CHAPTER 15.36
GRADING REGULATIONS

Sections

EXHIBIT 4

15.36.010 General.

(A) Name. This chapter shall be known as the "Grading Regulations."

(B) Purpose. The purpose of this chapter is to establish standards regulating the design and construction of building sites and the development of property by grading; to regulate the alteration of the ground surface to protect and preserve the public health, safety and general welfare; to minimize differential settlement and the slipping or sliding of earth; to protect adjacent properties from damage caused by blockage or diversion of natural runoff waters; to require engineering analysis of expansive soil conditions, erosion control and drainage; to establish criteria for the design of footings and floor slabs for structures proposed to be erected on parcels of land whose natural topography has been altered; and to establish administrative procedures for the issuance of grading permits, the approval of plans and the inspection of grading construction.

(C) Intent. It is the intent of this chapter and the erosion control procedures contained within this chapter to regulate grading work as well as to protect environmentally sensitive areas and biological and wildlife resources within and surrounding the City of Corona. The procedures established by this chapter and the conditions of approval imposed hereunder through discretionary approvals and permits are intended to accomplish this protection. Notwithstanding the above, in the event the city encounters situations that endanger any environmentally sensitive area or biological and wildlife resource, the ~~Public Works Director~~City Engineer is authorized to take all necessary action to protect the environment pursuant to this chapter and other applicable ordinances and laws.

(D) Scope. This chapter sets forth rules and regulations to control excavation, grading and earthwork construction, including fills and embankments, and to establish administrative requirements for the issuance of grading permits, the approval of plans and the inspection of grading construction in accordance with the requirements for grading and excavation as contained in the ~~California Code of Regulations, Title 24, Appendix Chapter 33 (Uniform~~ Building Code~~)~~ set forth in Chapter 15.04 ~~with deletions, modifications or amendments to meet local conditions~~.

15.36.020 Definitions.

For purposes of this chapter, the words and phrases in this section shall have the following meanings, except where the context clearly indicates a different meaning.

(1) "Approval" means a written professional engineering or geological opinion by the civil engineer of record, the engineering geologist of record or the soil engineer of record, whichever is applicable, concerning the satisfactory progress and completion of the work, unless the code is referring to approval by the ~~Public Works Director~~City Engineer.

(2) "Approved plans" means the current plans and specifications for all grading or clearing, brushing and grubbing or other related work, which contains the ~~Public Works Director~~City Engineer's signature of approval. The term approved plans includes, but is not limited to, any mass grading plan, rough grading plan, precise grading plan, erosion control plan and/or temporary stockpile plan as such plans are set forth and described in this chapter.

(3) "As-graded" means the surface configuration upon completion of grading.

(4) "Bedrock" means in-place solid rock or sufficient solid in-place soil and rock to be classified by a registered geologist, soil engineer or civil engineer as bedrock.

(5) "Bench" means a relatively level step excavated into stable earth material on which fill is to be placed.

(6) "Borrow" means earth material acquired from an off-site location for use in grading on a site.

(7) "Building Code" means the California Building Code, as adopted and amended by the City and set forth in Chapter 15.04 of this code.

(~~7~~8) "CEQA" means the California Environmental Quality Act.

(9) "City Engineer" means the City Engineer for the City of Corona or another employee of the City of Corona who possesses a current and valid professional civil engineer license issued by the State of California and who is designated by the City Engineer to perform the duties of the City Engineer under this chapter.

(~~8~~10) "Civil engineer" means a professional engineer registered in the State of California authorized to practice in the field of civil engineering, who is listed on the grading permit as the civil engineer of record and who is responsible for preparing, signing, stamping or approving all or a portion of the approved plans and the reports required by this chapter. (Civil engineering is the application of the knowledge of the forces of nature, principles of mechanics and the properties of materials to the evaluation, design and construction of civil works for the beneficial uses of mankind. For a complete definition, see Rules of the State Board of Registration for Professional Engineers and Land Surveyors § 404.)

(~~9~~11) "Clearing, brushing and grubbing" means the removal of vegetation (grass, brush, trees and similar plant types) by mechanical means.

(12~~0~~) "Compaction" means the densification of a fill by mechanical means.

(13) "Director" means the Planning & Development Director of the City of Corona or his or her designee.

(14) "Earth material" means any rock, natural soil or fill and/or any combination thereof.

(15) "Engineering geologist" means a geologist certified in the State of California to practice engineering geology, who is listed on the grading permit as the engineering geologist of record and who is responsible for preparing, signing, stamping or approving all or a portion of the approved plans and the reports required by this chapter. (Engineering geology is the application of geologic knowledge and principles in the investigation and evaluation of naturally occurring rock and soil for use in the design of civil works. For a complete definition, see Rules of the State Board of Registration for Professional Engineers and Land Surveyors § 404.)

(16) "Environmentally sensitive area" means any land in a natural condition subject to an open space easement; any natural lake, stream, creek or riparian area; any wildlife habitat area identified in an environmental impact report, initial study or other environmental assessment; or any land determined by the city to be environmentally sensitive with respect to any particular grading activity based on an environmental assessment, initial study, CEQA guidelines or other information in connection with the proposed grading activity.

(17) "Erosion" means the wearing away of the ground surface as a result of the movement of wind, water and/or ice.

(18) "Erosion control system" means a combination of desilting facilities and erosion protection, including effective planting and the maintenance thereof, to protect adjacent private property, watercourses, public facilities and receiving waters from deposits of sediment or dust.

(19) "Excavation" means the mechanical removal of earth material.

(20) "Fault" means a fracture in the earth's crust along which movement has occurred. A fault is considered active if movement has occurred within the last 11,000 years (Holocene geologic time).

(21) "Fill or filling" means the deposit of earth material placed by artificial means.

(22) "Grade" means the vertical elevation of the ground surface, and the following types of grade have the following specific meanings:

(a) "Existing grade" means the ground surface prior to grading;

(b) "Finish grade" means the final grade of the site, which conforms to the approved plans;

(c) "Natural grade" means the ground surface unaltered by artificial means;

(d) "Rough grade" means the stage at which the grade approximately conforms to the approved plans.

