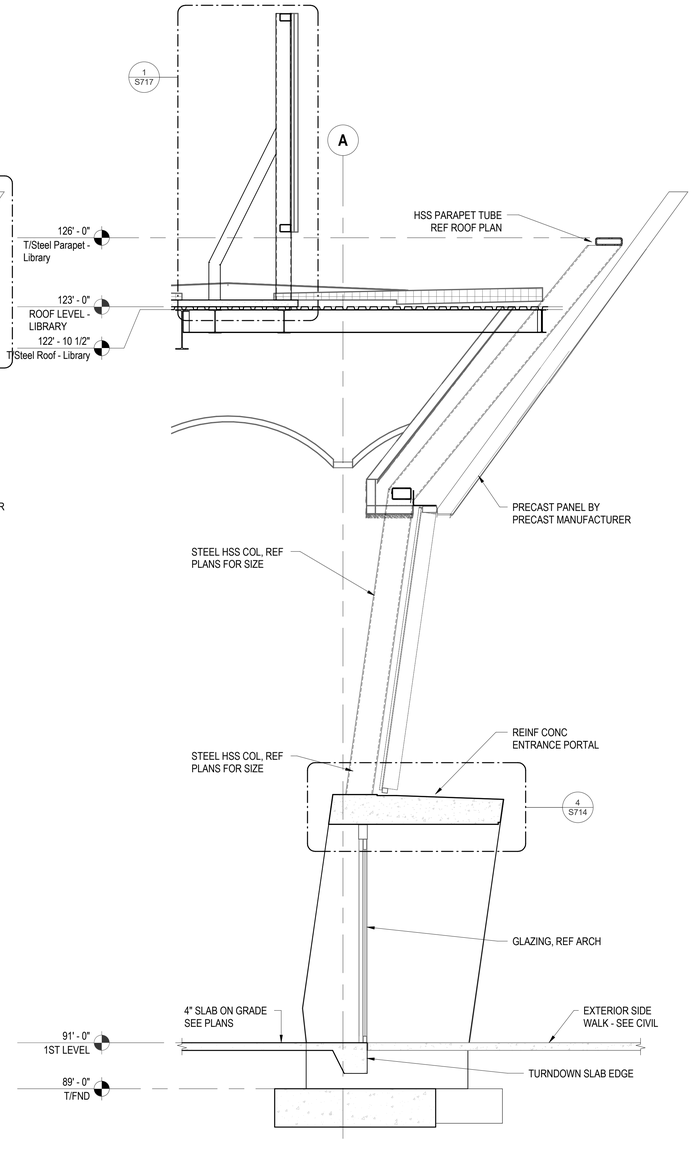


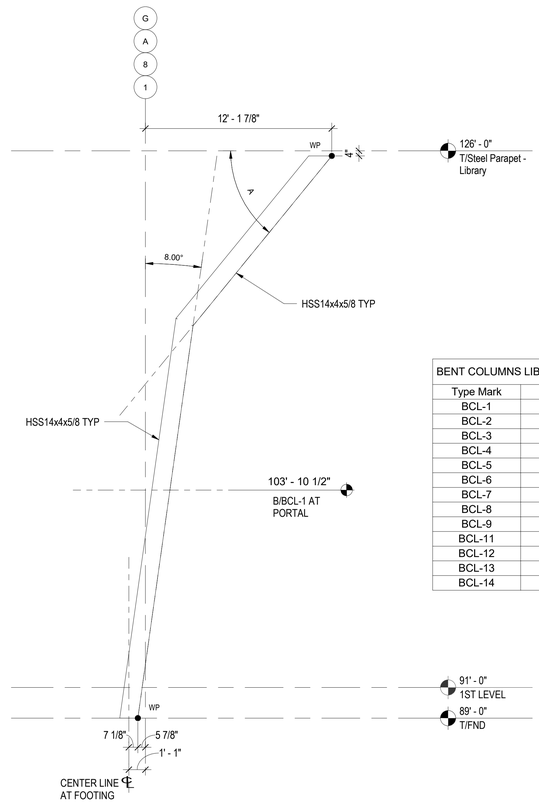
1 S714 LIBRARY FRAMING SECTION

3/8" = 1'-0"



2 S714 LIBRARY FRAMING SECTION @ PORTAL

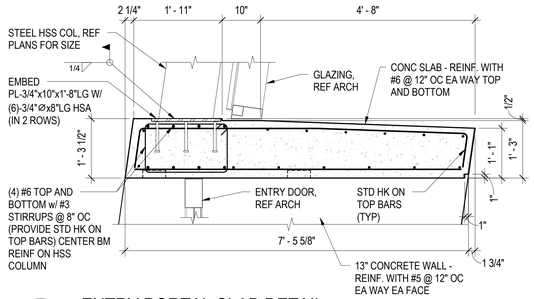
3/8" = 1'-0"



BENT COLUMNS LIBRARY (BCL-X)	
Type Mark	A
BCL-1	50.75°
BCL-2	51.22°
BCL-3	56.26°
BCL-4	61.44°
BCL-5	66.46°
BCL-6	54.29°
BCL-7	59.13°
BCL-8	61.66°
BCL-9	64.05°
BCL-11	68.19°
BCL-12	51.17°
BCL-13	56.62°
BCL-14	66.24°

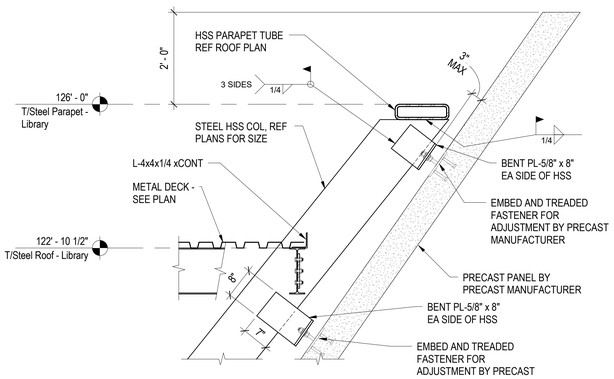
3 S714 BENT COLUMN LIBRARY (BCL-X)

1/4" = 1'-0"



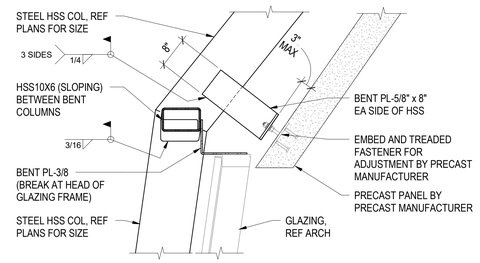
4 S714 ENTRY PORTAL SLAB DETAIL

3/4" = 1'-0"



5 S714 SECTION AT BENT COLUMN PARAPET

3/4" = 1'-0"



7 S714 SECTION AT BENT COLUMN AT CURTAIN WALL

3/4" = 1'-0"

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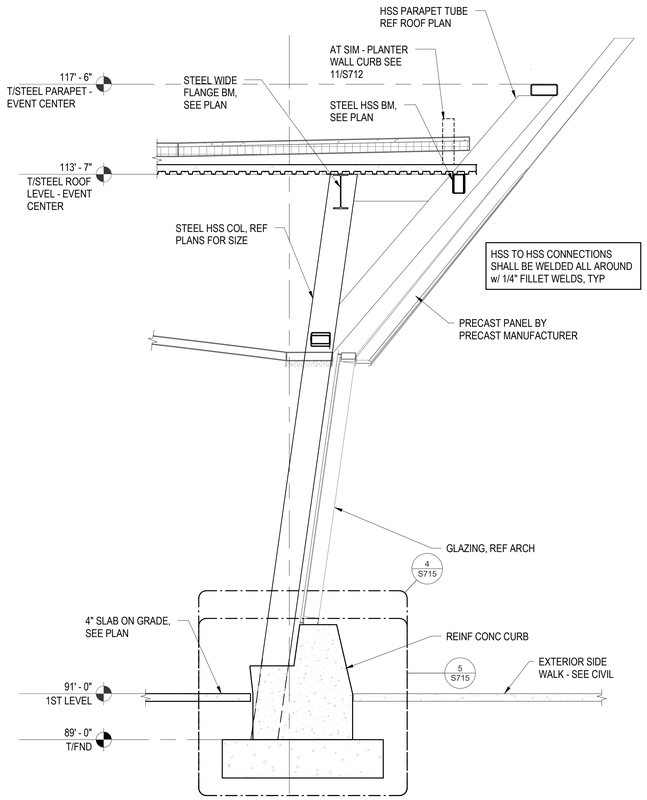
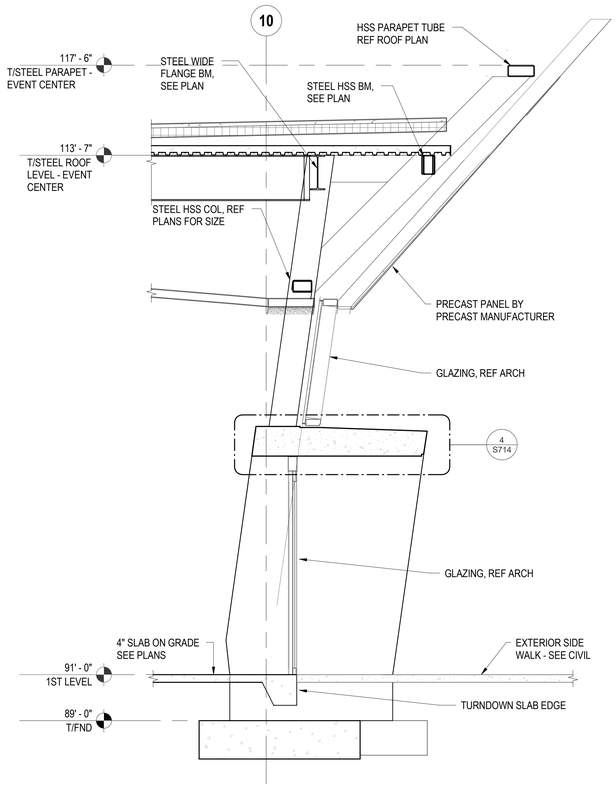


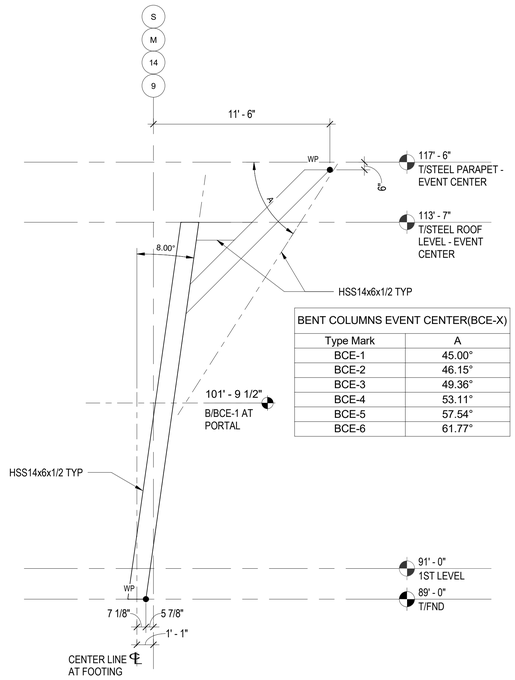
1 S715 EVENT CENTER FRAMING SECTION

3/8" = 1'-0"



2 S715 EVENT CENTER FRAMING SECTION @ PORTAL

3/8" = 1'-0"

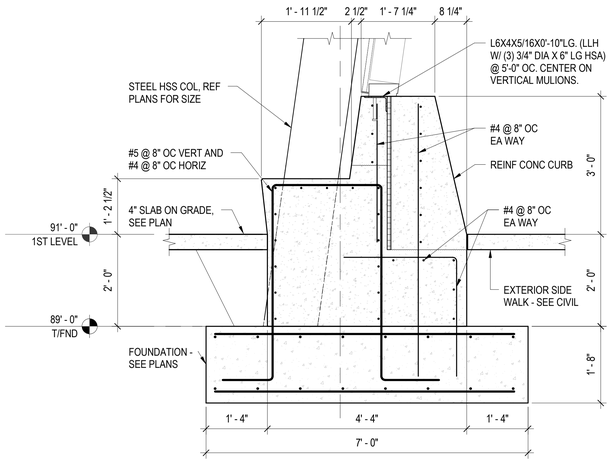


BENT COLUMNS EVENT CENTER(BCE-X)

Type Mark	A
BCE-1	45.00°
BCE-2	46.15°
BCE-3	49.36°
BCE-4	53.11°
BCE-5	57.54°
BCE-6	61.77°

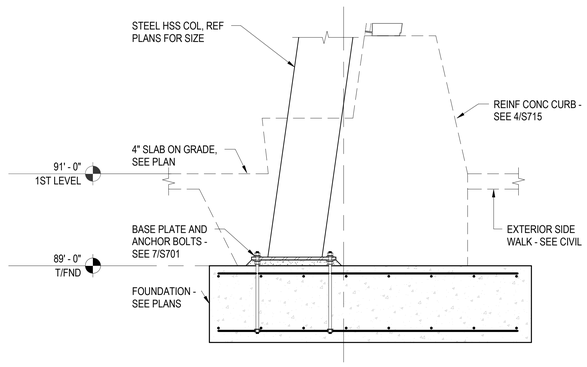
3 S715 BENT COLUMN EVENT CENTER (BCE-X)

1/4" = 1'-0"



4 S715 REINFORCED CONCRETE CURB DETAIL

3/4" = 1'-0"



5 S715 SLOPED COLUMN AT FOUNDATION DETAIL

3/4" = 1'-0"

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Hunton Brady ARCHITECTS
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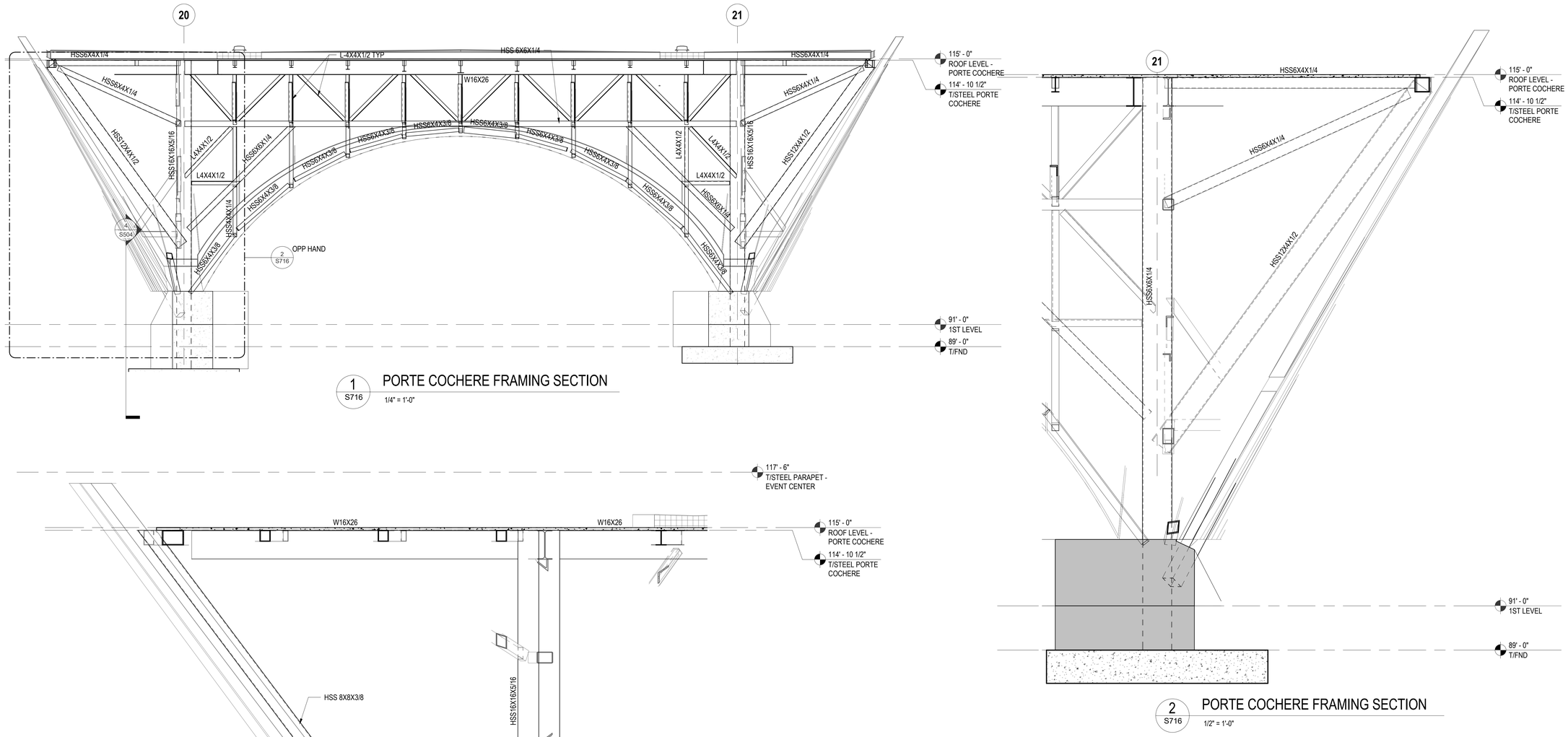
10.22.19	CONSTRUCTION DOCUMENTS	

FRAMING SECTIONS & DETAILS

PROJ. NO. E - 16078.00 SHEET
DRAWN DLL
S715

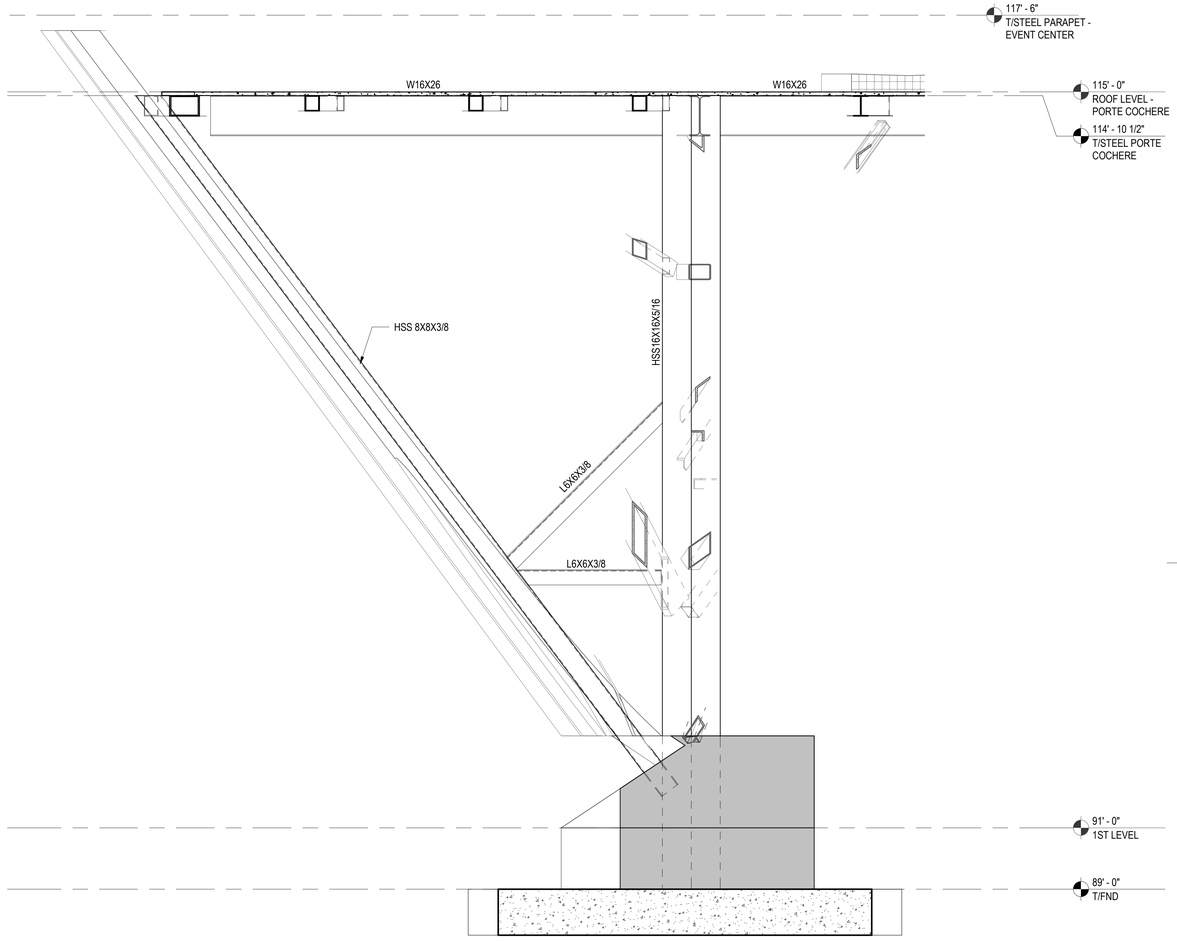


1 S716 **PORTE COCHERE FRAMING SECTION**

1/4" = 1'-0"

