

# STORMWATER MANAGEMENT

## Chapter 9

### STORMWATER MANAGEMENT REVIEW AND STUDIES

#### Sec. 901. PRELIMINARY STORMWATER MANAGEMENT

A. **General.** All persons applying for any of the permits and/or approvals specified in Section 103 of these Standards shall submit information regarding the relationship between the proposed development and the local drainage related features. The information submitted shall generally conform with the requirements of Section 901.B. This preliminary drainage information shall be used to determine whether an engineered drainage study and design will be required.

B. **Preliminary Stormwater Management Review Submittal Requirements.** The preliminary drainage review shall include a simple site plan of sufficient clarity prepared by the applicant, which at a minimum, provides the following information:

1. **Existing Conditions.** Show and describe existing site conditions including structures, natural drainage, wetlands, channels, drainage facilities, vegetative cover, parking areas, and other impervious surfaces, general steepness and direction of land slopes, location of known seasonal and year-round standing water areas and tax parcel number.
2. **Project Descriptions.** Show and describe the project including the location and size of proposed structures and impervious surfacing, and the location of utilities and road access. Describe or show the location, nature and extent of land alteration activities associated with the development including areas to be cleared and graded.
3. **Stormwater Management System.** Show and describe, in a preliminary manner, potentially required stormwater management system features. Include potential ditches, drainlines, detention/retention facilities, stormwater treatment facilities and erosion control methods to be used during construction. Describe the relationship of the proposed system to the existing natural drainage.

- C. **Review by Public Works Director.** The Public Works Director will review all the preliminary drainage information and either accept the initial submission as final or advise that applicant a detailed engineered drainage study is required. Applicant may submit a detailed drainage study in lieu of the preliminary drainage review.
- D. **Approval to Proceed without Engineered Stormwater Management Study.** In the event that an engineered drainage study is not required, the applicant shall prepare drawings of sufficient detail and clarity to show the nature and extent of the drainage improvements and erosion control measures so that the Public Works Department can evaluate the adequacy of the improvements in relationship to the work being done. Upon approval of the applicant's plans construction may proceed.

**Sec. 902. ENGINEERED STORMWATER MANAGEMENT STUDY**

- A. **General.** When required by Section 901, an engineered drainage study shall be prepared and stamped by a professional civil engineer, licensed in the State of Washington. The study shall incorporate the following elements:
  - 1. **Topographic Map.** A topographic map compiled from the best available topographic data shall be submitted which shows the following:
    - (a) The proposed development
    - (b) All drainage areas, improved or unimproved, lying upstream and draining to and through the proposed development
    - (c) Channels or drainage facilities to which the proposed development shall drain
    - (d) Existing on-site soil types
  - 2. **Stormwater Calculations.** Drainage calculations which at a minimum provide the following information:
    - (a) The peak discharge and amount of surface water currently entering and leaving the subject property using design storm criteria under pre and post development conditions. (See Section 1002)

- (b) The existing capacity of downstream channels and drainage facilities extending to the receiving waters or otherwise evaluated for a minimum distance of ¼ mile from the point of discharge from the development.
  - (c) The required size of the proposed drainage systems, including stormwater detention/retention and treatment facilities required by these standards.
- 3. **Analysis of Potential Downstream Impacts.** An analysis of the potential impacts such as erosion, sedimentation, flooding, water quality, low flow, and water rights on downstream features as a result of the development shall be performed by a professional civil engineer. (In watersheds or drainage basins where a comprehensive stormwater management plan has been developed, portion or all of this information may be available from the City or Whatcom County.) Except where otherwise directed by the Public Works Director, this analysis shall be limited to a distance of ¼ mile downstream.
- B. **Review and Approval by Public Works Director.** The drainage study shall be submitted to the Public Works Director for review and approval.
- C. **Use of Drainage Study for Other Phases of the Development.** The drainage study submitted during one permit/approval process may be subsequently submitted with further required applications. The drainage plan shall be supplemented with additional information at the request of the Public Works Director.