(23) "Grading" means any excavation or filling or combination thereof.

(24) "Grading contractor" means a contractor licensed and regulated by the State of California who specializes in grading or is otherwise licensed to do grading, and who is listed on the grading permit as the grading contractor of record.

(252) "Grading permit" means the official document or certificate issued by the ~~Public Works Director~~City Engineer authorizing grading or clearing, brushing and grubbing or other related work as specified in the approved plans. The term grading permit includes any mass grading permit, precise grading permit or rough grading permit issued for the work described in the approved plans.

(263) "Grading plans" means all the following, if required for the work by this chapter: mass grading plan, rough grading plan and/or precise grading plan, as such plans are set forth and described in § 15.36.050.

(274) "Hillside site" means a site with a natural slope of 10% or more.

(285) "Key" means a designed compacted fill placed in a trench excavated in earth material beneath the toe of a proposed fill slope.

(296) "Keyway" means an excavated trench into competent earth material beneath the toe of a proposed fill slope.

(3027) "Mass grading" means grading that is completed on a large scale over a large area prior to rough grading and which when completed is within two vertical feet of the final grade elevations of the site.

(3128) "Mass grading permit" means a grading permit issued to complete mass grading work.

(3229) "Permittee" means any property owner to whom a grading permit has been issued.

(330) "Precise grading permit" means a grading permit issued on the basis of approved plans that show the precise location of structures, finish elevations and all on-site improvements.

(341) "Rough grading permit" means a grading permit issued on the basis of approved plans that need not show the location of structures, but must show interim building pad drainage to the degree required by the City Engineer ~~Public Works Director~~.

(352) "Property owner" means any person, partnership, corporation, or other legal entity having a legal or equitable interest in a given real property.

~~(33) "Public Works Director" means the Public Works Director for the City of Corona. All references in Cal. Code of Regulations Title 24, Appendix Chapter 33 (Uniform Building Code) to "Building Official" shall mean the "Public Works Director" for purposes of this chapter.~~

(364) "Retaining wall" means a wall designed to resist the lateral displacement of soil or other materials.

(375) "Site" means any lot or parcel of land or contiguous combination thereof, under the same ownership, where grading is performed or permitted.

(386) "Slope" means any inclined ground surface, the inclination of which is expressed as a ratio of horizontal distance to vertical distance or as a percentage ratio of the vertical distance divided by the horizontal distance times 100.

(397) "Slope stability - gross stability" means the factor of safety against failure of the slope material below the surface approximately three to four feet deep measured from and perpendicular to the slope face.

(4038) "Slope stability - surficial stability" means the factor of safety against failure of the outer three to four feet of slope material measured from and perpendicular to the slope face.

(4139) "Soil" means naturally occurring surficial deposits overlaying bedrock.

(420) "Soil engineer" means a civil engineer registered in the State of California experienced and knowledgeable in the area of soil engineering, who is listed on the grading permit as the soil engineer of record and who is responsible for preparing, signing, stamping or approving all or a portion of the approved plans and the reports required by this chapter. ("Soil engineering" is the investigation and engineering evaluation of earth materials including soil, rock, groundwater and man-made materials and their interaction with earth retention systems, structural foundations and other civil engineering works. The practice involves application of the principles of soil mechanics and the earth sciences and requires a knowledge of engineering laws, formulas, construction techniques and performance evaluation of civil engineering works influenced by earth materials. For a complete definition, see Rules of the State Board of Registration for Professional Engineers and Land Surveyors § 404.

(431) "Stockpile" means storage for a period not exceeding 12 months for soil that is to be used for future site development or soil for future or current sale.

(442) "Terrace" means a relatively level step constructed into the face of a graded sloped surface for drainage and maintenance purposes.

(453) "Testing agency" means a facility whose testing operations are controlled and monitored by a registered civil engineer and which is equipped to perform and certify the tests required by this chapter and is approved by the ~~Public Works Director~~City Engineer.

~~(44) "Uniform Building Code (UBC)" means the California Code of Regulations Title 24 as adopted by ordinance by the City Council of the City of Corona.~~

(465) "Work" means any grading, clearing, brushing or grubbing or any other activity permitted under any approved plan.

15.36.030 Grading permits.

(A) Grading permit required.

(1) Generally. No person shall conduct any grading or clearing, brushing and grubbing on natural or existing grade that is preparatory to grading or land development without first obtaining a grading permit. No person shall conduct any grading or clearing, brushing and grubbing in the following areas without first obtaining a grading permit:

(a) Previously undisturbed land;

(b) Land covered by native vegetation;

(c) Land which has not been used for agricultural purposes for three years immediately prior to the initiation of grading work that is for the purpose of conducting agricultural activities. This section shall not prohibit routine landscape maintenance, the removal of dead or diseased trees or shrubs or the removal of vegetation to eliminate a potential fire hazard upon order of the Fire Marshal~~l~~.

(2) Responsibility of land owners. No person shall stockpile, deposit or allow the placement or removal of earth material on or from any real property in excess of 100 cubic yards without first obtaining a grading permit.

(a) Borrow site permit. A grading permit which authorizes removal of soil from a site for use elsewhere is subject to conditions which may include, but not limited to, the following items: a plan prepared by a registered civil engineer, an erosion control plan prepared by a registered civil engineer, fencing, hydroseeding and other maintenance requirements. Other conditions may be established, even after the borrow site permit has been issued, in the interest of public health, safety or welfare, as determined by the ~~Public Works Director~~City Engineer.

(b) Stockpile permit. A grading permit authorizing temporary storage of soil that is to be used for the future development of the stockpile site where there is no current project for storage of soil, for current or future sale or for some other purpose as stated by the property owner. Stockpile permits shall be valid for a maximum of 12 months after issuance. Requests for stockpile permits shall be reviewed on a case-by-case basis. Such requests may be considered to be the establishment of a business and may require review by other city departments. A stockpile permit is subject to all of the same requirements as a borrow site permit.