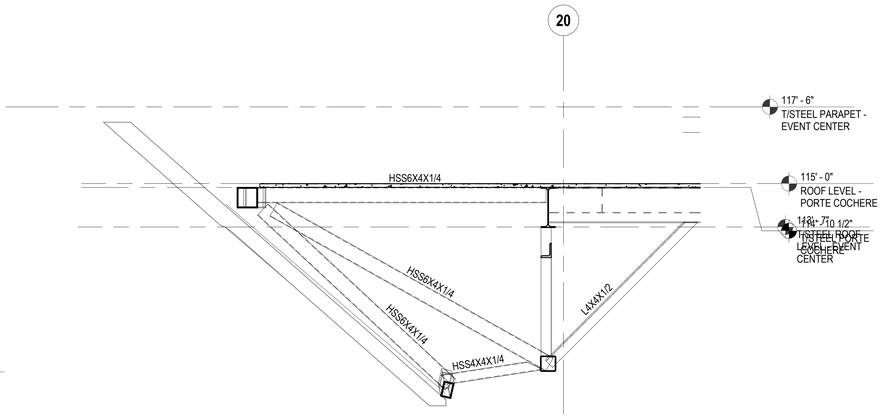
2 S716 **PORTE COCHERE FRAMING SECTION**

1/2" = 1'-0"



3 S716 **ELEVATION @ PORTE COCHERE**

1/2" = 1'-0"



4 S716 **ELEVATION @ PORTE COCHERE**

1/2" = 1'-0"

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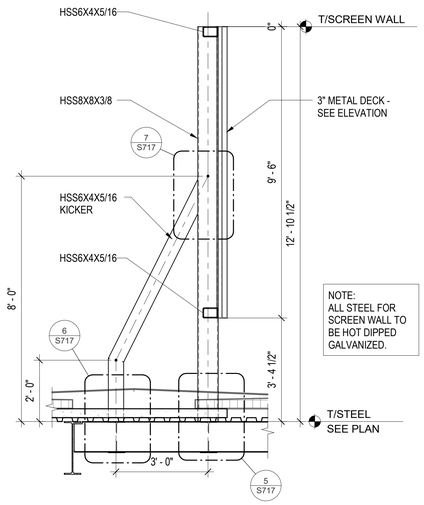
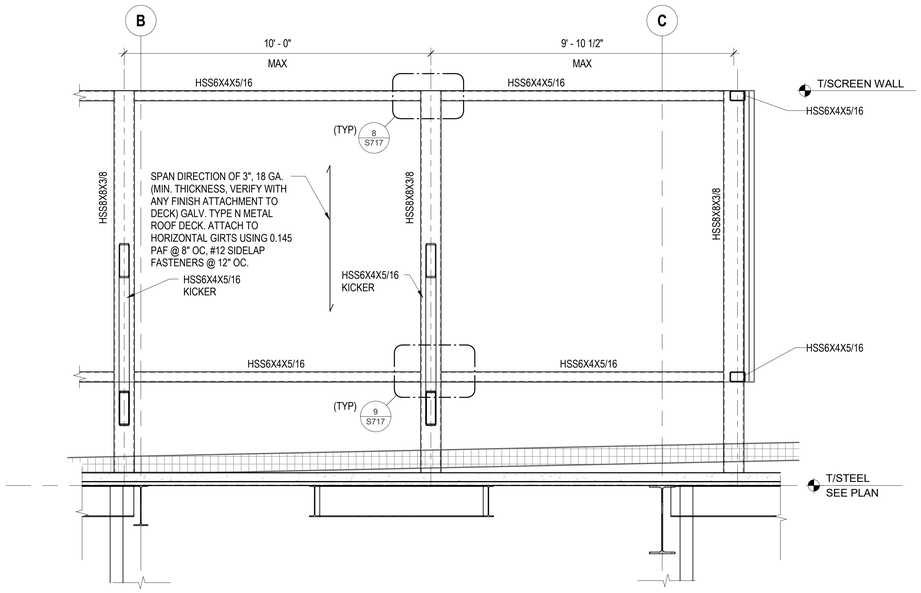


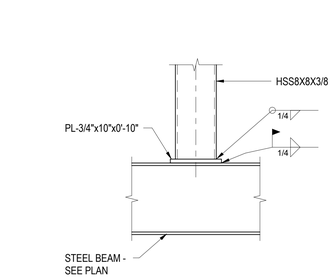
1 S717 SECTION AT LIBRARY ROOF TOP SCREEN WALL

1/2" = 1'-0"



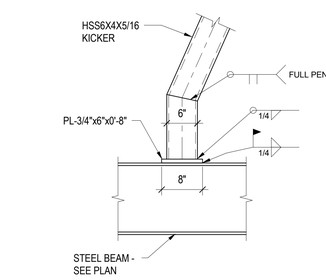
2 S717 ELEVATION AT LIBRARY ROOF TOP SCREEN WALL

1/2" = 1'-0"



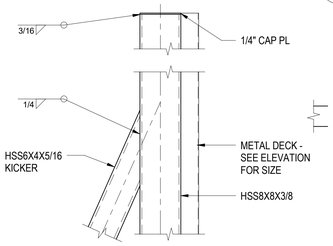
5 S717 SCREEN WALL COLUMN CONN

1" = 1'-0"



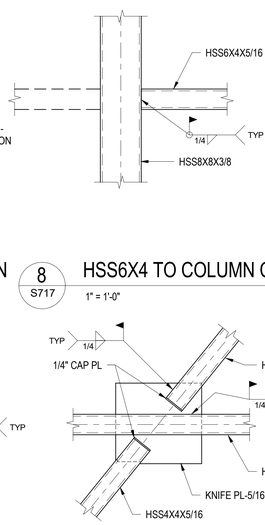
6 S717 KICKER CONN

1" = 1'-0"



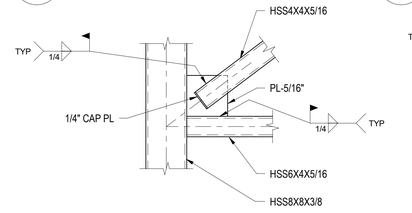
7 S717 KICKER TO COLUMN CONNECTION

1" = 1'-0"



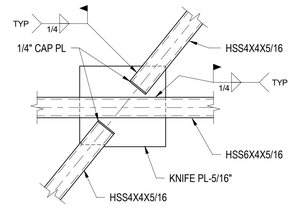
8 S717 HSS6X4 TO COLUMN CONN

1" = 1'-0"



9 S717 TYPICAL DIAGONAL CONN

1" = 1'-0"



10 S717 TYPICAL DIAG TO HORIZ CONN

1" = 1'-0"

3 S717 SECTION AT EVENT CENTER ROOF TOP SCREEN WALL

1/2" = 1'-0"

4 Detail 13

1/2" = 1'-0"

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PROJ. NO. E - 16078.00 **SHEET**
DRAWN DLL
S717

TECHNOLOGY SYSTEMS SYMBOL LEGEND

BASIC MATERIALS

SYMBOL	DESCRIPTION
J	JUNCTION BOX
J	FLOOR MOUNTED JUNCTION BOX
J	PEDESTAL MOUNTED JUNCTION BOX
	INGROUND PULL BOX
	CONDUIT CONCEALED
	CONDUIT EXPOSED
	CONDUIT CONCEALED IN SLAB, UNDERGROUND OR UNDER FLOOR
	CONDUIT TURNING UP
	CONDUIT TURNING DOWN
	CONDUIT STUB
	CONDUIT CONTINUED
	FLEXIBLE CONDUIT
	GROUND OR GROUND ROD AS NOTED
	SLEEVE TURNING UP
	SLEEVE TURNING DOWN
	EXISTING TO BE REMOVED
	EXISTING TO REMAIN
	EXISTING AFFECTED BY THIS PROJECT
	FUTURE
	CABLE TRAY FOR HORIZONTAL CABLING.
	LADDER TRAY FOR HORIZONTAL CABLING.
	PENETRATION CONDUIT SLEEVE WITH BUSHINGS.

BROADBAND TELEVISION SYSTEM

SYMBOL	DESCRIPTION
	2 PORT TAP
	4 PORT TAP
	6 PORT TAP
2.5	8 PORT TAP
	TERMINATION TAP
	2 WAY SPLITTER
	3 WAY SPLITTER
	4 WAY SPLITTER
T	AMPLIFIER
	DIRECTIONAL COUPLER

AUDIO/VIDEO SYSTEM

SYMBOL	DESCRIPTION
X x Y	OVERHEAD PROJECTOR WITH SCREEN, SCREEN SIZE SHOWN ON PLANS
X	OVERHEAD PROJECTOR - CEILING MOUNTED X - DENOTES TYPE
	CEILING MOUNTED DOCUMENT CAMERA
AV	AUDIO/VIDEO CAMERA
X x Y	PULLDOWN PROJECTION SCREEN, SIZE SPECIFIED ON PLANS
X x Y	MOTORIZED PROJECTION SCREEN, SIZE SPECIFIED ON PLANS
	OVERHEAD PROJECTION SCREEN MOTOR
S_X	WALL SWITCH FOR MOTORIZED SCREEN X = A, B, C... INTERFACE TYPE.
AV X	AUDIO VISUAL INPUT/OUTPUT - WALL MOUNTED WITH ADJACENT DEDICATED DUPLEX RECEPTACLE BYDIVISION 26 X = TYPE (A, B, C, ETC.) SEE DETAILS FOR ADDITIONAL INFORMATION
AV X	AUDIO VISUAL INPUT/OUTPUT -SURFACE OR FLOOR BOX MOUNTED WITH ADJACENT DEDICATED DUPLEX RECEPTACLE B'DIVISION 26 X = TYPE (A, B, C, ETC.) SEE DETAILS FOR ADDITIONAL INFORMATION
N TV XX"	N = FACEPLATE CONNECTIVITY AND MOUNTING TYPE, SEE DETAILS FOR INFORMATION (TYPE 1,2,3, ETC.) MONITOR SIZE IF APPLICABLE, SEE DETAILS FOR INFORMATION TELEVISION/MONITOR OUTLET, SEE DETAILS FOR MOUNTING HEIGHT
ALT	ASSISTED LISTENING TRANSMITTER
TS	TOUCH SCREEN AUDIO/VIDEO CONTROL
TS	WALL MOUNTED TOUCH SCREEN AUDIO/VIDEO CONTROL
SX_Y	CEILING MOUNTED SPEAKER x DENOTES TYPE y DENOTES ZONE
SX_Y	WALL MOUNTED SPEAKER x DENOTES TYPE y DENOTES ZONE NO ZONE DENOTES LOCAL AUDIO/VIDEO SYSTEM
VC	VOLUME CONTROL. PROVIDE 3/4" CONDUIT STUB-UP ABOVE CEILING AND SINGLE STANDARD ELECTRICAL BOX AT 52" ABOVE FINISHED FLOOR
MX_Y	CEILING MOUNTED MICROPHONE OUTLET x DENOTES TYPE y DENOTES ZONE
MX_Y	WALL MOUNTED MICROPHONE x DENOTES TYPE y DENOTES ZONE NO ZONE DENOTES LOCAL AUDIO/VIDEO SYSTEM
MX_Y	SURFACE MOUNTED MICROPHONE x DENOTES TYPE y DENOTES ZONE NO ZONE DENOTES LOCAL AUDIO/VIDEO SYSTEM
SD	SATELLITE DISH
PODIUM	SEE PODIUM DETAILS
PR	PRESS CONNECTION PANEL, SEE DETAILS FOR ADDITIONAL INFORMATION

NOTES:

1. ALL RACEWAYS AND BOXES SHOWN ARE IN CONTRACT BY THE ELECTRICAL INSTALLER.
2. AUDIO/VIDEO DEVICES AND EQUIPMENT BY THE AUDIO/VIDEO INSTALLER.

VOICE & DATA SYSTEM

SYMBOL	DESCRIPTION
C X N N N	MOUNTING 2" ABOVE COUNTER OR BACK SPLASH X = MOUNTING (F)LUSH, (S)URFACE, (M)ODULAR FURNITURE ADAPTER (P)OLE, (R)ACEWAY, (D)OUBLE GANG FLUSH, (PD) PEDESTAL N = # OF VOICE/DATA JACKS N = # OF COAX CONNECTORS "F" TYPE CONNECTOR N = # OF FIBER OPTIC CONNECTORS. SC, ST, LC COMMUNICATIONS "INFORMATION OUTLET" MOUNTED AT RECEPTACLE HEIGHT UNLESS OTHERWISE NOTED. MODULE AND FACEPLATE DESCRIPTIONS ON DETAIL SHEETS
W F1	WALL TELEPHONE OUTLET FOR HOUSE PHONE. MOUNTED AT 52" ABOVE FINISHED FLOOR TO TOP.
W ADA	WALL MOUNTED OUTLET FOR ADA ACCESSABLE PAY PHONE. MOUNTED AT 44" ABOVE FINISHED FLOOR
CN	SECURITY CAMERA NETWORK OUTLET. COORDINATE EXACT LOCATION OF OUTLET WITH OWNER PRIOR TO ROUGH IN. N = # OF DATA JACKS. MAXIMUM CABLE LENGTH 262 FT
WAP XON	WIRELESS ACCESS POINT OUTLET. ACCESS POINT BY OWNER. X = MOUNTING (F)LUSH, (S)URFACE, (C)EILING. N = # OF DATA JACKS. MAXIMUM CABLE LENGTH 262 FT
S1 ELV	WALL TELEPHONE OUTLET FOR TELEPHONE IN ELEVATOR MACHINE ROOM. (S)URFACE MOUNTED AT 52" ABOVE FINISHED FLOOR.
XNNN	COMBINED VOICE/DATA, AUDIO/VIDEO AND POWER OUTLETS IN FLOOR BOX. POWER RECEPTACLE IS SHOWN FOR REFERENCE ONLY. CONDUIT, BOX AND POWER RECEPTACLE DIVISION 26,iy
TB XNNN	X = A, B, C... FLOOR BOX TYPE. N'S ARE DESCRIBED ABOVE. TABLE TOP POP-UP WITH VOICE/DATA, AUDIO/VIDEO AND POWER INTERFACE. X = A, B, C... FLOOR BOX TYPE. N'S ARE DESCRIBED ABOVE.
P XNNN	POKE THRU WITH COMBINED VOICE/DATA, AUDIO/VIDEO AND POWER. X = A, B, C... FLOOR BOX TYPE. N'S ARE DESCRIBED ABOVE.
	3/4" PLYWOOD BACKBOARD. B'DIVISION 26
	IDF - 2 POST RACK
	IDF - 4 POST RACK
	TELECOMM PANEL
TEF:	TELECOMMUNICATIONS ENTRANCE FACILITY
TR:	TELECOMMUNICATIONS ROOM
TER:	TELECOMMUNICATIONS EQUIPMENT ROOM

NOTES:

1. STRUCTURED CABLING SYSTEM B'DIVISION 27 CABLING INSTALLER.
2. ALL CABLE TRAY, CONDUITS AND BOXES SHOWN ARE IN CONTRACT BY THE ELECTRICAL INSTALLER. J-HOOKS AND LADDER RACKS BY SCS INSTALLER.

SECURITY SYSTEM

SYMBOL	DESCRIPTION
	FIXED CCTV CAMERA, PROVIDE CAT6A CABLE, FACEPLATE, AND DOUBLE GANG JUNCTION BOX AND CONDUIT INDICATES WALL MOUNT
	PAN/TILT/ZOOM CCTV CAMERA,, PROVIDE CAT6A CABLE, FACEPLATE, AND DOUBLE GANG JUNCTION BOX AND CONDUIT INDICATES WALL MOUNT
	SECURITY PANEL
DPS	DOOR POSITION SWITCH
BMS	BALANCED MAGNETIC SWITCH
CR	CARD READER
KP	KEYPAD
CK	COMBINED CARD READER/KEYPAD
HS	HIRSH SCRAMBLE KEYPAD
IK	INTRUSION ALARM KEYPAD
BR	BIOMETRIC READER
SA	LOCAL HORN STROBE ALARM
EL	ELECTRIC LATCH
EM	ELECTRIC MORTISE/TRIM LOCK
ES	ELECTRIC STRIKE
ML	MAGNETIC LOCK
PE	POWER OVER ETHERNET CARDREADER/LOCK COMBO
DE	DELAYED EGRESS
DL	DETENTION LOCK
DI	DOOR INTERLOCK
	REMOTE DOOR RELEASE BUTTON
	REX OR ADA DOOR OPEN BUTTON
AS	ASSISTANCE STATION
IS	INTERCOM SUBSTATION
SP	SPEAKER PHONE
D	DURESS BUTTON MOUNTED UNDERSIDE OF COUNTER
D	DURESS BUTTON WALL MOUNTED
MON	CCTV MONITOR
P	PHOTO ELECTRIC BEAM
MI	INTERCOM MASTER STATION
M	DIRECTIONAL MOTION DETECTOR
	360° MOTION DETECTOR
G	GLASS BREAK SENSOR
R	REQUEST TO EXIT MOTION SENSOR
I	DETENTION DOOR INTERLOCK
X	ASSOCIATED DOOR DETAIL REFERENCE
PC	PERSONAL COMPUTER WORKSTATION
CP	SECURITY CAMERA EXTERIOR POLE

NOTES:

1. ALL RACEWAYS AND BOXES SHOWN ARE IN CONTRACT BY THE ELECTRICAL INSTALLER.
2. SECURITY DEVICES AND EQUIPMENT B'DIVISION 27 SECURITY INSTALLER.

NOTE: SOME SYMBOLS SHOWN ON THIS LEGEND MAY NOT PERTAIN TO THIS PROJECT.

