

ELECTRICAL SYMBOLS

**LIGHTING FIXTURES**

- □ INCANDESCENT/METAL HALIDE
- ■ METAL HALIDE NIGHT LIGHT
- ○ ○ ○ WALL WASHER  
UNSHADOWED SIDE INDICATES DIRECTION OF AIM
- ○ ○ ○ INCANDESCENT/METAL HALIDE  
WALL MOUNTED
- FLUORESCENT
- FLUORESCENT EMERGENCY LIGHT
- FLUORESCENT WITH ASYMMETRICAL DISTRIBUTION  
LINE REPRESENTS LAMP AXIS
- BATTERY PACK WITH HEADS
- REMOTE EMERGENCY HEAD
- FLOODLIGHT
- ○ SPOTLIGHT, ARROW INDICATES DIRECTION OF AIM
- ○ ○ ○ ROADWAY/PARKING LOT STANDARD
- ○ ○ ○ POST TOP WALKWAY/PARKING LOT STANDARD
- BUILDING MOUNTED WALLPACK
- IN POOL, NET MOUNT LIGHT
- LIGHTING TRACK WITH FIXTURES
- DOCK LIGHT
- STEP/ANGLE LIGHT
- CEILING/PENDANT MOUNTED EXIT SIGN
- WALL MOUNTED EXIT SIGN
- SHADOW INDICATES ILLUMINATED FACE OF EXIT SIGN
- ARROW INDICATES EXIT SIGN DIRECTIONAL ARROW

SUBSCRIPTS: A10 = TYPE A, CIRCUIT 1, CONTROL ZONE B

**RECEPTACLES**

- DUPLEX RECEPTACLE
- SINGLE RECEPTACLE
- DOUBLE DUPLEX RECEPTACLE
- SPECIAL RECEPTACLE
- CLOCK RECEPTACLE/HANGER
- SWITCHED DUPLEX RECEPTACLE
- DUPLEX CEILING RECEPTACLE
- DUPLEX FLOOR RECEPTACLE
- SINGLE FLOOR RECEPTACLE
- DOUBLE DUPLEX FLOOR RECEPTACLE
- SPECIAL FLOOR RECEPTACLE
- DUPLEX RECEPTACLE/TELEPHONE OUTLET  
IN FLOOR BOX/SERVICE FITTING
- DUPLEX RECEPTACLE/DATA OUTLET  
IN FLOOR BOX/SERVICE FITTING
- DUPLEX RECEPTACLE/TELEPHONE/DATA OUTLET  
IN FLOOR BOX/SERVICE FITTING
- POKE-THROUGH WITH DUPLEX RECEPTACLE  
AND FOUR CATEGORY 5 COMMUNICATION JACKS

SUBSCRIPTS: A10 = TYPE A, CIRCUIT 1, CONTROL ZONE B

**GROUNDING/LIGHTNING PROTECTION**

- BURIED CONDUCTOR
- EXPOSED CONDUCTOR
- WELDED CONNECTION
- BOLTED CONNECTION
- GROUND ROD WITH WELDED CONNECTION
- AIR TERMINAL (LIGHTNING ROD)
- ▲ GROUNDING RECEPTACLE
- TELCOM GROUNDING BUS

**DISTRIBUTION EQUIPMENT**

- LIGHTING/RECEPTACLE PANEL (LP, RP)
- RELAY CABINET (RC)
- DISTRIBUTION PANEL/POWER PANEL (DP, PP)
- MOTOR STARTER PANEL (MSP)
- MOTOR CONTROL CENTER (MCC)
- SWITCHGEAR/UNIT SUBSTATION (SS, US)
- TRANSFORMER (TF)
- EQUIPMENT DESIGNATION LOGIC
- SEQUENCE LETTER
- LOCATION DESIGNATOR
- EQUIPMENT PREFIX

**DEPICTION OF EXISTING/NEW ELECTRICAL WORK**

- LIGHT/DOTTED SOLID LINE = EXISTING TO REMAIN
- HEAVY DASHED LINE = REMOVE OR RELOCATE EXISTING
- HEAVY SOLID LINE = NEW WORK

