City of Aurora
Building Codes Division
15151 E Alameda Pkwy
Aurora, CO 80012
(303) 739-7420

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GENERAL NOTES

GENERAL CONDITIONS

A1 THE DRAWINGS ARE GENERALLY DIAGRAMMATIC AND IT IS THE INTENT AND MEANING OF THE CONTRACT DOCUMENTS THAT THE CONTRACTOR SHALL PROVIDE AN ELECTRICAL INSTALLATION THAT IS COMPLETE AND ALL ITEMS AND APPURTENANCES NECESSARY, REASONABLE INCIDENTAL, OR CUSTOMARILY INCLUDED, EVEN THOUGH EACH AND EVERY ITEM IS NOT SPECIFICALLY CALLED OUT OR SHOWN. THE CONTRACTOR SHALL PROVIDE ALL EQUIPMENT, MATERIALS, LABOR, SUPERVISION AND SERVICE NECESSARY SO AS TO PROVIDE A COMPLETE, FUNCTIONING ELECTRICAL SYSTEM IN SAFE WORKING ORDER.

A2 SYMBOLS FOR VARIOUS ELEMENTS AND SYSTEMS ARE SHOWN ON THE DRAWINGS. SHOULD THERE BE ANY DOUBT REGARDING THE MEANING OR INTENT OF THE SYMBOLS USED, AN INTERPRETATION SHALL BE OBTAINED FROM THE ARCHITECT IN WRITING. THE DECISION OF THE ARCHITECT SHALL BE FINAL.

A3 IT SHALL BE THE RESPONSIBILITY OF EACH CONTRACTOR TO EXAMINE THE CONTRACT DOCUMENTS CAREFULLY BEFORE SUBMITTING HIS BID, WITH PARTICULAR ATTENTION TO ERRORS, OMISSIONS, CONFLICTS WITH PROVISIONS OF LAWS AND CODES HAVING JURISDICTION, CONFLICTS BETWEEN DRAWINGS OR DRAWINGS AND SPECIFICATIONS, AND AMBIGUOUS DEFINITION OF THE EXTENT OF COVERAGE BETWEEN CONTRACTS. ANY SUCH DISCREPANCY SHALL BE BROUGHT IMMEDIATELY TO THE ATTENTION OF THE ARCHITECT FOR CORRECTION. SHOULD ANY OF THESE ERRORS, OMISSIONS, CONFLICTS, OR AMBIGUITIES EXIST, THE CONTRACTOR SHALL HAVE THEM EXPLAINED AND ADJUSTED IN WRITING BEFORE SIGNING THE CONTRACT OR PROCEEDING WITH THE WORK; OTHERWISE, HE SHALL, AT HIS OWN EXPENSE, SUPPLY THE PROPER MATERIALS AND LABOR TO MAKE GOOD ANY DAMAGE OR DEFECTS IN HIS WORK OR THE RESULTS OBTAINED THEREFROM, CAUSED BY SUCH DISCREPANCY.

WHEREVER CONFLICTS OCCUR BETWEEN DIFFERENT PARTS OF THE CONTRACT DOCUMENTS, THE GREATER QUANTITY, THE BETTER QUALITY, OR LARGER SIZE SHALL PREVAIL UNLESS THE ARCHITECT INFORMS THE CONTRACTOR OTHERWISE IN WRITING.

A4 THE SCALE OF EACH DRAWING IS RELATIVELY ACCURATE; ANY DIMENSIONS SHOWN ARE APPROXIMATE TO CENTERLINE FROM ASSUMED BUILDING PERIMETER. THE CONTRACTOR SHALL OBTAIN THE NECESSARY DIMENSIONS FOR ANY EXACT TAKEOFFS FROM THE ARCHITECT. NO ADDITIONAL COST TO THE OWNER WILL BE CONSIDERED FOR FAILURE TO OBTAIN EXACT DIMENSIONS WHERE NOT CLEAR OR IN ERROR ON THE DRAWINGS.

A5 ANY DEVICE OR FIXTURE ROUGHED IN IMPROPERLY AND NOT POSITIONED ON IMPLIED CENTER-LINES OR AS REQUIRED BY GOOD PRACTICE MUST BE REPOSITIONED AT NO COST TO THE OWNER.

ALL WORK AND MATERIALS SHALL BE GUARANTEED FREE FROM DEFECTS FOR A MINIMUM PERIOD OF ONE YEAR UNLESS NOTED OTHERWISE. THE WARRANTY PERIOD SHALL BEGIN AT THE DATE OF BENEFICIAL OCCUPANCY OF THE FACILITY.

THE CONTRACTOR IS RESPONSIBLE FOR FILING AND PAYING ALL FEES AND OBTAINING NECESSARY PERMITS AND CERTIFICATES OF INSPECTION. THE CONTRACTOR SHALL DELIVER ALL CERTIFICATES OF INSPECTION TO

A6 OWNER/CONSTRUCTION MANAGER INCLUDING COPIES WITH MAINTENANCE MANUALS.

ONLY EXPERIENCED CRAFTSMEN KNOWLEDGEABLE IN THEIR RESPECTIVE TRADE SHALL PERFORM THE WORK

A7 DESCRIBED IN THE CONSTRUCTION DOCUMENTS.

ALL WORK SHALL BE DONE IN ACCORDANCE WITH THE LATEST ADDITION OF NFPA STANDARD 70 (NATIONAL ELECTRICAL CODE). CONTRACTOR SHALL ALSO CONFORM TO ALL APPLICABLE LOCAL CODES AND AMENDMENTS.

ALL ELECTRICAL EQUIPMENT, INCLUDING BUT NOT LIMITED TO SWITCHGEAR, CONDUIT, WIRE, BOXES AND FITTINGS

A8 SHALL BE NEW AND SHALL MEET NEMA AND ANSI STANDARDS AND SHALL BEAR THE UL LABEL.

PROVIDE SHOP DRAWINGS FOR ENGINEER'S REVIEW FOR ALL ELECTRICAL EQUIPMENT, DEVICES, AND MATERIALS

A9 PROPOSED TO BE PROVIDED UNDER THIS CONTRACT. ANY DEVIATIONS FROM ITEMS SPECIFIED SHALL BE CLEARLY IDENTIFIED AND SEPARATELY SUBMITTED WITH A FORMAL SUBSTITUTION REQUEST. REFER TO SPECIFICATIONS (PROJECT MANUAL) FOR REQUIREMENTS.

ELECTRICAL EQUIPMENT

B1 PROVIDE AN IDENTIFICATION NAMEPLATE FOR EACH ELECTRICAL EQUIPMENT, APPURTENANCE DEPICTING THE DESIGNATION INDICATED ON THE DRAWINGS. REFER TO SPECIFICATIONS FOR EXACT REQUIREMENTS.

WEATHERPROOF ENCLOSURES SHALL BE PROVIDED FOR ALL ELECTRICAL EQUIPMENT, DEVICES AND APPURTENANCES

B2 (ALL SYSTEMS) INSTALLED OUTDOORS.

B3 CONTRACTOR SHALL COORDINATE AND SCHEDULE ALL POWER OUTAGES WITH OWNER'S REPRESENTATIVE.

CONTRACTOR SHALL NOT USE PERMANENT INK WHEN MAKING FIELD MARKINGS OR TEMPORARY CIRCUIT LABELS ON

B4 PANELS. CONTRACTOR SHALL USE REMOVABLE TAPE/TAGS FOR ALL TEMPORARY MARKINGS AND SHALL REMOVE THESE TEMPORARY MARKINGS AT THE CONCLUSION OF THIS PROJECT.

CONDUIT & RACEWAY

C1 ALL WORK SHALL BE COORDINATED SO THAT INTERFERENCES ARE AVOIDED. PROVIDE ALL NECESSARY OFFSETS IN CONDUITS, RACEWAYS, ETC., REQUIRED TO PROPERLY INSTALL THE WORK. EXPOSED WORK MUST BE KEPT AS CLOSE AS POSSIBLE TO WALLS, CEILINGS, COLUMNS, ETC., SO AS TO TAKE UP MINIMUM AMOUNT OF SPACE; ALL OFFSETS, FITTINGS, ETC., REQUIRED SHALL BE PROVIDED WITHOUT ADDITIONAL EXPENSE TO THE OWNER. WORK SHALL BE COORDINATED WITH OTHER TRADES.

C2 CONDUIT RUNS ARE DIAGRAMMATIC IN NATURE. CONTRACTOR IS RESPONSIBLE FOR SIZING AND LOCATING PULL BOXES PER N.E.C. AND FOR COORDINATION WITH OTHER DISCIPLINES.

C3 CONTRACTOR SHALL PROVIDE AND INSTALL ADEQUATE SUPPORTS NECESSARY FOR THE RACEWAY SYSTEM. THIS INCLUDES BUT IS NOT LIMITED TO BLOCKING FOR SURFACE AND FLUSH MOUNTED PANELS. CONTRACTOR SHALL REFER TO MANUFACTURER'S RECOMMENDATIONS FOR SIZES AND QUANTITIES OF ALL SUPPORTING MEANS.

C4 PENETRATIONS OF WALLS, FLOORS, AND ROOFS FOR THE PASSAGE OF ELECTRICAL RACEWAYS SHALL BE APPROVED BY THE STRUCTURAL ENGINEER OF RECORD PRIOR TO THE COMMENCEMENT OF WORK. ALL SUCH PENETRATIONS SHALL BE PROPERLY SEALED OFF AFTER INSTALLATION OF RACEWAY SO AS TO MAINTAIN THE STRUCTURAL, WATER PROOF, AND FIRE PROOF INTEGRITY OF THE WALL, FLOOR, OR ROOF SYSTEM PENETRATED.

C5 THE CONTRACTOR SHALL SEAL ALL CONDUITS THAT PENETRATE THE BASEMENT FLOOR SLAB TO MAKE THEM WATER TIGHT. THE CONDUITS SHALL BE DRIED PRIOR TO INSTALLATION OF WIRE/CABLE AND SHALL BE SEALED AT TERMINATIONS.

C6 ALL PENETRATIONS THROUGH FIRE RATED WALLS OR PARTITIONS SHALL BE MADE IN ACCORDANCE WITH U.L. 483 "FIRE RESISTANCE DIRECTORY". PENETRATIONS SHALL BE SLEEVED AND SEALED WITH A UL APPROVED FIRE RATED SEALANT. REFER TO ARCHITECTURAL PLANS FOR FIRE RATED WALLS.

C7 ALL EMPTY CONDUIT SYSTEMS SHALL CONTAIN A PULL WIRE FOR FUTURE PULLING OF CONDUCTORS.

BRANCH CIRCUITS AND FEEDERS

D1 UNLESS NOTED OTHERWISE, ALL CIRCUITS 100' OR LESS SHALL BE MINIMUM #12 AWG WIRE SIZE. CIRCUITS OVER 100' BUT LESS THAN 200' SHALL BE MINIMUM #10 AWG WIRE SIZE. CIRCUITS OVER 200' SHALL BE MINIMUM #8 AWG WIRE SIZE.

D2 ALL POWER WIRING SHALL BE INSTALLED IN CONDUIT. CONDUCTOR SIZES #12 AWG AND SMALLER SHALL BE SOLID. CONDUCTOR SIZES #10 AWG AND LARGER MAY BE STRANDED.

D3 A SEPARATE INSULATED EQUIPMENT GROUNDING CONDUCTOR SHALL BE PULLED WITH THE CIRCUIT CONDUCTORS FOR GROUNDING WHETHER OR NOT INDICATED ON THE DRAWINGS. METAL RACEWAY, OR A CABLE ARMOR OR SHEATH SHALL NOT BE USED AS AN EQUIPMENT GROUNDING CONDUCTOR.

D4 CONTRACTOR SHALL GROUND ALL EQUIPMENT AND ELECTRICAL SYSTEM PER N.E.C.

WIRING DEVICES

E1 REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR LOCATION AND MOUNTING HEIGHT OF ALL WALL AND FLOOR MOUNTED ELEMENTS (OUTLETS, LIGHT SWITCHES, CONTROLLERS, POKE-THRU, ETC). ALL WALL/FLOOR MOUNTED ITEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE ARCHITECTURAL DIMENSIONED DRAWINGS. IF LOCATION FOR AN ITEM IS NOT SHOWN ON THE ARCHITECTURAL DRAWINGS, VERIFY THE EXACT LOCATION OF THE ITEM WITH THE ARCHITECT PRIOR TO INSTALLATION. THESE REQUIREMENTS APPLY TO ALL WALL/FLOOR TYPES IN ALL AREAS. DO NOT SCALE OR DIMENSION LOCATIONS FROM THESE DRAWINGS.

E2 CONTRACTOR SHALL COORDINATE THE LOCATION AND INSTALLATION DETAIL OF OUTLETS IN MILLWORK WITH ARCHITECTURAL DRAWINGS (WALL ELEVATIONS, MILLWORK DETAILS, ETC.) AND WITH MILLWORK MANUFACTURER PRIOR TO ELECTRICAL ROUGH-IN.

E3 WALL AND FLOOR MOUNTED POWER RECEPTACLES SHOWN NEAR DATA OUTLETS SHALL BE LOCATED WITHIN SIX (6) INCHES OF THE DATA OUTLET. LOCATE AT SAME MOUNTING HEIGHT UNLESS NOTED OTHERWISE.

E4 PROVIDE METAL BACKBOX MOUNTING BRACKET (CADDY #88S SERIES OR SIMILAR) TO MOUNT DEVICE BETWEEN METAL/WOOD STUDS AT SAME ELEVATION AND EQUAL SPACING.

E5 CONTRACTOR SHALL VERIFY THE EXACT POWER CONNECTION TYPE AND NEMA CONFIGURATION OF RECEPTACLES FOR EQUIPMENT FURNISHED BY THE OWNER, OTHER TRADES, OR UNDER A SEPARATE SECTION OF THIS CONTRACT PRIOR TO ELECTRICAL ROUGH-IN.

E6 MOUNT ALL RECEPTACLES THROUGHOUT THE PROJECT WITH THE GROUND POLE AT THE TOP OF THE CONFIGURATION WHEN MOUNTED VERTICALLY, AND ON THE RIGHT WHEN MOUNTED HORIZONTALLY.

E7 ALL RECEPTACLES WITHIN SIX FEET OF ANY PLUMBING FIXTURE AND/OR SINK SHALL BE EQUIPPED WITH GFCI FOR PERSONNEL PROTECTION.

E8 ALL RECEPTACLES LOCATED OUTSIDE THE BUILDING ENVELOPE SHALL BE HOUSED IN ENCLOSURES THAT ARE RATED "WEATHER-PROOF-WHILE-IN-USE" AND SHALL BE EQUIPPED WITH GFCI FOR PERSONNEL PROTECTION.

E9 ALL GFCI RECEPTACLES SHALL BE CONNECTED SO THAT ALL DEVICES ON THE SAME CIRCUIT AS THE GFCI RECEPTACLE DO NOT DE-ENERGIZE UPON TRIPPING. ALL GFCI RECEPTACLES SHALL INCLUDE A LOCK-OUT FUNCTION TO PROTECT AGAINST THE USE OF MISWIRED DEVICES OR DEVICES THAT HAVE BEEN DAMAGED DUE TO DISABLING SURGES.

