CSU FACILITIES PLANNING, DESIGN AND CONSTRUCTION STANDARDS

ADDITIONAL DOCUMENTS

ABBRIDGEATIONS

<table>
<thead>
<tr>
<th>A</th>
<th>Air/Ampere/Architectural</th>
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<tbody>
<tr>
<td>AC</td>
<td>Air Conditioning (also: A/C)</td>
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**ADDITIONAL DOCUMENTS**

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### ADDITIONAL DOCUMENTS

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<tr>
<td>FLR</td>
<td>Floor (also: FL)</td>
</tr>
<tr>
<td>FLRDR</td>
<td>Floor Drain</td>
</tr>
<tr>
<td>FM</td>
<td>Facilities Management/Factory Manual/Filled Metal</td>
</tr>
<tr>
<td>FMC</td>
<td>Flexible Metal Conduit</td>
</tr>
<tr>
<td>FND</td>
<td>Foundation</td>
</tr>
<tr>
<td>FO</td>
<td>Face Of</td>
</tr>
<tr>
<td>FP</td>
<td>Fire Protection</td>
</tr>
<tr>
<td>FPHE</td>
<td>Flat Plate Heat Exchanger</td>
</tr>
<tr>
<td>FPM</td>
<td>Feet per Minute</td>
</tr>
<tr>
<td>FPS</td>
<td>Feet per Second</td>
</tr>
<tr>
<td>FPWH</td>
<td>Freeze Proof Wall Hydrant</td>
</tr>
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</table>
## ADDITIONAL DOCUMENTS – ABBREVIATIONS

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>FR</td>
<td>Flame Retardant</td>
</tr>
<tr>
<td>FRP</td>
<td>Fiberglass Reinforced Plastic</td>
</tr>
<tr>
<td>FS</td>
<td>Flow Switch/Food Service</td>
</tr>
<tr>
<td>FT/ft</td>
<td>Feet/Foot (also: ' )</td>
</tr>
<tr>
<td>FTG</td>
<td>Footing</td>
</tr>
<tr>
<td>FTR</td>
<td>Fin Tube Radiation</td>
</tr>
<tr>
<td>FV</td>
<td>Flush Valve</td>
</tr>
<tr>
<td>G</td>
<td>Gas/General/Ground</td>
</tr>
<tr>
<td>GA</td>
<td>Gauge</td>
</tr>
<tr>
<td>GAL</td>
<td>Gallon(s)</td>
</tr>
<tr>
<td>GALV</td>
<td>Galvanized</td>
</tr>
<tr>
<td>GB</td>
<td>Grade Beam</td>
</tr>
<tr>
<td>GCC</td>
<td>General Conditions of Contract</td>
</tr>
<tr>
<td>GCO</td>
<td>Ground Clean Out</td>
</tr>
<tr>
<td>GE</td>
<td>General Electric</td>
</tr>
<tr>
<td>GFCI</td>
<td>Ground Fault Circuit Interrupter (also: GFI)</td>
</tr>
<tr>
<td>GFI</td>
<td>General Fault Indicator/Ground Fault Circuit Interrupter (also: GFCI)</td>
</tr>
<tr>
<td>GFU</td>
<td>Glycol Feed Unit</td>
</tr>
<tr>
<td>GI</td>
<td>Grease Interceptor</td>
</tr>
<tr>
<td>GIS</td>
<td>Geographic Information System</td>
</tr>
<tr>
<td>GND</td>
<td>Ground</td>
</tr>
<tr>
<td>GP</td>
<td>Gusset Plate</td>
</tr>
<tr>
<td>GPF</td>
<td>Gallons per Flush</td>
</tr>
<tr>
<td>GPH</td>
<td>Gallons per Hour</td>
</tr>
<tr>
<td>GPM</td>
<td>Gallons per Minute</td>
</tr>
<tr>
<td>GR</td>
<td>Grade</td>
</tr>
<tr>
<td>GRMC</td>
<td>Galvanized Rigid Metal Conduit</td>
</tr>
<tr>
<td>GSF</td>
<td>Gross Square Feet</td>
</tr>
<tr>
<td>GWB</td>
<td>Gypsum Wall Board</td>
</tr>
<tr>
<td>HB</td>
<td>Hose Bib (Connection)</td>
</tr>
<tr>
<td>HBB</td>
<td>Historic Building Review Board</td>
</tr>
<tr>
<td>HC</td>
<td>Handicapped/Hollow Core</td>
</tr>
<tr>
<td>HD</td>
<td>Head</td>
</tr>
<tr>
<td>HDS</td>
<td>Housing and Dining Services/Facilities</td>
</tr>
<tr>
<td>HEF</td>
<td>Horizontal Each Face</td>
</tr>
<tr>
<td>HHS</td>
<td>Health and Human Services</td>
</tr>
<tr>
<td>HI</td>
<td>High</td>
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<td>HIF</td>
<td>Horizontal Inside Face</td>
</tr>
<tr>
<td>HM</td>
<td>Hollow Metal</td>
</tr>
<tr>
<td>HOA</td>
<td>Hand-Off-Automatic Switch</td>
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<tr>
<td>HOF</td>
<td>Horizontal Outside Face</td>
</tr>
<tr>
<td>HOR</td>
<td>Horizontal</td>
</tr>
<tr>
<td>HP/hp</td>
<td>High Point/Horsepower</td>
</tr>
<tr>
<td>HR/hr</td>
<td>Hour</td>
</tr>
<tr>
<td>HRU</td>
<td>Heat Recovery Unit</td>
</tr>
<tr>
<td>HS</td>
<td>High Strength</td>
</tr>
<tr>
<td>HT</td>
<td>Height</td>
</tr>
<tr>
<td>HTG</td>
<td>Height</td>
</tr>
<tr>
<td>HT</td>
<td>Height</td>
</tr>
</tbody>
</table>
HVAC ......................................... Heating, Ventilation, Air Conditioning
HW ............................................ Hot Water
HWP ........................................... Hot Water Pump
HWR ........................................... Hot Water Return
HWS ........................................... Hot Water Supply
HZ ............................................... Hertz (Cycles per Second)

