Chapter 1 – Policy and Permit Requirements

1.1 Purpose

The purpose of this chapter is to instruct the user on the procedure and documents needed for a complete and acceptable development review submittal to the City of Aspen Engineering Department with regard to stormwater management. **Section 1.2.2 and 1.3** discusses the roles of each of the various City departments involved in the approval process. **Section 1.3** defines the information that shall be needed for a complete application.

1.2 Administration

1.2.1 Jurisdiction

Pursuant to Sec. 28.02.020. of the City of Aspen Municipal Code (hereafter referred to as City Code or Code), drainage plans shall comply with criteria set forth in the City of Aspen Urban Runoff Management Plan. In Sec. 13.04.030 of the Code, the City exercises regulatory and supervisory jurisdiction for water quality within the incorporated limits of the City and over all streams and sources contributing to municipal water supplies for a distance of five (5) miles above the points from which municipal water supplies are diverted. In addition, pursuant to Sec. 26.104.010, the ordinances, regulations and policies of the City shall supersede any conflicting law or regulation of the state within the territorial limits and other jurisdiction of the City.

1.2.2 Responsible Organizations

Administration of and decision-making authority for stormwater management activities is the responsibility of the City of Aspen Engineering Department. The Building Division and the Planning Division of the Community Development Department have other decision-making responsibilities for development activities that may affect stormwater management. In some cases, the City Council, the Historic Preservation Commission, and the Planning and Zoning Committee have the ability to make decisions that can affect stormwater management, such as hearing appeals and approving development applications. For other department's responsibilities, refer to Sec. 2.02 and Sec. 26.208 through 26.222 of the City Code.

1.2.3 Adoption, Amendments and Revisions

These policies and criteria may be amended as new technology is developed or if experience gained in the use of this document indicates a need for revision. The City Engineering Department will monitor the performance and effectiveness of these technical criteria and will recommend amendments and revisions as needed. Minor revisions, such as corrections, clarifications or submittal requirements, will require the approval of the City Engineer. Major revisions, such as policy changes or technical criteria changes, will require approval of the City Council.

1.2.4 Overview of Requirements

Unless specifically exempted, no development, disturbance of land or land use, or construction shall be undertaken without first having been reviewed, approved and issued a permit compliant with the requirements of this document. Unless specifically exempted, no building shall be erected, moved or structurally altered without a building permit issued pursuant to the Aspen Land Use Code. This manual provides detailed guidelines on development and building permits that require engineering review. However, for complete requirements, see the Aspen Land Use Code.

All development and redevelopment projects in the City of Aspen that will:

- **increase the amount of impervious area on a site** (this includes adding hard surface patios, increasing the footprint of the house, etc.)**,**
- **disturb more than 200 square feet of land on the site** (this includes grading, even if a structure or hard surface is not added, as well as "scrape and replace" of impervious area)**,**
- **demolish more than 50% of the interior** (based on the entire square footage of rooms where floors, ceilings, or walls are exposed over the square footage of the structure); **or**
- **add or repair snowmelt,**

are required to obtain an engineering review as part of the building permit or landscape and grading permit application review process.

The City has established a de minimis threshold for stormwater management. Generally, projects can be classified as minor or major based on the amount of impervious area added or total area disturbed by the project[1], as well as impervious areas that are "scraped and replaced." See Table 1.1 below for general requirements. Submittal requirements vary for each project classification, as explained in the appropriate sections of 1.3 and in the checklists of Appendix A.

Smaller, less complex projects that in general disturb less than 1000 square feet of area are often referred to as "minor". At a minimum the engineering review for a Minor Project requires a construction mitigation plan (CMP), demonstration that the work will occur within the property boundaries of the site, documentation that there will be no adverse impact to drainage on the site or downstream of the site, description of the existing and proposed drainage, and description of the plan to address water quality requirements**.** However, in most cases projects are more complex, disturbing more than 1000 square feet of area, and are often considered more "major" due to the potential impacts. For Major Projects, the engineering review could require, as determined by the Development Engineer, completion of a sufficiency checklist, attendance at a Pre-Application Meeting with the Development Engineer, preparation of a compliant City of Aspen survey, and development of a Grading and Drainage Plan and Report, a Construction Management Plan, a Soils Report, and, in certain circumstances, an Excavation Stabilization Plan.

Table 1.1 General Requirements for Minor and Major Projects

Project Type*	Area added OR disturbed	Project Classification	General Requirements
Disturbing less than 200 sq ft	< 200 square feet	--------	No requirements
Landscaping or grading only, and No hardscape, and no change to drainage pattern	200 – 1000 square feet	**---------**	No requirements
Landscaping or grading only that might include hardscape or change in grade or drainage pattern, small additions, small scrape and replace	200 – 1000 square feet	**Minor**	• WQCV or drain to green space for the impervious (hardscape) area • CMP
Refinishing a driveway only (retaining or decreasing impervious area square footage)	Limited to the exact footprint of the existing driveway	**Minor**	• CMP if greater than 1000 square feet • WQCV or drain to green space for the impervious (hardscape) area
Interior work only	< 50% demolished	**Minor**	CMP if greater than 400 square feet of work
Interior work only, Pre-project lot coverage of 0-50%	> 75% demolished (< 75% is still a minor)	**Major**	• CMP • WQCV for the entire area • Conveyance of major flows • Detention to the historic undeveloped rate or FIL for the entire area, unless discharging directly to the City's stormwater system depicted in Figure 1.1. • Requires Professional Engineer