GENERAL NOTES

GENERAL SYSTEM NOTES

1. PRODUCTS SHALL BE OF MATERIALS THAT ARE SUITABLE FOR THE ENVIRONMENT IN WHICH THEY ARE TO BE INSTALLED.
2. WORKING CLEARANCES AROUND ELECTRICAL EQUIPMENT SHALL BE MAINTAINED IN COMPLIANCE WITH THE NATIONAL ELECTRICAL CODE ARTICLE 110. COORDINATE EQUIPMENT INSTALLATION TO MAINTAIN REQUIRED CLEARANCES.
3. IF AN OUTLET BOX IS REQUIRED TO BE LOCATED IN AN ASSEMBLY OR PARTITION RATED AS "FIRE/SMOKE" OR "SMOKE" OR IDENTIFIED AS EITHER "FIRE/SMOKE" OR "SMOKE", THEN ALL OF THE FOLLOWING CONDITIONS SHALL BE MET:
   A. THE OUTLET BOX SHALL BE METALLIC.
   B. THE OUTLET BOX OPENINGS SHALL OCCUR ONLY ON ONE SIDE OF THE FRAMING SPACE.
   C. THE OUTLET BOX OPENINGS SHALL NOT EXCEED 16 SQUARE INCHES.
   D. ALL CLEARANCES BETWEEN THE OUTLET BOX AND THE WALL BOARD MATERIAL SHALL BE COMPLETELY SEALED WITH APPROVED MATERIALS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS FOR THE PROJECT.
   E. PROVIDE A SUPPLEMENTAL BARRIER AROUND OUTLETS LARGER THAN 16 INCHES SO THAT THE ORIGINAL RATING OF THE PENETRATION IS MAINTAINED.
   F. THE TOTAL AGGREGATE SURFACE AREA OF THE OUTLET BOX SHALL NOT EXCEED 100 SQUARE INCHES PER 100 SQUARE FEET.
   G. THE OUTLET BOX SHALL BE SEPARATED FROM OPENINGS ON THE OPPOSITE SIDE OF THE RATED PARTITION BY A MINIMUM HORIZONTAL DISTANCE OF 24 INCHES.
   H. THE OUTLET BOX SHALL BE SECURELY FASTENED TO A PARTITION FRAMING MEMBER BY MEANS OF AN APPROVED ATTACHMENT METHOD.
   I. OPENINGS CUT INTO THE WALL BOARD MATERIAL SHALL NOT EXCEED 1/8 INCH BETWEEN THE EDGES OF THE OUTLET BOX AND THE EDGES OF THE OPENING.
4. LOCATIONS OF EQUIPMENT SHOWN ON THE DRAWINGS ARE APPROXIMATE, COORDINATE EXACT EQUIPMENT LOCATION AND CONNECTION REQUIREMENTS WITH THE APPROPRIATE TRADE PRIOR TO INSTALLATION.
5. FOR EXACT LOCATION OF CEILING MOUNTED EQUIPMENT REFER TO THE ARCHITECTURAL REFLECTED CEILING PLAN. LOCATIONS OF EQUIPMENT NOT INCLUDED ON THE REFLECTED CEILING PLAN SHALL BE COORDINATED WITH THOSE ITEMS SHOWN. COORDINATION OF CEILING MOUNTED EQUIPMENT SHALL BE PRIOR TO ANY ROUGH-IN. NOTIFY ENGINEER OF ANY DISCREPANCY.
6. PROVIDE FINAL CONNECTIONS TO OWNER PROVIDED EQUIPMENT WHERE INDICATED ON THE PLAN DRAWINGS.
7. PRIOR TO ROUGH-IN AND INSTALLATION OF ANY FLOOR MOUNTED DEVICE, VERIFY LOCATION WITH THE OWNER AND ARCHITECT.
8. VERIFY AND COORDINATE THE LOCATION OF REQUIREDIVISION 27 OUTLETS WITH OTHER TRADE DRAWINGS AND OWNER PROVIDED EQUIPMENT.
9. EACH TELEVISION OUTLET LOCATION SHOWN, SHALL HAVE A DOUBLE GANG OUTLET BOX WITH A SINGLE GANG PLASTER RING AND (1) 1" CONDUIT STUBBED UP TO AN ACCESSIBLE LOCATION ABOVE THE FINISHED CEILING OR TO AN ACCESSIBLE CABLE TRAY WHERE PROVIDED.
10. THE DESIGNATION "N.I.C." SHALL DENOTE ITEMS, WHICH ARE "NOT IN CONTRACT".
11. THE DESIGNATION "U.S.C." SHALL DENOTE ITEMS, WHICH ARE "UNDER SEPARATE CONTRACT".
12. THE DESIGNATION "F.B.O." SHALL DENOTE ITEMS, WHICH ARE "FURNISHED BY OTHERS".
13. THE DESIGNATION "O.F.E." SHALL DENOTE ITEMS, WHICH ARE "OWNER FURNISHED EQUIPMENT".
14. THE DESIGNATION "D.H.C." SHALL DENOTE "DOOR HARDWARE INSTALLER".
15. THE DESIGNATION "O.F.C.I." SHALL DENOTE ITEMS WHICH ARE FURNISHED BY THE OWNER AND INSTALLED BY THE CONTRACTOR.
16. ALL RACEWAY SYSTEMS SHOWN TO SUPPORT THE INSTALLATION OF THE DIVISION 17 EQUIPMENT SHALL BE PROVIDED BY THE ELECTRICAL INSTALLER. PROVIDE COORDINATION FOR THE INSTALLATION OF THIS BE PROVIDED BY THE ELECTRICAL INSTALLER.
17. THE SYMBOL LEGENDS SHOWN ON THIS SHEET ARE ALL INCLUSIVE. SYMBOLS INCLUDED IN THE LEGENDS MAY OR MAY NOT BE USED IN THESE PROJECT DRAWINGS.
18. EACH VOICE/DATA OUTLET LOCATION SHOWN, SHALL HAVE A DOUBLE GANG OUTLET BOX WITH A SINGLE GANG PLASTER RING AND (1) 1" CONDUIT STUBBED UP TO AN ACCESSIBLE LOCATION ABOVE THE FINISHED CEILING, TO AN ACCESSIBLE CABLE TRAY WHERE PROVIDED OR HOMERUN IN SLAB TO NEAREST COMMUNICATIONS ROOM. WORK BY ELECTRICAL INSTALLER PER DIVISION 27 SPECIFICATIONS.
19. EACH FLOOR MOUNTED VOICE/DATA OUTLET SHALL HAVE A SINGLE GANG SPACE WITHIN THE FLOOR BOX AND (1) 1" CONDUIT CONCEALED IN SLAB STUBBED UP TO AN ACCESSIBLE LOCATION ABOVE THE FINISHED CEILING OR TO AN ACCESSIBLE CABLE TRAY WHERE PROVIDED. WORK BY ELECTRICAL INSTALLER PER DIVISION 27 SPECIFICATIONS.
20. ALL BONDING AND GROUNDING ELEMENTS UTILIZED FOR STRUCTURED CABLING SYSTEM SHALL BE IN COMPLIANCE WITHDIVISION 27 SPECIFICATIONS.
21. PROVIDE ALL SLEEVES AS REQUIRED FOR ALL LOW VOLTAGE CABLE PATHWAYS. RESTORE THE FIRE RATING OF THE SURFACE.
22. ALL CABLES SHALL BE SUITABLE TO THE ENVIRONMENT TO WHERE THEY WILL BE INSTALLED.
23. ALL INDOOR CONDUITS N0 LARGER THAN 1" SHOWN ON THE GROUND FLOOR SHALL BE INSTALLED EMBEDDED IN THE SLAB. CONDUITS SHALL BE KEPT DRY AND CLEAN PRIOR TO PULLING CABLES.
24. ANYTHING NOT DESIGNATED AS ROUGH-IN AND SUPPORT RESPONSIBILITY ON THESE DRAWINGS IS IN THE SYSTEM INSTALLER SCOPE OF WORK.
25. SEE DETAIL SHEETS FOR DEVICE MOUNTING REQUIREMENTS AND ADDITIONAL INFORMATION.
26. IN ELECTRICAL AND MECHANICAL ROOMS, CONDUIT FOR LOW VOLTAGE OUTLETS SHALL BE EXTENDED TO ACCESSIBLE CEILING OUTSIDE OF THE ROOM.

SECURITY SYSTEM NOTES

1. ALL DOUBLE DOORS ARE TO RECEIVE (1) DOOR POSITION SWITCH ON EACH DOOR LEAF AND SHALL REPORT AS ONE ALARM POINT.
2. ALL 120V POWER WIRING SHALL BE INSTALLED IN A SEPARATE CONDUIT.
3. FIBER CCTV LOCATION WHICH EXCEEDS 3000 FEET SHALL BE EQUIPPED WITH 2 FIBER CONNECTIONS 1 VIDEO, 1 DATA
4. ALL POWER CIRCUITS, 120VAC AND 24VAC, SHALL INCLUDE AN EQUIPMENT GROUNDING CONDUCTOR WHICH IS EQUAL IN SIZE TO THE PHASE AND NEUTRAL CONDUCTORS.
5. ALL CONDUIT ABOVE GRADE SHALL BE METALLIC, ALL CONDUIT BELOW GRADE SHALL BE PVC UNLESS OTHERWISE NOTED ON DRAWINGS.
6. ALL CARD READERS AND KEYPADS DEDICATED FOR ELEVATOR FLOOR SELECTION CONTROL ARE SHOWN INSIDE THE ELEVATOR CAB ON THE LOWEST LEVEL FLOOR PLAN TO WHICH THE ELEVATOR TRAVELS.
7. ALL CONDUIT, WIRING, AND ASSOCIATED BACK BOXES SHALL BE FULLY CONCEALED WITHIN WALLS, FLOORS, AND CEILINGS.
8. INSTALLATION OFCAT6 UTP CABLE SHALL BE IN ACCORDANCE WITH EIA/TIA GUIDELINES. CABLE INSTALLATION AND TERMINATIONS THAT DO NOT COMPLY SHALL BE REPLACED BY THE INSTALLER.
   A. THE MAXIMUM PULLING TENSION SHALL NOT EXCEED 25 POUNDS TO AVOID STRETCHING THE CONDUCTORS.
   B. THE MINIMUM BENDING RADIUS OF THE CABLE SHALL NOT BE LESS THAN 4X THE OUTSIDE DIAMETER OF THE CABLE.
   C. THE CABLE SHALL BE INSTALLED WITHOUT KINKS OR TWISTS AND THE APPLICATION OF CABLE TIES SHALL NOT DEFORM THE CABLE BUNDLE.
   D. STRIP BACK ONLY AS MUCH CABLE JACKET AS IS REQUIRED TO TERMINATE THE CABLE. CABLE PAIRS SHALL NOT BE UNTWISTED MORE THAN 1/2 INCH.
9. INSTALLATION OF FIBER OPTIC CABLES SHALL BE IN ACCORDANCE WITH EIA/TIA GUIDELINES. CABLE INSTALLATION AND TERMINATIONS THAT DO NOT COMPLY SHALL BE REPLACED BY THE INSTALLER.
   A. THE BEND RADIUS FOR INTRABUILDING 2 AND 4-FIBER HORIZONTAL OPTICAL FIBER CABLE SHALL NOT BE LESS THAN 1 INCH UNDER NO-LOAD CONDITIONS. WHEN UNDER A MAXIMUM TENSILE LOAD OF 50 LBF, THE BEND RADIUS SHALL NOT BE LESS THAN 2 INCHES.
   B. THE BEND RADIUS FOR INTRABUILDING OPTICAL FIBER BACKBONE SHALL NOT BE LESS THAN THAT RECOMMENDED BY THE MANUFACTURER IF NO RECOMMENDATION IS KNOWN, THEN THE APPLIED BEND RADIUS SHALL NOT BE LESS THAN 10 TIMES THE CABLE OUTSIDE DIAMETER UNDER NO-LOAD CONDITIONS AND NOT LESS THAN 15 TIMES THE CABLE OUTSIDE DIAMETER WHEN THE CABLE IS UNDER TENSILE LOAD.
   C. THE BEND RADIUS FOR INTER BUILDING (OSP) OPTICAL FIBER BACKBONE SHALL NOT BE LESS THAN THAT RECOMMENDED BY THE MANUFACTURER IF NO RECOMMENDATION IS KNOWN, THEN THE APPLIED BEND RADIUS SHALL NOT BE LESS THAN 10 TIMES THE CABLE OUTSIDE DIAMETER NO-LOAD CONDITIONS AND NOT LESS THAN 20 TIMES THE CABLE OUTSIDE DIAMETER WHEN THE CABLE IS UNDER A TENSILE LOAD UP TO THE RATING OF THE CABLE, USUALLY 600 LBF.
10. COORDINATE LOCATION OF ALL FIRE RATED PENETRATIONS PRIOR TO PROCEEDING WITH INSTALLATION. ALL PENETRATIONS THROUGH FIRE RATED BARRIERS SHALL BE COMPLETELY SEALED WITH APPROPRIATE FIRE STOP MATERIAL IN ACCORDANCE WITH NFPA AND FIRE AUTHORITY HAVING JURISDICTION.
11. ALL DELAYED EGRESS LOCKS AND MAGNETIC LOCKS, SHALL RECEIVE A FIRE ALARM RELAY TO RELEASE THE DOOR UPON ALARM AS REQUIRED BY CODE.

TECHNOLOGY DRAWING INDEX

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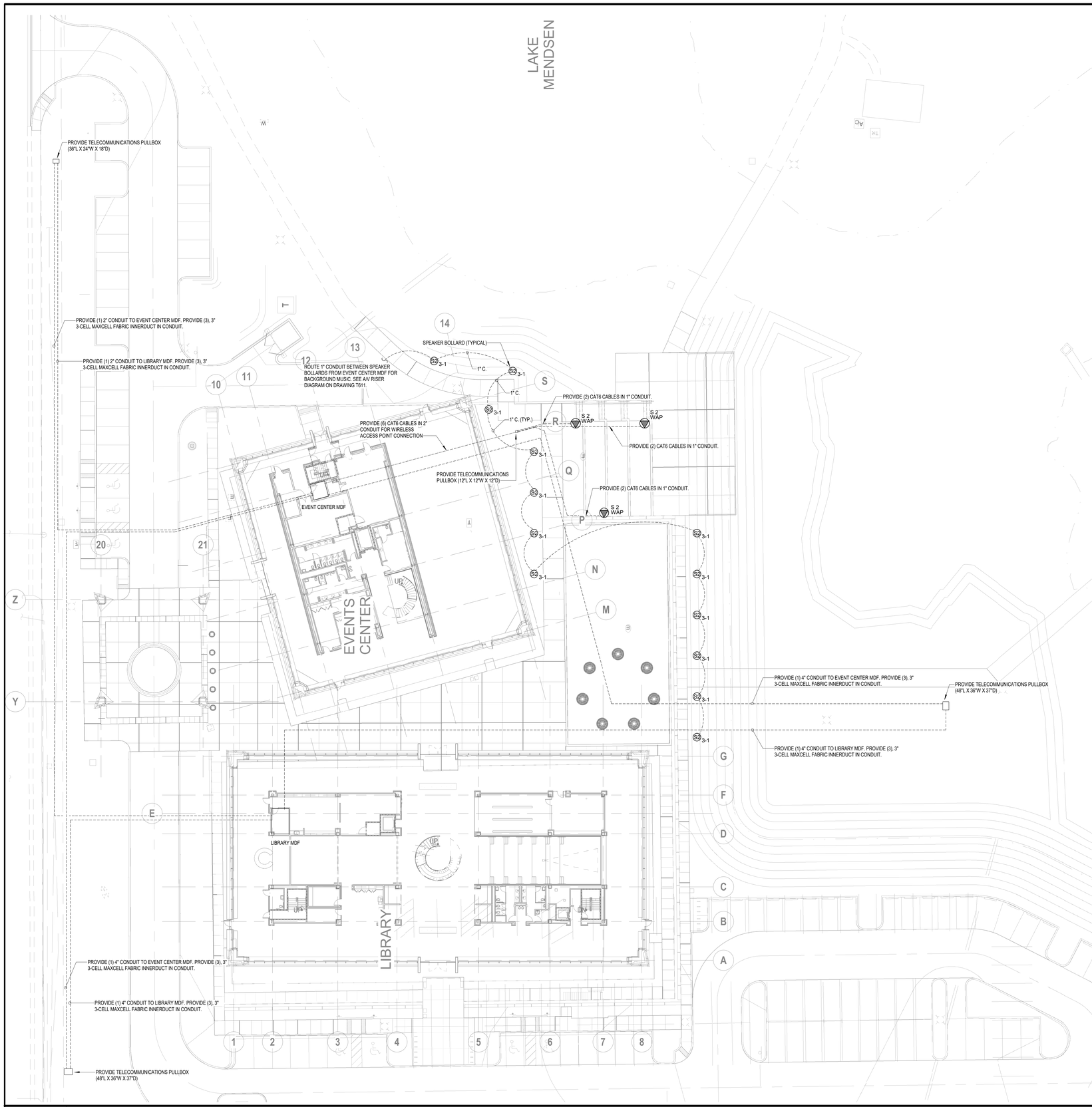
TECHNOLOGY SYMBOLS, LEGEND, NOTES, SHEET INDEX

PROJ. NO. E-16078.00 SHEET
DRAWN Author

T001



1 TECHNOLOGY SITE PLAN

1" = 20'-0"

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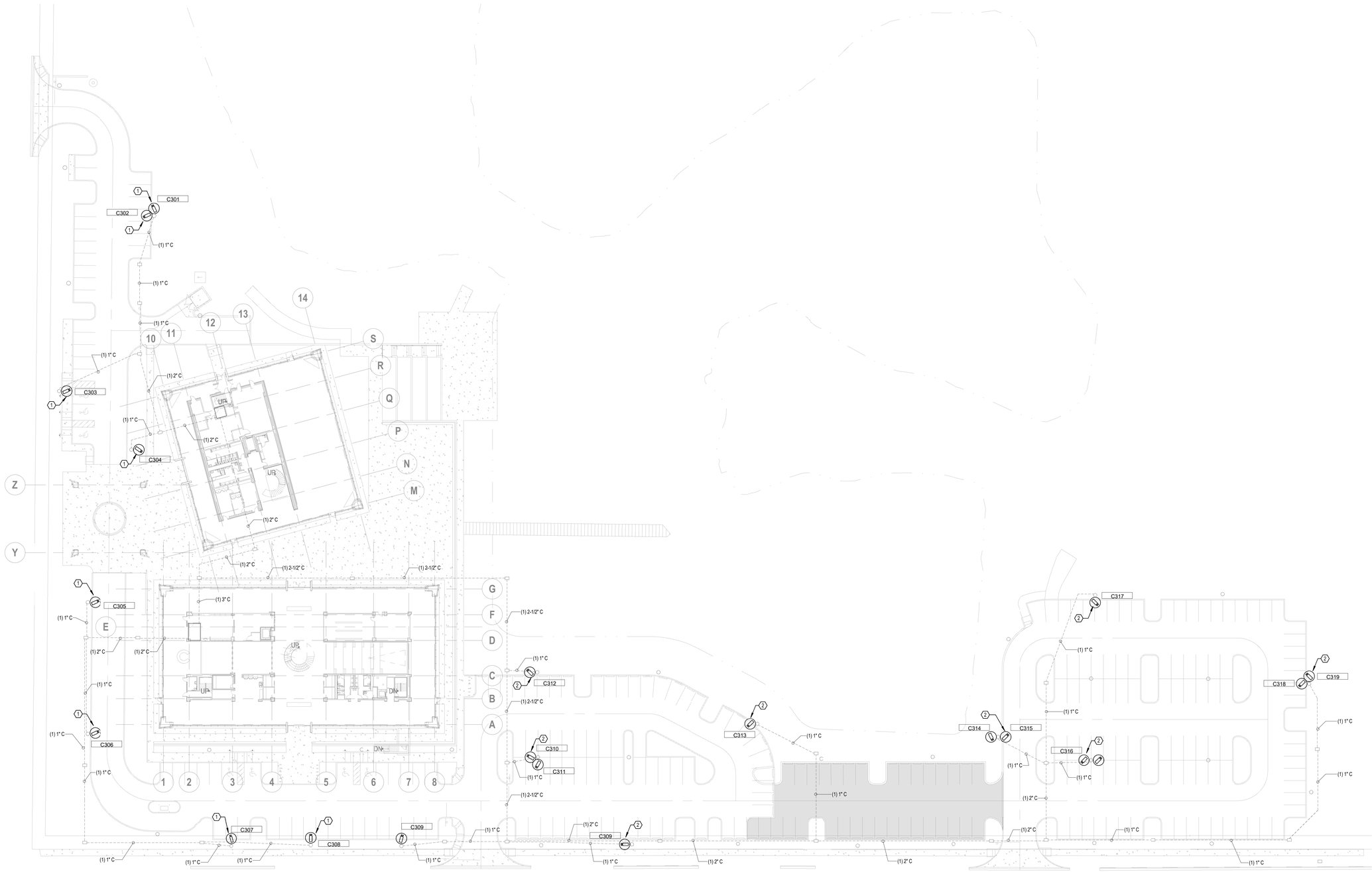
TECHNOLOGY SITE PLAN

PROJ. NO. E-16078.00
DRAWN Author
SHEET T011



KEYED NOTES

1. LOCATION OF ELECTRICAL SITE LIGHTING POLE. STUB UP 6-STRAND SM FIBER IN 1" CONDUIT TO FIBER ENCLOSURE AT THE BASE OF POLE. ROUTE 3/4" CONDUIT FOR COPPER TO CAMERA MOUNTED AT 13'. REFER TO DETAILS ON SHEET T704 FOR ENCLOSURE DETAILS.
2. LOCATION OF ELECTRICAL SITE LIGHTING POLE. STUB UP 6-STRAND SM FIBER IN 1" CONDUIT TO FIBER ENCLOSURE AT THE BASE OF POLE. ROUTE 3/4" CONDUIT FOR COPPER TO CAMERA MOUNTED AT 15'. REFER TO DETAILS ON SHEET T704 FOR ENCLOSURE DETAILS.