IA ................................................ Irrigation Association
IAPMO ........................................ International Association of Plumbing & Mechanical Officials
IBC ............................................. International Building Code
ICBO .......................................... International Conference of Building Officials
ICC ............................................. International Code Council
ID ................................................ Inside Diameter
IDC ............................................. Indicating Device Circuits
IDF .............................................. Intermediate Distribution Frame
IECC ........................................... International Energy Conservation Code
IEEE ........................................... Institute of Electrical & Electronic Engineers
IES .............................................. Illuminating Engineering Society
IFC ............................................. International Fire Code
IG ................................................ Isolated Ground
IGBT ........................................... Insulated Gate Bipolar Transistor
ILO .............................................. In Lieu Of
IMC ............................................. Intermediate Metal Conduit
IN/in .......................................... Inch (also: ”)
INSUL ......................................... Insulated or Insulation
INT .............................................. Interior/Interlock
INV ............................................. Invert
I&O&M ......................................... Installation, Operation, and Maintenance Manuals
IPC ............................................. International Plumbing Code
IPVCC ........................................ Inclusive Physical and Virtual Campus Committee
IRGBW ....................................... Impact Resistant Gypsum Wall Board
ISO ............................................. International Organization for Standardization
IW .............................................. Indirect Waste

J

J-BOX ......................................... Junction Box.
JCI .............................................. Johnson Control, Inc.
JST .............................................. Joist
JT ............................................... Joint