E10 FINISH COLORS OF DEVICES AND CORRESPONDING COVER PLATES SHALL BE SELECTED AND APPROVED BY THE ARCHITECT. SPECIALTY RECEPTACLES AND COVERPLATES (I.E. ISOLATED GROUND, EMERGENCY, CRITICAL BRANCH, SURGE SUPPRESSION, ETC.) SHALL BE THE COLOR NOTED IN ELECTRICAL CONSTRUCTION DOCUMENTS.

LIGHTING SYSTEM

G1 REFER TO ARCHITECTURAL DRAWINGS AND SPECIFICATIONS FOR LOCATION OF ALL CEILING ELEMENTS (LIGHTS, SPRINKLERS, DIFFUSERS, ETC). ALL CEILING MOUNTED ITEMS SHALL BE INSTALLED IN ACCORDANCE WITH THE ARCHITECTURAL DIMENSIONED DRAWINGS. IF LOCATION FOR AN ITEM IS NOT SHOWN ON THE ARCHITECTURAL DRAWINGS, VERIFY THE EXACT LOCATION OF THE ITEM WITH THE ARCHITECT PRIOR TO INSTALLATION. THESE REQUIREMENTS APPLY TO ALL CEILING TYPES IN ALL AREAS. DO NOT SCALE OR DIMENSION LOCATIONS FROM THESE DRAWINGS.

G2 CONTRACTOR SHALL PROVIDE AND INSTALL ALL SUPPORTS FOR LIGHT FIXTURES. SUPPORTS SHALL BE INDEPENDENT OF THE CEILING GRID SUPPORT SYSTEM.

G3 LIGHT SWITCHES LOCATED IN A ROOM SHALL CONTROL ALL THE LIGHT FIXTURES IN THAT ROOM UNLESS NOTED OTHERWISE. CONTRACTOR SHALL GANG TOGETHER ALL SWITCHES/DIMMERS UNDER A SINGLE COVER PLATE IN ALL AREAS THAT REQUIRE MORE THAN ONE SWITCH TO CONTROL ELECTRICAL DEVICES.

G4 WALLBOX DIMMERS SHALL BE INSTALLED IN A MANNER SUCH THAT THEIR LISTED WATTAGE IS NOT DERATED DUE TO HEAT. SPACE ACCORDING TO DIMMER MANUFACTURER'S RECOMMENDATIONS AND PROVIDE "MOD-FIN" DESING DIMMERS WHERE REQUIRED.

G5 ALL LIGHT FIXTURES SHALL BE INSTALLED WITH APPROPRIATE LAMPS AS INDICATED. FIXTURES SHALL ALSO BE INSTALLED WITH BALLASTS WHERE NECESSARY.

OCCUPANCY SENSOR NOTES:

H1 ALL SENSOR LOCATIONS ARE APPROXIMATE. REFER TO MANUFACTURER'S INSTALLATION INSTRUCTIONS PRIOR TO INSTALLATION.

H2 ULTRASONIC CEILING MOUNT SENSORS SHOULD BE LOCATED A MINIMUM OF SIX (6) FEET FROM HVAC SUPPLY/RETURN VENTS.

H3 CONTRACTOR IS RESPONSIBLE FOR PROPER SENSITIVITY AND TIME DELAY SETTINGS FOR NON-ADAPTIVE PRODUCTS, FOLLOWING THE MANUFACTURER'S RECOMMENDED PLACEMENT, AND FIELD VERIFICATION OF CIRCUITS WITH RESPECT TO POWER PACK PLACEMENT.

H4 CONTRACTOR IS RESPONSIBLE FOR FIELD VERIFICATION OF REQUIRED NUMBER OF POWER PACKS:
A. ONE POWER PACK IS REQUIRED FOR EACH CONTROLLED CIRCUIT;
B. SEVERAL SENSORS AND ADD-A-RELAYS CAN BE WIRED IN PARALLEL TO A SINGLE POWER PACK, NOT TO EXCEED 150mA TOTAL POWER CONSUMPTION;
C. IF MULTIPLE CIRCUITS ARE TO BE CONTROLLED BY A SINGLE SENSOR, AUXILIARY RELAYS MAY BE USED IN CONJUNCTION WITH A POWER PACK.

H5 SENSORS MOUNTED OVER DOORWAYS SHOULD BE PLACED ONE (1) FOOT INSIDE THRESHOLD.

MECHANICAL & PLUMBING COORDINATION

I1 CONTRACTOR SHALL REFERENCE THE MECHANICAL AND PLUMBING DRAWINGS FOR ALL EQUIPMENT NEEDING ELECTRICAL CONNECTIONS. MAKE ALL CONNECTIONS AND PROVIDE APPROPRIATE WIRE, CONDUIT, AND OVERCURRENT PROTECTION FOR ALL EQUIPMENT.

I2 DISCONNECTING MEANS FOR ALL MECHANICAL AND PLUMBING EQUIPMENT SHALL BE MOUNTED INDEPENDENTLY OF THE EQUIPMENT.

I3 ALL CIRCUIT BREAKERS SERVING MECHANICAL EQUIPMENT SHALL BEAR AN 'HACR' RATING.

I4 CONTRACTOR SHALL COORDINATE BETWEEN TRADES AND PROVIDE CONTROL POWER FOR ALL VAV BOXES/DAMPERS/ETC, AS REQUIRED TO ENSURE A COMPLETE, FULLY FUNCTIONAL HVAC SYSTEM. SHOULD AN EXACT CIRCUIT NUMBER NOT BE INDICATED ON ELECTRICAL DRAWINGS, CONTRACTOR SHALL UTILIZE AVAILABLE 20A/1P SPACE FROM THE NEAREST 208V/120V PANEL OR FROM BUILDING CONTROL POWER DISTRIBUTION SYSTEM.

I5 CONTRACTOR SHALL COORDINATE MOTOR DISCONNECT AND CONTROL WITH MECHANICAL DRAWINGS AND BETWEEN TRADES.

I6 COORDINATE ALL REQUIRED ENERGY MANAGEMENT SYSTEM POINTS AND CONTACT CONNECTIONS TO ENSURE THE COMPLETE AND PROPER OPERATION OF ALL SYSTEMS.

I7 ALL DISCONNECTS DOWN STREAM OF VFDs SHALL BE PROVIDED WITH AUXILIARY CONTACTS TO SHUT DOWN UPSTREAM VFD WHEN SWITCH IS OPENED.

EMERGENCY POWER SYSTEM

J1 ALL EMERGENCY SYSTEMS SHALL BE RUN IN A SEPARATE RACEWAY/CONDUIT SYSTEM AND SHALL BE CLEARLY LABELED AS SUCH.

MISC

K1 REFER TO AND COORDINATE WITH MEDICAL EQUIPMENT PRODUCT DATA BOOKS FOR ELECTRICAL CONNECTION REQUIREMENTS FOR ALL MEDICAL EQUIPMENT. COORDINATE EXACT REQUIREMENTS PRIOR TO INSTALLATION.

K2 PROVIDE 120V LIFE SAFETY CIRCUIT CONNECTIONS TO ALL FIRE ALARM EXTENDER PANELS. COORDINATE WITH VENDOR SHOP DRAWINGS EXACT QUANTITY AND LOCATION OF ALL PANELS.

K3 PROVIDE 120V EQUIPMENT POWER CIRCUIT TO ALL PNEUMATIC TUBE TRANSFER STATIONS. COORDINATE WITH VENDOR SHOP DRAWINGS EXACT QUANTITY AND LOCATIONS OF ALL STATIONS. PROVIDE 480V CONNECTION TO PNEUMATIC TUBE BLOWER. BLOWER TO BE LOCATED ON SHOP DRAWINGS.

K4 PROVIDE BACKBOX AND CONDUIT PATHWAYS FOR ALL CM DRAWINGS. REFER TO CM DRAWINGS FOR EXACT QUANTITIES AND LOCATIONS OF SLEEVES, DEVICE BACKBOXES AND CONDUITS.

MECHANICAL/ELECTRICAL SYSTEM COORDINATION SCHEDULE

SYSTEM	FURNISHED BY	INSTALLED BY	POWER WIRING BY	CONTROL OR SUPERVISION WIRING BY
LIFE SAFETY SYSTEM	---	---	---	---
FIRE/SMOKE DAMPER/ ACTUATOR	DIV 23	DIV 23	DIV 26	DIV 28
FIRE SPRINKLER – FLOW SWITCH	DIV 22	DIV 22	DIV 26	DIV 28
MEDICAL GAS ALARM	DIV 22	DIV 22	DIV 26	DIV 22
MOTOR STARTERS (INTEGRAL TO EQUIP.)	DIV 22/23	---	DIV 26	DIV 23
MOTOR STARTERS (NON-INTEGRAL TO EQUIP.)	DIV 26	DIV 26	DIV 26	DIV 23
COMBINATION MOTOR STARTER/DISCONNECT (INTEGRAL TO EQUIP.)	DIV 22/23	---	DIV 26	DIV 23
COMBINATION MOTOR STARTER/DISCONNECT (NON-INTEGRAL)	DIV 26	DIV 26	DIV 26	DIV 23
DISCONNECT SWITCHES (NON-INTEGRAL TO EQUIPMENT)	DIV 26	DIV 26	DIV 26	---

THIS TABLE IS PROVIDED AS A GUIDE TO THE DOCUMENT PREPARATION AND IN NO WAY INDICATES CONTRACTOR MEANS AND METHODS

PROJECT DESIGN CRITERIA

LOCATION:	
CITY/STATE	AURORA, COLORADO
APPLICABLE CODES:	
BUILDING	2006 IBC
MECHANICAL	2006 IMC
PLUMBING	2006 IPC
ENERGY	2006 IECC
ELECTRICAL	2008 NEC
LATITUDE:	
DEG. N. LAT.	39.75
ELEVATION:	
FT. ABOVE SEA LEVEL	5331

09 443744

AURORA BUILDING INSPECTION
ELECTRICAL SECTION
APPROVED
SUBJECT TO COMMENTS AS NOTED
AND FIELD INSPECTIONS

09 443746

CITY OF AURORA
BUILDING DIVISION
APPROVED AS NOTED
DATE APPROVED DEC 23 2009
Reference only.

ELECTRICAL ABBREVIATIONS

AAP	AREA ALARM PANEL	MH	MANHOLE
AFC	ABOVE FINISHED COUNTER	MLO	MAIN LUGS ONLY
AFF	ABOVE FINISHED FLOOR	MTD	MOUNT OR MOUNTED
ATS	AUTOMATIC TRANSFER SWITCH	N	NEW DEVICE
BFC	BELOW FINISHED CEILING	NC (N.C.)	NORMALLY CLOSED
BOF	BOTTOM OF FIXTURE	NEC	NATIONAL ELECTRIC CODE
C	CONDUIT	NF	NONFUSED
CB,C/B OR CKT BKR	CIRCUIT BREAKER	NIC	NOT IN CONTRACT
CKT	CIRCUIT	NL	NIGHT LIGHT
CCTV	CLOSED CIRCUIT T.V.	NO (N.O.)	NORMALLY OPEN
CLG	CEILING	PB	PULL BOX
CUH	CABINET HEATER	PNL	PANEL
EC	EMPTY CONDUIT	PWR	POWER
ELEC	ELECTRIC	R	REMOVE DEVICES
E	EMERGENCY	RL	RELOCATED DEVICE
EMS	ENERGY MANAGEMENT SYSTEM	RCPT(S) OR RECEPT	RECEPTACLE(S)
EP	EXPLOSION PROOF	RF	RETURN AIR FAN
EWC	ELECTRIC WATER COOLER	SEF	SMOKE EXHAUST FAN
EX	EXISTING	SF	SUPPLY AIR FAN
F	FUSE	SO (S.O.)	SPACE ONLY
FA	FIRE ALARM	SP	SPARE
FACP, FAP	FIRE ALARM CONTROL PANEL	ST (S.T.)	SHUNT TRIP
FCU	FAN COIL UNIT	SW	SWITCH
FIXT	FIXTURE	TEL	TELEPHONE
FLR	FLOOR	TF	TRANSFER FAN
FLUOR	FLUORESCENT	TP	TAMPER PROOF
FTP, FTS	FAN TERMINAL UNIT	TV	TELEVISION
FTU	FAN TERMINAL UNIT	TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSION
FUT	FUTURE	UF	UNDERFLOOR
G, GND	GROUND (EQUIPMENT)	UG	UNDERGROUND
GEF	GENERAL EXHAUST FAN	UH	UNIT HEATER
GEN	GENERATOR	UNO (U.N.O.)	UNLESS NOTED OR INDICATED OTHERWISE
GFCI, GFI	GROUND FAULT CIRCUIT INTERRUPTER		
HP	HORSE POWER	V	VOLTAGE
HV	HIGH VOLTAGE	VFD	VARIABLE FREQUENCY DRIVE
HWAT	HEAT TRACE	VP	VAPOR PROOF
IC	INTERRUPTING CAPACITY	VV	VARIABLE VOLUME UNIT
ICAND	INCANDESCENT	W	WIRE
IG	ISOLATED GROUND	W/	WITH
JB	JUNCTION BOX	WG	WIRE GUARD
KEF	KITCHEN EXHAUST FAN	WP	WEATHER PROOF
LTG	LIGHTING	WT	WATER TIGHT
LTS	LIGHTS	XFMR	TRANSFORMER
LV	LOW VOLTAGE	+xx	MOUNTING HEIGHT IN INCHES. AFF UNO.
MATV	MASTER ANTENNA		
MCB	MAIN CIRCUIT BREAKER		
MCC	MOTOR CONTROL CENTER		
MDP	MAIN DISTRIBUTION PANEL		

KEY TO GENERAL NOTATIONS AND MOUNTING HEIGHTS

48" AFF INDICATES TO TOP OF DEVICE;
18" AFF INDICATES TO CENTER OF DEVICE;
60" AFF INDICATES TO BOTTOM OF DEVICE;
80" AFF INDICATES TO BOTTOM OF DEVICE;
ALL OTHER MOUNTING HEIGHTS REFER TO CENTERLINE OF DEVICE.

(2) – LEGEND NOTES: DENOTES "SEE LEGEND NOTE NO. 2"

(D) – EQUIPMENT (ID) NUMBER FOR FOOD SERVICE EQUIPMENT. REFER TO FOOD SERVICE DOCUMENTS FOR DEFINITION AND REQUIREMENTS.

