DESIGNATION SYMBOLS

A	COLUMN LINE
150NG	FEEDER DESIGNATION TAG
1	KEY NOTE TAG
A / E1	DETAIL REFERENCE BUBBLE DETAIL NUMBER SHEET BEARING DETAIL
EF 1	EQUIPMENT TAG
	FIXTURE DESIGNATION LUMINAIRE TYPE CIRCUIT NUMBER, SWITCH LEG (WHERE SHOWN). PANEL NAME
22	CIRCUIT NUMBER (WHERE SHOWN)
	NEW WORK
	EXISTING WORK TO REMAIN
	EXISTING WORK TO BE REMOVED

CONDUIT SYMBOLS

	CONDUIT INSTALLED CONCEALED ABOVE CEILINGS, IN WALLS IN FINISHED AREAS, OR EXPOSED IN UNFINISHED AREAS
	CONDUIT INSTALLED BELOW FINISHED FLOOR OR BELOW GRADE
	CONDUIT TURNING UP
	CONDUIT TURNING DOWN
	CONDUIT STUBBED OUT WITH BUSHING
	CONDUIT STUBBED OUT AND CAPPED
	FLEXIBLE CONDUIT WITH SINGLE POINT OF CONNECTION AT ELECTRICAL EQUIPMENT
	GROUNDING CONDUCTOR
	CONDUIT HOMERUN; ROUTE TO PANELBOARD, CABINET, OR TERMINAL BOARD INDICATED, AND TERMINATE CONDUCTORS TO CIRCUIT OVER CURRENT PROTECTIVE DEVICE

POWER SYMBOLS

M	MOTOR OUTLET
	FUSED DISCONNECT SWITCH SWITCH XX/XX/XX = AMP SWITCH/POLES/AMP FUSE
	HEAVY DUTY NON-FUSED DISCONNECT SWITCH SWITCH XX/XX = AMP SWITCH/POLES
	MOTOR STARTER
	COMBINATION MOTOR STARTER
S_T	MANUAL MOTOR STARTER WITH THERMAL OVERLOAD
VFD	VARIABLE FREQUENCY DRIVE
ATS	AUTOMATIC TRANSFER SWITCH
	AUTOMATIC TRANSFER SWITCH
	AUTOMATIC TRANSFER SWITCH WITH BY-PASS SWITCH
T1 45KVA	TRANSFORMER
T	TRANSFORMER
	TRANSFORMER
G	GENERATOR
	STATIONARY CIRCUIT BREAKER; RATING AS SHOWN ON PLANS
	DRAWOUT CIRCUIT BREAKER; RATING AS SHOWN ON PLANS
	SWITCH AND FUSE; RATING AS SHOWN ON PLANS
	SWITCH AND FUSE; RATING AS SHOWN ON PLANS
	NORMALLY OPEN CONTACT
	NORMALLY CLOSED CONTACT
	GROUND ROD IN GROUND WELL
J	JUNCTION BOX
	PUSH BUTTON STATION
PC	PHOTOCELL
TC	TIME CLOCK
CP	CONTROL PANEL FURNISHED WITH EQUIPMENT
LC	LIGHTING CONTACTOR
	208V/120V SURFACE MOUNTED PANELBOARD OR TERMINAL CABINET
	208V/120V FLUSH MOUNTED PANELBOARD OR TERMINAL CABINET
	480V/277V SURFACE MOUNTED PANELBOARD OR TERMINAL CABINET
	480V/277V FLUSH MOUNTED PANELBOARD OR TERMINAL CABINET
E	ELAPSE CLOCK
A	AUTO SINK TOILET OUTLET
A	WALL MOUNTED AUTO SINK TOILET OUTLET

ELECTRICAL GENERAL NOTES

A. ALL ELECTRICAL WORK SHALL COMPY WITH THE CURRENT APPROVED EDITION OF THE NATIONAL ELECTRICAL CODE, AS ACCEPTED AND AMENDED BY LOCAL ORDINANCES.