K

K .................................................. Kip (1000 Pounds)
KCMIL ......................................... Thousand Circular Mils
KVA ............................................ Kilovolt-Amperes
KVAR .......................................... Kilovolt-Amperes Reactive
kW ............................................. Kilowatt
kWh ............................................ Kilowatt Hour
<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
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<tbody>
<tr>
<td>LACS</td>
<td>Laboratory Air Control Systems</td>
</tr>
<tr>
<td>LAT</td>
<td>Leaving Air Temperature</td>
</tr>
<tr>
<td>LB</td>
<td>Pound</td>
</tr>
<tr>
<td>LCD</td>
<td>Liquid Crystal Display</td>
</tr>
<tr>
<td>LD</td>
<td>Linear Diffuser</td>
</tr>
<tr>
<td>LED</td>
<td>Light Emitting Diode</td>
</tr>
<tr>
<td>LEED</td>
<td>Leadership in Energy and Environmental Design</td>
</tr>
<tr>
<td>LF/lf</td>
<td>Linear Foot</td>
</tr>
<tr>
<td>LFMC</td>
<td>Liquid Tight Flexible Metal Conduit</td>
</tr>
<tr>
<td>LIN</td>
<td>Linear</td>
</tr>
<tr>
<td>LLV</td>
<td>Long Leg Vertical</td>
</tr>
<tr>
<td>LO</td>
<td>Low</td>
</tr>
<tr>
<td>LP</td>
<td>Low Point</td>
</tr>
<tr>
<td>LPG</td>
<td>Liquid Petroleum Gas</td>
</tr>
<tr>
<td>LPS</td>
<td>Low Pressure Steam</td>
</tr>
<tr>
<td>LRA</td>
<td>Locked Rotor Amps</td>
</tr>
<tr>
<td>LRFD</td>
<td>Load and Resistance Factor Design</td>
</tr>
<tr>
<td>LTG</td>
<td>Lighting</td>
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<tr>
<td>LUVR</td>
<td>Louver (also: LVR)</td>
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<tr>
<td>LVDR</td>
<td>Louvered Door</td>
</tr>
<tr>
<td>LVG</td>
<td>Leaving</td>
</tr>
<tr>
<td>LVT</td>
<td>Luxury Vinyl Tile</td>
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<tr>
<td>LVR</td>
<td>Louver (also: LUVR)</td>
</tr>
<tr>
<td>LW</td>
<td>Light Weight</td>
</tr>
<tr>
<td>LWC</td>
<td>Light Weight Concrete</td>
</tr>
<tr>
<td>LWT</td>
<td>Leaving Water Temperature</td>
</tr>
<tr>
<td>MECH</td>
<td>Mechanical (also: M)</td>
</tr>
<tr>
<td>MAS</td>
<td>Masonry</td>
</tr>
<tr>
<td>MAX</td>
<td>Maximum</td>
</tr>
<tr>
<td>MBH</td>
<td>1000 BTUH</td>
</tr>
<tr>
<td>MBtu</td>
<td>Thousand British Thermal Units</td>
</tr>
<tr>
<td>MC</td>
<td>Metal Clad Cable</td>
</tr>
<tr>
<td>MCA</td>
<td>Minimum Circuit Amps</td>
</tr>
<tr>
<td>MCB</td>
<td>Main Circuit Breaker</td>
</tr>
<tr>
<td>MCC</td>
<td>Motor Control Center</td>
</tr>
<tr>
<td>MCP</td>
<td>Motor Circuit Protection</td>
</tr>
<tr>
<td>MD</td>
<td>Motorized Damper</td>
</tr>
<tr>
<td>MDF</td>
<td>Main Distribution Frame</td>
</tr>
<tr>
<td>MDP</td>
<td>Medium Density Industrial Particle Board</td>
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<tr>
<td>MECH</td>
<td>Mechanical (also: M)</td>
</tr>
<tr>
<td>MEMBR</td>
<td>Membrane</td>
</tr>
<tr>
<td>MI</td>
<td>Mineral Insulated</td>
</tr>
<tr>
<td>mils</td>
<td>One Thousands of an Inch</td>
</tr>
<tr>
<td>MIN</td>
<td>Minimum</td>
</tr>
<tr>
<td>MLO</td>
<td>Main Lugs Only</td>
</tr>
<tr>
<td>MO</td>
<td>Masonry Opening</td>
</tr>
<tr>
<td>MP</td>
<td>Mapping</td>
</tr>
<tr>
<td>MPC</td>
<td>Master Plan Committee</td>
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</tbody>
</table>
MRGWB ............................... Moisture-Resistant Gypsum Wall Board
MRL ....................................... Machine Room–Less
MS .......................................... Microsoft
MSB ......................................... Mop Service Basin
MSDS ..................................... Material Safety Data Sheet
MTL .......................................... Metal
MU ............................................. Make-Up Water
MUA .......................................... Make-Up Air
MUTCD ..................................... Manual on Uniform Traffic Control Devices
MW ............................................. Megawatt

