

## Chapter 3 Drainage - revisions

Date	Chapter of item to be changed	Section of item to be changed	Person Requesting Change	Typo, minor or major	Description
1/1/19	Chapter 3	All	Chavez	Major	See change document attached to this revision table on page 2.

**From Chavez:  
ECM Chapter 3 Revisions  
2019**

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**Chapter 3. Drainage Table of Contents**

Change Title to: Stormwater Management

3.3: Delete “Stormwater” New Section Heading: Design

Add new section 3.3.7: Permanent Stormwater Management Facilities

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Update webpage addresses to:

For DCMV1:

<https://publicworks.elpasoco.com/policies-manuals/>

For drainage fees:

<https://publicworks.elpasoco.com/road-bridge-planning/>

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**Table 3-1 Contents and Basis of Drainage Facility Standards**

Under the Design heading, remove: “Site Grading” / ECM Section 3.3.1 / Reference Documents 2,3. (Note: Site Grading not mention in 3.3.1)

Under Design heading, add new: Permanent Stormwater Management Facilities / ECM Section 3.3.7 / Reference Documents n/a.

Under the Construction heading, add: Site Grading / ECM Section 3.3.4 / Reference Document 2,3.

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**References**

Add:

4. City of Colorado Springs Drainage Criteria Manual 2014 Update: Chapter 6 and section 3.2.1 of Chapter 13

5. **Urban Drainage and Flood Control District Criteria Manual Volume 3, Chapter 7**

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**Section 3.2.4 Suitable Outfall Location Definition**

Add: “hydrologically and” to last sentence of paragraph between words “existing” and “hydraulically adequate...”

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### **Section 3.2.5.A Space Planning**

Replace existing paragraph with:

Adequate space shall be provided and properly allocated for drainage facilities to ensure that downstream water quality impacts are minimized. When topography of a site dictates the need for addressing water quality near State Waters, adequate space must be provided for the location of permanent water quality structures prior to the discharge to State Waters. At no time shall concentrated flows be allowed from developed lots to discharge directly to State Waters.

Up to 20 percent, not to exceed one (1) acre of an applicable development site may be excluded from Water Quality Capture Volume (WQCV) calculations when it has been determined that it is not practicable to capture runoff from portions of the site that will not drain towards a permanent control measure. The Owner must determine that implementation of a separate control measure for that portion of the site is not practicable and such determination shall be reviewed and approved by the ECM Administrator. See Appendix I for additional information.

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#### **Section 3.2.5.E. Stormwater Quantity and Quality**

Land disturbance activities shall properly manage and mitigate both stormwater quantity and quality related impacts. Quantity related impacts shall be mitigated in a manner that controls possible damage caused by the amount of surface water being transported to any one design point. Quality related impacts shall be mitigated using the design standards and permanent BMP selection process discussed in Appendix I.

All applicable development sites must have operational permanent stormwater quality control measures at the completion of the site. In the case where permanent water quality control measures are part of future phasing, the permittee must have a mechanism to ensure that all control measures will be implemented, regardless of completion of future phases or site ownership. In such cases, temporary water quality control measures must be implemented as feasible and maintained until removed or modified. All temporary water quality control measure must meet one of the design standards discussed in Appendix I.

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#### **Section 3.2.5.F. Water Rights (new second paragraph):**

Colorado Revised Statute (CRS) §37-92-602 (8) provides legal protection for any regional or individual site stormwater detention and infiltration facility in Colorado except those in the Fountain Creek watershed that are not required by or operated in compliance with a Municipal Separate Storm Sewer System (MS4) permit, provided it meets the following criteria:

1. It is owned or operated by a governmental entity or is subject to oversight by a governmental entity (e.g., required under an MS4 permit)

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2. It continuously releases or infiltrates at least 97% of all of the runoff from a rainfall event that is less than or equal to a 5-year storm within 72 hours after the end of the event
3. It continuously releases or infiltrates as quickly as practicable, but in all cases releases or infiltrates at least 99% of the runoff within 120 hours after the end of events greater than a 5-year storm
4. It operates passively and does not subject the stormwater runoff to any active treatment process (e.g., coagulation, flocculation, disinfection, etc.).
5. The runoff treated in stormwater detention and infiltration facilities shall not be used for any other purpose by the owner/operator/overseer (or that entity's assignees).
6. The run off shall not be released for subsequent diversion or storage by the owner/operator/overseer (or that entity's assignees).
7. It shall not be the basis for a water right or credit.

Most stormwater detention and infiltration facilities developed in unincorporated El Paso County are subject to the oversight of El Paso County and are required by an MS4 permit. Thus El Paso County developed a registration process to meet the requirements of CRS §37-92-602 (8). Please refer to section 3.3.7 for required information to be submitted during plan review to allow for facilities to be protected under the provisions of the statute.

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#### **Section 3.3.5. Roadways**

Add: CDOT M&S Standards to end of last sentence.

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#### **Section 3.3.6 Subsurface Discharge (new sub-section C)**

##### **C Permitting Requirement**

###### **1. Construction Dewatering Permit**

The Colorado Department of Public Health and Environment administers a dewatering permit for use during construction. When ground water is anticipated or encountered and dewatering is required for construction to occur Construction Dewatering Permit is required when the discharge will leave the permitted site in the form of surface runoff.

###### **2. NPDES Permit**

In the event no other option exists but to “day light” a subsurface discharge, thereby transforming ground water flow into surface water flow, an NPDES permit may be required by the Colorado Department of Public Health and Environment. It shall be the responsibility of the applicant and or owner to apply for and maintain any required NPDES permit.

