A	COMPRESSED AIR
AB	ANCHOR BOLT
ABS	ACRYLONITRILE BUTAD STYRENE
AC	ALTERNATING CURRENT
A/C	AIR CONDITIONING
ACI	AMERICAN CONCRETE INSTITUTE
ACSR	ALUMINUM CONDUCTOR STEEL REINFORCED
ACST	ACOUSTIC
AD	ACCESS DOOR
AD	AREA DRAIN
ADMIN	ADMIN ADMINISTRATION (IVE)
AFF	ABOVE FINISH FLOOR
AFFF	AQUEOUS FILM FORMING FOAM
AGG	AGGREGATE
AHU	AIR HANDLING UNIT
AI	AREA INLET
AIC	AMPS INTERRUPTING CAPACITY (SYM RMS)
AISC	AMERICAN INSTITUTE OF STEEL CONSTRUCTION
AL	ALUMINUM
AL	ACTIVE LEAF
ALT	ALTERNATE
AMP	AMPERE
ANCH	ANCHOR
ANSI	AMERICAN NATIONAL STANDARDS INSTITUTE
AP	ACCESS PANEL
APD	AIR PRESSURE DROP
APPD	APPROVED
APPROX	APPROXIMATE
ARCH	ARCHITECTURAL OR ARCHITECT
ARI	AMERICAN REFRIGERATION INSTITUTE
ASB	ASBESTOS
ASPH	ASPHALT
ATC	ACOUSTICAL TILE CEILING
AUTO	AUTOMATIC
AV	ACID VENT
AVG	AVERAGE
AW	ACID WASTE
AWC	ACOUSTICAL WALL COVERING
AWG	AMERICAN WIRE GAUGE
L	ANGLE
BATT	BATT INSULATION
BB	BULLETIN BOARD
BBO	BOILER BLOW OFF
BC	BOOKCASE
BD	BOARD
BDY	BOUNDARY
BEJ	BRICK EXPANSION JOINT
BIT	BITUMINOUS
BKR	BREAKER
BL	BUILDING LINE
BLDG	BUILDING
BLK	BLOCK
BLKG	BLOCKING
BM	BEAM
BM	BENCH MARK
BO	BOTTOM OF
BOT	BOTTOM
BRCG	BRACING
BRDG	BRIDGING
BRG	BEARING
BRK	BRICK
BRKT	BRACKET
BS	BOTH SIDES
BT	BENT
BTU	BRITISH THERMAL UNIT
BTUH	BTU PER HOUR
BUR	BUILT-UP ROOFING
BW	BOTH WAYS
C OR CL	CENTER LINE
C	CHANNEL (STRUCTURAL SHEETS)
C OR CND	CONDUIT (ELECTRICAL SHEETS)
CPS	CYCLES PER SECOND (HERTZ)
CAP	CAPACITY
CC	CENTER TO CENTER
CCT	CIRCUIT
C TO C	CENTER TO CENTER
CB	CATCH BASIN (OR CIRCUIT BREAKER)
CD	CONDENSATE DRAIN
CE	COVER ELEVATION
CEM	CEMENT
CF	CUBIC FEET
CFH	CUBIC FEET PER HOUR
CFM	CUBIC FEET PER MINUTE
CHIM	CHIMNEY
CI	CURB INLET
CIP	CAST IN PLACE
CI	CAST IRON
CIR	CIRCULAR
CJ	CONTROL JOINT
CKT	CIRCUIT
CLG	CEILING
CLKG	CAULKING
CLO	CLOSET
CLOS	CLOSED
CLR	CLEAR
CLR WG	CLEAR WIRE GLASS
CMP	CORRUGATED METAL PIPE
CMU	CONCRETE MASONRY UNIT
CNTR	COUNTER
CO	CLEAN OUT
CO2	CARBON DIOXIDE
COL	COLUMN
COM	COMMON
COMB	COMBINATION
COMB	COMBUSTION
COMM	COMMUNICATION(S)
COMP	COMPRESSIBLE
COMPR	COMPRESSOR
CONC	CONCRETE
CONF	CONFERENCE
CONN	CONNECTION
CONSTR	CONSTRUCTION
CONSTR JT	CONSTRUCTION JOINT
CONT	CONTINUOUS (CONTINUATION)
CONTR	CONTRACTOR
COR	CORNER
CORR	CORRIDOR
COV	COVERED
CPL	CEMENT PLASTER
CPT	CARPET
CR	CONDENSER WATER RETURN
CRES	CORROSIVE RESISTANT STEEL
CRG	CARRIAGE
CRSE	COURSE
CS	CONDENSER WATER SUPPLY
CS	COUNTER SINK
CSMT	CASEMENT
CT	CERAMIC TILE
CT	CURRENT TRANSFORMER
CTL	CARPET TILE
CTR	CENTER
CU	CONDENSING UNIT
CUH	CABINET UNIT HEATER
CU YD	CUBIC YARDS
CV	CEILING VENT
CW	COLD WATER
CWR	CHILLED WATER RETURN
CWS	CHILLED WATER SUPPLY
CYL	CYLINDER
d	PENNY (as in nail - 10d)
dB	DECIBEL
D	DIFFUSER
D	DEPTH (DEEP)
DCJ	DOWELED CONTROL JOINT
DA	DOUBLE ACTING
DB	DRY BULB
DBL	DOUBLE
DC	DIRECT CURRENT
DCJT	DUMMY CONTROL JOINT
DCL	DOOR CLOSER
DCW	DOMESTIC COLD WATER
DEG	DEGREE
DEMO	DEMOLITION
DEPR	DEPRESSION
DEPT	DEPARTMENT
DET	DETAIL
DF	DRINKING FOUNTAIN
DH	DOUBLE HUNG
DHW	DOMESTIC HOT WATER
DI	DEIONIZED WATER
DIP	DUCTILE IRON PIPE
DIA	DIAMETER
DIAG	DIAGONAL
DIM	DIMENSION
DISC	DISCONNECT
DIST	DISTRIBUTION
DL	DEAD LOAD
D&M	DRESSED AND MATCHED
DPT	DEW POINT
DR	DOOR
DRN	DRAIN