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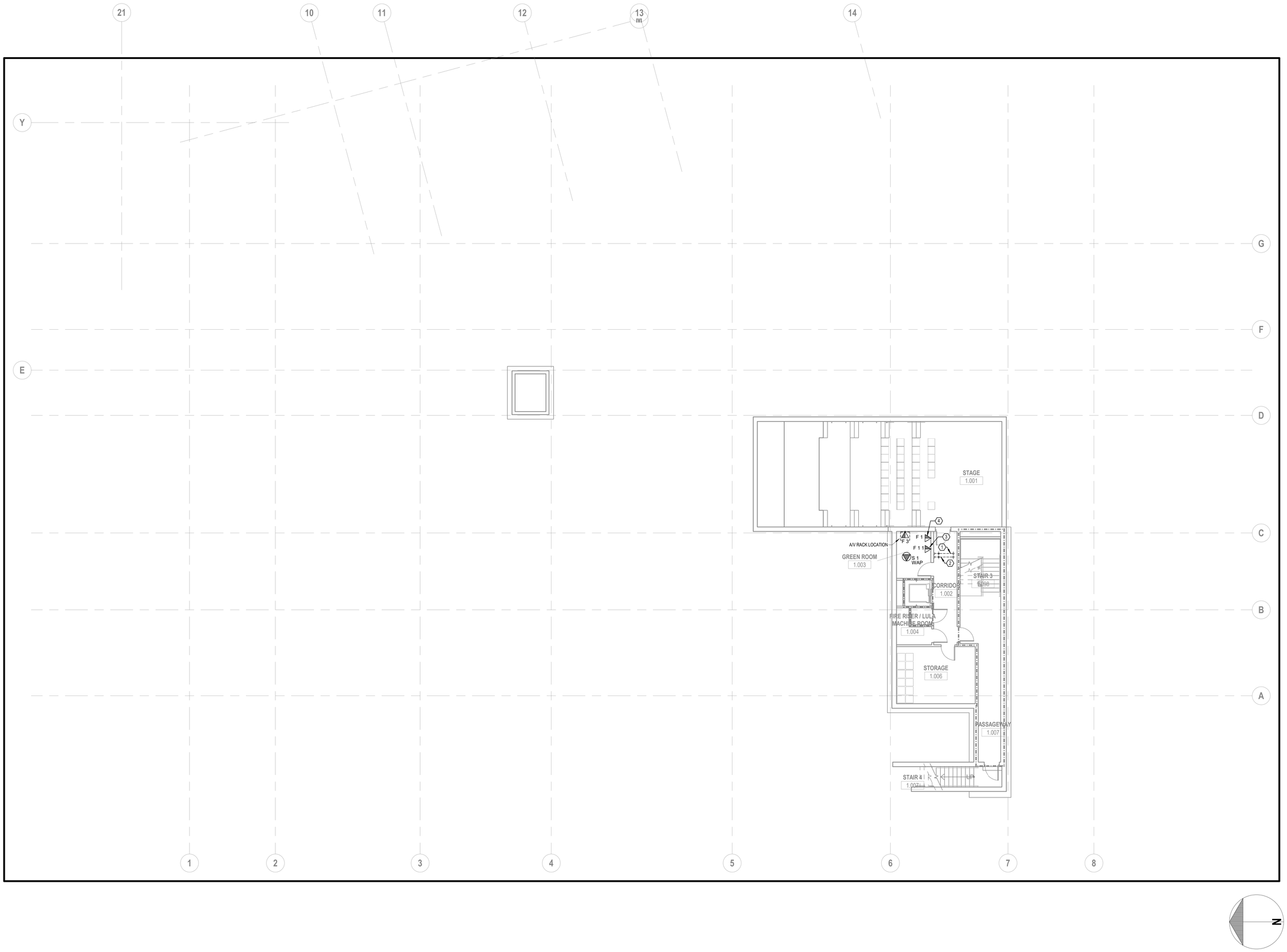
SECURITY SITE PLAN

PROJ. NO. E-16078.00 SHEET
DRAWN Author
T012

1 **SECURITY SITE PLAN**
1" = 30'-0"



KEYED NOTES

1. PROVIDE (1) 1" CONDUIT WITH PULLSTRING TO BE USED FOR DATA CABLING. STUB CONDUIT(S) BELOW FLOOR TO NEAREST ACCESSIBLE WALL. REFERENCE DETAILS ON SHEET T704 FOR SMART SECURITY GATE INSTALLATION REQUIREMENTS.
2. PROVIDE (1) 3/4" CONDUIT WITH PULLSTRING TO BE USED FOR ELECTRICAL POWER. STUB CONDUIT(S) BELOW FLOOR TO NEAREST ACCESSIBLE WALL. REFERENCE DETAILS ON SHEET T704 FOR SMART SECURITY GATE INSTALLATION REQUIREMENTS.
3. PROVIDE DATA AND COAX CABLE IN SINGLE FACEPLATE BEHIND TV.
4. PROVIDE DATA OUTLET FOR A/V KEYPAD.

GENERAL NOTES:

1. PRIMARY PATHWAY FOR HORIZONTAL CAT6 CABLE AND OTHER LOW VOLTAGE CABLE IS J-HOOKS. PAGING AND AV CABLES SHALL BE IN SEPERATE J-HOOK SYSTEM FROM DATA CABLES. 5 FOOT IS THE MAX SPACING FOR J-HOOKS. VARY THE SPACING FROM 3 FEET TO 5 FEET. PROVIDE (2) J-HOOKS AT EVERY TURN GREATER THAN 45 DEGREES.

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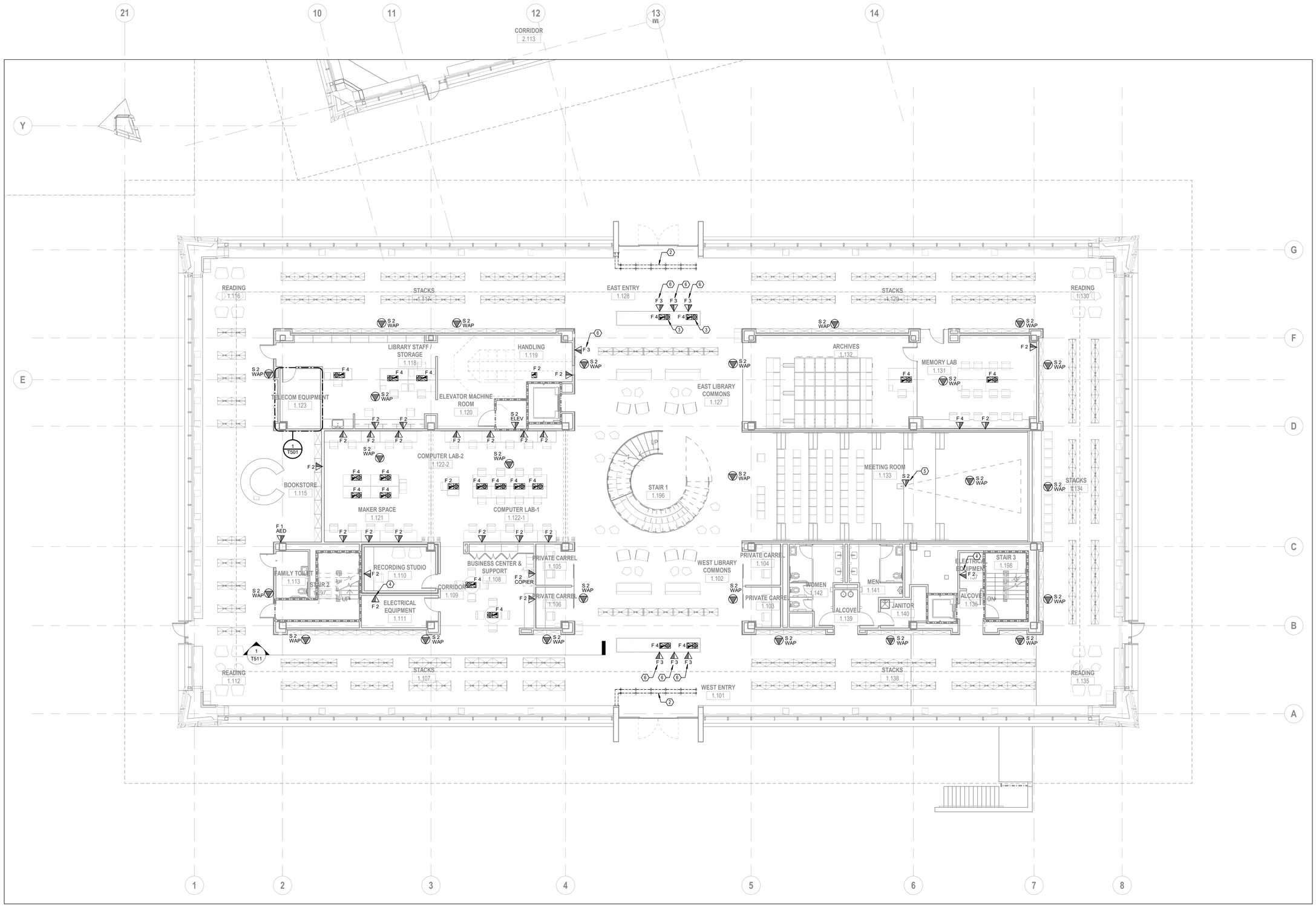
VOICE/DATA PLAN BASEMENT LEVEL - AREA 1 - LIBRARY

PROJ. NO. E-16078.00 SHEET
DRAWN Author
T101

A1 **VOICE/DATA PLAN BASEMENT LEVEL - AREA 1 - LIBRARY**
1/8" = 1'-0"



KEYED NOTES

1. PROVIDE (1) 1" CONDUIT WITH PULLSTRING TO BE USED FOR DATA CABLING. STUB CONDUIT(S) BELOW FLOOR TO NEAREST ACCESSIBLE WALL. REFERENCE DETAILS ON SHEET T704 FOR SMART SECURITY GATE INSTALLATION REQUIREMENTS.
2. PROVIDE (1) 3/4" CONDUIT WITH PULLSTRING TO BE USED FOR ELECTRICAL POWER. STUB CONDUIT(S) BELOW FLOOR TO NEAREST ACCESSIBLE WALL. REFERENCE DETAILS ON SHEET T704 FOR SMART SECURITY GATE INSTALLATION REQUIREMENTS.
3. DATA OUTLETS LOCATED IN MILLWORK. COORDINATE WITH ARCHITECTURAL DRAWINGS. PROVIDE A DEDICATED 1" CONDUIT PER DATA OUTLET TO THE NEAREST WALL AND UP TO THE CLOSEST ACCESSIBLE CEILING.
4. DATA OUTLET FOR ELECTRICAL EQUIPMENT. COORDINATE LOCATION WITH ELECTRICAL CONTRACTOR.
5. DATA OUTLET LOCATED ABOVE CEILING FOR PROJECTOR. TERMINATE IN BISCUIT JACK.
6. LOCATE DATA OUTLET IN FLAT PANEL WALL BOX BEHIND DISPLAY.

GENERAL NOTES:

1. PRIMARY PATHWAY FOR HORIZONTAL CAT6 CABLE AND OTHER LOW VOLTAGE CABLE IS J-HOOKS. PAGING AND AV CABLES SHALL BE IN SEPERATE J-HOOK SYSTEM FROM DATA CABLES. 5 FOOT IS THE MAX SPACING FOR J-HOOKS. VARY THE SPACING FROM 3 FEET TO 5 FEET. PROVIDE (2) J-HOOKS AT EVERY TURN GREATER THAN 45 DEGREES.

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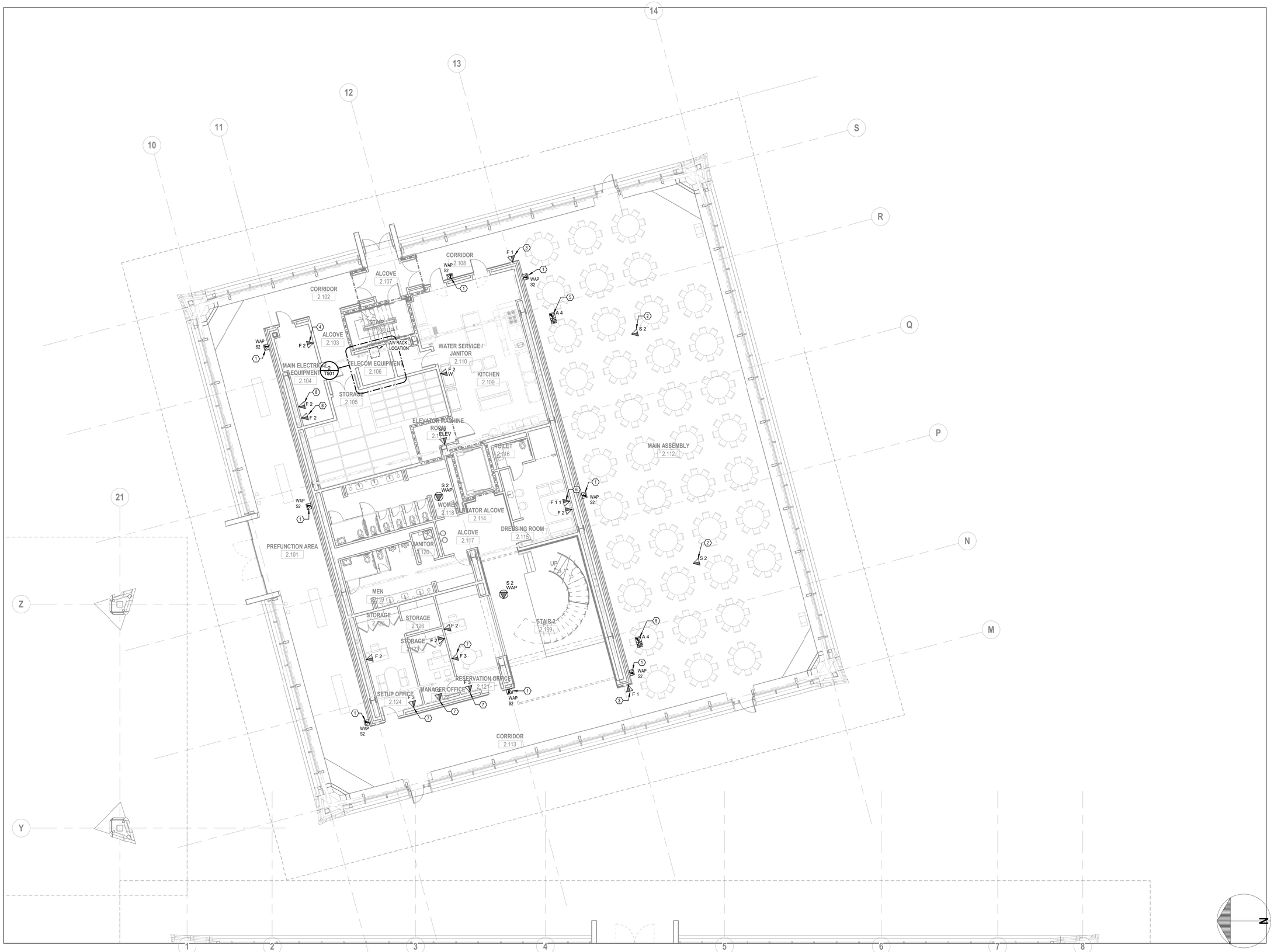
VOICE/DATA PLAN - 1ST LEVEL - AREA 1 - LIBRARY

PROJ. NO. E-16078.00 SHEET
DRAWN Author
T111

A1 — **VOICE/DATA PLAN - 1ST LEVEL - AREA 1 - LIBRARY**
1/8" = 1'-0"



KEYED NOTES

1. PROVIDE WIRELESS ACCESS POINT JUNCTION BOX ANTENNA, DESIGN SELECTION: VENTEV TERRAWAVE DIRECTION WI-FI JUNCTION BOX WITH 4 RPTNC PLUGS, MODEL M6050060D37202WST. CONNECT 6' LEAD TO WIRELESS ACCESS POINT MOUNTED IN ACCESSIBLE CEILING SPACE. PAINT JUNCTION BOX COVER TO MATCH WALLS.
2. DATA OUTLET LOCATED ABOVE CEILING FOR PROJECTOR. TERMINATE IN BISCUIT JACK.
3. PROVIDE DATA OUTLET FOR A/V TOUCHSCREEN CONTROLLER.
4. DATA OUTLET FOR ELECTRICAL EQUIPMENT. COORDINATE LOCATION WITH ELECTRICAL CONTRACTOR.
5. PROVIDE WIREMOLD EVOLUTION EFB6 FLOOR BOX WITH (2) 1"C. FOR DATA, (2) 3/4"C. FOR POWER AND (2) 1-1/2"C. FOR AV CABLE.
6. PROVIDE DATA AND COAX CABLE IN SINGLE FACEPLATE BEHIND TV.
7. LOCATE DATA OUTLET IN FLAT PANEL WALL BOX BEHIND DISPLAY.
8. DATA OUTLETS FOR DDC PANEL. COORDINATE LOCATION WITH ELECTRICAL CONTRACTOR.

GENERAL NOTES:

1. PRIMARY PATHWAY FOR HORIZONTAL CAT6 CABLE AND OTHER LOW VOLTAGE CABLE IS J-HOOKS. PAGING AND AV CABLES SHALL BE IN SEPERATE J-HOOK SYSTEM FROM DATA CABLES. 5 FOOT IS THE MAX SPACING FOR J-HOOKS. VARY THE SPACING FROM 3 FEET TO 5 FEET. PROVIDE (2) J-HOOKS AT EVERY TURN GREATER THAN 45 DEGREES.

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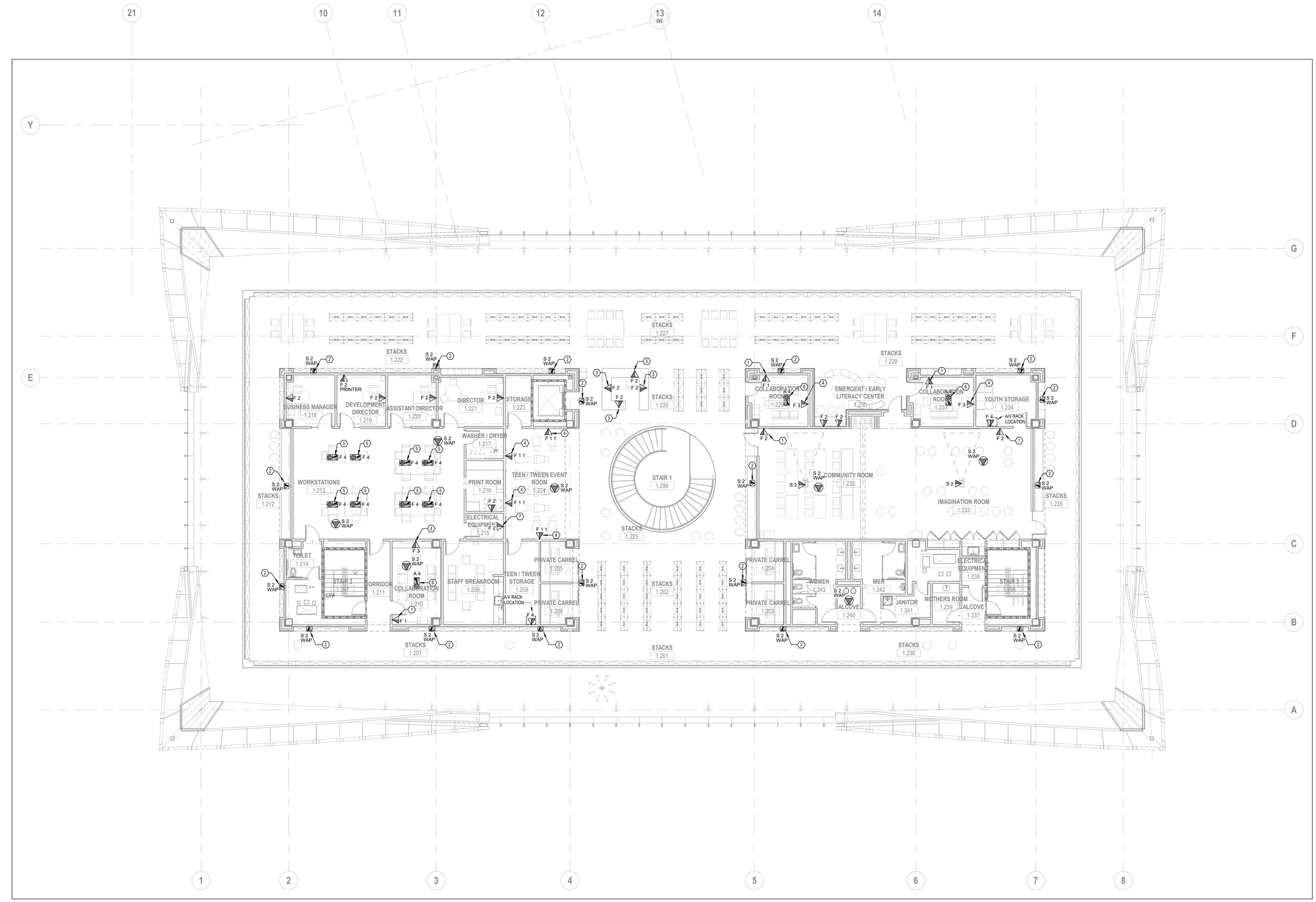
VOICE/DATA PLAN - 1ST LEVEL - AREA 2 - EVENTS CENTER

PROJ. NO. E-16078.00 SHEET
DRAWN Author
T112

A1 VOICE/DATA PLAN - 1ST LEVEL - AREA 2 - EVENTS CENTER
1/8" = 1'-0"



KEYED NOTES

1. PROVIDE DATA OUTLET FOR A/V KEYPAD.
2. PROVIDE WIRELESS ACCESS POINT JUNCTION BOX ANTENNA, DESIGN SELECTION: VENTEV TERRAWAVE DIRECTION WI-FI JUNCTION BOX WITH 4 RPTNC PLUSS, MODEL M60050060D37202WST. CONNECT 6' LEAD TO WIRELESS ACCESS POINT MOUNTED IN ACCESSIBLE CEILING SPACE. PAINT JUNCTION BOX COVER TO MATCH WALLS.
3. DATA OUTLETS LOCATED IN MILLWORK. PROVIDE A DEDICATED 1" CONDUIT FOR EACH DATA OUTLET TO THE NEAREST ACCESSIBLE CEILING SPACE BY ROUTING CONDUIT UNDER SLAB AND UP WALL.
4. LOCATE DATA OUTLET IN FLAT PANEL WALL BOX BEHIND DISPLAY.
5. PROVIDE EVOLUTION POKE THRU, 8" WITH (1) 1"C. FOR DATA, (1) 3/4"C. FOR POWER. ALL CONDUITS SHALL BE DEDICATED. FLOOR BOXES SHALL NOT BE CONNECTED TOGETHER.
6. PROVIDE EVOLUTION POKE THRU, 8" WITH (1) 1"C. FOR DATA, (1) 3/4"C. FOR POWER AND (1) 1-1/2"C. TO BEHIND TV LOCATION FOR A/V CABLES.
7. DATA OUTLETS FOR DDC PANEL. COORDINATE LOCATION WITH ELECTRICAL CONTRACTOR.

