

**DESIGN AND CONSTRUCTION STANDARDS
REGULATIONS, STANDARDS AND REFERENCES**

I. REGULATIONS

The following information identifies regulatory agencies and other organizations whose regulations and standards apply to the development of utility infrastructure owned and maintained by the City of Norfolk.

i. Federal

Occupational Safety and Health Act (OSH Act)

29 U.S.C. Section 2 through 34

Occupational Safety and Health Administration (OSHA) is an agency of the United States Department of Labor. It was established under the Occupational Safety and Health Act. Its mission is to "assure safe and healthful working conditions for working men and women by setting and enforcing standards and by providing training, outreach, education and assistance". Employers must comply with all applicable OSHA standards. Employers must also comply with the General Duty Clause of the OSH Act, which requires employers to keep their workplace free of serious recognized hazards.

https://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=OSHACT&p_id=2743

Clean Water Act (CWA)

U.S.C. sections created 33 U.S.C. §§ 1251–1387. U.S.C. sections amended 33 U.S.C. ch. 23 § 1151

The CWA is the primary federal law in the United States governing water pollution. Its objective is to restore and maintain the chemical, physical, and biological integrity of the nation's waters by preventing point and nonpoint pollution sources, providing assistance to publicly owned treatment works for the improvement of wastewater treatment, and maintaining the integrity of wetlands. It is one of the United States' first and most influential modern environmental laws. As with many other major U.S. federal environmental statutes, it is administered by the U.S. Environmental Protection Agency (EPA), in coordination with state governments.

<https://www3.epa.gov/npdes/pubs/cwatxt.txt>

ii. State

Waterworks Regulations

Virginia Administrative Code, Title 12, Agency 5, Chapter 590 (12VAC5-590)

Virginia Department of Health (VDH), Office of Drinking Water (ODW) administers this legal framework for drinking water as written in the Waterworks Regulations by the Virginia legislature.

<http://www.vdh.virginia.gov/drinking-water/office-of-drinking-water/virginias-drinking-water-rules-and-regulations/>

Sewage Collection and Treatment (SCAT) Regulations

Virginia Administrative Code, Title 9, Agency 25, Chapter 790 (9VAC25-790)

Agency 25 is the State Water Control Board. The SCAT regulations govern the design, construction and operation of sewage systems and treatment works serving more than one residence or a non-residential sewage source. Department of Environmental Quality (DEQ) is responsible for the administration of federal and state regulations for water and wastewater, which govern the design, construction and operation of wastewater collection and treatment systems. Therefore, DEQ administers the SCAT regulations.

<http://law.lis.virginia.gov/admincode/title9/agency25/chapter790/>

Overhead High Voltage Safety Act

Code of Virginia, Title 59.1, Chapter 30 and Title 40.1, Chapters 1 and 3.

This chapter is enacted to promote the safety and protection of persons engaged in work or activity in the vicinity of overhead high voltage lines. The chapter defines the conditions under which work may be carried on safely and provides for the safety arrangements to be taken when any person engages in work or other activity in proximity to overhead high voltage lines. This Act is enforced by the State Commissioner of Labor and Industry.

<http://law.lis.virginia.gov/vacodepopularnames/overhead-high-voltage-line-safety-act/>

Virginia Uniform Statewide Building Code (USBC)

By Virginia Administrative Code (13VAC5-63)

The Virginia 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.

<https://dhcd.virginia.gov/virginia-uniform-statewide-building-code-usbc>

Virginia Erosion and Sediment Control Handbook

By Virginia Administrative Code (9VAC25-840; previously 4VAC50-30).

The Virginia Erosion and Sediment Control Handbook administered by Virginia Department of Environmental Quality (VDEQ) is intended to serve as a technical guide in the effort to meet the requirements dictated by the Virginia Erosion and Sediment Control Law and the Virginia Erosion and Sediment Control Regulations.

<http://www.deq.virginia.gov/Programs/Water/StormwaterManagement/Publications/ESCHandbook.aspx>

iii. Regional

(Reserved)

iv. City of Norfolk

Right-Of-Way Excavation & Restoration Manual

Norfolk City Code, Ordinance No. 40,778, Section 42-18

The Department of Public Works builds, maintains, and operates the street network, traffic management system, storm water system, waste management and recycling systems. All work within the Right-Of-Way zone must comply with the guidelines in this manual.

<http://www.norfolk.gov/documentcenter/view/779>

Norfolk Code of Ordinance: Sewer Use - Public

Norfolk City Code, Chapter 39.1, Sections 39.1-1 through 39.1-38

The purpose of this chapter is to prevent the introduction of pollutants and wastes into the City's public sewerage system which will interfere with the operation of the system or contaminate the receiving waters or the atmosphere or otherwise be incompatible with the system. This chapter provides for the regulation of direct and indirect contributors to the city's public sewage system and shall apply to the City of Norfolk and to persons outside the city who are, by contract or agreement with the city, users of the City's public sewage system. Except as otherwise provided herein, the Department of Utilities of the City of Norfolk shall administer, implement, and enforce the provisions of this chapter.

https://www.municode.com/library/va/norfolk/codes/code_of_ordinances?nodeId=COCI_CH39.1SEUUB

Norfolk Code of Ordinance: Water Supply

Norfolk City Code, Chapter 46.1, Sections 46.1-1 through 39.1-68

This chapter provides the regulation and protection of the City's potable water system.

https://www.municode.com/library/va/norfolk/codes/code_of_ordinances?nodeId=COCI_CH46.1WASU

II. STANDARDS

i. National

American Water Works Association (AWWA) Standards

For more than 100 years AWWA has developed voluntary standards of minimum requirements for materials, equipment and practices used in water treatment and supply. AWWA Standards are used by thousands of manufacturers, distributors and water treatment facilities worldwide to ensure the highest quality products and service.

