Chapter 2: Development Submittal Requirements

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1.0 Overview

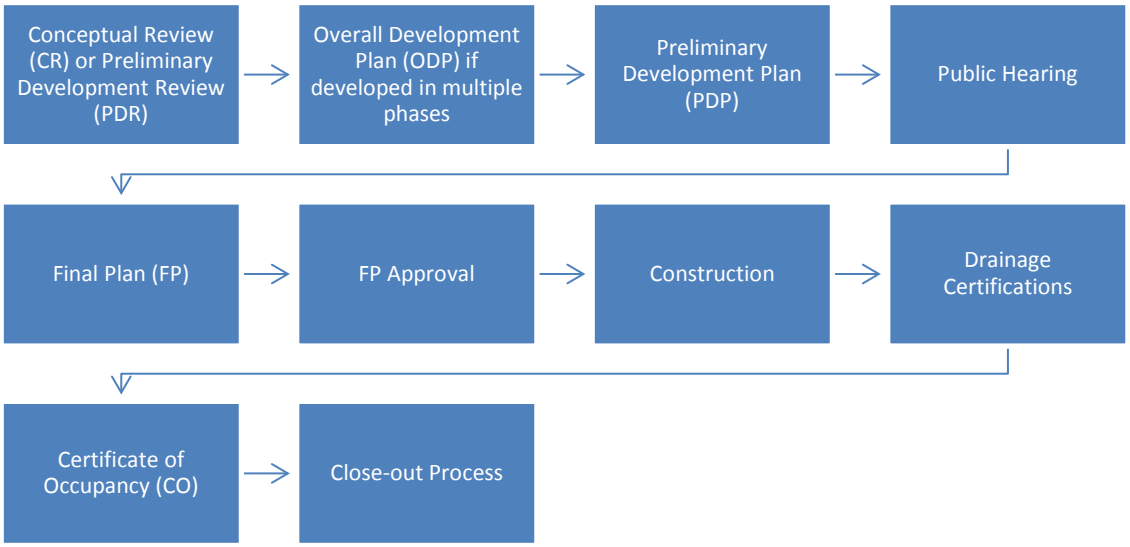
All land development proposals in Fort Collins are administered through the City's development review process in accordance with the procedures outlined in the Land Use Code. Fort Collins Utilities (FCU) requires stormwater drainage design and analysis, erosion control materials, and if applicable, floodplain reviews, to be included as a part of the development review procedures. This Chapter outlines the submittal requirements to FCU for drainage and erosion control for each step of the development review process. Development proposals are required to fully address these submittal requirements prior to the issuance of building or construction permits. This Chapter does not include floodplain regulation or review process information.

Reference: Information on floodplain regulations and the floodplain review process can be found in Chapter 10 of the City Code.

Under the Land Use Code, the most common types of land development applications include **Overall Development Plans (ODP's), Project Development Plans (PDP's), Final Plans (FP's), Basic Development Reviews (BDR's) and Building Permit Applications.** These and all other development applications are subject to storm drainage and erosion control design requirements if the development increases or modifies the impervious area by 350 square feet or more, or if the development disturbs more than 10,000 square feet.

In general, steps in the development review process occur sequentially according to the figure shown below. Detailed submittal information for each step is provided in the following sections of this Chapter. Specific development process requirements for other City departments will need to be verified with the appropriate department or assigned planner for the project and in accordance with the development review process and Land Use Code.

Figure 1.0 Development Review Process



References:

- City of Fort Collins Land Use Code
- Development Review Center process, applications and submittal requirements.

2.0 Conceptual Reviews (CR) and Preliminary Design Reviews (PDR)

Conceptual Review (CR) and Preliminary Design Review (PDR), as defined in the Land Use Code, provides the applicant an opportunity to meet with representatives from several departments within the City, including FCU, to discuss requirements, standards, and procedures that apply to a development proposal. During the CR or PDR process, important issues or concerns can be identified prior to a formal application being submitted to the City.

In addition to the required submittal documentation, the applicant may opt to submit the following stormwater drainage information if available: existing and/or proposed stormwater drainage courses and facilities and any other natural features significant to drainage, within or near the proposed development. This additional information is helpful in aiding FCU review of the application, but not required.

3.0 Overall Development Plan (ODP) Submittal Requirements

An Overall Development Plan (ODP), as defined in the Land Use Code, is to establish general planning and development control parameters for projects that will be developed in phases with multiple submittals while allowing sufficient flexibility to permit detailed planning in subsequent submittals.

The required stormwater drainage information presented in an ODP submittal does not normally entail a detailed drainage and erosion control analysis of the project but does require a general presentation of the project's features and effects on drainage and land disturbance. An ODP Drainage Report and an ODP Drainage Map are required to be submitted as a part of the overall ODP submittal package.

3.1 ODP Drainage Report Requirements

The ODP Drainage Report must show feasibility and design parameters for the proposed development. It must also show general compliance with the appropriate Drainage Basin Master Plan. Specific ODP Drainage Report requirements are outlined in the **Table 3.1-1** below.

Table 3.1-1: ODP Drainage Report Requirements

General Location & Existing Site Information	• Section, Township, Range • Vicinity Map • Roadways within and adjacent to the site • Master drainage basin where site is located (See the Master Drainage Basin map in Chapter 1) • Any existing stormwater drainage facilities and drainage patterns • Any existing irrigation, ditches, reservoirs, or other facilities in the area • Existing ground cover and/or type of vegetation
Master Drainage Basin Description	• Reference and discussion regarding the master drainage basin in which the project site is located • Any master planning improvements on or adjacent to the site • General basin characteristics • Existing and planned land uses within the basin • Irrigation ditches, reservoirs, or other facilities that influence or are influenced by the local drainage
Floodplain Information	• Existing floodplain and floodway information • Other planning studies such as flood hazard delineation reports and flood insurance rate maps
Project Description	• Proposed land uses and/or project summary • Site acreage • Names of surrounding developments

Proposed Drainage Facilities	• Proposed drainage patterns • Location and approximate size of detention basin and outlet design • Area to be serviced by the drainage improvements • Low Impact Development (LID) system considerations or options • Potential impacts on the project site from offsite basins under existing and fully developed basin conditions pursuant to zoning and land use plans adopted by the City • Conveyance of minor and major stormwater drainage to an existing stormwater conveyance system • Specific details may be required, depending on the drainage complexities of the project site. These may include drainage issues at specific design points, maintenance and access aspects of the drainage facilities, and/or impacts of concentrating flows on downstream properties
References	• Referenced criteria, master plans, technical information
Appendices	• Project site drainage calculations based the ODP site plan • Detention basin volume calculations based on the ODP site plan

3.2 ODP Drainage Map Requirements

The ODP Drainage Map must be included within the ODP plan set. Specific ODP Drainage Map requirements are outlined in **Table 3.2-1** below.

Table 3.2-1: ODP Drainage Map Requirements

Existing Drainage Information	• Identify drainage flows entering and leaving the project site and general drainage patterns • Indicate location of drainage from any offsite basins to the defined major drainage ways and all other existing drainage facilities • Major drainage basin boundaries and sub-boundaries • Any offsite drainage feature influencing development
Existing Watercourses	• All watercourses, rivers, wetlands, creeks, and irrigation ditches or laterals located on or within 150 feet of the property
Imagery and Topography	• Include an aerial photograph background image and existing topographic contours, if available
Floodplain Information	• All 100-year floodplain and floodway boundaries, cross sections, and base flood elevation lines must be shown. • FEMA-regulated floodplains - Base Flood Elevations must be reported in NAVD 1988 and NGVD 1929 (unadjusted) vertical datum • City-regulated floodplains - Base Flood Elevations must be reported in NAVD 1988

Proposed Drainage Facilities	• Proposed drainage flow directions • Proposed contours, if available • Proposed drainage facilities (general locations) including detention basins, water quality and/or LID basins, storm sewers, streets, culverts, channels and swales
Legend	• Defining map symbology

A separate checklist for the ODP Drainage Report and the ODP Drainage Map are included in Appendix A. These checklists shall be referred to when preparing these ODP documents and a copy of the filled-out checklist shall be provided with the first submittal.

4.0 Project Development Plan (PDP) and Final Plan (FP) Submittal Requirements

A Project Development Plan (PDP) is required for most projects processed through the development review process in the City. The PDP is typically preceded by a Conceptual Review (CR) and possibly an Overall Development Plan (ODP) if the project is to be developed in several phases. The PDP is considered the "preliminary" set of plans and must be completed and approved by staff prior to public hearing. Public hearings will be either type I (with an administrative hearing officer) or type II (with the Planning and Zoning Board). The type of hearing is determined by the planning department.

If the development is approved at the public hearing, the project may move into the Final Plan (FP) phase. If a PDP is required through the development review process, the requirements are as explained below.

The following listed requirements are compulsory for the PDP submittal. However, if a PDP is not submitted prior to an FP, or if the submittal is a combined PDP/FP, the PDP submittal documentation and drawing requirements are still required to be included within the FP submittal package requirements.

Major Amendments will also follow the requirements of Sections 4.2 and 4.3 of this Chapter.

All engineering reports and plans must be prepared or supervised by a professional engineer registered in the State of Colorado. All final reports will be required to be sealed with the professional engineers' stamp and signature and dated.

Variances to the requirements in this Manual may be requested. The process for submitting a variance request is outlined in Section 8.0 of this Chapter.

Reference: The "Stormwater Alternative Compliance / Variance Application" may be provided to the Design Engineer upon request to the Stormwater Department.

4.1 PDP / FP Drainage Report General Topics

In general, PDP and FP Drainage Reports must adequately address these four main topics, in order to receive FCU's recommendation for approval at Public Hearing:

1) The project site must have a gravity outfall for stormwater and adequate downstream conveyance for said outfall. (If a gravity outfall is not practical, then an explanation of adequate stormwater conveyance that meets the requirements of this Manual is required. Any variance to this requirement must be approved prior to the Public Hearing pursuant to the terms of this Manual.)

2) The project site is designed to accept and route offsite stormwater drainage, if it exists.

3) Quantity detention analysis is included, if necessary.

4) Water quality and LID provisions are included.

Please note that any references in the report to "standards" or "criteria" refer to those in effect on the date the Drainage Report is approved.

4.2 PDP / FP Drainage Report Requirements

The requirements provided in this section are not intended to convey a specific Drainage Report outline that must be followed, but rather are provided as a checklist of items that need to be presented in a sequence or format determined by the Design Engineer.

All items required at PDP will also need to be included in the FP submittals. Items below specified in the FP rows are only required at the time of Final Plans.

