

## **ARTICLE 6.5 – SITE DRAINAGE AND GRADING**

### **SECTION 6.5.001 - PURPOSE**

Standards for site drainage and grading provide for the design of projects so as to minimize the harmful effects of storm water runoff, and resultant inundation and erosion on proposed projects, and to protect neighboring and downstream properties from drainage problems resulting from new development.

### **SECTION 6.5.002 - DRAINAGE AND GRADING PLAN REQUIREMENTS**

Drainage and Grading plans shall be required for any new development which:

- A. Involves a land disturbance through grading on lands consisting of average slopes in excess of twenty-five percent (25%);
- B. Involves a land disturbance through either grading or paving amounting to more than ten thousand (10,000) square feet;
- C. Will result in an impervious surface of more than five thousand (5,000) square feet;
- D. Is subject to local ponding due to soil conditions and lack of identified drainage channels; or,
- E. Is located in an area identified by the City Engineer or designated City official, as having a history of flooding, which may be further aggravated by the project or is within a flood hazard area.

### **SECTION 6.5.003 - DRAINAGE AND GRADING PLAN PREPARATION**

Drainage and grading plans are to be neatly and accurately drawn, at an appropriate scale which will enable ready identification and recognition of submitted information. The City Engineer or designated City official may require drainage and grading plans to be prepared by a Registered Civil Engineer.

- A. Basic Drainage and Grading Plan Contents - A drainage and grading plan is to include the following information about the site:
  - 1. Flow lines of surface waters onto and off the site.
  - 2. Existing and proposed contours at two foot (2') intervals.
  - 3. Building corner and street elevations, existing and proposed.
  - 4. Existing and proposed retaining walls.
  - 5. Existing and proposed drainage channels, including drainage swales, ditches, and berms.
  - 6. Location and design of any proposed facilities for storage, or for conveyance of runoff into indicated drainage channels, including sumps, basins, channels, culverts, ponds, detention storm drains, and drop inlets.
  - 7. Estimates of existing and increased runoff resulting from the proposed improvements.

8. Estimated cuts and fills for all material to be moved or imported, for amounts over five hundred (500) cubic yards must be submitted with the Site Plan or Building Permit where Site Plan review is not required.
  9. In Geological Hazard Areas as defined in Article 3.4 of the Land Development Code, a geotechnical engineer's evaluation of the Grading and Drainage Plan and recommendations contained therein may be required by the Community Development Director/Planner.
  10. Grading and Drainage Plans must show the location of all improvements proposed in the City Wide Surface Water Master Plan and provide for reservations of land for all proposed storm water improvements. No construction shall be allowed within these reservation areas.
  11. Where improvements shown on the City Wide Surface Water Master Plan have not been installed to serve a drainage area, all Grading and Drainage Plans must indicate how these improvements will be installed or show on-site storm water retention and disposal that will ensure that downstream flows will not increase after development of the property.
- B. Engineered Drainage and Grading Plan Content - Engineered drainage and grading plans, when required, are to include an evaluation of the effects of projected runoff on adjacent properties and existing drainage facilities and systems in additions to the information required by Subsection A of this Section.

#### **SECTION 6.5.004 - DRAINAGE AND GRADING PLAN REVIEW AND APPROVAL**

During Site Plan Review, the City Engineer or designated City official will review each drainage and grading plan for adequacy. Drainage and grading plans shall be approved by the City Engineer or designated City official, where required, to assure that the project will not result in inundation and erosion on the site, nor create any drainage or grading problems for neighboring or downstream properties.

#### **SECTION 6.5.005 - INSPECTION AND COMPLETION**

Where required by the City Engineer or designated City official, an Inspection Agreement is to be entered into, and the drainage facilities inspected and approved prior to approval on the final inspection of a Building Permit.

#### **SECTION 6.5.006 - DRAINAGE SYSTEM STANDARDS**

Drainage systems and facilities subject to drainage and grading plan review and approval, are to be designed and constructed based on a Type 2A storm distribution for a 24 hour duration. Storm drainage plans shall be designed for a 25 year storm event and approved by the City Engineer or designated City official.