CITY OF COLORADO SPRINGS

We Create Community

ENGINEERING CRITERIA MANUAL

- **SUBDIVISION POLICY MANUAL**
- **PAVEMENT DESIGN CRITERIA MANUAL**
- **TRAFFIC CRITERIA MANUAL**

July 1, 2010

Engineering Criteria Manual

We **CREATE** Community

CREATE a connection. **CREATE** was introduced to the City workforce years ago. These values should be reflected in everything we do. Our commitment can be seen in our daily work with citizens and with each other. Making these values real and keeping them in the forefront of our interactions is an expectation for every employee.

- **Commitment** Service, Loyalty, Dedication
- **Respect** Valuing Others, Fairness & Courtesy, Dedication
- **Excellence** Professionalism, Quality, Innovation
- **Accountability** Responsibility, Answerable, "Walk the Talk"
- **Teamwork** Cooperation, Partnership, Empowerment
- **Ethics** Truth & Honesty, Integrity, Courage

EDRD Mission Statement: Through the application of sound engineering principles, established design standards and excellent customer service, the Engineering Development Review Division provides timely and quality engineering evaluation of subdivision plans, construction drawings and related documents; combined with the highest possible level of inspection services for compliance with City standards; ensuring public safety and enhancing the quality of life for the citizens of Colorado Springs.

City Engineering Vision and Mission: A city with quality engineering programs from which citizens will gain the greatest benefit and achieve a higher quality of life through increased public safety and a healthy environment. We are committed to providing quality public works infrastructure programs to our community through efficient, cost-effective and professional engineering services.

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Public Works Design Manual and Subdivision Policy Manual

Colorado Springs City Code references the *Public Works Design Manual* and the *Subdivision Policy Manual* as the basis for the design standards for public improvements. The following publications shall all be considered part of the definition of *Public Works Design Manual and Subdivision Policy Manual* for the purpose of establishing the engineering design requirements of the City Engineer.

Beginning with the 2010 update to the Subdivision Policy Manual, Pavement Design Criteria Manual, and Traffic Criteria Manual, the City Engineer's compilation of criteria and specification manuals shall be called the:

Engineering Criteria Manual

The Engineering Criteria Manual is comprised of several separate publications listed below. Three of the manuals are published together in one volume. They are the Subdivision Policy Manual, the Paving Design Criteria Manual, and the Traffic Criteria Manual. The others are separate publications. Together, the Engineering Criteria Manual establishes the engineering requirements, standards, policies, and regulations of the City Engineer. All public infrastructure and development activity shall conform to the Engineering Criteria Manual.

- Subdivision Policy Manual
- Pavement Design Criteria Manual
- Traffic Criteria Manual
- Drainage Criteria Manual Volume I
- Drainage Criteria Manual Volume II and Volume II addendum
- Standard Specifications Manual
- Pikes Peak Region Asphalt Paving Specifications

SECTION I

SUBDIVISION POLICY MANUAL

This section of the Engineering Criteria Manual addresses the detailed policies, procedures, and requirements of the City Engineer for developing and subdividing land in Colorado Springs. This section was last published in 1990 with many addenda added over the years. This 2010 update compiles all of the addenda into the chapters of the manual with very few new requirements. An important new requirement is for all approved engineering reports and plans to be scanned by the preparer and submitted to City Engineering in electronic format along with the signed "hard copy" documents.

1.0 Introduction
2.0 Review and Approval Process
3.0 Geological Hazard Study and Mitigation Report
4.0 Drainage Reports and Plans
5.0 Grading, Erosion Control, and Stormwater Quality Control Plans
6.0 Street Plans and Profiles
7.0 Drainage/ Storm Plans and Profiles
8.0 Final Plat Requirements and Processing
9.0 Construction Permits
10.0 Financial Assurances
11.0 Inspection Letters
12.0 Building Permits
13.0 Drainage Reimbursements
14.0 City Code References

SECTION II

PAVEMENT DESIGN CRITERIA MANUAL

This is a significant update and revision to the 1989 Pavement Design Criteria. Many important changes are included especially relating to the design of paving sections on expansive soils and the minimum pavement thickness allowed.

1.0 General
2.0 Field Investigation
3.0 Laboratory Testing
4.0 Pavement Design
5.0 Pavement Design Report
6.0 Construction and Material Specifications
7.0 Definitions
8.0 References

SECTION III

TRAFFIC CRITERIA MANUAL

The previous Traffic Engineering Division Policy and Design Standards Manual was adopted in January, 1990 and had several significant updates and revisions over the years relating to Hillside Zoning, Traditional Neighborhood Design, Mixed Use Development, and the design guidelines for small lot PUD zone districts. This 2010 update is comprehensive and provides further updates to the requirements for street width, classification, multimodal accommodation, sight distance, sidewalk placement, Traffic Impact Studies, and many other design requirements.

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2.0 Traffic Control Devices
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4.0 Sight Distance Requirements
5.0 Intersection Spacing
6.0 Access Design
7.0 Medians
8.0 Channelization
9.0 Grade at Intersections
10.0 Angle of Intersection, Minimum Intersection Curb Radii
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Section I

Subdivision Policy Manual

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Chapter 1 - Introduction

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1.0 Introduction

1.1 Purpose

The purpose of the Subdivision Policy Manual is to provide general instructions and information necessary to allow developers, engineers, landowners, and contractors to effectively develop and improve properties within the City of Colorado Springs. It includes City Code requirements, City Engineering policies, and recommended engineering design guidelines.

1.2 Scope

The Subdivision Policy Manual does not contain the complete requirements for subdivision development design and construction. There are numerous City agencies involved with the subdivision development application and review process. This manual is limited to the requirements for submitting the various civil engineering reports and plans that are required by City Engineering which is only one part of the City of Colorado Springs development review process, as is explained further in Chapter 2 of this manual.

The Subdivision Policy Manual is not intended as a textbook or a comprehensive engineering design reference. Site plans, details, calculations, construction specifications, and technical documents must be designed and sealed by a professional engineer registered in the State of Colorado, with sufficient knowledge and experience to accomplish all design elements of the site plan. Most types of engineering calculations are not explained or defined within this manual, either due to the very complex nature of the subject matter or the fact that the design equations and methods are well-known to most practicing engineers with expertise in the area of civil engineering land development design.

In addition to technical design, submitted projects must also meet Federal and State standards for health and safety. For instance, trenching and excavations must satisfy Occupational Safety and Health Administration (OSHA) standards. Traffic signs must be designed to meet Federal Highway Administration (FHWA) and Manual on Uniform Traffic Control Devices (MUTCD) requirements. Consideration for public safety must be emphasized throughout the design process.

1.3 Referenced Publications

The following publications have been approved and adopted for use in the City of Colorado Springs.

- City of Colorado Springs "Subdivision Policy Manual" (Section 1 of this publication)
- City of Colorado Springs "Pavement Design Criteria Manual" (Section 2 of this publication)
- City of Colorado Springs "Traffic Criteria Manual" (Section 3 of this publication)
- City of Colorado Springs and El Paso County Drainage Criteria Manual, Volume I (DCM Vol. I)

- City of Colorado Springs Drainage Criteria Manual, Volume II (DCM Vol. II)
- City of Colorado Springs City Engineering Standard Specifications Manual
- Pikes Peak Region Asphalt Paving Specifications
- City of Colorado Springs Mixed Use Development Design Manual
- City of Colorado Springs Traditional Neighborhood Development Policies, Standards and Guidelines
- City of Colorado Springs Small Lot Planned Unit Development Review Criteria and Guidelines
- City of Colorado Springs Hillside Development Design Manual
- City of Colorado Springs Streamside Design Guidelines
- Colorado Springs Utilities Line Extension & Service Standards
- City of Colorado Springs Landscape Code & Policy Manual

1.4 Jurisdiction

The Subdivision Policy Manual shall apply to all land within the incorporated areas of the City of Colorado Springs and land being annexed into the City.

1.5 Design Objectives

The intent of the Subdivision Policy Manual is to ensure that minimum requirements are met with respect to subdivision development and redevelopment activities. These minimum requirements shall be enforced in a fair and impartial manner, based upon sound engineering judgment, and concerns for the public health, safety and welfare. Design objectives include:

- Safe and functional design of streets to minimize traffic congestion and inconvenience.
- Safe and functional design of sidewalks, walkways, trails, bike lanes, and other multi-modal facilities.
- Safe and functional design of drainage and stormwater facilities.
- Minimize the amount of public expenditures needed for maintenance of streets, roads and stormwater facility maintenance.
- Protect and enhance streams, wetlands, and natural drainageways for wildlife and plants by reducing stormwater pollution and negative stormwater impacts by installing permanent and temporary erosion control measures (Streamside Ordinance).
- Preservation of vegetation and other natural features where feasible within hillside overlay zones (Hillside Ordinance).

1.6 Engineer's Responsibility

The Subdivision Policy Manual contains information to assist the design professional. However, this manual does not replace or otherwise excuse the need for professional engineering judgment and knowledge. The user of this manual is advised that many aspects of engineering design must be considered, including but not limited to:

- Public health, safety and welfare
- Site-specific conditions or unusual features of a project that warrant special designs
- Current versions of design texts, manuals, technical documents and research

Construction plans submitted to the Engineering Development Review Division (EDRD) must be prepared by a professional engineer licensed in the State of Colorado. The design professional must have sufficient education and/or experience to perform a complete and thorough design of each element shown on the construction plans, and must also have complete control to change or alter plans during the design phase. The professional's stamp is evidence that the design has the highest regard for health and safety, protects the environment, and serves the interests of the general public.

1.7 Conflicting Regulations

All local, State, and Federal laws and regulations shall be considered when interpreting provisions within the Subdivision Policy Manual. In each instance, the more restrictive requirements shall govern unless sound engineering judgment demonstrates that the more restrictive requirement is not necessary.

1.8 Amendments and Revisions to Manual

The Subdivision Policy Manual may be amended from time to time as new technology is developed and as experience is gained through the use of this manual. City Engineering shall monitor the performance and effectiveness of this manual, and will recommend any changes, updates, amendments, and/or revisions. Users of the manual should feel free to submit suggestions for changes to the City Engineer. The most current version of the Subdivision Policy Manual shall be the version that is currently available online at springsgov.com.

1.9 Enforcement Responsibility

The Engineering Development Review Division enforces the provisions set forth within the Subdivision Policy Manual for the City Engineer.

1.10 Engineering Development Review Division (EDRD)

Engineering Development Review Division (formerly known as Subdivision Engineering Review Team) provides the review and application of the design guidelines presented in the Engineering Criteria Manual for subdivision development and construction of public improvements.

EDRD is responsible for the review and approval of a variety of engineering submittals and the inspection/acceptance of public streets and drainage facilities constructed by land developers, utility companies, contractors, and other city agencies, on behalf of the City Engineer.

EDRD reviews, approves, and inspects the following things:

- Land Use Review Development Applications
- Drainage Reports
- Traffic Impact Studies
- Geologic Hazards Studies
- Grading/Erosion Control and Storm Water Quality Control Plans
- Street Improvement Plans
- Storm Drainage Improvement Plans
- Pavement Design Reports
- Subdivision Plats
- Financial Assurances for subdivision public improvements
- Financial Assurances for Erosion Control and Best Management Practices
- Drainage Board Meetings and drainage reimbursement requests
- Building Permits
- Field Inspection of new subdivision streets and drainage facilities
- Observation of construction activities
- Provides technical guidance in the field during subdivision construction
- Issuance of Probationary and Final Inspection Letters

Chapter 2 – Review and Approval Process

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Colorado Springs Utilities
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CITY OF COLORADO SPRINGS
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Development Review Philosophy, Principles and Standards

June, 2008

I. Overall Development Review Philosophy

The City of Colorado Springs and Colorado Springs Utilities collaborate with many interests to promote the orderly development of the community consistent with the City Council's Vision*: "Colorado Springs – the community of choice for living, working and leisure."* We do this by partnering with the development community to ensure that development and redevelopment proposals meet City, Springs Utilities and property owner objectives, enhance the value of property and promote the general welfare of the community. We work with stakeholders to continuously improve the development review process to ensure that it is predictable and reasonable from entitlement through construction. All City and Springs Utilities review agencies subscribe to this *Development Review Philosophy, Principles and Standards* declaration.

II. Development Reviewers Commit to the following Principles:

- √ **Good development review is not arbitrary.** It is based on guidelines driven by community land use policies, engineering standards, and regulations from all levels of government. Reviewing departments and divisions will maintain up to date review manuals that set forth the community's accepted design practices. This is critical for consistent review by staff, and is an important resource for interested developers.
- √ **Good development review involves professionals of many disciplines.** Effective review requires multiple technical skills – in addition to planning, expertise in landscape design, engineering, utilities development and public safety is necessary. The Land Use Review Planner is the overall project manager and provides leadership to the multi-disciplinary City/Springs Utilities review team.
- √ **Good development review is conducted from a variety of perspectives.** These perspectives include city, neighborhood, immediate vicinity, the project site, as well as individual lots within the site.
- √ **Good development review provides clear and useful information to the developer.** When conflicting requirements arise among reviewing entities, the Review Planner will bring the reviewers together to resolve differences. Development review is a flexible tool for the achievement of community objectives and not a rigid application of fixed principles. Division managers and department directors will be engaged as necessary to ensure that the City/Springs Utilities speaks with one voice in development review.
- √ **Good development review is timely and promotes submission of sound technical applications.** The City/Springs Utilities will ensure that applicants are given the opportunity to meet with staff informally before submitting a formal application. Neighborhood meetings may also be held to solicit

comments on the proposal. These steps provide the applicant with information about issues that may arise during the review of the project, enabling those issues to be analyzed and incorporated into project design, thereby increasing the likelihood of approval.

- √ **Good development review is not development planning.** The reviewer's role is to respond to plans submitted by others and make constructive comments about those plans and the programs for their completion. Comments will be relayed as either requirements necessary to make the proposal consistent with adopted standards and guidelines, or as constructive suggestions offered in the spirit of the community-building partnership.
- √ **Good development review is good customer service.** The City/Springs Utilities' customers are the developers and builders who create the projects, as well as neighborhood organizations, individual citizens and the future residents and businesses who will inhabit the projects after they are completed. The City's CREATE core values (Commitment, Respect, Excellence, Accountability, Teamwork, and Ethics); provide the standards for a proper customer service attitude to be exemplified by all reviewers.

III. Development Reviewers Commit to the following Standards:

1. Identify and communicate major issues early in the development review process. Engage in proactive problem solving. Take responsibility for the content and accuracy of conditions/ recommendations. Work across department lines to resolve inconsistent or mutually exclusive conditions. Do not rely on applicants to resolve internal City/Springs Utilities department inconsistencies and conflicts.
2. Be helpful. Where possible the emphasis should be on the positive "how can we do it" rather than on the negative "it can't be done". At the same time, be as forthright and honest as possible.
3. Foster a partnership rather than an "us" versus "them" approach. Recognize that almost all public plans rely on implementation through private development. Successful projects must work in the private market.
4. Assume only one chance at the review. Avoid "multiple bites at the apple". If inconsistencies or public safety issues emerge later in the process, discuss with division or department management before proceeding. (This does not apply to applicant-initiated project changes or non-responsive resubmittals).
5. Use adopted code and policy citations to support recommendations and requirements, not personal opinion.
6. Provide timely responses:
   a. Return phone calls the same day if possible, or within 24 hours maximum.
   b. Schedule meetings as soon as possible following the request, and conduct them within one week of request, unless the parties agree to a later time.
   c. Provide phone, meeting and application processing coverage for out-of-office or leave time.
7. Treat all customers with equal respect and professionalism. Guard against what could be interpreted as retaliation (delayed phone call returns, delayed scheduling, nit-picking comments, etc.).

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2.0 Review and Approval Process

2.1 Review Philosophy

EDRD subscribes to the philosophy guidelines of the City of Colorado Springs as articulated in the preceding document entitled "Development Review Philosophy, Principles, and Standards" dated June, 2008. requests that its customers hold them to high standards of customer service. To that end, all EDRD reviewers have developed and adhere to the following definitions of *quality reviews* and *customer service:*

Quality Reviews

- Most items are approved upon re-submittal after one initial review.
- New review issues are not raised on re-submittals (second bite of the apple), except in response to new or modified information.
- If an important review comment was missed on the initial review and discovered upon resubmittal, contact the applicant by phone to discuss the comment before sending a new comment.
- Applicants should feel that the review comments rarely need additional clarification.
- Regardless of the quality of the initial submittal, the final approved item is complete and accurate for its intended purpose.
- Subdivision inspectors, contractors, and other field personnel should have little or no problems interpreting the approved construction plans.
- Look for ways to improve the completeness of all submitted items.
- Team members perform complementary Development Plan and Final Plat reviews with adequate internal staff communication to assure that all technical and non-technical issues are resolved.
- Subdivision Plat mylar processing and sign-off is expedited through internal coordination. (The speed of plat recording is critical to the customer who has completed the Development Review Process and now wants to move quickly to construction.)
- Approved drainage reports reflect accurate cost estimates and fee calculations.
- Peer Review Appeal meetings (see below) are diminishing due to consistency and good problem solving skills.
- Site visits are used effectively.

Customer Service

- EDRD should always be viewed as a cooperative and forward-thinking agency by the developers, consultants, other agencies, citizens, and others associated with the project.

- All reviews are completed in a timely and accurate manner. Good working relationships and open communications are maintained with all customers.
- Our goal is to review engineering submittals within 15 working days and to review development (buck-slip) submittals within the buck-slip deadline.
- Display a positive customer service orientation. Contribute to problem resolution for customers. Be alert to the customer's needs and try to meet them whenever possible. Take the initiative to contact the customer when needed and don't always expect the customer to contact you. Take extra steps to anticipate, resolve, and head-off customer problems.
- The review engineer knows his customers and customer groups (consultants, developers, citizens, etc.) and always tries to understand their interests. Decisions are not always made based on the interests of the customer but their interests are not ignored when making decisions.
- Look for win-win solutions to problems and customer concerns.
- Provide fast track reviews and expedite plat recording and issuance of building permits when possible.

1. EDRD Peer Review and Appeal Process

Appeals of decisions made by EDRD staff are handled through a peer review process. If a customer is aggrieved by a staff member's decision and resolution cannot be achieved at that level, the staff member will invite the customer to participate in an appeal meeting.

The staff member whose decision is being appealed will set up a meeting with several other team members who have experience in the subject being discussed, but not first hand involvement in the specific issue being appealed. The customer is encouraged to bring his/her agents or clients who might have insight into the issue or who are affected by the decision. The appeal meeting will be an informal exchange of viewpoints, discussion, and an attempt to mediate and resolve the appeal.

EDRD has had significant success resolving conflicts in this manner and it is our recommended method of conflict resolution. All reviewers and inspectors are encouraged to utilize this process if they reach an impasse with a customer in resolving a conflict. However, all customers are welcome to contact the EDRD Manager.

Example: A EDRD senior civil engineer requires an engineering consultant to design a rip-rap energy dissipater at the end of a large storm sewer. The consultant desires to use a new device that is manufactured for internal installation in the storm sewer. It is less expensive than the rip-rap alternative. The device has not been used widely in Colorado and the reviewer will not accept it for a public drainage system.

The decision is appealed to an appeal meeting with two other EDRD senior civil engineers and the EDRD Manager. The consultant invites their developer client and a representative from the company that manufactures the device. The pros and cons are discussed and debated and EDRD staff makes a final determination to either support the original decision, go with the consultant's recommendation, or a different negotiated solution.

Example: A EDRD inspector refuses to perform a probationary inspection because the road sub-grade was not proof rolled before paving. The geotechnical engineer produced test results that show one failed test and three passing compaction tests. The inspector wants an additional inch of asphalt overlay to strengthen the pavement design along with one additional year warranty. The contractor disagrees and wants the work inspected and accepted as-is. The inspector invites the contractor and his engineers to an appeal meeting with two other EDRD inspectors and one EDRD engineer. The issues are discussed and staff renders a final decision.

2.2 Expectation

The Engineering Development Review Division (EDRD) reviews all submittals for general compliance with the Subdivision Policy Manual. An approval by EDRD does not relieve the owner, contractor, engineer, or designer from responsibility of insuring that the calculations, plans, specifications, and construction drawings are in compliance with the Subdivision Policy Manual as stated in the Engineer's certification letter. Applicants are encouraged to contact EDRD for clarification of any item herein, and for any other requirements in addition to those contained herein or as amended.

2.3 Planning Applications and Review Deadlines

As part of the Land Use Review process, EDRD receives plans and reports for review from Land Use Review under cover of a routing sheet referred to as a "buck-slip." Buck-slip review deadlines are assigned by LUR. The buck-slip for a Development Plan, for example, may also include a drainage report, geologic study and a traffic study. These documents are reviewed by the EDRD review engineer who submits his/her Development Plan review comments to the Land Use Review (LUR) Planner assigned to the project. Specific comments on the drainage report and traffic study are sent directly from EDRD to the preparer and the resubmittals are sent back directly to EDRD; not through LUR. Geologic studies are jointly reviewed by LUR and EDRD per City Code. Resubmittals can be returned to either agency.

Coordination between the applicant, LUR, and EDRD is important to assure that any technical changes are reflected appropriately on the final approved Development Plan. Applicants are encouraged to contact the EDRD review engineer at any time during the development review process to discuss issues of concern. One-on-one meetings with EDRD staff are encouraged.

2.4 Review Time-frames

All engineering reports and plans that are submitted directly to EDRD (not referred from LUR) are normally reviewed within fifteen (15) working days. The applicant is advised to account for that time period in his/her schedule. The exact amount of time required for review of any item

can vary depending on workload. Any submittal that is returned to the applicant with review comments (redline copy) must be resubmitted to EDRD and the redlined copy must be included along with the revised documents. Resubmittals will be prioritized for review to the extent possible depending on workload, but may be subject to the same 15-day review time. Some construction plans have various stages of approval which is more fully described in Chapters 3 through 7.

2.5 Review Fees

City Engineering charges review and inspection fees for development applications and subdivision construction. The collection points vary based on the application item type submitted to Land Use Review or the land use category being inspected. The fee schedules and collection points can be found online at springsgov.com.

2.6 Approved Documents

All reports and plans accepted by EDRD are available to the public in electronic form online at springsgov.com. EDRD requires the design professional to submit scanned images of all approved plans and reports to ensure a complete and current data base. The instructions and specifications for scanning approved record drawings and reports will be included in subsequent chapters.

2.7 Professional Engineer Certification Letters

All public street and drainage construction shall be certified in compliance with the approved construction plans and specifications by a professional engineer (PE) licensed in the State of Colorado, prior to any acceptance of that infrastructure by the City and prior to commencement of the two (2) year warranty period (City Code Section 7.7.1105).

Both the Geotechnical and Civil Engineers shall submit Certification Letters to EDRD for all Public Street and Drainage Improvements. The Certification Letters are in accordance with state law regarding the practice of engineering include 12-25-102(10) "Practice of Engineering"; 12-25-102(14) "Responsible Charge"; and Sections 3.2.3 and 5.3 of the Bylaws and Rules of the State Board of Registration.

Sample Certification Letters are available online at springsgov.com and are also included in Chapter 11 (Inspection Letters) of this manual.

Chapter 3 – Geological Hazard Study and Mitigation*

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* The criteria contained herein is in accordance with proposed changes to City Code Section 7.4.501 through 7.4.509. Until these changes are adopted (anticipated 2010) please refer to the current City Code for Geologic Hazard requirements.

3.0 Geological Hazard Study and Mitigation

3.1 Purpose

The purpose of a Geological Hazard Study is to identify geologic conditions that may pose hazards to land development projects, homes, and residents. Colorado Springs is located in an area that includes various types of known geologic hazards. By identifying these hazards, appropriate mitigation or avoidance techniques may be implemented.

The types of geologic hazards to be identified shall include, but not be limited to, the following:

- Expansive soils and expansive rock
- Unstable or potentially unstable slopes
- Landslide areas or potential landslide areas
- Debris flow and debris fans
- Rockfall
- Subsidence and abandoned mining activity
- Shallow ground water tables
- Groundwater springs or seeps
- Flood prone areas
- Collapsible soils
- Faults
- Steeply dipping bedrock
- Elevated Radioactivity
- Radon

3.2 Applicability

A geologic hazard study shall be required in conjunction with the City's review of the following type of land development proposals:

1. New or updated Master Plans - preliminary study
2. In conjunction with rezoning requests when determined to be necessary by the Land Use Review Manager, City Engineer, Planning Commission, or City Council - preliminary study
3. Preliminary Plats - final detailed study required

4. Final Plats - final study required if no report was reviewed in conjunction with the Preliminary Plat or Development Plan. Not required for replats of previous subdivisions in which buildings exist on each of the proposed lots, and no new structures (not including fences) or new building sites are being created. The City Planner may allow the final study to be delayed until the submittal of a Development Plan or Minor Development Plan. This option may be used where a Final Subdivision Plat is submitted prior to the submittal of a Development Plan or Minor Development Plan.
5. Development Plans (including expired Development Plans which are being reconsidered) - final study required if no report was previously reviewed in conjunction with the original Plat or Development Plan. Not required for Development Plans in which no building's structures (not including fences), nor additions to existing building's structures, are proposed. (Ord. 96-74; Ord. 99-166; Ord. 01-42)

3.3 Exclusions, Exemptions, and Waivers

Proposed development projects located East of Interstate 25 are exempt from the requirements of the Geologic Hazard ordinance unless they exhibit any of the following characteristics:

1. Any portion of the site is within the hillside area (HS) overlay zone or the streamside area overlay zone.
2. Slopes (existing or proposed) which are unstable or potentially unstable, or are steeper than 3 Horizontal to 1 Vertical (3:1).
3. Underground mining or subsidence activity.
4. A history of landfill, uncontrolled, or undocumented fill activity.
5. Other geologic hazards which pose a risk to the proposed project, other than seismicity, radiation (radon), expansive/compressible soils, shallow ground water table or springs, slight to moderately expansive soils, or expansive bedrock which can be mitigated with standard foundation design construction practices.