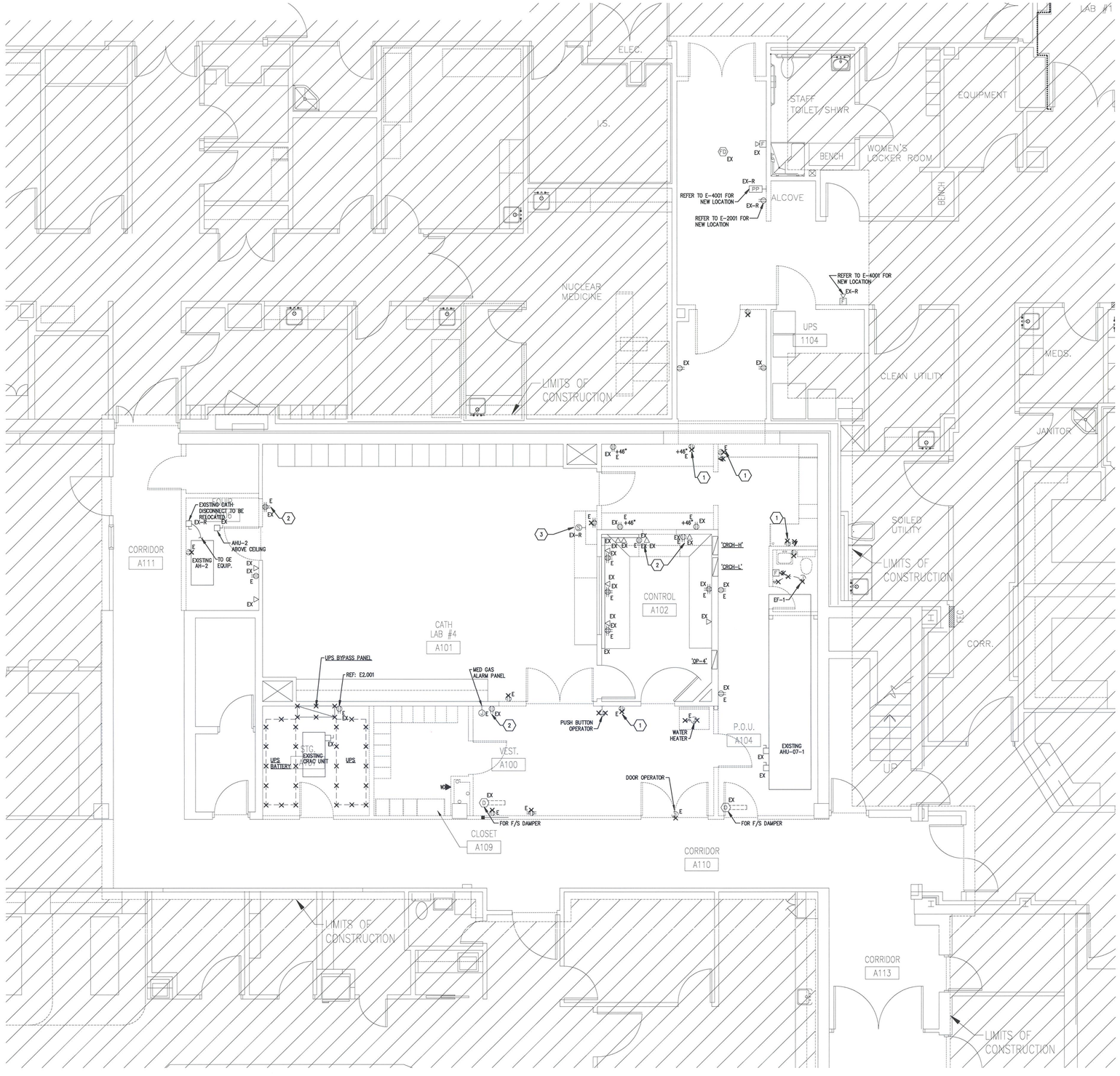
77/7626 OR 7/7626 – EQUIPMENT (ID) NUMBER FOR OWNER PROVIDED EQUIPMENT. REFER TO OWNER'S EQUIPMENT BOOK / FF&E DOCUMENTS FOR DEFINITION AND REQUIREMENTS.

02/E-202 – DENOTES: REFERENCE 2 IN DRAWING (SHEET) E-202

20.4 – FEEDER TAG. FEEDER SIZES ARE DETERMINED BY THE FEEDER SCHEDULE ON E-6000.

LIGHTING SYMBOLS LEGEND

SYMBOL	DESCRIPTION	MTG. HT. UNO (SEE NOTE 1)
	2'x4' FLUORESCENT LIGHT FIXTURE ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	2'x4' FLUORESCENT LIGHT FIXTURE ON LIFE SAFETY CIRCUIT OR LEGALLY REQUIRED STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	2'x4' FLUORESCENT LIGHT FIXTURE ON CRITICAL CIRCUIT OR NON-ESSENTIAL STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	2'x4' FLUORESCENT LIGHT FIXTURE W/EMBOARD LAMPS ON NORMAL CIRCUIT AND OUTBOARD LAMPS ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	2'x4' FLUORESCENT LIGHT FIXTURE W/EMBOARD LAMPS ON LIFE SAFETY CIRCUIT AND OUTBOARD LAMPS ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	2'x4' FLUORESCENT LIGHT FIXTURE W/EMBOARD LAMPS ON CRITICAL CIRCUIT AND OUTBOARD LAMPS ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	2'x2' FLUORESCENT LIGHT FIXTURE ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	2'x2' FLUORESCENT LIGHT FIXTURE ON LIFE SAFETY CIRCUIT OR LEGALLY REQUIRED STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	2'x2' FLUORESCENT LIGHT FIXTURE ON CRITICAL CIRCUIT OR NON-ESSENTIAL STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	2'x2' FLUORESCENT LIGHT FIXTURE W/EMBOARD LAMPS ON NORMAL CIRCUIT AND OUTBOARD LAMPS ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	2'x2' FLUORESCENT LIGHT FIXTURE W/EMBOARD LAMPS ON LIFE SAFETY CIRCUIT AND OUTBOARD LAMPS ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	2'x2' FLUORESCENT LIGHT FIXTURE W/EMBOARD LAMPS ON CRITICAL CIRCUIT AND OUTBOARD LAMPS ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	WALL MOUNTED LINEAR FIXTURE ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	WALL MOUNTED LINEAR FIXTURE ON LIFE SAFETY CIRCUIT OR LEGALLY REQUIRED STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	WALL MOUNTED LINEAR FIXTURE ON CRITICAL CIRCUIT OR NON-ESSENTIAL STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	RECESSED/SURFACE MOUNTED LINEAR FIXTURE ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	RECESSED/SURFACE MOUNTED LINEAR FIXTURE ON LIFE SAFETY CIRCUIT OR LEGALLY REQUIRED STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	RECESSED/SURFACE MOUNTED LINEAR FIXTURE ON CRITICAL CIRCUIT OR NON-ESSENTIAL STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	RECESSED/SURFACE MOUNTED DOWNLIGHT FIXTURE ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	WALL MOUNTED FIXTURE ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	RECESSED/SUSPENDED DOWNLIGHT FIXTURE ON LIFE SAFTEY CIRCUIT OR LEGALLY REQUIRED STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	WALL MOUNTED FIXTURE ON LIFE SAFETY CIRCUIT OR LEGALLY REQUIRED STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	RECESSED/SUSPENDED DOWNLIGHT FIXTURE ON CRITICAL CIRCUIT OR NON-ESSENTIAL STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	WALL MOUNTED FIXTURE ON CRITICAL CIRCUIT OR NON-ESSENTIAL STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	RECESSED DOWNLIGHT FIXTURE WITH WALL WASH TRIM ON NORMAL CIRCUIT.	SEE FIXTURE SCHEDULE
	RECESSED DOWNLIGHT FIXTURE WITH WALL WASH TRIM ON LIFE SAFETY CIRCUIT OR LEGALLY REQUIRED STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	RECESSED DOWNLIGHT FIXTURE WITH WALL WASH TRIM ON CRITICAL CIRCUIT OR NON-ESSENTIAL STANDBY SYSTEM.	SEE FIXTURE SCHEDULE
	WALL MOUNTED FIXTURE OR DECORATIVE SCONCE.	SEE FIXTURE SCHEDULE
	CEILING MOUNTED EXIT SIGN. SHADING INDICATES DOUBLE OR SINGAL FACE. ARROW INDICATE CHEVRON DIRECTIONS.	SEE FIXTURE SCHEDULE
	END MOUNTED EXIT SIGN. SHADING INDICATES DOUBLE OR SINGAL FACE. ARROW INDICATE CHEVRON DIRECTIONS.	SEE FIXTURE SCHEDULE
	WALL MOUNTED EXIT SIGN. SHADING INDICATES DOUBLE OR SINGAL FACE. ARROW INDICATE CHEVRON DIRECTIONS.	SEE FIXTURE SCHEDULE
	WALL MOUNTED 90-MINUTE BATTERY-POWERED EGRESS LIGHTING.	SEE FIXTURE SCHEDULE
	EXTERIOR LIGHT POLE FIXTURE.	SEE FIXTURE SCHEDULE
	EXISTING EXTERIOR LIGHT POLE FIXTURE.	SEE FIXTURE SCHEDULE
X	SPOT LIGHT SWITCHED ON NORMAL CIRCUIT. LETTER INDICATES FIXTURE TYPE.	SEE FIXTURE SCHEDULE
X	FLOOD LIGHT SWITCHED ON NORMAL CIRCUIT. LETTER INDICATES FIXTURE TYPE.	SEE FIXTURE SCHEDULE
	TRACK LIGHTING	SEE FIXTURE SCHEDULE
$	WALL SWITCH SPST, 20A, 120/277V	48" AFF
$2	DOUBLE POLE TOGGLE SWITCH, 20A/208/480V	48" AFF
$3	3-WAY WALL SWITCH, 20A, 120/277V	48" AFF
$4	4-WAY WALL SWITCH, 20A, 120/277V	48" AFF
$DA	WALL BOX DIMMER SWITCH (A=600W, B=1000, C=1500, D=2000)	48" AFF
$K	KEY OPERATED WALL SWITCH	48" AFF
$T	WALL SWITCH WITH ADJUSTABLE COUNTDOWN TIMER	48" AFF
$3D	3-WAY WALL DIMMER SWITCH, 20A, 120/277V	48" AFF
$3K	3-WAY, KEY OPERATED WALL SWITCH, 20A, 120/277V	48" AFF
$MC	MOMENTARY WALL SWITCH, 20A, 120/277V	48" AFF
$B	LIGHTING CONTROL SWITCH BANK FOR MU



GENERAL NOTES

A. REFER TO ARCHITECTURAL PLANS FOR PHASING OF WORK.

LEGEND NOTES

1. REMOVE EXISTING RECEPTACLE. ENSURE CIRCUIT CONTINUITY REMAINS FOR DEVICES EXISTING TO REMAIN.
2. RELOCATE EXISTING DEVICE(S) AS NECESSARY TO ACCOMMODATE DEMOLITION / NEW CONSTRUCTION.
3. RELOCATE EXISTING SPEAKER DEVICE BACK TO WALL. PROVIDE ALL NECESSARY CONDUIT/CONDUCTOR TO EXTEND DEVICE TO WALL.

AURORA BUILDING INSPECTION
ELECTRICAL SECTION
APPROVED
SUBJECT TO COMMENTS AS NOTED
AND FIELD INSPECTIONS

09 443744

09 443746

CITY OF AURORA
BUILDING DIVISION
APPROVED AS NOTED
DATE APPROVED DEC. 22 2009
2008 NEC

01 FIRST FLOOR PLAN - POWER & SPECIAL SYSTEMS DEMOLITION

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

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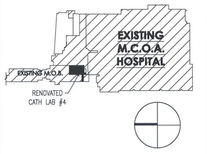
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KEY PLAN

FIRST FLOOR



COLORADO LICENSED
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FIRST FLOOR PLAN POWER & SPECIAL SYSTEMS DEMOLITION

Sheet

ED-2001

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GENERAL NOTES

A. REFER TO ARCHITECTURAL PLANS FOR PHASING OF WORK.

LEGEND NOTES

1. FIXTURE TO BE RE-USED. CAREFULLY STORE FIXTURE DURING CONSTRUCTION, THOROUGHLY CLEAN, AND RE-LAMP FIXTURE PRIOR TO REINSTALLATION. REFER TO E3.001 FOR NEW LIGHT FIXTURE LOCATION.

AURORA BUILDING INSPECTION
ELECTRICAL SECTION
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09 443746

CITY OF AURORA
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01 FIRST FLOOR PLAN - LIGHTING DEMOLITION

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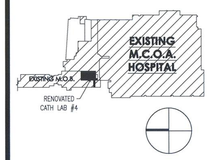
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KEY PLAN

FIRST FLOOR



COLORADO LICENSED
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FIRST FLOOR PLAN
LIGHTING
DEMOLITION

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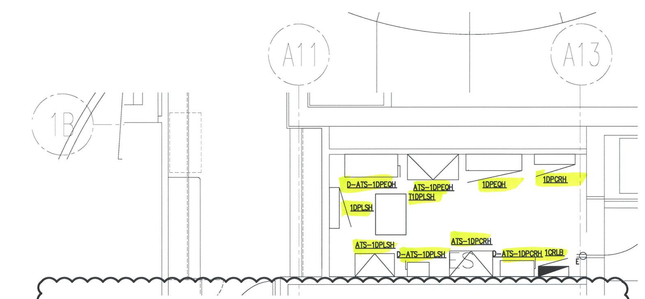
GENERAL NOTES

A. REFER TO ARCHITECTURAL PLANS FOR PHASING OF WORK.

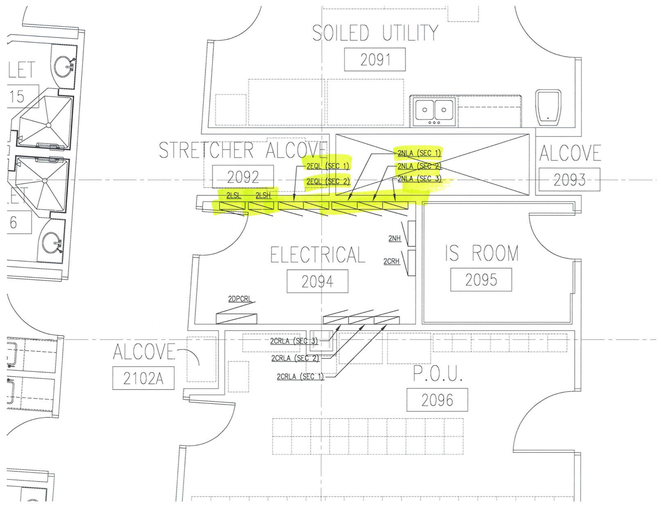
B. CAREFULLY COORDINATE ALL CONDUIT, CONDUCTOR, AND PATHWAYS REQUIREMENTS WITH GE AND GE DRAWINGS AS NOT ALL REQUIREMENTS HAVE BEEN SHOWN ON THIS DRAWING.