**SWITCHES AND CONTROLS**

- § Ab TOGGLE SWITCH, Ab = TYPE A, CONTROL ZONE B
- Ab DIMMER, Ab = TYPE A, CONTROL ZONE B
- Ab OCCUPANCY SENSOR/SWITCH, Ab = TYPE A, CONTROL ZONE B
- OCCUPANCY SENSOR, CEILING MOUNTED
- TIME CLOCK
- PUSHBUTTON/CONTROL STATION
- PHOTOELECTRIC CELL
- CONTACTOR
- MOTOR STARTER, 0 = STARTER SIZE
- COMBINATION MOTOR STARTER/DISCONNECT SWITCH  
30 = SWITCH AMPERE RATING  
(12) = FUSE AMPERE RATING  
0 = STARTER SIZE
- COMBINATION MOTOR STARTER/CIRCUIT PROTECTOR  
100 = FRAME SIZE  
(70) = TRIP RATING  
1 = STARTER SIZE
- FUSED DISCONNECT SWITCH  
30 = SWITCH AMPERE RATING  
(15) = FUSE AMPERE RATING
- NON-FUSED DISCONNECT SWITCH  
30 = SWITCH AMPERE RATING
- REMOTE CIRCUIT BREAKER  
30 = TRIP RATING

**EQUIPMENT**

- MECHANICAL EQUIPMENT
- GENERATOR
- MOTOR/GENERATOR SET
- DEVICE FURNISHED WITH EQUIPMENT
- CORD/PLUG FURNISHED WITH EQUIPMENT

**ONE-LINE DIAGRAMS**

- FUSE OUTPUT
- TRANSFORMER
- CURRENT TRANSFORMER
- POTENTIAL TRANSFORMER
- PANEL
- DISCONNECT SWITCH, 30 = AMPERE RATING  
FUSE, (20) = AMPERE RATING
- MOLDED CASE CIRCUIT BREAKER, 20 = TRIP RATING
- DRAWOUT CIRCUIT BREAKER, 30 = TRIP RATING
- KILOWATT HOUR UTILITY METER
- SHUNT TRIP
- GROUND FAULT RELAY
- GROUND FAULT PROTECTION
- TRANSIENT VOLTAGE SURGE SUPPRESSION UNIT
- AUTOMATIC TRANSFER SWITCH
- LIGHTNING ARRESTER
- VOLTMETER/AMMETER
- VOLTMETER SWITCH/AMMETER SWITCH
- PLUG-IN DISCONNECT SWITCH, FUSED  
30=SWITCH AMPERE RATING  
(20)=FUSE AMPERE RATING
- MOTOR STARTER, SINGLE SPEED  
0 = STARTER SIZE
- MOTOR STARTER, MULTIPLE SPEED  
0 = STARTER SIZE
- ALTERNATING MOTOR CONTROLLER
- KRM KEY INTERLOCK

**ACCESS CONTROL/INTRUSION DETECTION**

- CCTV CAMERA
- CARD READER
- ELECTROMAGNETIC LOCKING DEVICE
- DOOR CONTROLLER PANEL
- BREAK GLASS SENSOR
- PASSIVE INFRARED INTRUSION DETECTOR
- MAGNETIC DOOR CONTACT
- PUSH TO EXIT DEVICE
- MOTION DETECTOR
- KEYPAD
- TOUCH SENSE BAR
- DURESS BUTTON
- CCTV MONITOR
- CCTV MULTIPLEXER
- CCTV EVENT RECORDER

**TELEPHONE/DATA COMMUNICATIONS**

- TELEPHONE TERMINAL BOARD (TTB)
- TELEPHONE TERMINAL CABINET (TC)
- TELEPHONE WALL OUTLET, W = WALL, P = PUBLIC
- TELEPHONE FLOOR OUTLET/SERVICE FITTING
- DATA WALL OUTLET, D = DATA, F = FAX
- DATA FLOOR OUTLET/SERVICE FITTING
- TELEPHONE/DATA WALL OUTLET
- TELEPHONE/DATA FLOOR OUTLET/SERVICE FITTING

