

BRIGHTON CITY COUNCIL ORDINANCE

City of Brighton Public Works Standards and Specifications Manual, 2015 Edition

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF BRIGHTON, COLORADO, ADOPTING BY REFERENCE THE CITY OF BRIGHTON PUBLIC WORKS STANDARDS AND SPECIFICATIONS MANUAL, 2015 EDITION, FOR THE DESIGN AND CONSTRUCTION OF PUBLIC IMPROVEMENTS, ADOPTED AND CODIFIED BY THE CITY OF BRIGHTON, 500 SOUTH 4th AVENUE, BRIGHTON COLORADO AND CERTAIN SECONDARY CODES IDENTIFIED THEREIN APPLICABLE TO DEVELOPMENT OF PUBLIC IMPROVEMENTS AND COMMON FACILITIES; PROVIDING PENALTIES FOR VIOLATIONS OF THE PROVISIONS OF THE MANUAL AND THIS ORDINANCE; PROVIDING FOR THE MAINTENANCE OF OFFICIAL COPIES OF SUCH MANUAL; AND PROVIDING FOR THE SALE OF COPIES OF SUCH MANUAL.

ORDINANCE NO.: 2233

INTRODUCED BY: Kreutzer

WHEREAS, the City of Brighton is a Colorado home rule municipality duly organized and existing pursuant to and in accordance with the laws of the State of Colorado; and

WHEREAS, the City's *Public Works Standards and Specifications Manual*, which sets forth the standards for installation, maintenance, renovation and replacement of public improvements and common facilities throughout the City was previously adopted by reference by Ordinance #1450 and further amended by Ordinance #1092; and

WHEREAS, the City Council of the City of Brighton has determined that it is reasonable, necessary, desirable, and proper to make considerable modifications to the City of Brighton *Public Works Standards and Specifications Manual* as provided herein, in order to provide for quality construction of improvements within the City, to guide the future growth of the City, to protect and conserve the value of land within the City, and to otherwise provide for and accomplish the goals and purposes of the City of Brighton; and

WHEREAS, due to the extent of said modifications, City Staff believes and recommends that the City of Brighton *Public Works Standards and Specifications Manual, 2015 Edition*, be adopted in full, by reference, consistent with Section 5.12 of the City of Brighton Charter and Section 31-16-201 *et seq.* of the Colorado Revised Statutes; and

WHEREAS, the City Council has reviewed the City of Brighton *Public Works Standards and Specifications Manual, 2015 Edition*, and believes it is in the best interest of the City and its citizens to approve said City of Brighton *Public Works Standards and Specifications Manual, 2015 Edition*.

**NOW, THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF
THE CITY OF BRIGHTON, COLORADO.**

Section 1. Manual Adopted. The City of Brighton *Public Works Standards and Specification Manual, 2015 Edition*, for the Design and Construction of Public Improvements (hereinafter referred to as “Manual”) as promulgated by the City of Brighton, Colorado, 500 South 4th Avenue, Brighton, Colorado, is hereby adopted and enacted by reference. The purpose of this Manual is to codify the Public Works Standards and Specifications of the City which are of a general and permanent nature to regulate and maintain consistency in development and redevelopment of the public improvements and common facilities.

Section 2. Secondary Codes Adopted. The standards and specifications from secondary codes referred to in the Manual hereinafter identified and specified in the attached Exhibit A which by this reference becomes part hereof shall be applicable to the design and construction of public improvements as the same apply to and are referenced in the Manual.

| Abbreviation | Full Name | Address |
|--------------|---|--------------------------------------|
| AASHTO | American Association of State Highway and Transportation Officials | 444 N Capitol St. NW |
| | | Suite 249 |
| | | Washington, DC 20001 |
| ASTM | American Society of the International Association for Testing and Materials | 100 Barr Harbor Drive |
| | | P.O. Box C700 |
| | | West Conshohocken, PA 19428- 2959 |
| CDOT | Colorado Department of Transportation | 2000 South Holly Street |
| | | Denver, CO 80222 |
| | | |
| ACI | American Concrete Institute | 38800 Country Club Drive |
| | | Farmington Hills, MI 48331-3439 |
| | | |
| AWWA | American Water Works Association | 6666 West Quincy Avenue |
| | | Denver, CO 80235 |
| | | |
| APWA | American Public Works Association | 1275 K Street, NW |
| | | Suite 750 |
| | | Washington, DC 20005 |
| ANSI | American National Standards Institute | 1899 L Street, NW |
| | | 11th Floor |
| | | Washington, DC 20036 |
| ASSE | American Society of Safety Engineers | |
| | | 520 North Northwest Highway |
| | | Park Ridge, IL 60068 |