DMPR	DAMPER
DN	DOWN
DP	DAMP PROOFING
DS	DOWN SPOUT
DS	DISTILLED WATER
DV	DENTAL VACUUM
DWG	DRAWING
DWLS	DOWELS
DX	DIRECT EXPANSION
E	EAST
EA	EACH
EA	EXHAUST AIR
EAT	ENTERING AIR TEMPERATURE
EDH	ELECTRIC DUCT HEATER
EDR	EFFECTIVE DIRECT RADIATION
EE	EACH END
EER	ENERGY EFFICIENCY RATIO
EF	EACH FACE
EJ	EXPANSION JOINT
EL OR ELEV	ELEVATION - GRADE OR BUILDING
ELEC	ELECTRIC OR ELECTRICAL
ELEV	ELEVATOR
EMD	ESTIMATED MAXIMUM DEMAND
ENCL	ENCLOSURE
ENT	ENTRANCE
ENT	ENTERING
EQ	EQUAL
EQUIP	EQUIPMENT
ES	EACH SIDE
ES	EXHAUST STEAM
EST	ESTIMATE
EVAP	EVAPORATOR
EW	EACH WAY
EWC	ELECTRIC WATER COOLER
EWT	ENTERING WATER TEMPERATURE
EXC	EXCAVATE
EXD	EXIT DEVICE
EXH	EXHAUST
EXIST	EXISTING
EXP	EXPOSED
EXPL	EXPLOSION
EXPN	EXPANSION
EXT	EXTERIOR
F	FAHRENHEIT
F	FIRE
FES	FLARED END SECTION
FS	FULL SIZE
FA	FRESH AIR
FC	FOOT CANDLE
FCG	FACING
FD	FLOOR DRAIN
FDCAR	FIRE DAMPER
FDN	FOUNDATION
FE	FIRE EXTINGUISHER
FEB	FIRE EXTINGUISHER BRACKET
FEC	FIRE EXTINGUISHER CABINET
FH	FIRE HYDRANT
FHC	FIRE HOSE CABINET
FIG	FIGURE
FIN	FINISH
FIX	FIXTURE
FLA	FULL LOAD AMPS
FL OR FLR	FLOOR
FLASH	FLASHING
FLEX	FLEXIBLE
FLG	FLOORING
FLG	FLANGE
FLUOR	FLUORESCENT
FOF	FUEL OIL FILL
FOG	FUEL OIL GAGE
FOR	FUEL OIL RETURN
FOX	FUEL OIL SUPPLY
FOV	FUEL OIL VENT
FP	FIRE PROTECTION
FPM	FEET PER MINUTE
FPRF	FIRE PROOF
FR	FRAME
FRG	FURRING
FS	FAR SIDE
FS	FLOOR SINK
FT	FEET (FOOT)
FTG	FOOTING
FW	FIRE WATER
FWC	FABRIC WALL COVERING
G	GRILLE
G	NATURAL GAS
GCO	GROUND (GRADE) CLEANOUT
GA	GAGE OR GAUGE
GAL	GALLON
GALV	GALVANIZED
GEN	GENERAL
GFE	GOVERNMENT FURNISHED EQUIPMENT
GFE/CI	GOVERNMENT FURNISHED EQUIPMENT/CONTRACTOR INSTALLED
GFI	GROUND FAULT INTERRUPTER
GI	GALVANIZED IRON
GHWR	GLYCOL HOT WATER RETURN
GHWS	GLYCOL HOT WATER SUPPLY
GL	GLASS
GND	GROUND
GOVT	GOVERNMENT
GPM	GALLONS PER MINUTE
GPH	GALLONS PER HOUR
GR	GRADE
GRS	GALVANIZED RIGID STEEL CONDUIT
GRTG	GRATING
GS	GASOLINE
GSU	GLAZED STRUCTURAL UNITS
GWB	GYPSUM WALLBOARD
GWT	GLAZED WALL TILE
GYP	GYPSUM
H or HT	HEIGHT (HIGH)
HPT	HIGH POINT
HW	HEAD WALL
HB	HOSE BIBB
HBD	HARDBOARD
HC OR HCP	HANDICAPPED
HCD	HALON CONTAINMENT DAMPER
HCWR	HOT/CHILLED WATER RETURN
HCWS	HOT/CHILLED WATER SUPPLY
HD	HEAD
HDH	HYDRONIC DUCT HEATER
HDPE	HIGH DENSITY POLYETHYLENE
HDR	HEADER
HDRL	HANDRAIL
HDW	HARDWARE
HK	HOOK
HM	HOLLOW METAL
HP	HORSE POWERO
HPC	HIGH PRESSURE CONDENSTATE
HPS	HIGH PRESURE STEAM
HIP	HIGH PRESSURE
HORIZ	HORIZONTAL(LY)
HR	HOUR
HS	HIGH STRENGTH
HSGYP	HIGH STRENGTH GYPSUM PLASTER
HTG	HEATING
HTR	HEATER
HTWR	HIGH TEMPERATURE WATER RETURN
HTWS	HIGH TEMPERATURE WATER SUPPLY
HW	HOT WATER
HWH	HOT WATER HEATER
HWR	HOT WATER RETURN (HEATING)
HWS	HOT WATER SUPPLY (HEATING)
HYD	HYDRAULIC
Hz	HERTZ
I OR FE	IRON
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
IP	IRON PIPE
IC	INTERCOM
IES	ILLUMINATING ENGINEERING SOCIETY
IN	INCH
INSUL	INSULATION
INT	INTERIOR
INV	INVERT OR INVERTER
ISF	INSIDE FACE
JB	JUNCTION BOX
JBOX	JUNCTION BOX
JC	JANITOR CLOSET
JCT	JUNCTION
JST	JOIST
JT	JOINT
K	KEY
kcmil or KCM	KILO CIRCULAR MIL
KCP	KEENE'S CEMENT PLASTER
KIP or K	KILOPOUND (1000 LBS)
KIT	KITCHEN
KL	KEY LOCK
KP	KICK PLATE
KV	KILOVOLTS