**EBL ALARM**

- FIRE ALARM PANEL (FACP, FAMP)
- FIRE ALARM BELL
- FIRE ALARM HORN/SPEAKER/SPEEN
- COMBINATION AUDIBLE/VISUAL ALARM
- FIRE ALARM VISUAL DEVICE, NORMAL OUTPUT
- FIRE ALARM VISUAL DEVICE, HIGH OUTPUT
- MANUAL PULLSTATION
- SMOKE DETECTOR
- AIR DUCT SMOKE DETECTOR
- RATE OF RISE HEAT DETECTOR
- FIXED TEMPERATURE HEAT DETECTOR
- SPRINKLER VALVE FLOW SWITCH
- SPRINKLER VALVE TAMPER SWITCH
- END OF LINE DEVICE
- DOOR HOLD/RELEASE DEVICE
- FIRE ALARM CEILING SPEAKER
- FIRE ALARM TELEPHONE JACK
- REMOTE ALARM LAMP
- POST INDICATOR VALVE

**MISCELLANEOUS SYSTEMS**

- EQUIPMENT RACK
- MICROPHONE OUTLET
- PUBLIC ADDRESS PUSHBUTTON
- VOLUME CONTROL AND CHANNEL SELECTOR
- CEILING MOUNTED SPEAKER
- WALL MOUNTED SPEAKER
- SOUND WASHING SPEAKER
- MASTER CLOCK (CM)
- SINGLE FACE CLOCK, A = ANALOG, D = DIGITAL
- SHUNT TRIP
- DOUBLE FACE CLOCK, A = ANALOG, D = DIGITAL
- PROGRAM CLOCK/INTERCOM
- PROGRAM BELL
- PROGRAM BUZZER
- BUZZER SWITCH
- DOOR BUZZER
- INTERCOM STATION
- EXT AIR ANTENNA
- TELEVISION OUTLET

**RACEWAYS AND WIRING**

- CONDUIT/CABLE EXPOSED
- CONDUIT/CABLE BELOW RANGED FLOOR
- CONDUIT/CABLE UNDERGROUND
- CONDUIT/CABLE BELOW FLOOR OR IN WALL
- CONDUIT/CABLE ABOVE CEILING OR IN WALL
- CONDUIT/CABLE TURNING UP
- CONDUIT/CABLE TURNING DOWN
- CONDUIT CAPPED
- NONRAMP, LP1 = PANEL DESTINATION, 2,4,6 = CIRCUITS
- WIRING, LONG SLASH = NEUTRAL (N)  
SHORT SLASH (LAMP SIDE OF N) = HOT  
SHORT SLASH (LINE SIDE OF N) = SWITCHED  
LONG SLASH WITH DOT = GROUND (G)  
LONG SLASH WITH DOT = ISOLATED GROUND (IG)  
#10 = WIRE SIZE  
1/2" = CONDUIT SIZE
- OUTLET BOX WITH BLANK COVER
- JUNCTION BOX
- JUNCTION BOX, FLOOR DUCT SYSTEM
- PULL BOX
- CABLE TRAY
- BUSWAY OR WIREWAY
- DUCTBANK
- MAN HOLE/HAND HOLE