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|-------|----------------------|-----------------------|
| | | 2480 West 26th Avenue |
| UDFCD | Urban Drainage Flood | Suite 156-B |
| | Control District | Denver, CO 80211 |

CDOT

Manual on Uniform Traffic Control Devices
Standard Specifications for Road and Bridge Construction

Foundation for Cross-Connection Control and Hydraulic Research
School of Engineering MC-2531
University of Southern California
P.O. Box 77902
Los Angeles, CA 90007

Section 3. Minor Modifications. In an effort to keep this Manual up-to-date with current standards and specification, minor modifications as described below may be approved by the applicable Department Director whose department is affected by the change(s). A “minor modification” is defined as changing a reference to a secondary code, updating terms, updating standard measurements, correcting typographical errors, and any other matter that does not materially change the intent and purpose of the Manual and does not lessen the public health, safety and welfare requirements. The minor modifications shall be made in writing and entered in the records of the applicable department.

Section 4. Penalty Clauses. The penalty provisions of the Manual are hereby fully set forth as follows:

Manual Section 126.00 Violations, **penalties and enforcement.**

Violations *It shall be unlawful for any person, firm or corporation to construct, enlarge, alter, extend, repair, move, remove, excavate, convert, demolish any public improvements, building, structure or equipment regulated by this Manual, or cause same to be done, in conflict with or in violation of the provisions of this Manual.*

Penalties. *Any person who violates a provision of this Manual or fails to comply with any of the standards, specifications and/or requirements hereof or who constructs, enlarges, alters, extends, repairs, moves, removes, excavates, converts, or demolishes any public improvements, building, structure or equipment in violation of the approved project or of a permit issued under the provision of this Manual, shall be subject to the penalties as proscribed in Section 1-24-10, General Penalties of the Brighton Municipal Code.*

Stop Work Order *Whenever the Director(s) finds that any work regulated by this Manual is being performed in a manner contrary to the provisions of this Manual, the Director is authorized to issue a stop work order. Upon issuance of a stop work order, the cited work shall immediately cease. The stop work order shall state the reason for the order, and the conditions upon which the cited work will be permitted to resume.*

Manual Section 1012.10 Penalties.

Contractor shall be held responsible for any damage to vegetation that was designated to be preserved within designated Vegetation and Tree Protection Zones.

Failure to comply with Protection of Existing Vegetation specifications may result in penalties. If that violation results in damage to a tree or other woody plant, there shall be, in addition to any other applicable penalty, a penalty of three (3) times the damage caused to the tree or other woody plant, or \$500, whichever is greater. In the event a tree or other woody plant is removed in violation of any of the provisions of this section, the additional penalty shall be three (3) times the value of the tree. For purposes of calculating the damages to the tree, the most recent edition of the "Guide for Establishing Values of Trees and Other Plants by the Council of Tree and Landscape Appraisers shall be presumed to provide the appropriate basis for determining damages.

Section 5. Severability of Ordinance Provisions. Each section of this ordinance is an independent section, and the holding of any section or part thereof to be unconstitutional, void or ineffective for any cause shall not be deemed to affect the validity or constitutionality of any other section or part thereof.

Section 6. Severability of Manual Provisions. If any sections, section, subsection or provision of the *Public Works Standards and Specifications Manual, 2015 Edition*, herein adopted, or the application thereof to any person or circumstances, is declared unconstitutionally or otherwise invalid by any competent court, such invalidity shall not affect the other sections, subsections, provisions or applications of the Manual if they can be given effect without the invalid sections, section, subsection, provision or application.

Section 7. Manual Kept on File. At least one copy of the *Public Works Standards and Specification Manual, 2015 Edition*, certified by the City Clerk to be a true copy of such Manual as it was adopted by this ordinance, shall be kept on file in the office of the City Clerk available for public inspection. One copy of the Manual and information by which the secondary codes may be accessed may be kept in the office of the Director of the Department of Streets and Fleets, Department of Utilities or the Department of Parks and Recreation rather than the office of the Clerk.

Section 8. Sale of Manual Copies. The City Clerk shall maintain a reasonable supply of copies of the *Public Works Standards and Specifications Manual, 2015 Edition*, to be available for purchase by the public at a moderate price.

Section 9. Effective Date. This ordinance and the City of Brighton *Public Works Standards and Specification Manual, 2015 Edition*, for the Design and Construction of Public Improvements (herein referred to as "Manual") adopted by reference hereby shall be effective five days after publication following final passage by the City Council.