KVA	KILOVOLT AMPERES
kvar	KILOVOLT AMPERES REACTIVE
KW	KILOWATT
LR	LONG RADIUS
LAB	LABORATORY
LAT	LEAVING AIR TEMPERATURE
LAU	LAUNDRY
LAV	LAVATORY
LBR	LUMBER
LBS	POUNDS
LD	LOAD
LDG	LOADING
LE	LEFT END
LG	LENGTH (LONG)
LIN	LINEAR
LIS	LAWN IRRIGATION SYSTEM
LL	LIVE LOAD
LLH	LONG LEG HORIZONTAL
LLV	LONG LEG VERTICAL
LLBB	LONG LEG BACK TO BACK
LNTL	LINTEL
LONG	LONG LONGITUDINAL
LP	LOW POINT
LPG	LIQUIFIED PETROLEUM GAS
LPC	LOW PRESSURE CONDENSATE
LPS	LOW PRESSURE STEAM
LPS	LIGHT PROOF SHADE
LR	LIVING ROOM
LRA	LOCKED ROTOR AMPS
LS	LAWN SPRINKLER
LT	LIGHT
LT WT	LIGHT WEIGHT
LTG	LIGHTING
LWT	LEAVING WATER TEMPERATURE
M	THOUSAND
M	MIDDLE
MA	MAKE-UP AIR
MACH	MACHINE
MAS	MASONRY
MAT or MATL	MATERIAL
MAU	MAKE-UP AIR UNIT
MAX	MAXIMUM
MB	MACHINE BOLT
MBH	1000 BTUH
M & B	MATCHED AND BEADED
MC	MEDICINE CABINET
MC	MISCELLANEOUS CHANNELS
MCJ	MASONRY CONTROL JOINT
MECH	MECHANICAL
MER	DOMESTIC COLD WATER (DCW)
	DOMESTIC HOT WATER (DHW)
	RECIRCULATING DOMESTIC HOT WATER (RDHW)
TW	TEMPERED WATER
RTW	RECIRCULATING TEMPERED WATER
SCW	SOFTENED COLD WATER
SHW	SOFTENED HOT WATER
W	BURIED EXTERIOR WATER
LS	LAWN SPRINKLER
DS	DISTILLED WATER
DI	DEIONIZED WATER
RO	REVERSE OSMOSIS PROCESSED WATER
A	COMPRESSED AIR
VAC	VACUUM
OX	OXYGEN
G	NATURAL GAS
GS	GASOLINE
FOS	FUEL OIL SUPPLY
FOR	FUEL OIL RETURN
FOV	FUEL OIL VENT
FOF	FUEL OIL FILL
FOG	FUEL OIL GAGE
LPG	LIQUEFIED PETROLEUM GAS
MEZ	MEZZANINE
MFG	MANUFACTURING
MFR	MANUFACTURER
MG	MOTOR GENERATOR
MH	MANHOLE
MIN	MINIMUM
MISC	MISCELLANEOUS
ML	METAL LATH
MLDG	MOULDING
MO	MASONRY OPENING
MONO	MONOLITHIC
MOT	MOTOR
MPC	MEDIUM PRESSURE CONDENSATE
MPS	MEDIUM PRESSURE STEAM
MSTC	MASTIC
MT	METAL THRESHOLD
MTD	MOUNTED
MTL	METAL
N	NORTH
NC	NOISE CRITERIA