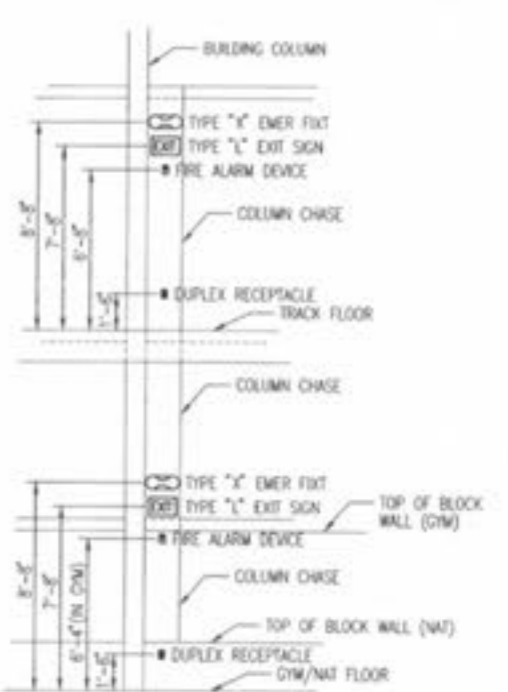
ELECTRICAL ABBREVIATIONS

- AC ABOVE COUNTER
- AF ABOVE FINISHED FLOOR
- AGF ABOVE FINISHED GRADE
- ANN ANNUNCIATOR
- ARCH ARCHITECTURAL
- AS ASYMMETRICAL
- ASYM ASYMMETRICAL
- ATS AUTOMATIC TRANSFER SWITCH
- AVR AUDIO/VISUAL
- BAT BATTERY
- BKR BREAKER
- BLDG BUILDING
- B.P.S. BOLTED PRESSURE SWITCH
- C CONDUIT
- CAB CABINET
- CB CIRCUIT BREAKER
- CBT CIRCUIT BREAKER
- CLG CEILING
- COMM COMMUNICATIONS
- CONSTR CONSTRUCTION
- CONT CONTINUATION
- CP CONTROL POWER TRANSFORMER
- CT CURRENT TRANSFORMER
- CT DELTA CONNECTED
- DD DISTRIBUTION
- DIS DISCONNECT SWITCH
- DWG DRAWING
- EL ELEVATION
- ELEC ELECTRICAL
- ELEV ELEVATOR
- EMER EMERGENCY
- EQUIP EQUIPMENT
- EW ELECTRIC WATER COOLER
- EXIST EXISTING
- FA FIRE ALARM
- FDR FEEDER
- FIXT FIXTURE
- FLR FLOOR
- FLUOR FLUORESCENT
- FD FIBER OPTIC
- G GROUND
- GEN GENERATOR
- GFI GROUND FAULT CIRCUIT INTERRUPTER
- H NOT (UNMOUNTED)
- HD HIGH INTENSITY DISCHARGE
- HTR HEATER
- HVAC HEATING, VENTILATION AND AIR CONDITIONING
- IG ISOLATED GROUND
- INCAN INCANDESCENT
- INCD INCANDESCENT
- JB JUNCTION BOX
- LC LIGHTING CONTACTOR
- LG LIGHTING
- MCR MAIN CIRCUIT BREAKER
- MCH MECHANICAL
- MFR MANUFACTURER
- MOUNT MOUNTING HEIGHT
- MLO MAIN LUGS ONLY
- MTO MOUNTED
- N NEUTRAL
- NC NORMALLY CLOSED
- NF NON FUSED
- NO NORMALLY OPEN
- OL OVERLOAD
- OH OVERHEAD
- PA PUBLIC ADDRESS
- PB PULL BOX
- PC PERSONAL COMPUTER
- PLAS PLASTIC
- PR PWR
- PT POTENTIAL TRANSFORMER
- PWR POWER
- QTY QUANTITY
- REQ RECEPTACLE
- REQD REQUIRED
- RM ROOM
- SECT SECURITY SECTION
- SN SOLID NEUTRAL
- SPEC SPECIFICATION
- ST SHUNT TRIP
- SRF SURFACE
- SW SWITCH
- SYM SYMMETRICAL
- STS SYSTEMS
- TB TELEPHONE BACKBOARD
- TEL TELEPHONE
- TELECOM TELECOMMUNICATIONS
- TYP TYPICAL
- UG UNDERGROUND
- UNLESS UNLESS OTHERWISE NOTED
- UPS UNINTERRUPTIBLE POWER SUPPLY
- VOLT VOLTAGE DROP
- VDR VARIABLE FREQUENCY DRIVE
- WP WEATHERPROOF
- WTR TRANSFORMER
- XPR EXPLOSION PROOF
- Y WYE CONNECTED