(3) Pavement surfacing. No person shall construct pavement surfacing in excess of 6,000 square feet, on natural or existing grade, for the purpose of a private road or driveway or a commercial, industrial or multi-residential parking lot or travel-way without first obtaining a grading permit, unless the need for a grading permit is waived by the ~~Public Works Director~~City Engineer or a separate improvement plan for the pavement surfacing has been approved and signed by the ~~Public Works Director~~City Engineer. Resurfacing or maintenance of paved surfaces is exempt from this requirement.

(B) Exemptions. The following types of work are exempt from the grading permit requirement in this section.

(1) An excavation below finish grade for basements and footings of a building, mobile home, retaining wall, swimming pool or other structure authorized by a valid building permit or construction permit. This exemption shall not include any fill made with the material from such excavation, any excavation having an unsupported height greater than five feet after the completion of such structure or any unsupported excavation with vertical banks more than two feet high. This exemption shall not prohibit a minimum fee grading permit or soil or geologic report from being required for foundation design and inspection purposes when, in the opinion of the ~~Public Works Director~~City Engineer, stability considerations warrant such inspection.

(2) An excavation not exceeding 100 cubic yards on a single site that is less than two feet in vertical depth or that does not create a cut slope greater than five feet in vertical height and steeper than a two to one (2:1) horizontal to vertical ratio.

(3) Cemetery graves.

(4) Refuse disposal sites controlled by other regulations.

(5) Earthwork construction regulated by federal, state, county or city governments or by a local agency as defined by Cal. Gov't Code §§ 53090 through 53095 (special districts). Pipeline or conduit excavation and backfill conducted by local agencies or public utilities. Earthwork construction performed by railway companies. This exemption applies only if the earthwork takes place on property under the control of, or dedicated rights-of-way or easements owned by, the aforementioned public agencies.

(6) Excavation and backfill for the installation of underground utilities by public utility companies operating under the authority of a franchise or rights-of-way agreement.

(7) Mining, quarrying, excavating, processing or stock-piling of rock, sand, gravel, aggregate or clay authorized and conducted in accordance with applicable state and local laws, provided such operations do not affect the lateral support or increase the stresses in or pressures upon any adjacent or contiguous property or alter the orientation of natural water courses which may result in adverse changes on adjoining property.

(8) Exploratory excavations under the direction of a soil engineer, engineering geologist, archaeologist or paleontologist, provided all excavations are properly backfilled and compacted or otherwise restored.

(9) A fill not exceeding 100 cubic yards on a single site that is less than one foot in depth, that does not obstruct a drainage course and that is placed on natural grade with a slope flatter than a five to one (5:1) horizontal to vertical ratio.

(10) A fill less than three feet in depth, not intended to support structures or mobile homes, that does not exceed 100 cubic yards on a single site and does not obstruct a drainage course.

(11) Clearing, brushing and minor grading for agricultural purposes provided such operations do not affect the lateral support or increase stresses in or pressures on any contiguous property or alter the orientation of natural water courses which may result in adverse changes on nearby or adjoining property or result in the dumping of organic or hazardous waste not regulated by law. This exemption includes, but is not limited to, contour grading to provide for orchard planting, minor leveling not exceeding three vertical feet of either excavation or fill for row crops, installation of irrigation systems and temporary stockpiling of fertilizer or other agricultural materials.

(C) Additional regulations. Unless otherwise exempt, all excavations and trenches are subject to the applicable sections of the State of California, Division of Safety or Cal-OSHA.

15.36.040 Grading permit application.

(A) Contents. The application for a grading permit shall be made in a form and manner prescribed by the ~~Public Works Director~~Planning & Development Department. A grading permit application shall consist of the following items completed and signed by the applicant or an authorized representative, unless otherwise specified by the ~~Public Works Director~~City Engineer:

(1) Application form;

(2) Four sets of approved grading plans as required by and set forth in § 15.36.050;

(3) Two sets of erosion control plans as required by and set forth in § 15.36.060;

(4) Two copies of the geotechnical reports as required by and set forth in § 15.36.070;

(5) Copy of Notice Of Intent (NOI) receipt from the State of California Regional Water Quality Control Board (if applicable);

(6) Scale Broom Weed clearance letter;

(7) Additional reports or data as may be required by the ~~Public Works Director~~City Engineer;

(8) Payment of all applicable fees.

(B) Environmental review. Any application for a grading permit shall comply with CEQA by demonstrating with sufficient information that the proposed grading will not cause significant harm to the environment or that the environmental mitigation measures imposed through a prior and applicable CEQA review have been or will be completed as conditions to the grading permit.

(Ord. 2806 § 1, 2006; Ord. 2568 § 1, 2002.)

15.36.050 Grading plans.

(A) Generally. Unless waived by the ~~Public Works Director~~City Engineer, all grading plans accompanying an application for a grading permit shall conform with the following requirements:

(1) Grading plans shall be approved and signed by the civil engineer, and if determined necessary by the ~~Public Works Director~~City Engineer, approved and signed by the soils engineer and the engineering geologist;

(2) Grading plans shall be prepared on 24 inch by 36 inch Mylar film with a standard city title block and shall be drawn in ink;

(3) Grading plans shall show the original and designed finish contours, spot elevations, building pads, public improvements, slope ratios, proposed drainage facilities, protective fencing, retaining walls and any structures or buildings on adjacent properties within 100 feet of the common property lines;

(4) Grading plans shall be accompanied by supporting data consisting of a soils engineering report, engineering geology report, a clearance letter from a qualified botanist, plant taxonomist or field biologist specializing in native plants stating that an investigation and/or eradication of Scale Broom Weed (Lepidospartum Squamatum) has been completed;

(5) Grading plans shall be drawn to engineering scales as approved by the ~~Public Works Director~~City Engineer;