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NIC	NOT IN CONTRACT
NO	NUMBER
NO	NORMALLY OPEN
NPT	NATIONAL PIPE THREAD
NR	NOT REQUIRED
NS	NEAR SIDE
NTS	NOT TO SCALE
OD	OUTSIDE DIAMETER
OA	OUTSIDE AIR
OBGL	OBSCURE GLASS
OBSC	OBSCURE
OB WG	OBSCURE WIRE GLASS
OC	ON CENTER(S)
OCEW	ON CENTER EACH WAY
OFF	OFFICE
OH	OVERHEAD
OPNG	OPENING
OPP	OPPOSITE
OPS	OPERATIONS
OR	OBSERVATION RISER
OSF	OUTSIDE FACE
OS & Y	OUTSIDE SCREW & YOKE
OV	OVERFLOW VALVE
OX	OXYGEN
PZ	OUNCE
	POLE
PT	POTENTIAL (VOLTAGE) TRANSFORMER
PA	PUBLIC ADDRESS
PBS	PUSH BUTTON STATION
PCC	PORTLAND CEMENT CONCRETE
PC	PRECAST
PC	PUMPED CONDENSATE
PC	POINT OF CURVATURE
PC	PIECE
PCT	PORCELAIN CERAMIC TILE
PD	PRESSURE DROP
PEN	PENETRATION
PERF	PERFORATED
PE	POLYETHYLENE
PH	PHASE
PHAR	PHARMACY
	POINT OF INTERSECTION
PIV	POST INDICATING VALVE
PL or P	PLATE
PLAM	PLASTIC LAMINATE
PLAS	PLASTER
PLATF	PLATFORM
PLBG	PLUMBING
PLG	PILING
PLYWD	PLYWOOD
PNL	PANEL
POL	POLISH(ED)
PORC	PORCELAIN
PPM	PARTS PER MILLION
PR	PAIR
PRESS	PRESSURE
PREFAB	PREFABRICATED
PREFIN	PREFINISHED
PROJ	PROJECT
PRV	PRESSURE REGULATING VALVE
PS	PRESSED STEEL
PSFT	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PT	POINT OF TANGENCY
PT	POINT
PTD	PAINTED
PTN	PARTITION
PVC	POLYVINYL-CHLORIDE
PVMT	PAVEMENT
PW	PASS WINDOW
QT	QUART
QT	QUARRY TILE
QTRS	QUARTERS
QTY	QUANTITY
1/4 RD	QUARTER ROUND
	REGISTER
R OR RSR	RISER
RA	RETURN AIR
RAD or R	RADIUS
RB	RESILIENT BASE
RC	REMOTE CONTROL
RCP	REINFORCED CONCRETE PIPE
RCVR	RECEIVER
RD	REFRIGERANT DISCHARGE (HOT GAS)
RD	ROOF DRAIN
RDHW	DOMESTIC HOW WATER CIRCULATING
RE	RIGHT END
RECP	RECEPTACLE
RECR	RECREATION
RECT	RECTIFIER
REF	REFERENCE
REFR	REFRIGERATOR
REFR	REFRIGERANT
REG	REGISTER
REINF	REINFORCEMENT
REM	REMOVE(ABLE)
REQD	REQUIRED