LEGEND NOTES

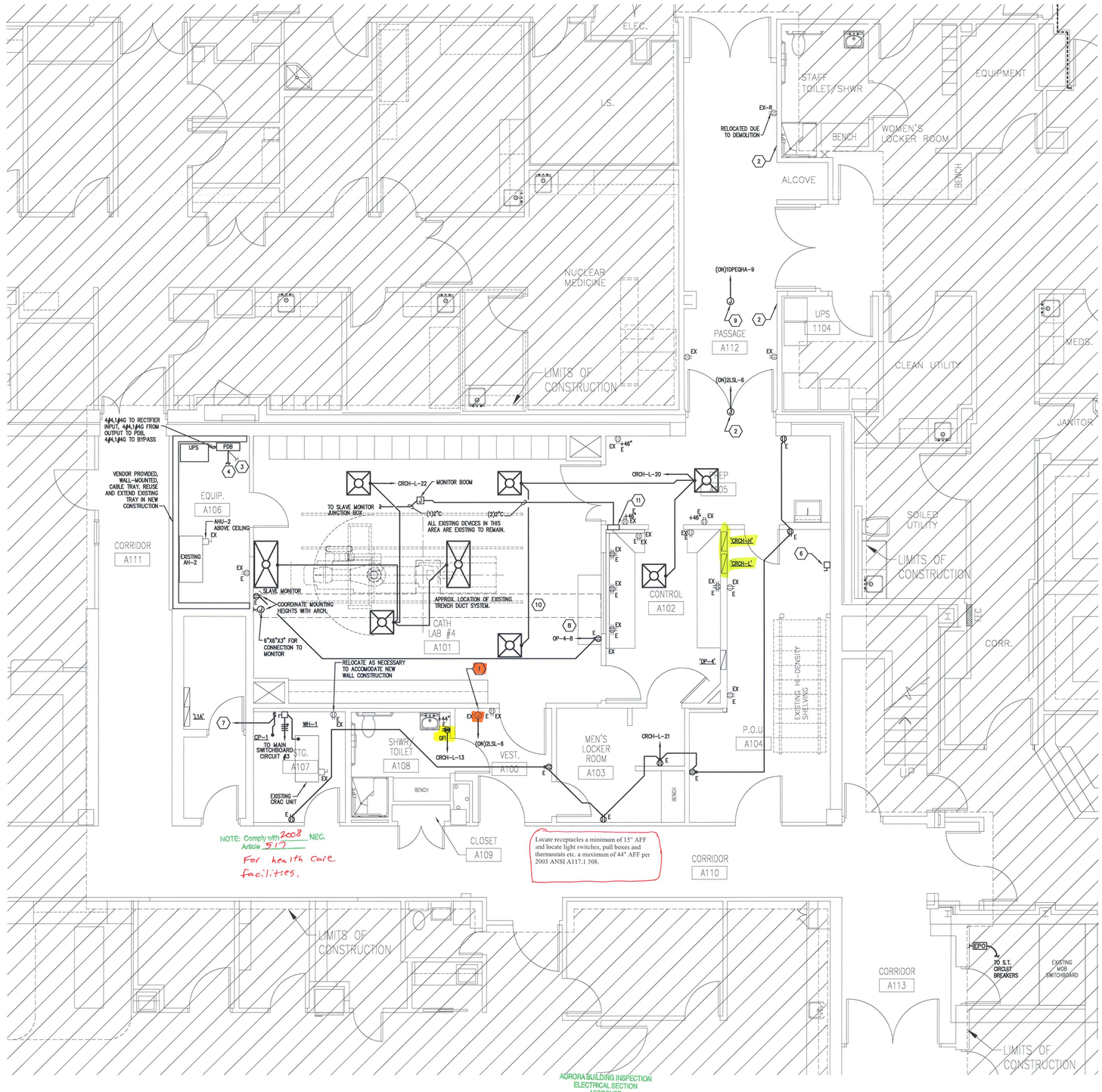
1. RE-FEED EXISTING MED. GAS ALARM PANEL FROM EXISTING 120V, LIFE SAFETY CIRCUIT.
2. FOR CONNECTION TO AUTO-DOOR. COORDINATE CONNECTION REQUIREMENTS WITH DOOR MANUFACTURER.
3. FOR CONNECTION TO RELOCATED GE MAIN POWER CABINET. COORDINATE EXACT TERMINATION LOCATION WITH GE. CONTRACTOR SHALL PROVIDE ALL NECESSARY CONDUIT & CONDUCTORS TO EXTEND EXISTING CIRCUIT TO NEW LOCATION.
4. INTERCEPT EXISTING CATH LAB FEEDER AND RE-FEED FROM DISTRIBUTION AS SHOWN ON E-5001.
5. EXTEND EXISTING CIRCUIT FROM ABANDONED CIRC. PUMP PREVIOUSLY FEEDING AHU. PROVIDE ALL NECESSARY CONDUCTORS/CONDUIT FOR PROPER EXTENSION.
6. PROPOSED CIRCUIT BREAKER DISCONNECT LOCATION. MOUNT ABOVE ACCESSIBLE CEILING AND COORDINATE EXACT LOCATION WITH FACILITY AND ENSURE ALL APPLICABLE CLEARANCES ARE MAINTAINED.
7. PROVIDE CONNECTION TO EXISTING 20A/1P SPARE CIRCUIT BREAKER IN 2-SECTION PANEL '1JA', CIRCUIT 29 VIA 3#12,1#10,3/4"C. CONTRACTOR SHALL METER PANEL PRIOR TO CONSTRUCTION AND NOTIFY ENGINEER IF PANEL EXCEEDS OR WILL EXCEED 80% OF RATED CAPACITY. ADDED LOAD: 240VA (2A)
8. CONNECT TO SPARE 20A CIRCUIT BREAKER IN LINE ISOLATION PANEL 'OP-4'.
9. PROVIDE 277V CONNECTION TO SMOKE DAMPERS. PROVIDE 277V/CONTROL VOLTAGE TRANSFORMER EQUAL TO SQUARE D T-TYPE. COORDINATE CONTROL VOLTAGE AND (VA) REQUIREMENTS WITH CONTROLS CONTRACTOR. ADDED LOAD: 200VA (0.72A). PER RECORD DRAWINGS EXISTING LOAD: 500VA (1.81A). TOTAL LOAD: 700VA (2.53A)
10. CONTRACTOR TO PULL PHILIPS PROVIDED CABLES WITHIN IN-FLOOR TRENCH DUCT SYSTEM FROM CONTROL ROOM TO TABLE FLOOR BOX. COORDINATE CABLE PULLING REQUIREMENTS WITH PHILIPS.
11. PROVIDE 12"X 3-1/2", INTERNALLY DIVIDED RECESSED WALL DUCT UP TO ABOVE FINISH CEILING. PROVIDE GROMMETTED OPENINGS FOR CONNECTION TO SURFACE MOUNTED WALL DUCT LOCATED WITHIN THE CONTROL ROOM. PROVIDE ALL NECESSARY TRANSITIONS FOR CONNECTING CONDUITS. PROVIDE GROMMETTED OPENINGS IN TABLE JUNCTION BOX FOR NEW EQUIPMENT.COORDINATE WITH PHILIPS FOR ALL CONDUCTOR BEND REQUIREMENTS PRIOR TO COMPLETION. CONTRACTOR SHALL BE RESPONSIBLE FOR PULLING ALL PHILIPS PROVIDED CABLING.
12. EXISTING CONDUIT, ETC. PENETRATING A112 WALL TO BE SEALED WITH THE APPROPRIATE CAULKING TO MAINTAIN THE RATING OF THE WALL.



03 ENLARGED TOWER EMER. ELECTRICAL ROOM
SCALE: 1/4" = 1'-0"



02 ENLARGED 2ND FLOOR ELECTRICAL ROOM
SCALE: 1/4" = 1'-0"



AURORA BUILDING INSPECTION
ELECTRICAL SECTION
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09 443746

CITY OF AURORA
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2008 NEC

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

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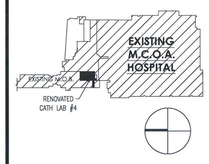
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KEY PLAN
FIRST FLOOR



COLORADO LICENSED
JOHN C. MARTIN
PROFESSIONAL ENGINEER
12.21.09

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FIRST FLOOR PLAN POWER

Sheet

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

GENERAL NOTES

A. REFER TO OCCUPANCY SENSOR DETAILS FOR ADDITIONAL WIRING AND CONNECTION INFORMATION.

B. REFER TO ARCHITECTURAL PLANS FOR PHASING OF WORK.

LIGHTING CALCULATIONS

EXISTING CIRCUIT CRCH-L-2:		
REMOVED:	(11) 32W, 3-LAMP TROFFER	-(1056W)
ADDED:	(8) 32W, 3-LAMP TROFFER (EX-R)	768W
	(1) 17W, 3-LAMP TROFFER (A)	51W
	(4) 32W CFL DOWNLIGHT (B)	128W
	(1) 28W CFL DOWNLIGHT (C)	28W
NET LOAD:		-(83W)

LEGEND NOTES

1. CONNECT TO EXISTING IN-USE LIGHTING SYSTEM. COORDINATE EXACT CONNECTION REQUIREMENTS WITH GE.
2. RELOCATE EXISTING SWITCHES TO THIS LOCATION. PROVIDE ALL NECESSARY CONDUIT, CONDUCTORS FOR EXTENSION OF THE EXISTING CIRCUITING TO THIS LOCATION.
3. CONNECT TO EXISTING 277V, LIFE SAFETY LIGHTING CIRCUIT CURRENTLY FEEDING CATH #1 & 2 CORRIDOR. ADDED LOAD: 64VA (0.2A). PER RECORD DRAWINGS EXISTING LOAD ON CIRCUIT: 470VA (1.7A). TOTAL LOAD: 534VA (1.9A).
4. EXISTING CONDUIT, ETC. PENETRATING A112 WALL TO BE SEALED WITH THE APPROPRIATE CAULKING TO MAINTAIN THE RATING OF THE WALL.

Wiring in air handling spaces must comply with 2008 NEC 300-22. Firestop penetrations per 2008 NEC 300-21. Secure and support equipment per 2008 NEC 300-11.

Provide emergency illumination equipment that complies with 2008 NEC 700-12 (F) or 2008 NEC 700

After hours inspection to verify required egress illumination may be required during field inspection. 2006 IBC 1006.

see the comcheck Lighting Compliance Certificate for lighting control requirements for minimum code requirements to the 2006 IECC, section 505. Typical.

09 443746

AURORA BUILDING INSPECTION
ELECTRICAL SECTION
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CITY OF AURORA
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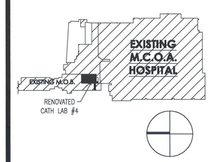
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KEY PLAN
FIRST FLOOR



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12/9/09

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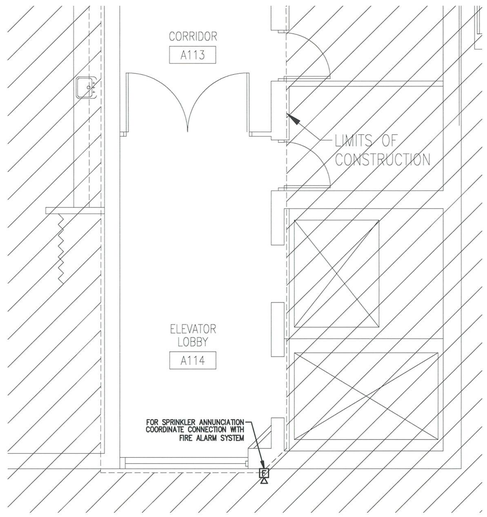
FIRST FLOOR PLAN LIGHTING

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

GENERAL NOTES

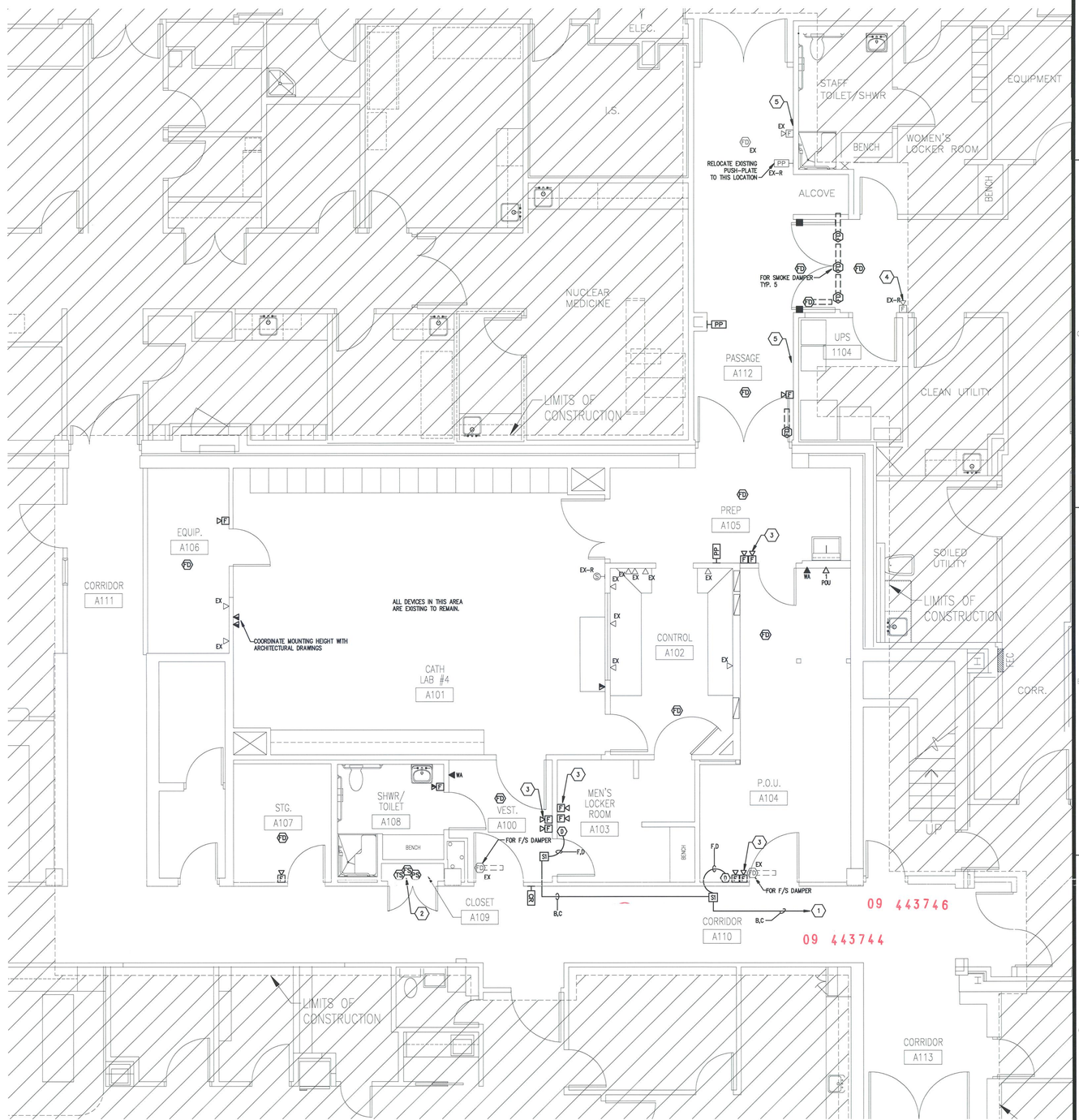
A. ALL VOICE AND DATA CABLING TO BE ROUTED TO EXISTING LS ROOM 1090. COORDINATE EXACT LOCATION OF TERMINATIONS WITHIN ROOM WITH IT PERSONNEL.