GENERAL NOTES:

1. PRIMARY PATHWAY FOR HORIZONTAL CAT6 CABLE AND OTHER LOW VOLTAGE CABLE IS J-HOOKS. PAGING AND AV CABLES SHALL BE IN SEPERATE J-HOOK SYSTEM FROM DATA CABLES. 5 FOOT IS THE MAX SPACING FOR J-HOOKS. VARY THE SPACING FROM 3 FEET TO 5 FEET. PROVIDE (2) J-HOOKS AT EVERY TURN GREATER THAN 45 DEGREES.

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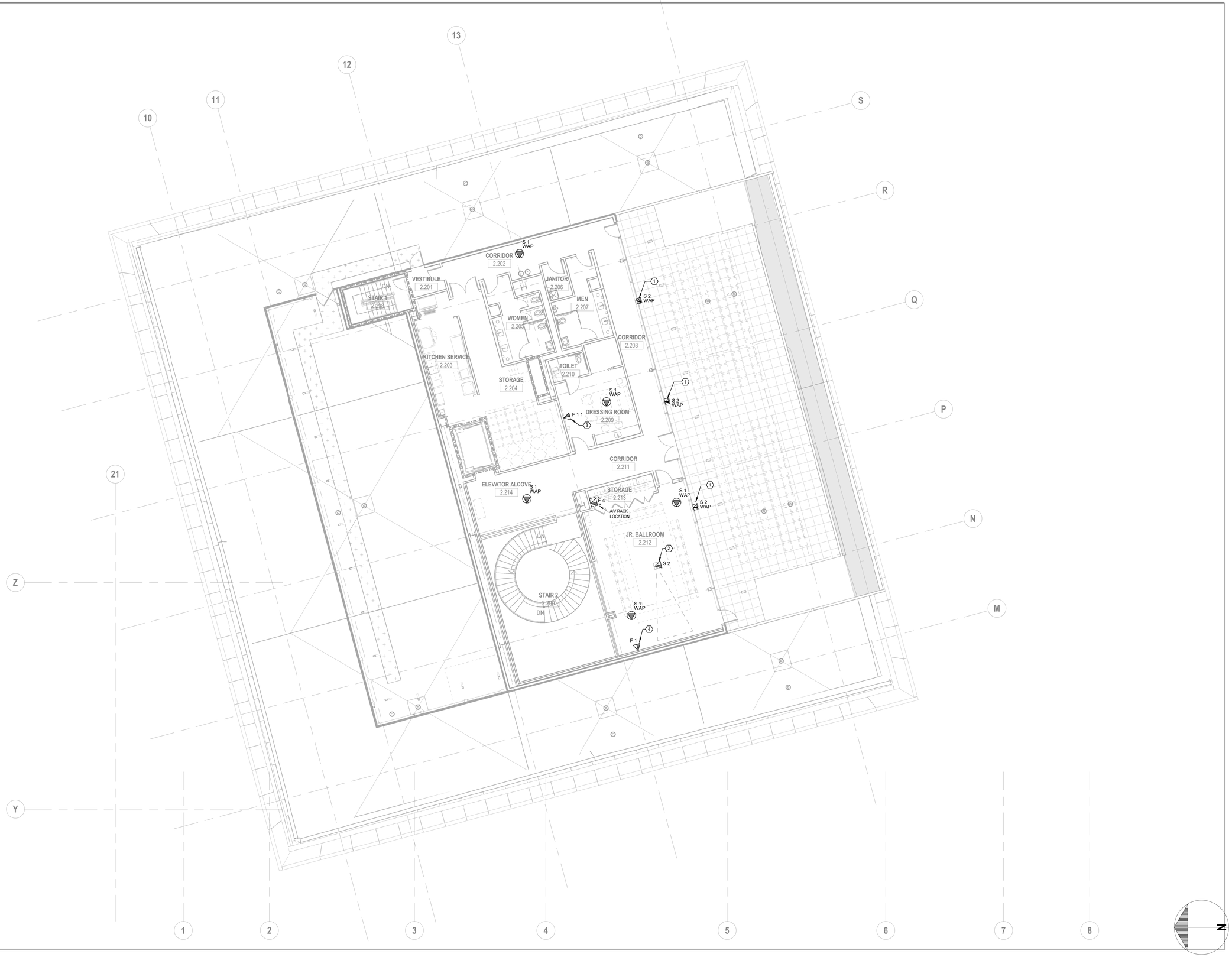
VOICE/DATA PLAN - 2ND LEVEL - AREA 1 - LIBRARY

PROJ. NO. E-16078.00
DRAWN Author
SHEET **T121**

A1 VOICE/DATA PLAN - 2ND LEVEL - AREA 1 - LIBRARY
1/8" = 1'-0"



KEYED NOTES

1. PROVIDE WIRELESS ACCESS POINT JUNCTION BOX ANTENNA, DESIGN SELECTION: VENTEV TERRAWAVE DIRECTION WI-FI JUNCTION BOX WITH 4 RPTNC PLUGS, MODEL M6050060D37202WST. CONNECT 6' LEAD TO WIRELESS ACCESS POINT MOUNTED IN ACCESSIBLE CEILING SPACE. PAINT JUNCTION BOX COVER TO MATCH WALLS.
2. DATA OUTLET LOCATED ABOVE CEILING FOR PROJECTOR. TERMINATE IN BISCUIT JACK.
3. PROVIDE DATA AND COAX CABLE IN SINGLE FACEPLATE BEHIND TV.
4. PROVIDE DATA OUTLET FOR A/V KEYPAD.

GENERAL NOTES:

1. PRIMARY PATHWAY FOR HORIZONTAL CAT6 CABLE AND OTHER LOW VOLTAGE CABLE IS J-HOOKS. PAGING AND AV CABLES SHALL BE IN SEPERATE J-HOOK SYSTEM FROM DATA CABLES. 5 FOOT IS THE MAX SPACING FOR J-HOOKS. VARY THE SPACING FROM 3 FEET TO 5 FEET. PROVIDE (2) J-HOOKS AT EVERY TURN GREATER THAN 45 DEGREES.

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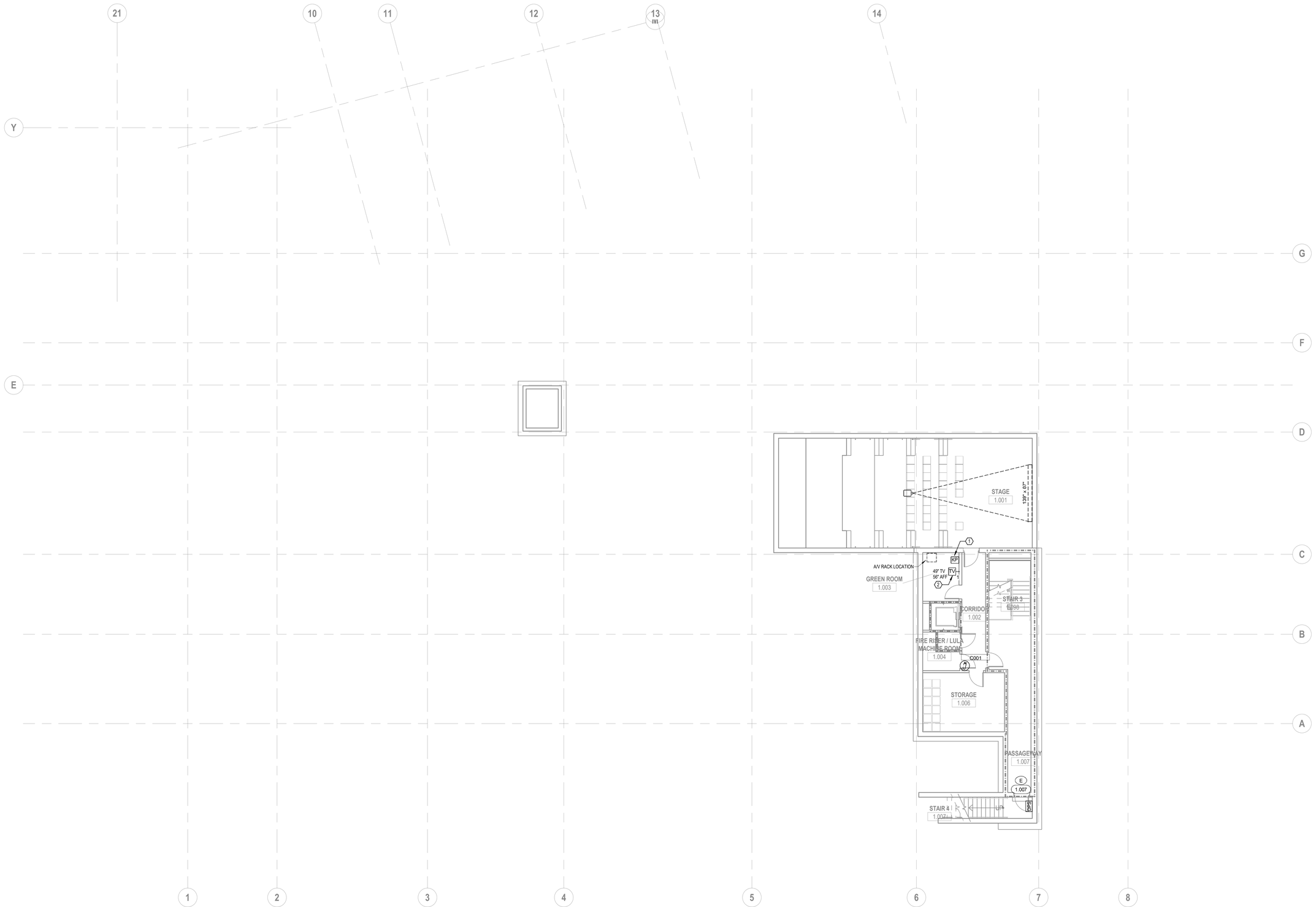
VOICE/DATA PLAN - 2ND LEVEL - AREA 2 - EVENTS CENTER

A1 — **VOICE/DATA PLAN - 2ND LEVEL - AREA 2 - EVENTS CENTER**
1/8" = 1'-0"

PROJ. NO. E-16078.00
DRAWN Author
SHEET **T122**



KEYED NOTES

1 PROVIDE A/V KEYPAD. REFER TO A/V RISER DIAGRAMS FOR DESIGN SELECTION AND BUTTON ASSIGNMENT. PROVIDE A DOUBLE GANG JUNCTION BOX WITH SINGLE GANG PLASTER RING AND 1" CONDUIT FOR DATA. MOUNT AT 48" AFF TO THE TOP OF THE BOX.

2 PROVIDE TV OUTLET. REFER TO DETAIL 4 ON SHEET T702 FOR CONDUIT AND CABLING REQUIREMENT.

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Florida License #45800

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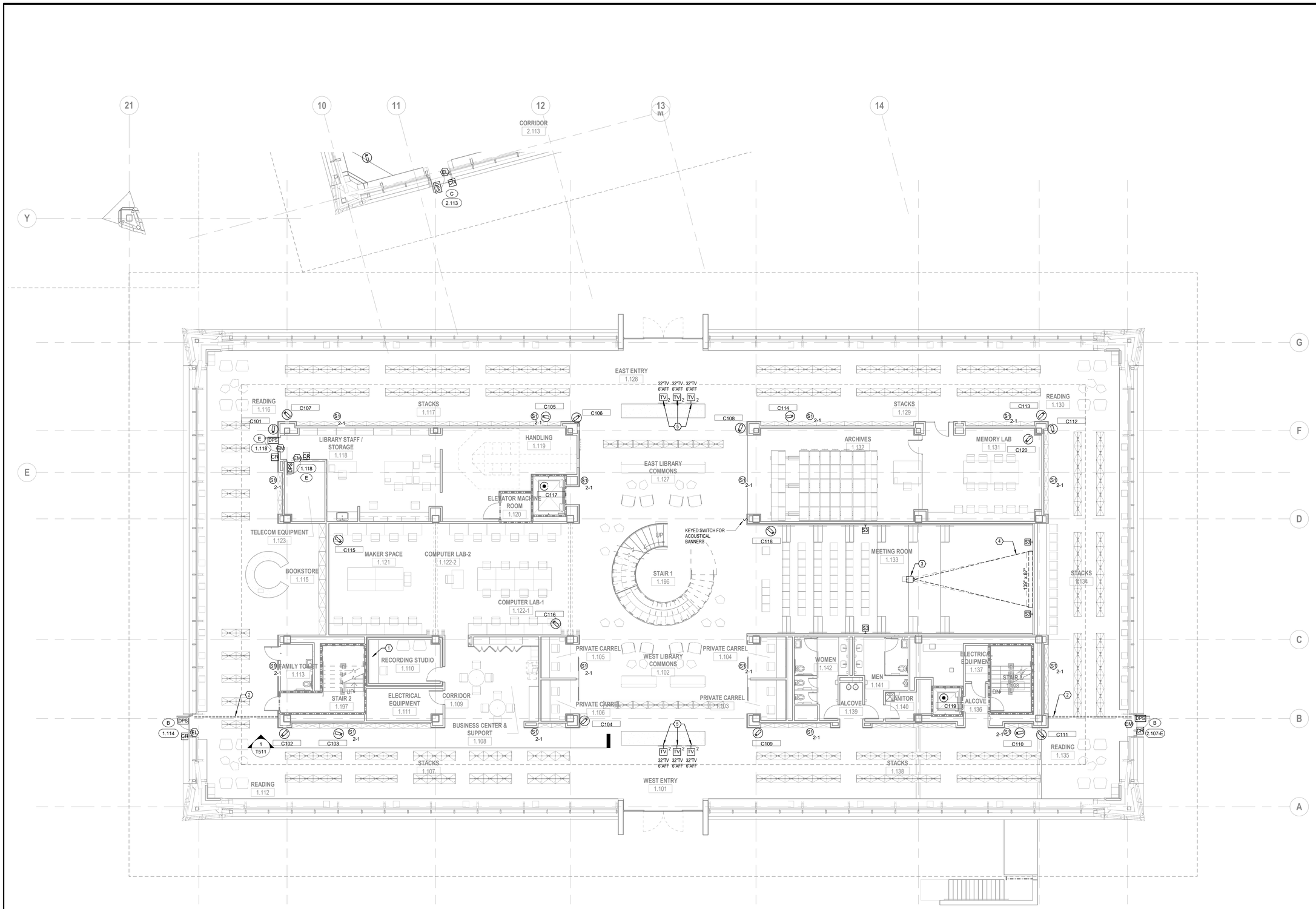
AUDIO/VISUAL & SECURITY PLAN - BASEMENT LEVEL - AREA 1 - LIBRARY

PROJ. NO. E-16078.00
DRAWN Author
SHEET **T201**

1 **AUDIO/VISUAL & SECURITY PLAN BASEMENT LEVEL - AREA 1 - LIBRARY**

1/8" = 1'-0"



KEYED NOTES

1. PROVIDE YAMAHA 6 CHANNEL MIXER (PART # YAMMG06X) WITH 6FT XLR TO AUDIO JACK CABLES. PROVIDE (3) SHURE WIRED CARDIOID MICROPHONES WITH ON/OFF SWITCH (PART # SHUSM58S) AND (3) FRAMEWORKS TRIPOD MIC STAND (PART # GATGFWMIC2100)".
2. PROVIDE 1" CONDUIT ROUTED UNDERNEATH SLAB TO EXTERIOR DOOR FOR COMMUNICATION AND LOW VOLTAGE POWER.
3. PROVIDE PROJECTOR. COORDINATE LOCATION WITH ARCHITECTURAL CEILING PLAN. LOWER PROJECTOR TO 54" FROM CEILING AND ADJUST IMAGE ACCORDINGLY.
4. PROVIDE PROJECTION SCREEN WITH 74" OF DROP MOUNTED FLUSH IN CEILING. COORDINATE WITH ARCHITECTURAL CEILING PLAN.
5. PROVIDE 4-GANG FLAT PANEL WALL BOX BEHIND TV WITH (2) DUPLEX RECEPTACLES. REFER TO DETAIL 2 ON SHEET T702. PROVIDE (2) 1-1/2" CONDUITS TO NEAREST ACCESSIBLE CEILING SPACE AND (2) 3/4" CONDUIT FOR POWER.

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AUDIO/VISUAL & SECURITY PLAN - 1ST LEVEL - AREA 1 - LIBRARY

PROJ. NO. E-16078.00 SHEET
DRAWN Author
T211

A1 **AUDIO/VISUAL & SECURITY PLAN - 1ST LEVEL - AREA 1 - LIBRARY**
1/8" = 1'-0"

KEYED NOTES

1. PROVIDE 1" CONDUIT ROUTED UNDERNEATH SLAB TO EXTERIOR DOOR FOR COMMUNICATION AND LOW VOLTAGE POWER.
2. PROVIDE TOUCHSCREEN CONTROLLER SURFACE MOUNTED OVER 2-GANG ELECTRICAL BOX. REFER TO A/V RISER DIAGRAMS FOR DESIGN SELECTION.
3. PROVIDE PROJECTOR AND MOTORIZED PROJECTOR LIFT. COORDINATE LOCATION WITH ARCHITECTURAL CEILING PLAN. PROVIDE CUSTOM CEILING PANEL AND PAINT TO MATCH.
4. PROVIDE MOTORIZED PROJECTION SCREEN WITH 42" OF DROP. BOTTOM OF HOUSING ABOVE CEILING AT 18'-08" AFF. COORDINATE LOCATION WITH ARCHITECTURAL CEILING PLAN.
5. PROVIDE 4-GANG FLAT PANEL WALL BOX BEHIND TV WITH (2) DUPLEX RECEPTACLES. REFER TO DETAIL 2 ON SHEET T702. PROVIDE (2) 1-1/2" CONDUITS TO NEAREST ACCESSIBLE CEILING SPACE AND (2) 3/4" CONDUIT FOR POWER.
6. PROVIDE TV OUTLET. REFER TO DETAIL 4 ON SHEET T702 FOR CONDUIT AND CABLING REQUIREMENT.