Section 10. Application – Public Works Standards and Specifications. The City's *Public Works Standards and Specifications Manual*, which sets forth the standards for installation, maintenance, renovation and replacement of public improvements and

common facilities throughout the City was previously adopted by reference by Ordinance #1450 and further amended by Ordinance #1092. Should the *Public Works Standards and Specifications Manual* be referenced in any agreement, ordinance, resolution or other document approved or adopted prior to the effective date of this ordinance, said reference shall be deemed to reference the *City of Brighton Public Works Standards and Specifications Manual, 2015 Edition*, herein adopted.

Section 11. Prior Standards and Specifications. Standards and specifications applicable prior to the adoption of the *City of Brighton Public Works Standards and Specification Manual, 2015 Edition*, which are inconsistent with the provisions of the 2015 Manual are hereby repealed, except that this repeal shall not affect or prevent the prosecution or punishment of any person for any act done or committed in violation of any standard or specification hereby repealed prior to the taking effect of the 2015 Manual.

**INTRODUCED, READ, AND PASSED ON FIRST READING, AND
ORDERED PUBLISHED THIS 28th Day of June, 2016.**

CITY OF BRIGHTON, COLORADO

Richard N. McLean, Mayor

ATTEST:

Natalie Hoel, City Clerk

Approved as to Form:

Margaret Brubaker, Esq., City Attorney

Published in the *Denver Post*
First Publication: June 30, 2016

Published in the *Standard Blade*
First Publication: July 6, 2016

**INTRODUCED, READ, AND PASSED ON SECOND READING, AND
ORDERED PUBLISHED BY TITLE ONLY THIS 5th DAY OF July, 2016**

CITY OF BRIGHTON, COLORADO

Richard N. McLean, Mayor

ATTEST:

Natalie Hoel, City Clerk

Published in the *Standard Blade*
Second Publication: July 13, 2016

EXHIBIT A
SECONDARY CODE REFERENCES

| Section | Standard | Standard Number | Standard Title |
|----------------|-----------------|------------------------|---|
| 300 | AASHTO | M 145 | AASHTO Soil Classification System |
| 300 | ASTM | C 33 | Standard Specification for Concrete Aggregates |
| 300 | ASTM | C 150 | Standard Specification for Portland Cement |
| 300 | ASTM | D 4253 | Standard Test Methods for Maximum Index Density and Unit Weight of Soils Using a Vibratory Table |
| 300 | ASTM | D 4254 | Standard Test Methods for Minimum Index Density and Unit Weight of Soils and Calculation of Relative Density |
| 300 | CDOT | 703.02 | Coarse Aggregate for Concrete |
| 300 | AASHTO | M 80 | Standard Specification for Coarse Aggregate for Portland Cement Concrete |
| 300 | CDOT | 703.08 | Structure Backfill Material |
| 400 | AASHTO | M 173 | Standard Specification for Concrete Joint-Sealer, Hot-Poured Elastic Type |
| 400 | AASHTO | M 33 | STANDARD SPECIFICATION FOR PREFORMED EXPANSION JOINT FILLER FOR CONCRETE (BITUMINOUS TYPE) |
| 400 | AASHTO | M 153 | Standard Specification for Preformed Sponge Rubber and Cork Expansion Joint Fillers for Concrete Paving and Structural Construction |
| 400 | AASHTO | M 213 | Standard Specification for Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types) |

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| 400 | AASHTO | T 141 | Standard Method of Test for Sampling Freshly Mixed Concrete |
| 400 | AASHTO | T 23 | Standard Method of Test for Making and Curing Concrete Test Specimens in the Field |
| 400 | AASHTO | T 119 | Standard Method of Test for Slump of Hydraulic Cement Concrete |
| 400 | AASHTO | T 152 | Standard Method of Test for Air Content of Freshly Mixed Concrete by the Pressure Method |
| 400 | AASHTO | T 196 | Standard Method of Test for Air Content of Freshly Mixed Concrete by the Volumetric Method |
| 400 | AASHTO | T 121 | STANDARD METHOD OF TEST FOR DENSITY (UNIT WEIGHT), YIELD, AND AIR CONTENT (GRAVIMETRIC) OF CONCRETE |
| 400 | ACI | Publication 309, Chapter 5 | Guide for Consolidation of Concrete |
| 400 | ACI | Manual 306 | Guide to Cold Weather Concreting |
| 400 | ACI | 305 | Guide to Hot Weather Concreting |
| 400 | ACI | 211 | Standard Practice for Selecting Proportions for Normal, Heavyweight, and Mass Concrete |
| 400 | ACI | 304 | Guide for Measuring, Mixing, Transporting, and Placing Concrete |
| 400 | ACI | 301 | Specifications for Structural Concrete |
| 400 | ASTM | C 31 | Standard Practice for Making and Curing Concrete Test Specimens in the Field |
| 400 | ASTM | C 94 | Standard Specification for Ready-Mixed Concrete |
| 400 | ASTM | A 1064 | Standard Specification for Carbon-Steel Wire and Welded Wire Reinforcement, Plain and Deformed, for Concrete |
| 400 | ASTM | A 497 | |
| 400 | ASTM | C 494 | Standard Specification for Chemical Admixtures for Concrete |

