

Chapter 1. General Provisions

1.0 Introduction and Purpose

These Criteria and design standards together with all future amendments shall be known as the Southeast Metro Stormwater Authority (SEMSWA) Stormwater Management Manual (hereafter called the "Criteria") being part of and subject to the City of Centennial Municipal Code, as amended (hereafter called the "Code"). Presented in these Criteria are the policies and minimum technical criteria for the planning, analysis and design of storm drainage systems within the boundaries of the City.

1.1 Enactment Authority

SEMSWA is an independent governmental entity formed by formal agreement to provide stormwater management and maintenance for the City of Centennial. As part of the authority provided to SEMSWA, these Criteria are adopted by resolution.

1.2 Jurisdiction

These Criteria shall apply to all land within the boundaries of the City of Centennial, including any public lands. These Criteria shall apply to all systems and facilities constructed in or on City Rights-of-Way, easements dedicated for drainage across public or private property, easements for public use, and to all privately owned and maintained stormwater conveyance, detention, retention, or water quality facilities.

1.3 Applicability

All subdivisions, re-subdivisions, planned unit development, or any other proposed construction submitted for acceptance under the provisions of the Code shall include adequate and appropriate storm drainage system planning, analysis, and design. All drainage reports and plans, drainage system analyses, and drainage system designs that are submitted as a requirement of the Code shall comply with these Criteria. Storm drainage system planning, analysis, and design that require policies and technical criteria not specifically addressed in these Criteria shall follow the provisions of the Urban Drainage and Flood Control District's (UDFCD) Urban Storm Drainage Criteria Manual, Volumes 1, 2, and 3, as amended (UDFCD Manual), which is incorporated in these Criteria by reference.

1.4 Amendments and Revisions

These Criteria may be amended as new technology is developed or if experience gained in the use of these Criteria indicates a need for revision. All technical criteria and policy changes must be recommended by the Executive Director (hereafter called the "Director") or his or her designee. All revisions will require the review and recommendation of the Director and adoption, by resolution, of the SEMSWA Board of Directors following a Public Hearing thereon. The Director shall monitor the performance and effectiveness of these Criteria and will recommend amendments and revisions as needed.

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1.5 Enforcement

SEMSWA shall review all drainage reports and plans, drainage system analyses, and drainage system designs, submitted as a requirement of the Code, for compliance with these Criteria. These Criteria shall be enforced in accordance with Part 100 of Chapter 1 of this Code and through applicable SEMSWA adopted resolutions.

1.6 Review and Approval

- 1.6.1** SEMSWA shall review all drainage submittals for general compliance with these Criteria. An acceptance by SEMSWA does not relieve the owner, engineer, or designer from the responsibility of ensuring that the designs, calculations, plans, specifications, construction, and record drawings are in compliance with these Criteria as stated in the owner's and engineer's certifications.
- 1.6.2** SEMSWA will refer reports and construction plans required by these Criteria to the UDFCD for review when they pertain to property within the UDFCD boundaries. Where major drainageway improvements or floodplain modifications are proposed, UDFCD approval will be required for the design and construction of the improvements. All eligible stormwater facilities constructed in the City, must meet the UDFCD maintenance eligibility requirements.
- 1.6.3** Submittals that impact or have potential to impact FEMA designated floodplains will be required to be submitted to FEMA for review in accordance with the provisions of Chapter 5.
- 1.6.4** Submittals that impact or have potential to impact "Waters of the United States" (including streams, open water lakes, ponds, wetlands, etc) are subject to review and/or approval by the U.S. Army Corps of Engineers (USACE). Work of this type may require a Section 401 or Section 404 Permit. The level of permitting is dependent on the extent of disturbance or change of the water body of interest. USACE will determine whether a Nationwide Permit or Individual Permit is required.
- 1.6.5** SEMSWA may, at its discretion, refer submittals to other agencies that have an interest or responsibility for drainage and/or water quality issues. Other review agencies may include water and sanitation districts that have accepted stormwater drainage responsibilities through Intergovernmental Agreements, State agencies responsible for floodplain and water quality, water rights and other stormwater related issues, the Cherry Creek Basin Water Quality Authority, United States Fish and Wildlife Service and other relevant jurisdictions.
- 1.6.6** Phase III Drainage Reports will be valid for two years from the date of SEMSWA approval in accordance with Section 4.2.2.

