

List of Abbreviations

AASHTO	American Association of State Highway and Transportation Officials
ABMA	American Bearing Manufacturers Association
ABS	Acrylonitrile Butadiene Styrene
ABC	Aggregate Base Course
AC	Alternating Current, Asbestos Cement
ACI	American Concrete Institute
ACP	Asbestos Cement Pipe
ACPPA	American Concrete Pressure Pipe Association
ADA	Americans with Disabilities Act
ADD	Average Daily Demand
ADF	Average Daily Flow
ADU	Accessory Dwelling Unit
AIS	American Iron and Steel
AISC	American Institute of Steel Construction
ALT	Alternate
AMI	Advanced Metering Infrastructure
AMP	Ampere
AMPP	Association for Materials Protection and Performance
ANSI	American National Standards Institute
ARV	Air Release Valve
ASME	American Society of Mechanical Engineers
ASSE	American Society of Sanitary Engineering
ASTM	American Society for Testing and Materials
ATS	Automatic Transfer Switch
AVV	Air Vacuum Valve
AWG	Average Wire Gauge
AWM	Appliance Wiring Material
AWS	American Welding Society
AWWA	American Water Works Association
B.C.D.	Bolt Circle Diameter
BEP	Best Efficiency Point
BFP	Backflow Preventer
BFV	Butterfly Valve
BMP	Best Management Practice
B.O.	Blowoff

BOC	Back of Curb
BOM	Bill of Material
BPA	Backflow Prevention Assembly
BWP	Bar Wrapped Steel Cylinder Pipe
C	Celsius
CABC	Compacted Aggregate Base Course
CAP	Capacity Assurance Program
CBD	Central Business District
CC	AWWA Taper Thread
CCTV	Closed Circuit Television
CDF	Controlled Density Fill, i.e. Flowable Fill
CDOT	Charlotte Department of Transportation
cf	Cubic Feet
CFS	Cubic Feet per Second
CI	Cast Iron
CIP	Capital Investment Plan, Cast Iron Pipe
CIPP	Cured-In-Place Pipe
City	City of Charlotte
CL	Center Line
CLDSM	Charlotte Land Development Standards Manual
CLSM	Controlled Low Strength Material, i.e. Flowable Fill
CLTW	Charlotte Water
cm	Centimeter
cm ²	Square Centimeter
CMCSI	Charlotte-Mecklenburg Certified Site Inspector
CP	Cathodic Protection
CPU	Central Processing Unit
CPVC	Chlorinated Polyvinyl Chloride
CTS	Copper Tubing Size
Cu	Copper
CY	Cubic Yard
dB	Decibel
dBA	Unit of Sound Level
DC	Direct Current
DEG	Degree
DEG C	Degrees Celsius

DEG F	Degrees Fahrenheit
DI	Ductile Iron
DIA or D	Diameter
DIP	Ductile Iron Pipe
DIPRA	Ductile Iron Pipe Research Association
DIPS	Ductile Iron Pipe Size
DR	Dimension Ratio
EA	Each
ECP	Embedded Cylinder Pipe
ENR	Engineering News Record
EOR	Engineer of Record
EP	Edge of Pavement
EPDM	Ethylene Propylene Diene Monomer Rubber
EPP	Expanded Polypropylene
ERT	Electronic Radio Transmitter, Encoder/Receiver/Transmitter
ETL	Electrical Testing Laboratories
EX	Example
F	Fahrenheit
FEMA	Federal Emergency Management Agency
FH	Fire Hydrant
FIPT or FIP	Female Iron Pipe Thread
FIT	Flow Indicator Transmitter
FLA	Full Load Amperes
FLG	Flange Joint
FLU	Future Land Use
FM	Force Main, Factory Mutual
FMCT	Combined Fire and Domestic Service Meter
FNPT	Female National Pipe Thread
FPS or ft/s	Feet per Second
FRPMP	Fiberglass Reinforced Polymer Mortar Pipe
FT or ft	Feet, Foot
FTSE	Flow Tracking/Acceptance for Sewer Extension Applications
Fu	Tensile Strength
FVNR	Full Voltage Non-Reversing
Fy	Yield Strength
GA	Gage

gal	Gallon
GALV	Galvanized
GFI/GFCI	Ground Fault Circuit Interrupter
GPD or gpd	Gallons per Day
GPH	Gallons per Hour
GPM	Gallons per Minute
GPS	Global Positioning System
GSM	Grams per Square Meter
HDCL	High Density Cross Laminated Polyethylene
HDPE	High Density Polyethylene
HMWPE	High Molecular Weight Polyethylene
Hg	Mercury
HOA	Homeowner's Association
Hp/HP	Horsepower
Hr	Hour
Hz	Hertz
IAPMO	International Association of Plumbing and Mechanical Officials
IBC	International Building Code
ICBO	International Conference of Building Officials
ICC	International Code Council
ICCP	Impressed Current Cathodic Protection
ID	Internal Diameter (Pipe)
IEEE	Institute of Electrical and Electronics Engineers
IN or In	Inch
INF	Interference Test Station
INV	Invert
IPS	Iron Pipe Size
ISO	International Organization for Standardization
ITP	Inspection and Test Program
kg	Kilogram
kPa	Kilopascal
ksi	Kips per Square Inch
kW	Kilowatt
L	Length
LBS	Pounds
LCP	Lined Cylinder Pipe