B. REFER TO ARCHITECTURAL PLANS FOR PHASING OF WORK.

C. CONNECT ALL FIRE ALARM DEVICES TO THE MEDICAL OFFICE BUILDING FIRE ALARM ANNUNCIATION CIRCUIT UNLESS NOTED OTHERWISE. PROVIDE LABELS FOR ALL DEVICES INDICATING WHICH FIRE ALARM SYSTEM BEING ANNUNCIATED.

LEGEND NOTES

1. ROUTE CABLING TO EXISTING NURSE CALL J-BUS RUN. VERIFY EXACT LOCATION OF CONNECTION POINT WITH NURSE CALL VENDOR. EXISTING NURSE CALL TERMINAL CABINET IS LOCATED WITHIN EXISTING TELE EQUIPMENT ROOM 1-0311. ROUTE ALL CABLING THROUGH CATH #1 & 2 SUITE IN LIEU OF RATED CORRIDOR.
2. COORDINATE EXACT QUANTITIES OF TAMPER/FLOW SWITCHES WITH FIRE PROTECTION CONTRACTOR. PROVIDE SUPERVISORY/POWER CONNECTION TO MOB FIRE ALARM SYSTEM.
3. CONNECT DEVICE TO MAIN HOSPITAL FIRE ALARM ANNUNCIATION CIRCUIT.
4. RELOCATE EXISTING DEVICE TO THIS LOCATION.
5. EXISTING CONDUIT, ETC. PENETRATING A112 WALL TO BE SEALED WITH THE APPROPRIATE CAULKING TO MAINTAIN THE RATING OF THE WALL.



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

This sheet of drawings has not been reviewed for code compliance.

HOSPITAL COMMUNICATIONS SYMBOLS

ALL SYMBOLS SHOWN MAY NOT APPEAR IN ALL DRAWINGS.
SYMBOLS ARE SHOWN SCHEMATIC AND MAY NOT BE TO SCALE.

SYMBOL	DESCRIPTION	MNTG. HT. UNO (SEE NOTE 1)
◀N	VOICE & DATA OUTLET, N=CABLE QTY., DOUBLE GANG BOX 4" X 4" WITH A 2" X 4" DEVICE COVER, 1" CONDUIT STUBBED ABOVE CEILING. CABLE INSTALLATION & TERMINATION BY DIV 27. ◀1 1 VOICE CABLE ◀3 1 VOICE, 2 DATA CABLE ◀2 1 VOICE, 1DATA CABLE ◀4 2 VOICE, 2 DATA CABLE ◀2V 2 VOICE CABLES ◀4(1V,3D) 1 VOICE, 3 DATA CABLES ◀4(3V,1D) 3 VOICE, 1 DATA CABLES	18" AFF
◁N	DATA ONLY OUTLET, N=CABLE QTY., DOUBLE GANG BOX 4" X 4" WITH A 2" X 4" DEVICE COVER, 1" CONDUIT STUBBED ABOVE CEILING. CABLE INSTALLATION & TERMINATION BY DIV 27. ◁1 1 DATA CABLE ◁3 3 DATA CABLES ◁2 2 DATA CABLES ◁4 4 DATA CABLES	18" AFF
◀N W	WALL TELEPHONE OUTLET, N=CABLE QTY., SINGLE GANG BOX 2" X 4", 3/4" CONDUIT STUBBED ABOVE CEILING. CABLE INSTALLATION & TERMINATION BY DIV 27.	54" AFF
◀N	VOICE AND DATA OUTLET, N= CABLE QTY., MOUNTED ABOVE COUNTER TOP (COORDINATE MOUNTING HEIGHT WITH ARCHITECTURAL ELEVATIONS) N=CABLE QTY., DOUBLE GANG BOX 4" X 4" WITH 2" X 4" DEVICE COVER, 1" CONDUIT STUBBED ABOVE CEILING. CABLE INSTALLATION & TERMINATION BY DIV 27.	–

NOTES:
1. 48" AFF INDICATES TO TOP OF DEVICE;
   80" AFF INDICATES TO BOTTOM OF DEVICE;
   ALL OTHER MOUNTING HEIGHTS REFER TO CENTERLINE OF DEVICE.
2. VOICE CABLE = BELDEN CAT 5 WHITE PLENUM 24567315
   DATA CABLE = BELDEN CAT 6 BLACK PLENUM 24567415
3. WORK STATION OUTLET: DATA CABLING SHALL BE TERMINATED ON BLACK RJ45 JACK, BELDEN AX101066. VOICE CABLING SHALL BE TERMINATED ON ALMOND RJ45 JACK, BELDEN AX101064. WALL TELEPHONE LOCATIONS SHALL BE TERMINATED USING STAINLESS STEEL WALL PHONE JACK 44-746-8S. ALL TERMINATIONS SHALL BE WIRED 568A CONFIGURATION. DATA AND VOICE JACKS SHALL BE MOUNTED IN ALMOND 4 PORT FACEPLATE, BELDEN AX101783.
4. COMMUNICATIONS ROOM: DATA CABLING SHALL BE TERMINATED TO EXISTING DATA PATCH PANELS WITHIN THE EXISTING COMMUNICATIONS ROOM. VOICE CABLING SHALL BE TERMINATED TO EXISTING WALL MOUNTED TERMINATION BLOCKS WITHIN THE EXISTING COMMUNICATIONS ROOM. VERIFY EXACT LOCATIONS OF TERMINATIONS WITH OWNER IT PERSONNEL.

NURSE CALL RESPONDER IV SYMBOL LIST

Symbol	Manuf.	Part #	Description	Backbox	Box Mounting Height	Conduit Stub Up
D	RAULAND	NCDUTY	DUTY STATION	3 GANG 2-1/8" deep W/ 3 GANG RING	44" A.F.F.	3/4" C
SI	RAULAND	NCJSOLO	SOLO DROP MODULE	4 11/16 sq. 2-1/8" deep 1 GANG RING	ABOVE CEILING	

Nurse Call Notes:

NURSE CALL CABLE WILL BE TERMINATED BY VENDOR. LEAVE 2 FEET MIN. SLACK AT NURSE CALL DEVICE LOCATION AND 15 FEET MIN. SLACK AT THE NURSE CALL CABINET LOCATION INSIDE THE COMMUNICATIONS CLOSETS.

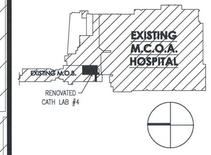
Cable	Use	Run Length	Description	Manufacturer Part Number				Cable Dims. (Sq. in)
				Non-Plenum		Plenum		
	Station and X-Bus Device Data/Audio and Power Runs			Belden		Belden		
B	J-Bus Run	2000 Feet Combined Max	2 pair Category 3 #24 AWG	1227A1		1243A2 (Cat 3)		.017
			2 pair Category 5/5e #24 AWG	1588A (Cat 5e)		1590A (Cat 5e)		.020
C	J-Drop / Console	35 Feet	3 pair Category 3	5662UG (Cat 5e)		6662UG (Cat5e)		.023
			3 pair Category 5/5e #24 AWG	5662UG (Cat 5e)		6662UG (Cat 5e)		.023
D	CL-Drop	35 Feet	8 Conductor flat #24 AWG	5628UG		6628UG		.034
			4 pair Category 5/5e #24 AWG	1583A		1585A		.030
F	Power Commons 1.0 Amp Max (Station to NCPWR) 6	220 – 335 Feet	2 # 14 AWG	5100UE		6100UE		.045
	Power Commons 1.5 Amp Max (Station to NCPWR) 6	170 – 220 Feet	2 # 14 AWG	5100UE		6100UE		.045
	Power Commons 2.0 Amp Max (Station to NCPWR) 6	135 – 170 Feet	2 # 14 AWG	5100UE		6100UE		.045
	Power Commons 2.5 Amp Max (Station to NCPWR) 6	135 Feet or less	2 # 14 AWG	5100UE		6100UE		.045

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KEY PLAN
FIRST FLOOR





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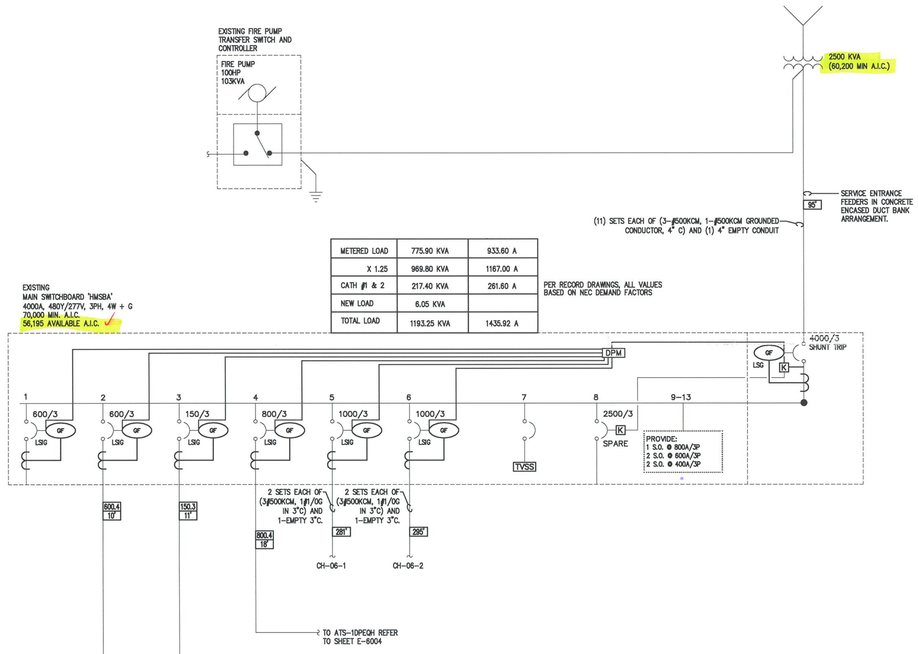
FIRST FLOOR PLAN SPECIAL SYSTEMS

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E-4001

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PARTIAL HOSPITAL EXISTING NORMAL & EMERGENCY POWER ONE-LINE DIAGRAM

02 NO SCALE

Dec 10, 2009 14:24:02 PAGE 42

FAULT ANALYSIS SUMMARY

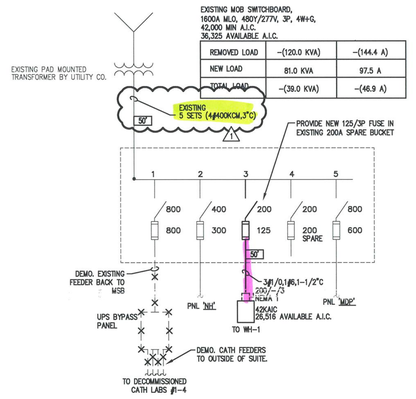
BUS NAME	VOLTAGE L-L	AVAILABLE FAULT CURRENT 3 PHASE	X/R	LINE/GRND	X/R
B-1DPCRH	480.	51425.6	4.4	0.03	1.0
B-1DPLSH	480.	41090.9	1.7	0.03	1.0
B-1DPNH	480.	53487.4	4.9	0.03	1.0
B-2LSH	480.	10534.4	0.5	0.03	1.0
B-2LSL	208.	1749.3	0.5	1785.93	0.5
B-A-1DPCRH-N	480.	53724.8	5.0	0.03	1.0
B-A-1DPLSH-N	480.	47932.5	2.4	0.03	1.0
B-CR	480.	40052.6	4.2	0.03	1.0
B-CRCH-H	480.	11935.3	1.7	0.03	1.0
B-CRCH-L	208.	1793.0	0.6	1809.86	0.6
B-DPGC	480.	12121.9	10.9	11942.72	10.5
B-EX-MSBA	480.	48121.9	6.7	0.03	1.0
B-EX-MTSB	480.	5302.0	14.0	5286.37	13.8
B-EX-SGDP	480.	5289.3	13.6	5267.51	13.4
B-EX-SSB	480.	44807.0	5.9	0.03	1.0
B-HMSBA	480.	56194.3	5.9	0.03	1.0
B-MOB-SWB	480.	36325.3	6.2	0.03	1.0
B-OPH	208.	1611.9	0.5	0.00	0.0
MH-1 DISC.	480.	26515.1	1.8	0.03	1.0

FAULT ANALYSIS REPORT COMPLETED

Provide a grounded electrode system bonded to the service equipment enclosure, grounded conductors, and grounded electrode conductors per 2008 NEC 250-50 and 250-104.

Locate the required overcurrent protection per 2005 NEC 240-21.

Install electrical connections per 2008 NEC 110-14, identify disconnects per 2008 NEC 110-22 and provide working space around electrical equipment per 2008 NEC 110-26.



PARTIAL MOB EXISTING ONE-LINE DIAGRAM

01 NO SCALE

LEGEND NOTES

1. CONTRACTOR SHALL CAREFULLY COORDINATE NEW UPS CONNECTION WITH GE. CONTRACTOR SHALL PROVIDE ALL NECESSARY INTERCONNECTION CONDUITS/CONDUCTORS FOR A FULLY FUNCTIONING SYSTEM.
2. PROVIDE POWER FOR SHUNT TRIP OPERATOR FROM CRCH-L-21 VIA 2#12,1#12G,3/4"C.

SHUNT TRIP NOTES

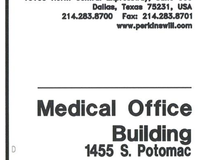
1. SHUNT TRIP OPERATORS SERVING PANEL CRCH-H, CATH #4, AND CIRCUIT 2LSL-6 TO BE CONTROLLED VIA (1) E.P.O. LOCATED IN THE MOB MAIN ELECTRICAL ROOM ON THE FIRST FLOOR. REFER TO E-2001 FOR LOCATION.