Table 4.2: PDP/FP Drainage Report Requirements

Cover Letter	PDP	• Include the name of the project, date, name of the engineer designing the site, and statement of compliance with this Manual*
	FP	• Upon approval of the Final Plans, two paper copies of the Drainage Report must be submitted to FCU • Both copies are required to be stamped and signed by a Colorado licensed Professional Engineer
General Location & Existing Site Information	PDP	• Vicinity map • Section, township, range • Roadways within and adjacent to the site • Names of surrounding developments

		• Master drainage basin where site is located (See the Master Drainage Plan map in Chapter 1) • Any existing stormwater drainage facilities and drainage patterns • Any existing irrigation ditches, reservoirs, and other facilities in the area • Existing land uses • Existing ground cover and/or type of vegetation • Existing soils information that includes rainfall and wind erodibility problems, limiting characteristics, groundwater depths, suitability of the soils for development
Master Drainage Basin Description	PDP	• Reference and discussion regarding the master drainage basin in which the project site is located • Any master planning improvements on or adjacent to the site • General basin characteristics including historic drainage patterns • Existing and fully developed land uses within the basin that are pursuant to zoning the Land Use Code • Irrigation ditches, reservoirs, or other facilities that influence or are influenced by the local drainage
Floodplain Information	PDP	• Refer to Floodplain Review Checklist for Development Review Submittals
Project Description	PDP	• Proposed land uses and/or project summary • Site acreage
Proposed Drainage Facilities	PDP	• Discussion of the proposed drainage plan, specific details that may include drainage issues at specific design points; discuss relationship and impacts to neighboring or downstream properties • Conveyance of minor and major flows to the major drainage way, offsite drainage considerations or facilities, if needed • Detention basin and outlet design, including a summary table for each detention basin • Water Quality Capture Volume (WQCV) design • Low Impact Development (LID) design, including a summary table and LID exhibit (please do not provide this information in a separate letter or report) • Maintenance access to the drainage facilities • Easements and tracts for drainage purposes
Drainage Design Criteria	PDP	• Reference to any previous drainage studies for the project site or adjacent areas that limit or influence the drainage design Four-Step Process • Discussion on how the project developments will Minimize Directly Connected Impervious Area (MDCIA) and discussion on how compliance with the “Four Step Process” is being implemented.

		Hydrological Criteria • Identify rainfall data used, design storm recurrence levels (i.e. 2-year, 100-year) runoff calculation method, detention calculation method, discussion, and justification of other assumptions or calculation methods that are not referenced by the Manual
	FP	Hydraulic Criteria • Identify the various methods or software utilized in hydraulic capacity calculations • Hydraulic Calculations for items such as: street capacity, inlet capacity, pipe network models, swales, channels, emergency spillway, or others as necessary
Variance Requests	PDP	• Include Variance Request Form, if any, and discussion and reasoning for alternative compliance request
Erosion Control	PDP	• Statement of compliance with Erosion Control Criteria and all Erosion Control Materials will be provided with the Final Drainage Report – or – • Provide a letter and proof showing that the project does not need Erosion Control Material. Refer to Section 6.1.2
	FP	• Refer to Section 6.1.4 of this Chapter for Erosion Control Report requirements • Refer to Section 6.1.5 of this Chapter for Erosion Control Escrow Calculation requirements – or – • Provide a letter and proof showing that this project meets the exemption requirements. Refer to Section 6.1.2
Conclusion	PDP	• Statement of Compliance with this Manual, Master Drainage Plans, Floodplain Regulations, and/or State and Federal Regulations • Drainage Concept: Effectiveness of drainage design to control damage from storm runoff, Influence of proposed development on the Master Drainage Plan recommendation(s)
References	PDP	• Referenced criteria, master plans, technical information
Appendices	PDP	• Hydrologic calculations – historic (or existing) and developed imperviousness, runoff coefficients, time of concentration and runoff rates • Detention basin - volume calculations • SDI Data Sheet (release rates meet drain time criteria) • SWMM Models • Low Impact Development (LID) - LID calculations and LID exhibit that shows contributory areas of the site to each LID feature • Floodplain map • Soil survey information or geotechnical report

		• Drainage map
	FP	Hydraulic calculations for items such as: • Street capacity • Inlet sizing • Storm pipe design • Erosion protection • Swales and channels • Outlet structure design • Spillway design • Other items, as necessary

*Compliance statement: "I hereby attest that this report for the [preliminary or final] drainage design for the [project name] was prepared by me or under my direct supervision, in accordance with the provisions of the Fort Collins Stormwater Criteria Manual. I understand that the City of Fort Collins does not and will not assume liability for drainage facilities designed by others." Registered professional engineer must affix their seal with signature and date.

4.3 PDP / FP Drawing Requirements

Items below specified in the "FP" row are only required at the time of Final Plans. Otherwise, all items listed below are required to be included in the PDP, and also in the FP drawings. In general, all drawings shall include the name of the subdivision or project, date of preparation, drawing scale, symbol designating true north and should be submitted on ARCH D (24"x36") size paper.

Table 4.3: PDP / FP Drawing Requirements

Cover Sheet	PDP	• Name of project and/or subdivision • Date of preparation • Vicinity map
Site Plan	PDP	• Refer to the Development Review Guide PDP Site Plan requirements
	FP	• Refer to the Development Review Guide FP Site Plan requirements
Erosion Control Plan	FP	• Refer to Section 6.1.3 of this Chapter for drawing requirements for the Erosion Control Plan
Overall Grading Plan	PDP	• Existing prominent features accurately located and depicted. Prominent features include: waterways, ponds, wetlands, major utilities, irrigation ditches, reservoirs and other facilities, vegetation lines and trees, any natural habitat buffer zones that will be designated on the site

		• Existing and proposed site plan information such as: building footprints, parking lots, sidewalks, and streets including street names • Existing and proposed boundary lines of the subdivision or project, right-of-way lines of streets, lot lines and easements • Existing and proposed contours at a maximum of 1-foot (1') intervals. The contours should extend at least 50 feet outside of all project boundaries to show the drainage relationship with adjacent areas. • Proposed contours shown at half foot (0.50')intervals for flatter sites or flatter areas (at discretion of FCU staff and/or Design Engineer) • Stormwater outfall identified and labeled on the plans • Proposed flow arrows and slope labels • Proposed spot elevations • Locations of proposed storm sewers, culverts, inlets, manholes, cross-pans, and other storm drainage facilities • Locations of existing utilities where drainage design may affect the existing utility • All floodway and floodplain boundaries and base flood elevation lines shall be included and clearly labeled.
Detailed Grading Plan	FP	• This plan should incorporate pertinent information from the Overall Grading Plan requirements and should also include individual lot grading details such as: finished floor (FF) and/or minimum opening (MO) elevations for buildings or residences, lot line swales, front and back lot grades, grade breaks, etc. • For single-family residential projects, typical lot grading detail drawings should also be included.
Floodplain Plan (if applicable)	PDP	• Refer to Floodplain Review Checklist Development Review Submittals
Stormwater Plan and Profiles	FP	• Size, type and class of all portions of storm sewer with lengths measured from manhole centers • Manhole type, diameter, longitudinal stationing and any special features • Matchlines with longitudinal stationing and sheet numbers

		• Phase lines (if necessary) • Existing ground profile and proposed ground profile • Manhole rim and inflow/outflow inverts • Include 100-year HGL's in the profile (EGL's may also be required at the discretion of FCU) • Include all wet utility crossings and dry utility crossings in the profile • Identify all storm sewer segments as "private" or "public"
Subdrain Plan (if applicable)	FP	• Horizontal and vertical information on the subdrain system
Drainage Map	PDP	• Legend to define map symbols • Identify drainage flows entering and leaving the project site and general drainage patterns. The map should show the path of all drainage from the upper end of any offsite basins to the defined major drainageways. • Existing topographic contours at 1-foot (1') maximum intervals. In terrain where the slope exceeds 15%, the maximum interval is 10 feet. The contours shall extend 50 feet beyond the property lines or further, if necessary, to show the drainage relationship with the adjacent property • All watercourses, rivers, wetlands, creeks, irrigation ditches, reservoirs and other facilities located within 150 feet of the property • Major drainage boundaries and sub-boundaries • All other existing drainage facilities • Any offsite feature influencing development • Proposed drainage facilities including detention basins with linework indicating the 100-year water surface elevation, water quality and/or LID basins, storm sewers, streets, culverts, channels and swales • Detention basin information: required volume, provided volume, water quality surface elevation, 100-year water surface elevation, discharge rates • Basin summary table to include: basin ID, acreage, peak discharges for the design storms
Construction Details	FP	• Low Impact Development (LID) details such as: pervious pavers, bioretention basins, sand filters, etc.

		• Stormwater facility details such as: trenching and bedding for pipes, manholes, inlets, outlet structure details, emergency spillway, riprap, conveyance appurtenances, etc.

4.4 Other Supporting Documentation

Other documentation in support of the development application may be requested. These items do not necessarily need to be a part of the Drainage Report or drawings, but may be provided separately. These items include but are not limited to the following:

- PDP - Letters of intent to acquire all necessary offsite easements. (Refer to Chapter 6: Water Quality and Chapter 7: Grading, for drainage easement requirements.)
- FP – Final easements and/or agreements (signed)
- FP – Soils Report
- FP – Environmental reports (if applicable)

4.5 Development Agreements

A Development Agreement is a legal document between the City, the Developer and Owner of a property. The Development Agreement describes and defines many of the terms and code requirements that apply to all developments and those specific to the development. Information regarding legal entities and signatories is needed to prepare the Development Agreement for review.

The Engineering Development Review department is in charge of the Development Agreement process and coordinating with other departments that represent interest in the Development Agreement language and requirements, as well as serving as the liaison between the Developer or Owner and the other City departments involved in formulation of the Development Agreement.

The project-specific information included in the Development Agreement is based on the final, or nearly final, Utility Plans, Drainage Report and Erosion Control Materials for that project. Per the Land Use Code, final plans (Utility Plans) will not be approved until the Development Agreement has been fully executed.

FCU will require that a Development Agreement is in place if there are detention basins and/or water quality or LID systems at the project site.