Interior work only, Pre-project lot coverage of 50-100%	> 50% demolished	**Major**	• CMP • WQCV for the entire area • Conveyance of major flows • Detention to the historic undeveloped rate or FIL for the entire area, unless discharging directly to the City's stormwater system depicted in Figure 1.1. • Requires Professional Engineer
Landscaping, grading, installing or disturbing hardscapes, additions to structures, etc.	> 1000 square feet and < 25% of the entire site	**Major**	• CMP • WQCV for the new impervious area • Conveyance of major flows • Detention to the historic undeveloped rate or FIL for the disturbed or added area, unless discharging directly to the City's stormwater system depicted in Figure 1.1. • Requires Professional Engineer
Landscaping, grading, installing or disturbing hardscapes, additions to structures, scrape and replace, interior remodel combined with exterior work, etc.	> 1000 square feet and > 25% of the entire site	**Major**	• CMP • WQCV for the entire area • Conveyance of major flows • Detention to the historic undeveloped rate or FIL for the entire area, unless discharging directly to the City's stormwater system depicted in Figure 1.1. • Requires Professional Engineer

Notes:

1 Special Circumstances: *Any* work, regardless of amount or size, performed on historic properties, in environmentally sensitive areas, geologic hazard areas, in jurisdictional or non-jurisdictional floodplains, or work that impacts trees may be required to submit information for permit review and may be required to provide a more detailed drainage analysis and design than suggested in the table above.

2 The de minimis threshold for minor projects applies only to a single addition on a given piece of property. If cumulative additions on a property over a three-year period after the CO is issued increase the impervious area by more than 1000 square feet, "major" project requirements and evaluations will apply to all impervious areas that are in addition to the "baseline" imperviousness determined from the 2008 aerial photography.

3 Pre-project lot coverage is determined by dividing the total hardscape footprint on the lot (house, driveway, patios, sidewalks, etc.) by the total lot area. Interior demolition is measured by the square footage of the room renovated/modified divided by the total square footage of the structure.