B. WHERE GROUNDED CONDUCTORS OF DIFFERENT SYSTEMS ARE INSTALLED IN THE SAME RACEWAY, CABLE, BOX, AUXILIARY GUTTER, OR OTHER TYPE OF ENCLOSURE, EACH GROUNDED CONDUCTOR SHALL BE IDENTIFIED BY SYSTEM PER NEC ARTICLE 200.6 (D). MEANS OF IDENTIFICATION SHALL BE PERMANENTLY POSTED AT EACH BRANCH CIRCUIT PANELBOARD.

C. PER NEC ART 210.5 (C), UNGROUNDED CONDUCTORS OF MORE THAN ONE NOMINAL VOLTAGE SYSTEM SHALL BE IDENTIFIED BY SYSTEM. PROVIDE MEANS OF IDENTIFICATION AS REQUIRED PER THIS ARTICLE.

D. PER NEC ART 215.12, FEEDER IDENTIFICAITON IS REQUIRED WHEN MORE THAN ONE NOMINAL VOLTAGE SYSTEM EXISTS. PROVIDE MEANS OF IDENTIFICATION AS REQUIRED PER THIS ARTICLE.

E. CONTRACTOR SHALL VERIFY FINAL PLACEMENT AND CONNECTION REQUIREMENTS PRIOR TO ROUGHING IN EQUIPMENT UTILITIES.

F. FINAL ACCEPTANCE OF WORK IN PLACE SHALL BE SUBJECT TO APPROVAL BY OWNER'S REPRESENTATIVE. INSTALLATION APPROVAL SHALL BE BASED ON APPROVED SUBMITTAL, SHOP DRAWINGS AND LOCAL INSPECTIONS.

G. CONTRACTOR SHALL SUBMIT RED-LINE RECORD DRAWINGS WITHIN TWO (2) WORK WEEKS OF DATE OF NOTIFICATION OF FINAL APPROVAL.

H. ALL WORK SHOWN ON DRAWINGS IS IN PART SCHEMATIC, INTENDED TO CONVEY SCOPE OF WORK AND GENERAL LAYOUT. VERIFY ALL EXISTING CONDITIONS AND MAKE ADJUSTMENTS AS REQUIRED. ELECTRICAL DRAWINGS ARE LARGELY DIAGRAMMATIC AND, THEREFORE, REPRESENT INSTALLATION INTENT AND GUIDELINES; IT IS THE CONTRACTOR'S RESPONSIBILITY TO COVER ALL CONDITIONS ON HIS PREPARED SHOP DRAWINGS.

I. CONTRACTOR SHALL PROVIDE UP-TO-DATE, ACCURATE, AND LEGIBLE CIRCUIT DIRECTORY WHICH APPLIES TO PANELBOARDS AND SWITCHBOARDS AS REQUIRED BY NEC ART. 408.4 DIRECTORY SHALL BE LOCATED ON THE FACE OR ON THE DOOR OF EACH PANELBOARD OR AT EACH SWITCH ON A SWITCHBOARD. WITHIN EACH PANELBOARD PRIOR TO FINAL ACCEPTANCE OF WORK IN PLACE.

J. LABEL ALL WIRING DEVICES WITH SOURCE PANELBOARD AND CIRCUIT NUMBER ON COVER PLATE. SEE SPECIFICATIONS.

K. LABEL ALL NEW PANELBOARDS, SWITCHBOARDS AND MOTOR CONTROL CENTERS WITH ENGRAVED LAMINATED-PLASTIC NAMEPLATES MOUNTED WITH CORROSION-RESISTANT SCREWS. SEE SPECIFICATIONS.

L. ALL INTERIOR OUTLET, JUNCTION AND PULL BOXES SHALL BE METALIC, SIZED PER CODE FOR THE NUMBER OF CONDUCTORS THEREIN.

M. ALL ELECTRICAL RACEWAYS SHALL BE CONCEALED IN THE WALLS AND ABOVE SUSPENDED CEILING UNLESS OTHERWISE NOTED.

N. ALL CONDUCTORS SHALL BE #12 AWG MINIMUM TYPE THHN/THWN UNLESS OTHERWISE NOTED.

O. ALL CEILING MOUNTED ELECTRICAL DEVICES SHALL BE SUPPORTED FROM THE CEILING GRID, NOT FROM CEILING TILE. LIGHTING SHALL BE SUPPORTED FROM STRUCTURE ABOVE.