(6) The title sheet of the grading plans set shall contain the names, addresses and phone numbers of the property owner, the civil engineer responsible for preparation of the grading plans,

the soil engineer and the engineering geologist, including registration numbers. The title sheet shall also contain a location map for the project site;

(7) A statement of quantities shall be furnished, giving the estimated cubic yards of excavation and fill. Also, types of ditches and down drains, lineal feet and sizes of various types of pipe, the amount of rock to be used for rip-rap or slope protection, the lineal feet of fencing and any other pertinent information useful in determining the extent of the proposed work, as may be required by the ~~Public Works Director~~City Engineer;

(8) Grading plans shall show, if applicable, scaled sections of all stabilization fills, buttress fills, keyways and benching for fill placement recommended by the soil engineer. In addition, the soil engineer shall review and approve this portion of the plan; and

(9) Grading plans shall show Waste Discharge Identification Number (WDID#), if applicable, and total disturbed acreage.

(B) Mass grading plan & rough grading plan. In addition to the information required by division (A) of this section, an application for a mass grading permit or rough grading permit shall include, but is not limited to, the following information:

(1) Vicinity map of the site;

(2) Property limits clearly labeled or otherwise identified, accurate contours of existing ground and details of terrain and area of drainage a minimum of 100 feet beyond the property limits (spot elevations may be used on flatland sites);

(3) Prominent existing or natural terrain features;

(4) Location of all easements within the grading limits;

(5) Limiting dimensions, elevations of finish contours to be achieved by the grading, proposed drainage devices and related construction;

(6) Details (plan and section) of all surface and subsurface drainage devices, walls, cribbing, dams and other protective devices to be constructed with or as part of the proposed work;

(7) Location of any buildings or structures on the property where the work is to be performed and the location of any buildings or structures on land of adjacent property owners which may be affected by the proposed grading work;

(8) If the grading project includes the movement of 5,000 cubic yards or more of earth material to or from the site, the permittee shall submit a haul route for review and approval by the ~~Public Works~~Director. The haul route may be submitted at the pre-grading meeting; however, hauling on public streets shall not commence until approval of the haul route by the ~~Public Works~~ Director~~epartment~~. The ~~Public Works~~~~Department~~ Director may prescribe as a condition of the grading permit and submitted haul route, alternate routes or special requirements in consideration on the possible impact on the adjacent community or the environment or the effect on the public right-of-way itself;

(9) Additional plans, drawings, calculations, environmental impact information or other reports and information required by the ~~Public Works Director~~City Engineer.

(C) Precise grading plan. In addition to the information required by divisions (A) and (B) of this section, an application for a precise grading permit shall include, but is not limited to, the following information: the footprint or allowable building area of all proposed structures (including appurtenances), setback distances between structures and top or toe of slopes, setback distances between structures and property lines, detailed finish grade and finish floor elevations, flow lines for lot drainage, including spot elevations for the drainage swales, details for building footings and side yard swale relationship (including extra height of or deepened footings) and all proposed PCC flatwork and PCC/AC driveways.

(D) Grading plan correction sheet. A grading plan standards and correction sheet which is used as the basis for checking grading plans is available from the ~~Public Works~~ Planning & Development Department - ~~Land~~ Development Services ~~Engineering~~, which identifies the items typically required on grading plans depending on site conditions.

(E) Grading plan check and approval. All grading plans submitted to the city shall be checked for conformance with, and no grading plans shall be approved unless the grading plans conform with, the following: the city's general plan, this chapter and other applicable provisions of the code, any applicable conditions of approval or specific plans, other rules and regulations of the city, all applicable federal and state requirements, Title 24 of the California Code of Regulations accessibility requirements, city technical requirements and grading plans requirements and any other requirements applicable to the development project.

15.36.060 Erosion Control Plan.

(A) Plan required.

(1) Unless waived by the ~~Public Works Director~~City Engineer, all work requiring a grading permit shall be required to have an approved Erosion Control Plan. If the requirement for an Erosion Control Plan has been waived, the ~~Public Works Director~~City Engineer may still require the installation of temporary and/or permanent erosion control devices or methods to control erosion and provide safety during grading.

(2) No activity authorized under a grading permit shall be conducted between October 1 and May 31 unless an Erosion Control Plan has been approved or the ~~Public Works Director~~City Engineer has waived the requirement for an Erosion Control Plan.

(3) The requirement for an Erosion Control Plan may be waived for grading on single residential lot projects, provided that an erosion control system, approved by the ~~Public Works Director~~City Engineer, is installed, placed, planted or constructed before October 1.

(4) An Erosion Control Plan is required for a project if the ~~Public Works Director~~City Engineer determines that erosion or sediment discharge from the project could adversely affect adjacent properties.

(5) An approved Erosion Control Plan from the previous year shall be updated and submitted for approval, if necessary, prior to October 1 to reflect any changed conditions where the grading or other land disturbance activity is continuing. Updating of the Erosion Control Plan will also be required for phases of construction not covered by any previously approved Erosion Control Plan.

(6) All Erosion Control Plans must be approved and erosion control devices installed and certified and inspected as being properly constructed by the civil engineer. Sediment control must be continuously maintained throughout the construction process.

(B) Contents of Erosion Control Plans. An Erosion Control Plan shall include, but is not limited to, the following information:

(1) Details of all protective measures, including desiltation basins or other temporary drainage or control measures or both, necessary to implement and satisfy the applicable requirements and standards set forth in § 15.36.280 and necessary to protect adjoining public or private property from damage by erosion, flooding or mud and/or debris deposits which may originate from the site or result from the grading work;

(2) A 24 hour telephone number of the person responsible for performing emergency erosion control work;

(3) The stamp and signature of the civil engineer who prepared the Erosion Control Plan;

(4) The erosion control general notes (copies available for the Public Works Department - Land Development Division);

(5) Identification of all desilting and erosion protection facilities necessary to protect adjacent property from sediment deposition;

(6) Identification of the streets and drainage devices that will be completed and paved by October 1;

(7) Provision for the placement of gravel bags, slope planting or other measures to control erosion from all slopes above and adjacent to roads open to the public;

(8) Provision for maintaining access to desilting facilities during wet weather;

(9) A schedule for the construction and ongoing maintenance of all required erosion and sediment control facilities;

(10) Identification of discharge points where concentrated runoff occurs.