The Land Use Review Manager, in consultation with and written approval of the City Engineer, may waive the requirement for the submittal of a geological hazard study for the following types of projects:

1. Master plans, development plans or subdivision plats for which geologic hazard reports have been previously prepared and reviewed and which are still considered to be relevant.
2. Development proposals which do not exhibit any of the five characteristics listed above; in order to obtain this type of waiver an applicant shall submit a letter from a professional geologist or geotechnical engineer, who is qualified in accord with 7.4.504 of the City Code.

Obtaining a waiver or qualifying for an exemption does not relieve the subdivider or developer of the responsibility to evaluate, address, and mitigate any geologic hazards in the development area.

3.4 Preparation of Geologic Studies

Geologic Hazard Studies shall be prepared by, or under the direction of, a professional geologist as defined by Colorado Revised Statutes section 34-1-201(3), or by a qualified geotechnical engineer as defined by policy statement 15, "Engineering in Designated Natural Hazards Areas" of the Colorado State Board of Registration for Professional Engineers and Professional Land Surveyors. (Ord. 96-74; Ord. 01-42)

3.5 Review of Geologic Hazard Studies

1. **Geologic Hazard Studies** will be reviewed concurrently by Land Use Review and City Engineering staffs in conjunction with the City's normal review of the land development proposal. The City's review shall determine whether the findings, conclusions, and recommendations of the Geological Hazard Study have been incorporated into the design of the Development Plan, Subdivision Plat, Drainage Plan, Grading Plan, and Street construction documents. If the review by the City determines that the study submitted is incomplete or fails to comply with the guidelines set forth in 7.4.5 of the City Code, the study may be rejected and a new or supplemental study may be required. In cases where significant geologic hazards are identified, appropriate mitigation measures shall be required in conjunction with the approval of the project. The mitigation measures shall include, but not be limited to:
   a. Changes to the proposed land use configuration
   b. Modification of land use types
   c. Modification of lot boundaries or building envelopes
   d. Special foundation designs
   e. Geotechnical engineering solutions
   f. Limitations on irrigated landscape designs
   g. Special drainage designs
   h. Avoidance
2. **Independent Review:** The City may, at its discretion, have geologic hazard studies independently reviewed by the Colorado Geological Survey (CGS) or by an independent professional geologist or qualified geotechnical consultant. This separate discretionary review shall be completed within a twenty-one (21) working day time-frame, shall supplement the city's review, and will be considered by the City in making a final recommendation or determination on the land development proposal application.

3.6 Submittal/Approval Procedure

A Geologic Hazard Report guidelines and checklist is provided at the end of this chapter. This checklist can be used when preparing a Geologic Hazard report. This checklist is not required to be submitted with the report, but it identifies the main points that will be reviewed by EDRD.

Any Geologic Hazard reports that are not submitted through the Land Use Review process should be submitted directly to the Engineering Development Review Division. One copy of the report may be marked as "draft" and submitted initially for review. This will allow the EDRD representative to "mark up" the copy with any possible comments and return the review copy, if necessary, to the engineer. When the review process is complete and the Geologic Hazard report is ready for approval, EDRD requires three final copies be submitted for their signature. Additional copies can be submitted and will be returned to the professional geologist or engineer. EDRD will forward one signed copy to Land Use Review for their files. All copies shall be properly certified and signed by the professional geologist or engineer prior to submittal. Drawings, figures and tables should be bound with the report or included in a folder/pocket attached to the report. All reports shall be prepared by a professional geologist or professional engineer. Following EDRD approval of the report, a scanned PDF version of the approved report must be received by EDRD prior to recording the Final Plat.

Copies of the filed Geologic Hazard reports for many existing subdivisions are available online at springsgov.com, or at the EDRD office and can be checked out by consulting engineers for use in preparing reports for new subdivisions and plats.

3.7 Disclosure Statement

The following disclosure statement shall be placed upon each Subdivision Plat and Development Plan, which is subject to a Geologic Hazard Study:

> *"This property is subject to the findings summary and conclusions of a Geologic Hazard Report prepared by _____ dated _____ . A copy of said report has been placed within file #: _____ of the City of Colorado Springs Community Development Department. Contact Community Development, 30 South Nevada Avenue, Suite 105, Colorado Springs, CO, if you would like to review said report."*

3.8 Geologic Hazard Report Guidelines

The following guidelines were previously included in the City Code and generally reflect the type of information to be included in a geologic hazard report. These guidelines are not intended to be a rigid framework of requirements, nor a specific format for all reports. With the exception of general project information, specific information listed may be deleted or may require emphasis because of unique or particular geologic conditions or due to the type of project proposed. These guidelines should be considered as a general list of geotechnical and geologic information commonly evaluated and provided in a Geologic Hazard Study.

1. **General project information:**
    - *a.* Size and location of the project
    - *b.* Existing and proposed zoning and land use

c. A statement regarding the types of land uses the report assumes will be built within the project, studies that accompany development proposals shall show buildings, streets, retaining walls, parking lot layout, and building footprints on all exhibits and mapping

d. Identification of the person who prepared the study and his/her qualifications for conducting the study per section 3.4 of this chapter or 7.3.504 of the city code

2. **Study Overview:**

a. State the objective(s) and level of investigation for the study

b. Cite the previous publicly available geologic reports which were reviewed or referenced in the course of preparing the geologic hazard study and indicate the author(s), firm, and dates of each report

c. List all the methods of investigation as well as professional firm(s) and individuals who participated

d. If the level of investigation varies within the subject area, describe in the text and show on the maps areas of concentration or exclusion

e. Describe the general physiographic setting of the project and its relationship to local topographic features

f. Describe the general geologic setting of the project and indicate any lithologic, tectonic, geomorphic, or soils problems specific to the area

g. Describe the general surface and ground water conditions

3. **Site Evaluation Techniques:**

a. Studies: State the extent and method of surface and subsurface geologic studies.

b. Geologic mapping:

1. Prepare geologic map(s) on the project topographic map to show important details corresponding to the size, extent and degree of the investigation

2. Show the abundance and distribution of earth materials and structural elements exposed or inferred in the subject area. Observed and inferred features or relationships should be so designated on the geologic map

3. Depict significant three-dimensional (3-D) relationships on appropriately positioned cross sections

4. Portray all geologic information at the same scale as the project plans. Use "tie-points" between the geologic map, topographic map, and project plans

5. Indicate the geologic base map use, date, and significant additions and modifications to previous work

c. Aerial photographs and remote-sensing imagery:

1. Describe type(s) of photographs or images including instrumentation, processing techniques, and final product

2. Indicate data and scale of photographs or imagery used in the investigation

3. Indicate usefulness and general relationships observed on the images

d. Geophysical investigations:

1. State type and objectives of the geophysical investigation(s) (if any), quality of the data, and limitations of the geophysical techniques
2. Describe the information used to correlate the geophysical data and geologic conditions
3. Display the geophysical data on the topographic/geologic maps and cross sections

e. Drill-hole data:
1. State the specific investigative methods, tests conducted, drilling, and date of investigation
2. Show the location of all borings on the topographic or geologic map
3. Show boring logs, geophysical logs, or profiles obtained in the investigation

f. Test pits and trenches:
1. Describe the location and dimensions of all pits and trenches and date of investigation
2. Indicate the location of all excavations on the topographic/geologic map and profiles
3. Provide a large scale descriptive log with sufficient detail
4. Show sample locations if supplemental laboratory tests were conducted

g. Field and laboratory tests:
1. Describe the type of any tests conducted in the field or laboratory
2. Describe the sample method and test procedures
3. Show the test results on data work sheets or on summary tables

h. Monitoring programs:
1. Describe the type, objectives, and location of all monitoring programs in the subject area
2. State the monitoring period, the firm(s) or individuals responsible for the care and disposal of the installations

4. **Geologic descriptions:**

a. Bedrock units: Sedimentary, igneous, and metamorphic rock types:
1. Rock type and bedding attitude or foliation
2. Age of and correlation with recognized formations
3. Dimensional characteristics such as thickness and extent
4. Distribution and extent of the weathered zone
5. Physical characteristics
6. Response of bedrock materials to natural processes

b. Surficial deposits: fluvial, colluvial, glacial, eolian, mass wasting, and manmade deposits:
1. Distribution, occurrence, and age
2. Identification of material types and sources
3. Dimensional characteristics such as thickness and extent
4. Surface expression and relationships with present topography
5. Physical and chemical characteristics

6. Distribution and extent of altered zones

c. Geomorphic features: landslides, earth flows, debris flows, mudflows, rock falls, debris avalanches, fault scarps, soil creep, erosion scarps, avalanches paths, and subsidence phenomenon:
   1. Location and distribution
   2. Dimensional characteristics
   3. Age of feature and history of activity
   4. Recurrence interval for geomorphic process
   5. Physical characteristics including depth, flow velocities, and impact pressures

d. Structural features: joints, faults, shear zones, folds, schistocity, and foliation:
   1. Occurrence, distribution, and proximity to site
   2. Dimensional and displacement characteristics of faults
   3. Orientation and changes in orientation
   4. Physical characteristics such as brecciation, slickensides, gouge zones, sand boils, sag ponds, springs alignment
   5. Disrupted drainages, or ground water barriers
   6. Nature of offset(s) and timing of movement(s)
   7. Absolute or relative age of latest movement

e. Surface drainage: streams, creeks, draws and springs:
   1. Distribution
   2. Relation to topography (drainage patterns)
   3. Relation to areas of vegetation, including wetlands
   4. Relation to geologic features
   5. Source, permanence, and variation in amount of surface water
   6. Evidence of earlier occurrence of water at localities now dry
   7. Estimated peak flows and physiographic flood plain of drainages
   8. Probable maximum or 100-year flood limits, including flash and debris floods
   9. Outfall

f. Ground water: confined and unconfined:
   1. Distribution and occurrence
   2. Hydraulic gradients
   3. Recharge areas for aquifers
   4. Relation to topography
   5. Relation to geologic features
   6. Seasonal variations

5. **Geologic Interpretation:**

a. Geologic hazards: landslides, avalanches, rock fall, mudflows, debris flows, and elevated radioactivity:
   1. Geomorphic and structural features/processes present in the area
   2. Man induced features/processes
   3. Age and activity of the features/processes
   4. Natural conditions affecting the features/processes
   5. Susceptibility to man induced changes

6. Potential impact of hazard(s) and risk to project
7. Amenability of adverse conditions for adequate mitigation
8. Long-term lateral and vertical stability of earth materials
9. Impact of project on materials stability

b. Geologic constraints: expansive soil or rock, potentially unstable slopes, high ground water levels, soil creep, hydrocompaction, shallow bedrock, erosion:

1. Soil, surface and ground water, and geomorphic conditions
2. Man induced conditions
3. Activity of conditions
4. Effect of natural or man induces changes
5. Potential impact of conditions and risk to project
6. Amenability of adverse conditions for adequate mitigation
7. Impact of project on long-term project stability

6. **The Bearing of Geologic Factors upon the Intended Land Use**: This topic normally constitutes the principal intent of the report. It involves both the effects of geologic features upon the proposed grading, construction, and land use; and the effects of these proposed modifications upon future geological processes in the area. The following checklist includes the topics that ordinarily should be considered as part of the findings, conclusions, and recommendations of the geologic reports:

a. General compatibility of natural features with proposed land use:

1. Topography
2. Lateral stability of earth materials
3. Problems of flood inundation, erosion, and deposition
4. Problems caused by features or conditions in adjacent properties
5. Problems potentially caused to adjacent properties
6. Other general problems

b. Proposed cuts:

1. Prediction of what materials and structural features will be encountered
2. Prediction of stability based on geologic factors
3. Problems of excavation (e.g., unusually hard or massive rock, excessive flow of ground water)
4. Recommendations for reorientation or repositioning of cuts, reduction of cut slopes, development of compound cut slopes, special stripping above daylight lines, buttressing, protection against erosion, handling of seepage water, setbacks for structures above cuts, etc.

c. Proposed masses of fill:

1. General evaluation of planning with respect to canyon filling and sidehill masses of fill
2. Comment on suitability of existing natural materials for fill
3. Recommendations for positioning of fill masses, provision for subdrains, and buttressing, special protection against erosion

d. Recommendations for subsurface testing and exploration:

1. Cuts and test holes needed for additional geologic information

e. Special recommendations:
   1. Areas to be left as natural ground
   2. Removal or buttressing of existing slide masses
   3. Flood protection
   4. Problem of ground water circulation
   5. Position of structures, with respect to active faults
   6. Problems associated with radon gas and soil radioactivity
   7. Problems caused by natural gases, such as methane and hydrogen sulfide, radon
   8. Protection of existing and proposed utility facilities

7. **Lateral Earth Movements, Safety Factor:** It is the responsibility of the professional preparing the study to identify and evaluate potentially unstable slopes. Development and adjacent properties in potentially unstable slope areas shall meet the following criteria: A safety factor of 1.3 or higher is required for non-critical structures, such as retaining walls, parking areas and roads; a safety factor of 1.5 or higher is required for critical structures such as buildings.

8. **Final Geologic Studies** shall address all written review comments from the Colorado Geologic Survey and City Engineering.

9. **Conclusions:**
   a. State whether the intended use of the land is compatible with any identified or potential geologic hazards or constraints; and if mitigation measures are necessary.
   b. Discuss the critical planning and construction aspects including irrigated landscaping, the stability of earth materials, grading plans, the need for selective location of project facilities, static, and dynamic parameters for the design of structures.
   c. Clearly state the geologic basis for all conclusions.

10. **Recommendations:**
    a. Discuss the development of mitigation procedures or design changes necessary to minimize or abate any hazardous condition. Each hazardous condition requires a recommendation.
    b. Recommendations should focus upon the long-term stability and safety of the proposed project.

3.9 Geologic Terms and Definitions

1. Slope Movement:

   AVALANCHE: A large mass of snow, ice, soil, rock, or mixtures of these materials, falling, sliding, or flowing very rapidly under the force of gravity. A mass of snow or ice and other material which may become incorporated therein as such mass moves rapidly down a mountain slope.

CREEP: Slow, gradual, more-or-less continuous deformation sustained by ice, soil, and rock materials under gravitational body stresses.

DEBRIS FAN: A triangular-shaped landform that forms by deposition of material at the intersection of a tributary valley with a larger valley. The material consists of stream-flood sediments and/or mudflow material and is deposited where the stream channel size opens into the larger valley. A flood plain which is located at the mouth of a mountain valley tributary stream as such stream enters the valley floor.

DEBRIS FLOW: A mass movement involving rapid flowage of debris of wet soil, rock, and displaced vegetation; specifically, a high-density flow containing abundant coarse-grained materials and resulting almost invariably from an unusually heavy rain or from a dry rock fall of unusually large volume.

DEBRIS SLIDE: A slide involving a slow to rapid downslope movement of comparatively dry and predominantly unconsolidated and incoherent earth, soil, and rock debris in which the mass does not show backward rotation but slides or rolls forward, forming an irregular, hummocky deposit.

EARTHFLOW: A type of slope movement and process characterized by downslope translation of soil and weathered rock over a discrete basal shear surface within well defined lateral boundaries in which the internal motions of the flowing mass approaches those of viscous fluids. Earth flows grade into mudflows through a continuous range in morphology associated with increasing fluidity.

LANDSLIDE: A general term covering a wide variety of slope movement landforms and processes involving the downslope transport, under gravitational influence, of soil and rock material en masse. Usually, the displaced material moves over a relatively confined zone or surface of shear.

MUDFLOW: A general term for a mass movement landform and a process characterized by a flowing mass of predominantly fine-grained earth material possessing a high degree of fluidity during movement. The downward movement of mud in a mountain watershed because of peculiar characteristics of extremely high sediment yields an occasional high runoff.

POTENTIAL UNSTABLE SLOPES: An area that is susceptible to a landslide, a mudflow, a rock fall, or accelerated creep of slope-forming materials.

ROCKFALL: The relatively free falling or precipitous movement of a newly detached segment of bedrock (usually massive, homogeneous, or jointed) of any size from a cliff or other very steep slope. A kind of geologic hazard.

SAFETY FACTOR: Analysis of the stability of a slope consists of assuming a failure surface and comparing disturbing forces due to the weight of material and pore pressures with restraining forces provided by the shear strength of the slope material. The ratio of the maximum restraining force, which can be developed along a potential slip surface to the amount actually required for stability, gives the factor of safety against slope failure along that surface.

SLUMP: A slope movement feature characterized by a shearing and rotary movement of a generally independent mass of rock or earth along a curved slip surface (concave upward) and about an axis parallel to the slope from which it descends, and by backward tilting of the mass with respect to that slope facing uphill.

SLUMP (ROTATIONAL SLIDE): All landslides having a concave upward, curved failure surface, and involving a backward rotation of the original slide mass.

SOIL CREEP: The gradual, steady downhill movement of soil and loose rock material on a slope that may be very gentle but is usually steep.

2. Soil:

BENTONITE: A common name for layers of white or yellow clay containing a mineral called "Montmorillonite," which is formed from the weathering of volcanic ash; it may be highly prone to swelling if exposed to water while dry.

COLLAPSIBLE SOIL: Certain relatively dry soils that have a high void ratio and will support a heavy load at natural moisture content but, when water is added, undergo a collapse of internal structure and a reduction in volume that results in subsidence of the ground surface and densification of the wetted soil column.

COLLUVIAL SOILS: Any loose, poorly sorted mass of soil or rock material deposited by rapid, water-deficient, gravity-dominated processes such as normal surficial creep, landslides, and rock falls; the soil or rock may range in size from clay to boulders.

EXPANSIVE SOIL: Includes soil that contains clay and which expands to a significant degree upon wetting and shrinks upon drying.

HYDROCOMPACTION: A property of some dry, unconsolidated deposits to undergo, after wetting, spontaneous compaction, settling and cracking. Commonly this occurs in areas that are normally dry, but are subjected to abnormal wetting from sewage disposal systems, stream diversions, irrigation systems, or water carrier breakage.

SHRINKAGE LIMIT: The moisture content below which no volume change will occur.

SOIL: In engineering work a soil is any earthen material, excluding hard bedrock, composed of:

1. Loosely bound mineral and organic particles
2. Water
3. Gases

SWELLING CLAY: Capable of absorbing large quantities of water, thus increasing greatly in volume.

3. Rock:

EXPANSIVE ROCK: Includes rock that contains clay and which expands to a significant degree upon wetting and shrinks upon drying.

IGNEOUS ROCK: Bedrock which has developed due to subsurface (intrusive) melting and cooling processes or the cooling of molten material at the surface of the earth (extrusive).

SEDIMENTARY ROCK: Bedrock that has been solidified by the processes of lithification, compaction, cementation, and/or precipitation.

STEEPLY DIPPING BEDROCK: Bedrock, which has been deformed from the original horizontal position to dip angles of forty-five degrees (45°) or more.

4. Other:

DESIGN EARTHQUAKE: The earthquake for which protective measures should be taken in the design of all construction. The highest magnitude and intensity earthquake that can be expected to affect a given site.

ENGINEERING GEOLOGIST: An individual who has obtained a degree in geology and has obtained professional abilities from experience and/or higher education training in engineering geology areas.

PIPING: Erosion by percolating water in a layer of subsoil, resulting in caving and in the formation of narrow conduits, tunnels, or pipes; through which soluble or granular soil material is removed. The primary reason for what is called mine subsidence in the local area.

PROFESSIONAL ENGINEER: An individual who has completed a degree in one of the engineering disciplines and who has become licensed as a professional engineer by completing the requirements of the state where work will be completed.

PROFESSIONAL GEOLOGIST: One who is trained in and works in any of the geological sciences. Usually has completed a minimum of thirty (30) hours of geology, received an undergraduate degree in one of the geological sciences, and has worked professionally for five (5) years.

RADON: The gaseous component of radon-220 which develops in the decay of various isotopes of uranium found in areas of the Pikes Peak granite and sedimentary rocks composed of weathered Pikes Peak granite.

SCOUR: The powerful and concentrated clearing and digging action of flowing air, water, or ice, especially the downward erosion by stream water in sweeping away mud and silt on the outside curve of a bend, or during a time of flood.

SEISMICITY: Pertaining to earthquakes or earth vibrations.

3.10 Geologic Hazard Study Checklist

The following is the checklist to be used as guidance in the preparation of a Geologic Hazard Study:

City Of Colorado Springs
City Engineering
Subdivision Geologic Hazard Study Checklist

Geologic Hazard Study Report Guidelines (City Code Section 7.4.506)

Subdivision Name: _____

Prepared By: _____ Date Received: _____

GENERAL PROJECT INFORMATION

- ☐ Size and location of the project
- ☐ Existing and proposed zoning and land use
- ☐ A statement regarding the types of land uses the report assumes will be built within the project
- ☐ Studies that accompany development proposals shall show building, streets, retaining walls, parking lot layout, and building footprints on all exhibits and mapping
- ☐ Identification of the person who prepared the study and his/her qualifications for conducting the study per Section 7.4.504 of the City Code

STUDY OVERVIEW

- ☐ State the objective(s) and level of investigation for the study per Section 7.4.505 of the City Code
- ☐ Cite the previous publicly available geologic reports, which were reviewed or referenced in the course of preparing the geologic hazard study and indicate the author(s), firm, and dates of each report
- ☐ List all the methods of investigation as well as professional firm(s) and individuals who participated
- ☐ If the level of investigation varies within the subject area, describe in the text and show on the map areas of concentration or exclusion
- ☐ Describe the general physiographic setting of the project and its relationship to local topographic features
- ☐ Describe the general geologic setting of the project and indicate any lithologic, tectonic, geomorphic, or soils problems specific to the area
- ☐ Describe the general surface and ground water conditions

SITE EVALUATION TECHNIQUES

- ☐ State the extend and method and subsurface geologic studies
- ☐ Geologic mapping and cross-sections
- ☐ Aerial photographs and remote — sensing imagery
- ☐ Geophysical investigations
- ☐ Drill-hole data
- ☐ Test pits and trenches
- ☐ Field and laboratory tests
- ☐ Monitoring programs

GEOLOGIC DESCRIPTIONS

- ☐ Bedrock units: (sedimentary, igneous, metamorphic rock types, physical characteristics, and attitude of bedding or foliation)
- ☐ Surficial deposits: (fluvial, colluvial, glacial, eolian, mass wasting, and man-made deposits)
- ☐ Geomorphic features: (landslides, earth flows, debris flows, mudflows, rock falls, debris avalanches, fault scarps, soil creep, erosion scarps, avalanche paths, and subsidence phenomenon)
- ☐ Structural features: (joints, faults, shear zones, folds, schistocity, and foliation)
- ☐ Surface drainage: (streams, creeks, draws and springs)
- ☐ Ground water: (confined and unconfined)

GEOLOGIC INTERPRETATION

- ☐ Geologic hazards: (landslide areas or potential landslide area, avalanches, rock fall, mudflows, debris flows, radioactivity, and subsidence/underground mines)
- ☐ Geologic constraints: (expansive soil or rock, unstable or potentially unstable slopes, high groundwater levels, soil creep, hydrocompaction, shallow bedrock, erosion/siltation, shallow water table, springs, flood prone areas, collapsing soils, faults, steeply dipping bedrock, corrosive minerals, seismicity)

THE BEARING OF GEOLOGIC FACTORS UPON THE INTENDED LAND USE

- ☐ General compatibility of natural features with proposed land use
- ☐ Proposed cuts
- ☐ Proposed masses of fill
- ☐ Recommendations for subsurface testing and exploration
- ☐ Special recommendations

CONCLUSIONS

- ☐ State whether the intended use of the land is compatible with any identified or potential geologic hazards or constraints; and if mitigation measures are necessary
- ☐ Discuss the critical planning and construction aspects including irrigated landscaping, the stability of earth materials, grading plans, the need for selective location of project facilities, static, and dynamic parameters for the design of structures
- ☐ Clearly state the geologic basis for all conclusions

RECOMMENDATIONS

- ☐ Discuss the development of mitigation procedures or design changes necessary to minimize or abate any hazardous conditions. Each hazardous condition requires a recommendation.
- ☐ Recommendations should focus upon the long-term stability and safety of the proposed project. (Ord. 96-74; Ord. 99-166; Ord. 01-42)

REVIEW COMMENTS ADDRESSED

- ☐ Studies shall include all written review comments from the Colorado Geologic Survey and City Engineering. These review comments shall be addressed in the study.