N

NAC ......................................... Notification Appliance Circuits
NANSR ..................................... Non-Attainment New Source Review
NASF ...................................... Net Assignable Square Feet
NC ............................................ Noise Criteria/Normally Closed
NCMA ...................................... National Concrete Masonry Association
NCR .......................................... Nonconformance Report
NCS .......................................... National CAD Standard
NEBB ....................................... National Environmental Balancing Bureau
NEC .......................................... National Electrical Code
NEII ......................................... National Electrical Illumination Institute
NEMA ....................................... National Electrical Manufacturers Association
NF ............................................. Near Face
NFPA ....................................... National Fire Protection Association
NIC ........................................... Not in Contract
NICET ....................................... National Institute for Certification in Engineering Technologies
NIH ........................................... National Institute of Health
NIST ......................................... National Institute of Standards and Technology
NL ............................................. Night Light
NM ............................................. Non-Metallic
NM-C ......................................... Non-Metallic Cable
NO ............................................. Normally Open/Number
NOM ......................................... Nominal
NRMCA ..................................... National Ready Mixed Concrete Association
NSF ........................................... National Sanitation Foundation
NTP ........................................... Notice to Proceed
NWC ......................................... Normal Weight Concrete

O

O&M .......................................... Operations & Maintenance Manual
OA ............................................. Outside Air
OAC .......................................... Owner, Architect and Contractor
OAI ........................................... Outside Air Intake
OC/oc ......................................... On Center
OD ............................................. Outside Diameter
ODP .......................................... Open Drip Proof
OED .......................................... Open End Drain
OH ............................................. Opposite Hand(also: OPP)/Overhang
OOS .......................................... Out of Service
OPNG ....................................... Opening
OPP .......................................... Opposite/Opposite Hand
OPS ........................................... Division of Oil and Public Safety
ORP ........................................ Oxidation-Reduction Potential
OS&Y ....................................... Outside Stem and Yoke
OSA ........................................ Office of the State Architect
OSHA ....................................... Occupational Safety & Health Administration
OV ............................................ Outlet Velocity
OZ ............................................ Ounce

P

P ................................................. Plumbing (also: PLBG, PLUMB)/Pole
PB ............................................... Panic Button/Pull Box/Push Button
PC .............................................. Pile Cap
PC .............................................. Personal Computer
PCA ........................................... Portland Cement Association
PCC ............................................ Pre-Cast Concrete
PCF ........................................... Pounds per Cubic Foot
PD ............................................... Pressure Drop
PDC ............................................ Physical Development Committee
PDF ............................................ Portable Document Format
PE ............................................. Polyethylene
PE ............................................. Professional Engineer
PFA ........................................... Poudre Fire Authority
PH .............................................. Phase
PICV ........................................... Pressure Independent Control Valve
PIV .............................................. Post Indicator Valve
PL ............................................... Planning Documents/Plate
PLBG .......................................... Plumbing (also: P, PLUMB)
PLUMB ....................................... Plumbing (also: P, PLBG)
PLYD .......................................... Plywood
PNL ............................................ Panel
PNT ............................................ Paint or Painted
PRV ............................................ Pressure Reducing Valve
PS ............................................... Pull Station
PSD ............................................ Prevention of Significant Deterioration
PSF ........................................... Pounds per Square Foot
PSI ............................................ Pounds per Square Inch
PSIA ......................................... Pounds per Square Inch - Absolute
PSID ......................................... Pounds per Square Inch - Differential
PSIG ......................................... Pounds per Square Inch - Gauge
PT ............................................. Point/Potential Transformer/Pressure Treated
PTS ............................................ Parking Transportation Services
PVC ............................................ Polyvinyl Chloride
PWR ........................................... Power