In general, Development Agreement language will typically include the following topics:

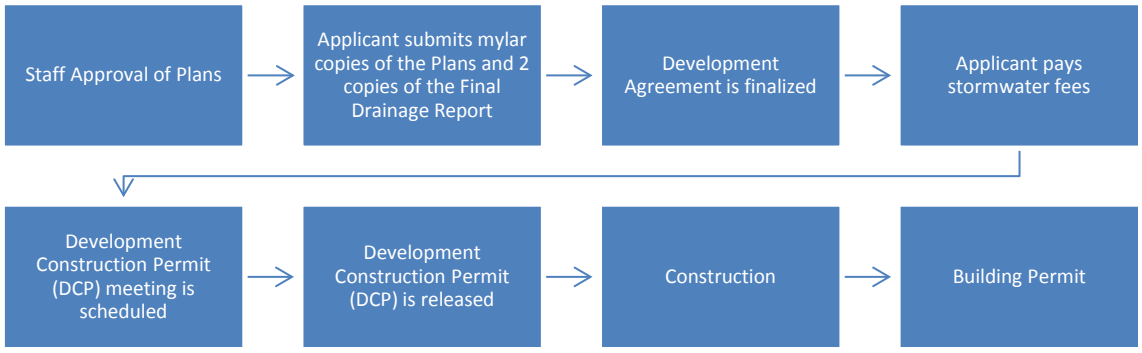
- Phasing of the construction of stormwater improvements, if applicable
- Information for all onsite and offsite stormwater facilities

- Drainage Certification completion requirements relative to the timing of building permit issuance and CO issuance.
- Irrigation ditch and reservoir information or permissions, as necessary
- Stated compliance with the applicable drainage master plan release rates and required drain times for detention basins and LID facilities
- Land grading information that may need to be specifically included for individual lots, swales, sensitive areas, fencing restrictions, minimum openings for lots along drainage ways or detention basins
- Maintenance requirements for all stormwater drainage and water quality facilities (public and private)
- A process to allow for grade changes after drainage certification has been submitted
- Soil amendment requirements
- Developer repay process and requirements, if applicable
- Floodway and floodplain requirements, if applicable
- Erosion Control Inspection and enforcement, as necessary
- Submittal of the Erosion Control Escrow, if applicable
- Phasing of the Erosion Control Escrow, if applicable
- Installation, Maintenance and Final Removal Requirements of Temporary Construction Control Measures, if applicable

FCU will include the required project information in the Development Agreement and will coordinate with the Design Engineer, Developer or Owner to gather any additional information as necessary.

4.6 FP Approval Process

The approval process, once the Utility Plans are at the final stage, is generally outlined below. The process is managed by the Engineering Development Review Division and as such, the Design Engineer will be required to coordinate with them for these final steps to construction.



5.0 Other Application Types Process Requirements

Drainage Report and plans are required for most development projects. For certain types of land use applications, such as Minor Amendments, Change of Use and Basic Development Review (BDR) applications, specific requirements are determined by the extent of the development or redevelopment or change in impervious areas. The parameters are provided in **Table 5.0-1** below.

Table 5.0-1: Drainage Reports Submittal Requirements - Based on Impervious Area

Increase or Modification in Impervious Area	Submittal Requirements
< 350 square feet	• None
≥ 350 square feet and < 1000 square feet	• Simple Grading Plan* • Drainage Memorandum**
≥1000 square feet	• Detailed Grading Plan, based on accurate field survey (Refer to Section 4.3) • Drainage Report (Refer to Section 4.2) • Drainage Map (Refer to Section 4.3)

*Simple grading plan is basically a Site Plan with drainage arrows indicating drainage patterns. This does not need to be prepared by a P.E.

** Some submittals may not require a Drainage Memorandum to be included. This will require discussion and approval by FCU.

5.1 Drainage Memorandums

Drainage Memorandums are required to be submitted for sites that show an increase or modification of imperviousness between 350 and 1000 square feet. Drainage memos should generally include the following information:

Table 5.1-1: Drainage Memo Requirements

Cover Letter	• Date • Name of the Design Engineer designing the site • Statement of compliance with the FCSCM
Project Description	• Existing conditions • Proposed land uses and/or project summary; discuss relationship and impacts to neighboring or downstream properties • Description and quantification of impervious surface changes
Other	• Other specific items that may be identified by the Design Engineer or FCU

6.0 Erosion Control Material Requirements

FCU will review all Erosion Control Material submittals to ensure that they meet the Erosion Control Criteria as set forth in this Manual**.** Any acceptance by FCU of such materials does not relieve the Developer from the responsibility of ensuring that the Erosion Control Materials are in compliance with the requirements of this Manual, nor does such acceptance relieve the Developer the responsibility to fulfill the requirements of State and Federal law.

Any time the language between the criteria set forth in the Erosion Control Criteria, local codes (such as City Code and the Land Use Code), State Laws, and Federal Laws vary, the more restrictive language, criteria, standard, regulation, and/or law shall apply and be followed.

For projects in the formal Development Review Process, Erosion Control Materials may be submitted at any time prior to FP in the Development Review Process (Figure 1.0 of this Chapter) for review and comments. Erosion Control Materials shall be submitted no later than FP in the formal construction Development Review Process to meet the Erosion Control Criteria.

For projects, not in the formal Development Review Process, Erosion Control Materials may be submitted at any time prior to the final acceptance or approval of a project.

For all projects, it is recommended that materials be provided at 75-100% design. Early submission is encouraged as it can help ease certain aspects of the review and approval process.

6.1 Standards and Submittal Requirements

The City shall assume all projects need Erosion Control Materials unless determined otherwise, in accordance with Section 6.1.1 of this Chapter. Clarification of project requirements may be requested to confirm the appropriate exemption from the requirements as shown in Section 6.1.2 of this Chapter.

Erosion Control Materials shall consist of a combination of three elements noted below:

- Erosion Control Plan (Section 6.1.3 of this Chapter)
- Erosion Control Report (Section 6.1.4 of this Chapter)
- Erosion Control Escrow (Section 6.1.5 of this Chapter)

Erosion Control Materials shall be submitted, reviewed, and accepted by the City prior to the issuance of any of the following permits:

- Development Construction Permit

- Excavation Permit
- Stockpile Permit
- Building Permit (including demolition and Footing and Foundation (F&F) permits)

Erosion Control Materials shall be submitted and accepted by the City prior to commencing Construction Activities.

Which combination of documents will need to be provided as Erosion Control Materials shall be supplied based upon **Table 6.1-1** below.

Table 6.1-1 Simplified Erosion Control Materials Submittal Table

Project Area of Disturbance and Other Factors	Follow §26-498 to prevent pollution	Meet Exemption Requirements (Section 6.1.1)	Request for Project Clarification (Section 6.1.2)	Erosion Control Plan -Map Set (Complete 2.1.3)		Erosion Control Report (Complete 6.1.4)	Erosion Control Escrow (Complete 6.1.5)	Phase Materials are required***	State Permit****
				w/ Sequence Chart (Section 6.1.3.2)	w/ Individual Sequence Sheet (Section 6.1.3.2) (Section 6.1.3.2)				
Emergency work <1 acre	X	X							
0 - <8,000 sq. ft.	X	X							
8,000 - 10,000 sq. ft.	X	~	X						
(>4):1 (Horizontal : Vertical)*	X	X							
4:1 to 3:1 (Horizontal : Vertical)*	X	~	X						
≥75 ft. away from Sensitive Areas. *	X	X							
50 - 75 ft. away from Sensitive Areas.*	X	~	X						
Demo work*	X		X						
Larger common plan or development or sale**	X			X		X	X ∞		X
10,000 - 43,559 sq. ft.	X			X			X ∞		
1 -3 acre(s)	X			X		X	X ∞		X
3 - 5 acres	X				X	X	X ∞		X
5+ Acres	X				X	X	X ∞	X	X

* These are assumed to be less than 10,000 sq. ft. and not a part of a larger common plan or development or sale, otherwise follow the process for the most applicable area of disturbance, or the Larger common plan or development or sale line item.
** These projects are assumed to be less than 43,560 sq. ft.
***The phasing requirements are found in Sections 6.1.3, 6.1.4 and 6.1.5 of this Chapter)
****While the CDPS General Permit Stormwater Discharges Associated with Construction Activity is not a City issued permit, this requirement is identified in this table as a reminder to Developers.
∞ This requirement is not needed for municipal projects.

~ These projects may meet the Exemption Requirements in 6.1.1 however further information should be provided to verify that is the case.

6.1.1 Projects That Do Not Need Erosion Control Materials

Some projects do not require Erosion Control Materials. Such projects are:

1) Emergency work projects, where there is less than 43,560 ft^2 (1 acre) of Disturbed Area; or

2) Projects with Construction Activities that:

   a. have less than 10,000 ft^2 of Disturbed Area;

   b. have shallower slopes than (4H:1V);

   c. have no Sensitive Areas and are further than 50 ft away from any Sensitive Area; and

   d. do not require a CDPS General Permit Stormwater Discharges Associated with Construction Activity (typically as a result of a Larger Common Plan of Development or Sale).

These projects will not be required to submit Erosion Control Materials and are exempt from Erosion Control Requirements, as discussed in Section 2.1 of Chapter 4: Exemptions to the Scope of Erosion Control Requirements.

City staff may make a determination, on its own initiative or in response to a request from a Developer, that a project does not require Erosion Control Materials by meeting one of the two standards noted above. City staff will typically make such determinations without the need for additional information as discussed in the following subsection when it is self-evident that one of the above standards is met.

Note that any requests related to building permits for demolition must not be under any concurrent City review. If under a concurrent City review, the demolition work would be considered part of the larger project's Construction Activities, at which point the project cannot start until approved Erosion Control Materials have been accepted and Erosion Control Escrow has been received.

6.1.2 Request for Project Clarification Regarding the Applicability of Requirements

When it is not self-evident that Erosion Control Materials are not required as discussed in the previous section, additional information around the Project will need to be produced in writing to prove that the project does or does not require Erosion Control Materials.

The clarification to the City shall include such information as, but not limited to; project location, project name, applicable City permit numbers (if known), contact info, and a simple map as proof.

Proof given to the City shall be a simple map or plan showing:

1) Calculated Areas of Disturbance;

2) Steepest slope arrow; and

3) Shortest distance line from the Disturbed Area to a Sensitive Area (if within 75ft)

For questions about how to meet these criteria, please see Section 2.0 of Appendix D regarding examples of how this information may be presented.

This information will be used to determine whether Erosion Control Materials are or are not required. If Erosion Control Materials are not required, then FCU staff can remove all holds in review or permitting that are associated with a project. If Erosion Control Materials are required, use Table 6.1-1 of this Chapter to select the appropriate review materials.