RESIL	RESILIENT
REV	REVISIONS
RFG	ROOFING
RGE	RANGE
RHG	ROUGH
RH	RELATIVE HUMIDITY
RL	REFRIGERANT LIQUID
RM	ROOM
RND	ROUND
RO	ROUGH OPENING
RPM	REVOLUTIONS PER MINUTE
RPRT	RAISED PATTERN RUBBER TILE
RS	REFRIGERANT SUCTION
RTU	ROOF TOP UNIT
RUB	RUBBER
S	SOUTH
SF	SQUARE FOOT (FEET)
SA	SUPPLY AIR
SAN	SANITARY
SB	SPLASH BLOCK
SB	SECURITY BARS
SCH	SCHEDULE
SCHED	SCHEDULE
SCR	SCREW
SCT	STRUCTURAL CLAY TILE
SCUT	SCUTTLE
SCW	SOFT COLD WATER
SD	SUBDRAIN
SDI	STEEL DECK INSTITUTE
SJI	STEEL JOIST INSTITUTE
SECT	SECTION
SECY	SECRETARY
SEQ	SEQUENCE
SFU	STRUCTURAL FACING UNIT
SHLD	SHOULDER
SHT	SHEET
SHTG	SHEATHING
SHW	SOFT HOT WATER
SIM	SIMILAR
SL	SNOW LOAD
SLBB	SHORT LEG BACK TO BACK
SM	SPRINKLER MAIN
SOV	SHUT OFF VALVE
SP	STATIC PRESSURE
SPA	SPACE(ING)
SPEC	SPECIFICATIONS
SPF	SOUNDPROOF
SPH	SPACE HEATER
SPKR	SPEAKER
SPL	SPECIAL
SQ	SQUARE
SQUAD	SQUADRON
SSMR	STANDING SEAM METAL ROOFING
SS	SANITARY SEWER
SS	STAINLESS STEEL
ST	STORM DRAIN
STA	STATION
STC	SOUND TRANSMISSION COEFFICIENT
STD	STANDARD
STGR	STRINGER
STIFF	STIFFENER
STIRR	STIRRUPS
STL	STEEL
STN	STONE
STOR	STORAGE
STR	STRUCTURAL
STWY	STAIRWAY
SUB FL	SUB FLOOR
SUCT	SUCTION
SUSP	SUSPENDED
SVF	SHEET VINYL FLOORING
SW	SWITCH
SWBD	SWITCH BOARD
SYM	SYMMETRICAL
T or TLT	TOILET
T	TREAD
TO	TOP OF
TAN	TANGENT
TBD	TACK BOARD
TE	TOP ELEVATION
TEL	TELEPHONE
TEMP	TEMPERATURE
TER	TERRAZZO
TERM	TERMINAL
TGL	TOGGLE
TH	THRESHOLD
THK	THICK
THRD	THREAD
TOB	TOP OF BEAM
TOC	TOP OF CONCRETE
TOF	TOP OF FOOTING
TOJ	TOP OF JOIST
TOS	TOP OF STEEL
TOW	TOP OF WALL
TOPO	TOPOGRAPHIC
TRANS	TRANSVERSE
TSTAT	THERMOSTAT
TV	TELEVISION
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
TW	TEMPERED WATER
TWR	TEMPERED WATER RETURN
TYP	TYPICAL
UC	UNIT COOLER
UG	UNDERGROUND
UH	UNIT HEATER
UL	UNDERWRITERS LABORATORIES
UNEX	UNEXCAVATED
UNFIN	UNFINISHED
UNO	UNLESS NOTED OTHERWISE
UPS	UNINTERRUPTIBLE POWER SYSTEM
UR	URINAL
UT	UTILITY
UV	UNIT VENTILATOR
V	VENT
V	VOLT
VT	VOLTAGE TRANSFORMER
VAC	VACUUM
VAV	VARIABLE AIR VOLUME
VCP	VITRIFIED CLAY PIPE
VCT	VINYL COMPOSITION TILE
VD	VAULT DOOR
VEL	VELOCITY
VENT	VENTILATOR(ION)
VERT	VERTICAL
VEST	VESTIBULE
VFD	VARIABLE FREQUENCY DRIVE
VSD	VARIABLE SPEED DEVICE
VOL	VOLUME
VPC	VERTICAL POINT OF CURVATURE
VPI	VERTICAL POINT OF INTERSECTION
VPT	VERTICAL POINT OF TANGENCY
VS	VENT STACK
VT	VINYL TILE
VTR	VENT THRU ROOF
VWC	VINYL WALL COVERING
W	WEST
W	WIRE
W	WIDE (WIDTH)
W/	WITH
W/O	WITHOUT
WB	WET BULB
WC	WATER CLOSET
WC	WATER COLUMN
WD	WOOD
WD	WASTE DRAIN
WD	BLKG WOOD BLOCKING
WD DR	WOOD DOOR
WDW	WINDOW
WF	WIDE FLANGE
WG	WIRE GLASS
WG	WATER GAGE
WH	WALL HYDRANT
WHM	WATTHOUR METER
WHT	WHITE
WI	WROUGHT IRON
WKSH	WORK SHOP
WL	WIND LOAD
WNSCT	WAINSCOT
WP	WORK POINT
WP	WEATHER PROOF
WPF	WATER PROOF
WPFG	WATER PROOFING
WRB	WAROROBE
WS	WASTE STACK
WT	WEIGHT
WWF	WELDED WIRE FABRIC
WWM	WOVEN WIRE MESH
XFMR	TRANSFORMER
YD	YARD or YARD DRAIN