1.7 Interpretation

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In the interpretation and application of the provisions of these Criteria, the following shall govern:

- 1.7.1** In the interpretation and application, the provisions shall be regarded as the minimum requirements for the protection of the public health, safety, comfort, morals, convenience, prosperity, and welfare of the residents of the City. These Criteria shall therefore be regarded as remedial and shall be liberally construed to further the underlying purposes.
- 1.7.2** Whenever a provision of these Criteria and any other provision of the Code or any provision in any law, ordinance, resolution, rule or regulation of any kind, contains any requirement(s) covering any of the same subject matter, the requirements that are more restrictive or impose higher standards shall govern.
- 1.7.3** These Criteria shall not abrogate or annul any easements, permits or approved drainage studies issued before the effective date of these Criteria, provided that the improvements have been constructed within the approval time period. Drainage studies, construction plans and permits which have expired approvals (i.e. improvements have not been constructed prior to the expiration of the approval date) shall be required to be resubmitted in accordance with the requirements of these Criteria. Land development proposals which require a submittal through the City's land use process, shall be required to meet current criteria. Drainage studies that have been approved through a previous land use process are not to be assumed as valid for a new land use submittal process. For example, a site that does not have on-site detention or water quality treatment, because the land use action was approved prior to SEMSWA having criteria to require it will be required to provide the appropriate design as part of the new process. Minor revisions may be addressed by the variance process as described in Section 1.8. The Director shall have final authority to resolve any conflicting interpretations of these Criteria.

1.8 Variances

- 1.8.1 Applicability.** The procedures of this Section shall apply to requests for variances from the standards, or submittal requirements of these Criteria. A variance request may only be submitted when it accompanies a land use application.
- 1.8.2 Submittal Requirements.** Variance requests shall be submitted to SEMSWA. The application shall be reviewed for completeness. A complete variance application shall include all required submittal information identified herein, including all items specified by SEMSWA and payment of the applicable application fee. If the application is deemed complete, the application shall then be processed pursuant to this Section. If the application is deemed incomplete, SEMSWA shall inform the applicant of such fact within ten (10) days of its filing. No further processing of an incomplete application shall occur until the deficiencies are corrected. If the applicant does not correct the deficiencies within 30 days, the variance application shall be deemed withdrawn.

- 1.8.3 Review by Technical Review Committee.** Complete applications shall be considered by SEMSWA's Technical Review Committee (TRC) at the next regularly scheduled TRC meeting. The applicant shall be informed of the meeting date and may attend to provide additional evidence on its behalf. The TRC shall act to approve, approve with conditions or deny the variance request based on the approval criteria set forth in subsection 1.8.6. The TRC shall render a written decision within five working days following the meeting at which the variance was considered.
- 1.8.4 Appeals of TRC Decision.** The applicant may appeal a denial of a variance request to the Director within thirty days of the date of TRC's written denial. The applicant's appeal shall be submitted in writing to the Director. Within ten working days of receipt of the applicant's written notice of appeal, the Director shall consider the variance request and render a decision to uphold or reject the TRC's decision on the variance request based on the approval criteria set forth in subsection 1.8.6.
- 1.8.5 Final Appeal to the Board of Directors.** An applicant may appeal the Director's decision to the Board. The Board's decision to approve, approve with conditions or deny the variance shall be made part of a resolution.
- 1.8.6 Criteria of Approval.** A variance application may be approved only if the appropriate decision maker finds that all of the following criteria have been met:
- a. The variance represents the least deviation from the regulations that will afford relief;
 - b. The variance will not increase costs of maintenance and repair of storm drainage facilities or other public facilities;
 - c. The variance meets the stated principles found in Section 2.1 of these Criteria;
 - d. The variance will not cause property damage to upstream or downstream properties;
 - e. The request will not impose undue adverse environmental impacts;
 - f. Access to the property and safe traffic flow will not be compromised; and
 - g. The variance otherwise serves the public health, safety and welfare.