QR .............................................. Quick Response
QTY ............................................ Quantity

R

R .................................................. Radius
CSU FACILITIES PLANNING, DESIGN AND CONSTRUCTION STANDARDS

ADDITIONAL DOCUMENTS

RA .............................................. Return Air
RAR ............................................ Remedial Action Request
RBR ............................................ Rubber
RCCB, RCB ................................ Residual-Current Circuit Breaker
RCD ............................................ Residual-Current Device
RCP ............................................ Reflected Ceiling Plan
RCV ............................................ Remote Control Valve
RD .............................................. Record Drawings/Roof Drain
RE .............................................. Right End
REINF ......................................... Reinforced
REQ ............................................ Required (also: REQD)
REQD ......................................... Required (also: REQ)
RET ............................................ Return
RETG ......................................... Retaining
RFI .............................................. Radio Frequency Interference/Request for Information
RH .............................................. Relative Humidity
RL .............................................. Redline
RLA ............................................ Running Load Amps
RLF ............................................. Relief
RM .............................................. Room
RMC ........................................... Rigid Metal Conduit
RMI ............................................ Risk Management & Insurance
RMS ............................................ Root Mean Squared
RNC ............................................ Rigid Non-Metallic Conduit
RPBP .......................................... Reduced Pressure Backflow Preventer
RPM ........................................... Revolutions per Minute
RS .............................................. Recommended Standard
RTS ............................................ Remote Test Station
RTU ............................................ Roof Top Unit

S ................................................. Structural
SA .............................................. Shock Absorber/Supply Air
SBP ............................................ State Buildings Program
SC .............................................. Shear Connector
SCM ........................................... Stormwater Control Measures
SCR ............................................ Screen
SCR ............................................ Silicone Control Rectifiers
SCT ............................................ Saturated Condensing Temperature
SD .............................................. Sanitary Drain/Schematic Design/Smoke Damper/Smoke Detector
SDI ............................................ Steel Deck Institute
SE .............................................. Service Entrance/Smoke Exhaust
SEAC .......................................... Structural Engineers Association of Colorado
SEB ............................................ Service End Line Box or Service Electrical Box
SECT .......................................... Section
SEFA .......................................... Scientific Equipment and Furniture Association
SEN ............................................ Sensible
SF/sf ........................................... Square Feet/Square Foot/Step Footing
SFD ............................................ Combination Smoke/Fire Damper
SGC ............................................ Supplementary General Conditions
SH .............................................. Shower (also: SHWR)/Shop Drawings
SHC ............................................ Sensible Heat Capacity
SHT ............................................ Sheet
SHWR ........................................... Shower (also: SH)
SIM ............................................ Similar
SIN ............................................ Sprinkler Information Number
SJI ............................................. Steel Joist Institute
SK ............................................... Sink
SL ............................................... Splice Length
SLC ............................................ Signaling Line Circuits
SLV ............................................. Short Leg Vertical
SMACNA .................................... Sheet Metal and Air Conditioning Contractors National Association
SOG ........................................... Slab on Grade
SP ............................................... Spare/Stand Pipe/Static Pressure
SPEC .......................................... Specification/Specified
SPK ............................................ Speaker/Sprinkler
SQ ............................................... Square
SS ............................................... Soil Stack/Stainless Steel (also: SSTL)
SSTL .......................................... Stainless Steel (also: SS)
ST ............................................... Shunt Trip
STC ............................................ Sound Transmission Coefficient
STD ............................................ Standard
STIFF ......................................... Stiffener
STL ............................................. Steel
STRU ........................................... Structural (also: STRUCT)
STRUCT ..................................... Structural (also: STR)/Structure
SUP ............................................ Supply
SW ............................................... Switch
SWP ........................................... Standard Working Pressure
SYM ............................................ Symmetrical