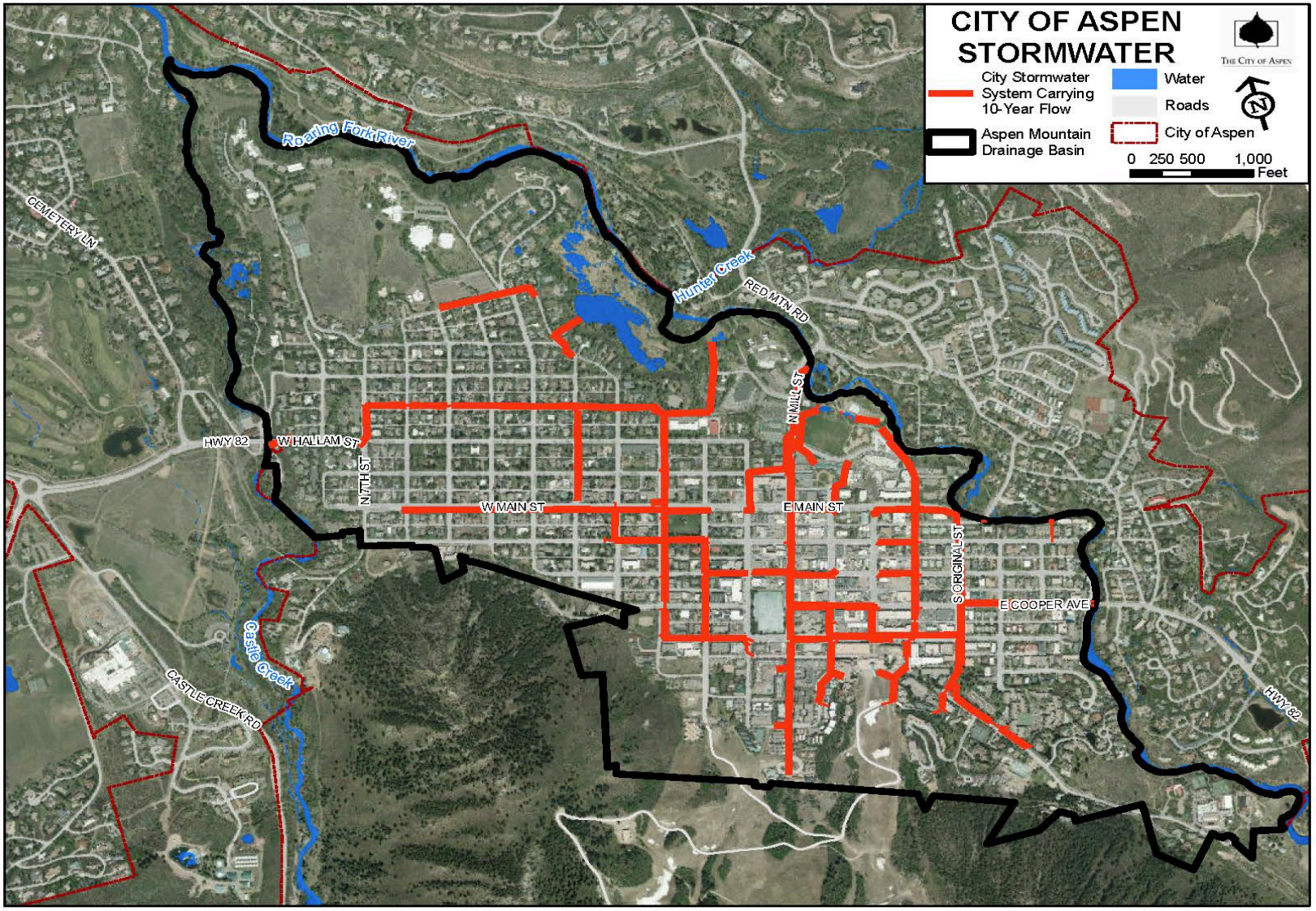


Figure 1.1 – City of Aspen Stormwater System Carrying the 10-year Flow

Stormwater infrastructure can be divided into two areas – hard (or gray) and green. Hard stormwater infrastructure, such as streets, curbs and gutters, alleys, inlets, and pipes, do not provide any water quality benefits (i.e. they do not remove pollutants from stormwater runoff). "Green" infrastructure, such as grass-lined or vegetated swales, does provide water quality benefit by infiltrating some runoff and filtrating pollutants from the remaining runoff. Therefore, those projects that drain to hard infrastructure must insure that water quality improvements are being made by calculating the water quality capture volume (WQCV).

In some instances for minor projects the Engineering Department will allow "water quality improvements" rather than a calculation and design for the WQCV. "Water quality improvements" describe actions taken to reduce runoff and improve infiltration of runoff, such as draining impervious areas to landscaped areas or using pervious pavers. Installing "water quality improvements" is intended to require less design and calculations than installing measures to contain the water quality capture volume (WQCV). The WQCV is a calculated volume based on the amount of impervious area and must be treated using one of the approved best management practices included in Chapter 8. More information regarding water quality improvements and guidelines for calculating and treating the WQCV can be found in Chapter 8 of this Manual.

1.2.5 Review and Acceptance

The City shall review all drainage submittals for general compliance with this document. An acceptance by the City does not relieve the owner, engineer, or designer from the responsibility of ensuring that the design, calculations, plans, specifications, construction, and record drawings are in compliance with these criteria as stated in the owner's and engineer's certifications.

The City may, but is not required to, refer submittals to other agencies that have an interest or responsibility for drainage and/or water quality issues. Other review agencies may include local or State agencies, such as the Colorado Water Conservation Board or the Colorado Geologic Survey, responsible for floodplain and water quality, slope stability, mudflow analysis, geology, water rights and other stormwater related issues.

1.2.6 Interpretation

In the interpretation and application of these criteria, the provisions shall be regarded as the minimum requirements for the protection of the environment and public health, safety, comfort, morals, convenience, prosperity, and welfare of the residents of the City. These criteria shall therefore be regarded as remedial and shall be construed to further the underlying purposes of this document.

Whenever a provision of these criteria and any other provision in any law, ordinance, resolution, rule or regulation of any kind, contains any requirement(s) covering any of the same subject matter, the requirements that are more restrictive or impose higher standards shall govern.

These Criteria shall not abrogate or annul any easements, permits, drainage reports or construction drawings, recorded, issued, or accepted by the City prior to the effective date of this document.

1.2.7 Variances

Requests for variances from the standards, policies or submittal requirements of this document shall be submitted in writing with appropriate documentation and justification to the City Engineer. Variance requests must, at a minimum, contain the following information:

- Criteria from which the applicant seeks a variance.
- Justification for not complying with the criteria.
- Alternate criteria or standard that is proposed to comply with the intent of the criteria.
- Supporting documentation, including necessary calculations, etc.

- Potential adverse impacts of the proposed variance and alternate criteria on downstream water bodies and public and private property.
- An analysis of the variance request may need to be signed and stamped by a Professional Engineer licensed in the state of Colorado, depending on the variance request.

Upon receipt of a complete application for a variance, the City Engineer shall prepare a statement, based on the ability of the proposed project to meet the standards and goals of the City's stormwater management criteria, recommending approval or disapproval or requesting modifications of the proposed variance.

1.2.8 Appeals

Any appeal from an order, requirement, decision, or determination of the City Engineer made pursuant to this Urban Runoff Management Plan shall be taken within fifteen (15) days following the date of such order, requirement, decision, or determination by the filing of a written notice of appeal with the Administrative Hearing Officer. The notice of appeal shall state in detail the action appealed from, the grounds for the appeal, and the relief sought. The Administrative Hearing Officer shall, within thirty (30) days following the filing of the notice of appeal, review the record of the action taken by the City Engineer, and provide a decision to the Applicant in writing. The Administrative Hearing Officer may reverse or affirm wholly or partly the order, requirement, decision or determination appealed from and shall enter such order as it deems appropriate under the circumstance.