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1.9 Acronyms

As used in these Criteria, the following acronyms shall apply:

ASCE	American Society of Civil Engineers
ASTM	American Society for Testing and Materials
ACWWA	Arapahoe County Water & Wastewater Authority
BCD	Baffle Chute Drop
BFE	Base Flood Elevation
BMP	Best Management Practice
CAP	Corrugated Aluminum Pipe
CAPA	Corrugated Aluminum Pipe Arch
CCBWQA	Cherry Creek Basin Water Quality Authority
CDOT	Colorado Department of Transportation
CDPHE	Colorado Department of Public Health and Environment
CEC	Consulting Engineers Council
CGIA	Colorado Governmental Immunity Act
CLOMA	Conditional Letter of Map Amendment
CLOMR	Conditional Letter of Map Revision
CMP	Corrugated Metal Pipe
CMPA	Corrugated Metal Pipe Arch
CRS	Colorado Revised Statutes
CSP	Corrugated Steel Pipe
CSPA	Corrugated Steel Pipe Arch
CUHP	Colorado Urban Hydrograph Procedure
CWA	Federal Clean Water Act
CWCB	Colorado Water Conservation Board
DCIA	Directly Connected Impervious Area
DRCOG	Denver Regional Council of Governments
EDB	Extended Detention Basin
EGL	Energy Grade Line
ECCV	East Cherry Creek Valley Water & Sanitation District
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FHAD	Flood Hazard Area Delineation
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FIS	Flood Insurance Study
FPE	Flood Protection Elevation
GSB	Grouted Sloping Boulder
HDS	Hydraulic Design Series
HEC	Hydraulic Engineering Center
HERCP	Horizontal Elliptical Reinforced Concrete Pipe
HGL	Hydraulic Grade Line
HUD	U.S. Department of Housing and Urban Development
H:V	Horizontal to Vertical Ratio of a Slope

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ICC	Increased Cost of Compliance
LID	Low Impact Development
LOMA	Letter of Map Amendment
LOMR	Letter of Map Revision
MDCIA	Minimized Directly Connected Impervious Area
NAVD	North American Vertical Datum
NFIA	National Flood Insurance Act
NFIP	National Flood Insurance Program
NGVD	National Geodetic Vertical Datum
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NWS	National Weather Service
P.E.	Professional Engineers Licensed by the State of Colorado
PMF	Probable Maximum Flood
PMP	Probable Maximum Precipitation
PWD	Public Works and Development
RCBC	Reinforced Concrete Box Culvert
RCP	Reinforced Concrete Pipe
ROW	Right-of-Way
SBA	Small Business Administration
SEO	Colorado State Engineer's Office
SFHA	Special Flood Hazard Area
SFIP	Standard Flood Insurance Policy
SPP	Structural Plate Pipe
SPPA	Structural Plate Pipe Arch
SWMM	Stormwater Management Model
TRC	Technical Review Committee
TWE	Tailwater Elevation
UDFCD	Urban Drainage & Flood Control District
UDSWM	Urban Drainage Stormwater Management Model
USACE	United States Army Corps of Engineers
USBR	United States Bureau of Reclamation
USDCM	Urban Storm Drainage Criteria Manual
USGS	United States Geological Survey
WEG	Water Environment Federation
VHB	Vertical Hard Basin
WQCV	Water Quality Capture Volume