1 ABBREVIATIONS
NO SCALE

HEATING PIPING

LPS	LOW PRESSURE STEAM
LPC	LOW PRESSURE CONDENSATE
MPS	MEDIUM PRESSURE STEAM
MPC	MEDIUM PRESSURE CONDENSATE
HPS	HIGH PRESSURE STEAM
HPC	HIGH PRESSURE CONDENSATE
PC	PUMPED CONDENSATE
HWS	HOT WATER SUPPLY
HWR	HOT WATER RETURN
GHWS	GLYCOL HOT WATER SUPPLY
GHWR	GLYCOL HOT WATER RETURN
BBD	BOILER BLOW DOWN
ES	EXHAUST STEAM

AIR CONDITIONING AND REFRIGERATION PIPING

CWS	CHILLED WATER SUPPLY
CWR	CHILLED WATER RETURN
GCWS	GLYCOL CHILLED WATER SUPPLY
GCWR	GLYCOL CHILLED WATER RETURN
RL	REFRIGERANT LIQUID LINE
RS	REFRIGERANT SUCTION LINE
RD	REFRIGERANT DISCHARGE
CS	CONDENSER WATER SUPPLY
CR	CONDENSER WATER RETURN
GCS	GLYCOL CONDENSER WATER SUPPLY
GCR	GLYCOL CONDENSER WATER RETURN
HCS	HOT/CHILLED WATER SUPPLY
HCR	HOT/CHILLED WATER RETURN
GHCS	GLYCOL HOT/CHILLED WATER SUPPLY
GHCR	GLYCOL HOT/CHILLED WATER RETURN
CD	CONDENSATE DRAIN