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| 400 | ASTM | C 309 | Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete |
| 400 | ASTM | E 329 | Standard Specification for Agencies Engaged in Construction Inspection, Testing, or Special Inspection |
| 400 | ASTM | C 42 | |
| 500 | | Manual on Uniform Traffic Control Devices | |
| 500 | | Americans with Disabilities Act Accessibility Guidelines | |
| 500 | | AASHTO Guide for Development of Bicycle Facilities | |
| 500 | | AASHTO Green Book | |
| 500 | AASHTO | T 99 | Standard Method of Test for Moisture-Density Relations of Soils Using a 2.5-kg (5.5-lb) Rammer and a 305-mm (12-in.) Drop |
| 500 | AASHTO | T 283 | Standard Method of Test for Resistance of Compacted Asphalt Mixtures to Moisture-Induced Damage |
| 500 | AASHTO | M 213 | Standard Specification for Preformed Expansion Joint Fillers for Concrete Paving and Structural Construction (Non-extruding and Resilient Bituminous Types) |
| 500 | ASTM | D 698 | Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort (12 400 ft-lbf/ft ³ (600 kN-m/m ³)) |
| 600 | AASHTO | H-20 | |
| 600 | AWWA | C-502-85 | Standard for Dry-Barrel Fire Hydrants |
| 600 | ASTM | B 62 | Standard Specification for Composition Bronze or Ounce Metal Castings |
| 600 | ASTM | A 48 | Standard Specification for Gray Iron Castings |
| 600 | ASTM | A 126 | Standard Specification for Gray Iron Castings for Valves, Flanges, and Pipe Fittings |

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| 600 | AWWA | C-900 | Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 4 In. Through 12 In., for Water Transmission and Distribution |
| 600 | AWWA | C-909 | Standard for Molecularly Oriented Polyvinyl Chloride (PVCO) Pressure Pipe, 4 In. Through 24 In. (100 mm Through 600 mm), for Water Distribution |
| 600 | AWWA | C-905-97 | Polyvinyl Chloride (PVC) Pressure Pipe and Fabricated Fittings, 14 in. Through 48 in. (350 mm through 1,200 mm), for Water Transmission and Distribution |
| 600 | AWWA | C-151 | Ductile-Iron Pipe, Centrifugally Cast for Water |
| 600 | AWWA | C-111 | Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings |
| 600 | AWWA | C-104 | Cement-Mortar Lining for Ductile-Iron Pipe and Fittings for Water |
| 600 | AWWA | C-110 | Ductile-Iron and Gray-Iron Fittings, 3 in. through 48 in., for Water |
| 600 | AWWA | C-153 | Ductile-Iron Compact Fittings, for Water Service |
| 600 | AWWA | C-116 | Protective Fusion-Bonded Epoxy Coatings for the Interior and Exterior Surfaces of Ductile-Iron and Gray-Iron Fittings for Water Supply Service |
| 600 | AWWA | C-515 | Standard for Reduced-Wall, Resilient-Seated Gate Valves for Water Supply Service |
| 600 | AWWA | C-550-81 | Standard for Protective Interior Coatings for Valves and Hydrants |
| 600 | AWWA | C-504 | Standard for Rubber-Seated Butterfly Valves |
| 600 | AWWA | C-502-85 | Standard for Dry-Barrel Fire Hydrants |
| 600 | AWWA | C-105 | American National Standard for Polyethylene Encasement for Ductile-Iron Pipe Systems |
| 600 | AWWA | C-600 | Standard for Installation of Ductile-Iron Water Mains and Their Appurtenances |