Chapter 4 – Drainage Reports and Plans

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4.0 Drainage Reports and Plans

4.1 General Information

The Engineering Development Review Division (EDRD) reviews, approves, and files numerous types of Drainage Reports, Studies, and Letters. A Drainage Report is required to be submitted along with all Final Plat and Development Plan applications in the City of Colorado Springs. The Final Plat will not be recorded until the Final Drainage Report is signed by EDRD.

The following is a list of the various types of Drainage Reports required by EDRD for review, approval, and filing:

- Drainage Basin Planning Study (DBPS)
- Master Development Drainage Plan (MDDP)
- Preliminary Drainage Report (PDR)
- Final Drainage Report (FDR), or
- A Small Subdivision Drainage Report Format (Drainage Letter)

4.2 Requirements

All Drainage Reports submitted to EDRD for review and approval shall be prepared and submitted in accordance with the "City of Colorado Springs and El Paso County Drainage Criteria Manual, Volume I" (DCM Vol. I) and "City of Colorado Springs Drainage Criteria Manual, Volume II" (DCM Vol. II).

The DCM, Vol. I specifies design and technical criteria for all drainage analysis and construction. The DCM, Vol. II provides information on Best Management Practices (BMP's) for Stormwater. These manuals are available online at springsgov.com or printed manuals may be purchased from the City of Colorado Springs Office Services Department on the Garden Level of the City Administration Building. Printed manuals come with a CD-ROM including the manual, AutoCAD drawings, and interactive design forms.

In 2007, some significant changes were adopted by City Council regarding the City's Streamside Ordinance. EDRD encourages the enhancement and preservation of natural stream corridors whenever feasible while ensuring that public drainage channels are stable and maintainable. EDRD will consider alternative channel designs to accomplish this when there is an opportunity to enhance the stream corridor and consistent with the City's Streamside ordinance. With that in mind, the following are pertinent portions of the City's Comprehensive Plan to consider when designing drainage channels:

1. **Drainage Way Protection** (Strategy NE 202c) - Protect riparian areas and natural water bodies on public and private lands as natural drainage ways and ecosystems through land use plans, development plans, best management practices and ordinances. Update Drainage Basin Planning Studies and the development review process to require mitigation plans for development or modifications to existing utilities on lands with natural drainage ways.
2. **Natural Ecosystem and Drainage Way Restoration** (Strategy NE 202d) - Promote the restoration of significant natural ecosystems, habitats for native plant and animal species, natural water bodies and drainageways on public lands, and require protection and mitigation plans for private lands during the development review process.
3. **Protect Drainageway and Floodplains** (Policy NE 302) - Limit development of land within floodplains, which should remain, or be returned, to its natural state. Development can reduce a floodplain's ability to store and convey water, intensifying velocity and depth of floodwater in other areas. Areas subject to significant flooding also pose a threat to citizens and property. Floodplains are lands identified in the Streamside Overlay Zone and FEMA designations.
4. **Use Drainage Basin Planning Studies for Stormwater Management** (Strategy NE 302a) - Use the established method of drainage treatment for a particular Drainage Basin Planning Study for all proposed development or redevelopment, or require an amendment to the study if changes are proposed or required. Use Best Management Practices to address erosion, sediment control, and stormwater quality during construction and after development. Minimize the adverse impacts of stormwater runoff, including erosion/sedimentation, to drainageways and other drainage facilities.

   Plan and utilize floodplains and drainageways as greenways for multiple uses including conveyance of runoff, wetlands, habitat, trails, recreational uses, utilities and access roads when feasible, considering the primary intended use.
5. **Retain Floodplains in their Natural State** (Strategy NE 302b) - Floodplains will remain as undisturbed riparian corridors, wildlife habitat, or wetlands whenever possible. Trails or other open recreational facilities and utility facilities such as electric, gas, and water mains may be appropriate in certain areas. Identify these areas in master plans, development plans, and development proposals.

4.3 Drainage Studies

There are four levels of drainage planning. The following is a brief explanation of when the various types of Drainage Reports are required for review and/or approval by EDRD. Developers are encouraged to contact EDRD prior to development submittals to discuss drainage issues.

- A Drainage Basin Planning Study (DBPS) or update of such report may be required as a condition of annexation of land into the City of Colorado Springs.
- A Master Development Drainage Plan (MDDP) may be required for any phased development (Master Plan or large scale Development Plan) greater than 10 acres. Where a development is not phased yet greater than 10 acres, the report requirements for an MDDP and the Preliminary Drainage Report may be combined.

- A Preliminary Drainage Report (PDR) is required to be reviewed concurrently with all Development Plan, Minor Development Plan, Concept Plan and Preliminary Plat submittals. PDR's can be waived by EDRD on minor development plans when there is no change to the site drainage.
- A Final Drainage Report (FDR) is required at the time of final plat submittal. A PDR may be combined with the FDR when a final plat is concurrently submitted with a Development Plan. The FDR must be approved by EDRD prior to the plat being recorded. FDR for platting cannot be waived.
- A Small Subdivision Drainage Report Format (Drainage Letter) may be used in place of the FDR subject to EDRD approval for a replat of property that a complete FDR has previously been approved by EDRD, and no significant changes to drainage patterns outlined in the FDR are proposed.

4.4 Submittal/Approval Procedure

A Drainage Report checklist is provided at the end of this section. This checklist can be used when preparing a drainage report. This checklist is not required to be submitted but identifies some of the main points that will be reviewed by EDRD.

Any drainage reports that are not submitted through the Land Use Review process should be submitted directly to EDRD. One copy of the report may be submitted initially for review. This will allow the EDRD representative to "mark up" the copy with comments and return the review copy to the engineer. When the review process is complete and the drainage report is ready for approval, EDRD requires two copies be submitted for City signature. Additional copies can be submitted and will be returned to the engineer. These copies shall be properly certified and signed by the engineer and the owner/developer prior to submittal. Drawings, figures, and tables should be bound with the report or included in a folder/pocket attached to the report. All reports shall be prepared by a registered professional engineer licensed in the State of Colorado. Following EDRD approval of the report, a scanned PDF version of the record approved report and plan must be received by EDRD prior to recording the Final Plat.

Copies of the filed drainage reports for many existing subdivisions are available online at springsgov.com or at the EDRD office and can be borrowed for use in preparing reports for new subdivisions and plats. Copies of Master Development Drainage Plans and Drainage Basin Planning Studies are also available online or can be checked out at the EDRD office.

City Of Colorado Springs
City Engineering
Drainage Report Checklist

Introduction

The following outline is a compilation of criteria to be used for Final Drainage Report review. MDDP review is very similar and can be done with the following procedures; however a certain level of detail is not required. DBPS review is altogether different and follows formatting and content that is appropriate for that major watershed specifically. This is decided on early in the process with senior EDRD staff and Stormwater Engineering representatives. The following checklist is intended to be a guideline and is not an all inclusive list of report content.

Cover Sheet

- ☐ Report type; FDR, MDDP, etc.
- ☐ Subdivision name
- ☐ Prepared for
- ☐ Prepared by
- ☐ Date prepared

STATEMENT SHEET

- ☐ Engineer statement/signature block (see DCM I)
- ☐ Developer statement/ signature block (see DCM I)
- ☐ City Engineer signature block (see DCM I)

TABLE OF CONTENTS AND APPENDICES

Table Of Contents:

- ☐ Purpose
- ☐ General Site Description
- ☐ Soils Conditions
- ☐ Drainage Criteria
- ☐ Existing Drainage Conditions
- ☐ Proposed Drainage Conditions
- ☐ Water Quality
- ☐ Erosion Control Plan (optional)
- ☐ Floodplain Statement
- ☐ Drainage and Bridge Fees
- ☐ Construction Cost Opinion
- ☐ Summary
- ☐ References

Appendices:

- ☐ Vicinity Map
- ☐ Soils Map
- ☐ FEMA Floodplain Map
- ☐ Hydrologic Calculations
  - ☐ Existing Condition
  - ☐ Proposed Conditions
- ☐ Hydraulic Calculations
  - ☐ Existing Condition
  - ☐ Proposed Conditions
- ☐ Water Quality Calculations
- ☐ Drainage Maps
  - ☐ Existing Condition
  - ☐ Proposed Conditions
- ☐ Grading and Erosion Control Plan (optional)

Purpose

- ☐ Type of report and subdivision name
- ☐ State purpose (e.g. – "identify on-site and offsite drainage patterns, storm sewer, culvert and inlet locations, areas tributary to the site, and to safely route developed storm water to adequate outfalls")

General Description

- ☐ Subdivision name, acreage and land use
- ☐ Section, township and range ("west of 6th principal meridian")
- ☐ City, County and State
- ☐ Bounded by what developments on all sides (plat names)
- ☐ Number of lots to be platted
- ☐ Is the site in the Streamside Zone, and if so, describe all pertinent issues and compliance

Soils Conditions

- ☐ Any pertinent soil discussion
- ☐ Source of soils data (typically NRCS)
- ☐ Hydrologic group (A,B,C or D) used for calculations in this report

Drainage Criteria

- ☐ Hydrologic and hydraulic criteria referencing Colorado Springs Drainage Criteria Manual Volume 1 (DCM 1)
- ☐ Hydrologic and hydraulic referencing other criteria such as Urban Drainage Criteria Manual by the Urban Drainage and Flood Control District (UDFCD) of the Denver Metro area
- ☐ Hydrologic and hydraulic criteria per Colorado Department of Transportation (CDOT), usually used for Type "R", "C" and "D" types which vary from the Colorado Springs products
- ☐ Criteria used other than City of Colorado Springs needs to be definitively justified in the narrative
- ☐ Hydrologic methodology must be listed (e.g. – Rational method < 100 acres, NRCS Method > 100 acres, etc.) as well as for what storm recurrence intervals
- ☐ Hydraulic grade line calculation criteria must also be listed (e.g. – Standard method, HEC 22 Energy method, etc.)

Existing Drainage Conditions

- ☐ List major watershed (e.g. – Sand Creek Basin)
- ☐ List any site improvements (e.g. – grading, swales, utilities, storm drains, etc.)
- ☐ Reference to the existing conditions map
- ☐ Note vegetation type currently on site
- ☐ General drainage pattern (cardinal direction references) with general slope %'s noted
- ☐ General drainage information to preface detailed descriptions of certain site attributes listed above (e.g. – swale that runs parallel and adjacent to Maple Street from a 30" RCP…)

- ☐ Specific drainage patterns and hydraulic routing
  - ☐ Some consultants may route their flows by basin as opposed to design point
  - ☐ Basin name, acreage and flow (5 yr and 100 yr min.)
  - ☐ Runoff source (e.g. – "rear of lots 3 and 4") and type (sheet flow or concentrated)
  - ☐ Routing to design points specified and labeled on map
- ☐ Routing of runoff into structures (size, type, condition and material), amount intercepted and flow by (if any)
- ☐ Off-site drainage conditions affecting the site
- ☐ Discussion of prior studies affecting the site

Proposed Drainage Conditions

- ☐ Reference to the proposed conditions map
- ☐ General drainage information to preface detailed descriptions of certain site attributes listed above (e.g. – swale that runs parallel and adjacent to Maple Street from a 30" RCP…)
- ☐ Specific drainage patterns and hydraulic routing
  - ☐ Basin name, acreage and flow (5 yr and 100 yr min.)
  - ☐ Runoff source (e.g. – "rear of lots 3 and 4") and type (sheet flow or concentrated)
  - ☐ Routing to design points specified and labeled on map
  - ☐ Street capacities (major and minor storm) with street classification noted
- ☐ Routing of runoff into structures (size, type, condition and material), amount intercepted and flow by (if any)
- ☐ Emergency overflow routing
- ☐ On-site detention requirements discussion with reference to calculations
- ☐ Discussion regarding compliance or variance with other drainage studies
- ☐ Public or private maintenance of facilities proposed

Water Quality

- ☐ Statement required specifying criteria used (DCM Volume 2 or other). If other, then definitive reasoning is required to justify its use
- ☐ What type of facility is proposed
- ☐ Basins contributing to the facility and total acreage (check acreage against total site to verify they are treating the entire site)
- ☐ Percent impervious listed (composite for site to be included in the calculations which should be referenced in the appendix)
- ☐ Sized facility information (e.g. – "minimum bottom area of 1450 sf and a minimum volume of 0.25 acre-ft")
- ☐ Emergency spillway information (e.g. – "20' broad crested weir which outfalls into the street")
- ☐ Reference to the design calculations in the appendix

Erosion Control Plan

- ☐ Per DCM Vol. I criteria, an Erosion Control Plan is required to be included with the drainage analysis, however it may be submitted separately as a stand alone construction drawing
- ☐ If the plan is included, it will need to be in the appendix and a cost estimate in the report text

Floodplain Statement

Typically stated as either the following or a variation thereof:

- ☐ "No portion of the site is located within a 100 year floodplain as determined by the Flood Insurance Rate Map (FIRM) number ###### #### effective date, March 17, 1997 (see appendix)"
- ☐ If the site is within a floodplain, then the statement must state so
- ☐ If the development will change the floodplain, then a CLOMR or LOMR may be needed and should be discussed in the narrative

Drainage and Bridge Fees

- ☐ List major watershed
- ☐ List the current year and the fees associated (fees updated every year by EDRD and approved by City Council)
- ☐ The fees are derived from the unit price ($/acre) established in the DBPS and the total site platted acreage
- ☐ Some basins have special additional fees associated with them, a review of the basin summary sheet EDRD compiles is appropriate prior to acceptance of the values
- ☐ Fees are due prior to plat recordation and must be stated as such in the report text, typically after the estimate table

Construction Cost Opinion

- ☐ Cost opinions are required for private and public facilities
- ☐ A clear distinction needs to be made with regards to what is private and what is public
- ☐ Clearly define what is reimbursable and what is not. Reimbursement is limited to facilities and cost limitations per the D.B.P.S.
- ☐ The table should include a description, quantity, unit price and cost as well as an engineering contingency that should not exceed 10% (per City criteria for drainage reimbursements) and of course a grand total
- ☐ Unit prices should be reviewed for general acceptance only (i.e. – they should be reasonable)

Summary

- ☐ Subdivision name [name of development (e.g. – Shops at the Ballpark) if applicable]
- ☐ Statement that site runoff and storm drain and appurtenances will not adversely affect the downstream and surrounding developments
- ☐ Statement that this report and findings is in general conformance with the MDDP or Preliminary Drainage Report or other pertinent studies

Appendices

Vicinity Map

- ☐ Show surrounding streets and a label for the site, should show adjacent streets and a few major roadways
- ☐ Site delineated with border shown or border and hatch
- ☐ North arrow and scale reference

Soils Map

- ☐ NRCS (or other) map copy or print with soil types (numbered) labeled
- ☐ Site delineated with border shown or border and hatch
- ☐ North arrow and scale reference

FEMA Floodplain Map

- ☐ FIRM map copy or print out (maps can be made on the FEMA web site)
- ☐ Site delineated with border shown or border and hatch
- ☐ North arrow and scale reference
- ☐ FEMA Map number on exhibit, and preferably includes map effective date

Hydrologic Calculations

- ☐ Composite runoff coefficients (if applicable)
- ☐ Basin Runoff Summary (individual basins)
  - ☐ Needs to show time of concentration calculations (Tc) for overland and street/channel flow
  - ☐ Intensity values (I) for the applicable design storms (5yr and 100yr minimum)
  - ☐ Discharge (Q) values for the applicable design storms (5yr and 100yr minimum)
- ☐ Surface Routing Summary
  - ☐ Design point references
  - ☐ Contributing basins and/or design points
  - ☐ "CA" equivalents
  - ☐ Maximum Tc
  - ☐ Intensity values
  - ☐ Discharge values
  - ☐ Structure sizes (e.g. – 10' D-10-R sump inlet) or route into feature (e.g. – pond or ditch)

Hydraulic Calculations

- ☐ Pipe Routing Summary has same data as Surface Routing Summary except structure would be pipe or feature as listed above
- ☐ Headwater Depth calc sheets or program printouts (if applicable)
- ☐ Hydraulic Grade Line (HGL) calculations
- ☐ Inlet structure calculations with design point references
- ☐ Channel/ditch/swale calculations

- ☐ Pipe calculations, at a minimum using "Manning's" formula for open channel flow
- ☐ Street capacity calculations

Water Quality Calculations

- ☐ % impervious calculations (composite) for site
- ☐ DCM Volume 2 spreadsheet copy or printouts

Detention Pond Calculations (if applicable)

- ☐ Outlet structure input data (orifice, weir, grate, elevation, pipes, etc.)
- ☐ Pond geometry data (contour elevations and areas)
- ☐ Output data (staged flow discharges (i.e. – release rates), water surface elevations for staged discharges, exit flow velocities, storage volumes , etc)

Drainage Maps

- ☐ Existing Condition
  - ☐ Property boundary with label or legend item
  - ☐ Streets with labels
  - ☐ Curb and gutter with type noted
  - ☐ Buildings, parking and landscape areas with labels
  - ☐ Existing contours
  - ☐ Lot labels
  - ☐ Storm pipe and structures labeled with size, material and type (and condition if applicable)
  - ☐ Ditches/swales/channels with labels and grades (and cross section identifier if applicable)
  - ☐ Design point identifier
  - ☐ Basin boundaries with label or legend item
  - ☐ Adjacent development plat name labels
  - ☐ Flow arrows
  - ☐ Basin identifiers
  - ☐ Basin summary table
  - ☐ Design point summary
  - ☐ Drainage easements or tracts with labels
  - ☐ 100 yr floodplain (if applicable) with label or legend reference
  - ☐ Discharge values at key locations (typically site inflow and outflow locations minimum)
  - ☐ Off-site basins with labels
- ☐ Proposed Conditions (same as for existing conditions with the exception of proposed facilities to include site structures (e.g. – buildings, parking lot, ponds, etc.), storm system and proposed contours

Grading and Erosion Control Plan in map pocket (if applicable, see above for more information)

Chapter 5 – Grading, Erosion and Stormwater Quality Control Plans

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5.0 Grading, Erosion and Stormwater Quality Control Plans

5.1 General information

Most land disturbing activities in Colorado Springs require that a Grading, Erosion and Stormwater Quality Control Plan be produced and submitted to the Engineering Development Review Division (EDRD) for review and approval. All grading, construction, and land development activities must control erosion and prevent the transport of sediment onto adjacent properties, public rights-of-ways, streets, storm drainage facilities, channels or any other public or private facilities. The owner/developer is responsible to maintain all erosion control measures for the duration of all construction activity.

The following information summarizes the requirements for a Grading, Erosion and Stormwater Quality Control Plan and the submittal and review process. Also included is a description of the process for addressing non-compliance.

5.2 Requirements

Grading, Erosion and Stormwater Quality Control Plans are required for all but minor land disturbing activities in accordance with City Code Sections 7.7.15 (Grading Ordinance), 7.3.504 (Hillside Ordinance), Drainage Criteria Manual Vol. I, Chapter 4 and Drainage Criteria Manual Vol. II. Grading and Erosion Control Plans must be reviewed and filed (signed) by EDRD prior to any land disturbance.

Specifically, a Grading, Erosion and Stormwater Quality Control Plan is required under the following conditions whether or not the land is being platted:

- Any grading or construction within Hillside overlay zone
- Any grading or construction within the Streamside overlay
- Excavation or fill of 500 cubic yards or more
- Grading of a site with platted acreage of one or more acres
- Grading on any property with a natural slope in excess of eight percent
- Any time permanent Stormwater Quality features are required
- Any combination of the above

The Grading and Erosion Control design may be combined into one plan for EDRD review and approval. This plan must also include a cost estimate for any temporary and permanent erosion control measures to include, but not limited to, silt fence, sediment basins, vehicle tracking controls, check dam, erosion control blanket, inlet protection, permanent water quality ponds, porous pavement surfaces, re-vegetation, and maintenance costs. Financial assurances shall be posted by the owner/developer for all erosion control measures prior to approval of any land disturbance activities. Financial assurances are required for the cost estimate included in the Erosion Control and Stormwater Quality Cost Opinion included on the approved grading and

erosion control plan or in the approved drainage report. The owner/ developer shall provide the financial assurances prior to plan sign off, and will be released when the disturbed areas are stabilized or established to the satisfaction of the City in accordance with the DCM, Volume I & II and a written letter requesting release has been submitted to EDRD.

A Stormwater Management Plan (SWMP) Permit Acceptance notation block is required and must appear in the plan set. (See Section 5.8) The SWMP notation block shall state the responsibility of the owner/developer to obtain permits from the Colorado Discharge Permitting System (CDPS), if required.

The Grading, Erosion and Stormwater Quality Control Plan shall be signed and sealed by a professional engineer licensed in the State of Colorado. An owner's statement shall also be included agreeing to comply with the requirements of the Plan per City Code Section 7.7.1504.

A Floodplain Development Permit is required for all construction/grading within a designated floodplain. Floodplain development permits are issued by the Floodplain Administrator. All requests for floodplain map revisions must be submitted to the Federal Emergency Management Agency (FEMA) through the Floodplain Administrator (located at the Regional Building Department).

In 2007, some significant changes were adopted by City Council regarding the City's Grading Ordinance. All grading in 100-year floodplains is prohibited city wide. The exception language was carefully crafted so that channel construction in the floodplain and its associated grading can be accomplished without violating the grading code if the work is in accordance with an approved DBPS. The following is the important wording of the code change adopted in 2007: (Note that an approved Development Plan is required for fill in floodplains.)

1. Fill is prohibited in the 100-year floodplain as defined by either FEMA-issued Flood Insurance Rate Maps (FIRMs), or by City approved Drainage Basin Planning Studies (DBPSs), and as determined by the City Engineer if conflicts exists between the two. Exceptions to this prohibition include:
    a. Fill that is consistent with the recommended channel improvements of an approved DBPS and is approved by FEMA with a Conditional Letter of Map Revision (CLOMR) and/or a Letter of Map Revision (LOMR) as appropriate.
    b. Fill that is in compliance with an approved development plan.
    c. Fill that is part of an approved utility and/or public works project, and is permitted by the Floodplain Administrator and other appropriate agencies having jurisdiction over public waters.

A Grading, Erosion and Stormwater Quality Control Plan checklist is included in this Chapter. This checklist may be useful when preparing this plan for EDRD approval, however, it is not all inclusive. This checklist is provided for the convenience of the preparer and shall not be required with plan review submittals. Also included in this chapter are standard notes to be included on the plans.

5.3 Submittal/Approval Procedure

One copy of the Grading, Erosion and Stormwater Quality Control Plan may be submitted initially for review. This will allow the City representative(s) to "mark-up" the copy with any possible comments and return the review copy to the preparer. This "mark-up" copy must be returned along with any revised plans for re-review by EDRD staff prior to approval. Developments that fall within a Hillside or Streamside overlay zone are required to have the Grading, Erosion, and Stormwater Quality Control Plans jointly reviewed/signed off by EDRD and Land Use Review. The grading plan for a Hillside or Streamside site must be submitted to LUR as part of the development application. Individual Hillside Site Plans are reviewed and signed off by Development Review Enterprise with no EDRD review.

When the plan review process is complete and the plan is ready to be signed off, the preparer has the option of submitting an original mylar or an original bond print for signature. The plan being submitted for approval must include the Professional Engineer's (P.E.) number and signature and the owner's compliance statement and signature. Financial assurances (if required) must also be submitted along with the plan for approval.

Following EDRD approval of the plan, two (2) bond copies along with a scanned PDF version of the record approved drawings are required for City Engineering files and must be received by EDRD prior to commencing grading activities. All prints of the approved plan must bear the professional seal of the Professional Engineer (P.E.) in accordance with City Code Section 7.7.1504 and State Law.

Signoff and acceptance of the Grading, Erosion and Stormwater Quality Control Plan by EDRD shall constitute a grading permit authorizing the approved land disturbance and implementation of the approved erosion control measures provided that acceptance shall not constitute a permit for any area zoned Hillside or Streamside Overlay Zone unless the plan has been jointly signed by Land Use Review Team and EDRD (7.3.504).

All existing utilities and their easements must be shown on the grading plan. EDRD's acceptance of the grading plan does not constitute approval to grade in any utility easement. Approvals to grade within utility easements must be obtained from the appropriate utility company. It is not permissible for any person to modify the grade of the earth on any Colorado Springs Utilities easement without their written approval.