1.2.9 Inspections, Enforcement and Penalties

Any violation of these regulations shall be punishable by a penalty as described in Sec. 1.04.080 of the Aspen City Code.

A City Construction Mitigation Officer (CMO) and/or Stormwater Inspector is assigned to each construction project and he or she will complete regular site visits to determine whether a project is following the requirements of the City and the Construction Management Plan including erosion prevention and sediment control and stormwater management. The Construction Mitigation Officer and/or Stormwater Inspector will keep inspection reports. All reports are public documents and will be kept in the City Engineering Department. The City will enforce construction mitigation corrections generally as follows:

1. The first corrective action is a verbal warning and explanation of the violation with a timeframe for completion.
2. The second corrective action is a written warning or correction notice with timeframe for compliance.
3. Third and final notice is a "Stop Work Order" (red tag). If a stop work order is issued, no more work can be completed until the violation is corrected.

However, depending on the severity or threat to public or environmental safety, the City make issue a Stop Work Order directly, without first issuing corrective actions or notices. Failure to correct violations and/or any threat to public or environmental safety could subject the owner, contractor, or both to a fine of $1,000 a day as determined by the municipal court.

1.3 Engineering Review Process and Requirements

All subdivisions, re-subdivisions, planned unit developments, or other development, building, or grading (excluding PUD amendments and administrative re-subdivisions) within the City of Aspen jurisdiction must submit designs in accordance with the requirements of this manual and the City of Aspen Engineering Design Standards. **Major drainage plans and reports, surveys, construction drawings and specifications, and as-built information shall follow the submittal standards in the Engineering Design Standards and/or Appendix A of this Manual.** An electronic copy and two

hardcopies must be submitted to the City. The City will attempt to review the reports and plans and provide written review comments and/or approval within thirty (30) working days of the submittal.

The City will make every effort to effect a complete review and comment within the review period. However, the City cannot approve reports or plans by default. In addition, the City cannot guarantee the time for review. All submitted reports must be clearly and cleanly reproduced. Photostatic copies of charts, tables, nomographs, calculations, or any other referenced material must be legible. Washed out, blurred, or unreadable portions of the report are unacceptable and could warrant resubmittal of the report. Incomplete or absent information may result in the report being rejected for review.

Construction shall not commence on any improvements proposed or required until required documentation has been received and approved by the Development Engineer. Incomplete permits will not be accepted.

The process for development and redevelopment depends on the type of review as follows:

Type of Review	Requirements
Development Review Commission (DRC)	Eng. Dept. approval of conceptual site plan DRC approval of conceptual site plan
Plat	Eng. Dept. approval of final site plan
Building Permit	Pre-Application Meeting with Eng. Dept. Development Eng. signature on Sufficiency Checklist Building Permit Application Building Permit Approval Floodplain Development Permit (if in floodplain) No Rise Certification (if in floodplain)
Landscape and Grading Permit	Pre-Application Meeting with Eng. Dept. Development Eng. signature on Sufficiency Checklist Landscape and Grading Permit Application Landscape and Grading Permit Approval
Certificate of Occupancy Certificate of Completion Final Inspection	As-Builts Maintenance Plan and Agreement Pass Final Inspection Elevation Certificate (if in floodplain)

For process guidance, go to the City's Business Navigator webpage at www.aspenpitkin.com/Business-Navigator/. For guidance documents, applications, and checklists (including those referenced and/or contained within this manual), go to the Business Navigator Resource Center at **www.aspenpitkin.com/Business-Navigator/Resource-Center.**

1.3.1 Landscape and Grading Permits

Any activity that modifies the visible features of an area of land or the features planted on that land, but does not include activity on or within a structure, might be required to obtain a Landscape and Grading Permit. The Landscape and Grading Permit triggers and Permit requirements are located in Appendix A. Landscape and Grading Permits are not intended for landscaping projects that will only modify plant selection or ground cover (not including hard surfaces). Landscape and Grading Permits *are* intended for projects that might alter or impact drainage, such as grading; utility installations or improvements (outside of the right-of-way); deck or patio reconfigurations; pool installations; etc.

1.3.2 Building Permit Application Pre-submittal

Building Permits are required for any activity proposed that will modify an existing structure, elements within that structure, or create a new structure (including structures such as bridges or retaining walls). It is advised that prior to applying for any building permit, applicants contact the Community Development Department and discuss the project with a planner. A pre-submittal consultation can minimize unforeseen land use issues or conditions of approval that could delay the issuance of a building permit. In addition, prior to applying for a building permit, applicants must ensure that all land use requirements have been satisfied. Once land use requirements have been satisfied, applicants must obtain referral department forms from the Parks Department, Aspen Consolidated Sanitation District, Water Department, and Engineering Department, and satisfy the requirements of these referral departments.

