

# 2021

## Virginia Mechanical Code



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# PREFACE

## Introduction

The *Virginia Uniform Statewide Building Code* (USBC) is a state regulation promulgated by the Virginia Board of Housing and Community Development, a Governor-appointed board, for the purpose of establishing minimum regulations to govern the construction and maintenance of buildings and structures.

The provisions of the USBC are based on nationally recognized model building and fire codes published by the International Code Council, Inc. The model codes are made part of the USBC through a regulatory process known as incorporation by reference. The USBC also contains administrative provisions governing the use of the model codes and establishing requirements for the enforcement of the code by the local building departments and other code enforcement agencies.

In keeping with the designations of the USBC used previously, since the 2021 editions of the International Codes are incorporated by reference into this version of the USBC, it is known as the 2021 edition of the USBC.

## Arrangement

The USBC is part of the *Virginia Administrative Code* (VAC), the official compilation of state regulations published under the authority and guidance of the Virginia Code Commission. Due to the difference in the section numbering system between the VAC and the model codes incorporated by reference into the USBC, the USBC utilizes a dual section numbering system. In the USBC, the VAC section numbers are listed first, followed by a section number matching the model code system. In this printing of the USBC, the VAC section numbers are omitted and only the model code numbering system is utilized. The version of the USBC containing both the VAC section numbers and the model code numbering can be accessed through Virginia's Legislative Information System (LIS) here: <https://law.lis.virginia.gov/admincode/title13/agency5/>.

## Overview

The USBC is divided into three stand-alone parts. Part I contains regulations specific to the construction of new buildings and structures and is known as the *Virginia Construction Code*. Part II contains regulations specific to the rehabilitation of existing buildings, including repair, alterations, additions and change of occupancy in existing buildings and structures, and is known as the *Virginia Existing Building Code*. Part III of the USBC contains the regulations for the maintenance of existing structures which is enforced at the option of the local governments. It is known as the *Virginia Maintenance Code*.

## Code Purchased from ICC

The 2021 edition of the USBC is being made available in pamphlet form as in past editions of the USBC. In addition to the pamphlet form of the USBC published by DHCD, the International Code Council (ICC) publishes versions of the *Virginia Construction Code*, *Virginia Existing Building Code*, *Virginia Maintenance Code* and a series of Virginia specific trade codes.

## Marginal Markings

In the ICC published versions, marginal markings are provided to distinguish between text which is part of the International Codes and text which is part of the state regulations. Double vertical lines in the margins within the body of the codes indicate state amendments to the International Codes. As in the standard printings of the International Codes, a single vertical line in the margins within the body of the code indicates a technical change from the previous edition of the International Codes.

Deletions from the previous editions of the International Codes are indicated in the form of an arrow (➡) in the margin where an entire section, paragraph, exception or table has been deleted or an item in a list of items or a table has been deleted. Deletions to the Virginia Code are indicated with an open caret (>) in the margin.

## Technical Assistance

The local building departments and enforcing agencies may be contacted for further information concerning the USBC. Contact information for the State Building Codes Office is below.

**DHCD, Division of Building and Fire Regulation  
State Building Codes Office  
600 East Main Street, Suite 300  
Richmond, Virginia 23219  
Phone: (804) 371-7150 – Email: sbco@dhcd.virginia.gov  
Website: [www.dhcd.virginia.gov/codes](http://www.dhcd.virginia.gov/codes)**

# PREVIOUS ADOPTIONS and AMENDMENTS of the USBC and SFPC

The *Virginia Uniform Statewide Building Code* (USBC) was first adopted in 1973 by the State Board of Housing. Responsibility for the USBC passed to the State Board of Housing and Community Development on July 1, 1978. The *Virginia Statewide Fire Prevention Code* was first adopted by the Board of Housing and Community Development on March 1, 1988. The initial adoption and subsequent amendments by these Boards are indicated below:

## 1973 Edition

Effective date: September 1, 1973  
Title: Virginia Uniform Statewide Building Code,  
Administrative Amendments, 1973 Edition  
Major reference standards:  
BOCA Basic Building Code/1970, with  
1972 Accumulative Supplement  
BOCA Basic Mechanical Code/1971  
BOCA Basic Plumbing Code/1970, with  
1972 Accumulative Supplement  
CABO One- and Two-Family Dwelling Code/1971  
NFPA National Electrical Code/1971

## 1974 Accumulative Supplement

Effective date: April 1, 1974  
Title: 1974 Accumulative Supplement to  
Virginia Uniform Statewide Building Code  
Major reference standards:  
BOCA Basic Building Code/1970, with  
1972 Accumulative Supplement  
BOCA Basic Mechanical Code/1971  
BOCA Basic Plumbing Code/1970, with  
1972 Accumulative Supplement  
NFPA National Electrical Code/1971