Grading, Erosion and Stormwater Quality Control Plans expire if site construction or land disturbance has not commenced within twelve (12) months of the approval. The plans must then be resubmitted for re-approval. Previously approved plans must also be resubmitted to EDRD for re-approval when any of the following occur:

- Change in ownership of the property to be disturbed
- Major development design changes to the site or,
- Major grading design revisions to the site

5.4 Offsite Grading

Grading outside of the owners property boundary (off-site grading) will not be allowed unless EDRD receives written approval from the adjacent property owner. Graphical depiction of the offsite grading does not constitute approval by EDRD.

5.5 Lot-to-Lot Drainage

Lot-to-lot drainage from one private property to another is fairly common in subdivision design although it must be kept to a minimum and avoided whenever a suitable alternative drainage pattern can be found. City Engineering is concerned about lot-to-lot drainage and receives many complaint calls from citizens primarily in single family developments. All design professionals, developers, home builders, home owners, landscapers, and contractors must also be concerned to avoid lot-to-lot drainage problems. All of these parties are responsible for avoiding and correcting these kinds of problems. City engineering inspection staff is available to meet with citizens to discuss lot-to-lot drainage and when possible will meet with design professionals, developers, etc. However lot-to-lot drainage is a private matter that City Engineering does not have jurisdiction or funding to correct.

5.6 Compliance

Compliance with the Plan is the responsibility of the developer/owner who signs the Plan. Situations that present an immediate danger to public and/or private safety and other serious non-compliance issues may result in enforcement action per 7.7.1509. Any street or drainage facility that has erosion sediment deposited in it due to construction, grading, or any other development activity, must be cleaned immediately at the expense of the developer/owner who signs the Plan. If the street or drainage facilities are not cleaned immediately or within a period of time specified by the Inspectors, the City may perform the work or have the work done and bill the responsible party.

5.7 Permanent Water Quality Best Management Practices

Permanent water quality Best Management Practices (BMPs) are required for new development and significant redevelopment as defined in Section 4.1 of DCM Vol. II. Multi family residential, PUD, office, commercial, and industrial development or significant redevelopment of one acre or larger must provide Water Quality Capture Volume (WQCV) which is described in Section 4.1 of DCM Volume II. The need for permanent water quality BMPs in single family residential development or significant redevelopment of two acres and larger will be reviewed on a case-by-case basis. A waiver of permanent water quality BMPs for single family development greater than two acres may be granted by EDRD if the impact of the development is minimal and construction of BMPs is impractical based on submittal of sufficient justification. Sufficient justification shall be submitted in the project's final drainage report (or in a letter of waiver request) and EDRD's acceptance of the report (or request letter) shall constitute a waiver.

When BMP's are required the design of permanent water quality BMP's shall be shown on the Grading and Erosion Control plans. Addendum #1 of DCM Volume II describes the requirement for operation and maintenance of BMPs. An Inspection and Maintenance plan (IM Plan) must be submitted along with the grading and erosion control plan. Maintenance agreements are also required. The Stormwater Enterprise website has the information about operation and maintenance of BMPs.

5.8 State and El Paso County Requirements

Construction activities that disturb one (1) or more acres, or which are part of a larger common plan or development or sale are required to obtain a "Discharge of Stormwater Associated with Construction Activities" permit through the Colorado Department of Public Health and Environment. For more information, contact the Colorado Department of Public Health and Environment.

Construction activities that disturb one (1) or more acres are required to obtain a "Construction Activity Permit" (AKA Fugitive Dust Permit) through the State or El Paso County Department of Health and Environment. Although EDRD is certainly concerned about wind erosion, enforcement is primarily governed by the State or El Paso County Health Department.

5.9 Checklist and Standard Notes

City Of Colorado Springs
City Engineering
Grading, Erosion And Stormwater Quality Control Plan Checklist

This checklist is to be used when a Grading Plan is required in accordance with Section 7.7.1503/2001 of the City Code (enacted as ordinance 82-56) per Drainage Criteria Manual Volumes I and II. This checklist is not meant to be all inclusive.

Plan Document

The site plan must show, at the minimum, the following:

1. The plan at a scale of 1-inch to 20 feet up to 1-inch to 100 feet. The plan must include:
   - ☐ General vicinity map Showing relationship of the site to existing and planned roadways, jurisdictional boundaries, major creeks, and streams.
   - ☐ Subdivision name – The name as it appears on the Final Subdivision Plat.
   - ☐ General Notes (8) See Grading, Erosion Control, and Stormwater Quality Plan Notes, Engineering Criteria Manual.
   - ☐ Cost Estimate of the temporary and permanent BMP's including installation and maintenance until final stabilization is achieved. A unit price list may be obtained from the EDRD office if needed.
   - ☐ Signature blocks (3) See Signature Block section, Engineering Criteria Manual.
   - ☐ North Arrow and Scale
   - ☐ Property lines for the site on which the work will be performed.
   - ☐ Areas of soil disturbance – anywhere the ground surface is disturbed.
   - ☐ Cut and fill demarcation line.
   - ☐ Construction site boundaries – area of soil disturbance and staging areas.
   - ☐ Existing topography at one or two foot contour intervals. The map should extend a minimum of 50-feet beyond the property line or beyond the project's soil disturbance limits, whichever is larger.
   - ☐ Proposed topography at one or two foot contour intervals. The map should show elevations and extent and the slope of all proposed grading, including building site and driveway grades.
   - ☐ Location of any other proposed features and structures on this site.
   - ☐ Location of all natural features which affect the site specific water quality or adjacent to the site. To include wetlands, highly permeable soils, etc…
   - ☐ Adjacent existing and proposed development affected by the construction
   - ☐ Location of soil stockpiles - Areas designated for topsoil and subsoil storage.
   - ☐ Location of critical erosion areas – areas of highly erodable soils.
   - ☐ Location of existing or proposed water courses – to include, but not limited to, groundwater springs, streams, wetland, or other surface waters.

- ☐ Location and plans for all drainage features, including, paved areas, retaining walls, cribbing, and plantings constructed as part of this proposed site.
- ☐ Location of temporary or permanent soil erosion and sediment control measures or other features to be constructed in connection with, or as a part of, the proposed work.
- ☐ Depict all erosion control measures using the standard map symbols given in the Drainage Criteria Manual Volume 2, Chapters 3 and 4.
- ☐ Location and description of any potential natural pollutant sources –practices implemented at the site to control stormwater pollution from the dewatering of uncontaminated groundwater or stormwater from excavations, wells, etc….
- ☐ Location of storage equipment maintenance and temporary disposal areas – for example, areas designated for equipment, building materials, fuel storage, fueling, lubricants, chemical, concrete truck washout, and all temporary construction waste storage.
- ☐ Vegetation – existing vegetation to remain and proposed seeding areas
- ☐ Location of any dedicated asphalt or concrete batch plants
- ☐ Boundaries of the 100-yr floodplain
- ☐ Is the site in the City's Streamside Zone - indicate how Streamside design requirements are being addressed.
- ☐ Soil Types
- ☐ Emergency overflow swales - located at all sump inlet locations and be sized for the 100-yr storm event.
- ☐ Flow route – flow through and overflow of permanent BMP's and temporary sediment basins.
- ☐ Existing utility locations and easements - grading over existing utilities or within dedicated easements is restricted in accordance with general note 8
- ☐ Detail Drawings of Temporary BMP's including installation and maintenance.
- ☐ Detail Drawings of Permanent BMP's per Drainage Criteria Manual Volume 2, chapter 4.

Narrative Report or SWMP Report

The narrative/SWMP report must contain, at the minimum, the following:

- ☐ Name, address, and telephone number of the owner/developer and, the name, address, and telephone number of the professional engineer preparing the *Grading, Erosion Control and Stormwater Quality Plan*.
- ☐ Subdivision Name – The name as it appears on the Final Subdivision Plat.
- ☐ Project description - A brief description of the nature and purpose of the land disturbing activity, and project location.
- ☐ Existing site conditions - A description of the existing topography, vegetation, drainage, and wetlands on the site to include estimate of percent existing vegetation cover. Also include non-stormwater discharges (e.g. springs, landscape irrigation return flow, etc.)
- ☐ Receiving waters – name of receiving water and the size, type, and location of any outfalls. Indicate if discharge to existing storm sewer system and name of ultimate receiving waters.

- ☐ Adjacent areas - A description of neighboring areas such as streams, residential areas, roads, etc., which may be affected by the land disturbance.
- ☐ Soils - A brief description of the soils on the site including information on soil type and character.
- ☐ Description of potential pollutants – sources such as vehicle fueling, chemical/ fertilizer storage, construction dewatering, concrete washout area, etc.
- ☐ Soil Borings/Tests and Groundwater – Soil borings and tests, including groundwater analysis and plan for safe discharge must be included if appropriate.
- ☐ Areas and Volume Statement - The total area of the site, the area of disturbance (e.g. cleared, excavated, or graded) involved, and a statement that earthwork cut/fill operations are more or less than 500cy.
- ☐ Narrative description of appropriate controls and measures that will be implemented before and during construction activities at the facility. It shall clearly describe the relationship between the phases of construction the proposed sequencing of major activities, BMP's installed under each phase, and the implementation and maintenance of control measures. For example, what BMP's will be implemented during each of the following stages of construction:
  - Clearing and grubbing necessary for perimeter controls
  - Initiation of perimeter controls
  - Remaining clearing and grubbing
  - Road grading
  - Drainage facility installation
  - Utilities installation
  - Final grading
  - Stabilization
  - Removal of temporary control measures

  The description of controls shall address the following areas:

  - Erosion and Sediment Control. This includes:
    1. Structural Practices – A description of structural site management practices that will minimize erosion and sediment transport.
    2. Non-Structural Practices – A description of interim and permanent stabilization practices, including site-specific scheduling of the implementation of the practices.
  - Potential pollutant sources - Identify the location, describe, and plans for waste disposal.
  - Materials Handling, and Spill Prevention and Response. The plan shall identify any procedures of materials handled at the site that could contribute pollutants to runoff. Areas where potential spills can occur shall have spill prevention and response procedures identified.
- ☐ Timing schedule - indicating the anticipated starting and completion time periods of the site grading, construction sequencing of major activities, including the installation and removal time periods of temporary/construction erosion and sediment control measures, and the time of exposure prior to completion of temporary erosion control measures. Also, anticipated starting and completion dates for each stage of land-disturbing activities, BMP installation, and final stabilization.

- ☐ Permanent stabilization - A brief description, including specifications, of how the site will be stabilized after construction is completed. Includes procedures to repair and permanent measures to control pollutants post construction.
- ☐ Owner inspections and Maintenance of construction BMP's – A description of procedures and a schedule of regular inspections during construction for vegetation, erosion and sediment control measure repair, and other protective measures identified in the plan. A detailed description of the maintenance program for sediment control facilities, including inspection programs, vegetative establishment on exposed soils, method and frequency of removal and disposal of waste materials from control facilities, and disposition of temporary structural measures shall be included.

Standard Grading, Erosion And Stormwater Quality Control Plan Notes

NOTES: The following plan notes may be used as a substitute for the 22 notes called out in DCM Volume II.

1. Any land disturbance by any owner, developer, builder, contractor, or other person shall comply with the Basic Grading, Erosion and Stormwater Quality Control Requirements and General Prohibitions noted in the Drainage Criteria Manual Volume II.
2. No clearing, grading, excavation, filling, or other land disturbing activities shall be permitted until signoff and acceptance of the Grading Plan and Erosion and Stormwater Quality Control Plan is received from EDRD.
3. The installation of the first level of temporary erosion control facilities and BMP's shall be installed and inspected prior to any earth disturbance operations taking place. Call City Stormwater Inspections, 385-5980, 48 hours prior to construction.
4. Sediment (mud and dirt) transported onto a public road, regardless of the size of the site, shall be cleaned immediately.
5. Concrete wash water shall not be discharged to or allowed to runoff to State Waters, including any surface or subsurface storm drainage system or facilities.
6. Soil erosion control measures for all slopes, channels, ditches, or any disturbed land area shall be completed within twenty-one (21) calendar days after final grading or final earth disturbance has been completed. Disturbed areas and stockpiles which are not at final grade but will remain dormant for longer than thirty (30) days shall also be mulched within twenty-one (21) days after interim grading. An area that is going to remain in an interim state for more than sixty (60) days shall also be seeded. All temporary soil erosion control measures and BMP's shall be maintained until permanent soil erosion control measures are implemented.
7. The grading and erosion control plan will be subject to re-review and re-acceptance by EDRD should any of the following occur: grading does not commence within twelve (12) months of the City Engineer's acceptance of the plan, a change in property ownership, proposed development changes, or proposed grading revisions.

8. The Plan shall not substantially change the depth of cover, or access existing utilitie lines. Acceptance of this plan does not constitute approval to grade in any utility easement or right-of-way. Approvals to grade within utility easements must be obtained from the appropriate utility company. It is not permissible for any person to modify the grade of the earth on any Colorado Springs Utilities easement or Utility right-of-way without their written approval. The plan shall not increase or divert water towards utility facilities. Any changes to existing utility facilities to accommodate the plan must be approved by the affected utility owner prior to implementing the plan. The cost to relocate or protect existing utilities or to provide interim access is the applicatnt's expense.

Description of construction activities

Anticipated starting and completion time period of site grading;

Expected date on which the final stabilization will be completed;

Areas - Total area of the site to be cleared, excavated, or graded;

Receiving Waters - Name of receiving waters;

Soils information.

Signature Blocks

Engineer's Statement

This Erosion and Stormwater Quality Control/Grading Plan was prepared under my direction and supervision and is correct to the best of my knowledge and belief. If such work is performed in accordance with the grading and erosion control plan, the work will not become a hazard to life and limb, endanger property, or adversely affect the safety, use, or stability of a public way, drainage channel, or other property.

Signature: _____ Date: _____

Printed Name: _____ Seal

Developer's/Owner's Statement

The owner will comply with the requirements of the Erosion and Stormwater Quality Control Plan including temporary BMP inspection requirements and final stabilization requirements. I acknowledge the responsibility to determine whether the construction activities on these plans require Colorado Discharge Permit System (CDPS) permitting for Stormwater discharges associated with Construction Activity.

Developer/Owner Signature: _____

Name of Developer/Owner:_____ Date: _____

DBA: _____ Phone: _____

Title: _____ Email: _____

Address: _____ Fax: _____

City of Colorado Springs Grading and Erosion Control Review

This grading plan is filed in accordance with section 7.7.1503 (enacted as ord. 82-56) of the code of the City of Colorado Springs, 2001, as amended. Erosion control is reviewed in accordance with the Drainage Criteria Manual, Vol. I (October 1994) and Vol. II (Aug. 2002); latest revisions

_____ Date: _____

For the City Engineer

Notes: _____

_____

_____

_____

_____

_____

_____

Chapter 6 – Street Plans and Profiles

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6.0 Street Plans and Profiles

6.1 Requirements

Any new subdivision development or proposed improvements to existing City public right-of-way will require street plans and profiles to be prepared for review and approval by the City. All street plan and profile drawings submitted to the Engineering Development Review Division (EDRD) for review must be drawn using the standard sheet size for plans and profiles, 24" x 36" size and the plan sheets must include all of the required statements and signature blocks required by EDRD. The subdivision name must be identified on all plans and must match the final Plat and final drainage report.

Information provided and contained within the street plans and profiles will typically be reviewed and approved by multiple agencies. These agencies may include, but are not limited to, the Engineering Development Review Division (EDRD), City Engineering Traffic Operations (sign and marking plans), Colorado Springs Utilities (SU), and the State of Colorado Department of Transportation (CDOT). The City Engineer has ultimate authority for approval of all construction within the public right-of-way and EDRD is the City Engineer's designated agent and the lead city agency to perform reviews and approvals. EDRD will help coordinate approvals from other agencies when needed.

EDRD will review the plans for compliance with the subdivision's drainage reports, grading plan, Development Plan, and City standard street and drainage design criteria including the *Standard Specifications Manual*. The majority of the street design criteria can be found in the Traffic Criteria Manual, Section III of this manual. The drainage criteria can be found in the City of Colorado Springs and El Paso County Drainage Criteria Manual, Volume I and Volume II. Signs and markings plan sheets must be included in the complete set of subdivision street design plans. EDRD will forward the sign and marking plans to the appropriate Traffic Operations staff for their review and approval. Colorado Springs Utilities review of street plans and profiles is limited to the utilities that are designed within the roadway. See SU Design Criteria Manual for specific requirements.

See Section 6.5 for the checklist to be used in the preparation of public street plans and profiles along with the standard street plan and profile statements and signature blocks.

6.2 Review Process

It is not desirable to the City or the applicant for new street design issues to arise after the development plan (DP) is approved. EDRD makes every effort to address as many design issues as possible during the DP review process, and will coordinate with the Land Use Review (LUR) as needed. If new issues arise at the time of street plan and profile review, EDRD will work with the applicant in a timely manner to resolve them.

Site distance/safe sight visibility is an issue that needs to be addressed and resolved at the time of DP review. Street cross sections and geometric design should also be resolved at the time of DP review. Other important issues are sidewalk locations, sidewalk width, access points, turn lane geometry, median placement, and street grades.

Private internal traffic circulation on commercial, business, and retail sites is reviewed by LUR at the time of development plan. City Engineering supports the development plan criteria in Section 7.5.502 of the Code, which asks, "Have the internal drives, external access points, and pedestrican walkways been designed to provide safe and convenient vehicular and pedestrian access within the project?" EDRD reviews access points onto the public street and related issues, but EDRD does not review private internal traffic circulation. As needed EDRD provides support to the LUR planner or can mediate between LUR and an applicant about internal circulation issues if requested. The only exceptions are school sites.

All public streets require traffic control, signage and striping plans. Those sheets should be included with the design plans and profiles and the complete set of plans submitted to EDRD for review. EDRD will coordinate with the Traffic Operations Group for review and approval of the traffic control, signage and striping plans. Traffic signal design is approved by the manager of the Traffic Management Center (TMC) and EDRD will coordinate that review.

Private streets are acceptable in new developments at the discretion of the developer and subject to City review. Section 7.7.704 (C) of the City Code states that the location and design of private streets is subject to the review and approval from Traffic Engineering (EDRD) and the Fire Department. This review is done at the time of the Development Plan. EDRD approval *is not* required on the design plans and profiles for private streets except for intersections with a public street. Gated residential communities must use private streets. The developer must make financial arrangements for the perpetual ownership and maintenance of private streets (i.e. a homeowners' association) to include life-cycle repair and replacement of the facilities. EDRD requires that the reception number of the associated recorded documents be referenced on the final plat. City policy requires that private streets be designed structurally (i.e. pavement thickness) to meet or exceed City standards and specifications. Private streets are not inspected by EDRD.

Pedestrian ramp design and placement is an issue of interest to all parties, especially when the streets are in close proximity to schools. Pedestrian ramp locations and types should be addressed with the DP, but it is not unusual for additional issues to arise at the time of street plan and profile review. If comments arise after the DP has been approved, the EDRD review engineer will coordinate the pedestrian ramp locations with the design engineer before approving the street plans, in order to resolve any conflicts.

6.3 Submittal/Approval Procedure

Submit one print set of plans to EDRD for review. They will be logged into a database for tracking purposes and immediately distributed to the EDRD review engineer. The EDRD review engineer will forward the signage and striping plan sheets to the Traffic Operations group who returns comments to EDRD. The "mark-up" review set is then returned to the applicant. In many cases, the street plans and profiles will also include the design for the storm sewer and sanitary sewer within

the public street. EDRD reviews the public storm facilities; However, a separate submittal process with Colorado Springs Utilities must take place for the review of the sanitary sewer facilities. (See SU Design Criteria Manual for specific requirements)

Street plans and profiles can be submitted to EDRD for review at any time during the development and platting process, but the plat must be recorded and the public rights-of-way and easements duly granted before EDRD signs off for construction approval.

Once the plans are revised, the applicant shall return the "mark-up" set along with revised plans back to EDRD for final review/approval. Multiple approvals from different agencies may be needed at different stages. Following is a list of the various approvals required for a typical subdivision street plan and profile and the order in which they must be approved.

Utility Grade Approval: This review and sign-off by EDRD is required to check compliance with horizontal/vertical (line and grade) design criteria as presented in Sections I & III of this manual. This approval is required prior to the Sanitary Sewer Utility Approval with the emphasis on avoiding any potential design conflicts between street, drainage, and utility design. Drainage facilities design has been checked by the design engineer to avoid conflicts with utility mains. This is not a curb & gutter review and the developer will be responsible for any cost due to design changes prior to curb & gutter review.

Groundwater Underdrain Approval: Groundwater under-drains shall be designed in accordance with Chapter 13 of the Colorado Springs Utilities (SU) Wastewater Design Manual which can be found on SU's website (www.csu.org/business/services/development/specifications/item1515.html). This review and approval is performed jointly by EDRD and SU is required per City Code 3.9.2. EDRD approval is required prior to SU approval. Standard signature blocks have been included at the end of this chapter.

Utility Approval: This review and sign-off by SU is required for street plans and profiles that include public sanitary sewer design on the same profile. This is typical for subdivision plans; however, utility design may be done separate from the street plan and profile for timing reasons. In this case, both sets of plans will still require the Utility Grade and Underdrain Approvals. If the street plan and profile does not contain a public utility design on the same plan (i.e. arterial road design, improvements to an existing road, etc.) then this approval is not required.

Curb and Gutter Approval: This review and sign-off by EDRD is required prior to curb and gutter installation within a public right-of-way. This will be a complete design review of all roadway elements.

Drainage Design Approval: This review and sign-off by EDRD is required prior to public storm sewer installation. If a storm design is not required or is not a part of the street plans and profiles, then this approval is not required. However, if separate storm sewer plans and profiles are prepared, this approval is required. (See Chapter 7, Drainage/Storm Plan and Profiles) The specific subdivision Final Drainage Report must be approved and on file prior to this approval.

Final Approval: This review and sign-off by EDRD is required prior to pavement installation within a public right-of-way. Prior to this approval a Pavement Design Report must be prepared and submitted for review and approval by EDRD. (See Section II, Pavement Design Criteria Manual)

As the different stages of the plan and profile approvals are complete and ready for sign-off, the preparer has the option of submitting an original mylar or an original bond print for signature. The plan being submitted for approval must include the Professional Engineer's (Colorado P.E.) number and signature along with the owner/developer's signature as a minimum. Following EDRD's final review and sign-off of the plans and profiles, two (2) bond copies are required for City Engineering files along with a scanned version of the record approved drawings and must be received by EDRD prior to commencing construction. (See Scanning Procedures at the end of this Chapter) The preparer may submit full size (24" X 36") prints or scalable half-size prints. All prints of the approved plan must bear the seal of the Professional Engineer.

The various EDRD approvals of the street plans and profiles shall authorize construction of the improvements within the public right-of-way or easement. Permits are also required (See Chapter 9, Construction Permits for further information)

When justified, EDRD may issue "for construction" approvals of certain design elements of the project in advance of the Final Review. This is an exception. Requests for interim construction approvals must be made to the appropriate EDRD senior engineer assigned to the project. For these cases the consulting engineer must provide one stamped bond copy of the plans for the EDRD inspector.

All public Street Plan and Profile approvals expire if construction has not commenced within 180 days of the approval. The plans must be resubmitted for reapproval.

6.4 Available Construction Plans

City Engineering files and maintains the permanent record drawings for Street Plans and Profiles. These plans may be requested electronically from the City website at springsgov.com, or may be viewed at City Engineering.

6.5 Standard Approval Blocks, Street Section, Curb Transitions, Checklist, and Scanning Procedures

See the following pages.

Standard signature (approval) blocks:

STATEMENT:

THE CITY OF COLORADO SPRINGS RECOGNIZES THE DESIGN ENGINEER AS HAVING RESPONSIBILITY FOR THE DESIGN. THE CITY HAS LIMITED ITS SCOPE OF REVIEW ACCORDINGLY. RESUBMITTAL REQUIRED IF CONSTRUCTION HAS NOT COMMENCED WITHIN 180 DAYS AFTER REVIEW DATE.

UTILITY GRADE REVIEW:

Centerline Line and Grade is reviewed for conformance to Standards to allow for the design and construction of utility mains. Drainage facilities design has been checked by the Design Engineer to avoid conflicts with utility mains. This is not a curb & gutter review and the Developer will be responsible for any cost due to design changes prior to curb & gutter review. This review expires in 180 days.

REVIEW:

STREET DESIGN FOR CITY ENGINEERING:

UTILITY GRADE REVIEW _____ DATE_____

CURB & GUTTER REVIEW _____ DATE_____

FINAL REVIEW _____ DATE_____

DRAINAGE DESIGN: _____ DATE_____

This is filed in accordance with section 7.7.906 (Drainage Ordinance) of the code of the City of Colorado Springs, 2001 as amended.

DESIGN DATA:

SIDEWALKS: WIDTH _____

LOCATION: Attached ☐
Detached ☐

DESIGN SPEED _____

CURB TYPE: 1 ☐ 2☐ 3☐ 4☐ 5☐

ROW WIDTH _____ FL – FL _____

STREET TYPE _____

PAVEMENT:
TYPE: HMA ☐ PCC ☐
THICKNESS: _____

COMPOSITE SECTION:
HMA _____ BASE _____

SUBGRADE STABLIZATION:

CHEMICAL ☐ MECHANICAL ☐

TYPE _____THICKNESS_____

SIGNAGE AND STRIPING REVIEW:

_____DATE _____

TRAFFIC ENGINEERING

Review by City Engineering is for approval of discharge points to open drainage or storm sewer.