1.3.3 Development Review Committee or Land Use Plan Submittals

Some development projects are required to go through a Land Use Review or to submit to the Development Review Commission (DRC) prior to submission for Building Permit Application. This determination is made during the pre-submittal meeting with the Community Development Department. Prior to the Land Use or DRC review process, applicants must submit a conceptual grading and drainage site plan to the Engineering Department for approval. For complete requirements, see the conceptual review submittal checklist in **Appendix A** and the guidance provided in Section 1.3 of the Engineering Design Standards

1.3.4 Sufficiency Review

All applications for Building Permit that require an engineering review must first complete a sufficiency review and Pre-Application meeting with the Development Engineer. Completion of the Sufficiency Checklist (located in **Appendix A**) is required prior to the Pre-Application Meeting. The checklist verifies that all of the documents required for the Building Permit Application have been assembled and are prepared for submission. The sufficiency checklist will be reviewed with Development Engineer during the Pre-Application Meeting.

1.3.5 Pre-Application Meeting

The Pre-Application Meeting shall be scheduled by the applicant with the Development Engineer. During the Pre-Application Meeting, the applicant and the Development Engineer will review all documents assembled for the Sufficiency Review. The Development Engineer's signature is required on the Sufficiency Checklist before a building permit application can be accepted for review.

1.3.6 Building Permit Application Content and Referrals

Requirements for building permit applications vary by department and type of development; for complete requirements go to the Business Navigator website at www.aspenpitkin.com/Business-Navigator or contact a Permit Coordinator at 970-920-5090..

Upon receiving a completed Building Permit Application, the Chief Building Official will refer copies of the application to the Community Development Department and to other appropriate City staff and departments, such as Sanitation, Parks, Water, etc., for review and comments. These referrals include the Engineering Department. All building permit applicants to receive an engineering department review must have a signed Sufficiency Checklist at time of application submittal to ensure that all relevant materials are included in the building permit application. Each department will review the application for compliance.

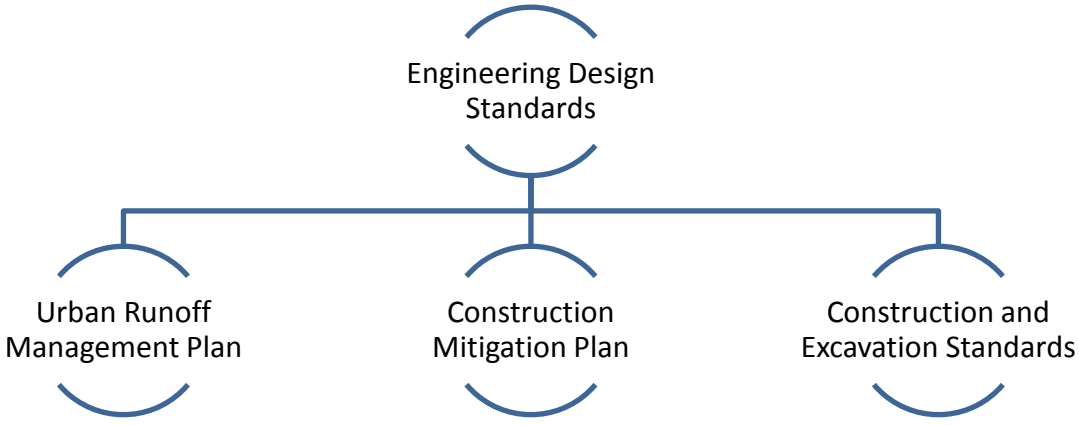
1.3.7 Engineering Department Requirements

The Engineering Department Sufficiency Checklist requires that applicants identify the amount of work to be done for the project and the category this work fits into: minor or major.

- Minor projects must complete the minor grading and drainage plan and report checklist and any other information deemed necessary by the Engineering Department.
- Major projects must include a compliant survey, a major site grading and drainage plan and report, a soils report, and a construction management plan.

Other items that might be required with the any building permit application include an excavation and stabilization plan, public improvements site plan, floodplain permit, and/or a mudflow analysis. In addition, requirements for parking and driveways, and utility meters and pedestals will also be checked at this stage. Each of these requirements is described in greater detail below, though the guidance for some of these additional requirements is not contained in this Manual.

Reference guidance documents are indicated where necessary and include the Engineering Design Standards, Construction Management Plan Requirements Manual, and Construction and Excavation Standards. Checklists are included in **Appendix A of this document or in Appendix A of the Excavation Design Standards or at the Business Navigator Resource Center webpage at** www.aspenpitkin.com/Business-Navigator/Resource-Center.



1.3.8 Grading and Drainage Plan and Report

The purpose of the Grading and Drainage Plan and Report is to identify and refine conceptual solutions to the drainage changes that may occur onsite and offsite as a result of the development.

Preparation of *plan documents* shall follow the standards and guidance found in Chapter 1 of the Engineering Design Standards. For major projects, all *reports* shall be typed on 8½" by 11" paper and bound. Reports should contain enough information to describe the existing site, proposed work, explanation of steps taken to reduce impervious area and implement low impact development strategies, pre- and post-drainage patterns, sizing calculations for stormwater management facilities, how chosen facilities should operate and be maintained. The site plan, drawings, figures, plats, and tables shall be included in the plan set and bound with the report or included in a pocket attached to the report in 24"x36" size. The report shall include a cover letter presenting the preliminary design for review and shall be prepared by or supervised by a civil engineer licensed in Colorado. The report shall contain a certification sheet as follows:

> "I hereby affirm that this report and the accompanying plans for the (type or phase design) of (Name of Development) was prepared by me (or under my direct supervision) for the owners thereof in accordance with the provisions of the City of Aspen Urban Runoff Management Plan and approved variances and exceptions listed thereto. I understand that it is the policy of the City of Aspen that the City of Aspen does not and will not assume liability for drainage facilities designed by others."
>
> _____ License No. _____
>
> Licensed Professional Engineer, State of Colorado (Affix Seal)

Modified requirements and checklist have been developed for minor projects. A narrative description (report) of the project must be included as well as a sketched site plan.