P. ELECTRICAL PLANS ARE MOSTLY DIAGRAMMATIC. CONTRACTOR SHALL PROVIDE CONNECTIONS BETWEEN FIXTURES AND LIGHTING CONTROL DEVICES SUCH AS OCCUPANCY SENSORS, LIGHT SWITCHES, AND LIGHTING CONTROL PANEL TO PROVIDE AN OPERABLE LIGHTING SYSTEM.

Q. IN THE EVENT OF ANY INCONSISTENCY BETWEEN ITEMS INDICATED ON THE PLANS AND/OR THE SPECIFICATIONS, THE ONE WHICH PROVIDED THE MOST COMPLETE WORK OR HIGHER STANDARD SHALL PREVAIL.

R. SUPPLY AND INSTALL ALL REQUIRED SUPPORTS AND BRACING OF EQUIPMENT AND CONDUITS FOR PROPER EQUIPMENT INSTALLATIONS AND CODE COMPLIANCE.

S. ALL EXPOSED CONDUITS SHALL BE INSTALLED AT RIGHT ANGLE TO ROOM OR STRUCTURE. EXPOSED CONDUITS SHALL BE SUPPORTED FROM BUILDING STRUCTURE USING APPROVED PIPE HANGERS.

T. ALL CONDUITS SHALL BE SIZED AS PER NEC UNLESS LARGER SIZES ARE NOTED ON THE DRAWINGS.

U. ALL CUTTING, PATCHING A PAINTING REQUIRED FOR THE CONCEALED INSTALLATION OF CONDUITS SHALL BE PROVIDED BY THE CONTRACTOR. DO NOT CUT OR DRILL STRUCTURAL MEMBERS WITHOUT WRITTEN APPROVAL FROM STRUCTURAL ENGINEER. ALL CUTTING AND PATCHING SHALL BE NEAT, AND PATCHING SHALL MATCH ADJACENT SURFACE AS TO TEXTURE AND FINISH.

V. ALL PENETRATIONS THROUGH FIRE RATED WALLS, FLOORS OR CEILINGS SHALL BE SEALED IN ACCORDANCE WITH A UL APPROVED SYSTEM THAT MAINTAINS THE INTEGRITY OF THE EXISTING FIRE RATING. PROVIDE AN ENCLOSURE OF EQUAL FIRE RESISTANT RATING AROUND ALL FIXTURES AND EQUIPMENT INSTALLED IN OR PENETRATING FIRE RATED SEPARATIONS.