## 1975 Accumulative Supplement

Effective date: February 7, 1975  
Title: 1975 Accumulative Supplement to  
Virginia Uniform Statewide Building Code  
Major reference standards:  
BOCA Basic Building Code/1975  
BOCA Basic Mechanical Code/1975  
BOCA Basic Plumbing Code/1975  
CABO One- and Two-Family Dwelling Code/1975  
NFPA National Electrical Code/1975

## 1978 Accumulative Supplement

Effective date: August 1, 1978  
Title: 1978 Accumulative Supplement to  
Virginia Uniform Statewide Building Code  
Major reference standards:  
BOCA Basic Building Code/1978  
BOCA Basic Mechanical Code/1978  
BOCA Basic Plumbing Code/1978  
CABO One- and Two-Family Dwelling Code/1975  
NFPA National Electrical Code/1978

## 1978 Accumulative Supplement (First Amendment)

Effective date: January 1, 1981  
NOTE: The 1978 Accumulative Supplement to the  
Virginia Uniform Statewide Building Code was  
continued, but with a few changes to the previously  
referenced BOCA Basic Building Code/1978.

## 1981 Edition

Effective date: July 16, 1982  
Title: Virginia Uniform Statewide Building Code, 1981 Edition  
Major reference standards:  
BOCA Basic Building Code/1981  
BOCA Basic Mechanical Code/1981  
BOCA Basic Plumbing Code/1981  
CABO One- and Two-Family Dwelling Code/  
1979 with 1980 Amendments  
NFPA National Electrical Code/1981

## 1981 Edition (First Amendment)

Effective date: June 20, 1984  
Title: Sections 515.4 and 515.5 of Article 5 of the  
1981 Edition, Virginia Uniform Statewide Building Code

## 1984 Edition

Effective date: April 1, 1986  
Title: Virginia Uniform Statewide Building Code,  
Volume I—New Construction Code, 1984 Edition  
Major reference standards:  
BOCA Basic Building Code/1984  
BOCA Basic Mechanical Code/1984  
BOCA Basic Plumbing Code/1984  
CABO One- and Two-Family Dwelling Code/  
1983 with 1984 Amendments  
NFPA National Electrical Code/1984

## 1987 Edition

Effective date: March 1, 1988  
Title: Virginia Uniform Statewide Building Code,  
Volume I—New Construction Code, 1987 Edition  
Major reference standards:  
BOCA Basic Building Code/1987  
BOCA Basic Mechanical Code/1987  
BOCA Basic Plumbing Code/1987  
CABO One- and Two-Family Dwelling Code/  
1986 with 1987 Amendments  
NFPA National Electrical Code/1987  
Title: Virginia Statewide Fire Prevention Code, 1987 Edition  
Major reference standard:  
BOCA National Fire Prevention Code/1987



**1987 Edition (First Amendment)**

Effective date: March 1, 1989  
Title: Virginia Uniform Statewide Building Code,  
Volume I—New Construction Code, 1987 Edition  
Major reference standards:  
Same as 1987 Edition

**1987 Edition (Second Amendment)**

Effective date: March 1, 1990  
Title: Virginia Uniform Statewide Building Code,  
Volume I—New Construction Code, 1987 Edition  
Major reference standards:  
Same as 1987 Edition

**1987 Edition (Third Amendment)**

Effective date: October 1, 1990  
Title: Virginia Uniform Statewide Building Code,  
Volume I—New Construction Code, 1987 Edition  
Major reference standards:  
Same as 1987 Edition

**1990 Edition**

Effective date: March 1, 1991  
Title: Virginia Uniform Statewide Building Code,  
Volume I—New Construction Code, 1990 Edition  
Major reference standards:  
BOCA National Building Code/1990  
BOCA National Mechanical Code/1990  
BOCA National Plumbing Code/1990  
CABO One- and Two-Family Dwelling  
Code/1989 with 1990 Amendments  
NFPA National Electrical Code/1990  
Title: Virginia Statewide Fire Prevention Code, 1990 Edition  
Major reference standard:  
BOCA National Fire Prevention Code/1990

**1990 Edition (First Amendment)**

Effective date: November 1, 1991  
Title: Virginia Uniform Statewide Building Code,  
Volume I—New Construction Code,  
1990 Edition  
Major reference standards:  
Same as 1990 Edition

**1990 Edition (Third Amendment)**

Effective date: March 1, 1993  
Title: Virginia Uniform Statewide Building Code,  
Volume I—New Construction Code,  
1990 Edition  
Major reference standards:  
Same as 1990 Edition.