T

T ................................................. Technology/Telecommunications/Temperature/Thermostat/Top
T&B ............................................. Top and Bottom
T&G ............................................. Tongue and Groove
T/D ............................................. Telephone/Data
TAB ............................................. Testing, Adjusting & Balancing
TCP ............................................. Traffic Control Plan
TEFC .......................................... Totally Enclosed Fan Cooled
TEL ............................................. Telephone (also: TELE)
TELE .......................................... Telephone (also: TEL)
TEMP .......................................... Temperature
TFE ............................................. Teflon
TGB ............................................ Telecommunications Grounding Busbar
THHN ......................................... Thermoplastic High Heat-resistant Nylon-coated
THK ............................................. Thick/Thickness
THRD ......................................... Threaded
TLT ............................................. Toilet
TMCB .......................................... Thermal Magnetic Circuit Breaker
TME ............................................. To Match Existing
TO .............................................. Top of
TOC ............................................ Top of Concrete
TOF ............................................ Top of Foundation
TON ........................................... 12,000 BTUH (Cooling Capacity)
TOS ............................................. Top of Steel
TOW ........................................... Top of Wall
TPD ........................................... Toilet Paper Dispenser
TPI ........................................... Truss Plate Institute
TPO ........................................... Thermoplastic Olefin
TS ........................................... Tamper Switch
TSI ........................................... Thermal/Mechanical System Insulation
TSP ........................................... Total Static Pressure
TSTAT ........................................ Thermostat
TVSS .......................................... Transient Voltage Surge Suppression
TW ........................................... Tempered Water
TYP ........................................... Typical

UF ............................................... Underground Feeder
UC ........................................... Undercut (Door)
UFC ............................................ Uniform Fire Code
UG ........................................... Under Ground
UHF ............................................ Ultra High Frequency
UL ............................................... Underwriters Laboratory
UNO ........................................... Unless Noted Otherwise
UPS ............................................ Uninterruptible Power Supply
US ........................................... Underside (also: U/S)
USDA ......................................... United States Department of Agriculture

VFD ............................................ Variable Frequency Drive
VIF ............................................ Verify in Field/Vertical Inside Face
VOF ........................................... Vertical Outside Face
VP ............................................... Vision Panel
VPUO ......................................... Vice President of University Operations
VS ........................................... Vent Stack
VT ........................................... Voltage Transformer
VTR ........................................... Vent Through Roof

W ................................................. Waste/Watt/Wayfinding/Wire
W/ ............................................... With
WB .............................................. Wet Bulb
WC .............................................. Water Closet
WD ............................................... Wood
WG .............................................. Water Gauge
WH ............................................. Wall Hydrant/Water Heater
WOG ........................................ Water, Oil or Gas
WP ............................................... Waterproof/Weatherproof/Working Point
WPD ........................................... Water Pressure Drop
WS ............................................... Waste Stack
WTD ........................................... Water Temperature Difference
WWF ........................................... Welded Wire Fabric

X

XFMR .......................................... Transformer

Symbol/Numeric

Φ ............................................... Phase
Ω ............................................... Ohm
“ ............................................... Inch (also: IN/in)
' ............................................... Feet (also: FT/ft)
# ............................................... Pound Number
& ............................................... And
@ ............................................... At
2D ............................................... Two Dimension
3D ............................................... Three Dimension