PLUMBING PIPING

SAN	SANITARY DRAIN (ABOVE FLOOR)
SAN	SANITARY DRAIN (BELOW FLOOR)
ST	STORM DRAIN (ABOVE FLOOR)
	STORM DRAIN (BELOW FLOOR)
	SUBSOIL OR FOUNDATION DRAIN
V	SANITARY VENT
AW	ACID WASTE
AV	ACID VENT
	DOMESTIC COLD WATER (DCW)
	DOMESTIC HOT WATER (DHW)
	RECIRCULATING DOMESTIC HOT WATER (RDHW)
TW	TEMPERED WATER
RTW	RECIRCULATING TEMPERED WATER
SCW	SOFTENED COLD WATER
SHW	SOFTENED HOT WATER
W	BURIED EXTERIOR WATER
LS	LAWN SPRINKLER
DS	DISTILLED WATER
DI	DEIONIZED WATER
RO	REVERSE OSMOSIS PROCESSED WATER
A	COMPRESSED AIR
VAC	VACUUM
OX	OXYGEN
G	NATURAL GAS
GS	GASOLINE
FOS	FUEL OIL SUPPLY
FOR	FUEL OIL RETURN
FOV	FUEL OIL VENT
FOF	FUEL OIL FILL
FOG	FUEL OIL GAGE
LPG	LIQUEFIED PETROLEUM GAS

FIRE PROTECTION

D	SPRINKLER DRAIN
FW	FIRE WATER (BURIED)
SM	FIRE SPRINKLER MAIN
	FIRE DEPARTMENT CONNECTION
FS	FLOW SWITCH
TS	TAMPER SWITCH

VALVES

	MANUAL BALANCING VALVE
	BALL VALVE
	BUTTERFLY VALVE
	CHECK VALVE
M	CONTROL VALVE (2 WAY)
M	CONTROL VALVE (3 WAY)
	AUTO FLOW CONTROL VALVE
	GAS COCK OR VALVE
	GATE VALVE OR GEN SHUT-OFF VALVE
	ANGLE VALVE
	GLOBE VALVE
	HOSE END DRAIN VALVE
	PLUG VALVE
	PRESSURE REDUCING VALVE
S	SOLENOID VALVE
	TEMP & PRESS RELIEF (OR) SAFETY VALVE-STEAM
	THERMOSTATIC MIXING VALVE
	THERMO EXPANSION VALVE-REFRIGERANT
	VALVE IN VERTICAL PIPE-TYPE SHOWN

PIPING SPECIALTIES AND FITTINGS

CO	CLEANOUT / WALL CLEANOUT
CO	CLEANOUT
VTR	PLUMBING VENT THRU ROOF
FD	FLOOR DRAIN
AD	AREA DRAIN
FS	FLOOR SINK
RD	ROOF DRAIN
OD	OVERFLOW ROOF DRAIN
	TRENCH DRAIN
	RUNNING TRAP
	RUNNING TRAP WITH CLEANOUTS
MH	MANHOLE
	OXYGEN OUTLET
	VACUUM OUTLET
	AIR OUTLET
	PIPE CAP
	ELBOW UP
	ELBOW DOWN
	TEE
	TEE UP
	TEE DOWN
	THERMOMETER WELL
	STRAINER
	UNION
	DIELECTRIC UNION
	CONCENTRIC REDUCER
	ECCENTRIC REDUCER
	PITCH PIPE DOWN IN DIR OF ARROW
	AIR VENT (MANUAL UNLESS NOTED)
	FLEXIBLE PIPE CONNECTION
	EXPANSION JOINT

PIPING SPECIALTIES AND FITTINGS (CONT)

	PIPE ANCHOR
	PIPE GUIDE
	THERMOMETER
	PRESSURE GAUGE
HB	HOSE BIBB
PH	POST HYDRANT
WH	WALL HYDRANT
YH	YARD HYDRANT
	STEAM TRAP