**1993 Edition**

Effective date: April 1, 1994  
Title: Virginia Uniform Statewide Building Code,  
Volume I—New Construction Code, 1993 Edition  
Major reference standards:  
BOCA National Building Code/1993  
BOCA National Fire Prevention Code/1993  
BOCA National Mechanical Code/1993  
BOCA National Plumbing Code/1993  
CABO One- and Two-Family Dwelling Code/  
1992 with 1993 Amendments  
NFPA National Electrical Code/1993  
Title: Virginia Statewide Fire Prevention Code, 1993 Edition  
Major reference standard:  
BOCA National Fire Prevention Code/1993

**1996 Edition**

Effective date: April 15, 1997 with minor revision  
August 20, 1997  
Title: Virginia Uniform Statewide Building Code, 1996 Edition  
Major reference standards:  
BOCA National Building Code/1996  
CABO One- and Two-Family Dwelling Code/1995  
ICC International Mechanical Code/1996  
ICC International Plumbing Code/1995 with  
1996 Supplement  
NFPA National Electrical Code/1996  
Title: Virginia Statewide Fire Prevention Code, 1996 Edition  
Major reference standard:  
BOCA National Fire Prevention Code/1996

**1996 Edition w/2000 Amendments**

Effective date: September 15, 2000  
Title: Virginia Uniform Statewide Building Code,  
1996 Edition with 2000 Amendments  
Major reference standards:  
Same as 1996 edition except with  
ICC International Fuel Gas Code 1997

**2000 Edition**

Effective date: October 1, 2003  
Title: Virginia Uniform Statewide Building Code  
(2000 Edition)  
Major referenced standards:  
ICC International Code Council (ICC)  
ICC International Building Code 2000  
ICC International Energy Conservation Code 2000  
ICC International Fuel Gas Code 2000  
ICC International Mechanical Code 2000  
ICC International Plumbing Code 2000  
ICC International Residential Code 2000  
NFPA National Electrical Code 1999  
NOTE: An amendment addressing the fire separation  
distance between dwellings under the IRC  
became effective on September 9, 2004.  
Title: Virginia Statewide Fire Prevention Code, 2000 Edition  
Major reference standard:  
ICC International Fire Code 2000

**2003 Edition**

Effective date: November 16, 2005

Title: Virginia Uniform Statewide Building Code  
(2003 Edition)

Major referenced standards:

- International Code Council (ICC)
- ICC International Building Code 2003
- ICC International Energy Conservation Code 2003
- ICC International Fuel Gas Code 2003
- ICC International Mechanical Code 2003
- ICC International Plumbing Code 2003
- ICC International Residential Code 2003
- NFPA National Electrical Code 2005

Title: Virginia Statewide Fire Prevention Code, 2003 Edition

Major reference standard:

- ICC International Fire Code 2003

**2006 Edition**

Effective date: May 1, 2008

Title: Virginia Uniform Statewide Building Code  
(2006 Edition)

Major referenced standards:

- ICC International Building Code 2006
- ICC International Energy Conservation Code 2006
- ICC International Fuel Gas Code 2006
- ICC International Mechanical Code 2006
- ICC International Plumbing Code 2006
- ICC International Residential Code 2006
- NFPA National Electrical Code 2005

Title: Virginia Statewide Fire Prevention Code, 2006 Edition

Major reference standard:

- ICC International Fire Code 2006

**2009 Edition**

Effective Date: March 1, 2011

Title: Virginia Uniform Statewide Building Code  
(2009 Edition)

Major referenced standards:

- ICC International Building Code 2009
- ICC International Energy Conservation Code 2009
- ICC International Fuel Gas Code 2009
- ICC International Mechanical Code 2009
- ICC International Plumbing Code 2009
- ICC International Residential Code 2009
- NFPA National Electrical Code 2008

Title: Virginia Statewide Fire Prevention Code, 2009 Edition

Major reference standard:

- ICC International Fire Code 2009

**2012 Edition**

Effective Date: July 14, 2014

Title: Virginia Uniform Statewide Building Code  
(2012 Edition)

Major referenced standards:

- ICC International Building Code 2012
- ICC International Energy Conservation Code 2012
- ICC International Fuel Gas Code 2012
- ICC International Mechanical Code 2012
- ICC International Plumbing Code 2012
- ICC International Residential Code 2012
- NFPA National Electrical Code 2011

Title: Virginia Statewide Fire Prevention Code, 2012 Edition

Major reference standard:

- ICC International Fire Code 2012

**2015 Edition**

Effective Date: September 4, 2018

Title: Virginia Uniform Statewide Building Code  
(2015 Edition)

Major referenced standards:

- ICC International Building Code 2015
- ICC International Energy Conservation Code 2015
- ICC International Fuel Gas Code 2015
- ICC International Mechanical Code 2015
- ICC International Plumbing Code 2015
- ICC International Residential Code 2015
- NFPA National Electrical Code 2014

Title: Virginia Statewide Fire Prevention Code, 2015 Edition

Major reference standard:

- ICC International Fire Code 2015

**2018 Edition**

Effective Date: July 1, 2021

Title: Virginia Uniform Statewide Building Code  
(2018 Edition)

Major referenced standards:

- ICC International Building Code 2018
- ICC International Energy Conservation Code 2018
- ICC International Fuel Gas Code 2018
- ICC International Mechanical Code 2018
- ICC International Plumbing Code 2018
- ICC International Residential Code 2018
- NFPA National Electrical Code 2017

Title: Virginia Statewide Fire Prevention Code, 2018 Edition

Major reference standard:

- ICC International Fire Code 2018





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