(C) Review and approval.

(1) Erosion Control Plans shall be submitted for review to the ~~Public Works Director~~City Engineer concurrent with the grading permit application or with submittal of the grading plans, unless otherwise waived by the ~~Public Works Director~~City Engineer.

(2) All Erosion Control Plans submitted for review shall be accompanied by the following: payment of the plan-checking fees, two blueline copies of the Erosion Control Plan and two copies of the bond estimate for security.

(3) No Erosion Control Plan shall be approved unless the Erosion Control Plan complies and implements all applicable standards and requirements set forth in this section and § 15.36.280.

15.36.070 Geotechnical reports.

(A) Generally. Each geotechnical report shall be prepared in accordance with this section and generally accepted soil engineering practices. Each geotechnical report shall be approved by the ~~Public Works Director~~City Engineer. The Building Official may also require a soil engineering report or additional information related to the building structure in accordance with the ~~Cal. Code of Regulations Title 24 (UBC)~~Building Code. Recommendations contained in the approved reports shall be incorporated into the grading plans and shall become conditions of the grading permit.

(B) Soil engineering report. Unless waived by the ~~Public Works Director~~City Engineer, a soil engineering report shall be prepared and submitted for any grading permit application associated with any residential, commercial, industrial or similar development project. The soil engineering report shall include information and data regarding the nature, distribution and physical and chemical properties of existing soils, conclusions as to the adequacy of the site for the proposed grading, recommendations for general and corrective grading procedures, detailed information for the location of recommended stabilization fills or buttress fills, foundation and pavement design criteria and shall provide other recommendations as determined necessary by the ~~Public Works Director~~City Engineer.

(C) Engineering geology report. An engineering geology report shall be prepared and submitted for any grading permit application associated with any development on a hillside site where geologic conditions are determined by the ~~Public Works Director~~City Engineer to have a substantial effect on existing and/or future site stability. This requirement may be extended to other sites as required by the ~~Public Works Director~~City Engineer. The engineering geology report shall include a comprehensive description of the site topography and geology including, where necessary: a geologic map; an opinion as to the adequacy of the proposed development from an engineering geologic standpoint; and opinion as to the extent known or as reasonably should be known how instability on adjacent properties may adversely effect the project; a description of the field investigation and findings; conclusions regarding the effect of geologic conditions on the proposed project; and specific recommendations for modifications to the grading plans, corrective grading and/or special techniques and systems to facilitate a safe and stable development. The engineering geology report shall also provide other recommendations as necessary for the project grading and development. The engineering geology report may be combined with the soil engineering report.

(D) Seismicity report. Unless waived by the ~~Public Works Director~~City Engineer, a seismicity report may be required for any grading permit application associated with any residential, commercial, industrial or similar development project. A seismicity report shall be required as a condition of development for all essential facilities, as defined in the ~~Uniform California~~ Building Code, or as determined by the ~~Public Works Director~~City Engineer, Building Official or Planning Director. Additionally, grading permit applications for sites containing earthquake-sensitive earth materials and/or sites that are located on or near potentially active or active faults are required to submit a seismicity report as a condition for issuance of a grading permit. The report shall be prepared by an engineering geologist, a geophysicist or a civil engineer with expertise in earthquake technology and its application to buildings or other civil engineering works. The scope of the report shall be commensurate with the proposed development and shall reflect the latest available and accepted technological recommendations related to seismicity. The minimum acceptable pseudostatic slope stability factor of safety shall be 1.1 and the minimum acceptable

surficial stability factor of safety shall be 1.5. The seismicity report may be combined with the soil and engineering geology reports.

15.36.080 Fees.

(A) Plan-checking fee. Before accepting any grading plans, Erosion Control Plan or geotechnical reports for review and approval, the ~~Public Works Director~~ Planning & Development Department ~~–~~shall collect a plan-checking fee for each type of review and approval. Separate grading permits shall be issued and separate fees shall apply to retaining walls or major drainage structures. The amount of the plan-checking fee shall be established by resolution of the City Council. A per sheet plan-check fee is required for all minor plan-check revisions.

(B) Grading permit fee. Before issuing a grading permit, the Planning & Development Department ~~Public Works Director~~ shall collect a grading permit fee. The amount of the grading permit fee shall be established by resolution of the City Council.

15.36.090 Issuance of grading permit.

(A) Other approvals required before issuance. No grading permit for any development project requiring the approval of the Planning Commission, City Council or city staff shall be issued until the development project has been approved, and such approval includes approval of a grading concept. All discretionary approvals required by the code for the development project with which the grading permit application is associated must be obtained prior to issuance of the grading permit. All approvals required for the development project or the grading work by other city departments or outside agencies shall be the responsibility of and obtained by the applicant prior to issuance of the grading permit.

(B) Environmentally sensitive areas. No grading permit for any work within 100 feet of an environmentally sensitive area shall be issued between October 1 to May 31, except grading permits for the construction and maintenance of erosion control systems, as approved by the ~~Public Works Director~~City Engineer.

(C) Grading security. No grading permit shall be issued unless and until the applicant posts the applicable security required under § 15.36.120.

(D) Terms of grading permit. The grading permit shall contain such terms, conditions and restrictions as are necessary to implement the applicable provisions of this chapter and the code and state or federal law applicable to the work to ensure the work is performed in accordance with the approved plans and geotechnical reports and to protect the public health, safety and welfare.