<http://www.awwa.org/publications/standards.aspx>

International Plumbing Code (IPC)

The IPC is a proven, comprehensive model plumbing code that works seamlessly with International Code Council's family of building codes. It sets minimum regulations for plumbing systems and components to protect life, health and safety of building occupants and the public. The IPC is available for adoption by jurisdictions ranging from states to towns, and is currently adopted on the state or local level in 35 states in the U.S.

<http://www.iccsafe.org/codes-tech-support/topics/plumbing-mechanical-and-fuel-gas/international-plumbing-code-ipc-home-page/>

National Electrical Code (NEC)

By the National Fire Protection Association (NFPA)

The NEC addresses the installation of electrical conductors, equipment, and raceways; signaling and communications conductors, equipment, and raceways; and optical fiber cables and raceways in commercial, residential, and industrial occupancies.

<http://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards?mode=code&code=70>

2016 Manual for Railway Engineering

By the American Railway Engineering and Maintenance-of-Way Association (AREMA)

AREMA have collected the development and advancement of both technical and practical knowledge and recommended practices pertaining to the design, construction and maintenance of railway infrastructure.

https://www.arema.org/AREMA_MBRR/AREMA_MBRR/AREMAStore/MRE.aspx

Guide for Determination of Needed Fire Flow

By the Insurance Services Office (ISO)

ISO is a leading source of information about property/casualty insurance risk. ISO distributes the industry standard for calculating the needed fire flow for a building.

<https://www.isomitigation.com/technical/needed-fire-flow.html>

Standard Guide for the Collection and Depiction of Existing Subsurface Utility Data

By the American Society of Civil Engineers (ASCE)

The ASCE published Standard 38-02 titled Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data (CI/ASCE 38-02). The standard defined SUE and set guidance for the collection and depiction of subsurface utility information. The ASCE standard presents a system to classify the quality of existing subsurface utility data, in accordance with four quality levels.

<http://ascelibrary.org/doi/book/10.1061/9780784406458>

ii. State

VDOT Traffic Engineering Design Manual

By Virginia Department of Transportation (VDOT)

The Traffic Engineering Design Manual describes the regional standards related to traffic signal design, lighting design, and signing and pavement marking design.

<http://www.virginiadot.org/business/locdes/traffic-engineering-manual.asp>

Virginia Work Area Protection Manual

By Virginia Department of Transportation (VDOT)

The Work Area Protection Manual describes the regional standards for traffic signals and markings related to road work areas.

http://www.virginiadot.org/business/resources/wztc/Virginia_WAPM_2011_web.pdf

iii. Regional

HRSD Standards and Preferences for Engineered Construction Projects

By Hampton Roads Sanitation District (HRSD)

HRSD is a political subdivision of the Commonwealth of Virginia collecting and treating sanitary sewer from 18 Counties and Cities. All HRSD design and construction work must follow the standards and preferences as outlined.

<http://www.hrsd.com/>

HRPDC Regional Construction Standards (RCS)

By Hampton Roads Planning District Commission (HRPDC), Hampton Roads Sanitation District (HRSD), Hampton Roads Utility and Heavy Contractors Association (HRUHCA) and 17 Cities, Counties and Towns.

The HRPDC Standards is a reference manual of uniform construction standards for improvements in public rights-of-way. The RCS address "horizontal" improvements and those involving the major elements of roadways, drainage and utilities (water distribution and wastewater collection). These documents are intended to accommodate most of the typical construction projects in the region and support the majority of issues the communities face in building minor roads and utilities.

http://hrregconstds.org/HRRCS_CurrentStandards.html

HRSD Sanitary Sewer Flow Calculations Worksheet

Applicants with projects generating sanitary sewer flow must use this worksheet to calculate flows and submit to HRSD Development Services

<https://www.hrsd.com/development-services-forms>

iv. City of Norfolk

Norfolk's Tree Mitigation Standards

The City of Norfolk, Department of Recreation, Parks and Open Space

Recreation, Parks & Open Space landscaping crews are responsible for preserving and protecting Norfolk's parks and other outdoor public areas for aesthetics, recreation, education, and conservation. The Department of Recreation, Parks and Open Space is responsible for public mowing and the urban forestry.

<https://www.norfolk.gov/DocumentCenter/View/23107>

III. References

i. National

BOCA Basic Building Code

By the Building Officials Code Administrators

The BOCA building code is sold on the International Code Council’s website. The BOCA Basic Building Code establishes minimum requirements for materials and methods of construction, addresses loads and stresses, fire protection, special uses, lighting and ventilation, and means of egress. BOCA encourages cities and states to adopt uniform building codes, and promotes competence and professionalism in the enforcement of those codes.

<http://shop.iccsafe.org/codes/legacy-codes/boca-national-codes-and-references.html>

ii. State

(Reserved)

iii. Regional

Regional Technical Standards (RTS)

By the Virginia State Water Control Board (SWCB)

The SCWB issued a Special Order by Consent to HRSD and certain Hampton Roads municipalities, which included the RTS. Although the City of Norfolk was not a party to this particular consent order, the City participates on a voluntary basis and relies on the RTS for general reference.

<http://www.deq.virginia.gov/Portals/0/DEQ/Enforcement/FinalOrders/HRSDandLocality-RTS-Sept262007.pdf>

iv. City of Norfolk

(Reserved)