6.1.3 Elements of an Erosion Control Plan

Erosion Control Plans shall be required of all applicable projects in accordance with this Manual, as summarized in Section 6.1, Table 6.1-1 of this Chapter. All areas of exposed soil will require to select Control Measures to prevent the potential pollution based on factors including the duration of exposure, soil erosivity, slope steepness, length, and other applicable factors. The plan should also identify the planned location of temporary construction roads, vehicle tracking controls, portable toilets, waste disposal areas, and material storage areas, concrete washouts, and temporary and or permanent seeding applications, etc. Control measures incorporated onto the Erosion Control Plan should be vetted against a Control Measures check list found at www.fcgov.com/erosion by the Developer.

Erosion Control Plans shall be found in the construction plans set prepared by or supervised by and stamped by a P.E. licensed in Colorado.

Reference: All Erosion Control Plans shall be developed in accordance with requirements for "Utility Plans" found in Appendix E-4-FC in the Larimer County Urban Area Street Standards.

Erosion Control Plans shall have erosion control information located in one of the following four locations within the plan set; the title page, the drawing / map sheet(s), the notes page(s), and the detail sheet(s). Erosion Control Plan sheets may be combined or spread out as needed or merged into other plan sheets (ex. grading or storm drainage) so long as all the required erosion control information can be clearly shown, and the combined plan is clear and that all the erosion control elements can be readily seen and/or deciphered.

Upon acceptance of the final plans (FP Approval in Figure 1.0 of this Chapter), a Mylar plan set and signing process is usually required for the Development Agreement (Section 4.5 of this chapter).

Required elements of an Erosion Control Plan (in addition to the requirements above) shall be:

- Chart or table of calculations (Section 6.1.3.1 of this Chapter)
- Project sequencing (Section 6.1.3.2 of this Chapter)
- General map characteristics (Section 6.1.3.3 of this Chapter)
- Erosion and control notes (Section 6.1.3.4 of this Chapter)
- Details (Section 6.1.3.5 of this Chapter)
- Phasing and large projects (if applicable) (Section 6.1.3.6 of this Chapter)

6.1.3.1 Chart or Table of Calculations

A chart or table shall include the following calculations and project specific details:

- Total Area of Disturbance for the project (in square feet or acres)
- Total “onsite” Area of Disturbance (in square feet or acres) within the property boundary
- Total “offsite” Area of Disturbance (in square feet or acres) beyond the property boundary
- Total storage/staging areas not incorporated into the onsite and offsite calculations (in square feet or acres)
- Total area of new or improved haul roads (offsite)
- Heavy construction vehicle traffic areas offsite (haul roads and heavy vehicle crossings as a result of Construction Activities)
- Approximate percent of the project that will be disturbed at any one time
- Estimated pre-existing percent vegetative density or percent vegetative cover (plant density or how thick the grass is) before the project was disturbed
- Existing soil type
- Depth to groundwater (in feet) (data shall be determined from data taken during high groundwater months to determine if dewatering activities are anticipated)

- Number of phases associated with a project
- Total volume of material imported to (+), or exported from (-), the project (in cubic yards)
- Total area of offsite stockpiling of fill from the project or borrow from stripping the offsite area (in square feet or acres)
- Steepest slope (in a ratio of Horizontal to Vertical, H:V)
- Distance from a riparian area or sensitive area (in feet, if larger than 75 feet mark the field N/A)

An example Calculations Chart can be found in 3.0 of Appendix D.

6.1.3.2 Project Sequencing

Project sequencing has to do with a specific project area progressing from start to finish over time (chronologically i.e. grading, utilities installation, vertical building, landscaping etc.). As projects dynamically change over time the selection of Control Measures to prevent the potential of pollutant discharge on the project will change as well. Sequencing plans are an attempt to anticipate those changes on a project before a conflict or confusion in the plan will arise.

Sequencing differs from phasing a project. Phasing is dividing a project into large areas (geographically) that will be worked on at different times. On large projects (5 acres or greater) it is required that both phasing and sequencing are shown in the plans and report.

Note that the CDPS General Permit Stormwater Discharges Associated with Construction Activity does not differentiate between sequencing and phasing of construction Control Measures and only refers to them in the same context as “Phased BMP Implementation”.

Project sequencing shall come in one of two forms: either a sequence chart or sequence sheets. Both sequence charts and sequence sheets should include all of the following sequences of construction that are applicable to the size and scope of the project, which may be grouped together, as appropriate:

- Mobilization
- Demolition
- Grading
- Import or export of materials
- Utilities installation

- Flat work installation
- Vertical installation
- Landscape
- Demobilization
- Final stabilization

Sequence Chart

On non-exempt projects less than three acres for which Erosion Control Materials are required, a sequence chart is required to be included on the map sheet that outlines all of the Control Measures that are anticipated to be used during all of the various sequences of construction. The applicable Control Measure should be identified (checked, marked, highlighted, etc.) for each of the applicable sequences of construction in which that Control Measure will be used and implemented.

Section 4.0 of Appendix D includes sample sequence charts for reference.

Sequence Sheets

Projects greater than or equal to 3 acres will require a separate map sheet for each the major sequences during construction. Some sequences can be combined with others on the same sheet. For example Mobilization and Demo can be incorporated into an initial sheet. The sequence sheets shall have a minimum of 3 separate sequences of construction. Each sheet shall show the mapped location of each Control Measure and where they are to be used during that particular sequence of construction. The title page shall have the sequences sheets labeled in the table of content.

Section 4.1 of Appendix D includes an example of the sequence sheets in the title page as well as the erosion control sheets for reference.

6.1.3.3 General Map Characteristics

Key map characteristics shall include:

Characteristic	Description
Legend	- Every symbol included on the map - All symbols not to scale should be labeled as “Not to Scale”
Flow Arrows	- Indicate the direction of flow - For slopes steeper than 3:1 -For curb and gutter locations and areas with flow concentration - For flows onto the project (rates for 2- and 100-year storms)
Property Lines and Lot Lines	- Include on legend

	- Include Owner information
Limits of Construction and Limits of Disturbance	- All areas that will be disturbed as part of project with: 1) distinctive boundary line that is labeled; 2) boundary line thickness and type that is dark/bold; or 3) lightly shaded/hatched area. - All areas of clearing and grading, including stages of any cut-and-fill operations.
Water Features	- including but not limited to: existing drainage, wetland, natural habitat buffer zones, streams, springs, stream corridors, creeks, lakes, or other surface water features - If temporary channel diversions and crossings are designed, the routes, sizing and lining should be included
Stormwater Drainage Features	- Including but not limited to; detention basins, LID facilities, water quality structures, inlets, pipes, culverts, storm sewers, drainage swale, concrete pans, aprons, paved areas, retaining walls, cribbing, irrigation ditches, reservoirs and other facilities, and other permanent features or outfalls - Permanent erosion control features - Drainage basins - Topographic contours existing and proposed and label and bold at the 100-year storm event water surface elevation - Permanent drainage features, such as channels, storm sewers, roadside swales, and stormwater quality controls such as ponds, wetlands, grassed-lined swales, buffer strips and areas of porous pavement
Transportation and Building Features	- Including but not limited to; streets (named and labeled), paths, ramps, medians, and sidewalks. - Location of all buildings and roads
Utility Tie-in Locations Offsite	- Including, but not limited to storm sewer, water and sanitary sewer. Electric, gas and telecommunications to be included when known.
Offsite Material Import or Export Storage and Haul Roads	- Borrow or stockpiling material from vacant spaces (excluding landscapers or building materials supply yards) within Fort Collins, including applicable construction Control Measures - Topsoil stockpile locations, including applicable construction Control Measures - All offsite stockpile storage locations shall have a label attached to the location on the sheet as follows: “Developer is required to pull a stockpile permit prior to using this area to store material”.

Construction Control Measures	- All applicable Control Measures used to prevent the potential pollutant discharge from the project (including, temporary, permanent, structural, and non-structural)

6.1.3.4 Erosion Control Notes

The "Standard Erosion Control Notes" shall be included in each Erosion Control Plan. The "Standard Erosion Control Notes" can be found in Appendix F. To ensure a consistent application of the standards on any project, these notes shall not be amended. It is recognized that standard notes may not address every erosion control issue at every project. As such, designers may add project specific terms and notes to the standard notes. These are to be included in a separate section and specifically labeled "Project Specific Erosion Control Notes."

A copy of the Standard Notes is available on the City's erosion control webpage www.fcgov.com/erosion as well as in Appendix F.

6.1.3.5 Details

A Control Measure detail shall be provided for each unique type of Control Measures that is shown on the sheet(s).

Standard Control Measure details accepted by FCU are ones that do not require further documentation; they can be found in Appendix E.

Any non-standard Control Measure, or alternative Control Measure, shall submit for a variance in accordance with Section 8.0 of this Chapter. Refer to Section 5.1 of Chapter 4: Documenting Alternative Methods of Control for further direction.

Any proprietary control, measure shall submit for acceptance in accordance with the guidance given in Section 4.5 of Chapter 4: Proprietary Control Measures.

6.1.3.6 Phasing and Large Projects

Projects over 5 acres shall employ phasing for all Erosion Control Plans to leave land undisturbed for as long as possible. Erosion Control Plans including phasing shall clearly delineate various areas or zones of a project. Plans can be combined onto one sheet or can be shown as a project progression. Section 4.2 of Appendix D includes examples of plans that include phasing.

Maps for projects including phasing must be scaled so construction Control Measures are visible and may require multiple maps, such as an "Index Map Sheet" or "Key Map". Section 4.2 of Appendix D includes examples of index maps that include phasing.

6.1.4 Elements of an Erosion Control Report

An Erosion Control Report shall be required of all projects that are either greater than or equal to 43,560 ft^2 (1 acre), or part of a larger common plan of development or sale, in accordance with Table 6.1-1.

The Erosion Control Report shall be prepared by, or supervised by, and ultimately stamped by a P.E. licensed in Colorado*.*

The Erosion Control Report shall be typed and preferably submitted in a digital Adobe PDF format to simplify the review of materials.

Key required elements of an Erosion Control Report shall contain the following;

- Project title page, cover letter, notification of responsibility (Section 6.1.4.1 of this Chapter)
- Table of contents (Section 6.1.4.2 of this Chapter)
- Project description (Section 6.1.4.3 of this Chapter)
- Potential pollutant sources (Section 6.1.4.4 of this Chapter)
- Control measures (Section 6.1.4.5 of this Chapter)
- Installation and removal sequence of Control Measures (Section 6.1.4.6 of this Chapter)
- Project phasing (if applicable) (Section 6.1.4.7 of this Chapter)
- Maintenance and inspection requirements (Section 6.1.4.8 of this Chapter)
- Final vegetation and stabilization' (Section 6.1.4.9 of this Chapter)
- Appendix (Section 6.1.4.10 of this Chapter)

6.1.4.1 Project Title Page, Cover Letter, Notification of Responsibility

Within the project title page, cover letter, and notifications sheets the following information shall be included:

- Name of project
- Date submitted

- Contact info (name, address, phone, email) for the following:
    - Owner
    - Developer
    - Contractor
    - Design Engineer
    - Erosion Control Administrator (SWMP Administrator)

The final copy of the document shall be signed, dated, stamped and turned in before Construction Activities can begin on the project. The final copy can be scanned and emailed to erosion@fcgov.com.