(E) Responsibility of permittee. It shall be the responsibility of the permittee to be knowledgeable of and comply with the conditions and/or restrictions of the grading permit as outlined in applicable provisions of this chapter and as contained on the approved plans and in the approved geotechnical report(s). It shall also be the responsibility of the permittee to be knowledgeable with the obvious and accessible location on the site and maintain an on-site copy

of the approved plans bearing the stamp or signature of approval by the ~~Public Works Director~~City Engineer.

15.36.100 Denial of grading permit.

(A) Generally. The grading permit shall be denied if the proposed work cannot be designed or performed in accordance with this chapter and any other applicable ordinances, rules, regulations or conditions.

(B) Creation of hazard. The grading permit shall be denied if the proposed work may constitute a hazard to property, result in debris being deposited on any public street or public way or interfere with any existing drainage course. If it can be shown to the satisfaction of the ~~Public Works Director~~City Engineer that the hazard can be sufficiently mitigated by the construction of retaining structures, buttress fills, drainage devices or by other means, the ~~Public Works Director~~City Engineer may issue a grading permit with the condition that such mitigation measures be performed.

(C) Geologic or flood hazard. The grading permit shall be denied if the land area for which grading is proposed is subject to geological or flood hazard to the extent that no reasonable amount of corrective work can eliminate or sufficiently reduce the hazard to human life or property.

15.36.110 Permit expiration, renewal and suspension.

(A) Issuance and completion of work. Every grading permit shall be valid for a period of 180 days from the date of issuance. The ~~Public Works Director~~City Engineer may extend the 180 day time period for up to three successive periods of 180 days each, upon written request by the permittee showing that circumstances beyond the control of the permittee have prevented completion of the grading.

(B) Suspension of construction or abandonment of work. Every grading permit shall expire by limitation and become null and void if the work authorized by the grading permit is not commenced within 180 days from the original date of issuance. Every grading permit shall expire if the work authorized by such permit is suspended for a continuous period of 180 days or if the site is abandoned at any time after work has commenced.

(C) Renewal. If a grading permit expires, upon written request and justification from the permittee within 30 days of the expiration, the ~~Public Works Director~~City Engineer may renew the grading permit provided that the total elapsed time has not exceeded the time limits allowed for a grading permit under division (A) of this section.

(D) Changed conditions. The ~~Public Works Director~~City Engineer may order the suspension of any work authorized by a grading permit upon determination that the weather, soil, slope or general site conditions may cause serious accelerated erosion or sediment damage either on-site or downstream from the site. Any suspension of work ordered by the ~~Public Works Director~~City Engineer shall toll the time limits applicable to the grading permit.

(E) Change of ownership. Grading permits shall automatically be suspended upon a change of ownership, until such time as the new owner obtains a new permit with the revised ownership information or until such time as the applicant provides new ownership information and a letter of consent for the grading operations from the new owner. There shall be no additional fee for the grading permit issued to the new owner, provided no changes to the approved plans are requested that generate additional staff work.

15.36.120 Security.

(A) Requirement for security. Prior to issuance of a grading permit, the security required by this section shall be posted with the city. The security shall guarantee, and the city shall have the right to draw upon such security to satisfy, the following:

(1) Compliance with all applicable provisions of this chapter and the code, state and federal law and other applicable ordinances, rules and regulations of the city;

(2) Compliance with any and all terms and conditions of the grading permit and all approved plans;

(3) Completion of the work authorized under the grading permit and the erosion control system(s) to the satisfaction of the ~~Public Works Director~~City Engineer and in accordance with the approved plans;

(4) Completion of all emergency and routine maintenance and repair of the erosion control system(s) to insure the continuous integrity of the system(s) to the satisfaction of the ~~Public Works Director~~City Engineer and as may otherwise be required by this chapter;

(5) Restoration and repair of public streets or other public property adversely impacted or damaged or the mitigation of any hazardous condition created by any activity of the permittee or agent of the permittee or any erosion from any site associated with the grading work.

(B) Amount and form of security. The amount of the security shall be equal to 30% of the total estimated cost of the work authorized by the grading permit, plus 100% of the total estimated cost of the erosion control system(s) required by the Erosion Control Plan. The permittee's estimate of the cost shall be based on the established unit costs available from the city and shall be subject to the review and approval by the ~~Public Works Director~~City Engineer. At least 25% of the required security shall be in cash and shall be deposited with the ~~Public Works Director~~City Engineer. The remainder of the erosion control security shall be subject to the approval of the ~~Public Works Director~~City Engineer and City Attorney and consist of one or more of the following:

(1) Cash deposit;

(2) Surety bond;

(3) Certificate of deposit;

(4) Letter of credit, in city format, from one or more local financial institution(s) subject to regulation by the state or federal government.

(C) Failure to maintain security. If a permittee fails to maintain the security required by this section, the ~~Public Works Director~~City Engineer may revoke the permittee's grading permit without prior notice to the permittee. Any such revocation shall be in writing.

(D) Replenishment of cash deposit. The ~~Public Works Director~~City Engineer shall notify the permittee of any withdrawal from the permittee's cash deposit. If the costs exceed the balance of the permittee's funds on deposit, the ~~Public Works Director~~City Engineer shall cause an invoice to be sent to the permittee demanding payment of the amount by which the costs exceed the permittee's deposit. The permittee shall, within ten days of receipt of such invoice, deposit with the ~~Public Works Director~~City Engineer that amount of cash necessary to bring the permittee's deposit up to its original balance. If the permittee fails to pay such amount in full within 30 days from the date of the invoice, the permittee's grading permit shall be automatically revoked. Renewal of the grading permit shall not be completed until the invoice is paid in full. No final grading inspection shall be completed until the permittee has fully satisfied all monetary obligations to the city imposed pursuant to this division (D). Additionally, no further construction permits, including, but not limited to, building permits or occupancy permits, shall be issued until such monetary obligations are fully satisfied.

(E) Release of security.