MISCELLANEOUS SYMBOLS

S	SIGHT GLASS-REFRIGERANT
PN	PNEUMATIC TUBE
CA	CONTROL AIR SUPPLY
	NEW TO EXISTING CONNECTION

HVAC DUCTWORK AND SPECIALTIES

18x10	RECT DUCT-1ST FIG IS SIDE SHOWN
18	ROUND DUCT
18/10	FLAT OVAL DUCT-1ST FIG IS SIDE SHOWN
	ACOUSTICAL DUCT LINER
	FLEXIBLE DUCTWORK CONNECTION
VD	VOLUME DAMPER
	TURNING VANES
	EXTRACTOR
	SUPPLY DUCT UP
	SUPPLY DUCT DOWN
	RETURN OR EXHAUST DUCT UP
	RETURN OR EXHAUST DUCT DOWN
	ROUND DUCT UP
	ROUND DUCT DOWN
SIZE/TYPE FLOW	SUPPLY REGISTER OR GRILLE (R OR G) (VERTICAL MOUNTING)
SIZE/TYPE FLOW	RETURN OR EXHAUST REGISTER OR GRILLE (VERTICAL MOUNTING)
SIZE/TYPE FLOW	ROUND CEILING SUPPLY DIFFUSER (HORIZONTAL MOUNTING)
SIZE/TYPE FLOW	RECTANGULAR SUPPLY DIFF, REG OR GRILLE (HORIZONTAL MOUNTING)
SIZE/TYPE FLOW	RECTANGULAR EXH OR RETURN REG OR GRILLE (HORIZONTAL MOUNTING)
M	MOTORIZED DAMPER-PARALLEL BLADE
M	MOTORIZED DAMPER-OPPOSED BLADE
	FIRE DAMPER
	FIRE DAMPER-HORIZ FIRE SEPARATION
	FIRE DAMPER-VERT FIRE SEPARATION
S	SMOKE DAMPER-HORIZ FIRE SEPARATION
S	SMOKE DAMPER-VERT FIRE SEPARATION
FS	FIRE/SMOKE DAMPER-HORIZ FIRE SEPARATION
FS	FIRE/SMOKE DAMPER-VERT FIRE SEPARATION
	FLEXIBLE DUCT
(T)	THERMOSTAT
(H)	HUMIDISTAT
	TEMPERATURE SENSOR

2 MECHANICAL SYMBOLS
NO SCALE

LIGHTING

	CEILING FIXTURE - SURFACE, RECESSED OR PENDANT
	WALL MOUNTED FIXTURE
	WALL MOUNTED FLUORESCENT FIXTURE
	RECESSED FLUORESCENT FIXTURE
	FLUORESCENT FIXTURE, NITE LIGHTING
	PENDANT MOUNTED FLUORESCENT FIXTURE
	FLUORESCENT STRIP FIXTURE
	WALL MOUNTED FLUORESCENT STRIP FIXTURE
	FLUORESCENT FIXTURE, NITE LIGHTING
	CEILING FIXTURE, NITE LIGHTING CIRCUIT
	FLUORESCENT FIXTURE, EMERGENCY SYSTEM
	CEILING FIXTURE, EMERGENCY SYSTEM
	WALL MOUNTED FIXTURE
	EMERGENCY BATTERY PACK FIXTURE
	REMOTE HEAD TO EMERGENCY BATTERY PACK
	TRACK LIGHTING
	EXIT LIGHT - BACK OR END MOUNT WITH DIRECTIONAL ARROWS AS INDICATED, FILLED-IN QUARTERS INDICATE ILLUMINATION SIDES
	EXIT LIGHT - CEILING OR PENDANT MOUNT WITH DIRECTIONAL ARROWS AS INDICATED, FILLED-IN QUARTERS INDICATE ILLUMINATION SIDES
	EXIT LIGHT WITH INTEGRATED EMERGENCY BATTERY PACK FIXTURE

WIRING DEVICES - SWITCHES

	SINGLE POLE SWITCH
2	TWO POLE SWITCH
3	THREE-WAY SWITCH
4	FOUR-WAY SWITCH
D	DIMMER SWITCH
K	KEY OPERATED SWITCH
P	SINGLE POLE SWITCH WITH PILOT
TE	THERMAL ELEMENT SWITCH
T	TIMER SWITCH
FT	FUSIBLE SWITCH (FUSETRON)
OS	DUAL TECHNOLOGY OCCUPANCY SENSOR SWITCH

WIRING DEVICES - RECEPTACLES

	SIMPLEX RECEPTACLE
	DUPLEX RECEPTACLE
	DOUBLE DUPLEX RECEPTACLE (QUAD RECEPTACLE)
	DUPLEX RECEPTACLE ON EMERGENCY CIRCUIT
	SPECIAL PURP