ELECTRICAL GENERAL NOTES

- ALL SYMBOLS, ABBREVIATIONS AND GENERAL NOTES SHOWN ARE NOT NECESSARILY USED ON THIS PROJECT.
- CONDUCTORS ARE #12, UNLESS OTHERWISE NOTED.
- CONDUITS ARE 1/2", UNLESS OTHERWISE NOTED.
- LIGHTING FIXTURES ARE TYPE "A", UNLESS OTHERWISE NOTED.
- SWITCHES ARE TYPE "A", UNLESS OTHERWISE NOTED.
- RECEPTACLES ARE TYPE "A", UNLESS OTHERWISE NOTED.
- FIRE ALARM AUDIBLE/VISUAL DEVICES ARE TYPE "A" UNLESS OTHERWISE NOTED.
- LIGHTING CONTROL ZONE DESIGNATIONS INDICATE WHICH DEVICES CONTROL WHICH GROUPS OF FIXTURES. WHERE LOCAL SWITCHES AND DIMMERS ARE SHOWN, OR WHERE NO CONTROL ZONE DESIGNATION IS INDICATED, LOCAL CONTROL DEVICES SHALL ONLY CONTROL FIXTURES IN THEIR RESPECTIVE ROOM OR AREA.
- SIZE OUTLET AND JUNCTION BOXES PER NEC ARTICLE 370, UNLESS OTHERWISE NOTED.
- FOR EXACT LOCATIONS OF RECESSED LIGHTING FIXTURES, SEE ARCHITECTURAL REFLECTED CEILING PLANS. COORDINATE INSTALLATION OF LIGHTING FIXTURES WITH LOCATION OF EQUIPMENT, PIPING AND DUCTWORK.
- FOR WIRE SIZES, CONDUIT SIZES, AND DEVICE RATINGS NOT SHOWN ON POWER PLANS, SEE ONE-LINE DIAGRAM.
- BALANCE LOADS ON ALL PANELBOARDS AND SWITCHBOARDS SO VARIATION IN AMPERES PER PHASE, DOES NOT EXCEED 5 PERCENT UNDER NORMAL OPERATING CONDITIONS.
- MOUNTING HEIGHTS FOR CEILING MOUNTED FIXTURES OR DEVICES ARE TO BOTTOM OF FIXTURES OR DEVICES, UNLESS OTHERWISE NOTED.
- MOUNTING HEIGHTS FOR WALL MOUNTED FIXTURES OR DEVICES ARE TO CENTER LINE OF OUTLET BOXES, UNLESS OTHERWISE NOTED.
- MOUNTING HEIGHTS ABOVE FINISHED FLOOR ARE AS FOLLOWS, UNLESS OTHERWISE NOTED:

TYPE "A" LIGHTING FIXTURES ----- 8'-0" MAXIMUM  
WALL AND END MOUNTED EXIT SIGNS ----- 7'-8"  
TYPE "M, X AND Y" EMERGENCY FIXTURES ----- 8'-0"  
TYPE "AD" LIGHTING FIXTURES ----- EL 112'-0"  
LIGHTING SWITCHES ----- 4'-0"  
GENERAL PURPOSE RECEPTACLES ----- 1'-8"  
ABOVE COUNTER RECEPTACLES (AC) AND OUTLETS ----- 8"  
TELEPHONE OUTLETS ----- 1'-0"  
DATA OUTLETS ----- 1'-0"  
WALL AND PUBLIC TELEPHONE OUTLETS ----- 4'-0"  
FIRE ALARM PULL STATIONS ----- 4'-0"  
FIRE ALARM VISUAL INDICATORS ----- 6'-8"  
COMBINATION AUDIBLE/VISUAL ALARMS ----- 6'-8"



NOTE: SEE DETAIL RD, DRAWING A303, FOR MORE REQUIREMENTS

TYPICAL MOUNTING HEIGHTS @ COLUMN CHASES  
AS GYMNASIUM/NATATORIUM/TRACK  
E001 SCALE: 1/4"=1'-0"



20 North Broadway, Des Moines, Iowa 50319

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**RENAUD SPIRIT CENTER**  
For the City of O'Fallon - Missouri



Key Plan

Scale

Jacobs Project No: F040000

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