(1) On June 1 of each year, or at the end of the actual rainy season (as determined by the ~~Public Works Director~~City Engineer), whichever occurs later in time, the ~~Public Works Director~~City Engineer may release the amount of security posted to guarantee erosion control system(s), upon receipt of a written request for such release by the permittee.

(2) The ~~Public Works Director~~City Engineer may require the security posted for permittee's erosion control system(s) to remain on deposit with the city throughout the grading of the project and not be released until completion of the landscaping improvements for the associated development project if the ~~Public Works Director~~City Engineer determines that due to the nature, configuration or location of the development project it is in the best interest of the city to retain the erosion control security until the landscaping improvements are complete.

(3) Security posted to guarantee all work authorized under the grading permit, other than the erosion control system(s), shall be released upon inspection and approval of the work by the ~~Public Works Director~~City Engineer, except where the work is performed in conjunction with a subdivision or parcel map approval, in which case the security shall be released upon receipt of the warranty surety and acceptance of the final subdivision or parcel map by the City Council.

(4) The ~~Public Works Director~~City Engineer shall not release a permittee's security if the permittee has an outstanding monetary obligation to the city or if cleanup or repair of public streets or other public property for which the permittee is responsible has not been completed to the satisfaction of the ~~Public Works Director~~City Engineer.

15.36.130 Time of grading work.

Grading and equipment operations shall only be completed between the hours of 7:00 a.m. and 8:00 p.m. Monday through Saturday, excluding holidays, and from 10:00 a.m. to 6:00 p.m. on Sundays and holidays. Grading work or equipment operations may be permitted before or after the

allowable hours of operation if the ~~Public Works Director~~City Engineer determines that such operations are not detrimental to the health, safety or welfare of residents or the general public. Permitted hours of operations may be shortened if the ~~Public Works Director~~City Engineer determines that the grading work or equipment operations have an adverse effect on the health, safety or welfare of the surrounding community.

15.36.140 Import and export of earth material.

Where an excess of 5,000 cubic yards of earth material for a project site is transported over public roadways to or from the project site as part of the grading work, all of the following requirements shall apply:

(A) Either water or dust preventative spray material (or both) shall be consistently applied for prevention of dust resulting from the loading or transportation of earth to or from the project site on public roadways. The permittee shall be responsible for maintaining public rights-of-way, used for transporting materials, in a condition free of dust, earth or debris attributed to the grading work;

(B) Loading and transporting of earth materials to or from the site must be accomplished within the times set forth in § 15.36.130;

(C) Access roads to the site shall be only at points designated on the approved plans;

(D) At a minimum, the first 50 feet of access road adjacent to the intersection with the public roadway shall have a grade not to exceed 5%. There must be a 300 foot clear, unobstructed sight distance to the intersection from both the public roadway and the access road. If the 5% grade or 300 foot sight distance requirements cannot be obtained due to site constraints, then flagmen shall be posted at the access road and shall remain for the entire duration of material transportation operations;

(E) A stop sign conforming to the requirements of the California Vehicle Code shall be posted at the exit of the access road to the public roadway;

(F) Advanced warning signs along with traffic control and safety devices shall be reviewed and approved by the ~~Public Works Director~~City Engineer and shall be posted on the public roadway in the vicinity of the access intersection as required by the current Work Area Traffic Control Handbook "WATCH" manual. The size, shape, color, number, spacing and other details of all such signs and devices shall conform to the standards contained therein and in the current State of California Department of Transportation "Traffic Manual." The advanced warning signs and other devices shall be covered or removed when the access intersection is not in use.

15.36.150 Haul routes for earth material.

(A) The ~~Public Works Director~~City Engineer may specify the route for moving any earth materials over public streets, whether or not the destination site or origination site of the earth materials is subject to a grading permit. The ~~Public Works Director~~City Engineer may further specify load limits where, in his or her opinion, the standard load capacity of vehicles used in such hauling would cause excessive damage to streets on the designated route. Any specified route or

load limit shall be made in writing and a copy shall be provided to the Traffic Division of the Public Works Department and the Traffic Division of the City Police Department. Deviation from the designated route or load limits shall constitute a violation of this chapter.

(B) Any person moving earth materials in violation of the chapter shall be financially responsible for any damage to the public streets and shall pay to the city the cost, as determined by the ~~Public Works Director~~City Engineer, of repairing such damage or shall repair the damage to the satisfaction of the ~~Public Works Director~~City Engineer.

(C) At least 24 hours before moving the earth materials is to commence, the applicant shall notify the City of Corona Public Works Department, Traffic Division and Inspection Division.

15.36.160 Earth materials on public streets.

(A) Vehicle Code § 23112(b) forbids the placing, dumping or depositing of earth materials on public streets or any portion of the public right-of-way. All vehicles engaged in moving earth materials shall refrain from depositing earth materials on public streets by any means, including, but not limited to, spillage from the bed of a truck or other vehicle and debris collected on the wheels of a vehicle. The ~~Public Works Director~~City Engineer may require a cash deposit from any person moving earth materials over public streets to ~~insure~~ ensure the cleanup of public streets.

(B) Any person moving earth materials over public streets shall be responsible for the immediate and complete removal of any materials spilled, dumped or deposited on a public street. If the person fails to immediately remove such spillage, dumping or deposited material, and it is necessary for the city to complete the removal, the responsible party, permittee or property owner from where the material was removed from or deposited to shall be liable to the city for the cost of such removal work. A cash deposit may be required to insure the cleanup of public streets prior to approval of the haul route.

15.36.170 Dust control.

Any person conducting any grading work or moving any earth material shall be responsible for controlling the dust from such activities at all times. The property owner, grading contractor and permittee shall all be responsible for implementing any and all Best Management Practices (BMPs) for all grading and earth-moving operations in accordance with the National Pollutant Discharge Elimination System (NPDES) and as required by South Coast Air Quality Management District (SCAQMD).

15.36.180 Protection of adjoining property.

(A) Each adjacent property owner is entitled to the lateral and subjacent support which his or her land receives from the adjoining land. Any person making an excavation shall use ordinary care and skill in making the excavation and shall take all necessary steps to protect the adjacent property from possible damage resulting from the excavation.