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| 600 | AWWA | C-651 | Standard for Disinfecting Water Mains |
| 600 | AWWA | C-605 | Standard for Underground Installation of Polyvinyl Chloride (PVC) Pressure Pipe and Fittings for Water |
| 600 | AWWA | C-800 | Underground Service Line Valves and Fittings |
| 700 | ASTM | D3034 | Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings |
| 700 | ASTM | F379 | Recommended Practice for Measuring Slope Efficiency and Lasing Threshold of Ruby Laser Rods |
| 700 | ASTM | SDR35 | |
| 700 | ASTM | F794 | Standard Specification for Poly(Vinyl Chloride) (PVC) Profile Gravity Sewer Pipe and Fittings Based on Controlled Inside Diameter |
| 700 | ASTM | F949 | Standard Specification for Poly(Vinyl Chloride) (PVC) Corrugated Sewer Pipe With a Smooth Interior and Fittings |
| 700 | ASTM | C-478 | Standard Specification for Circular Precast Reinforced Concrete Manhole Sections |
| 700 | ASTM | C-76 | Standard Specification for Reinforced Concrete Culvert, Storm Drain, and Sewer Pipe |
| 700 | ASTM | A-48 | Standard Specification for Gray Iron Castings |
| 700 | ASTM | D-3034 | Standard Specification for Type PSM Poly(Vinyl Chloride) (PVC) Sewer Pipe and Fittings |
| 700 | ASTM | C-828 | Standard Test Method for Low-Pressure Air Test of Vitrified Clay Pipe Lines |
| 700 | ASTM | C-12 | Standard Practice for Installing Vitrified Clay Pipe Lines |
| 800 | AASHTO | M-294 | Standard Specification for Corrugated Polyethylene Pipe, 300- to 1500-mm (12- to 60-in.) Diameter |

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| 800 | AASHTO | D-2412 | Standard Test Method for Determination of External Loading Characteristics of Plastic Pipe by Parallel Plate Loading |
| 800 | AASHTO | C-0535-69 | Standard Test Method for Resistance to Degradation of Large -Size Coarse Aggregate by Abrasion and Impact in the Los Angeles Machine |
| 900 | ASTM | A-1008 | Standard Specification for Steel, Sheet, Cold-Rolled, Carbon, Structural, High-Strength Low-Alloy, High-Strength Low-Alloy with Improved Formability, Solution Hardened, and Bake Hardenable |
| 900 | ASTM | A-653 | Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process |
| 900 | CDOT | 3 | Traffic Control Materials |
| 900 | CDOT | 627 | Pavement Marking |
| 900 | CDOT | 614 | Traffic Control Devices |
| 1000 | | AASHTO Guide Specification for Design of Pedestrian Bridges | |
| 1000 | | AASHTO Standard Specifications for Highway Bridges | |
| 1000 | | CDOT Standard Specifications for Road and Bridge Construction | |
| 1000 | | AASHTO Guide for the Development of Bicycle Facilities | |
| 1000 | ANSI | Z60.1-2004 | American Standard for Nursery Stock |
| 1000 | ANSI | A300 | Tree, Shrub, and Other Woody Plant Maintenance – Standard Practices |
| 1000 | ASTM | D-2241 | Standard Specification for Poly(Vinyl Chloride) (PVC) Pressure-Rated Pipe (SDR Series) |

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| 1000 | ASTM | D-1784 | Standard Specification for Rigid Poly(Vinyl Chloride) (PVC) Compounds and Chlorinated Poly(Vinyl Chloride) (CPVC) Compounds |
| 1000 | ASTM | A-536 | Standard Specification for Ductile Iron Castings |
| 1000 | ASTM | D-2464 | Standard Specification for Threaded Poly(Vinyl Chloride) (PVC) Plastic Pipe Fittings, Schedule 80 |
| 1000 | ASTM | F-1487 | Standard Consumer Safety Performance Specification for Playground Equipment for Public Use |
| 1000 | ASTM | F-1292 | Standard Specification for Impact Attenuation of Surfacing Materials Within the Use Zone of Playground Equipment |
| 1000 | ASTM | F-1951 | Standard Specification for Determination of Accessibility of Surface Systems Under and Around Playground Equipment |
| 1000 | ASTM | F1292-09 | Standard Specification for Impact Attenuation of Surfacing Materials Within the Use Zone of Playground Equipment |
| 1000 | AWWA | C-506-78 | Standard for Backflow Prevention Devices - Reduced Pressure Principle and Double Check Valve Types |
| 1000 | ASSE | 1013 | Performance Requirements for Reduced Pressure Principle Backflow Preventers and Reduced Pressure Principle Fire Protection Backflow Preventers |