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KEY PLAN
FIRST FLOOR





Revisions

NO.	ISSUE	DATE
1	CITY COMMENTS	12-21-09

Sheet Information

Date	12-09-2009
Job Number	142542.002
Drawn	TF
Checked	TF
Approved	MM

Title

ELECTRICAL ONE-LINE DIAGRAM

Sheet

E-5001

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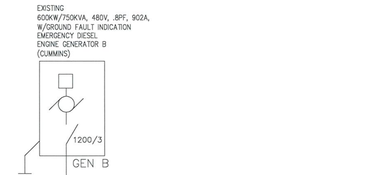
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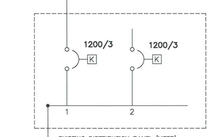
AURORA BUILDING INSPECTION
ELECTRICAL SECTION
APPROVED
SUBJECT TO COMMENTS AS NOTED AND FIELD INSPECTIONS

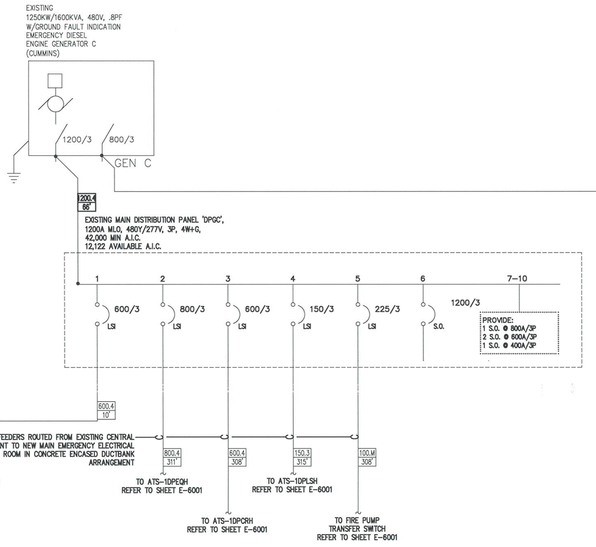
CITY OF AURORA
BUILDING DIVISION
APPROVED AS NOTED
DATE APPROVED DEC 22 2009
2008 NEC

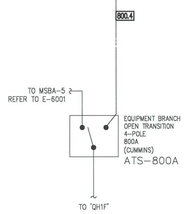
09 443744

09 443746







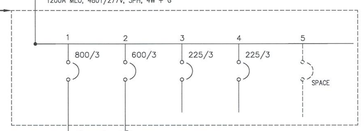


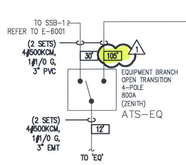
"DPGC" LOAD SUMMARY												
	LTS	RCPTS	MTRS	HSPTL	X-RAY	ELEV	KITCH	HEAT	MISC	TOTAL (KVA)	TOTAL (AMPS)	PER RECORD DRAWINGS, ALL VALUES BASED ON NEC DEMAND FACTORS
TOTAL CONNECTED LOAD	23.3	44.7	569.0	513.4	0.0	143.0	0.0	0.0	50.0	1343.4	1615.9	
DEMAND FACTOR	SEE DEMAND FACTOR TABLE											
TOTAL DEMAND LOAD	23.0	27.5	563.8	112.6	0.0	121.6	0.0	0.0	50.0	928.4	1116.7	
CONTINUOUS (DESIGN) FACTOR	1.25	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
TOTAL DESIGN LOAD	28.8	27.5	563.8	112.6	0.0	121.6	0.0	0.0	50.0	934.2	1123.6	

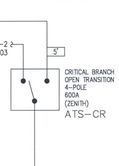
EXISTING DISTRIBUTION PANEL SGDP
A.I.C. RATING: 25,000 A
5,289 AVAILABLE A.I.C.

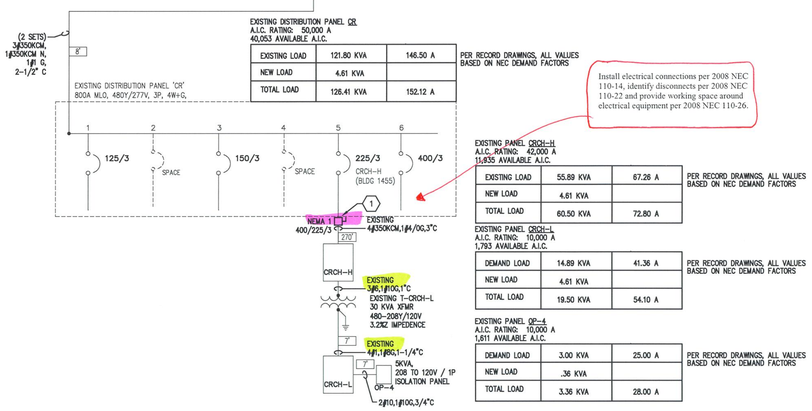
EXISTING LOAD	495.30 KVA	595.70 A
NEW LOAD	4.61 KVA	
TOTAL LOAD	499.91 KVA	601.58 A

PER RECORD DRAWINGS, ALL VALUES BASED ON NEC DEMAND FACTORS









EXISTING DISTRIBUTION PANEL CR
A.I.C. RATING: 50,000 A
40,053 AVAILABLE A.I.C.

EXISTING LOAD	121.80 KVA	146.50 A
NEW LOAD	4.61 KVA	
TOTAL LOAD	126.41 KVA	152.12 A

PER RECORD DRAWINGS, ALL VALUES BASED ON NEC DEMAND FACTORS

Install electrical connections per 2008 NEC 110-14, identify disconnects per 2008 NEC 110-22 and provide working space around electrical equipment per 2008 NEC 110-26.

EXISTING PANEL CRCH–H
A.I.C. RATING: 42,000 A
11,935 AVAILABLE A.I.C.

EXISTING LOAD	55.89 KVA	67.26 A
NEW LOAD	4.61 KVA	
TOTAL LOAD	60.50 KVA	72.80 A

PER RECORD DRAWINGS, ALL VALUES BASED ON NEC DEMAND FACTORS

EXISTING PANEL CRCH–L
A.I.C. RATING: 10,000 A
1,793 AVAILABLE A.I.C.

DEMAND LOAD	14.89 KVA	41.36 A
NEW LOAD	4.61 KVA	
TOTAL LOAD	19.50 KVA	54.10 A

PER RECORD DRAWINGS, ALL VALUES BASED ON NEC DEMAND FACTORS

EXISTING PANEL OP–4
A.I.C. RATING: 10,000 A
1,611 AVAILABLE A.I.C.

DEMAND LOAD	3.00 KVA	25.00 A
NEW LOAD	.36 KVA	
TOTAL LOAD	3.36 KVA	28.00 A

PER RECORD DRAWINGS, ALL VALUES BASED ON NEC DEMAND FACTORS

LEGEND NOTES

1. INTERCEPT FEEDER WITHIN HOSPITAL AND PROVIDE NEW SHUNT TRIP OPERATOR AND 225A/3P CIRCUIT BREAKER ABOVE ACCESSIBLE CEILING. ENSURE ALL APPLICABLE CLEARANCES ARE MAINTAINED. PROVIDE ALL NECESSARY ADDITIONAL CONDUIT/CONDUCTORS TO ENSURE REFEED EXISTING PANEL CRCH–H. PROVIDE POWER FOR SHUNT TRIP OPERATOR FROM CIRCUIT CRCH–L–21 VIA 2#12,1#12G,3/4"C. LOCATE EPO BUTTON IN EXISTING MCB MAIN ELECTRICAL ROOM WITH PLACARD STATING "SERVICE DISCONNECT #2".

PARTIAL HOSPITAL EXISTING EMERGENCY POWER ONE-LINE DIAGRAM

01 NO SCALE

09 443744

09 443746

AURORA BUILDING INSPECTION
ELECTRICAL SECTION
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CITY OF AURORA
BUILDING DIVISION
APPROVED AS NOTED
DATE APPROVED DEC 22 2009
2008 NEC

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TYLER LEE
PROFESSIONAL ENGINEER
12.21.09

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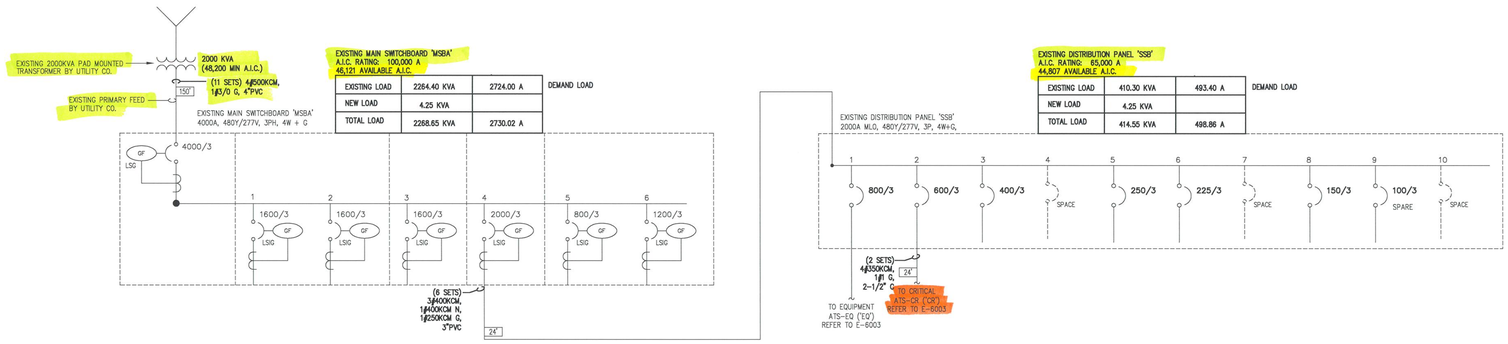
ELECTRICAL ONE–LINE DIAGRAM

Sheet

E-5002

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PARTIAL HOSPITAL EXISTING NORMAL POWER ONE-LINE DIAGRAM

01 NO SCALE

MOTOR FEEDER SCHEDULE
480 VOLT 3 PHASE

MOTOR FEEDER TAG	HP	FLA	CB	FEEDER DESCRIPTION
5.M	5	7.6	15	3#12, 1#12 G, 3/4" C
7.5.M	7-1/2	11	20	3#12, 1#12 G, 3/4" C
10.M	10	14	25	3#12, 1#10 G, 3/4" C
15.M	15	21	40	3#10, 1#10 G, 3/4" C
20.M	20	27	50	3#8, 1#10 G, 3/4" C
25.M	25	34	60	3#6, 1#10 G, 3/4" C
30.M	30	40	70	3#6, 1#8 G, 3/4" C
40.M	40	52	100	3#4, 1#8 G, 1" C
50.M	50	65	125	3#3, 1#6 G, 1-1/4" C
60.M	60	77	150	3#1, 1#6 G, 1 1/4" C
75.M	75	96	175	3#1, 1#6 G, 1 1/4" C
100.M	100	124	225	3#2/0, 1#4 G, 2" C
125.M	125	156	300	3#3/0, 1#4 G, 2" C
150.M	150	180	350	3#4/0, 1 #3 G, 2" C
200.M	200	240	450	3#350KCM, 1#2 G, 2-1/2" C

FEEDER SCHEDULE
600V MAX.

FEEDER TAG & AMPERE RATING	FEEDER DESCRIPTION
15.3, 20.3 15.4, 20.4 15.4I, 20.4I	3#12, 1#12 G, 3/4" C 3#12, 1#12 N, 1#12 G, 3/4" C 3#12, 1#12 N, 1#12 G, 1#12 IG, 3/4" C
25.3, 30.3 25.4, 30.4 25.4I, 30.4I	3#10, 1#10 G, 3/4" C 3#10, 1#10 N, 1#10 G, 3/4" C 3#10, 1#10 N, 1#10 G, 1#10 IG, 3/4" C
35.3, 40.3 35.4, 40.4 35.4I, 40.4I	3#8, 1#10 G, 3/4" C 3#8, 1#8 N, 1#10 G, 3/4" C 3#8, 1#8 N, 1#10 G, 1#10 IG, 1" C
45.3, 50.3 45.4, 50.4 45.4I, 50.4I	3#6, 1#10 G, 3/4" C 3#6, 1#6 N, 1#10 G, 1" C 3#6, 1#6 N, 1#10 G, 1#10 IG, 1" C
60.3 60.4 60.4I	3#4, 1#10 G, 1" C 3#4, 1#4 N, 1#10 G, 1 1/4" C 3#4, 1#4 N, 1#10 G, 1#10 IG, 1-1/4" C
70.3 70.4 70.4I	3#4, 1#8 G, 1" C 3#4, 1#4 N, 1#8 G, 1-1/4" C 3#4, 1#4 N, 1#8 G, 1#8 IG, 1-1/4" C
80.3 80.4 80.4I	3#3, 1#8 G, 1-1/4" C 3#3, 1#3 N, 1#8 G, 1-1/4" C 3#3, 1#3 N, 1#8 G, 1#8 IG, 1-1/4" C
90.3 90.4 90.4I	3#2, 1#8 G, 1-1/4" C 3#2, 1#2 N, 1#8 G, 1-1/4" C 3#2, 1#2 N, 1#8 G, 1#8 IG, 1-1/4" C
100.3 100.4 100.4I	3#1, 1#8 G, 1-1/4" C 3#1, 1#1 N, 1#8 G, 1-1/2" C 3#1, 1#1 N, 1#8 G, 1#8 IG, 1-1/2" C
110.3 110.4 110.4I	3#1, 1#6 G, 1-1/4" C 3#1, 1#1 N, 1#6 G, 1-1/2" C 3#1, 1#1 N, 1#6 G, 1#6 IG, 1-1/2" C
125.3, 150.3 125.4, 150.4 125.4I, 150.4I	3#1/0, 1#6 G, 1-1/2" C 3#1/0, 1#1/0 N, 1#6 G, 2" C 3#1/0, 1#1/0 N, 1#6 G, 1#6 IG, 2" C
175.3 175.4 175.4I	3#2/0, 1#6 G, 2" C 3#2/0, 1#2/0 N, 1#6 G, 2" C 3#2/0, 1#2/0 N, 1#6 G, 1#6 IG, 2" C
200.3 200.4 200.4I	3#3/0, 1#6 G, 2" C 3#3/0, 1#3/0 N, 1#6 G, 2" C 3#3/0, 1#3/0 N, 1#6 G, 1#6 IG, 2" C
225.3 225.4 225.4I	3#4/0, 1#4 G, 2" C 3#4/0, 1#4/0 N, 1#4 G, 2-1/2" C 3#4/0, 1#4/0 N, 1#4 G, 1#4 IG, 2-1/2" C
250.3 250.4 250.4I	3#250KCM, 1#4 G, 2-1/2" C 3#250KCM, 1-250KCM N, 1#4 G, 2-1/2" C 3#250KCM, 1-250KCM N, 1#4 G, 1#4 IG, 2-1/2" C
300.3 300.4 300.4I	3#350KCM, 1#4 G, 2-1/2" C 3#350KCM, 1-350KCM N, 1#4 G, 3" C 3#350KCM, 1-350KCM N, 1#4 G, 1#4 IG, 3" C
350.3 350.4 350.4I	3#500KCM, 1#3 G, 3" C 3#500KCM, 1-500KCM N, 1#3 G, 3-1/2" C 3#500KCM, 1-500KCM N, 1#3 G, 1#3 IG, 3-1/2" C
400.3 400.4 400.4I	2 SETS EACH OF [3#3/0, 1#3 G, 2" C] 2 SETS EACH OF [3#3/0, 1#3/0 N, 1#3 G, 2-1/2" C] 2 SETS EACH OF [3#3/0, 1#3/0 N, 1#3 G, 1#3 IG, 2-1/2" C]
450.3 450.4 450.4I	2 SETS EACH OF [3#4/0, 1#2 G, 2" C] 2 SETS EACH OF [3#4/0, 1#4/0 N, 1#2 G, 2-1/2" C] 2 SETS EACH OF [3#4/0, 1#4/0 N, 1#2 G, 1#2 IG, 2-1/2" C]
500.3 500.4 500.4I	2 SETS EACH OF [3#250KCM, 1#2 G, 2-1/2" C] 2 SETS EACH OF [3#250KCM, 1#250KCM N, 1#2 G, 2-1/2" C] 2 SETS EACH OF [3#250KCM, 1#250KCM N, 1#2 G, 1#2 IG, 2-1/2" C]
600.3 600.4 600.4I	2 SETS EACH OF [3#350KCM, 1#1 G, 2-1/2" C] 2 SETS EACH OF [3#350KCM, 1#350KCM N, 1#1 G, 2-1/2" C] 2 SETS EACH OF [3#350KCM, 1#350KCM N, 1#1 G, 1#1 IG, 3" C]
700.3 700.4 700.4I	2 SETS EACH OF [3#500KCM, 1#1/0 G, 3" C] 2 SETS EACH OF [3#500KCM, 1#500KCM N, 1#1/0 G, 3-1/2" C] 2 SETS EACH OF [3#500KCM, 1#500KCM N, 1#1/0 G, 1#1/0 IG, 3-1/2" C]
800.3 800.4 800.4I	3 SETS EACH OF [3#300KCM, 1#1/0 G, 3" C] 3 SETS EACH OF [3#300KCM, 1#300KCM N, 1#1/0 G, 3" C] 3 SETS EACH OF [3#300KCM, 1#300KCM N, 1#1/0 G, 1#1/0 IG, 3" C]
900.3 900.4 900.4I	3 SETS EACH OF [3#350KCM, 1#2/0 G, 3" C] 3 SETS EACH OF [3#350KCM, 1#350KCM N, 1#2/0 G, 3" C] 3 SETS EACH OF [3#350KCM, 1#350KCM N, 1#2/0 G, 1#2/0 IG, 3" C]
1000.3 1000.4 1000.4I	3 SETS EACH OF [3#400KCM, 1#2/0 G, 3" C] 3 SETS EACH OF [3#400KCM, 1#400KCM N, 1#2/0 G, 3" C] 3 SETS EACH OF [3#400KCM, 1#400KCM N, 1#2/0 G, 1#2/0 IG, 3" C]
1200.3 1200.4 1200.4I	4 SETS EACH OF [3#350KCM, 1#3/0 G, 3" C] 4 SETS EACH OF [3#350KCM, 1#350KCM N, 1#3/0 G, 3" C] 4 SETS EACH OF [3#350KCM, 1#350KCM N, 1#3/0 G, 1#3/0 IG, 3-1/2" C]
1400.3 1400.4 1400.4I	4 SETS EACH OF [3#500KCM, 1#4/0 G, 3" C] 4 SETS EACH OF [3#500KCM, 1#500KCM N, 1#4/0 G, 3-1/2" C] 4 SETS EACH OF [3#500KCM, 1#500KCM N, 1#4/0 G, 1#4/0 IG, 3-1/2" C]
1600.3 1600.4 1600.4I	5 SETS EACH OF [3#400KCM, 1#4/0 G, 3" C] 5 SETS EACH OF [3#400KCM, 1#400KCM N, 1#4/0 G, 3" C] 5 SETS EACH OF [3#400KCM, 1#400KCM N, 1#4/0 G, 1#4/0 IG, 3-1/2" C]
2000.3 2000.4 2000.4I	6 SETS EACH OF [3#400KCM, 1#250KCM G, 3" C] 6 SETS EACH OF [3#400KCM, 1#400KCM N, 1#250KCM G, 3" C] 6 SETS EACH OF [3#400KCM, 1#400KCM N, 1#250KCM G, 1#250KCM IG, 3-1/2" C]
2500.3 2500.4 2500.4I	7 SETS EACH OF [3#500KCM, 1#350KCM G, 3-1/2" C] 7 SETS EACH OF [3#500KCM, 1#500KCM N, 1#350KCM G, 3-1/2" C] 7 SETS EACH OF [3#500KCM, 1#500KCM N, 1#350KCM G, 1#350KCM IG, 4" C]
3000.3 3000.4 3000.4I	8 SETS EACH OF [3#500KCM, 1#400KCM G, 3" C] 8 SETS EACH OF [3#500KCM, 1#500KCM N, 1#400KCM G, 3-1/2" C] 8 SETS EACH OF [3#500KCM, 1#500KCM N, 1#400KCM G, 1#400KCM IG, 4" C]
4000.3 4000.4 4000.4I	11 SETS EACH OF [3#500KCM, 1#500KCM G, 3-1/2" C] 11 SETS EACH OF [3#500KCM, 1#500KCM N, 1#500KCM G, 3-1/2" C] 11 SETS EACH OF [3#500KCM, 1#500KCM N, 1#500KCM G, 1#500KCM IG, 4" C]