###### **3. Well Permit**

The Colorado Division of Water Resources may require a Well Permit for any subsurface discharge that meets the definition of “well,” found in CRS §37-91-102(4.5).

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#### Section 3.3.7 (new section)

##### **Permanent Stormwater Management Facilities**

Post construction stormwater management often relies on facilities designed for detention or infiltration of stormwater from developed areas with a goal to release accumulated runoff at levels that mimic historic levels. There are specific notification requirements that apply to all new stormwater detention and infiltration facilities, including individual site facilities built by private parties as a development requirement. For any stormwater detention and infiltration facility constructed after August 5, 2015 and seeking protection under the new statute, the “entity that owns, operates, or has oversight for” shall, prior to operation of the facility, provide notice to all parties on the substitute water supply plan notification email list maintained by the State Engineer.

El Paso County developed a Post Construction Stormwater Detention Facility Documentation Form and procedure to assist applicants in the process of registering stormwater detention and infiltration facilities to enable them to be protected under the provisions provided for in CRS §37-92-602 (8). This documentation form can be found in Appendix E, Checklists and Permits.

With submission of a Final Drainage Report for a project, the design engineer must include for each detention and infiltration facility proposed for the project:

1. a completed Post Construction Stormwater Detention Facility Documentation Form
2. a completed Stormwater Detention and Infiltration Facility Design Data Sheet for each facility included in the project.
3. an Operations and Maintenance Manual
4. a Private Detention Basin / Stormwater Quality Best Management Practice Maintenance Agreement and Easement

The Stormwater Detention and Infiltration Facility Design Data Sheet can be downloaded from the statewide notification and compliance portal at: <https://maperture.digitaldataservices.com/gvh/?viewer=cswdif>, or by contacting the El Paso County Project Engineer assigned to the project.

El Paso County Development Services Project Engineers will review the submitted documentation forms for completeness and accuracy. Upon verification of completed and accurate documentation and data sheets, El Paso County staff will upload each facility into the statewide reporting portal once the facility(ies) become operational.

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#### **Section 3.4: Replace entire section with this new text:**

[Replaces City of Colorado Springs/El Paso County Drainage Criteria Manual Section 4.8.2 Information to be included in the Erosion Control Plan)

The intent of the GEC Plan is to provide for overall subdivision or development grading design as part of the engineering required for review and approval by the County. This plan is done at the time subdivision or development construction drawings are prepared by the Professional Engineer working for the developer. This is complex work whereby cuts and fills are analyzed for balance, slopes and contours are proposed as an integral part of the engineering design. A second important use of the GEC Plan is to estimate the cost of the overall grading and erosion control measures known as Best Management

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Practices (BMPs) or control measures, and ultimate site stabilization. The County subdivision regulations require that collateral for these activities be posted prior to any land disturbing activity. The GEC Plan is therefore important to be completed and approved at the time of subdivision construction drawing approval so that these costs can be accurately estimated and included with the required subdivision collateral.

The Board of Commissioners of El Paso County passed Resolution 07-279 on June 28, 2007 "Authorizing a Joint Policy Statement on Clarifications to Previously Approved Regulations Concerning Grading, Erosion Control, and Dust." The clarifications include definitions and checklists of required components of Grading and Erosion Control Plans (GEC) and Stormwater Management Plans (SWMP) and Standard Notes for the GEC, SWMP and the construction plans. The checklists and standard notes can be found in Appendix E of this manual. These checklists and standard notes replace the requirements in City of Colorado Springs/El Paso County Drainage Criteria Manual for GEC and the City of Colorado Springs Drainage Criteria Manual, Volume 2: Stormwater Quality Policies, Procedures, and Best Management Practices (BMPs) (DCM2) for SWMP.

A checklist was developed to assist in the development and review of Grading and Erosion Control Plans submitted for review and approval. The checklist shall be used by applicants (i.e. Engineer of Record) to ensure the submitted Grading and Erosion Control Plan contains all the required elements. The same checklist is used by El Paso County Project Engineers to guide the review of submitted plans. A copy of a completed review checklist is signed and dated by the Project Engineer upon completion of a submittal review. The signed and dated checklist is kept with all other project documents in an electronic database.

At the time of GEC Plan approval, the exact timing and phasing of the work is not always known. The exact starting date is sometimes delayed, and often the contractor that will do the earthwork is not yet under contract. The earthwork contractor has expertise in planning and phasing the earth disturbing activity to maintain compliance that is not yet a part of the project at the time of GEC Plan approval. Although overall phasing and general timing may be known and presented, the exact dates, phasing and progression of the earthwork and stabilization work is not known at plan approval. Detailed phasing of the work and the proposed construction schedule shall be deferred to the required SWMP.

El Paso County also developed a checklist to guide the development and review of Stormwater Management Plan to ensure all the required elements are included in the SWMP. Given that SWMPs are intended to be dynamic documents to reflect onsite conditions at all times, El Paso County does not approve the submitted SWMP. Rather it performs a completeness review to ensure the applicant has at the time of project commencement a SWMP on site that addresses all the required elements of Part I.E.3.a.iv.B of the MS4 permit. The SWMP Checklist is used by El Paso County Project Engineers to perform the completeness review of a submitted SWMP. The completed SWMP Checklist is signed and dated by the Project Engineer and is included with other project records in an electronic database to document the review process.

Per section 1.12 of this ECM, grading and erosion control plans shall expire if site construction or land disturbance has not commenced within twenty four (24) months of plan approval, the plans shall be resubmitted for re-approval. Previously approved plans shall also be resubmitted for re-approval when any of the following occur:

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- Change in ownership of the property to be disturbed
- Development design changes that alter hydrology or hydraulics of permanent drainage systems;
- Grading design changes that affect up to one (1) acre of land.