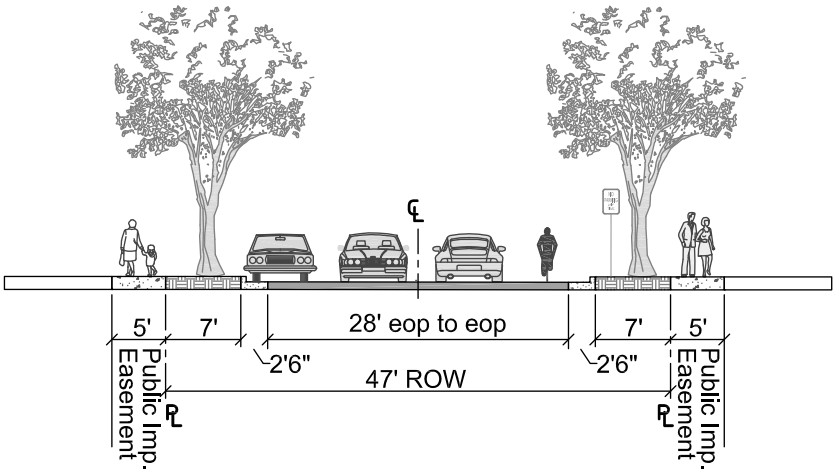
Reviewed by _____ Date _____

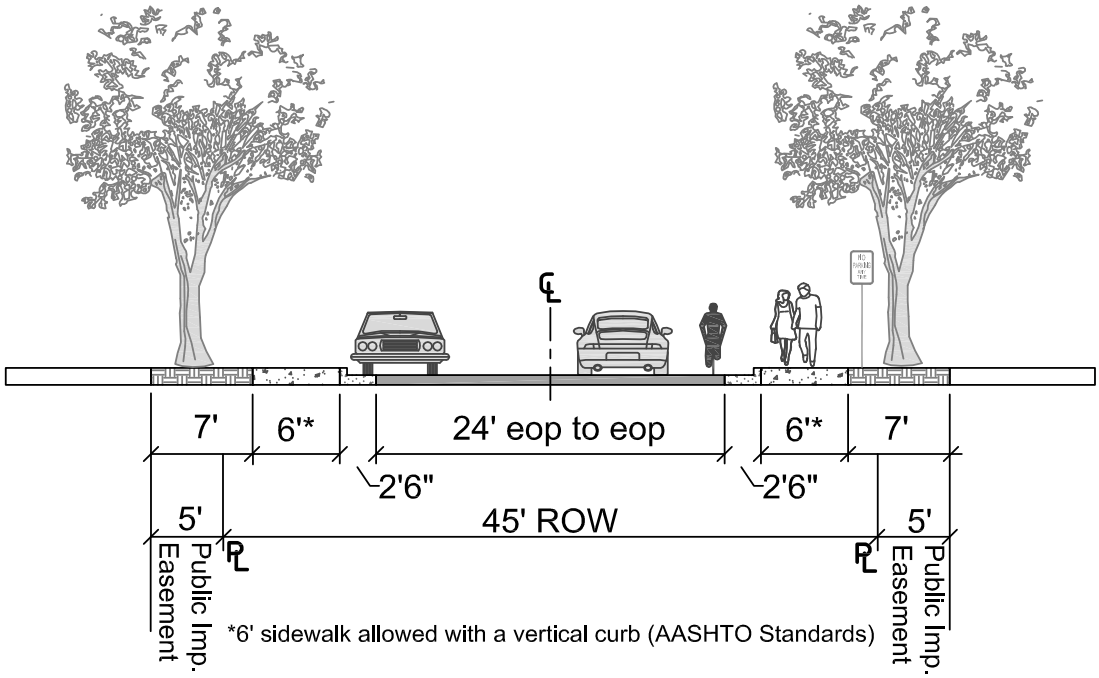
Reviewed by _____ Date _____

NOTE:
Springs Utilities will inspect the groundwater underdrain installations and all taps. Neither the City nor Springs Utilities will be responsible for maintenance or repair of underdrain service lines

Typical Street Sections (see Traffic Criteria Manual for complete details):

Minor Residential (Local) streets with detached/attached sidewalk





Note: These figures are not drawn to scale and should be considered to be a schematic depiction of curb types and sidewalk location, not a standard construction detail. Street widths shall be in accordance with the Traffic Criteria Manual.

Typical Curb Transitions:

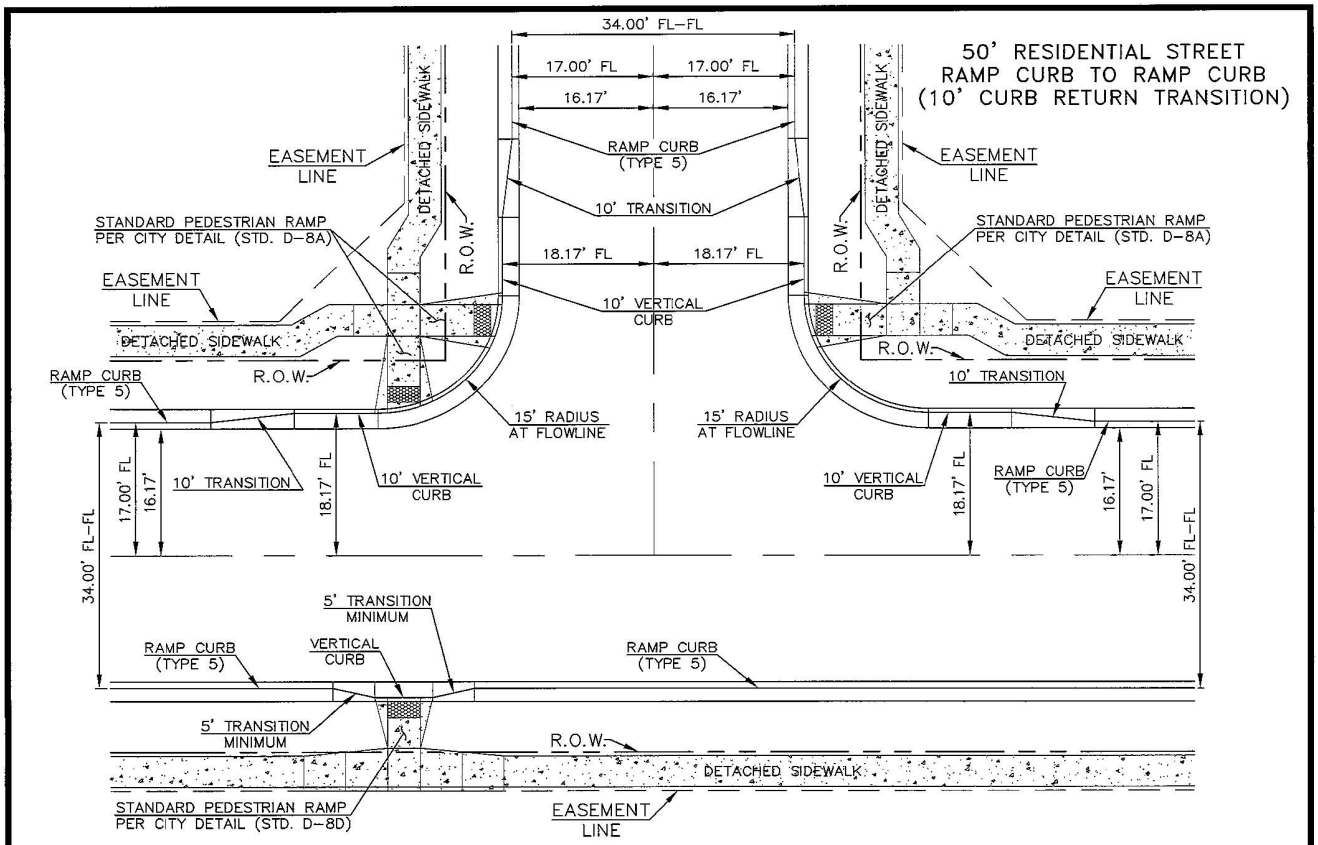


FIGURE 1 – RAMP CURB TO RAMP CURB (10' CURB RETURN TRANSITION)

Note: This figure is not drawn to scale and should be considered to be a schematic depiction of relative curb-line transitions, not a standard construction detail.

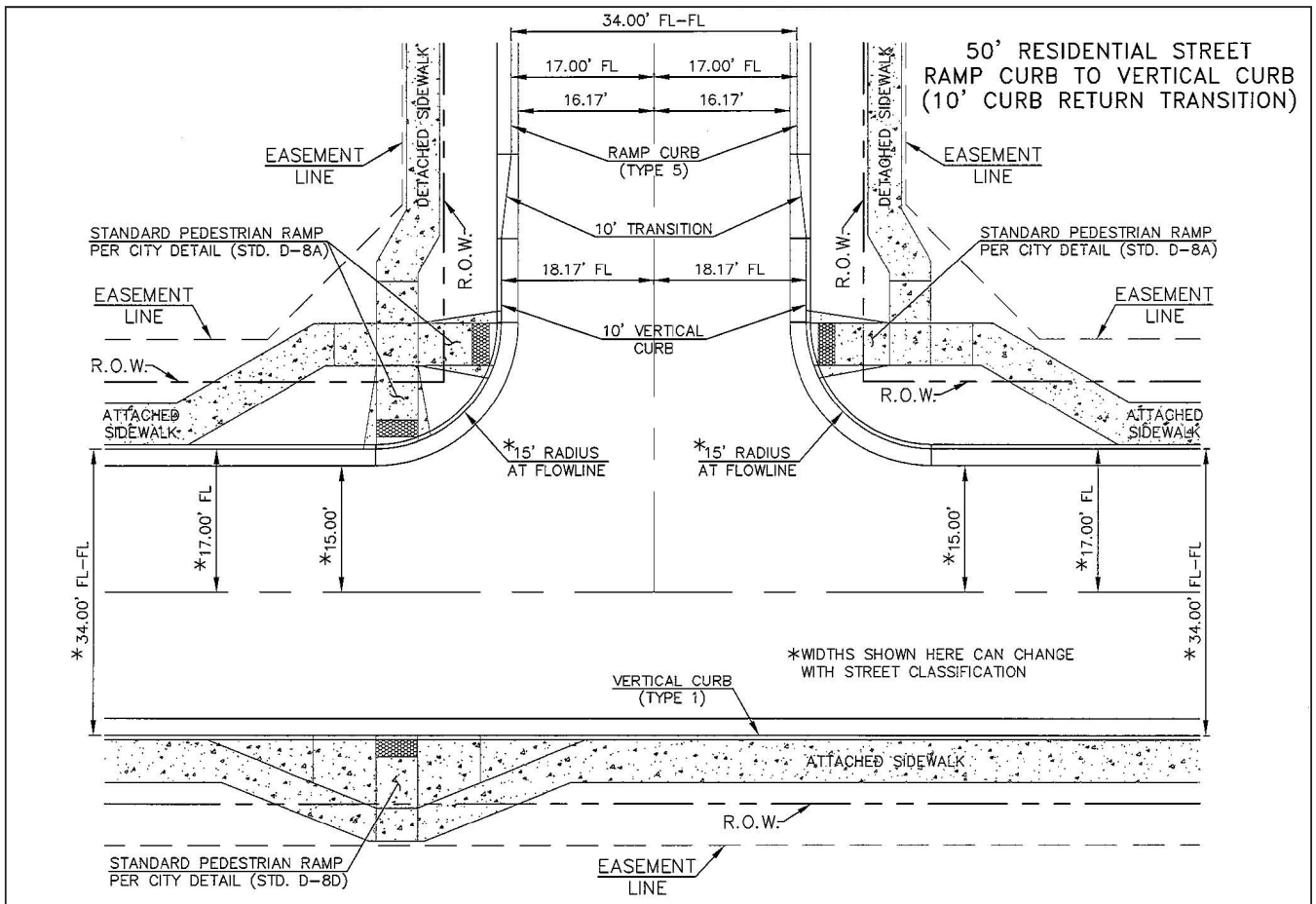


FIGURE 2 – RAMP CURB TO VERTICAL CURB (10' CURB RETURN TRANSITION)

Note: This figure is not drawn to scale and should be considered to be a schematic depiction of relative curb-line transitions, not a standard construction detail.

PLAN AND PROFILE CHECKLIST

The following checklist includes many of the main items which will be reviewed by EDRD for street and drainage designs. This is not an all inclusive list. Other items may be required as needed for the particular circumstances.

- ☐ Maximum street grades must conform to the Traffic Criteria Manual for the various classifications of streets. Minimum street grades shall be 1.0% measured along the curb.
- ☐ Grades through intersections may not exceed 4% except with special approval on Hillside minor residential streets, in which case intersection grades may not exceed 6%. The P.V.I. shall be a minimum of 50 feet from the P.C. of the curb return.
- ☐ Street geometry, site distance requirements, design speed, and typical street sections shall conform to the Traffic Criteria Manual. Right-of-way and street widths flowline to flowline of curb must be shown on the plan.
- ☐ Adjacent tracts, lots, easements, driveways, existing, and proposed utilities, existing and proposed drainage facilities, and any other constraints shall be shown on the construction plans.
- ☐ Curb and gutter is required on all City streets in accordance with Section 7.7.704 of the City Code. Standard Type 1, 8" vertical curb and gutter must be used on all Collectors, Major, and Minor Arterials. Ramp curb may be used on residential streets when drainage considerations warrant its use subject to the approval of the City Engineer. Ramp curb shall not be approved abutting multi-family, commercial, industrial, park or school land uses. In all cases the same curb type shall be used on both sides of the street. Six inch vertical curb is acceptable subject to the approval of the EDRD review engineer. (There is currently no standard detail for six-inch vertical curb.)
- ☐ Streets without curbs will be considered on a case-by-case basis if the proposed development is designed as a Low Impact Development (LID) and unique street cross sections help achieve the desired goal of increased storm water infiltration.
- ☐ Location and width of sidewalks must be shown on all street plans. Sidewalks are required on both sides of all city streets except as noted in the Traffic Criteria Manual. In residential developments with a net density of less than two dwelling units per acre, sidewalks may be required on one side only. The approved development plan will indicate which side of the street will have sidewalk.
- ☐ Pedestrian Ramps are required at all street intersections and all locations where sidewalks intersect curb cuts. Request for a waiver of installing a pedestrian curb ramp due to certain limiting conditions such as steep grades, physical constraints, drainage problems, safety concerns, potential property damage or otherwise must be submitted in writing to the City Engineer in accordance with Section 7.7.704 of the City Code.
- ☐ All design requirements of the Americans with Disabilities Act (ADA) shall be followed. ADA requirements may affect intersection grades, street cross slope and other design parameters. At the time of the 2009 update of the Subdivision Policy Manual, the ADA regulations for public rights-of-way had not yet been adopted into law. In the meantime, the draft or proposed versions of the guidelines released by the Access Board can be used as an interim resource until the guidelines are finalized. EDRD should be contacted for clarification on any ADA related issues.
- ☐ The design engineer shall have the option to provide profiles of each curb line or a single curb line profile at centerline. Typical cross sections shall be provided for each change in section. Spot elevations are to be shown on the plan at all P.C. and P.T. of horizontal curves and curb returns and all other pertinent locations such as angle points, top of inlets, high and low points, etc. Additional curb line profiles and spot elevations may be required for horizontal and vertical transitions on arterial streets.

- ☐ Superelevation begin and end stations and all pertinent elevation data must be shown on the plan and on the profile. Superelevation is intended for use on major streets. Storm drainage in superelevated sections and transitions must be checked against the approved drainage plan.
- ☐ All vertical curve data must be shown on the profile including "K" values, design speed, station and elevation of high and low points.
- ☐ Curb returns will always use Type I vertical curb. When transitioning from ramp curb to vertical curb a 20 foot transition shall be used as follows: beginning at the P.T.C.R., ten feet of vertical curb and 10 feet of transition section.
- ☐ At all street intersections the grade points of intersection shall match. Standard cross pans shall be required at all intersections where storm water will cross and must be located in accordance with the approved drainage plan. Cross pans are not to be designed on collector streets and higher classifications unless the intersection is a stop condition and will not meet warrants for signalization in the future.
- ☐ Cross gutters at "mid block" locations shall not be permitted.
- ☐ Maximum elevation difference across a street shall be 1.0 foot between flowline of gutters. All non-typical street sections such as ¼ crowns must be shown. Certain intersections in steep terrain may exceed 1.0 foot elevation difference across the street due to steep grades through the intersection. In these cases special care must be taken to provide adequate transitions from normal sections. The location and quantity of storm water flows in steep intersections must be checked for conformance with the approved drainage plan and to avoid flooding across intersections. Spot elevations are required in transitions from normal street sections.
- ☐ Enlarged intersection details may be required, especially for major street intersections, roundabouts, medians, and other traffic calming features in order to clearly indicate placement of pedestrian ramps, sidewalk transitions, drainage, etc.
- ☐ Maximum "grade break" differentials is 1.00%, otherwise a vertical curve is required.
- ☐ Vertical curves shall be provided around the ends of cul-de-sacs with spot elevations shown on the plan at twenty-five foot spacing. Vertical curves shall be provided as needed around curb returns on major streets.
- ☐ Cul-de-sac bulbs shall be limited to 4% cross slope except in Hillside areas where 6% cross slope is permissible.
- ☐ North arrow and scale. Preferred horizontal scale shall be 1" = 50'. Preferred vertical scale shall be 1" = 5'. The engineer may choose another horizontal or vertical scale as appropriate as long as the plan and profile are easily interpreted and subject to EDRD approval.
- ☐ All details for construction must conform to City Standards. This includes street and drainage construction. Reference is made to appendix B (Standard Drawings) of the Standard Specifications Manual. All non standard details should be included on the plans and special design items must be included subject to City Engineer approval. Colorado Department of Highways M and S standards are generally acceptable for City Streets if there is no City Standard drawing, subject to EDRD approval.
- ☐ Show drainage structures – pipes, inlets, manholes, etc. and all special structures such as headwalls, rip-rap, special inlets, etc. Include all sizes, details, type of pipe, class or gauge of pipe, slope, bedding class, and all other pertinent design information. Hydraulic grade lines shall be shown on the profiles. Design flow quantities must be indicated.
- ☐ Where inlets are located near intersections, pavements, crowns, and transitions may need to be detailed in order to collect stormwater in accordance with the approved drainage report. Care must be taken to provide for the required ponding depth when inlets are in sump conditions.
- ☐ Storm sewer pipe material and design shall be as specified in the Standards Specifications Manual and DCM Vol. I.

- ☐ Check for maximum and minimum cover limitations on all pipes to provide for H-20 loading as a minimum (structural design of the pipe).
- ☐ All utility crossings of Storm facilities must be shown with any special requirements or details included in accordance with the policy of the appropriate utility.
- ☐ Drainage easements must be shown. Easement widths for storm sewers must provide for future excavation of the system utilizing reasonable trench backslopes for the soil conditions. (All required easements which are dedicated other than by plat must be recorded prior to approval of the plan and profile.)
- ☐ Special drainage facilities such as major channels, bridges, box culverts, detention ponds, etc. warrant special consideration. The requirements for plans for these types of facilities will be identified based on the specific circumstances.
- ☐ All private streets or private drainage facilities must be so noted. Plans and profiles for private streets or drainage facilities must be submitted for EDRD signature only when they connect to a public street or drainage facility. The design will be reviewed for the connection to the public facility only.
- ☐ Elevation datum shall be FIMS. Benchmarks must be located and described on the plans.
- ☐ Median surface treatment shall conform to the standard detail in the Standard Specifications Manual. Landscaped medians will require the following conditions to be met:
  - The party responsible for the perpetual maintenance must be noted on the Plan and Profile.
  - The Plan and Profile must be approved by the party responsible for the perpetual maintenance.
  - Hardscape will be maintained by the City Street Division.
  - Refer to the Traffic Criteria Manual; Section III of this publication for median widths and appropriate surface treatments.

CITY OF COLORADO SPRINGS CITY ENGINEERING INSTRUCTIONS FOR SCANNING APPROVED RECORD DRAWINGS

Record Drawing scans for street and drainage plans & profiles must be in TIF image format as follows:

- Minimum 300 dpi,
- 100% Black/White (no color),
- Group-4 compression;
- One sheet per scan with each scan numbered in consecutive order

(Same order as sheets, title sheet may be number zero: "Project-0.tif" or number one: "Project-1.tif").

Scans must be identical to the approved bond copies, and must show approval signatures, dates, and P.E. seal & signature. TIF images shall be submitted on disk. Email transmission is not accepted.

Note: TIF images are required for street and drainage construction drawings (plans and profiles.) PDF images are required for all other EDRD approved documents and plans such as drainage reports, grading plans, erosion control plans, design plans for permanent water quality facilities (BMP's), and geologic hazard reports.

Chapter 7 – Drainage/Storm Plan and Profiles

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7.0 Drainage/Storm Plan and Profiles

7.1 General Information

A drainage design plan and profile is required for all public drainage improvement construction within City right-of-ways or easements. Drainage design plans and profiles submitted to EDRD for review and approval shall be prepared in accordance with the City of Colorado Springs/ El Paso County Drainage Criteria Manual (DCM), Volume I and II. Both manuals are available online at springsgov.com and printed manuals may be purchased from Colorado Springs Office Services. Printed manuals come with a CD ROM including the manual, AutoCAD drawings, and interactive design forms.

7.2 Requirements

EDRD will review the storm plans and profiles for compliance with the subdivision's Final Drainage Report (FDR) and City standard street and drainage design criteria.

All drainage and storm sewer plan and profile drawings submitted to EDRD for review must be drawn using the standard sheet size for plans and profiles, 24" x 36" size and the plan sheets must include all of the required statements and signature blocks required by EDRD. The subdivision name must be identified on all plans and must match the final Plat and final drainage report.

Approval of the drainage design plan and profile by EDRD does not constitute all of the required construction permits. Prior to construction of public drainage facilities, the contractor must obtain a permit from the City Inspections Office of City Engineering. Additional permits may be required. A Floodplain Development Permit is required for all construction/grading within a designated floodplain. Floodplain development permits are issued by the Floodplain Administrator. All requests for floodplain map revisions must be submitted to the Federal Emergency Management Agency (FEMA) through the Floodplain Administrator (located at the Regional Building Department).

7.3 Submittal/Approval Procedure

One copy of the Drainage/Storm Plan and Profile may be submitted to EDRD for initial review. This will allow the EDRD review engineer to "mark-up" the copy with any possible comments and return the review copy to the preparer. The "mark-up" copy must then be returned to EDRD with subsequent reviews.

When the plan review process is complete and the plan is ready to be signed off, the preparer has the option of submitting an original mylar or an original bond print for signature. The plan being submitted for approval must include the following:

- A detailed drainage construction plans and specifications engineer's statement is required and must appear in the plan set, please reference Section 4.6.2 in the DCM Volume I. The engineer's statement shall be signed and sealed by a professional engineer registered in the State of Colorado prior to EDRD approval.
- A developer/owner statement notation block shall also be included agreeing to comply with the requirements of the Plan. The developer/owner statement shall be signed by the developer/owner prior to EDRD approval.
- A signature block shall be provided for the City Engineer to include the following statement "Filed in accordance with Section 7.7.906 (Drainage Ordinance) of the code of the City of Colorado Springs, 2001 as amended."

A Final Drainage Report for the subdivision shall be signed by EDRD and on file with City Engineering prior to approval of the drainage design plan and profile. Easement widths for storm sewers must provide for future excavation of the system utilizing reasonable trench backslopes for the soil conditions. (All required easements which are dedicated other than by plat or deeds must be recorded prior to approval of the plan and profile.)

Following EDRD approval of the plans and profiles, two (2) bond copies are required for City Engineering files along with a scanned TIF version of the record approved drawings and must be received by EDRD prior to commencing construction. (See Scanning Procedures at the end of Chapter 6) The preparer may submit full size (24" X 36") prints or scalable half-size prints. All prints of the approved plan must bear the professional seal of the Colorado licensed Professional Engineer.

Drainage/storm plan and profile approvals expire if construction has not commenced within 180 days of the approval. The plans must then be resubmitted for reapproval.

7.4 BMP Design and Inspection and Maintenance (IM) Plans

Construction plans for permanent erosion control facilities, such as water quality ponds, etc. are generally approved as part of the grading and erosion control plans, reference section 5.0 of this manual. Inspection and Maintenance (IM) plans are required as a condition of approval. Following EDRD approval of the plan, one bond copy is required for City Engineering files along with a scanned PDF file of the record approved drawings and must be received by EDRD prior to commencing construction (see Section 6.5 of this manual.) DCM Volume I specifies the design and technical criteria required on all drainage design plans and profiles reviewed by EDRD. DCM Volume II provides information on Best Management Practices (BMP's) for Stormwater Quality.