AURORA BUILDING INSPECTION
ELECTRICAL SECTION
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09 443744

09 443746

CITY OF AURORA
BUILDING DIVISION
APPROVED AS NOTED
DATE APPROVED DEC 22 2009
2008 NEC

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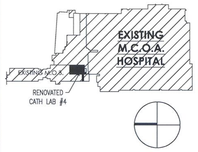
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KEY PLAN

FIRST FLOOR





Revisions

1	CITY COMMENTS	12-21-09

NO.	ISSUE	DATE

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Date	12-09-2009
Job Number	142542.002
Drawn	TF
Checked	TF
Approved	MM

Title

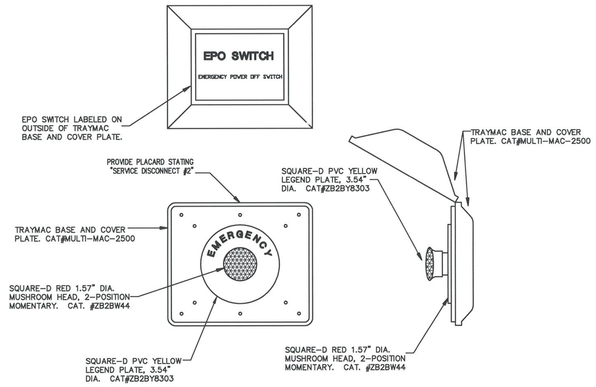
ELECTRICAL ONE-LINE DIAGRAM

Sheet

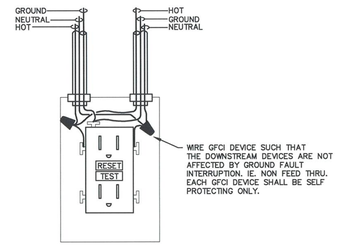
E-5003

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04 EPO SWITCH DETAIL
NO SCALE



03 GFCI RECEPTACLE - WIRING DIAGRAM
NO SCALE

OCCUPANCY SENSOR GENERAL NOTES

A. IT IS THE INTENT OF THESE DOCUMENTS THAT THE OCCUPANCY SENSOR SYSTEM SHALL COVER THE ENTIRE ROOM. THE CONTRACTOR SHALL HAVE THE SELECTED DEVICE MANUFACTURER LAYOUT AND ADJUST SENSOR TYPES OR QUANTITIES AS NEEDED TO PROVIDE COMPLETE COVERAGE. SHOP DRAWINGS SHALL BE SUBMITTED AS DESCRIBED IN THE SPECIFICATIONS ON THIS PAGE FOR ENGINEERS REVIEW PRIOR TO PROCUREMENT. COST FOR ANY ADJUSTMENTS OR ADDITIONS TO THE SENSOR LAYOUT SHALL BE INCLUDED IN THE CONTRACTOR BID PRICE. NO ADDITIONAL COSTS WILL BE CONSIDERED FOR THESE PRODUCT SPECIFIC ADJUSTMENTS.

THESE WIRING DETAILS ARE A GENERAL REPRESENTATION OF TYPICAL INSTALLATION PRACTICES. THE CONTRACTOR SHALL COORDINATE ALL DEVICE PLACEMENT, COVERAGE PATTERNS, WIRING DETAILS, SWITCH PACK QUANTITIES AND CONDUIT REQUIREMENTS DURING THE SHOP DRAWING PROCESS WITH THE SELECTED LIGHTING CONTROLS VENDOR.

B. NO MORE THAN (3) LOW VOLTAGE DEVICES SHOULD BE POWERED FROM A SINGLE SWITCH PACK. VERIFY REQUIREMENTS WITH SYSTEM MANUFACTURER DURING SHOP DRAWING PHASE.

C. SWITCH PACK CONTACTS SHOULD FAIL TO THE CLOSED("ON") POSITION TO ALLOW LIGHTING OPERATION IN THE EVENT OF A RELAY OR SENSOR FAILURE.

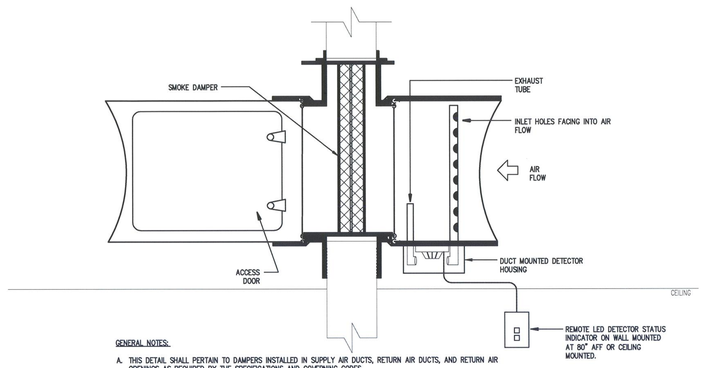
SUBMIT THE FOLLOWING IN ACCORDANCE WITH DIVISION 1 SUBMITTAL PROCEDURES.

COMPLETE BILL OF MATERIALS LISTING ALL PARTS NEEDED TO FULLY INSTALL SELECTED SENSOR SYSTEM.

PRODUCT DATA SHEETS FOR EACH PRODUCT SPECIFIED. DATA SHEETS SHOULD INCLUDE CATALOG CUT SHEETS WITH TECHNICAL SPECIFICATIONS AND INSTALLATION INSTRUCTIONS..

SHOP DRAWINGS DETAILING ALL MECHANICAL AND ELECTRICAL EQUIPMENT REQUIRED TO INSTALL COMPETE SENSOR SYSTEM. SHOP DRAWINGS SHOULD BE 1/8"=1'-0" SCALE OR LARGER. DRAWINGS SHOULD INCLUDE ONE-LINE DIAGRAMS, WIRE COUNTS, COVERAGE PATTERNS, AND PHYSICAL DIMENSIONS OF EACH ITEM.

SUBMIT SAMPLES FOR FINISH, COLOR, AND TEXTURE TO ARCHITECT FOR APPROVAL.



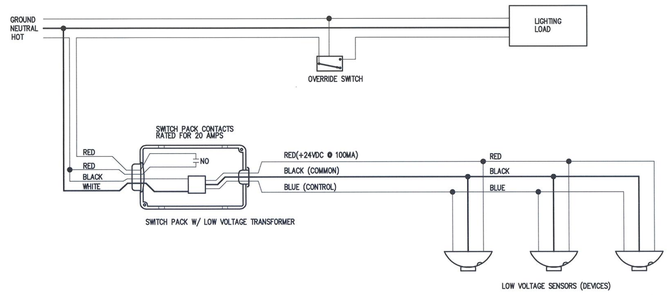
GENERAL NOTES:

A. THIS DETAIL SHALL PERTAIN TO DAMPERS INSTALLED IN SUPPLY AIR DUCTS, RETURN AIR DUCTS, AND RETURN AIR OPENINGS AS REQUIRED BY THE SPECIFICATIONS AND GOVERNING CODES.

B. PROVIDE SMOKE DETECTORS AT ALL FIRE/SMOKE AND SMOKE DAMPER LOCATIONS. COORDINATE EXACT LOCATION OF ALL FIRE/SMOKE AND SMOKE DAMPERS WITH DIVISION 15 FLOOR PLANS. AS REQUIRED BY LOCAL AUTHORITY HOUSING JURISDICTION.

C. INSTALL DUCT DETECTORS IN ACCORDANCE WITH DUCT MOUNTED SMOKE DETECTOR DETAIL.

05 SMOKE DAMPER INSTALLATION DETAIL
NO SCALE



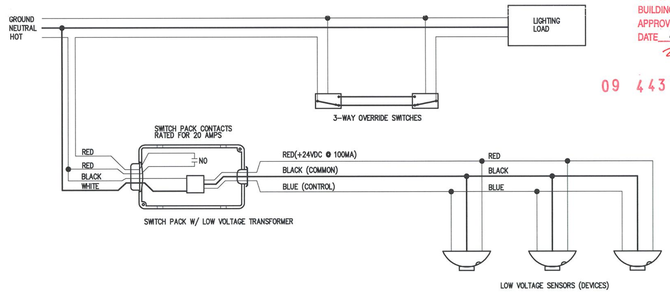
LOW VOLTAGE OCCUPANCY SENSORS 02 W/ LINE-VOLTAGE OVERRIDE SWITCH
NO SCALE

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CITY OF AURORA
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APPROVED AS NOTED
DATE APPROVED DEC 22 2009
2008 NEC

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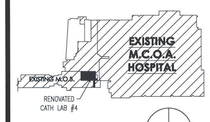
LOW VOLTAGE OCCUPANCY SENSORS 01 W/ 3-WAY LINE-VOLTAGE OVERRIDE SWITCH
NO SCALE

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KEY PLAN
FIRST FLOOR





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Sheet Information	
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Approved	MM

Title

ELECTRICAL DETAILS

Sheet

E-6001

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EXISTING PANEL: CRCH-H

LOCATION: POU
MAIN BUS: 400A
MCB: N/A
VOLTAGE: 480/277
AIC: 42,000A

FED FROM: PNL CR
WIRES: 4W + G
ENCLOSURE: NEMA 1
BUS TYPE: Copper
MOUNTING: Recessed
PANEL LUGS: Main Lugs Only

CRITICAL
NEUTRAL BUS: Yes
GROUND BUS: Yes
ISOLATED GROUND BUS: No
200% NEUTRAL: No
FEED THROUGH LUGS: Yes

CKT NO.	DESCRIPTION	TOTAL LOAD (VA)	CIRCUIT BREAKER AMPS	POLES	PHASE	CIRCUIT BREAKER AMPS	POLES	TOTAL LOAD (VA)	DESCRIPTION	CKT NO
1	AIR HANDLING UNIT	6000	50	3	A	60	3	5830	PANEL "CRCH-L"	2
3	--	6000			B			8483	VIA XFMR	4
5	--	6000			C			4690	"	6
7	COND UNIT-1	1745	30	3	A	20	1	1245	AIR HANDLING - SUPPLY	8
9	--	1745			B	20	1	1245	--	10
11	--	1745			C	20	1	1245	--	12
13	HUMIDIFIER	2265	20	3	A	20	1	--	SPARE	14
15	--	2265			B	20	1	--	--	16
17	--	2265			C	20	1	--	--	18
19	COND UNIT-2	2265	20	3	A	20	1	--	--	20
21	--	2265			B	20	1	--	--	22
23	--	2265			C	20	1	--	--	24

NOTES:

"CRCH-H" LOAD SUMMARY

	LTS	RCPTS	MTRS	MISC	TOTAL (KVA)	TOTAL (AMPS)
TOTAL CONNECTED LOAD	5.4	4.3	3.3	46.7	59.6	71.6
DEMAND FACTOR	SEE DEMAND FACTOR TABLE					
TOTAL DEMAND LOAD	5.0	4.0	3.3	47.0	59.3	71.3
CONTINUOUS (DESIGN) FACTOR	1.25	1.00	1.00	1.00		
TOTAL DESIGN LOAD	6.3	4.0	3.3	47.0	60.5	72.8

EXISTING PANEL: CRCH-L

LOCATION: POU
MAIN BUS: 100A
MCB: 100A
VOLTAGE: 208/120
AIC: 10,000A

FED FROM: CRCH-H
WIRES: 4W + G
ENCLOSURE: NEMA 1
BUS TYPE: Copper
MOUNTING: Recessed
PANEL LUGS: Main Circuit Breaker

CRITICAL
NEUTRAL BUS: Yes
GROUND BUS: Yes
ISOLATED GROUND BUS: No
200% NEUTRAL: No
FEED THROUGH LUGS: Yes

CKT NO.	DESCRIPTION	TOTAL LOAD (VA)	CIRCUIT BREAKER AMPS	POLES	PHASE	CIRCUIT BREAKER AMPS	POLES	TOTAL LOAD (VA)	DESCRIPTION	CKT NO
1	PANEL OP-4	1500	30	2	A	20	1	850	LTG-RECORDS,ENTRY,LCKR	2
3	--	1860			B	20	1	1092	LTG-CONTROL	4
5	SPARE	--	20	1	C	20	1	600	LTG-PROCEDURE	6
7	RECEPT - COND PUMPS	300	20	1	A	20	1	480	LTG-PROCEDURE	8
9	EXHAUST FAN EF-1	675	20	1	B	20	1	1376	LTG-PROCEDURE	10
11	SPARE	--	20	1	C	20	1	1000	LTG-SURGICAL LIGHT	12
13	R - RESTROOM	180	20	1	A	20	1	720	RECEPT-CONTROL	14
15	RECEPT	720	20	1	B	20	1	540	AIR HANDLING-2	16
17	RECEPT	540	20	1	C	20	1	540	--	18
19	RECEPT	360	20	1	A	20	1	1440	FAN FILTERS	20
21	R - CATH #4 SUITE	1080	*20	1	B	20	1	1140	FAN FILTERS	22
23	WATERHEATER	1650	20	1	C	20	1	360	RECEPT-CONTROL	24

NOTES:
* DENOTES EXISTING CIRCUIT TO BE RECOVERED FROM DEMOLITION.