6.1.4.2 Table of Contents

The Erosion Control Report will require a Table of Contents. Refer to Section 5.0 of Appendix D for an example of an Erosion Control Report.

6.1.4.3 Project Description and Nature of Construction

The project description shall describe the current project characteristics and the final project use when the project is complete including the information below. An example of a project description can be found in Section 5.2 of Appendix D. When some sections are not applicable, include a statement to that effect.

The description and nature of construction shall include the following:

- Project Location (refer to Section 5.2.1 of Appendix D for an example)
    - Written description
    - Legal description
    - Parcel number
    - Address
    - GPS coordinates (latitude and longitude in decimal degrees, ex. 40.567873, -105.099345)

- Existing Site Condition (refer to Section 5.2.2 of Appendix D for an example)
    - Physical soil properties
    - Hydraulic soil properties
    - Soil features
    - Pathway to the nearest receiving waters (From the outfall point(s) of the project and the flow path to Fossil Creek Reservoir or the Poudre River with directions and distances)
    - Existing vegetated areas to impervious areas (ratio of pervious to impervious area)
    - Estimated percent vegetative ground cover
    - Existing groundwater depth
- Identify non-stormwater discharge (springs, irrigation return flows)
- Existing steepness of slopes
- Existing structures
- Distances from riparian or sensitive areas
- Summary of ground contamination if known
- Rainfall and wind erodibility
- Any other existing relevant data (i.e. soil boring, lab tests, runoff coefficient of the soil, etc.)

Proposed Construction Activities:

- The section entitled Proposed Construction Activities shall include a description of the Construction Activities from the beginning of the project until the finalization of the project.

The Construction Activities shall also at a minimum include the following collected data:

- Total area of the project
- Total area of each phase (when applicable)

- Describe where the size was limited to reduce soil exposure (where able)
- Total area of disturbance both on and off the project
- Total areas of staging and storage
- Total areas for hauling
- Total volume of imported and exported material

This section shall identify any possible environmental impacts on the surrounding properties as a result of these Construction Activities.

This section shall also identify what State and Federal permits and processes will need to be acquired as a part of this Construction Activity.

For further clarification on any of the proposed construction activities or possible environmental impacts, please see Section 5.2.3 of Appendix D.

6.1.4.4 Potential Pollutant Sources

The potential pollutant source section shall, at a minimum, identify whether the potential pollutant sources listed below will be present on the project.

Each potential pollutant source identified shall:

- describe the source
- evaluate its potential to contribute to runoff, and
- prescribe what Control Measures will be implemented

Shown below are the minimum potential pollutant sources that are to be evaluated on every project. For further information, refer to Sections 5.3.1-16 of Appendix D for a thorough discussion of each potential pollutant source as well as an example showing how to describe, evaluate and prescribe Control Measures for each potential pollutant source. When some sections are not applicable, include a statement to that effect.

1. All disturbed and stored soils
2. Vehicle tracking of sediments

3. Management of contaminated soils
4. Loading and unloading operations
5. Outdoor storage of construction materials, building materials, fertilizers, and chemicals
6. Bulk storage of materials
7. Vehicle and equipment maintenance and fueling
8. Significant dust or particulate generating processes. It is important to reference the Fugitive Dust Control Ordinance No. 044, 2016, §12-150 - §12-160 and the projects requirements to be in compliance with that ordinance.
9. Routine maintenance activities involving fertilizers, pesticides, detergents, fuels, solvents, and oils
10. On-site waste management practices
11. Concrete truck/equipment washing, including the concrete truck chute and associated fixtures and equipment
12. Dedicated asphalt and concrete batch plants
13. Non-industrial waste sources such as worker trash and portable toilets
14. Saw Cutting and Grinding
15. Other non-stormwater discharges including construction dewatering not covered under the Construction Dewatering Discharges general permit and wash water that may potentially contribute pollutants to the MS4
16. Other areas or operations where spills can occur.

6.1.4.5 Construction Control Measures

This section shall identify all the anticipated Control Measures associated with the project. Each Control Measure should have a description of the Control Measure and its implementation or shall reference the detail sheet (typically the details page) and/or the Erosion Control Report (typically as an appendix). The Control Measures mentioned here should be the ones described in Section 6.1.4.4 of this Chapter to treat the various potential pollutant sources.

All the map-able Control Measures (i.e. many of the site and materials management controls) shall be called out in the Erosion Control Report and shall match those on the Erosion Control Plan.

All erosion Control Measures shown in the plans shall also be included in the report.

For an example, refer to Section 5.4 of Appendix D.

6.1.4.6 Installation and Removal Sequence of Control Measures

Detailed sequence schedule of the installation and removal of all the anticipated Control Measures shall be submitted as part of the Erosion Control Report.

The requirements of Section 6.1.4.5 and Section 6.1.4.6 of this Chapter may be combined. For an example of installation alone or combined, refer to Section 4.1 of Appendix D.

6.1.4.7 Project Phasing

If the project requires phasing as shown in Table 6.1-1 then an additional section shall be added to the Erosion Control Report and shall be titled project phasing. The project phasing section shall include a paragraph describing how the project will change and be broken into phases.

An estimated schedule for when each phase will begin and stabilized shall be discussed in this paragraph.

If the sequencing of construction activities within each phase is different than what is called for in Section 6.1.3.3 of this Chapter then a description of those changes shall be required.

6.1.4.8 Maintenance and Inspection Requirements

This section shall identify all requirements that will be followed for maintenance and inspection of the selected Control Measures on the project.

6.1.4.9 Final Vegetation and Stabilization

This section shall identify the final means of stabilization and the final steps to complete the close out of the project in a timely manner.

The section shall at a minimum describe:

1) The means to return the exposed dirt to a stabilized condition, one that will not continue to result in erosion or sediment transport.

2) All areas that will require immediate vegetation installations and plantings shall include:
   - Soil bed preparation activities in accordance with City Code, Section 12-160 through 12-162, and recommended additions to the soil
   - Planting method and schedule
   - A discussion about how and when such areas will be considered stabilized.
   - A referral to the approved landscape plan and City Landscape Standards (LUC 3.2.1 (3))

3) All areas that will require seeding (either temporary or permanent) shall include:
   - Soil bed preparation activities in accordance with City Code, Section 12-160 through 12-162, and recommended additions to the soil
   - A selected seed mix based upon the landscape plan and City Landscape Standards (LUC 3.2.1 (E) (All provided seed mixes shall include the Species Name, Common Name, Seed Application Rate (lbs. of PLS/acre), and Drill Depth) or a referral to look for the seed mix called out for in the landscape plan.
   - An explanation of the seeding method and schedule
   - An explanation of the crimping and mulching method that shall be applied within 24 hours after seeding, and
   - A discussion about how and when such areas will be considered finally stabilized. (Refer to Section 5.6 of Appendix D for an example discussion).

4) Estimated timeline for stabilization of each of the exposed areas (immediate, seasons, years).

5) A discussion of sediment removal from all pipes, drainage ways and other stormwater structures. Describe how the sediment will be disposed of correctly before the last remaining temporary Control Measures are removed from the project and the project has achieved final stabilization.

For further information, see Section 5.6 of Appendix D.

6.1.4.10 Appendix

This section of the report shall include any referenced materials mentioned in the Erosion Control Report.

This section shall also, if not included earlier in the report, contain a separate appendix with a copy of each of the Control Measures or practices mentioned in the report in full detail. This is the detail sheets section specific to this project and shall include only those sheets that are called to be used on the project and shall be either: an accepted Control Measure detailed in Section 6.0 of Chapter 4 or Appendix E, an accepted proprietary Control Measure in accordance with Section 4.5 of Chapter 4, or a documented alternative in accordance with Section 5.1 of Chapter 4.

6.1.5 Erosion Control Escrow

An Erosion Control Escrow shall be required of all projects that are not exempt from the Erosion Control Materials requirements, as set forth above. (Note that the "Erosion Control Escrow" is separate from the "Drainage Certification Escrow", which is addressed in this Manual in Section 4 of Chapter 3: During and Post-Construction Requirements). The Erosion Control Escrow shall be calculated, collected, managed, and returned or retained (as appropriate), pursuant to the terms and conditions of this Manual.

Amount of the Erosion Control Escrow for a Project

The amount of the Erosion Control Escrow for any project (before any refinement for phasing, as discussed below) shall be the greater of:

1. the cost to install all the approved Control Measures multiplied by 1.5;
2. the cost to re-vegetate the disturbed land to dry land grasses times multiplied by 1.5, or
3. the minimum Erosion Control Escrow amount, which shall be one thousand five hundred dollars ($1,500) for a residential development or three thousand dollars ($3,000) for a commercial development. Any residential multifamily developments (condos, apartments, townhomes, etc.) shall be considered commercial development for the purposes of the Erosion Control Escrow.

Developer's Submittal of Erosion Control Escrow Calculations

A Developer's calculations of the amount of the Erosion Control Escrow shall be located in one of the following locations upon submittal:

- as a section within the Erosion Control Report; or
- as a stand-alone document

The Developer shall submit an Erosion Control Escrow calculation sheet provided or approved by FCU. The calculation sheet must include project specific Control Measures and project areas. Example calculation sheets can be found and adapted for any project at www.fcgov.com/Erosion by looking for "Example Erosion Control Escrow (Security) Calculation. The calculation sheet shall set forth all calculations related to the amount of the Erosion Control Escrow.

The Developer is strongly encouraged in the submittal to break the project into phases, with specific proposed amount of the Erosion Control Escrow for the entire project allocated to specific phases and/or areas of the project, with specific Control Measures for such phases and areas. This will facilitate the project being segmented for the purposes of the Erosion Control Escrow, such that specific areas that may become stabilized before others so that parts of the Erosion Control Escrow can be released.

One example would be a project with both areas that are laid with sod and native seeded; the benefit of breaking a project into phases is that when the sod phase is complete, the portion of the Erosion Control Escrow allocated to that area by FCU can be released before waiting on the native seed area to fully grow in, which could be years later.