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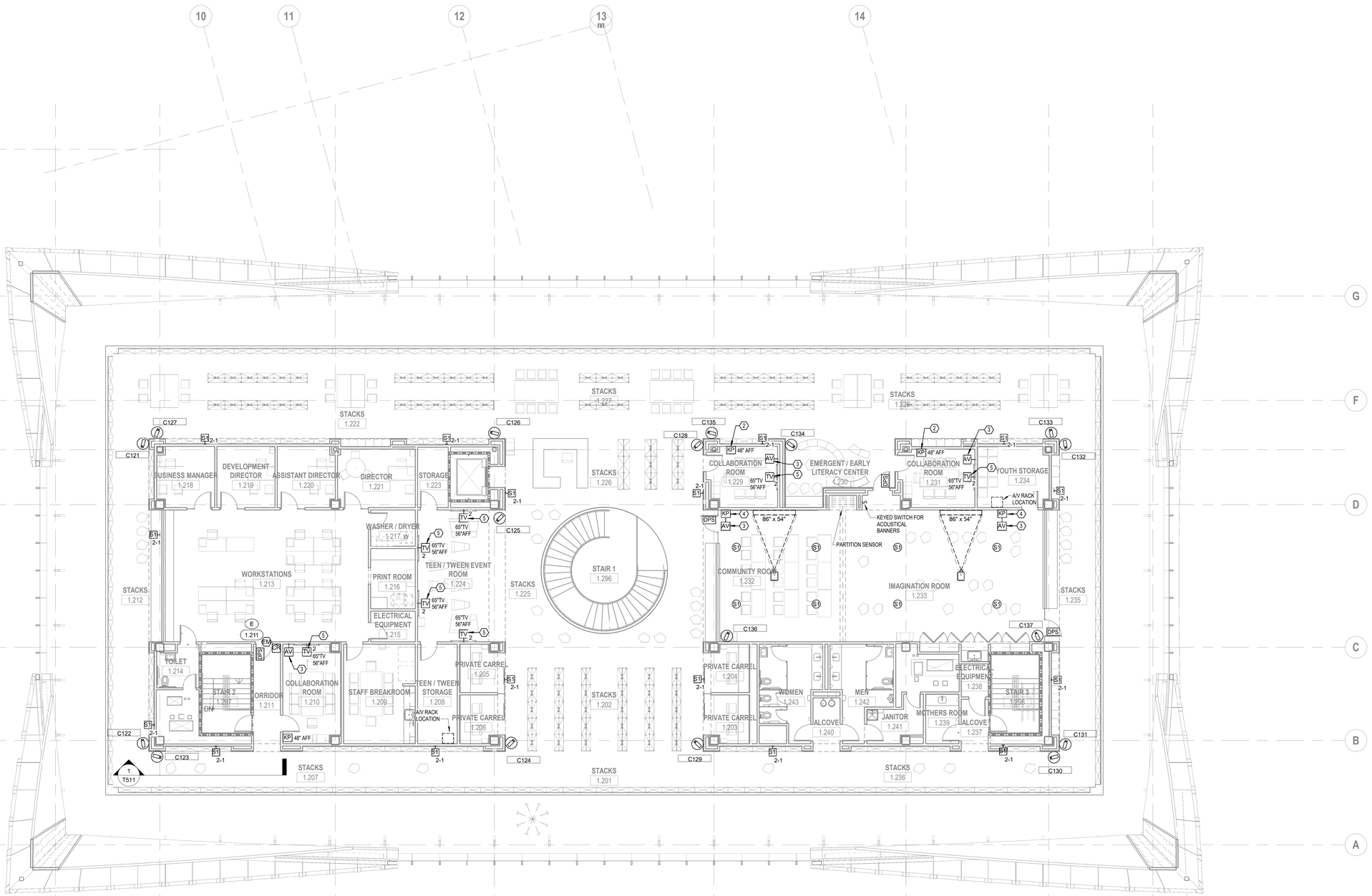
AUDIO/VISUAL & SECURITY PLAN - 1ST LEVEL - AREA 2 - EVENTS CENTER

PROJ. NO. E-16078.00
DRAWN Author
SHEET **T212**

A1 **AUDIO/VISUAL & SECURITY PLAN - 1ST LEVEL - AREA 2 - EVENTS CENTER**

1/8" = 1'-0"



KEYED NOTES

1. PROVIDE DATA OUTLET FOR A/V KEYPAD.
2. PROVIDE A/V KEYPAD. REFER TO A/V RISER DIAGRAMS FOR DESIGN SELECTION AND BUTTON ASSIGNMENT. PROVIDE A DOUBLE GANG JUNCTION BOX WITH SINGLE GANG PLASTER RING AND 1" CONDUIT FOR DATA. MOUNT AT 48" AFF TO THE TOP OF THE BOX.
3. PROVIDE A/V TRANSMITTER BOX. MOUNT AT 18" AFF. REFER TO A/V RISER DIAGRAMS FOR DESIGN SELECTION.
4. PROVIDE A/V KEYPAD. REFER TO A/V RISER DIAGRAMS FOR DESIGN SELECTION AND BUTTON ASSIGNMENT. PROVIDE 3-GANG ELECTRICAL BOX MOUNTED AT 48" AFF TO THE TOP OF THE BOX WITH (1) 1" CONDUIT FOR DATA.
5. PROVIDE 4-GANG FLAT PANEL WALL BOX BEHIND TV WITH (2) DUPLEX RECEPTACLES. REFER TO DETAIL 2 ON SHEET T702. PROVIDE (2) 1-1/2" CONDUITS TO NEAREST ACCESSIBLE CEILING SPACE AND (2) 3/4" CONDUIT FOR POWER.

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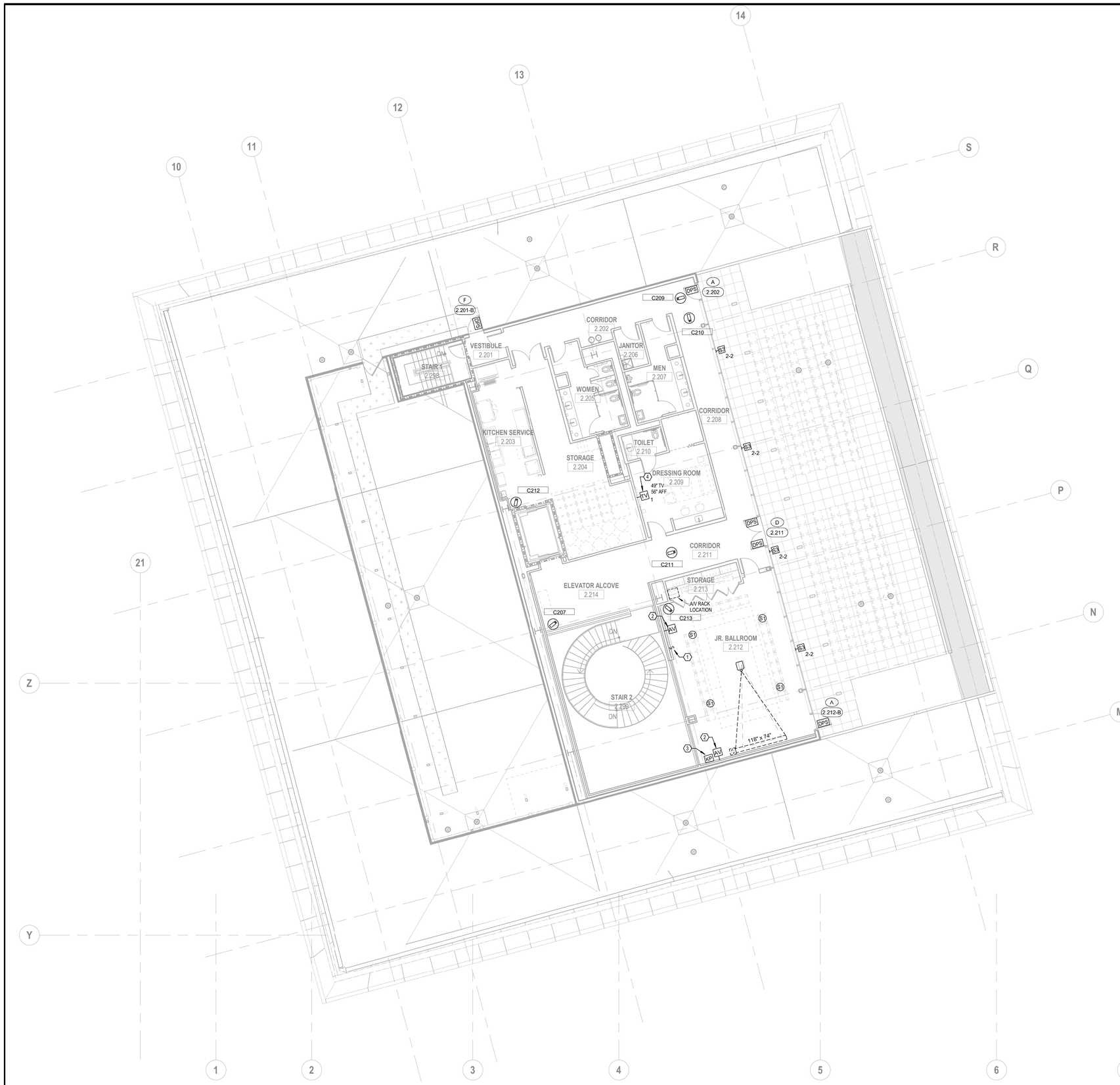
AUDIO/VISUAL & SECURITY PLAN - 2ND LEVEL - AREA 1 - LIBRARY

PROJ. NO. E-16078.00 SHEET
DRAWN Author
T221

A1 AUDIO/VISUAL & SECURITY PLAN - 2ND LEVEL - AREA 1 - LIBRARY

1/8" = 1'-0"



KEYED NOTES

1. PROVIDE MOTORIZED SWITCH FOR PROJECTION SCREEN.
2. PROVIDE A/V TRANSMITTER BOX. MOUNT AT 18" AFF. REFER TO A/V RISER DIAGRAMS FOR DESIGN SELECTION.
3. PROVIDE A/V KEYPAD. REFER TO A/V RISER DIAGRAMS FOR DESIGN SELECTION AND BUTTON ASSIGNMENT. PROVIDE A DOUBLE GANG JUNCTION BOX WITH SINGLE GANG PLASTER RING AND 1" CONDUIT FOR DATA. MOUNT AT 48" AFF TO THE TOP OF THE BOX.
4. PROVIDE TV OUTLET. REFER TO DETAIL 4 ON SHEET T702 FOR CONDUIT AND CABLING REQUIREMENT.

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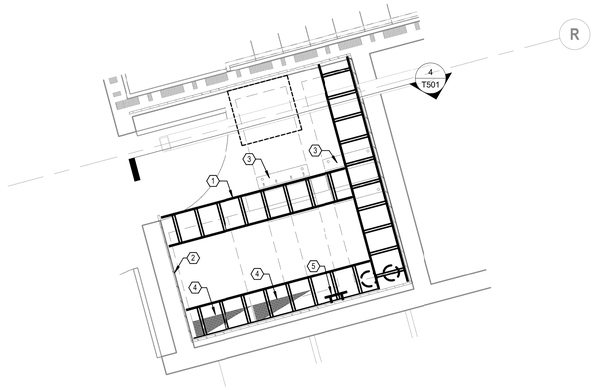
AUDIO/VISUAL & SECURITY PLAN - 2ND LEVEL - AREA 2 - EVENTS CENTER

PROJ. NO. E-16078.00
DRAWN Author
SHEET **T222**

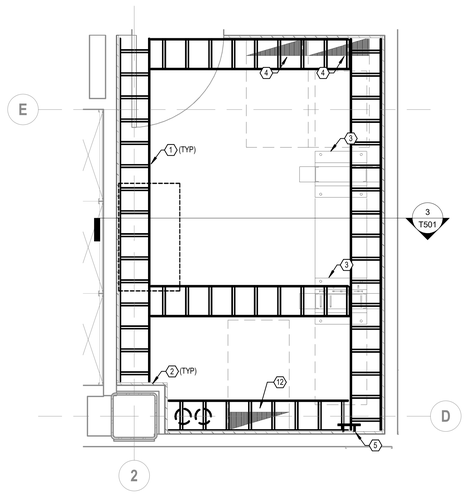
A1 AUDIO/VISUAL & SECURITY PLAN - 2ND LEVEL - AREA 2 - EVENTS CENTER

1/8" = 1'-0"



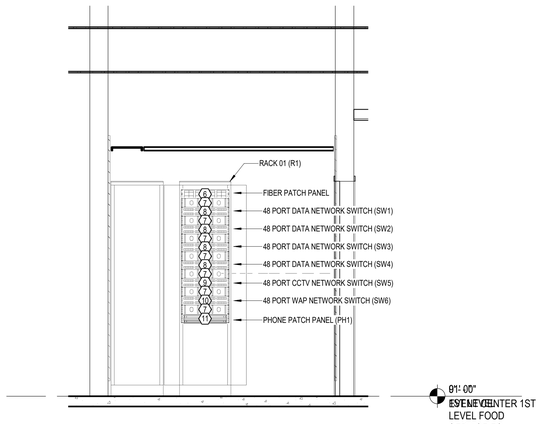
2 ENLARGED PLAN - EVENTS CENTER TELECOM 2.108

1/2" = 1'-0"



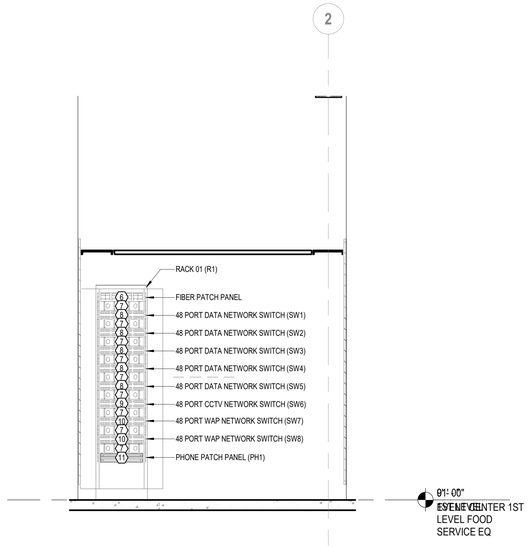
1 ENLARGED PLAN - LIBRARY TELECOM ROOM 1.123

1/2" = 1'-0"



4 RACK ELEVATION - EVENTS CENTER TELECOM ROOM 2.108

1/2" = 1'-0"



3 RACK ELEVATION - LIBRARY TELECOM ROOM 1.123

1/2" = 1'-0"

KEYED NOTES

1. PROVIDE 18" LADDER RACK MOUNTED AT 8' A.F.F.
2. PROVIDE MINIMUM 8' HIGH, 3/4" THICK PLYWOOD BACKBOARD PAINTED WITH FIRE RETARDANT PAINT. MOUNTED AT 6" A.F.F TO BOTTOM
3. 7' X 19" TWO POST RACK. SEE SPECIFICATIONS FOR DETAILS
4. PROVIDE WALL MOUNTED ACCESS CONTROL PANEL AND LOCK POWER SUPPLY PANEL.
5. GROUND BUSBAR. SEE SPECIFICATIONS FOR DETAILS
6. PROVIDE RACK MOUNTED FIBER CONNECT PANEL
7. PROVIDE HORIZONTAL WIRE MANAGEMENT BAR
8. PROVIDE RACK MOUNTED DATA PATCH PANEL
9. PROVIDE RACK MOUNTED CCTV PATCH PANEL
10. PROVIDE RACK MOUNTED WAP PATCH PANEL
11. PROVIDE RACK MOUNTED PHONE PATCH PANEL
12. PROVIDE WALL MOUNTED INTRUSION DETECTION PANEL.

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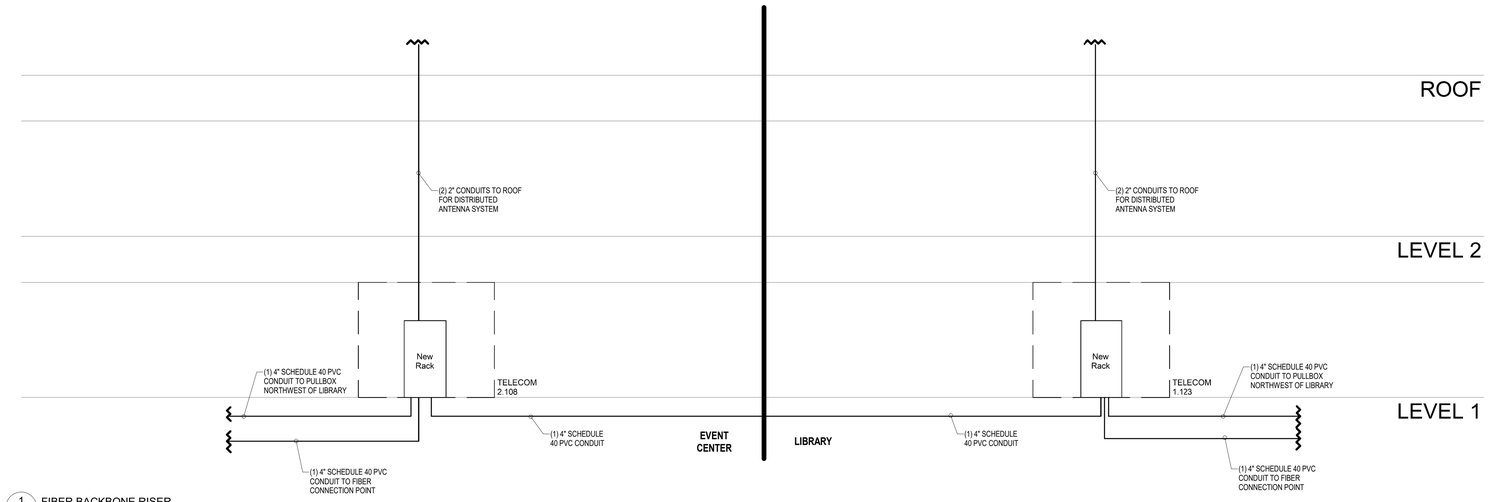
TECHNOLOGY ENLARGED PLANS

PROJ. NO. E-16078.00
DRAWN Author
SHEET **T501**



1 / T601 FIBER BACKBONE RISER
NOT TO SCALE

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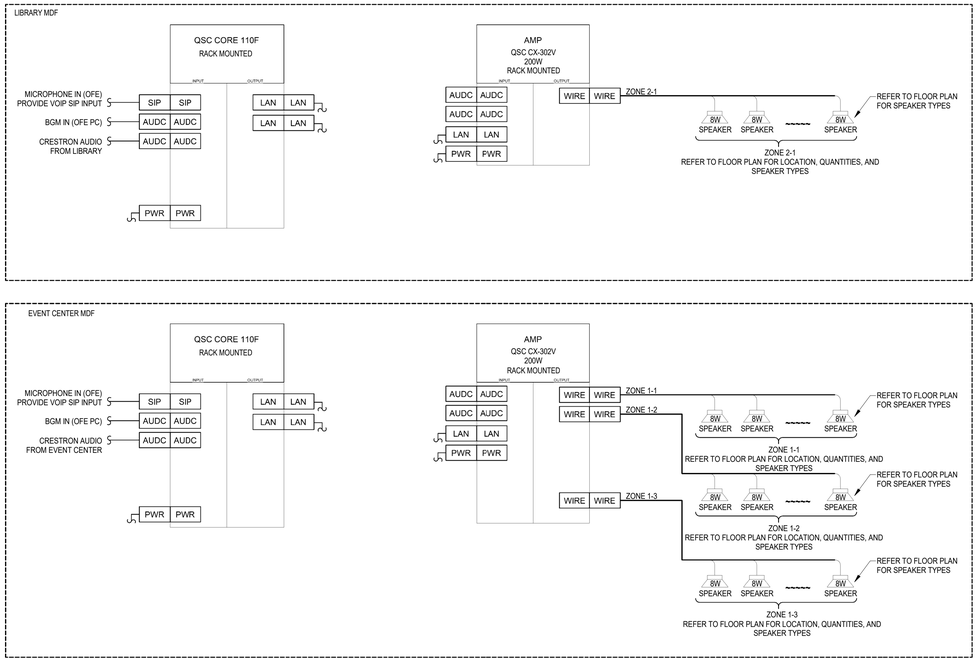
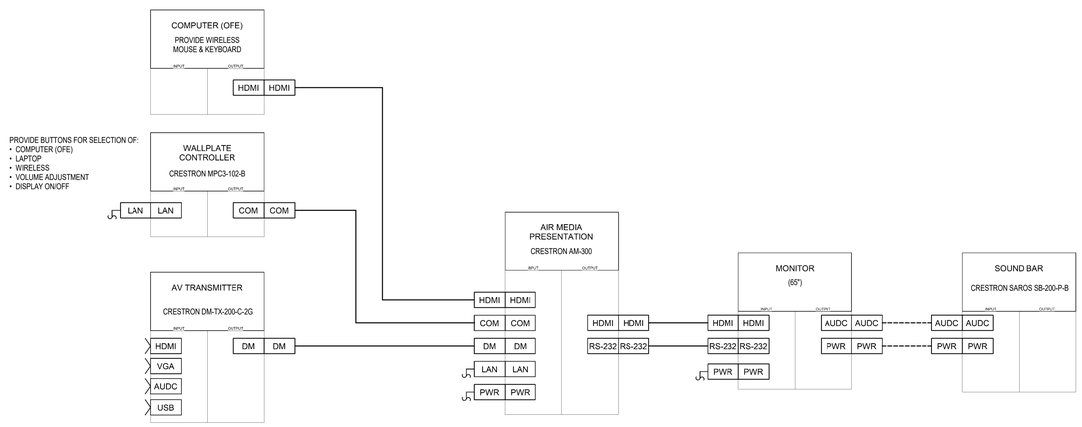
TECHNOLOGY RISER DIAGRAMS

PROJ. NO. E-16078.00 **SHEET**
DRAWN Author
T601



1 AV RISER - PAGING AND BGM
N.T.S.



AV RISER - COLLABORATION
ROOM 1.210 / 1.229 / 1.231 /
RESERVATION OFFICE 2.121
2 N.T.S.