7.5 Private Drainage Facility Review

Drainage design plans and profiles for private storm sewer facilities shall be submitted to EDRD for review and approval only when they connect into a public drainage facility. The design shall be reviewed for the connection to the public facility only.

A Stormwater Connection Permit (revocable permit) is required to connect a Private Drainage Facility into a Public Drainage Facility. The City of Colorado Springs is federally mandated to identify and monitor all stormwater discharges within the City. The Stormwater Enterprise reviews the Connection Permit application and issues the permit.

To obtain a revocable permit for these types of facilities, the Applicant must complete and submit the "Sub-Surface Revocable Permit Form (Monitoring Wells and Stormwater Connections)". A copy of this permit is included at the end of this chapter, while the current form is available through the City website at springsgov.com.

7.6 Available Drainage/Storm Construction Plans

City Engineering files and maintains the approved drainage design plans. These plans may be requested electronically from the City website at springsgov.com, or may be viewed at City Engineering.

DEVELOPMENT REVIEW UNIT
PLANNING DEPARTMENT

APPLICATION FORM FOR STORMWATER/MONITORING WELLS
SUB-SURFACE REVOCABLE PERMIT

Applicant: _____ Telephone _____ Fax _____

Address: _____ Zip Code _____ E-mail _____

Premises Involved:

Specific Location _____

Short Term Use: _____ Long Term Use: _____

Date the use of the property will begin _____ Date the use of the property will begin _____

Date the use of the property will be completed _____

Purpose of Request _____

_____

PUBLIC NOTICE:
Public notice (i.e., posting and surrounding property mailings) in conjunction with the administrative review of this application is at the discretion of City Planning.

FEES:
An application review fee will be required to accompany this application (checks to made payable to City of Colorado Springs). The fee schedule is as follows:

Revocable Permit	**$130 (new)/$40 (renewal annually)**

OFFICIAL CITY PLANNING USE ONLY:

Fee Receipt # _____ Date Application Accepted _____

Site Plan (1) _____ Authorization _____

Project Statement _____ Liability Insurance _____

Engineering Application _____ Vicinity Map _____ PIC _____

SUBMITTAL REQUIREMENTS:
This application should be submitted to the City of Colorado Springs-Development Review Office located at 30 South Nevada Avenue, Suite 301. An application must be completed in full and accompanied by the following information:

APPLICANT		PLANNER
_____	1. One (1) copy of a STATEMENT identifying a clear description of the proposed revocable permit.	_____
_____	2. A VICINITY MAP (not to scale). The vicinity map should show the proposed site outlined with the existing adjacent streets within the neighborhood.	_____

3. Provide evidence of a current COMMERCIAL GENERAL LIABILITY INSURANCE policy. The insurance coverage must specify the City of Colorado Springs as an additional insured party with the following insurance coverage limits:
   $500,000.00 combined single limit for bodily injury and property damage for each occurrence or claim made with an aggregate of $1,000,000.00. The insurance carrier is required to notify City Planning at least 30 days in advance of any reduction or cancellation of the policy. The insurance policy is required to be in place throughout the entire period of the Revocable Permit.

REVOCABLE PERMIT SITE PLAN CONTENT REQUIREMENTS:

APPLICANT		PLANNER
_____	1. The applicant is required to: Submit one (1) copy of a completed SITE PLAN for the property showing the location of the proposed revocable permit. The site plan must include all of the information set forth below	_____

SITE PLAN CONTENT REQUIREMENTS

Please complete the following checklist by checking all appropriate categories under APPLICANT column, indicating compliance with these content requirements. All submitted plans shall contain the following information:

_____	1. Indication of the scale (i.e. ¼" = 1') and a bar scale.	_____
_____	2. North arrow.	_____
_____	3. Property lines and dimensions of adjacent property.	_____
_____	4. Name and total width of all adjacent public right-of-way.	_____
_____	5. Street width of public right-of-way.	_____
_____	6. Location of curb, gutter, landscaping and any improvement in public right-of-way.	_____
_____	7. Location of use within the public right-of-way.	_____
_____	8. Location of subsurface infrastructure.	_____
_____	9. Depth of subsurface infrastructure.	_____
_____	10. Specific description of subsurface use.	_____

APPLICANT AUTHORIZATION:

I (we) understand that if this Revocable Permit is granted by the City Manager or their designee, I (we) will be required to comply with all provisions in accordance with Chapter 3 of the City Code, 2001 as amended, including evidence of current public liability and property damage insurance policies in the name of the licensee with the City of Colorado Springs also named as insured.

CITY OF COLORADO SPRINGS

_____
By:
Revocable Permit Coordinator

_____
By:

_____
Owner's Representative

_____
Please Print Name

_____
Representative for

WITNESSED BY:

_____
Notary Public
My Commission Expires: _____

WITNESSED BY:

_____
Notary Public
My Commission Expires: _____

FORMAL REVIEW TIME PERIOD:

The administrative review procedure will take approximately two (2) weeks to complete.

FINAL DISPOSITION:

APPROVAL:

After completion of the Revocable Permit review, the reviewing planning staff member will return one (1) copy of the approved site plan to the applicant.

DENIAL:

If this application is denied, the planning staff member will provide written notification to the applicant that will clearly specify all of the reasons for denial.

APPEALS:

The administrative decision of the planning staff member to approve or deny an application for a Revocable Permit may be appealed to the City Council within ten (10) days from the date of the administrative decision.

The appeal must be in writing and specify briefly the grounds for the appeal. If a perfected appeal is filed within this ten (10) day period, the administrative decision to approve or deny will be suspended until the appeal process in finalized. In the case of an appeal, any building permit approval granted by City Planning based upon the approval of a Revocable Permit will also be suspended until the appeal process is finalized.

REVOCABLE PERMIT REVIEW CRITERIA:

Applications for a Revocable Permit must meet all of the criteria listed in Chapter 3 of the City Code before the application can be approved by City Planning. These criteria are as follows:

Revocable Permits – Chapter 3, Article 2, Part 2, Section 214:

The following conditions as well as the other conditions in the Article, shall apply to each of the structures and devices.

1. No device or structure shall be so located or used so as to:
   a. Interrupt the normal flow of vehicular or pedestrian traffic;
   b. Interfere with the public's normal use of the public property upon which the structure, device or use is permitted, such as the overhang of diagonally parked automobiles or the door-opening radius of parallel parked automobiles;
   c. Interfere with any other device or structure lawfully existing thereon, such as parking meters, water meters, curb cuts, bus stops, etc. The device, structure or use shall not occupy more than one-fifth (1/5) of the width of any paved sidewalk. Whenever possible, devices and structures shall be installed on unpaved or unused areas of sidewalks or in connection with other devices or structures already installed which break the flow of pedestrian traffic.
2. Any device or structure shall be installed in such a manner so as to prevent it from being dislodged by any natural force such as wind or any man-made force such as an act of vandalism.
3. Devices and structures permitted shall be so constructed as to reduce so far as is feasible sharp edges or protrusions that could cause injury to persons or damage to property. Devices and structures shall be easily visible and recognizable with regard to the available light from street lighting and light emanating from adjoining property during periods of darkness.
4. Devices and structures shall be installed so as to eliminate the collection of litter under and upon the same insofar as possible, and to facility cleaning of the adjacent area of litter and snow.

OFFICIAL CITY PLANNING DISTRIBUTION:

	Individual	Mail Code	Phone
Possible Distribution:			
_____	Traffic Engineering	MC 0410	385-5621
_____	Parks and Recreation	MC 1200	385-6515
_____	Engineering Inspection	MC 1108	385-5053
_____	Utilities Development Services	MC 1018	668-8229
_____	Forestry	MC 1200	385-5942
_____	Neighborhood Representative		

Application Comments due by: _____

CITY PLANNING APPROVAL/DENIAL:

City Planning _____ Date Received _____

Approved: _____ Denied: _____

Approval Date: _____ Denial Date: _____

Conditions/Reasons: _____

_____

_____

DO NOT REMOVE THIS PAGE – IT MUST BE KEPT WITH THE ORIGINAL APPLICATION FORM!

The City of Colorado Springs-Planning Group is committed to ensuring that all of our services are accessible to those with disabilities. We encourage participation by all individuals. If you have a disability, advance notification of any special needs will help us better serve you. Please call Gladys Akbari at 385-5351 to request any special service that you may require. A one (1) week advance notice to allow us to accommodate your request is appreciated.

APPLICATION FOR REVOCABLE PERMIT
SUPPLEMENTAL INFORMATION FOR:
MONITORING WELLS WITHIN PUBLIC RIGHTS-OF-WAY/EASEMENTS

STREET ADDRESS _____

SUBDIVISION (IF KNOWN) _____

APPLICANT
NAME: _____

ADDRESS: _____

CONTACT: _____ TITLE: _____

TELEPHONE: _____ FAX: _____

INSTALLATION/SUBSTANCE

INSTALLATION DESCRIPTION (ATTACH PLANS) _____

_____

INSTALLATION SCHEDULE START: _____ FINISH: _____

SUBSTANCES SUBSTANCES TO BE MONITORED _____

MONITORING SCHEDULE START: _____ FINISH: _____

CONTRACTOR
NAME: _____

ADDRESS: _____

CONTACT: _____ TITLE: _____

TELEPHONE: _____ FAX: _____

INDEMNIFICATION CLAUSE: I AGREE TO INDEMNIFY THE CITY OF COLORADO SPRINGS (CITY) IN ACCORDANCE WITH PART 2 OF ARTICLE 2 OF CHAPTER 3 OF THE CODE OF THE CITY OF COLORADO SPRINGS REGULATIONS. IN ADDITION, I AGREE TO RELEASE, INDEMNIFY AND HOLD HARMLESS THE CITY FROM ALL THIRD PARTY CLAIMS, SUITS, ACTIONS AND DAMAGES, INCLUDING ENFORCEMENT OR OTHER ADMINISTRATIVE PROCEEDINGS BROUGHT BY A STATE OR FEDERAL AGENCY, AND INCLUDING COURT COSTS AND REASONABLE ATTORNEYS' FEES, ARISING FROM ANY "DISCHARGE" FROM THE PROPOSED PRIVATE SYSTEM OF ANY "POLLUTANT" INTO "STATE WATERS" OR CONVEYANCES LEADING TO "STATE WATERS". THE TERMS DISCHARGE, POLLUTANT AND STATE WATERS WILL BE GIVEN THE MEANING INTENDED BY THE CODE OF COLORADO REGULATION AT 5 CCR 1002-2.

MAINTENANCE CLAUSE: I AGREE TO MAINTAIN THE PERMITTED FACILITIES THROUGHOUT THEIR OPERATION AND TO PROVIDE LOCATION INFORMATION OF THE PERMITTED FACILITIES AS MAY BE NEEDED FOR FUTURE IMPROVEMENTS.

SIGNATURE OF APPLICANT TITLE DATE

STREET ADDRESS _____

INSURANCE REQUIREMENTS

Five hundred thousand dollars ($500,000) combined single limit for bodily injury and property damage for each occurrence or clam made with an aggregate of one million dollars ($1,000,000)

STANDARD CONDITIONS/REQUIREMENTS:

1. UTILITY LOCATIONS REQUIRED PRIOR TO COMMENCING CONSTRUCTION.
2. EXCAVATION PERMIT REQUIRED FOR ALL WORK WITHIN PUBLIC RIGHTS-OF-WAY AND EASEMENTS.

   NOTE: A TRAFFIC CONTROL PLAN IS REQUIRED PRIOR TO ISSUANCE OF AN EXCAVATION PERMIT.
3. MONITORING WELL LOCATIONS TO BE LOCATED OUT OF STREET OR ALLEY PAVEMENT SECTIONS UNLESS APPROVED BY CITY ENGINEERING INSPECTIONS SUPERVISOR (385-5918) AFTER UTILITIES ARE LOCATED.
4. ANY CASTINGS/LIDS IN STREETS/ALLEYS TO BE HS20 LOAD RATED.
5. CONTACT CITY ENGINEERING DIVISION/INSPECTIONS SECTION 24 HOURS PRIOR TO COMMENCING CONSTRUCTION WITHIN THE PUBLIC RIGHT-OF-WAY/EASEMENT (385-5918).
6. PERMITS AND COMPLIANCE WITH STATE ENGINEER'S OFFICE WELL REGULATIONS ARE REQUIRED; HOWEVER, ABANDONMENT IN PUBLIC STREETS, ALLEYS OR RIGHT-OF-WAY REQUIRES FILLING WELL HOLE WITH FLOWABLE FILL PER CITY ENGINEERING DIVISION STANDARD SPECIFICATIONS.
7. OWNER/APPLICANT AGREES TO NOTIFY THE CITY ENGINEERING DIVISION (385-5918) WITHIN 30 DAYS AFTER FACILITIES ARE ABANDONED.

SPECIAL CONDITIONS/REQUIREMENTS:

1. _____

_____

_____

2. _____

_____

_____

3. _____

_____

_____

APPROVALS

_____ _____

CITY TRAFFIC ENGINEER – SUBJECT TO ATTACHED CONDITIONS DATE

_____ _____

CITY ENGINEER – SUBJECT TO ATTACHED CONDITIONS DATE

DRAINAGE BASIN: _____ RW CODE: _____ DP CODE: _____

Chapter 8 –
Final Plat Requirements and Processing

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8.0 8.0 Final Plat Requirements and Processing

8.1 Requirements per City Code (7.7.303)

Final Plats are submitted through Land Use Review (LUR.) Detailed requirements and checklists are included in the Final Plat application available from LUR and on their website at springsgov.com.

8.2 Submittal/Approval Procedure

Final plats for subdivisions are approved by either of two procedures; City Planning Commission/Council approval or through administrative review by Land Use Review. The Engineering Development Review Division (EDRD) will review and comment on plat submittals for either procedure. Once a final plat has been approved by either process, the assigned City Planner will provide an approval letter to the applicant. This letter along with the original mylar of the plat, signed by all legal ownership entities, may then be submitted to the Land Development Section of the Development Review Enterprise (DRE).

DRE will route the Final Plat mylar for agency sign-off, including EDRD. Prior to recording any final plat or re-plat, EDRD performs a final plat processing review and signs all Final Plat Mylars. In order for EDRD to sign any plat the following items must be satisfied. If deficiencies are found EDRD will return the plat mylar to the Surveyor-of-Record for correction.

- A Final Drainage Report must be approved and on file.
- A Geologic Hazard Study (if required) must be approved and on file and a disclosure statement must appear on the plat when applicable.
- All EDRD review comments shall be addressed on the plat, unless waived or modified by the EDRD Manager or Land Surveyor.
- Easements – All public and private drainage easements must be depicted and noted on the plat. Any easements that are shown on the Development Plan, Drainage Report, Grading Plan or other approved development document must be dedicated on the final plat. Surface maintenance responsibility for all public easements must be noted.
- All public streets and public tracts must be properly dedicated to the City for public use in the Dedication Statement along with plat notes defining the intended use and maintenance of all public tracts. Any public streets or tracts that are shown on the Development Plan, Drainage Report, Grading Plan or other approved development document must be dedicated on the final plat.
- All private tracts and private streets must be identified with ownership and maintenance responsibility along with the record information or reception number of associated documents.
- Approved engineer's cost estimates for public street improvements must be on file when they are required, for example, for Arterial streets.

- All public streets on the plat must meet or exceed the published minimum design standards for right-of-way width and centerline geometry unless a variance has been obtained from the City Engineer.
- When the plat includes only public right-of-way and or tracts for streets or drainage facilities but no lots, the financial assurances for public street and drainage facilities must be posted with EDRD prior to recording the plat.

Upon sign-off by EDRD, DRE shall obtain the signatures of the City Clerk and record the plat with the County Clerk.

In general, the process takes seven working days from the date of a complete submittal of the original Final Plat Mylar, when all conditions have been met.

There are other requirements, which must be met prior to issuance of building permits for platted lots, which will be discussed in detail in Chapter 12 (Building Permits).

8.3 Standard Comments

EDRD uses standard comments to insure consistent filing of Final Plats. The standard comments are updated on an annual basis to be consistent with the City Code and current policies and procedures. A copy of the standard comments is included at the end of this chapter. The current standard comments should be obtained online at springsgov.com.

STANDARD COMMENTS
City Engineering
Engineering Development Review Division (EDRD)

These comments apply to all subdivision plats, development plans, other development applications, construction/ grading activities and issuance of building permits.

Approval of this plan does not grant any variance to the adopted Subdivision Code and does not waive any of the requirements of design as contained in the City of Colorado Springs Subdivision Policy Manual and Public Works Design Manual

Public Streets: All public streets must meet or exceed the minimum design standards for right-of-way width, centerline geometry, maximum and minimum grades, horizontal and vertical sight distance and all other design requirements unless a variance has been granted by the City Engineer and the Traffic Engineer.

Traffic Signs and Roadway Markings: The Federal Highway Administration requires that any road open to public travel shall have all signs and roadway markings comply with MUTCD guidelines.

Drainage Reports: A *Preliminary Drainage Report* is required for all Development Plan, Minor Development Plan, Concept Plan and Preliminary Plat applications to be reviewed concurrently with the development application. A *Final Drainage Report* is required for all Final Plat and Re-Plat applications. A *Master Development Drainage Plan* is required for all Master Plan applications.

Geologic Studies: A Geologic Hazard Study may be required. When a Geologic Hazard Study is prepared, a disclosure statement must be added to the Development Plan and Final Plat. A checklist for preparing geologic studies can be found on City Engineering's website. See 7.4.502 and 7.4.503 of the City Code for applicability.

Earthwork: Prior to earthwork activities commencing on the site, a *Grading and Erosion Control Plan* must be approved by City Engineering and *financial assurances* must be posted for erosion control and permanent water quality facilities. (In Hillside and Streamside overlay areas, grading plans must also be approved by City Planning.) A checklist for preparing grading plans can be found on our website.

Recording a Subdivision Plat: Prior to recording any final plat or re-plat EDRD performs a final plat processing review and signs all Final Plat Mylars. In order for EDRD to sign any plat the following items must be satisfied:

- *A Final Drainage Report* must be approved and on file.
- A Geologic Hazard Study (or an exemption letter) must be on file and a disclosure statement must appear on the plat when applicable.
- Easements – All public and private drainage easements must be depicted and noted on the plat. Maintenance responsibility for private drainage easements, and for ALL Public Easements, must be noted. All standard side and rear lot line easements and all required *public improvement easements* and utility easements must be shown.
- All public streets and public tracts must be properly dedicated to the City *for public use* in the *Dedication Statement* along with plat notes defining the intended use of all special tracts.
- All private tracts and private streets must be identified with ownership and maintenance responsibility along with the *reception number* and/or other information of record of associated documents.
- Engineer's cost estimates for Arterial Streets when required, see below.
- All public streets on the plat must meet or exceed the published minimum design standards for right-of-way width and centerline geometry unless a variance has been obtained from the City Engineer and the Traffic Engineer.

- When the plat includes only public right-of-way for streets or drainage facilities but no lots, the financial assurances must be posted prior to recording the plat.

Prior to issuance of building permits: *Financial Assurances* are required for the following facilities (Upon probationary acceptance of public street and drainage improvements EDRD holds ten percent retainage for the duration of the warranty period):

- public streets within the development
- public street improvements required off-site or adjacent to the development
- required traffic signals
- public drainage facilities identified in the *Final Drainage Report*
- any other special public construction requirements

EDRD will prepare the cost estimates for street improvements using the published unit cost schedule available at the Engineering Development Review Division offices, unless the developer provides an engineer's estimate, which shall be approved by EDRD. City Engineering may require an engineer's estimate in some cases (arterial and greater streets, public detention ponds, channel improvements etc.), and if so, said estimate must be submitted to and approved by EDRD prior to plat recordation.

EDRD reviews and signs off on the building permit construction plans for commercial and multi-family construction. The plan set must include the subdivision name, legal description, approved site/development plan, approved grading/erosion control plan and other pertinent civil site plans showing the required public street improvements. EDRD reviews building permit plans every Tuesday and Thursday morning at RBC (DRE). Walk-ins are welcome at the EDRD offices without appointment.

Street/Drainage construction: Prior to commencing construction of public street or drainage facilities EDRD must review and approve the detailed construction plans and profiles for the work. These plans are submitted directly to EDRD by the design engineer.

Stormwater Connection Permit (AKA Revocable Permit): A *Stormwater Connection Permit* is required to connect a private drainage facility into a public drainage facility. The City of Colorado Springs is federally mandated to identify and monitor all stormwater discharges within the City. This permit can be obtained from Alan Williamson at the Stormwater Enterprise 385-5063 or awilliamson@springsgov.com.

Sidewalk and Curb Replacement: In accordance with section 3.3.107 (D) and 3.4.103 (E) All adjacent curb, gutter, pedestrian ramps and sidewalk posing a safety concern, exhibiting excessive deterioration, not functioning as intended or not meeting current City standards must be removed and replaced. An on-site meeting can be set up with the City Engineering Inspector to determine if reconstruction is required. The inspectors can be reached at 385-5977.

Summary: For additional information about City Engineering requirements and other matters such as construction permitting, permit fees, and inspection/acceptance of street and drainage facilities, reference is made to the Subdivision Policy Manual and Chapter 7, Article 6-9 of the City Code, The Subdivision Code. Copies of Subdivision Policy Manual can be acquired on-line at www.springsgov.com or can be purchased at *Office Services*, 30 S. Nevada Ave. Suite L01.

The *Engineering Development Review Division* of City Engineering is located at 30 S. Nevada Ave., Suite 401 in the City Administration Building, and can be reached at (719) 385-5979.

Latest Revision March 2009

Chapter 9 - Construction Permits

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9.0 Construction Permits

9.1 Requirements

Prior to construction of public street or drainage facilities, the contractor must obtain a permit for said construction from City Engineering. Prior to cutting any City street or alley whether paved or gravel, a permit must be obtained from the City Inspections office of City Engineering. Contractors must be licensed by the City Clerk.

9.2 Concrete Permits for New Construction

Licensed contractors may obtain concrete permits and excavation permits on-line at springsgov.com . The plans and profiles for the work being permitted must have already been approved by the Engineering Development Review Division (EDRD) when applying for a permit.

Occasionally there is a conflict regarding the location of sidewalk (attached, detached, or meandering) between various plans for a development such as Development Plans, Building Permit Site Plans and the approved plans and profiles. Without exception the location shown on the approved plans and profiles approved by EDRD shall govern. When a conflict exists between the sidewalk location on the approved plans and profiles and the location shown on an approved Development Plan, the Development Plan shall be amended to correct such conflict prior to construction. Reference is made to Section III of this manual, Traffic Criteria Manual for standard sidewalk locations.

The contractor must notify the City Inspections office 24 hours prior to commencing construction. An inspection must take place prior to placing concrete in forms, prior to placing base course on street subgrade, prior to placing pavement, prior to constructing drainage structures, and prior to any other significant stages of construction.

Contractors are encouraged to contact the City Inspections office to obtain permit fee schedules and to obtain any other information about permits and inspections. Fee schedules are available on-line at springsgov.com.

The EDRD Inspector does not perform the construction observation or the engineering inspection for subdivision development street or drainage construction. It is the responsibility of the developer and his consulting engineer to provide project inspection and field engineering services. The City Inspector may visit a subdivision project site from time to time to determine that the developer is providing adequate inspection of the construction.

Utility construction within the public Right-of-way is regulated by Colorado Springs Utilities (SU.) SU and EDRD inspectors are concerned that trenches are properly compacted and may observe the compaction and testing work from time to time.

The EDRD inspector must be notified of the progress of the work as described above and will determine that all requirements of the construction permit are complied with. The inspector is available to answer questions about City policies, standards, details, etc., but will not approve changes to the design. This is the responsibility of the consulting engineer. Significant design changes are subject to EDRD approval and "As-Built" drawings.

A permit is required for replacing any existing curb and gutter, or sidewalk within the public right-of-way and for installing pedestrian ramps or cross pans in existing streets. All requirements for replacement of existing curb, gutter, or sidewalk are the same as for new construction found in the paragraphs above except that the City Engineer may waive the requirement for approved plans and profiles when existing line and grade will not change.

9.3 Paving and Base Course Letters

Prior to placing base course over a street subgrade, the contractor must provide the inspector with the results of the required compaction tests. The inspector will check the subgrade and will issue a "Base Course Letter". Prior to placing pavement on a street base course, the contractor must provide the inspector with the results of the required compaction tests. The inspector will check the base course and will issue a "Paving Letter".

Proof rolling of the subgrade is required prior to placing curb and gutter, base course and pavement. Proof rolling may be required prior to placing concrete in crosspans as well.