A listing of the items required in the report and plan for minor and major projects can be found in **Appendix A.**

1.3.9 Survey Requirements

As part of a complete building permit application for major projects, applicants must submit two copies of a compliant City of Aspen survey, performed within one year of the date of application for the building permit, per minimum American Land Title Association standards. The applicant must certify the survey represents current site conditions. An applicant may be exempt from the survey requirement if application proposes to increase floor area by less than 15 percent and does not propose to change the building footprint. The survey must include topography at one-foot contour levels, certified by a registered land surveyor. The survey must also include all items identified in the City of Aspen Survey Checklist (see **Appendix A of Engineering Design Standards**).). Guidelines for surveying have not been included in this Manual, but can be found in Chapter 2 of the Engineering Design Standards. Soils Report Requirements (EDS references URMP)

A Soils Report is required for all development projects that disturb more than 1000 square feet of soil disturbance. A soils report is required to assist/support the drainage plan and report. The Soils Report shall include the items listed in the Soils Report Requirements checklist (see **Appendix A**).

1.3.10 Construction Management Plan

Construction projects that exceed 1,000 square feet of soil disturbance or 400 square feet of building demolition, improvement, or renovation (interior and/or exterior) must submit a construction management plan in accordance with the requirements found in the Construction Management Plan Requirements Manual and in the City of Aspen Municipal Code (Code), Title 8. The Construction Management Plan is a

combination of diagrams, documents, drawings, and specifications that clearly define the steps that will be taken to demonstrate how the impacts of the construction project to the community will be managed and minimized.

1.3.11 Excavation Stabilization Requirements

An Excavation Stabilization Plan is required if either of the following is true:

- **Nearby Structures and Travel Ways:** both (1) the depth of excavation will be deeper than five feet AND (2) the proposed foundation walls (including light wells) are within a horizontal distance less than the vertical depth of the excavation of any existing travel way, structure, or property line. For this purpose, a travel way is defined as any sidewalk, walkway, driveway, parking area, or street.

- **Nearby Trees:** If excavation will occur within the drip line of a tree that is deemed significant by the City Parks Department. To determine if a tree is considered significant, contact the Parks and Open Space Coordinator of the City Parks Department at 429-2035.

The Excavation Stabilization Plan must adhere to the requirements and guidelines detailed in the Engineering Design Standards. Public Improvement Requirements

In accordance with the City's Sidewalk, Curb and Gutter Master Plan, property owners are required to install and maintain sidewalk, curb and gutter along the street frontage adjacent to their properties. Properties within certain areas of the City are not required to install sidewalk, curb and gutter. These locations are shown on the "Sidewalk Free Zones" and the "No Curb and Gutter Zones" maps in the Engineering Design Standards.

Sidewalk, curb and gutter does not need to be installed as part of the project if (i) the property is outside of the City's sidewalk, curb and gutter zones, and (ii) the cost of installing sidewalk, curb and gutter exceeds 50 percent of the project cost excluding the cost of the sidewalk, curb and gutter. For example, the project would not need to install sidewalk, curb and gutter if the project cost is $20,000 and the cost to install sidewalk, curb and gutter is greater than $10,000.

Where sidewalk, curb and gutter are required, applicants must provide the information listed in the Public Improvements Requirement checklist found in **Appendix A of the Engineering Design Standards**. Guidelines for public improvements are located in Sections 4.3 – 4.8 of the Engineering Design Standards.

1.3.12 Floodplain Requirements

Before construction or development may begin within any area of special flood hazard within the jurisdiction of the City, a Floodplain Development Permit (in **Appendix D**) shall be obtained from the Development Engineer. Special flood hazard areas are identified on the FEMA report entitled, "Flood Insurance Study for Pitkin County, Colorado and Incorporated Areas," dated October 19, 2004. Development within areas of special flood hazard must adhere to the standards in Sec. 8.50.050 of the City code. Further information on floodplain analysis can be found in **Chapter 6** of the Manual.

1.3.13 Mudflow Analysis

Mudflow analysis requirements may be applicable to all development and redevelopment within the City of Aspen jurisdiction and that is developing slopes greater than 15%, that lie within the mudflow plain, or as deemed necessary by the City Engineer. For development projects in a mudflow hazard area that will modify existing grades, create additional obstructions (such as buildings, roads, etc.), or change the orientation of obstructions, the applicant must conduct analyses to demonstrate that the proposed development will not adversely affect nearby properties. In addition, development activities within the

mudflow hazard area must be designed to withstand the hydrostatic and shear forces of the mudflow event. Further information on mudflow analysis can be found in **Chapter 7** of the Manual.