If phasing a project, the Developer shall include the following in the submittal:

1. An Erosion Control Escrow calculation for each phase. The calculation shall be identical to the above method to evaluate the amount of the Erosion Control Escrow, including the amount for individual lots and parcels.
2. A map clearly showing the boundaries of each phase. (This may also be an exhibit in the Development Agreement to mark what areas each portion of the Erosion Control Escrow is earmarked for, this will also be used to determine if the area shown, and corresponding portion of the Erosion Control Escrow allocated to a phase, can be released). An example is shown in Section 6.2 of Appendix D.

FCU Review of the Developer's Submittal and Determinations

FCU shall review the Erosion Control Escrow calculation sheet(s) submitted by the Developer. FCU retains the right to make or require corrections to any submitted calculation sheet at any time. FCU further reserves the right to establish phases of the project for the purposes of the Erosion Control Escrow.

FCU shall inform the Developer, in writing, of the amount of the Erosion Control Escrow for the entire Project, as well as the amounts of the Erosion Control Escrow for phases of the project and the approved Control Measures for each phase or project. FCU will work with the Developer to address any concerns the Developer may have. Appeals of FCU's determinations may be made pursuant to Section 26-520 of City Code.

Any residential individual lots less than 10,000 square feet may be allowed to provide the Erosion Control Escrow for a project based upon the minimum Erosion Control Escrow amount without evaluating the Control Measures and reseeding, as residential individual lots have relatively few Control Measures, or reseeding cost associated with them, and the minimum escrow on these lots should be incentive enough to make sure the lot will comply with escrow requirements. These typically apply in instances where the residential subdivision has no Developer currently associated with the project or are infill housing located within a sensitive area and/or along a steep slope.

Collection of the Erosion Control Escrow

The entire amount of the Erosion Control Escrow for a project shall be submitted to FCU in a form that is acceptable to FCU. At the time the Developer submits the Erosion Control Escrow to FCU, the Developer shall sign a form provided by FCU acknowledging the Erosion Control Escrow provisions of this Manual, unless the Developer has already signed a Development Agreement with the City concerning the Erosion Control Escrow for the project. At the time the Developer submits the Erosion Control Escrow to FCU, the

Developer shall provide a form provided by FCU that has been signed by the owner of the subject land authorizing FCU to enter onto the property for any and all purposes related to the Erosion Control Criteria.

Guarantee

The Developer shall guarantee (with Erosion Control Escrow as an assurance) that the temporary Control Measures shown on the approved Erosion Control Plan are properly constructed, installed, and are maintained free from defective materials and/or workmanship, with said guarantee to continue until the Control Measures can be removed.

The Developer shall guarantee (with Erosion Control Escrow as an assurance) and maintain all permanent Control Measures and vegetative measures for two growing seasons after installation or until permanent established vegetation has been reached, whichever is longer.

Any acceptance of installed measures (temporary, permanent, or vegetative) or returning of all or portions of the Erosion Control Escrow shall not be construed to relieve the Developer of the duty to maintain the installed vegetative measures as aforesaid.

Return of the Erosion Control Escrow – Completion of Requirements

All requests to release any portion of an Erosion Control Escrow, either for a particular phase or for the entire project, shall only be considered by FCU after all construction activities have ended on that particular phase or project.

The Erosion Control Escrow for a particular phase or for the entire project shall not be released until the phase or entire project is fully built, final grades are established, and the project has reached Final Stabilization as shown in the final plans. Specifically, the Erosion Control Escrow will not be released until every subject house, building, and public space is graded, built on, and stabilized in its final designed condition within the phase or project entirely (i.e. not temporary seeding, installation of seeding or cover crops, but final stabilization as designed to be in their final condition and in all areas delineated as part of the project).

These requirements are in place, in part, to prevent against Developers on partially completed projects leaving without any assurances that the project will not cause a pollutant issue and to prevent against Developers from neglecting site conditions that have the possibility to release pollutants from the project.

All parties who have deposited the Erosion Control Escrow are responsible and accountable for all areas disturbed by the respective construction activities until such time as the project has achieved final stabilization or another party supplies the Erosion Control Escrow in the same amount as the predecessor as a substitute for the original Erosion Control Escrow.

For examples on calculating the Erosion Control Escrow or Phase Calculation of the Erosion Control Escrow, refer to Section 6.1 and 6.2 of Appendix D.

Party the Erosion Control Escrow Will Be Returned To

FCU shall return the Erosion Control Escrow, or portions thereof, to the person or entity that paid the Erosion Control Escrow unless and until a notarized assignment of the rights to the Erosion Control Escrow is delivered to and approved by FCU identifying the new party that is entitled to all or portions of the Erosion Control Escrow. It is thus the responsibility of the other parties to arrange for the transfer of rights to the Erosion Control Escrow, or to replace certain Erosion Control Escrow of one party with those of another.

In the event the Developer sells the property or a lot within the property for which an Erosion Control Escrow has been delivered to FCU, the determination of who should supplement or take ownership of the rights to the Erosion Control Escrow shall be resolved entirely by the Developer and the new party; this shall not be the City's responsibility to calculate, evaluate, or phase a project and substitution of the Erosion Control Escrow.

Residential projects, which plan on selling off lots, or whole blocks, to a builder, or to various builders, should plan for the use of phases of a project prior to completing a review process. These areas to be sold off should be calculated into phases for the purposes of the Erosion Control Escrow so that the future buyer(s) is able to substitute their own Erosion Control Escrow in lieu of the Developers' Erosion Control Escrow .

In any case, how the Erosion Control Escrow shall be resolved is entirely by the Developer and the new party to determine who will be responsible for what and how long; this shall not be the City's responsibility to calculate, evaluate, or phase a project and substitution of Erosion Control Escrow.

If all or portions of an Erosion Control Escrow for a project is not used by the City as described below, is not requested to be released as described above, or is otherwise not claimed, the City retains the right to seek that all or portions of the Erosion Control Escrow are or have been abandoned and forfeited, to seek rights to the Erosion Control Escrow following any procedures required by law. *See* City Code Sections 23-131 through 23-138 (Intangible Personal Property).

City Use of Erosion Control Escrows

The City shall have the right to all or a portion of the Erosion Control Escrow for a phase or project if the Developer has not completed the required tasks identified in the Erosion Control Materials for that phase or project, pursuant to the following procedures.

If the Developer has not satisfactorily completed required tasks identified in the Erosion Control Materials for a project or a particular phase of a project, FCU shall provide written notice to the Developer no less than seven (7) calendar days prior to seizing all or a portion of the Erosion Control Escrow. Such notice shall include, at minimum:

(1) the required tasks identified in the Erosion Control Materials for a project or a particular phase of a project that have not been satisfactorily completed;

(2) the actions that the Developer must take to satisfactorily complete such tasks;
(3) the date that such tasks must be satisfactorily completed in order to avoid seizure of the Erosion Control Escrow (this date is provided solely as notice of a date certain when the Erosion Control Escrow will be seized and in no way authorizes the Developer to remain out of compliance with any obligations for any purpose); and
(4) the amount of the Erosion Control Escrow that will be taken.

Failure to take the actions required in such notice shall entitle the City to seize the portions of the Erosion Control Escrow identified in the notice. The date provided in the notice when the tasks must be satisfactorily completed (item (3) above) is provided only for purposes related to the seizure of the Erosion Control Escrow; in no way does it, authorize the Developer to remain out of compliance and in

Nothing herein shall be deemed to preclude the City from taking any other action with respect to the Control Measures and matters associated with the project. If the City exercises its rights to the Erosion Control Escrow or pursues any other legal remedy, the City is not thereafter obligated to routinely administer the construction of the Control Measures as shown on the Erosion Control Material.

6.2 Submittals, Review and Acceptance of Construction Drawings

All projects shall be reviewed by FCU to meet requirements and standards with regards to this Chapter to ensure a project meets the requirements to begin Construction Activities.

A criteria-applicable project may be prevented from continuing through the Development Review Process, being granted approval to attain permits or begin construction until adequate materials are reviewed for content and accepted in accordance with the criteria set forth in Section 4.0 of this Chapter.

Outstanding comments on Erosion Control Materials, or failure to submit Erosion Control Materials, may result in “rejection” or “hold” on a project until the required items are submitted or comments are addressed. Once addressed and resolved to the satisfaction of the City the project may continue progression towards permitting and construction.

No projects are allowed to progress to permitting (Development Construction Permits, Stockpile Permits, Excavation Permits, or Building Permits) or begin construction until Erosion Control Materials have been reviewed and accepted.

If disputes around the criteria arise, FCU will seek to address them on a case-by-case basis.

6.2.1 Submittal Check lists of Erosion Control Requirements

A copy of the most up to date Erosion Control Requirements checklist is available at www.fcgov.com/erosion.

6.3 State and Federal Requirements and Programs Applied Locally

These following sub sections address the applicability of State requirements and other programs as they relate to the City of Fort Collins' local erosion control program.

6.3.1 State Permit: Stormwater Discharges Associated with Construction Activities

Nothing in these criteria impacts the requirements related to the State Permit "CDPS General Permit Stormwater Discharges Associated with Construction Activity" or the EPA's NPDES Construction General Permit.

6.3.2 Qualifying Local Program

A few municipalities across the State have been authorized by CDPHE to run programs that are accredited with CDPHE's approval to implement a Qualifying Local Program. With that accreditation, local municipalities are allowed to implement the permit for Stormwater Discharges associated with Construction Activities on CDPHE's behalf for projects disturbing less than five acres.

The City of Fort Collins is not a Qualifying Local Program at this time.

As the City is not a Qualified Local Program any acceptances of Materials based on City Criteria is not a valid approval of construction without the appropriate State permit from CDPHE "CDPS General Permit Stormwater Discharges Associated with Construction Activity".

6.3.3 Rainfall Erosivity Waivers

CDPHE provides a Rainfall Erosivity Waiver for projects that meet specific conditions such as: soil conditions that are just right, the timing of construction has a typical average rainfall that will not tremendously impact the project, and length of construction scheduled are in correct proportions that a project can then be placed in low risk category and can qualify to not be required to pull a CDPS General Permit Stormwater Discharges Associated with Construction Activity.