The following procedure should be followed for paving and base course construction. Reference is made to the City Engineering Standard Specifications for additional information. The following required information shall be submitted to the EDRD Inspector:

- The contractor shall submit all test data on compaction for sewer, water, gas, and any other underground utility within the street section in accordance with the testing frequency specifications in the Standard Specification Manual.
- Subgrade tests must be submitted at the time of application for placing base course or paving in accordance with the testing frequency specifications in the Standard Specification Manual.
- The developer's engineer shall state in writing that the sanitary sewer manholes are within the tolerances given by the SU. (AKA manhole certification)
- Base course gradation and R value are required when requesting a base course letter.
- Colorado Springs Utilities will give field approval on the base course or paving letter when the water valves and manholes are set per SU standards. (AKA water valve and manhole sign-off)
- The contractor or the subdivider may pre-submit the utility trench compaction tests for filing in the respective subdivision file.

9.4 Inspection Letters

The EDRD Inspector will, upon written request, issue "Probationary Inspection Letters" and "Final Inspection Letters" for subdivision streets and drainage facilities. These inspection letters will be discussed in detail in Chapter 11 on inspection letters.

9.5 Traffic Control Plan

When construction is to occur in an existing street, a Traffic Control Plan must be approved by City Engineering's Traffic Operations team. The Traffic Control Plan must accompany the application for a concrete permit or excavation permit submitted to City Engineering Inspections.

9.6 Concrete Permits for Installing Driveway Cuts

A permit is required to install a driveway curb cut in an existing curb. A standard curb cut must be constructed unless otherwise approved by EDRD.

All requirements for obtaining a permit for a driveway curb cut are the same as found in the previous section on new construction except that approved plans and profiles are not required when a standard driveway curb cut is to be installed with no changes to line and grade of the gutter. Any non-standard driveways such as driveways with curb returns, cross pans, or median islands must have plans approved by EDRD prior to obtaining a permit. New driveway locations must be approved by EDRD.

9.7 Street Cut Permits (also known as Excavation Permits)

The Excavation Ordinance is found in 3.3.2 of the City Code. This ordinance should be referred to for the specific requirements for cutting and repairing City streets. Other pertinent information about backfilling trenches can be found in Section 200 and standard drawings of the City Engineering Standards and Specifications.

No person shall excavate or fill in any public street or alley, gravel or paved, new subdivision or existing, without first obtaining a license and permit for the work.

License applications are obtained from the office of the City Clerk. Bonds and insurance requirements are per 3.3.203 of the City Code.

Permits are obtained from the City Inspections office. Traffic Control Plans are required and must be approved by City Engineering.

Any street that has been paved or overlayed within the previous three years cannot be cut except for emergency repairs without the written approval of the City Engineer. If such written approval is obtained, special backfill requirements shall be per the City Engineering Standard Detail D-4, D-5, or as may otherwise be required. These permits may also be obtained online at springsgov.com. The contractor must contact City Engineering inspections at least 24 hours prior to the start of any excavation.

Compaction tests shall be performed on all trench backfill in accordance with City Standards and Specifications. Additional tests may be required at the discretion of the City Engineer.

Existing pavement and base course thickness shall be matched with permanent paving and base repairs as a minimum. Any special design must be approved by the City Engineer. Temporary patching with a minimum of 2 inches of bituminous hot or cold mix may be installed subject to the approval of the City Engineer and must be maintained in a safe drivable condition by the contractor until weather permits permanent pavement construction.

In the case of a failure of an excavation repair, the contractor shall have two hours after notification to effect emergency repairs or barricading. If the contractor fails to comply, the Street Division may perform the work and will bill the contractor for the cost thereof along with any additional charges per Section 3.3.214 of the City Code.

9.8 Permits for State Highways

The State will issue all access, construction, and excavation permits for State Rights of way. State highways through the City must have permits from both the State and the City. The following procedure will be used:

- Obtain the required permit from the Colorado Department of Transportation
- Submit the State permit when applying for a permit at the City Inspections office
- All other requirements for obtaining a permit from the City shall be met
- Both permits must be on the jobsite at all times
- Emergency excavations will be handled by the State

9.9 Standard Permit Process

The standard permit process for concrete work and excavations can be found online at springsgov.com.

Chapter 10 – Financial Assurances

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10.0 10.0 Financial Assurances

10.1 Requirements

Financial Assurances are required by the Engineering Development Review Division for the following improvements:

- Public street improvements
- Public drainage improvements
- Private drainage improvements when required by the EDRD Engineer
- Erosion Control and Permanent Storm Water Quality facilities
- Traffic Signals
- Turn lanes, traffic calming devices, and any other public improvement required by the Development Plan, Drainage Report or EDRD Reviewer.

Financial assurances for street and drainage facilities must be posted with the Engineering Development Review Division (EDRD) prior to issuance of building permits within the subdivision plat. Occasionally a plat includes only street right-of-way with no lots. In that case the financial assurances must be posted with EDRD prior to EDRD's sign-off on the plat for recordation.

Financial assurances for erosion control facilities and permanent storm water quality facilities must be posted with EDRD prior to EDRD's approval of the grading/erosion control plan.

10.2 Cost Estimates

Cost estimates to determine the amount of financial assurances are required as follows:

- Street improvements (curb, gutter, sidewalk, medians, turn lanes, sidewalks, etc.) - The cost estimate is determined by EDRD using standard unit costs and quantities from the Final Plat, Development Plan, or Construction Drawings. Engineer's estimates are required for all major streets (major Residential Collector and higher) or as requested by EDRD. All engineer's estimates will be reviewed and approved by EDRD and must be approved prior to recording the subdivision plat.
- Drainage facilities – The cost estimate for public and private drainage facilities is computed by the Engineer in the final drainage report for the subdivision.
- Grading and erosion control - The cost estimate for grading and erosion control measures including permanent water quality facility Best Management Practices (BMP) is computed by the engineer as part of the grading plan requirements. Erosion control financial assurances are required in any dollar amount. There is no minimum dollar amount limitation. EDRD maintains a list of current unit costs for most erosion control facilities. This list can found at springsgov.com.

Financial assurance amounts must be adjusted for inflation at the time of their annual renewal. The percentage adjustment shall be equal to the annual adjustment percentage applied to the City's drainage fees. EDRD staff periodically reviews industry construction costs and may adjust assurances based upon these findings.

10.3 Financial Assurance Sliding Scale

A "tiered approach" (sliding scale) is used to determine the amount of financial assurance that is required from developers to secure completion of street and drainage facilities.

Total Financial Assurance Obligation	Financial Assurance % Required
$200,000 or less	90%
$200,001 - $400,000	80%
$400,001 - $600,000	70%
$600,001 - $800,000	60%
$800,001 or greater	50%

Exceptions to the Sliding Scale: Major facilities such as arterial streets, bridges, channel improvements, and regional detention ponds require 100% financial assurances and 10% retainage and are not subject to the sliding scale.

10.4 Financial Assurance Retainage

A two (2) year warranty period is required for construction of all new streets and drainage facilities. A warranty retainage financial assurance of ten percent (10%) is required during the warranty period to assure the adequacy of all materials, workmanship, and repair of deficiencies. In the case of reduced financial assurance amounts based on the sliding scale, the ten percent retainage is computed based on the full (100%) cost estimate for the facilities, not on the reduced amount.

There is a warranty retainage "cap" for individual development companies. Any development company whose total retainage (the sum of all subdivision retainage city-wide) exceeds the warranty retainage cap may submit one financial assurance in the amount of the warranty retainage cap to cover all of their subdivision warranty retainage obligations.

However, certain major facilities and off-site facilities as determined by EDRD, including, but not limited to, arterial streets, bridges, and regional detention ponds, shall require posting by the subdivider or developer of a one hundred percent (100%) of financial assurance and a separate ten percent (10%) warranty retainage unless a reduced amount is approved by EDRD.

10.5 Financial Assurances for Traffic Signals

The developer's responsibility for construction of a traffic signal shall be determined in the approved Traffic Impact Study (TIS) for the development project. All traffic signal construction obligations shall be financially assured in the same manner as for other public street

improvements and construction shall generally be performed by the developer, not the City unless otherwise approved in the TIS. Cost estimates for traffic signals shall be prepared by the developer's engineer and submitted to EDRD for approval prior to acceptance of the financial assurance.

Developers must also post a financial assurance when they are responsible for partial construction or participation in the construction of a traffic signal.

In some cases, the traffic signal cannot be constructed until signal warrants have been met as determined by the City Traffic Engineer so the financial assurance may need to remain on file until the warrant is met. In such cases, EDRD may assign a "sunset" provision on the financial assurance. A sunset of five years, for example, means that at any time within five years of the initial posting of the financial assurance, when the signal warrant is met, the developer must at that time construct the traffic signal. If warrants are not met by the time the assurance sunsets, the developer may no longer be required to construct the traffic signal.

10.6 Financial Assurance Forms

The following forms of financial assurances are acceptable to EDRD. Standard forms for Financial Assurance documents can be obtained from EDRD or online at springsgov.com. Sample forms appear at the end of this chapter. No variation from the standard forms is allowed.

- Personal or Business checks made out to The City of Colorado Springs
- Cashier's checks or Certified checks
- Letters of Credit written on a lending institution's letterhead
- Certificates of Deposit with an Assignment of Deposits agreement
- Subdivision Bonds

Checks are deposited into a City escrow account and no interest is paid to the subdivider at the time of release. All other financial assurance forms are held by EDRD until their release. All term financial assurances must have a minimum expiration date of ninety (90) days from the issue date. The subdivider is responsible to keep current all financial assurances on file with the City and to provide renewal documentation to EDRD a minimum of five (5) working days prior to the expiration date. If the subdivider does not maintain current financial assurances, a hold will be placed upon all subdivision building permits.

10.7 Release

Financial assurances for street and drainage facilities are released upon issuance of the Probationary Inspection Letter by the EDRD inspector and upon receipt of the financial assurances for the warranty retainage (10% of the original facility estimate) In lieu of posting a new warranty retainage financial assurance, a partial release of a financial assurance can be executed which retains 10% of the original estimate. Upon completion of the improvements,

the subdivider or agent must provide a written request for Probationary Inspection and release of financial assurance along with the required Professional Engineer and Geotechnical Engineer Certifications.

Warranty retainage financial assurances are released upon issuance of the Final Inspection Letter by the EDRD inspector. A written request for Final Inspection and release of warranty retainage is required and should be submitted 30 days in advance of the expiration date of the two year warranty period.

Financial assurances for erosion control and permanent water quality facilities (BMPs) are released in writing by the Stormwater Enterprise inspector in response to a written request for inspection and release of financial assurances. A Professional Engineer certification and a recorded Inspection and Maintenance (IM) plan are required prior to release of financial assurances for permanent water quality facilities. No retainage is required for erosion control or permanent water quality facilities.

All requests for inspection and release of financial assurances for streets, drainage, erosion control, and permanent water quality facilities are sent to the Engineering Development Review Manager.

10.8 Cost Recovery Agreements

Cost Recovery Agreements are submitted to EDRD for review prior to being filed with the Land Development Section of the Development Review Enterprise. A Cost Recovery Agreement is filed when a developer who has constructed street improvements desires reimbursement from other adjacent land owners when those land owners plat or develop their land. This may apply when a developer constructs a street which is adjacent to one side of the subdivision with unplatted or undeveloped land owned by someone else on the other side or when a developer is required to construct "offsite" street improvements through unplatted land. Additional information can be found in section 7.7.705 (C) of the City Code.

10.9 Further references

Additional details about financial assurances can be found in the City Code (7.7.11) and DCM Volume II.

10.10 Instructions/ Sample Standard Forms

The following are instructions for financial assurances and the sample standard forms used:

INSTRUCTIONS FOR FINANCIAL ASSURANCES
May 10, 2010

Pursuant to Chapter 7 "PLANNING, DEVELOPMENT AND BUILDING" of the Code of the City of Colorado Springs, Article 7, Part 11, the following required improvements must be completed and accepted by Engineering *or* approved financial assurances guaranteeing completion must be placed on file prior to the issuance of building permits:

- Public street improvements
- Public drainage improvements
- Private drainage improvements when required by Engineering Division

(Erosion control measures are required for Grading and Erosion Control Plan approval and do not affect building permits)

Financial Assurance Forms- the following forms of financial assurances are acceptable:

- Company/personal check
- Cashier's or certified check
- Lending institution letter of credit
- Certificate of Deposit with Assignment of Deposits agreement
- Subdivision Bond

Checks made to "City of Colorado Springs" are deposited into the City's escrow account. All other forms are kept by the City Engineer's office until their release. All term financial assurances must have a minimum expiration date of 90 days from issue date. Include the name, address and telephone number of the owner, subdivider, developer or contractor submitting financial assurances. The submitter is responsible to keep current all financial assurances filed with the City and provide renewal documentation to City Engineering a minimum of five working days prior to the expiration date for improvements not completed.

Release- financial assurances are released upon the written Probationary Inspection letter and receipt of assurances for Warranty Retainage equaling 10% of the original estimate of improvements. In lieu of posting the Warranty Retainage, a Partial Release of funds can be executed which retains said 10% of the original estimate. Upon completion of improvements, provide a written request for Probationary Inspection along with Engineer's and Geotech's Certifications to Engineering Inspections at the address below:

Engineering Development Review Division
P.O. Box 1575, Mail Code 410
30 S. Nevada Avenue, Suite 401
Colorado Springs, CO 80901-1575
(719) 385-5979 Fax: (719) 385-5025

At the end of the two-year warranty period, a written request for a Final Inspection shall be submitted to the address above. Upon final acceptance of Public Facilities/Improvements, the 10% Warranty Retainage will be released.

Note: Erosion Control assurances are not subject to Probationary Inspection, and are released in full at the time of Final Inspection.

Financial Assurance Information — contact Engineering Development Review at the address below:

City of Colorado Springs
Attn: Financial Assurances Manager
P.O. Box 1575, Mail Code 410
30 S. Nevada Avenue, Suite 401
Colorado Springs, CO 80901-1575
(719) 385-5979 Fax: (719) 385-5025

IRREVOCABLE LETTER OF CREDIT GUIDELINES

Irrevocable Letters of Credit submitted to the City of Colorado Springs for the purposes of financial assurances for subdivision development improvements are acceptable only in the format on the attached form "Irrevocable Letter of Credit." This form is acceptable for lending institutions within Colorado Springs as well as outside the city. The following list outlines key items to assist the lending institution to complete the form:

- Letter of Credit must be on Bank Letterhead.
- Letter of Credit must include Subdivision Name or, for unplatted parcels, the Legal Description of the affected property.
- Expiration date must be a minimum of 90 days from the Letter of Credit date.
- Any references to the "Uniform Customs and Practices for Documentary Credits" or "Article 5 of the State of Colorado Uniform Commercial Code" **are unacceptable**.
- Letter of Credit shall have the full address, phone number and signature of an officer of the banking institution.
- If Letter of Credit assures more than one improvement, do NOT itemize the amounts for each assurance. Show only the total value of the Letter of Credit.

Contact the Financial Assurances Manager or the Engineering Development Review Manager at the contact number below for assistance.

P.O. Box 1575, Mail Code 410
30 S. Nevada Avenue, Suite 401
Colorado Springs, CO 80901-1575
(719) 385-5979 Fax: (719) 385-5025

IRREVOCABLE LETTER OF CREDIT

Date of Issue: _____ Place of Issue: _____

To: City of Colorado Springs
City Engineering
P.O. Box 1575, Mail Code 410
Colorado Springs, CO 80901-1575

Irrevocable Letter of Credit No.: _____ Expiration Date: _____

Account Party: _____ Address: _____

Beneficiary: City of Colorado Springs
Attn: Financial Assurances Manager
P.O. Box 1575, Mail Code 410
30 S. Nevada Avenue, Suite 401
Colorado Springs, CO 80901-1575

Gentlemen:

_____ hereby issues this Irrevocable Letter of Credit in your favor for the amount of $ _____ , which is available by drafts at sight for payment accompanied by the following documents:

Written certification from the City of Colorado Springs that the account party has failed to complete the following improvement(s):

_____

Subdivision: _____

This Letter of Credit shall not be transferable and it shall be governed by the laws of the State of Colorado. This letter may be extended or otherwise renewed with the Beneficiary's consent.

_____ hereby agrees to honor each draft for payment made in compliance with the terms of this credit if duly presented, together with any documents as specified herein, on or before the expiration date of this letter. In addition, if an out-of-City of Colorado Springs financial institution, the financial institution hereby agrees to honor each draft for payment made in compliance with the terms of this Letter of Credit if duly presented by registered mail or overnight courier, together with any documents, as specified herein, on or before the expiration date of this Letter of Credit.

_____
Lending Institution

_____

_____
Address

_____
Telephone

_____
Lending Institution Officer

SAMPLE

ASSIGNMENT OF DEPOSITS GUIDELINES

Certificates of deposits submitted to the City of Colorado Springs for the purposes of financial assurances for subdivision development improvements are acceptable **ONLY** with the attached form "Assignment of Deposits." The following list outlines key items to assist with completion of the form:

- Include a reference date at the top of the form.
- The developer's name as it appears on the certificate of deposit is entered on line two.
- In the blanks below paragraph 1, describe the improvement for which the certificate of deposit is given as a financial assurance and include the legal description; examples:

Shall install and complete the following improvements:
[street, drainage or erosion control improvements].

Subdivision: ["X YZ..." Subdivision]

PLEASE NOTE: The correct improvements and Subdivision Name must be substituted for the example information noted in the brackets above before submitting the Assignment of Deposit. If this information is not correctly labeled, or has been typed then crossed out and then re-written correctly in ink, the Assignment of Deposit will be sent back.

- Include the financial assurance amount in words and figures along with the lending institution's CD identification number.
- Attach as Exhibit "A" the original or copy of the CD document submitted by the lending institution. The City does not require joint ownership of the CD.
- Type the names and titles of the developer and the lending institution's representative, date and notarize all signatures.
- Expiration date must be a minimum of 90 days from issuance date and must be auto-renewable.
- Include addresses and telephone numbers for the lending institution and developer.
- Questions and assistance, contact:

  City of Colorado Springs
  Attn: Financial Assurances Manager
  P.O. Box 1575, Mail Code 410
  30 S. Nevada Avenue, Suite 401
  Colorado Springs, CO 80901-1575
  (719) 385-5979 Fax: (719) 385-5025

Assignment of Deposits

This assignment, dated for reference the _____ day of _____ , _____is made and entered into by and between:

Address: _____ (hereinafter "Developer"),

_____

Address: _____ (hereinafter "Bank"),

_____

and the City of Colorado Springs, a home rule city and a Colorado municipal corporation (hereinafter the "City").

1. Pursuant to the Code of the City of Colorado Springs, 2001, as amended, the Developer is required to post an assurance guaranteeing that the developer shall install and complete the following improvements:

   _____

   _____

   For Subdivision: _____

   The Developer has deposited with the Bank the principal sum of:

   _____ ($ _____)

   in Certificate of Deposit number _____ , a copy of which is attached as Exhibit "A" and hereby made a part of this agreement. (Any renewals of this CD shall be attached to Exhibit "A")

2. Developer hereby assigns all of Developer's rights and title to the deposited funds and certificate of deposit to the City as an assurance that the Developer shall install and complete the improvements identified above. This assignment pertains only to the principal above, or as later amended, and not to any interest due on the principal. All right and ownership to any interest earned remains with and in the Developer. In the event that the improvements are not installed and completed as required by the City prior to the expiration of the designated term of the certificate of deposit, then the City may cash the certificate of deposit with such funds being forfeited to the City. However, if the City has not yet deemed it necessary that the Developer has installed and completed the improvements prior to the expiration of the designated term of the certificate of deposit, the Developer may renew the certificate of deposit for an additional term by notice to the Bank or by auto-renewal or the Developer shall provide another form of assurance acceptable to the City prior to expiration of the designated term of the certificate of deposit. Additional terms shall be for a minimum of ninety days.

3. This Assignment of Deposits is subject to and shall be interpreted under the law of the State of Colorado, and the Charter, City Code, Ordinances, Rules and Regulations of the City of Colorado Springs, Colorado, a Colorado home rule city. The Bank agrees that, not withstanding any term in the certificate of deposit or the Bank's rules and regulations for certificates of deposit to the contrary, the Bank acknowledges and accepts the assignment of all rights and title in the certificate of deposit

SAMPLE

and the deposited funds to the City, and agrees that the funds therein on deposit shall not be accessed or otherwise used by the Bank for satisfaction of any claim or liability of the Depositor. The Bank further agrees that the funds in the certificate of deposit shall only be released to the City, when and if so requested by the City in writing. Funds in this certificate of deposit shall be released to the developer only in accord with this Agreement of Deposits.

4. The Parties further agree that in the event that the Developer has completed the installation of the improvements and the improvements have been approved and accepted by the City, then on the date of that written acceptance, this Assignment agreement shall become null and void, and all rights and title to the certificate of deposit as granted to the City shall revert to the Developer, and the relationship between the Developer and the Bank shall be as stated in the Certificate of Deposit agreement between the Developer and the Bank.

For the Bank:

By: _____ (title) _____ this _____ day of_____, _____

State of _____) County of_____)

The foregoing Assignment instrument was acknowledged before me this _____ day of_____, _____ by _____ as (title) _____ for the Bank named above, on behalf of the Bank.

_____

Notary Public

(Seal) My Commission Expires: _____

For the Developer:

By: _____ (title) _____ this _____ day of_____, _____

State of _____) County of_____)

The foregoing Assignment instrument was acknowledged before me this _____ day of_____, _____ by _____ as (title) _____ for the Developer named above, on behalf of the Developer.

_____

Notary Public

(Seal) My Commission Expires: _____

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For the Developer:

By: _____ (title) _____ this _____ day of_____, _____

State of _____) County of_____)

The foregoing Assignment instrument was acknowledged before me this _____ day of_____,
_____ by _____ as (title) _____
for the Developer named above, on behalf of the Developer.

_____

Notary Public

(Seal) My Commission Expires: _____

For the City: _____ (title) _____ this _____ day of_____, _____

Approved as to Form

_____

Senior Attorney

City of Colorado Springs

SAMPLE

Subdivision Bond Guidelines

Subdivision Bonds submitted to the City of Colorado Springs for the purposes of financial assurances for subdivision development improvements are acceptable only in the format on the attached form "Subdivision Bond." This form is acceptable for Sureties within Colorado Springs as well as outside the city. The following list outlines key items to assist the Surety to complete the form:

- No Subdivision Bonds will be accepted unless the Surety has provided instructions to the City for calling the Bond. If the Surety has not already provided said instructions, the Bond must be accompanied by them.
- The completion date must be at least 90 days after the issue date.
- Subdivision Bond must include the exact Subdivision Name or, for unplatted parcels, the Legal Description of the affected property.
- Principal and Surety signatures must be notarized.
- When applicable, Power of Attorney documents must be attached.
- No hand-lettered text, white-out, or other corrections will be accepted.
- If the Subdivision Bond assures more than one improvement, do NOT itemize the amounts for each assurance. Show only the total value of the Subdivision Bond.

Contact the Financial Assurances Manager or the Engineering Development Review Manager at the contact number below for assistance.

Engineering Development Review Division
P.O. Box 1575, Mail Code 410
30 S. Nevada Avenue, Suite 401
Colorado Springs, CO 80901-1575
(719) 385-5979 Fax: (719) 385-5025

SUBDIVISION BOND

KNOW ALL MEN BY THESE PRESENTS: That we _____

Address: _____

_____ as principal, and

_____

Address: _____

_____ a corporation

existing under and by virtue of the laws of the State of _____ and authorized to do business in the State of Colorado, as surety, are held and firmly bound under the City of Colorado Springs, a municipal corporation of the State of Colorado, in the penal sum of _____ dollars, the payment of which well and truly to be made, and each of us bind ourselves, our and each of our heirs, executors, administrators, successors and assigns jointly, and severally, firmly by these presents.

NOW THEREFORE, the condition of the above obligation is such that: WHEREAS, the above bounden principal is the owner of and/or is interested in or developing land and premises known as (Subdivision Name) _____

WHEREAS, said subdivision is subject to the provisions and conditions of the ordinance of the City of Colorado Springs known as the Subdivision Ordinance, which ordinance inter alia requires the installation of various street and other improvements by said principal; and

WHEREAS, under said Subdivision Ordinance the said principal in Colorado Springs, Colorado is required "as part of his responsibility" to install and construct the following improvements:

_____

NOW THEREFORE, if the above bounden principal shall well and truly install and construct the said described improvements and facilities perform the work hereinabove specified to be performed, all on or before the _____ of 20____, then this obligation shall be null and void, otherwise this obligation shall remain in full force and effect.

SAMPLE

IN WITNESS WHEREOF, these presents have been executed this _____day of _____, 20____.

_____

Principal

By _____

Subscribed and sworn to before me this _____ day of _____, 20___.

_____

Notary Public

(Seal) My Commission Expires: _____

Surety _____

Surety _____

Subscribed and sworn to before me this _____ day of _____, 20___.

_____

Notary Public

(Seal) My Commission Expires: _____

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Chapter 11 – Inspection Letters

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11.0 Inspection Letters

11.1 Requirements

Once public street and/or drainage facilities construction has been completed, the developer must submit a written request for inspection of the improvements to the EDRD Manager.