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TECHNOLOGY AV RISER DIAGRAMS

PROJ. NO. E-16078.00 **SHEET**
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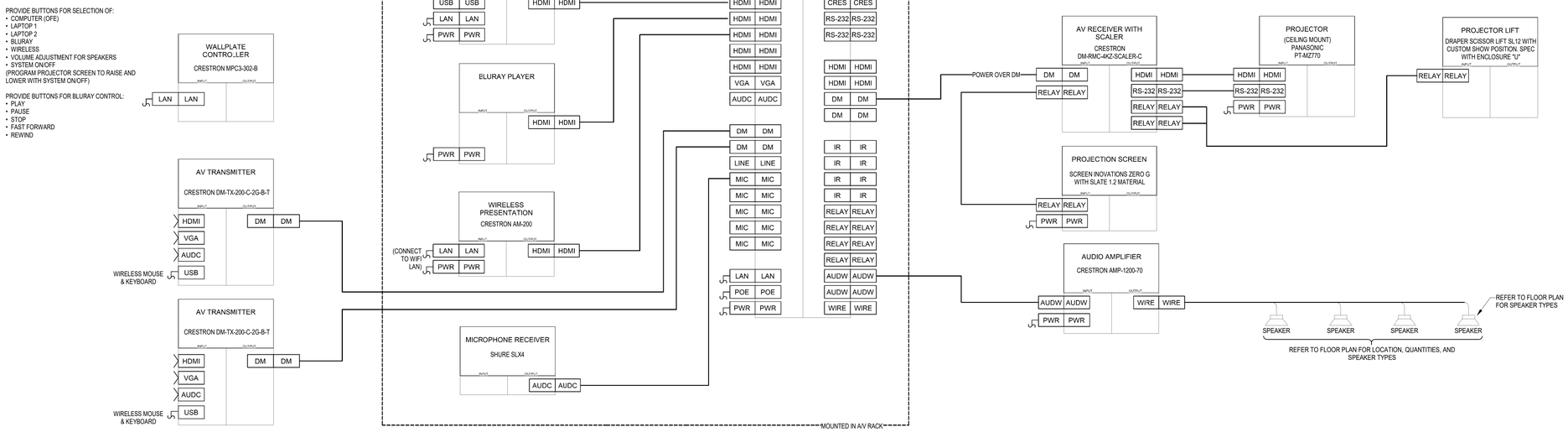
T611

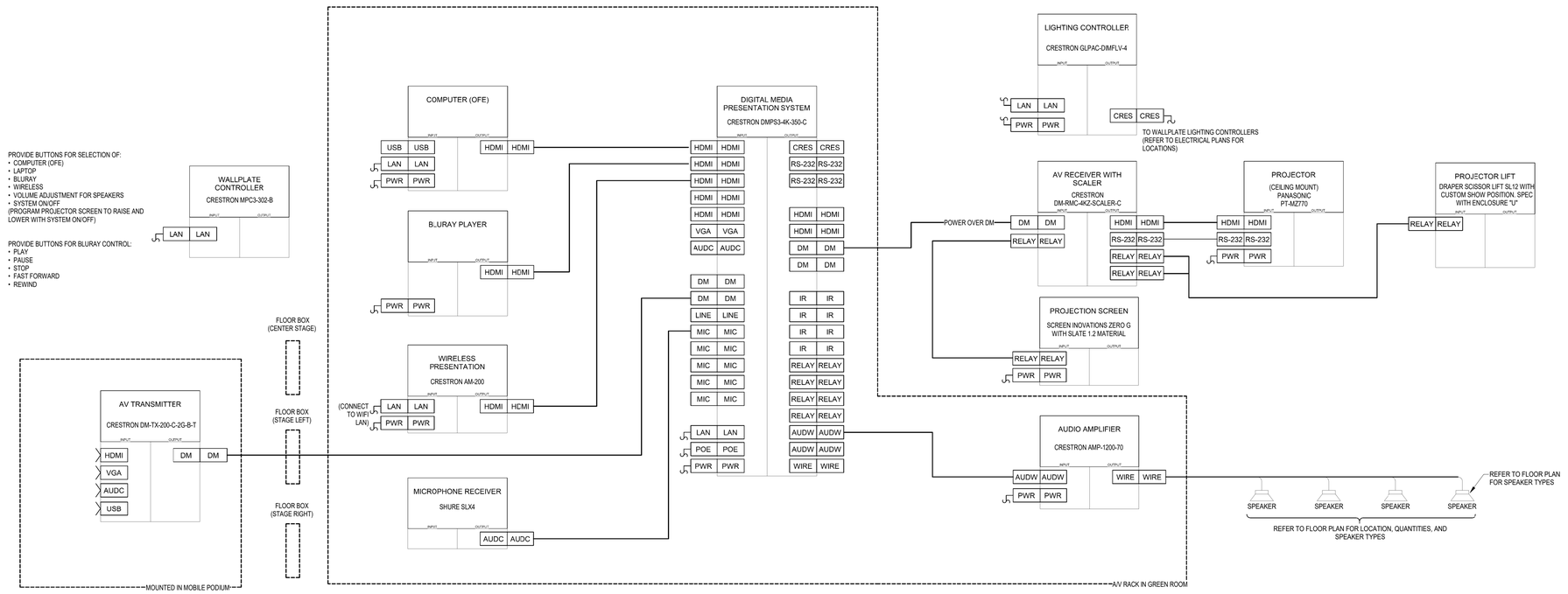
1 AV RISER - JR. BALLROOM 2.212

12" = 1'-0"



2 AV RISER - MEETING ROOM 1.133

12" = 1'-0"



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TECHNOLOGY AV RISER DIAGRAMS

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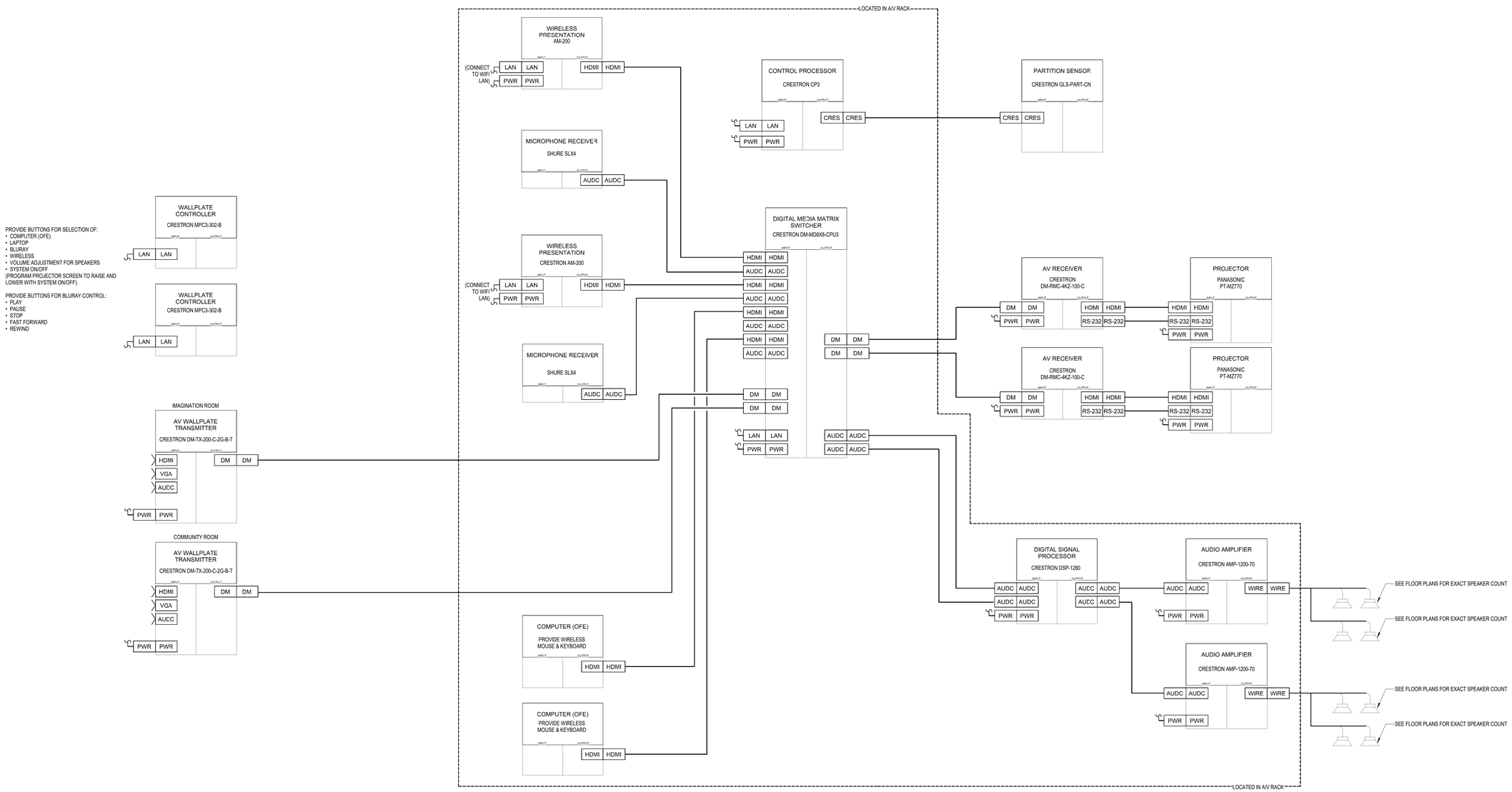

1 AV RISER - COMMUNITY ROOM 1.232 / IMAGINATION ROOM 1.233

12" = 1'-0"

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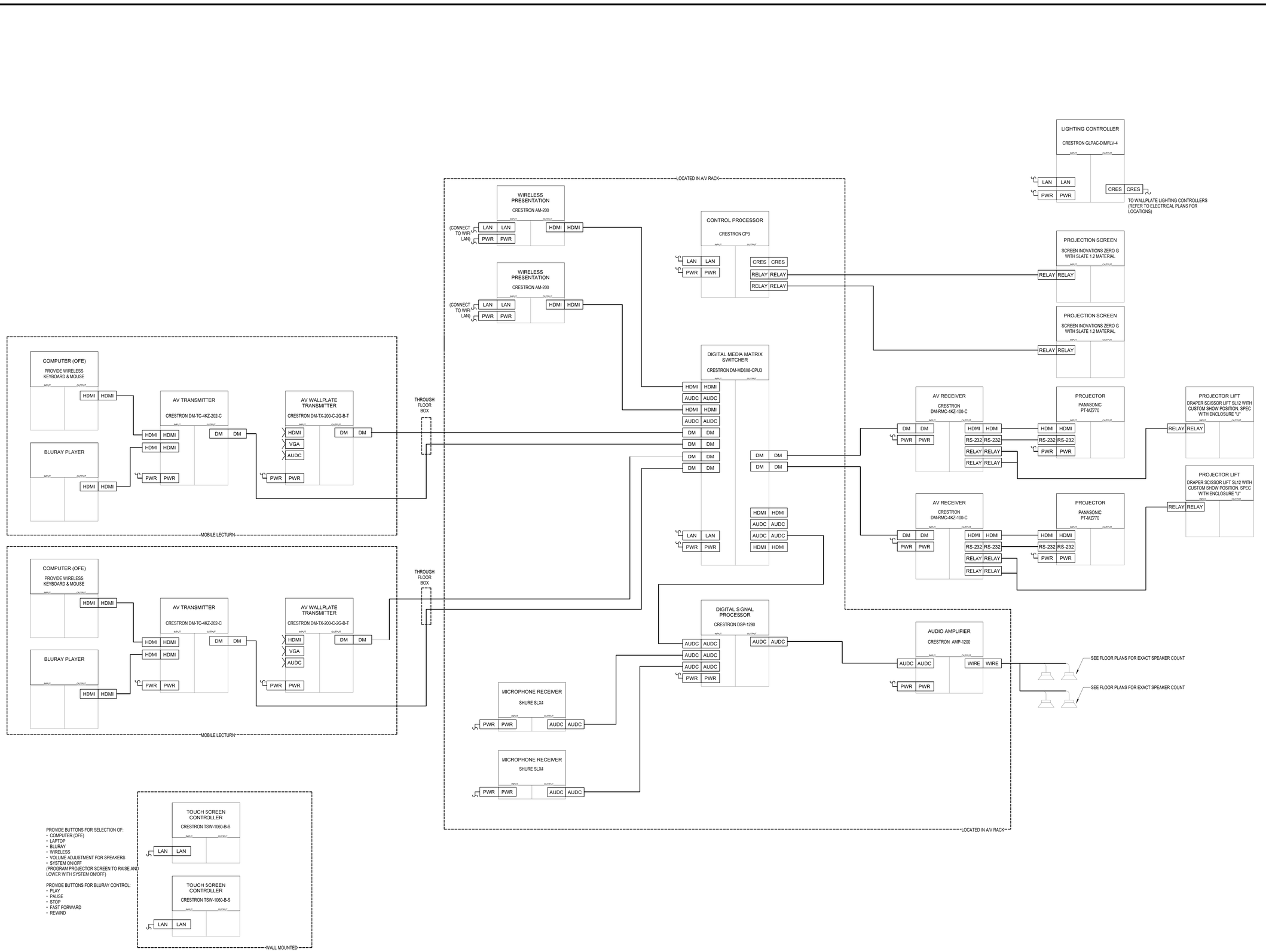

1

12" = 1'-0"

AV RISER - MAIN ASSEMBLY 2.112

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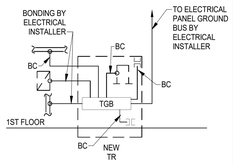
TECHNOLOGY AV RISER DIAGRAMS

PROJ. NO. E-16078.00 SHEET
DRAWN Author
T614

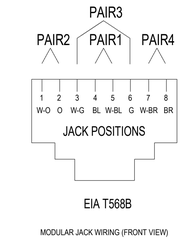
TBB LENGTH LINEAR M (FT)	TBB SIZE AWG
LESS THAN 4 (13)	6
4-6 (14-20)	4
6-8 (21-26)	3
8-10 (27-33)	2
10-13 (34-41)	1
13-16 (42-52)	1/0
16-20 (53-66)	2/0
GREATER THAN 20 (66)	3/0



ABBREVIATION SCHEDULE

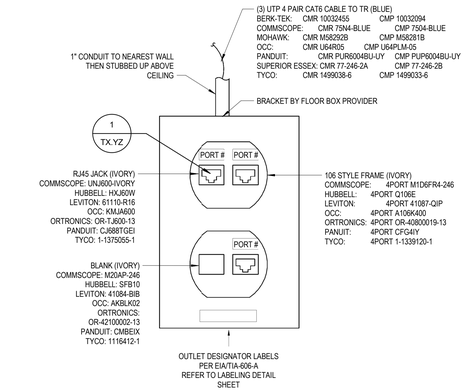
BCT	BONDING CONDUCTOR FOR TELECOMMUNICATIONS.
TR	TELECOMMUNICATIONS ROOM.
TEF	TELECOMMUNICATIONS ENTRANCE FACILITY.
TER	TELECOMMUNICATIONS EQUIPMENT ROOM.
TBB	TELECOMMUNICATIONS BONDING BACKBONE.
BC	BONDING CONDUCTOR. SHALL BE #6 AWG, UNLESS OTHERWISE NOTED BY COMMUNICATIONS CABLING INSTALLER.
TGB	TELECOMMUNICATIONS GROUNDING BUSBAR.
TMGB	TELECOMMUNICATIONS MAIN GROUNDING BUSBAR.
	RACK CONNECTION.
	ELECTRICAL PANELBOARD SERVING EQUIPMENT IN THIS COMM ROOM.
	CABLE BOND CONNECTIONS MADE W/U.L. LISTED BONDING CONNECTION FASTENERS.
	CABLE TRAY CONNECTION
	METAL FRAME OF BUILDING CONNECTION.
	CONDUIT/SLEEVES.

GROUNDING AND BONDING DIAGRAM 7
No Scale



MODULAR JACK WIRING (FRONT VIEW)

MODULAR JACK WIRING DETAIL 4
No Scale



XN

FLOOR BOX OUTLET - VOICE/DATA 1
No Scale

NOTE:
WIRELESS ACCESS POINT AND ANTENNA NOT IN CONTRACT.

DETAIL NOTE:
1 COIL 20' LOOP IN CEILING.

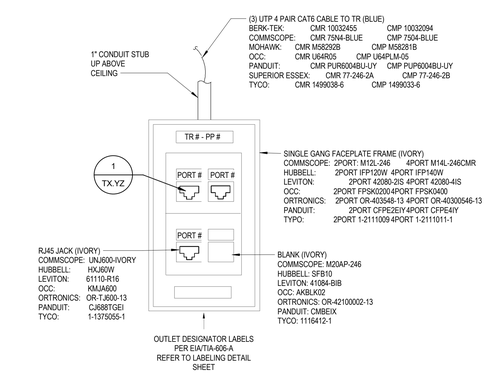
(BY SCS CONTRACTOR)

WAP
S02

OUTLET MOUNTING FOR WIRELESS ACCESS POINT 8
No Scale

NOTES:
1. PATCH PANELS WILL BE # A,B,C, ETC. FOR THE NUMBER OF PANEL REQUIRED PER RACK.
2. PROVIDE 2RU HORIZONTAL WIRE MANAGER BETWEEN EACH PATCH PANEL. CPI #30330-719

PATCH PANEL 5
No Scale



F12

WALL PHONE OUTLET - VOICE/DATA 2
No Scale

NOTES:
1) TREE SYSTEM IS FOR MAIN CORRIDOR PATHWAYS. DOUBLE AND SINGLE TREES MAYBE USED IN ROOMS. CABLE J-HOOK SYSTEM CAN BE SECURED TO METAL STUDS, WHERE PERMISSIBLE.
2) J-HOOKS SHALL BE USED WHERE EXISTING CABLE TRAY IS NOT AVAILABLE.