Having a Rainfall Erosivity Waiver for exclusion from State permitting does not relieve the Operator or Owner from meeting these Criteria for producing and submitting Erosion Control Materials to the City**.**

6.3.4 Oil and Gas Operations & Exploration

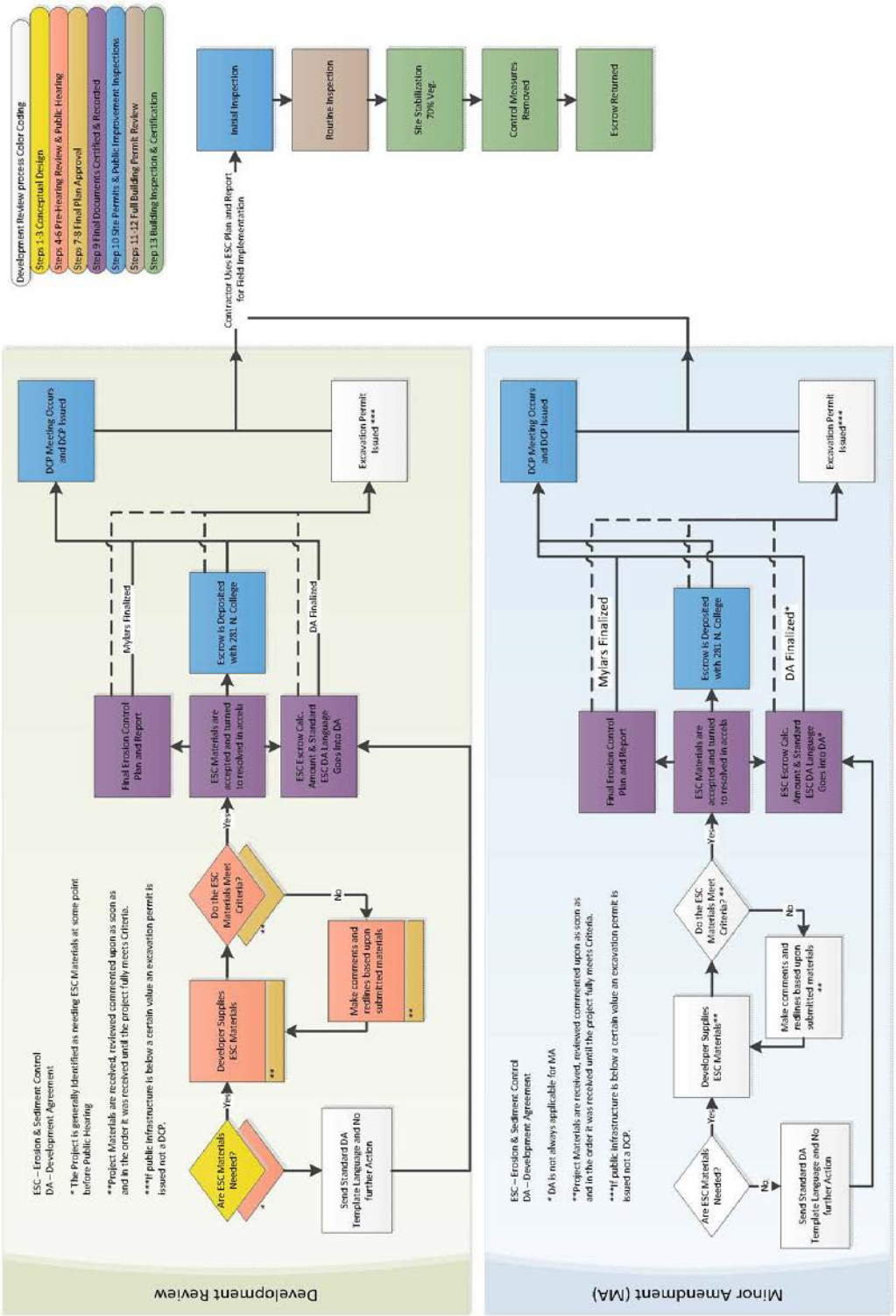
Facilities associated with oil and gas operation and explorations are not exempt from this Manual.

City Code Section §12-135 and §12-136 should be followed for Hydraulic Fracturing.

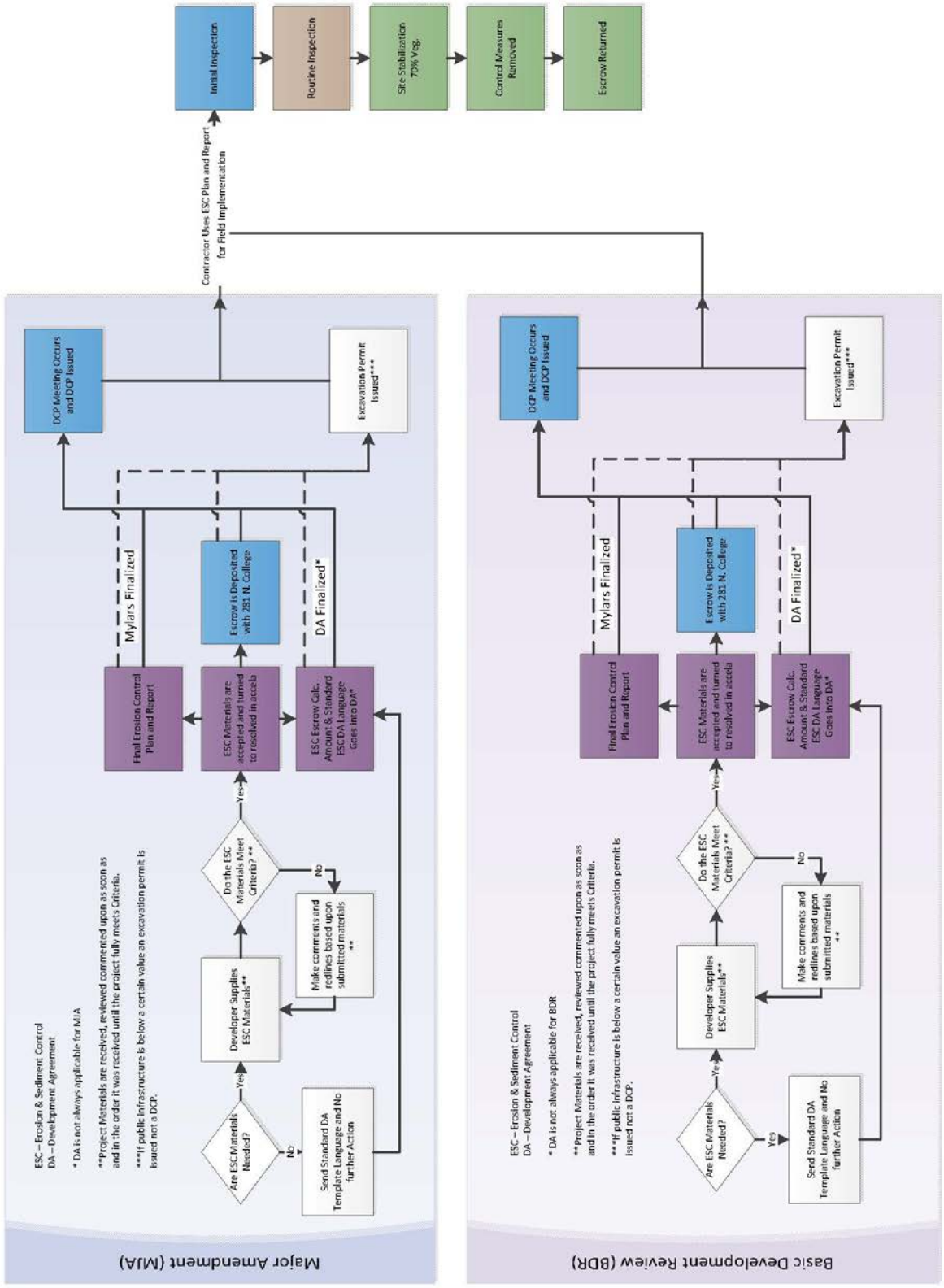
6.3.5 Chemical Removal of Sediment Laden Water from Construction

The City neither recommends nor permits the use of chemical treatments to remove sediment for Construction Activities. This permitting will need to be done through CDPHE and any other applicable state, federal, or local agencies.

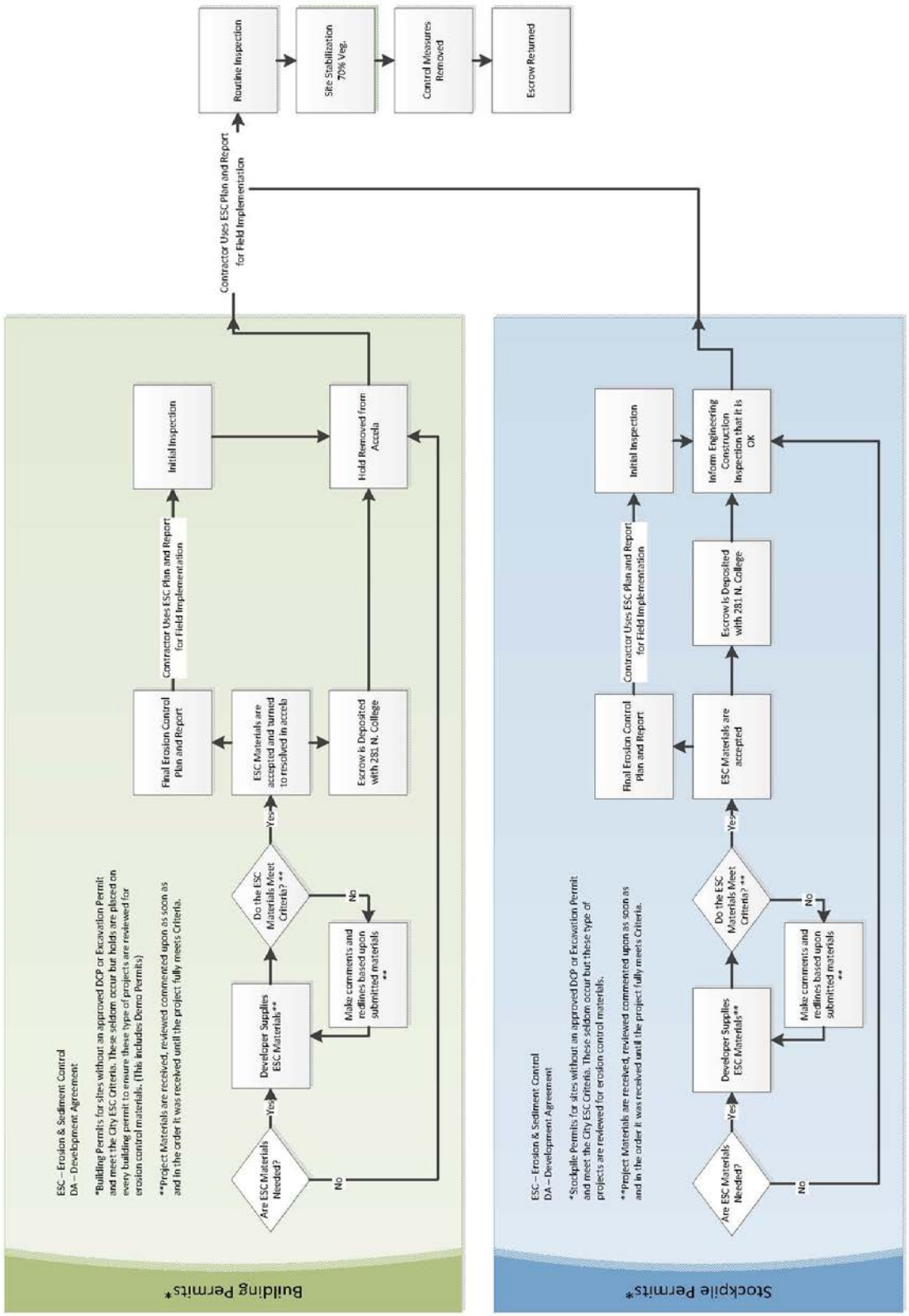
6.4 Erosion Control in the Development Review Process Map