"CRCH-L" LOAD SUMMARY

	LTS	RCPTS	MTRS	MISC	TOTAL (KVA)	TOTAL (AMPS)
TOTAL CONNECTED LOAD	5.4	4.3	3.3	6.1	19.0	52.7
DEMAND FACTOR	SEE DEMAND FACTOR TABLE					
TOTAL DEMAND LOAD	5.0	4.0	3.3	6.0	18.3	50.7
CONTINUOUS (DESIGN) FACTOR	1.25	1.00	1.00	1.00		
TOTAL DESIGN LOAD	6.3	4.0	3.3	6.0	19.5	54.1

EXISTING DISTRIBUTION PANEL: 1DPCRH

FED FROM: DPGC
LOCATION: MAIN ELEC. 1133
MAIN BUS: 600A
MCB: 500A
VOLTAGE: 480/277
AIC: 65,000A

WIRES: 4W + G
ENCLOSURE: NEMA 1
BUS TYPE: Copper
MOUNTING: Surface
PANEL LUGS: Main Circuit Breaker

CRITICAL
NEUTRAL BUS: Yes
GROUND BUS: Yes
ISOLATED GROUND BUS: No
200% NEUTRAL: No

CKT NO.	DESCRIPTION	TOTAL LOAD (VA)	LOAD (VA) LTS	RCPTS	MTRS	HSPTL	X-RAY	MISC	CIRCUIT BREAKER AMPS	POLES	REMARKS
1	PANEL "1CRH"	13500	2040			11460			100	3	
2	PANEL "2DPCRL" VIA XFMR	268540		22120		243076		3344	225	3	
3	PANEL "2CRH"	13442				13442			100	3	
4	PANEL "3CRH"	5500				5500			100	3	
5	PANEL "4CRH"	13226				13226			100	3	
6	PANEL "4DPCRL" VIA XFMR	136130	734	22560		112336		500	225	3	
7	PANEL "5CRH"	69496			55770	13726			100	3	
8	SPARE	--							--	3	FUTURE 6TH FLOOR
9	SPARE	--							--	3	FUTURE 7TH FLOOR
10	CATH #1	49860					49860		125	3	
11	CATH #2	49860					49860		125	3	
12	CATH #4	49860					49860		150	3	PROVIDE NEW 150A/3P CB
13	UPS	12465						12465	90	3	
14	S.O.	--							--	3	

NOTES:
* DENOTES CIRCUIT BREAKER SHALL HAVE SHUNT TRIP OPERATOR

"1DPCRH" LOAD SUMMARY

	LTS	RCPTS	MTRS	HSPTL	X-RAY	MISC	TOTAL (KVA)	TOTAL (AMPS)
TOTAL CONNECTED LOAD	2.8	44.7	55.8	412.8	149.6	16.3	681.9	820.2
DEMAND FACTOR	SEE DEMAND FACTOR TABLE							
TOTAL DEMAND LOAD	3.0	27.5	64.3	92.6	42.5	16.0	245.8	295.7
CONTINUOUS (DESIGN) FACTOR	1.25	1.00	1.00	1.00	1.00	1.00		
TOTAL DESIGN LOAD	3.8	27.5	64.3	92.6	42.5	16.0	246.6	296.6

EXISTING PANEL: 2LSL

LOCATION: ELEC. 2094
MAIN BUS: 100A
MCB: N/A
VOLTAGE: 208/120
AIC: 10,000A

FED FROM: 2LSH
WIRES: 4W + G
ENCLOSURE: NEMA 1
BUS TYPE: Copper
MOUNTING: Surface
PANEL LUGS: Main Lugs Only

LIFE SAFETY
NEUTRAL BUS: Yes
GROUND BUS: Yes
ISOLATED GROUND BUS: No
200% NEUTRAL: No
FEED THROUGH LUGS: No

CKT NO.	DESCRIPTION	TOTAL LOAD (VA)	CIRCUIT BREAKER AMPS	POLES	PHASE	CIRCUIT BREAKER AMPS	POLES	TOTAL LOAD (VA)	DESCRIPTION	CKT NO
1	J-BOX AUTO DOOR 1ST FL.	1000	20	1	A	*20	1	500	MGAA - CATH SUITE	2
3	MGAP RM'S 2097-2083	400	20	1	B	*20	1	800	AUTO DOORS - CATH SUITE	4
5	MDAP RM 3060	400	20	1	C	*20	1	960	LTS, AUTO DOORS, MGAA	6
7	MGAP RM. 1022A	400	20	1	A			--	SHUNT TRIP OPERATOR	8
9	J-BOX AUTO DOOR 2ND FL.	400	20	1	B	20	1	--	SPARE	10
11	J-BOX AUTO DOOR 3RD FL.	400	20	1	C	20	1	--	SPARE	12
13	3RD FLOOR FIRE ALARM NAC	400	20	1	A	20	1	--	SPARE	14
15	2ND FLOOR FIRE ALARM NAC	400	20	1	B	20	1	--	SPARE	16
17	1ST FLOOR FIRE ALARM NAC	400	20	1	C	20	1	--	SPARE	18
19	1ST FLOOR FIRE ALARM NAC	400	20	1	A	20	1	--	SPARE	20
21	FACP1	500	20	1	B	20	1	--	SPARE	22
23	FACP2	500	20	1	C	20	1	--	SPARE	24
25	SPARE	--	20	1	A	20	1	--	SPARE	26
27	SPARE	--	20	1	B	20	1	--	SPARE	28
29	SPARE	--	20	1	C	20	1	--	SPARE	30
31	SPARE	--	20	1	A	20	1	--	SPARE	32
33	SPARE	--	20	1	B	20	1	--	SPARE	34
35	SPARE	--	20	1	C	20	1	--	SPARE	36
37	SPARE	--	20	1	A	20	1	--	SPARE	38
39	SPARE	--	20	1	B	20	1	--	SPARE	40
41	SPARE	--	20	1	C	20	1	--	SPARE	42

NOTES:
* PROVIDE CIRCUIT BREAKER WITH SHUNT TRIP OPERATOR. CONNECT TO EPO BUTTON AS INDICATED ON DRAWINGS.

"2LSL" LOAD SUMMARY

	LTS	RCPTS	HSPTL	MISC	TOTAL (KVA)	TOTAL (AMPS)
TOTAL CONNECTED LOAD	0.0	0.0	1.2	6.7	7.9	21.8
DEMAND FACTOR	SEE DEMAND FACTOR TABLE					
TOTAL DEMAND LOAD	0.0	0.0	0.4	7.0	7.4	20.5
CONTINUOUS (DESIGN) FACTOR	1.25	1.00	1.00	1.00		
TOTAL DESIGN LOAD	0.0	0.0	0.4	7.0	7.4	20.5

Legibly identify each breaker or switch for it's use or purpose on the circuit directory in the panel/switchboard per 2008 NEC 408.4

THIS HAS BEEN PREVIOUSLY ISSUED IN A PRE-PURCHASE PACKAGE (FOR REFERENCE ONLY)

LUMINAIRE SCHEDULE

TYPE	DESCRIPTION
EX-R	DESCRIPTION: EXISTING LIGHT FIXTURE FROM OWNER STOCK. LENSED 2X4, 3-LAMPS. LAMP(S): 3 - F032/841/ECO BALLAST(S): EXISTING VOLTAGE: 120 INSTALLATION: RECESSED MANF: EXISTING TO BE RELOCATED ACCEPT. MFR:
A	DESCRIPTION: 2' X 2' K12.125 PATTERN ACRYLIC LENSED TROFFER, SPECIFICATION PREMIUM STATIC TROFFER, 20GA ROLLED EDGE DIE-FORMED STEEL HOUSING, HINGED AND LATCHED FROM EITHER SIDE, ENCLOSED SPRING LOADED CAM LATCH, WHITE FLUSH ALUMINUM DOOR WITH MITERED CORNERS, PAINT AFTER FABRICATION LAMP(S): 3 - F017/841/ECO BALLAST(S): PROGRAM START ELECTRONIC BALLAST, <10%THD VOLTAGE: 120 INSTALLATION: RECESSED LAY-IN GRID (OR DRYWALL CEILING INSTALL. REF. ARCH. PLANS TO COORDINATE TRIM) MANF: COLUMBIA #MPS22-317G-FAA12-2E120-EPU-PAF ACCEPT. MFR: METALUX WILLIAMS
B	DESCRIPTION: 6" FLUORESCENT DOWNLIGHT WITH VERTICAL LAMP, SELF FLANGED REFLECTOR, ANONDIZED LOW IRIDESCENT SEMI-SPECULAR REFLECTOR FINISH, 20GA STEEL HOUSING, 18GA SUPPORTING YOKE ASSEMBLY, JUNCTION BOX FOR THRU WIRING, WITH MINIMUM EFFICIENCY OF 55% AND MAX CANDELA/SQUARE METER IN 65-DEGREE CONE. LAMP(S): 1 - CFTR32W/GX24Q/841 BALLAST(S): PROGRAM START ELECTRONIC BALLAST, <10%THD VOLTAGE: 120 INSTALLATION: RECESSED LAY-IN GRID (OR DRYWALL CEILING INSTALL. REF. ARCH. PLANS TO COORDINATE TRIM) MANF: PRESCOLITE #CFT632EB-WMG2-STF602MFCWT-B24 ACCEPT. MFR: PORTFOLIO ZUMTOBEL
C	DESCRIPTION: 6" FLUORESCENT DOWNLIGHT WITH VERTICAL LAMP, SELF FLANGED REFLECTOR, ANONDIZED LOW IRIDESCENT SEMI-SPECULAR REFLECTOR FINISH, 20GA STEEL HOUSING, 18GA SUPPORTING YOKE ASSEMBLY, JUNCTION BOX FOR THRU WIRING, WITH MINIMUM EFFICIENCY OF 55% AND MAX CANDELA/SQUARE METER IN 65-DEGREE CONE. PROVIDE WITH DIFFUSE LENS. WET LISTED LAMP(S): 1 - CFTR26W/GX24Q/841 BALLAST(S): PROGRAM START ELECTRONIC BALLAST, <10%THD VOLTAGE: 120 INSTALLATION: DRYWALL CEILING INSTALL. REF. ARCH. PLANS TO COORDINATE TRIM MANF: PRESCOLITE #CFT632EB-WMG2-STF602MFCDL-B24 ACCEPT. MFR: PORTFOLIO ZUMTOBEL
D	DESCRIPTION: CAST ALUMINUM "IN-USE" SIGN, WHITE FACE, RED LETTERS, SINGLE FACE. LAMP(S): LED BALLAST(S): N/A VOLTAGE: 120 INSTALLATION: SURFACE MANF: DUAL-LITE #SESRW-SW3 WILLIAMS SURE-LITE
X1	DESCRIPTION: SINGLE FACE, RED LED EDGE-LIT EXIT SIGN, EXTRUDED ALUMINUM HOUSING, SATIN ALUMINUM FINISH LAMP(S): LED BALLAST(S): N/A VOLTAGE: 277 INSTALLATION: CEILING MOUNTED MANF: DUAL-LITE #LECSRXNA-W INFINITY LIGHTOLIER

LIGHT FIXTURE SCHEDULE NOTES:
1. FAILURE TO SUBMIT PROPER LAMP AND BALLAST INFORMATION WITH LIGHT FIXTURE SUBMITTAL WILL RESULT IN AN AUTOMATIC REJECTION OF SUBMITTAL.
2. CONFORMANCE TO A PARTICULAR LIGHT FIXTURE PACKAGE SHALL NOT BE THE SOLE REASON FOR SUBSTITUTIONS.
3. CONTRACTOR SHALL VERIFY ALL CEILING TYPES AND TRIM KITS PRIOR TO ORDERING FIXTURE PACKAGE.

DEMAND FACTOR TABLE

LOAD TYPES	FACTORS											NEC REFERENCE
LIGHTS	1.00											220.42
RECEPTACLES	0-10kVA	>10kVA										220.44
	1.00	0.50										
MOTORS	MAX	ALL OTHERS										220.50
	1.25	1.00										
HOSPITAL	0-50kVA	>50kVA										220.42 & 220.44
	0.40	0.20										
DIAGNOSTIC	1 PIECE OF EQUIPMENT		OVER 1 PIECE OF EQUIPMENT									517.73(2)
	1		1	2	3 or more							
	1.00		1	0.50	0.25	0.10						
ELEVATOR	1	2	3	4	5	6	7	8	9	10 or more		620.14
	1.00	0.95	0.9	0.85	0.82	0.79	0.77	0.75	0.73	0.72		
KITCHEN	1	2	3	4	5	6 or more						220.56
	1.00	1.00	0.90	0.80	0.70	0.65						
HEAT	1.00											220.51
MISCELLANEOUS	1.00											210.19
MISCELLANEOUS 2	1.00											

AURORA BUILDING INSPECTION
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CITY OF AURORA
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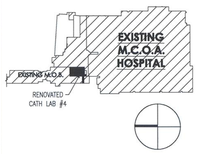
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KEY PLAN
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41486
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Title

ELECTRICAL SCHEDULES

Sheet

E-7001

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