1.4 Engineering Inspections and Final Approvals

A City Construction Mitigation Officer (CMO) and/or Stormwater Inspector is assigned to each construction project and he or she will complete regular site visits to determine whether a project is following the requirements of the City and the Construction Management Plan including erosion prevention and sediment control and stormwater management.

Prior to issuance of a Certificate of Occupancy (CO), major projects must submit and receive approval of an As-Built Survey (**Appendix A**). The As-Built must be completed and stamped by a Colorado Professional Land Surveyor and include the Grading and Drainage Certificate, which is a statement (see **Appendix A** for exact statement) located on the As-Builts and signed by a Colorado Professional Engineer (preferably the engineer that completed the design), certifying that stormwater quality and quantity control measures were located on site as shown on approved design plans. If any changes are made to the design of drainage during the construction and installation process, a Change Order must be submitted and approved by the Development Engineer prior to issuance of a CO.

The owner of each stormwater management control and/or structural stormwater BMP installed pursuant to the requirements of this manual or the Aspen City Code shall sign a Maintenance Agreement (as provided in **Appendix A**) which references a Maintenance Plan andstates that the owner will maintain and operate said stormwater management and/or BMP facility so as to preserve and continue its function in controlling stormwater quality and quantity at the degree or amount of function for which the structural BMP was designed.

In addition to the As-Builts and Maintenance Agreement and Plan, major projects will need a final inspection by the Stormwater Inspector to verify conformance with the As-Built drawings and to verify final stabilization. In cases where the site has connected into the City's stormwater system via a pipe, a video of the connection must be submitted that shows a clean conveyance without damage or unacceptable conditions.

1.5 Requirements By Drainage Basin

The boundaries of the City of Aspen fall within four major drainage basins – Aspen Mountain, Smuggler/Hunter, Castle Creek, and Maroon Creek (Figure 1.2). These basins and the general requirements for design within these basins are provided below.

The Aspen Mountain Drainage Basin is bounded by the Roaring Fork River (River) on the north, the top of Aspen Mountain on the south, an unnamed tributary to the east and the ridgeline of Shadow Mountain basically following 8th Street to the west. Surface runoff in this basin generally flows to the north and outfalls into the Roaring Fork River. This basin includes major conveyances off of Aspen Mountain, including Copper, Spar, Vallejo, and Pioneer Gulches, as well as major conveyances through the City's urban core including Main, Original, Mill, and Garmisch Streets. There are four major outfalls into the River from this basin – one on the eastern edge of Rio Grande Park that carries flood flows from the eastern portion of the basin, one in the middle of Rio Grande Park just downstream of the old bridge that carries water quality flows from the eastern and middle portions of the basin, one just upstream of the Mill Street bridge that carries the flood flow of Mill Street and the middle portion of the basin, and one at the Jenny Adair wetlands, which carries the majority of the flows from the western portion of the basin.

A master plan was completed for this basin in 2001 and updated in 2014 – The Aspen Mountain Surface Drainage Master Plan, available at the Engineering Department's webpage and office. The City's stormwater system in this basin has the capacity to carry the 10-year storm event within pipes. Therefore, **development and redevelopment within this basin that is capable of discharging to the City's system without impacting neighboring properties can do so without providing detention beyond the water quality capture volume (WQCV).** There is a significant threat for mudflow from the

slopes of Aspen Mountain. Therefore, **properties located within 200 feet of its base and within other portions near the base as identified in Chapter 7 will be required to study and mitigate for mud flow impacts.**

The Smuggler/Hunter Drainage Basin is bounded by Hunter Creek to the north, the Roaring Fork River to the west, , the top of Smuggler Mountain to the east, and by the southern boundary of the watershed area contributing to Stillwater Drive on the south. Surface runoff in this basin generally flows through the developed portions in the lower basin towards the River. A small portion of this basin drains toward Hunter Creek, which quickly empties into the Roaring Fork River. There are three major outfalls into the River from this basin – one on Neale Avenue near the No Problem Joe Bridge and Herron Park that carries flow the Smuggler Trailer Park, King and Queen Streets down along Neale Avenue, one west of Spring Street that carries flow from the southeastern portion of Centennial Condos along South Avenue and down east Francis Street, and one just upstream of the Mill Street Bridge that carries flow from the northern portion of Centennial Condos, through Fox Crossings, and along Gibson Avenue,.

A master plan will be completed for this basin in 2015 – The Smuggler/Hunter Surface Drainage Master Plan – and will be available at the Engineering Department's webpage and office. The City's stormwater system in this basin is currently sporadic and not as robust as it is in the Aspen Mountain Basin. Until more is known about the capacity of the system, **the water quality capture volume and detention for the minor and major storm are required for sites developing in this basin**. For properties in this basin that can convey the minor and major events to the City's system without impacting neighboring properties, **the fee-in-lieu of detention is an option.**

The Castle Creek Drainage Basin is bounded by the Roaring Fork River to the north, Shadow Mountain and 8th Street to the east, and Castle Creek Road, the eastern edge of the golf course, and Red Butte to the west. While the majority of development along Cemetery Lane drains directly into the Roaring Fork and not into Castle Creek, this area is included in this basin for master planning purposes. There is no formal City stormwater drainage system in this area. Therefore **all development must meet the requirements for water quality and detention in this basin. Development that can discharge directly into the river without impacting neighboring properties will not have to provide detention above the water quality capture volume. Fee-in-lieu of detention is not an option within this basin.**