W. ALL DATA CABLING TO BE PROVIDED BY THE OWNER'S IT VENDOR. COORDINATE ROUGH-IN WORK WITH OWNER'S IT VENDOR.

ABBREVIATIONS

A, AMP	AMPERE	GFCI	GROUND FAULT CIRCUIT INTERRUPTING
AC	ALTERNATING CURRENT	G, GND	GROUND
ACT	ABOVE COUNTER TOP	GEN	GENERATOR
AIC	AMPERE INTERRUPTING CAPACITY	IG	ISOLATED GROUND.
AFF	ABOVE FINISHED FLOOR	HID	HIGH INTENSITY DISCHARGE
AFG	ABOVE FINISHED GRADE	HOA	HAND – OFF – AUTO
ATS	AUTOMATIC TRANSFER SWITCH	HP	HORSEPOWER
AF	FRAME RATING IN AMPERES	HPF	HIGH POWER FACTOR
AS	SWITCH RATING IN AMPERES	LED	LIGHT EMITTING DIODE
AT	TRIP RATING IN AMPERES	LS	LIFE SAFETY BRANCH
AWG	AMERICAN WIRE GAUGE	LLF	LIGHT LOSS FACTOR
AV	AUDIO VISUAL	LRC	LIGHTING RELAY CABINET
C	CONDUIT	MECH	MECHANICAL
CFOI	CONTRACTOR FURNISHED OWNER INSTALLED	MCB	MAIN CIRCUIT BREAKER
CL	CENTERLINE	MLO	MAIN LUGS ONLY
CEC	CALIFORNIA ELECTRIC CODE	MCA	MINIMUM CIRCUIT AMPS
CKT	CIRCUIT	MOCP	MAXIMUM OVER CURRENT PROTECTION
CLG	CEILING	(N)	NEW
CR	CRITICAL BRANCH	N	NEUTRAL
CFL	COMPACT FLUORESCENT	NC	NORMALLY CLOSED
CL	CONNECTED LOAD	NEC	NATIONAL ELECTRIC CODE
CCT	CORRELATED COLOR TEMPERATURE	NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
CRI	COLOR RENDERING INDEX	NL	NIGHT LIGHT
(D)	DEMOLISH EXISTING	NO	NORMALLY OPEN
DF	DEMAND FACTOR	NTS	NOT TO SCALE
DL	DESIGN LOAD	OFCI	OWNER FURNISHED CONTRACTOR INSTALLED
DC	DIRECT CURRENT	OC	OVER CURRENT
DPDT	DOUBLE POLE, DOUBLE THROW	PB	PULL BOX
DPST	DOUBLE POLE SINGLE THROW	ø, PH	PHASE
DIST	DISTRIBUTION	PNL	PANEL
EQ	EQUIPMENT BRANCH	PVC	POLYVINYL CHLORIDE CONDUIT
(E)	EXISTING TO REMAIN	PTS	PNEUMATIC TUBE STATION
(ER)	REMOVE EXISTING.	P	POLE
(EL)	RELOCATE EXISTING.	PWR	POWER
EC	EMPTY CONDUIT	(R)	RELOCATE EXISTING
ELEC	ELECTRICAL	RCP	REFLECTED CEILING PLAN
ELEV	ELEVATOR	RSC	RIGID STEEL CONDUIT
E, EMER	EMERGENCY	SPDT	SINGLE POLE, DOUBLE THROW
EMT	ELECTRO METALLIC TUBING	SPST	SINGLE POLE, SINGLE THROW
EWC	ELECTRIC WATER COOLER	SWBD	SWITCHBOARD
EWH	ELECTRIC WATER HEATER	SWGR	SWITCH GEAR
EMS	EMERGENCY MANAGEMENT SYSTEM	SYS	SYSTEM
FA	FIRE ALARM	TP	TAMPER RESISTANT
FAAP	FIRE ALARM ANNUNCIATOR PANEL	TB, TTB	TERMINAL BACKBOARD
FACP	FIRE ALARM CONTROL PANEL	TC	TERMINAL CABINET
FATC	FIRE ALARM TERMINAL CABINET	TEL	TELEPHONE
FARA	FIRE ALARM REMOTE ANNUNCIATOR	TP	TAMPER PROOF
FCIP	FIRE ALARM CONTROL & INDICATING PANEL	TV	TELEVISION
FPRP	FIRE ALARM PUMP STATUS PANEL	V	VOLT
VCS	FIRE ALARM VOICE COMMUNICATION PANEL	VD	VOLTAGE DROP
FSD	FIRE SMOKE DAMPER	VFD	VARIABLE FREQUENCY DRIVE
FVNR	FULL-VOLTAGE, NON-REVERSING	VA	VOLT AMPERES
FVR	FULL-VOLTAGE, REVERSING	W	WATT
FLA	FULL LOAD AMPS (NAME PLATE)	W	WIRE
FLC	FULL LOAD CURRENT (NEC)	WP	WEATHERPROOF
(F)	FUTURE	XFMR	TRANSFORMER
		XP	EXPLOSION PROOF

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EXPIRES: 12/31/22
REGISTERED PROFESSIONAL ENGINEER
70,860
OREGON
JULY 11, 2008
ADAM E. RITENOUR

REVISIONS

NO.	DATE	DESCRIPTION
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ARCHITECTS PROJECT #

CLIENT PROJECT #

CLIENT ACCOUNT #

PROJECT TITLE

CLACKAMAS COMMUNITY COLLEGE
WILSONVILLE TRAINING CENTER
RTU-6 REPLACEMENT

SHEET TITLE

ELECTRICAL LEGEND, ABBREVIATIONS AND GENERAL NOTES

SCALE	DATE
NONE	08-29-2022

SHEET NO.

E0.0

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