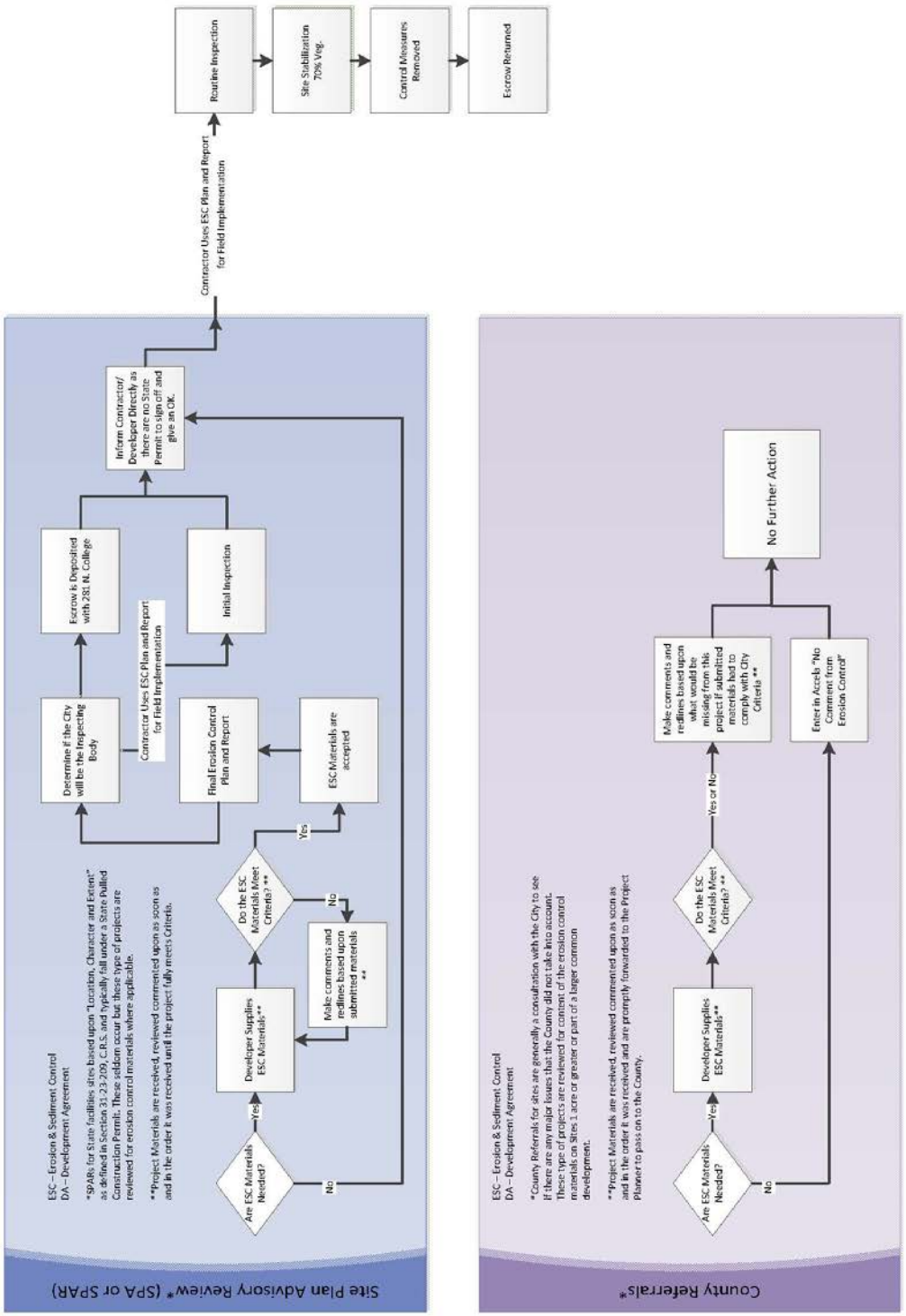


6.0 Erosion Control Material Requirements



6.0 Erosion Control Material Requirements




Site Plan Advisory Review* (SPA or SPAR)
ESC – Erosion & Sediment Control
DA – Development Agreement
*SPARs: for State facilities sites based upon "Location, Character and Extent" as defined in Section 31-23-209, C.R.S. and typically fall under a State Pulled Construction Permit. These seldom occur but these type of projects are reviewed for erosion control materials where applicable.
**Project Materials are received, reviewed commented upon as soon as and in the order it was received until the project fully meets Criteria.
Are ESC Materials Needed?
Yes
No
Developer Supplies ESC Materials**
Do the ESC Materials Meet Criteria? **
No
Make comments and redlines based upon submitted materials **
Yes
ESC Materials are accepted
Final Erosion Control Plan and Report
Determine if the City will Be The Inspecting Body
Escrow is Deposited with 281 N. College
Contractor Uses ESC Plan and Report for Field Implementation
Initial Inspection
Inform Contractor/ Developer Directly as there are no State Permit to sign off and give an OK.
Contractor Uses ESC Plan and Report for Field Implementation
Routine Inspection
Site Stabilization 70% Veg.
Control Measures Removed
Escrow Returned
County Referrals*
ESC – Erosion & Sediment Control
DA – Development Agreement
*County Referrals for sites are generally a consultation with the City to see if there are any major issues that the County did not take into account. These type of projects are reviewed for content of the erosion control materials on Sites 1 acre or greater or part of a larger common development.
**Project Materials are received, reviewed commented upon as soon as and in the order it was received and are promptly forwarded to the Project Planner to pass on to the County.
Are ESC Materials Needed?
Yes
No
Developer Supplies ESC Materials**
Do the ESC Materials Meet Criteria? **
Yes or No
Make comments and redlines based upon what would be missing from this project if submitted materials had to comply with City Criteria **
Enter in Accela "No Comment from Erosion Control"
No Further Action

7.0 Floodplain Modeling Reports

An analysis and review of floodplain modifications may be necessary if development is proposed to modify a FEMA regulated or City regulated floodplain or floodway. All requirements of Chapter 10 of the City Code must be satisfied.

Document Reference: All floodplain modeling requirements identified in the "Guidelines for Submitting Floodplain Modeling Reports" must be completed and submitted.

8.0 Variance Request Process

Any design that does not conform to the criteria set forth in this Manual must be approved by the Utilities Executive Director as a variance. Variances from these criteria will be considered on a request-by-request basis following the submission of a written request for a variance pursuant to the requirements of this section.

8.1 Advisory Consideration of Draft Variance Requests

To assist with plan preparation, in coordination with FCU staff, the Design Engineer may submit draft variance requests, along with documentation in support of the draft variance request, for informal advisory consideration prior to formal submittal of the variance request. Any discussions, analyses and other communications made by FCU during such advisory consideration of a draft variance request shall not be binding on FCU in any way, including with respect to a subsequently filed variance request.

8.2 Variance Request Requirements

Variance requests shall be signed by the applicant and prepared and signed by a Professional Engineer and provided to the Utilities Executive Director. Variance requests shall be provided on the Stormwater Alternative Compliance/Variance Application form.

The variance request shall include, at minimum, the following:

1) **Identifying Issue:** Identification of the criteria or standard sought to be varied and a summary of the reason(s) that the applicant believes the standard should not be applied in this instance.

2) **Proposed Alternate Design:** Identification of the proposed alternate design or construction criteria, in the form of an exhibit showing the alternate design, narrative describing the alternate design, and/or analyses of the alternate design

3) **Comparison to the Subject Criteria or Standard:** A thorough analysis of the prescribed and alternative designs, including, at a minimum, the following:

   a. Comparisons of the ability of the prescribed and alternative designs to meet the purposes and substantive requirements of this Manual.

   b. Comparison of the capital and maintenance requirements of the prescribed and alternative designs

   c. Comparison of the costs for the prescribed and alternative designs and how the proposed design compares to the criteria or standard sought to be varied.

4) **Justification:** The variance request must set forth the reason(s):

   a. Why the criteria or standard sought to be varied is not appropriate for this instance.

   b. Why the requested variance will not be detrimental to public health, safety and welfare.

   c. How the proposed, alternative design will meet or exceed the substantive requirements of this Manual, and where the proposed alterative design will not and why not meeting such substantive requirements is appropriate.

   d. Why the proposed alternative design will not reduce the design life of the improvement nor cause FCU additional maintenance costs.

   e. How the proposed alternative design would advance the public purpose of the Manual in a manner equal to or better than the prescribed design under the criteria or standards sought to be varied.

8.3 Review of Variance Requests

The Utilities Executive Director will review variance requests following their submission. In addition to the variance request requirements listed above and as may be required for certain variances as stated elsewhere in this Manual, the Utilities Executive Director and FCU staff may request additional information and analyses with respect to any variance request. The Utilities Executive Director may approve, approve with additional terms and conditions, or deny the variance request, which shall be in writing and include a summary of the basis for such determination.

If the variance request is approved, the Utility Plans will continue to be reviewed and approved within the typical review process. If the variance request is approved with terms and conditions imposed by the Utilities Executive Director, the Utility Plans, as modified, will typically continue to be reviewed and approved within the typical review process. If the variance request is denied, the Developer or Design Engineer may subsequently submit revised Utility Plans in compliance with this Manual. If a variance request is approved with terms and conditions imposed by the Utilities Executive Director or denied, a subsequent variance request may be submitted or an appeal may be sought pursuant to City Code Section 26-520.

Reference: The "Stormwater Alternative Compliance / Variance Application" may be provided to the Design Engineer upon request to the Stormwater Department.