CABLE HANGER (MULTI J-HOOK) 9
No Scale

POKE-THRU 6
No Scale

TYPICAL T.V. OUTLET 3
No Scale

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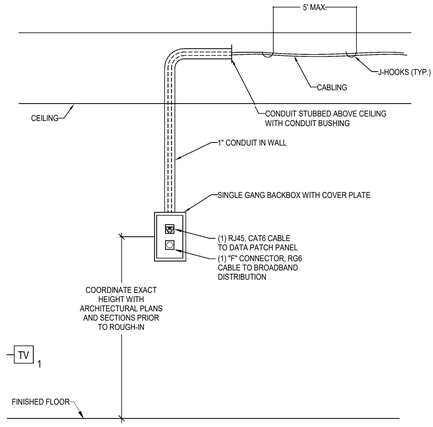
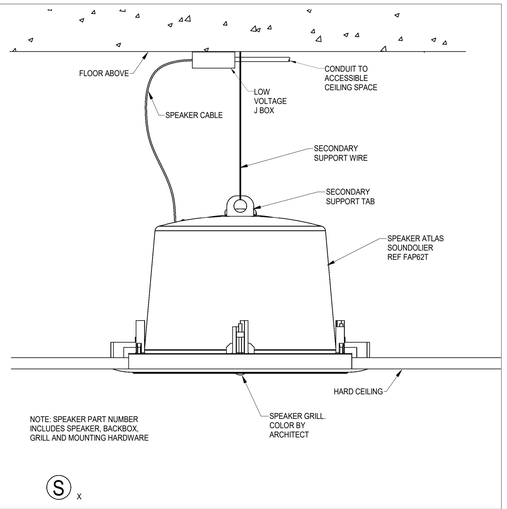
VOICE/DATA DETAILS

PROJ. NO. E-16078.00 SHEET
DRAWN Author
T701



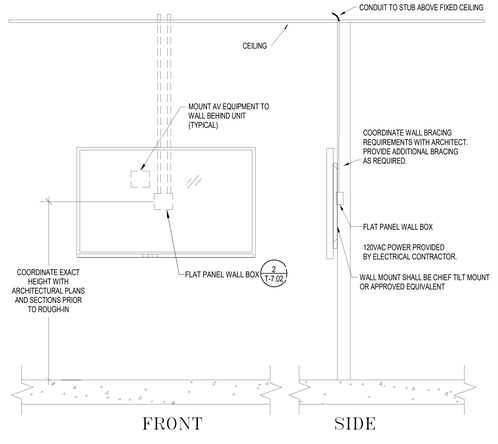
TV OUTLET TYPE "1"
No Scale

4



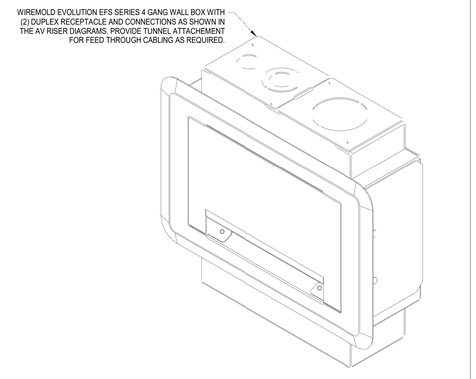
CEILING MOUNTED SPEAKER
No Scale

1



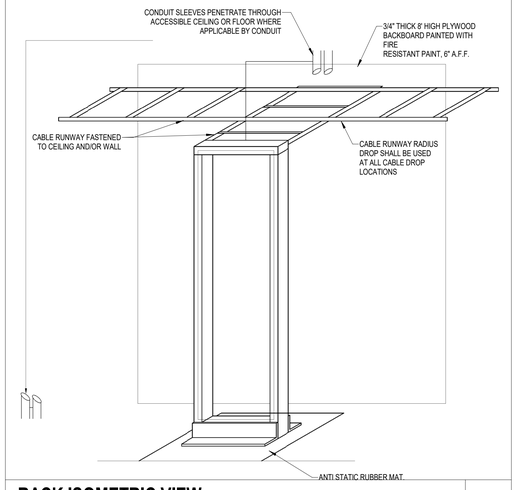
TYPICAL LCD MOUNTING DETAIL
No Scale

5



FLAT PANEL WALL BOX
No Scale

2



RACK ISOMETRIC VIEW
No Scale

3

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AUDIO VIDEO DETAILS

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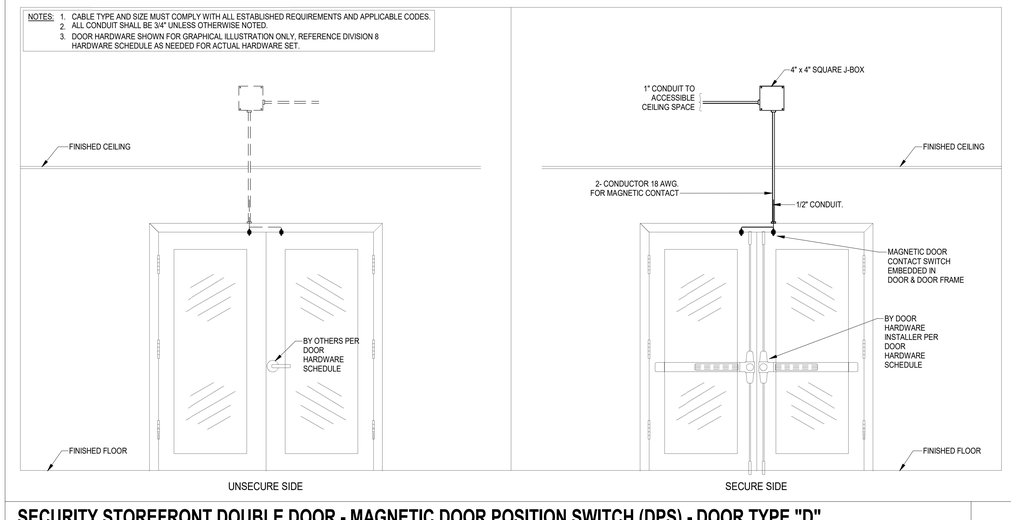
DRAWN Author
SHEET
T702

NOTES:
1. CABLE TYPE AND SIZE MUST COMPLY WITH ALL ESTABLISHED REQUIREMENTS AND APPLICABLE CODES.
2. ALL CONDUIT SHALL BE 3/4" UNLESS OTHERWISE NOTED.
3. DOOR HARDWARE SHOWN FOR GRAPHICAL ILLUSTRATION ONLY, REFERENCE DIVISION 8 HARDWARE SCHEDULE AS NEEDED FOR ACTUAL HARDWARE SET.



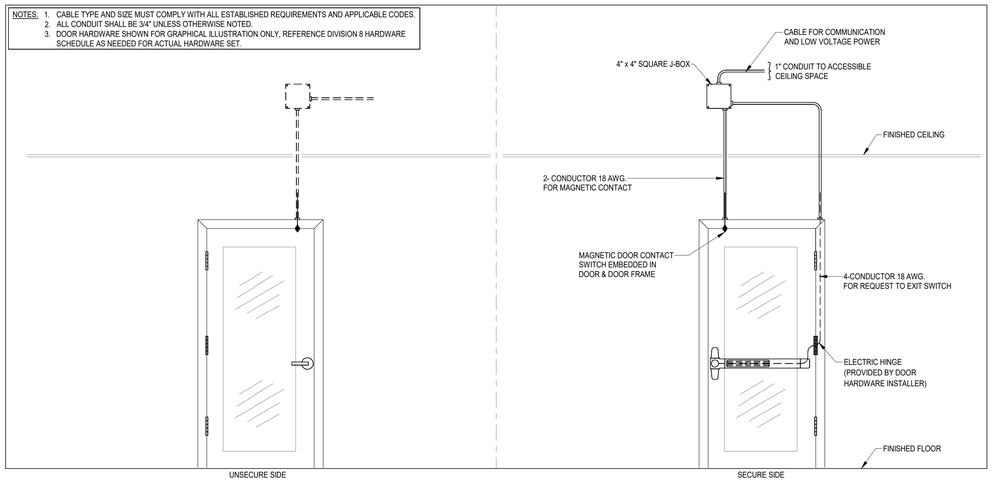
UNSECURE SIDE SECURE SIDE

SECURITY STOREFRONT DOUBLE DOOR - MAGNETIC DOOR POSITION SWITCH (DPS) - DOOR TYPE "D"

No Scale

4

NOTES:
1. CABLE TYPE AND SIZE MUST COMPLY WITH ALL ESTABLISHED REQUIREMENTS AND APPLICABLE CODES.
2. ALL CONDUIT SHALL BE 3/4" UNLESS OTHERWISE NOTED.
3. DOOR HARDWARE SHOWN FOR GRAPHICAL ILLUSTRATION ONLY, REFERENCE DIVISION 8 HARDWARE SCHEDULE AS NEEDED FOR ACTUAL HARDWARE SET.



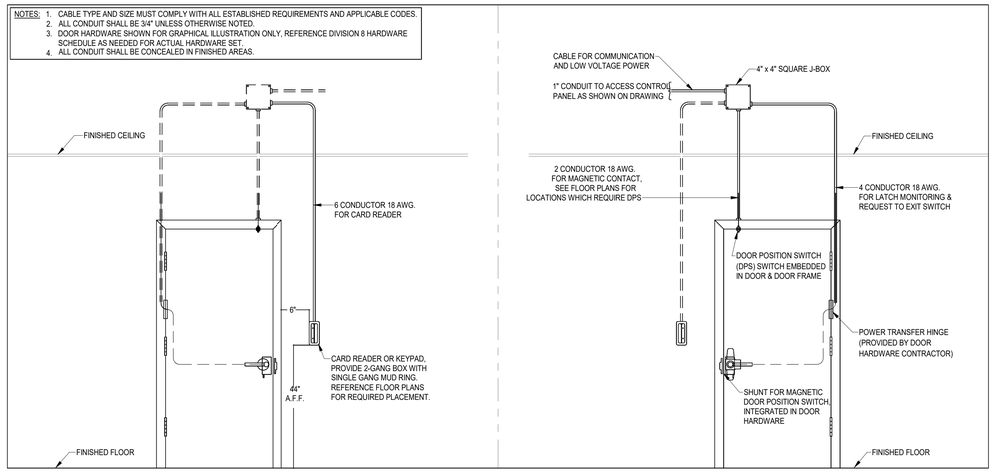
UNSECURE SIDE SECURE SIDE

SECURITY STOREFRONT SINGLE DOOR - MAGNETIC DOOR POSITION SWITCH (DPS) - DOOR TYPE "A"

No Scale

1

NOTES:
1. CABLE TYPE AND SIZE MUST COMPLY WITH ALL ESTABLISHED REQUIREMENTS AND APPLICABLE CODES.
2. ALL CONDUIT SHALL BE 3/4" UNLESS OTHERWISE NOTED.
3. DOOR HARDWARE SHOWN FOR GRAPHICAL ILLUSTRATION ONLY, REFERENCE DIVISION 8 HARDWARE SCHEDULE AS NEEDED FOR ACTUAL HARDWARE SET.
4. ALL CONDUIT SHALL BE CONCEALED IN FINISHED AREAS.

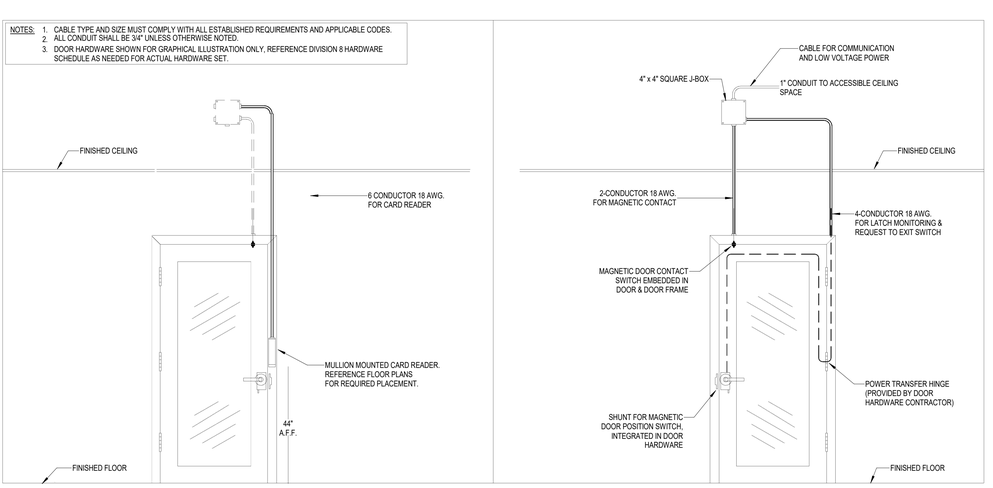


SECURITY SINGLE DOOR - ELECTRIC MORTISE LOCK WITH CARD READER AND DPS - DOOR TYPE 'E'

No Scale

5

NOTES:
1. CABLE TYPE AND SIZE MUST COMPLY WITH ALL ESTABLISHED REQUIREMENTS AND APPLICABLE CODES.
2. ALL CONDUIT SHALL BE 3/4" UNLESS OTHERWISE NOTED.
3. DOOR HARDWARE SHOWN FOR GRAPHICAL ILLUSTRATION ONLY, REFERENCE DIVISION 8 HARDWARE SCHEDULE AS NEEDED FOR ACTUAL HARDWARE SET.

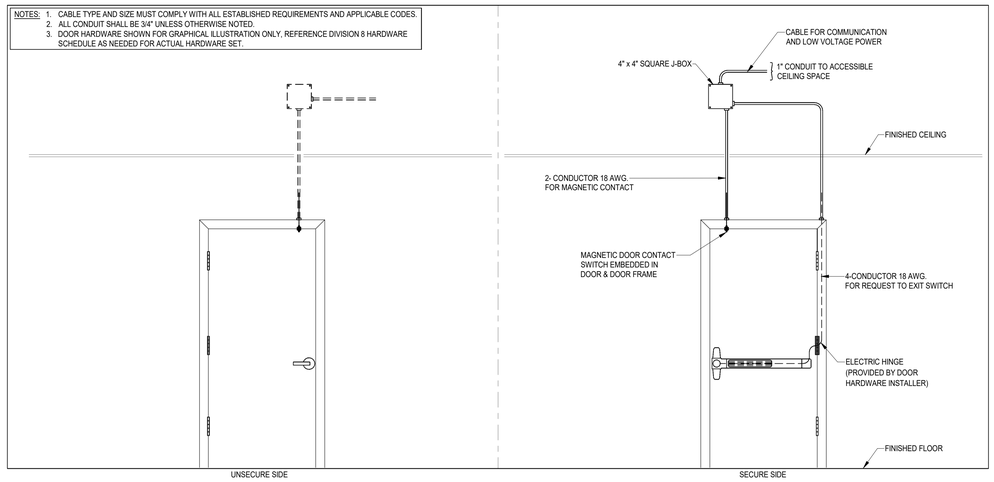


SECURITY STOREFRONT SINGLE DOOR - ELECTRIC MORTISE LOCK WITH CARD READER - DOOR TYPE "B"

No Scale

2

NOTES:
1. CABLE TYPE AND SIZE MUST COMPLY WITH ALL ESTABLISHED REQUIREMENTS AND APPLICABLE CODES.
2. ALL CONDUIT SHALL BE 3/4" UNLESS OTHERWISE NOTED.
3. DOOR HARDWARE SHOWN FOR GRAPHICAL ILLUSTRATION ONLY, REFERENCE DIVISION 8 HARDWARE SCHEDULE AS NEEDED FOR ACTUAL HARDWARE SET.



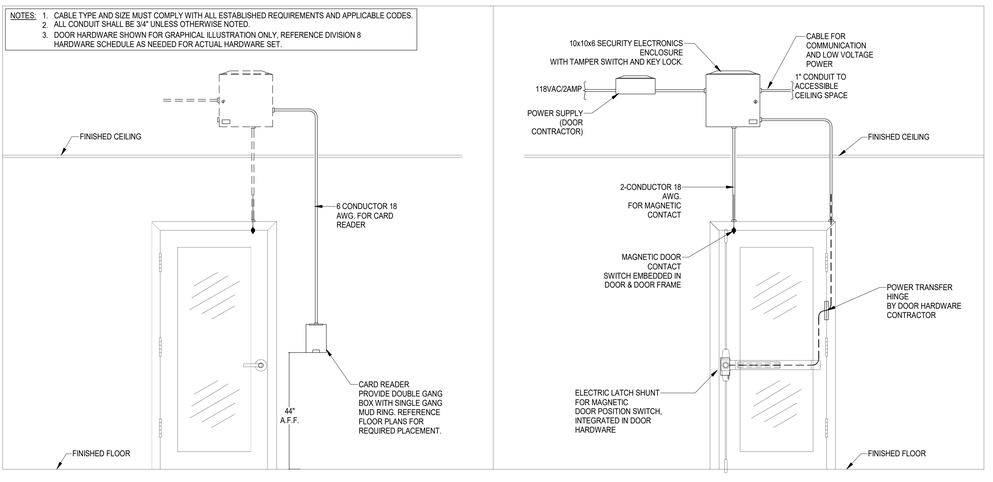
UNSECURE SIDE SECURE SIDE

SECURITY SINGLE DOOR - MAGNETIC DOOR POSITION SWITCH (DPS) - DOOR TYPE "F"

No Scale

6

NOTES:
1. CABLE TYPE AND SIZE MUST COMPLY WITH ALL ESTABLISHED REQUIREMENTS AND APPLICABLE CODES.
2. ALL CONDUIT SHALL BE 3/4" UNLESS OTHERWISE NOTED.
3. DOOR HARDWARE SHOWN FOR GRAPHICAL ILLUSTRATION ONLY, REFERENCE DIVISION 8 HARDWARE SCHEDULE AS NEEDED FOR ACTUAL HARDWARE SET.



SECURITY STOREFRONT SINGLE DOOR - ELECTRIC LATCH WITH CARD READER - DOOR TYPE "C"

No Scale

3

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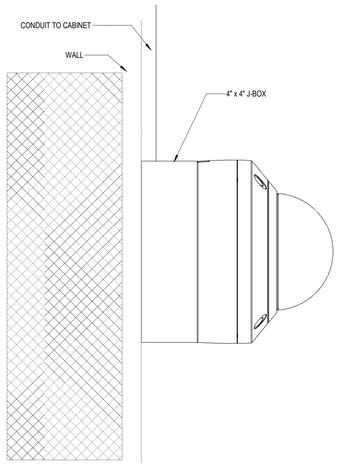
DRAWN Author

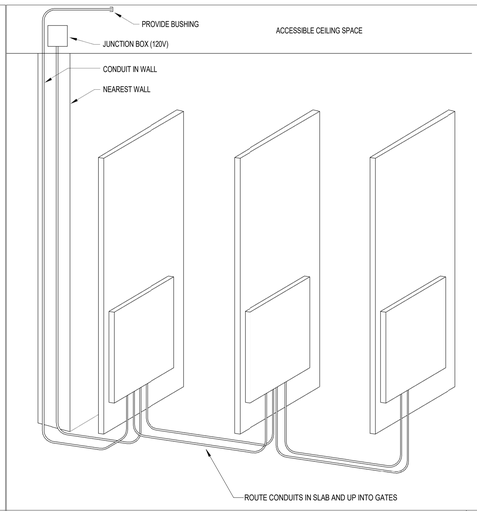
T703



FIXED CAMERA SURFACED MOUNTED ON WALL

No Scale

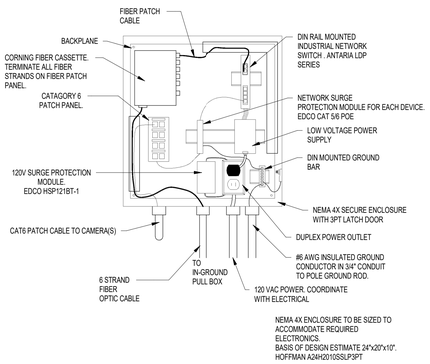
4



SMARTGATE DUEL AISLE SYSTEM

No Scale

2



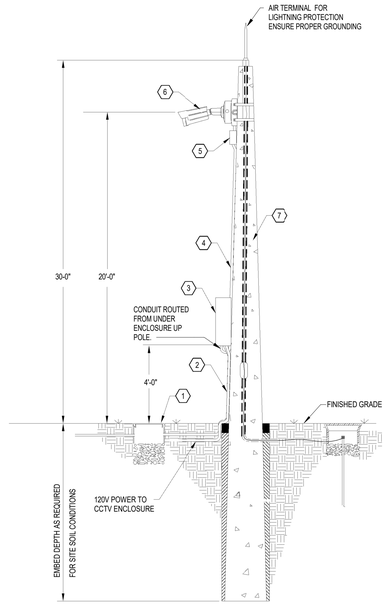
CCTV ELECTRONICS ENCLOSURE

No Scale

3

POLE MOUNTED CAMERA NOTES

1. INGROUND COMMUNICATIONS HANDHOLE.
2. SURFACED MOUNTED CONDUIT STUBBED UP FROM MANHOLE.
3. SECURITY CAMERA ELECTRONICS ENCLOSURE. LOCKABLE NEMA 4X . REFERENCE DETAILS FOR REQUIREMENTS.
4. 3/4" CONDUIT ROUTED UP POLE TO CAMERA FOR NETWORK CABLING.
5. JUNCTION BOX AS REQUIRED FOR TRANSITION TO CAMERA.
6. NEW FIXED BULLET STYLE EXTERIOR CAMERA . POLE MOUNT TO BE SECURED TO POLE BY STAINLESS STEEL STRAPS.
7. SQUARE TAPERED CONCRETE POLE. REFERENCE SITE PLAN FOR LOCATIONS. USE LIGHT POLE IN OTHER LOCATIONS. POLE SIZE TO BE DETERMINED BY SOIL CONDITIONS TO ALLOW 30' ABOVE GRADE.
8. REFERENCE SITE PLAN FOR INTENDED VIEW FROM POLE MOUNTED CAMERA. ROUTE CONDUIT TO AVOID CONFLICT WITH ANY EXISTING SURFACE MOUNTED UTILITIES.



TYPICAL CAMERA POLE DESIGN

No Scale

1

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SECURITY DETAILS

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DRAWN Author
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