There are two types of inspection letters: 1) The Probationary Inspection and 2) The Final Inspection. Both inspections are required for all public streets and public drainage facilities construction.

11.2 Public Streets

Probationary Inspection: After completion of public street construction, the developer or engineer must submit a request for a Probationary Inspection to the Engineering Development Review Division (EDRD) Manager in writing stating that the improvements have been constructed in accordance with the approved plans and request a reduction of the financial assurances.

All requests for probationary inspection must be accompanied by the required certification letters from the Civil Engineer and Geotechnical Engineer. (See end of this Chapter for sample form letters) These letters must certify that the engineer has inspected the facilities and that they have been constructed in accordance with the plans and profiles as filed by EDRD, with a specific reference to the plans. The letter must bear the Seal of the Registered Colorado Professional Engineer. All requests for probationary inspection of public streets must also be accompanied by the required asphalt test results in accordance with the City's asphalt paving specifications.

The EDRD Inspector will conduct a site inspection of the improvements and issue a Probationary Inspection Letter. This inspection letter will provide a list of any deficiencies that need to be corrected, if needed. Once deficiencies have been corrected, the developer must request another Probationary Inspection stating that all deficiencies per the inspection letter have been corrected.

When all deficiencies are corrected, or if none were found, the Probationary Inspection Letter will establish the beginning date of the required two (2) year warranty period. At this time the financial assurances will be reduced accordingly by EDRD.

During the warranty period, the developer is responsible for materials, workmanship and maintenance of the public street improvements except for snow removal. The City has experienced a significant amount of damage to new streets in subdivisions due to construction equipment using the street while lots are being developed. Care should be taken to protect the street during this time. All damage must be repaired prior to the Final Inspection and acceptance of the street by the City.

Final Inspection: Prior to the end of the warranty period, the developer must request a Final Inspection of the street improvements. This request must be in writing to the EDRD Manager. Any deficiencies will be handled the same as stated above for the Probationary Inspection. Upon completion of any deficiencies or if there are none, the inspector will issue a Final Inspection Letter giving the date of the end of the warranty period. At this time the City will take over maintenance of the street and any remaining financial assurances will be released.

The City Engineer may extend the warranty period for any public street if significant failure has occurred during the required warranty period. The owner/ developer shall be notified in writing.

No inspection letters are required for private streets.

11.3 Public Drainage Facilities/Arterial Bridge Construction

Probationary Inspection: After completion of all public drainage facilities construction, the developer or engineer must submit a written request for a Probationary Inspection to the EDRD Manager stating that the improvements have been constructed in accordance with the approved plans and request a release or reduction of the financial assurances.

All requests for probationary inspection must be accompanied by the required certification letters from the Civil Engineer and Geotechnical Engineer. (See end of this Chapter for sample form letters) The letter must certify that the engineer has inspected the facilities and that they have been constructed in accordance with the plans and profiles as filed by EDRD, with a specific reference to the plans. The letter must bear the Seal of the Registered Colorado Professional Engineer.

Upon receipt of the letter requesting a Probationary Inspection and all required items, the EDRD Inspector will conduct a site inspection of the improvements and issue a Probationary Inspection Letter. This inspection letter will provide a list of any deficiencies that need to be corrected, if needed. Once deficiencies have been corrected, the developer/ engineer must request another Probationary Inspection stating that all deficiencies per the inspection letter have been corrected.

When any deficiencies have been corrected or if none were found, the Probationary Inspection Letter will establish the beginning date of the required 2 year warranty period. At this time the financial assurances will be reduced accordingly by EDRD.

During the warranty period, the developer is responsible for materials, workmanship, and maintenance of the drainage facilities. The EDRD Manager may extend the warranty period for any public drainage facility if significant failure has occurred during the required warranty period. The developer shall be notified in writing.

Final Inspection: Prior to the end of the warranty period, the developer must request a Final Inspection of the drainage facilities. This request must be in writing to the EDRD Manager. Any deficiencies will be handled in the same manner described above for the Probationary Inspection. Upon completion of any deficiencies or if none were found, the inspector will

issue a Final Inspection Letter giving the date of the end of the warranty period. At this time the City will take over maintenance of the public drainage facilities and all remaining financial assurances will be released.

11.4 BMP Procedures

Inspection of private water quality facilities and permanent erosion control Best Management Practices (BMP) is performed by the City of Colorado Springs Stormwater Engineering Inspectors. Inspection request letters can be sent to the EDRD manager who will forward them to the appropriate Stormwater Engineering staff.

11.5 Private Drainage Facilities

Private drainage facilities are not inspected by EDRD except for their connection to public systems. Permanent water quality facilities are inspected by Stormwater Engineering inspectors. No inspection letters are issued by EDRD for private drainage facilities. At the time of a Certificate of Occupancy for commercial developments, the EDRD Inspector may check the private drainage facilities to verify that they are constructed and functioning before the EDRD Inspector signs off on the Certificate of Occupancy. See section 7.5 for the requirements for Stormwater Connection permits when private storm water connects to public facilities.

11.6 Inspection Fees

Inspection fees are collected at different stages based upon the development type. Single family developments, subdivision roadway construction with no associated building permits (no lots), and drainage facilities or arterial bridge projects require that the inspection fee be paid prior to probationary inspection. Multifamily, commercial and industrial developments require that the inspection fees be paid at the time a building permit is issued.

11.7 Certification Sample Letters

The following are copies of sample engineering certification letters.

Civil Engineer
Street Improvements Certification Letter

January 1, 20**
City of Colorado Springs
City Engineering
30 S. Nevada Avenue, Suite 401
Colorado Springs, CO 80903

Attn: Engineering Development Review Manager
Re: *Subdivision Name*

The street improvements for *(Name of project or reference to site)* consist of the curb and gutter, paving, cross pans, and pedestrian ramps that make up the following street segments: *(description of street segments, e.g., street name* between *intersecting street name* or all of *name of court, etc.) (Name of Civil Engineering Firm)* has reviewed the attached letter(s) from *(Name of Geotechnical Engineering Firm)* and *(Name(s) of Other Involved Firms, optional)*. Based upon this information and information gathered during periodic site visits to the project during the installation of the street improvements, *(Name of Engineering Firm)* is of the opinion that the street improvements have been constructed in general compliance with the approved design plans and specification as filed with the City.

On behalf of *(the Owner or Developer), (Name of Engineering Firm)* hereby requests probationary inspection of these facilities by City Engineering so that the warranty period can begin.

Statement of Engineer in Responsible Charge:
To the best of my knowledge, information and belief, the referenced public street improvements have been constructed in general compliance with the approved design plans and specifications as filed with the City of Colorado Springs.

(Name of Engineer, P.E.)
Colorado No. XXXXX

Seal and Signature of P.E. goes here

Geotechnical Engineer
Street Improvements Certification Letter

January 1, 20**
City of Colorado Springs
City Engineering
30 S. Nevada Avenue, Suite 401
Colorado Springs, CO 80903

Attn: Engineering Development Review Manager January 1, 20**

Subject: Utility Trench Backfill, Sub-grade Preparation and Road Base Placement Within the Public Streets Rights of Ways of:

(Project Name)

_____

_____

Colorado Springs, CO

Job No. _____

Representatives of *(Geotechnical Eng. Firm Name)* periodically visited the site and performed field density testing during the subject construction processes. Testing was performed in general compliance with the frequency indicated in the City of Colorado Springs standard specifications. Results of field density tests have previously been provided. Field density tests were taken by *(Geotechnical Eng. Firm Name)* personnel with test results presented in Daily Reports No. ____ through ____ dated between _____ and _____. Results generally indicate densities, which meet those specified in the City of Colorado Springs standard specifications.

Representatives of *(Geotechnical Eng. Firm Name)* also periodically observed the sub-grade soil types and granular road base material placed for the street improvements. These materials appeared to be in general compliance with the specifications presented in the City of Colorado Springs standard specifications and appeared to be consistent with the materials assumed in the pavement design for the project.

If you have further questions regarding this letter, or the construction from a geotechnical point of view, please call.

Very truly your,
(Geotechnical Engineering Firm Name)

By *(Name of Engineer)*, P.E.

Civil Engineer
Storm Drainage Certification Letter

January 1, 20**
City of Colorado Springs
City Engineering
30 S. Nevada Avenue, Suite 401
Colorado Springs, CO 80903

Attn: Engineering Development Review Manager
Re: *Subdivision Name*

The storm drainage for *(Name of project or reference to site)* consist of *(description of the facilities, e.g., lineal feet of pipe, inlets, and sizes, channel improvements, etc.)*. *(Name of Civil Engineering Firm)* has reviewed the attached letter(s) from *(Name of Geotechnical Engineering Firm)* and *(Name(s) of Other Involved Firms, optional)*. Based upon this information and information gathered during periodic site visits to the project during the installation of the storm sewer facilities, *(Name of Engineering Firm)* is of the opinion that the storm drainage facilities have been constructed in general compliance with the approved design plans and specification as filed with the City.

On behalf of *(the Owner or Developer), (Name of Engineering Firm)* hereby requests probationary inspection of these facilities by City Engineering so that the warranty period can begin.

Statement of Engineer in Responsible Charge:
To the best of my knowledge, information and belief, the referenced public storm drainage facilities have been constructed in general compliance with the approved design plans and specifications as filed with the City of Colorado Springs.

(Name of Engineer, P.E.)
Colorado No. XXXXX

Seal and Signature of P.E. goes here

Geotechnical Engineer
Storm Drainage Certification Letter

January 1, 20**
City of Colorado Springs
City Engineering
30 S. Nevada Avenue, Suite 401
Colorado Springs, CO 80903

Attn: Engineering Development Review Manager
Subject: Backfill and Bedding Placement for:

(Project Name)

_____

_____

Colorado Springs, CO

Job No. _____

Representatives of *(Geotechnical Eng. Firm Name)* periodically visited the site and performed field density testing during sub grade preparation and placement of drainage facility backfill. Testing was performed in general compliance with the frequency indicated in the City of Colorado Springs standard specifications. Results of field density tests have previously been provided. Field density tests were taken by *(Geotechnical Eng. Firm Name)* personnel with test results presented in Daily Reports No. ____ through ____ dated between _____ and _____. Results generally indicate densities, which meet those specified in the City of Colorado Springs standard specifications for backfill and/ or embankment.

Representatives of *(Geotechnical Eng. Firm Name)* also periodically observed the placement of pipe and/ or drainage facility bedding. Bedding materials appeared to be in general compliance with the specifications presented in the City of Colorado Springs standard specifications.

If you have further questions regarding this letter, or the construction from a geotechnical point of view, please call.

Very truly your,
(Geotechnical Engineering Firm Name)

By *(Name of Engineer)*, P.E.

Chapter 12 – Building Permits

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12.0 Building Permits

12.1 Building Permit Requirements

Prior to issuance of any building permits for platted lots in a subdivision, the following items are required:

- The subdivision plat must be recorded, or Subdivision Waiver or Building Permit Prior to Platting (BPPP) must be approved.
- Financial Assurances for all required public subdivision improvements must be on file with EDRD.
- The approved site grading and erosion control plans must be included in the building permit plan set (This requirement does not apply to individual permits for single family homes).
- EDRD must sign off for approval on all building permit plan sets for non-residential construction. EDRD does not check the building construction design plans. EDRD checks for site work such as sidewalks, driveways and access points, and other adjacent public improvement.

When building permit plans are approved by EDRD, a stamp will be placed on the plans to alert the contractor that this is not an approval for construction of public improvements. Prior to construction of public improvements, drainage facilities or any work within the public right-of-way, plans and profiles for such work must be approved by EDRD.

Sidewalk locations must conform to the approved plans and profiles. Drainage facilities must conform to the approved drainage report. The contractor must obtain a permit from City Engineering Inspections office prior to any construction in the public right-of-way. A certificate of occupancy will not be signed by EDRD until all required street and drainage improvements are completed.

12.2 Building Permit Plan Reviews

A representative of EDRD will review all building permit plans for non-residential structures and either approve, disapprove, or approve with conditions. This is done twice a week on the appointed plan check days at the Pikes Peak Regional Building Department located at the Regional Development Center. If necessary a special meeting can be arranged with a EDRD representative for review and signature. Customers are welcome to bring their building permit plan set to EDRD on a walk-in basis for plan review and sign-off. Staff is usually available for walk-in customers.

12.3 Plan Review Checklist

A building permit plan review checklist can be used when preparing a building permit application. This checklist is not required to be submitted but identifies some of the main points that will be checked by EDRD.

The following items need to be included with nonresidential building permit plans for EDRD review and sign-off.

1. Legal description with the Subdivision name, lot & block, and acreage.
2. Site location map.
3. 3. Any waivers of platting or re-platting or combining of lot documents, which have been approved by Land Use Review.
4. A copy of the approved development plan, when applicable.
5. All plans for new construction or additions to existing buildings or any construction which includes work in the public right-of-way must include a site plan with the following information: (If all of this information is shown on the approved Development Plan it does not have to be duplicated)
    a. Adjacent streets and property lines
    b. Location of existing improvements i.e.: curbs, pavement, sidewalks, drainage facilities, curb cuts, pedestrian curb ramps, etc.
    c. Proposed location of all required street improvements i.e.: curbs, pavement, sidewalks, drainage facilities, curb cuts, pedestrian curb ramps, etc.
    d. Any other required on-site improvement such as parking lots, drainage facilities, etc.
6. Copies of the approved Grading, Erosion and Stormwater Quality Control plans must be included in the building permit plan set. If required, a copy of the Stormwater Connection Permit should be included, see Section 7.5.
7. In accordance with Section 7.7.704 of the City Code, as amended by Ordinance 87-152, pedestrian curb ramps are required of all new development requiring sidewalks. This requires that ramps must be constructed at all pedestrian cross walks at intersections and curb cuts, whether the curb is existing or new construction, unless a waiver is granted by the City Engineer. All ramps must be shown on the site plan or the date of the waiver cited.

12.4 Building Permits Prior to Platting

Land Use Review must approve all requests for the issuance of a Building Permit Prior to Platting (BPPP) in accordance with Section 7.7.506 of the City Code. If approved, the developer must provide an additional financial assurance to EDRD to assure that platting will occur within 45 days. All required fees must be paid and financial assurances for street and drainage facilities must be on file. A Final Drainage Report must be on file, signed by EDRD, prior to issuance of a BPPP. A copy of the required EDRD worksheet for a BPPP is at the end of this chapter.

12.5 Building Permits to Unplatted Lands

For the requirements for issuance of Building Permits to unplatted lands reference Section 7.7.504 of the City Code. Drainage fees are required when the building square footage is increased by more than 50%.

12.6 Building Permits to Previously Platted Lands

For the requirements for issuance of Building Permits to previously platted land, reference Section 7.7.505 of the City Code.

12.7 Waiver of Replat

The requirements for a Waiver of Replat are found in Section 7.7.505 of the City Code. Applications for Waiver of Replat are made to Land Use Review. EDRD reviews all applications and sends comments to Land Use Review.

Depending upon the specifics of the proposed development, EDRD may require a drainage report as a condition of approval of the Waiver of Replat. EDRD may require construction of sidewalks or other public improvements as a condition of approval as well. When public improvements are required, financial assurances for such improvements must be submitted to EDRD prior to issuance of the building permit.

12.8 Standard Applications

The following is the approval form EDRD requires for building permits prior to platting:

CITY ENGINEERING
BUILDING PERMIT PRIOR TO PLATTING WORKSHEET

NOTE: This worksheet must be completed and approved by City Engineering prior to the submittal of an *Issuance of Building Permit prior to Platting* application to City Planning. Please contact the Engineering Development Review Division, 30 S. Nevada Av., Suite 410, Colorado Springs, CO (719-385-5979) to coordinate City Engineering's review and approval of this worksheet.

File No: _____ Date: _____

Owner/Developer Name: _____

Address: _____

Phone: _____ Fax: _____ e-mail: _____

Tax Schedule No. __ __ __ __ __ - __ __ - __ __ __
(This can be obtained from the El Paso County Tax Assessor located at 27 E. Vermijo Ave. on the 2nd Floor; phone: 520-6600 or at their web site (http://www.land.elpasoco.com)

Acreage: _____ Zoning: _____

Requirements (Check and Specify if required)

1. Final Drainage Report: _____ Date Approved: _____
2. Financial Assurances for Platting: _____ Amount: _____ Date Received: _____
3. Financial Assurances for Improvements (type and amount)
   a) _____
   Amount: _____ Date Received: _____
   b) _____
   Amount: _____ Date Received: _____
   c) _____
   Amount: _____ Date Received: _____
   d) _____
   Amount: _____ Date Received: _____
4. Cash Fees due:
   a) Drainage Fees: _____ Amount: _____ Date Received: _____
   b) Bridge Fees: _____ Amount: _____ Date Received: _____
5. Other Requirements (cost recovery, etc.)
   _____
   _____
6. Approved by: _____ Date: _____

Chapter 13 – Drainage Reimbursement

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13.0

13.0 Drainage Reimbursement

13.1

13.1 General Information

The complete procedure for obtaining reimbursement or credits for the cost of constructing public drainage facilities is addressed in Chapter 3 of the Drainage Criteria Manual, Volume I. The following is an outline and discussion of the procedures.

A subdivision which has no requirements to construct public drainage facilities pays cash drainage basin fees at the time of recording the final plat. The fee is computed based on the acreage being platted multiplied by the per-acre fee for the specific drainage basin as calculated in the Drainage Basin Planning Study and adjusted annually.

There are a few special basins that are "fee exempt"(closed basins) by City Council action. These basins have no fees and provide no reimbursement for construction costs. A developer should check with EDRD for the current drainage basin fee schedule.

There are two general scenarios for subdivisions that require construction of public drainage facilities. [NOTE: cost estimates for drainage facilities are calculated in the Final Drainage Report for the subdivision].

- Facility costs less than fees due
- Facility costs greater than fees due

1. Facility Costs Less than Fees Due

When the cost estimate for reimbursable public drainage facilities is less than the drainage fee for the subdivision, the amount of the cost estimate is subtracted from the fees due to obtain the balance due in cash at the time of recording the plat.

After construction is completed and the developer requests a Probationary Inspection Letter, the developer must provide a final accounting of costs of constructing the public facilities prior to release of financial assurances. Copies of the bids, "as-paid" bills, inspection letters, and engineer's certification must be submitted to EDRD. "As-paid" engineering bills (includes survey fees) must be submitted and are eligible costs up to a maximum of ten percent of the total construction costs.

If the actual construction costs are less than the cost estimate in the Final Drainage Report, a final accounting of fees and costs will determine the additional cash fees due from the developer. If the actual costs of construction are greater than the cost estimate, a final accounting of fees and costs will determine the amount of refund of cash fees due the developer. (See item #14 of the following reimbursement procedures.) This should not be confused with a reimbursement of costs in excess of fees that will be discussed next.

2. Facility Costs Greater than Fees Due

When the cost estimate for providing public drainage facilities is greater than the drainage fees due for a subdivision, no cash fees are paid at the time of recording the plat. Actual costs of the facilities in excess of the fees due are eligible for credit or reimbursement from the drainage basin fund as funds become available. The estimate of reimbursable costs is computed in the Final Drainage Report. A final accounting is made when the developer has requested a Probationary Inspection Letter. The final accounting of reimbursement due uses the actual documented costs of construction and the fee calculations in the year construction bids were taken.

It is very important that accurate records of bids and as-paid bills are kept and that the information submitted to EDRD is easily interpreted. This will avoid delays that sometimes occur when the information is difficult to correlate to the approved Final Drainage Report and the approved construction drawings. Only eligible costs are to be submitted to avoid confusion and possible delays. If there are any questions about eligibility of a particular item, EDRD should be contacted prior to submitting the information.

"As-paid" bills for engineering costs must be submitted. According to the Drainage Ordinance these costs are eligible for reimbursement or credit up to a maximum of ten percent of the total construction costs.

The engineer preparing a drainage reimbursement request must compare the cost incurred by the subdivider with the cost estimate for the facilities in the applicable Drainage Basin Planning Study (DBPS) adjusted to the current year. If the subdivider's cost exceeds the DBPS cost estimate the reimbursement request must be accompanied by a request for the Drainage Board to approve a corresponding drainage fee adjustment.

Reimbursement that has been approved and due to a developer (but not yet received from the basin fund) may be used as credit against drainage fees due on other acreage in the same drainage basin. The amount of acreage credited will be computed at the time the new area is platted.

If a developer constructs public drainage facilities beforehand for future platting in a development and the costs exceed the fees due on the initial platting; credit against fees due for the additional platting in the development will be fixed at the time the developer contracts for the construction of the facilities subject to City Engineer approval and per Section 7.7.907 of the City Code.

Bidders must be on the City Engineering approved contractor's list. Construction must be awarded to the lowest responsible bidder. Reimbursement credit shall be based on the lowest responsible bid. See Appendix for Sample Documents and information on assignment of reimbursables to others.

13.2

13.2 Procedures

Following is the Procedures for Drainage Improvements Credits and Reimbursements as approved by the City - County Drainage Board on October 15, 1987.

In order for a developer to obtain reimbursement of drainage costs or credit, certain procedures must be followed. The Drainage Ordinance, as amended, states that prior to proceeding with construction of major facilities, the developer must comply with the following:

1. Obtain through the subdivision process an approved drainage plan showing the facilities required and the estimated cost of those facilities, and indicate the drainage basin and fee for the acreage shown on the drainage plan (Copies of the current per-acre fee can be obtained from EDRD). All drainage basins are identified and fees established each year. Letters of credit are to be posted with the City in accordance with the Subdivision Ordinance.
2. Obtain three (3) sealed bids for constructing the facilities. If the lowest bid exceeds the Engineer's estimate in the drainage report, EDRD must give approval before proceeding.
3. If it is not possible to receive three bids, the developer must obtain the City Engineer's approval before proceeding with construction, and the cost and credits shall be determined at that time.
4. The developer proceeds with construction according to the approved plans and any changes during construction shall be discussed with the City Engineer.
5. Upon completion of the construction of facilities, the developer shall obtain a certification from a Colorado Registered Professional Engineer that the facilities inspected are constructed in accordance with the approved plans. A written request for the inspection of facilities must be submitted to the City Engineer. The assurance for facilities may be released after inspection by the City.
6. The developer then submits this certification along with records of the cost of construction, i.e., a copy of the bid, as-paid bills, a copy of the City's inspection letters, and a cover letter of request for cash reimbursement or credits. This request must be submitted and accepted by EDRD by the first Thursday of the month to be considered at the next month's Drainage Board Meeting.
7. The City Engineer will review the request, and after verification of the costs, will place the request on the Drainage Board Agenda for formal review.
8. The Drainage Board meets on the first Thursday of each month and reviews the requests for reimbursement after hearing from both the City and the developer/applicant.
9. If the request is not approved, the Drainage Board will set the amount of reimbursement and the developer has the right to appeal to City Council.
10. Reimbursements are made twice a year in accordance with the policies of the Finance Department.

11. If the Drainage Basin account has insufficient funds for reimbursement, the developer is placed on a priority list and is paid when revenue within the fund is sufficient. Partial reimbursements are made until the developer is fully reimbursed.
12. If the proposed estimated facilities are less than the fees, the difference will be a cash payment by the developer if he has no available credits in the basin. The assurances will not be released until the final paid bills have been submitted to EDRD to verify costs. If any additional fees are due, they will be payable prior to release of assurances.
13. If an overpayment of fees has occurred, the request for cash reimbursement must be submitted to City Engineering for approval. Upon approval, the request shall be placed on first priority for payment or immediate reimbursement dependent upon funds available in the drainage basin account.
14. If the proposed estimated facilities are equal to the fees, assurances will not be released until the final paid bills have been submitted to EDRD to verify costs. If any fees are due, they will be payable prior to release of assurances.
15. Basin funds are not transferable among basins.
16. Any dispute over bidding or fees may be heard by the Drainage Board and City Council.
17. The developer should be aware that all drainage fees are finally computed to the time that bids are taken and not at the time of platting.
18. Fees on all basins are adjusted by City Council each year effective the first of January.

Chapter 14 – City Code References

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14.0 14.0 City Code References

14.1 14.1 City Code References

The following is a list of the various subjects which pertain to the Subdivision Policy Manual and the section of the City Code which applies to each subject.

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Preliminary Platting Procedures	7	201-205
Final Platting Procedures	7	301-306
Minor Administrative Procedures	7	501-506
Building Permit to Unplatted Lands	7	504
Building Permit to Previously Platted Lands	7	505
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Subdivision Design Standards	7	601-609
Drainage Easements	7	607 (C)
Streets in Subdivisions	7	701-706
Curbs, Sidewalks, Pedestrian Ramps	7	704 (E)
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Required Subdivision Improvements	7	801-806
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Drainage Ordinance	7	901-912
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PUBLIC PROPERTY AND PUBLIC WORKS (CHAPTER 3)

	Article	Section
A. City Properties		
Revocable Permits	2	201
B. Streets and Public Ways		
City Engineer; Standards and Specs.	3	102
Construction of Curb and Gutter	3	105
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