The Maroon Creek Drainage Basin is bounded by the ridge west of Castle Creek Road, through the golf course and up along the ridge of Red Butte on the east, the Roaring Fork River to the north, Deer Hill up through the Maroon Creek Club and Tiehack to the west, and the southern boundary of the watershed to the south. This basin includes several regional stormwater systems including Highlands, Maroon Creek Club, Five Trees, and Burlingame. **Development within these regional systems must provide the water quality capture volume and meet the requirements for the regional stormwater conveyance and detention plan for the area (see drainage reports associated with appropriate subdivisions).** There is no formal City stormwater drainage system in this basin. Therefore, **developments that do not have a regional system, must meet water quality and detention requirements for the area based on this manual. Development that can discharge directly into the river without impacting neighboring properties will not have to provide detention above the water quality capture volume.. Fee-in-lieu of detention is not an option within this basin.**

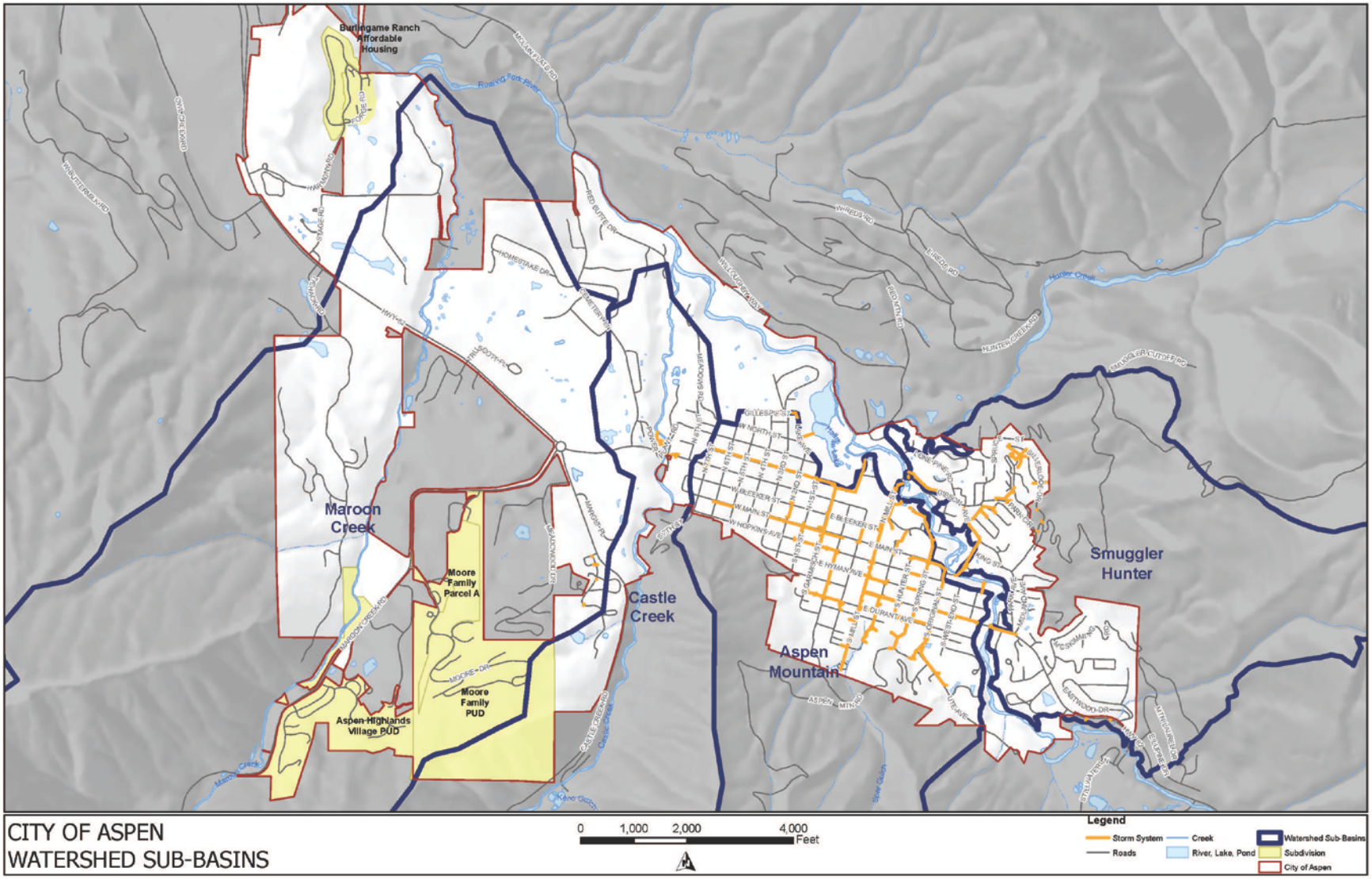


Figure 1.2 City of Aspen Drainage Basins