LED	Light Emitting Diode
LF	Linear Feet (Foot)
LPSS	Low Pressure Sanitary Sewer
M	Meter
mA	Milliampere
MAX or Max	Maximum
MCC	Motor Control Center
MDD	Maximum Day Demand
mg	Milligram
MGD	Million Gallons per Day
MH	Manhole
MHz	Megahertz
Mid	Middle
MIJ	Monolithic Insulating Joint
mils	Measurement of Thickness that Equals One-Thousandth of an Inch or 0.001 inch
MIPT or MIP	Male Iron Pipe Thread
MIN or Min	Minimum, Minute
MJ	Mechanical Joint
mm	Millimeter
mph	Miles per Hour
MTW	Machine Tool Wire
mV	Millivolt
N	Newton
N/A	Not Applicable
NAD	North American Datum
NASSCO	National Association of Sewer Service Companies
NAVD	North American Vertical Datum
NBR	Nitrile Rubber
NC or N.C.	North Carolina
NCAC	North Carolina Administrative Code
NCBEES	North Carolina Board of Examiners for Engineers and Surveyors
NCDEQ	North Carolina Department of Environmental Quality
NCDOT	North Carolina Department of Transportation
NCGS	North Carolina Geodetic Survey
NCSBC	North Carolina State Building Code
NEC	National Electric Code

NEMA	National Electrical Manufacturer's Association
NESHAP	National Emissions Standards for Hazardous Air Pollutants
NFPA	National Fire Protection Association
NGS	National Geodetic Survey
NO.	Number
NOM	Nominal
NPSH	Net Positive Suction Head
NPT	National Pipe Thread
NPW	Non-Potable Water
NSF	National Sanitation Foundation
NTS or N.T.S.	Not to Scale
NTU	Nephelometric Turbidity Unit
OC or O.C.	On Center
OD	Outside Diameter (Pipe)
O&M	Operations and Maintenance
OSHA	Occupational Safety and Health Act/Administration
OS&Y	Outside Screw and Yoke
oz	Ounce
PC	Pressure Class
PCCP	Prestressed Concrete Cylinder Pipe
PCF	Pounds per Cubic Foot
PE	Professional Engineer, Plain End, Polyethylene
PET	Polyethylene Terephthalate
PF	Peaking Factor
pH	Acid/Alkaline Scale
PHD	Peak Hour Demand
PL or P/L	Property Line
PLC	Programmable Logic Controller
PLS	Professional Land Surveyor
PPI	Plastic Pipe Institute
ppm	Parts Per Million
PRV	Pressure Reducing Valve
PSF	Pounds per Square Foot
psi	Pounds per Square Inch
PSV	Pressure Sewer Valve
PVC	Polyvinyl Chloride

PVMT	Pavement
QC	Quality Control
QTY	Quantity
RAB	Registration Accreditation Board
RCP	Reinforced Concrete Pipe
RGS	Rigid Galvanized Steel
RHH	Thermoset Flame Retardant and Moisture Resistant
RHW	Flame Ozone and Moisture Resistant Over 2,000 Volts
RJ	Restrained Joint
RJIB	Restrained Joint in Bell
RMJ	Restrained Mechanical Joint
RMS	Root Mean Square
ROW or R/W	Right-of-Way
RP	Reduced Pressure
RPM	Rotations per Minute
RPPA	Reduced Pressure Principle Assembly
RPZ	Reduced Pressure Zone Device
SBC	State Building Code
SBR	Styrene Butadiene Rubber
SCADA	Supervisory Control and Data Acquisition
SCH	Schedule
SCM	Stormwater Control Measure
SCR	Silicon Control Rectifier
SDR	Standard Dimension Ratio
SDWA	Safe Drinking Water Act
SF	Square Feet, Safety Factor
SQ	Square
SS	Sanitary Sewer, Stainless Steel
SSPC	Society of Protective Coatings
STD	Standard
STEP	Septic Tank Effluent Pump
SWIM	Surface Water Improvement and Management
TBM	Temporary Benchmark
TDH	Total Dynamic Head
TEMP or temp	Temporary, Temperature
THHN	Thermoplastic High Heat Nylon

THHW	Thermoplastic High Heat and Water-Resistant
THWN	Thermoplastic Heat and Water-Resistant Nylon
TOD	Transit Oriented Development
TPR	Thermoplastic Rubber
TW	Thermoplastic Water-Resistant
TYP	Typical
UDO	Unified Development Ordinance
UL	Underwriters Laboratory
UPS	Uninterruptible Power Supply
USCFCCHR	University of Southern California Foundation for Cross Connection Control and Hydraulic Research
UV	Ultraviolet
V	Volt
VAC	Volts Alternating Current
VDC	Volts Direct Current
VCP	Vitrified Clay Pipe
VOC	Volatile Organic Compounds
VOLT	Voltage
W	Width
W/	With
W/O	Without
WATCH	Work Area Traffic Control Handbook
WM	Water Main
WT	Weight
WWF	Welded Wire Fabric
XHHW	Cross-Linked Polyethylene High Heat Resistant and Water-Resistant
XLPE	Cross Linked Polyethylene
YR or yr	Year
1PH	Single-Phase
3W	Three Wire
3PH	Three-Phase
4W	Four Wire