(B) Any property owner or lessee intending to permit or to make an excavation greater than ten feet in depth within 15 feet of his or her property line(s) shall give reasonable notice to the property owner(s) of land abutting the property line(s) affected by such excavation, stating the depth for which such excavation is intended to be made and when the excavation will begin.

15.36.190 Cuts.

(A) Cut slopes shall be no steeper than a two to one (2:1) horizontal to vertical ratio. In special circumstances where no evidence of previous instability exists, and when recommended in the soil engineering report and approved by the ~~Public Works Director~~City Engineer, slopes may be constructed to a maximum one and one-half to one (1.5:1) horizontal to vertical ratio. In no case shall slopes steeper than a 2:1 slope ratio be approved if a 2:1 slope ratio or flatter is required as a condition of approval for the development project with which the slope is associated.

(B) A slope stability analysis shall be included in all soil engineering reports for all slopes steeper than a 2:1 slope ratio and for all slopes exceeding 20 feet in height regardless of the slope ratio. The soil engineer shall consider slope stability (both gross and surficial stability) and provide a written statement approving the slope stability. In addition, the soil engineer shall recommend alternate methods of construction or compaction requirements necessary for surficial slope stability.

15.36.200 Fills.

(A) Fill slopes.

(1) Fill slopes shall not be constructed steeper than a two to one (2:1) horizontal to vertical ratio, or where the base (toe) of the fill slope would be within 12 feet horizontally of the top of a cut slope, unless evidence is submitted by the soil engineer or the engineering geologist which indicates the stability of the slope is adequate and the proposed slope is approved by the ~~Public Works Director~~City Engineer.

(2) In special circumstances where no evidence of previous instability exists, and when recommended in the soil engineering report and approved by the ~~Public Works Director~~City Engineer, slopes may be constructed steeper than a 2:1 slope ratio.

(3) In no case shall slopes steeper than a 2:1 slope ratio be approved if a 2:1 slope ratio or flatter is required as a condition of approval for the development project with which the slope is associated.

(4) A slope stability analysis shall be included in all soil engineering reports for all slopes steeper than a 2:1 slope ratio and for all slopes exceeding 20 feet in height regardless of the slope ratio. The soil engineer shall consider slope stability (both gross and surficial stability) and provide a written statement approving the slope stability. In addition, the soil engineer shall recommend alternate methods of construction or compaction requirements necessary for surficial slope stability.

(B) Preparation of ground.

(1) The ground surface shall be prepared to receive fill by removing vegetation, non-complying fill, topsoil and other unsuitable materials and by scarifying to provide a bond with the new fall. Where existing slopes exceed five feet in height and/or are steeper than a five to one (5:1) horizontal to vertical ratio, the ground shall be prepared by benching into sound bedrock or other competent or formational material, as determined by the soil engineer and approved by the ~~Public Works Director~~City Engineer. The lowermost bench beneath the toe of a fill slope shall be a minimum of ten feet in width. The ground surface below the toe of fill shall be prepared for sheet flow runoff or an appropriate drainage system shall be provided. French drains may also be required at the toe of fill slopes if determined necessary by the ~~Public Works Director~~City Engineer.

(2) Where fill is to be placed over a cut slope, the bench under the toe of the fill shall meet the approval of the soil engineer or the engineering geologist as suitable foundation for the fill. Unsuitable soil is soil that is not dense, firm or unyielding; soil that is highly fractured; or soil that has a high organic content; and in the opinion of the soil engineer or the engineering geologist the soil is not competent to support other soil or fill, to support structures or to satisfactorily perform the other functions for which the soil is intended.

(C) Fall material. Detrimental amounts of organic material shall not be permitted in fills. Except as outlined below, no rock or similar irreducible material with a maximum dimension greater than 12 inches shall be buried or placed in fills. The ~~Public Works Director~~City Engineer may permit the placement of larger rock in fill when the soil engineer properly devises a method of placement, continuously inspects placement and approves the fill stability and competency. The following conditions shall also apply to the placement of all fill material:

(1) Prior to issuance of a grading permit, potential rock disposal area(s) shall be identified on the grading plans;

(2) Rock sizes greater than 18 inches shall be placed a minimum of six feet below grade, measured vertically or ten feet measured horizontally, from any slope face except rocks placed in a proposed public right-of-way, which shall be placed a minimum of 20 feet below grade or as approved by the Public Works Inspector, but in no case shall be in conflict with future utility lines;

(3) Rocks sizes greater than 12 inches shall be placed so as to be completely surrounded by soil. No nesting of rocks will be permitted.

(D) Compaction. All fills shall be compacted to a minimum of 90% of the maximum density as determined by ASTM D1557. Sufficient maximum density determinations by test method ASTM D1557 shall be performed during the grading work to verify that the maximum density curves used are representative of the material placed throughout the fill. Field density tests shall be performed in accordance with ASTM D1556, or equivalent, as approved by the ~~Public Works Director~~City Engineer. At least 25% of the total tests shall be by ASTM D1556 to verify the accuracy of the equivalent method. All such tests shall be uniformly distributed within the fill area and/or fill slope surface area in order to obtain representative results. The location of the field density tests shall be determined by the soil engineer or the testing agency, but shall be sufficient in both horizontal and vertical placement to provide a representative testing of all fill placed. Testing in areas of a critical nature or special emphasis shall be in addition to a network of representative sampling. At least 20% of the field density tests performed during grading shall be

located within three feet of the final slope location, and at least one density test shall be taken in the outer 12 inches of the finished slope face for every 5,000 square feet of slope area.

(E) Buttress/stabilization fills. Recommendations for buttress/stabilization fills by the soil engineer shall be included in the soil engineering report and shall set forth the soil or geologic factors necessitating the buttress/stabilization fill, stability calculations based on both static and pseudo static conditions, (analysis of pseudo static loads are not normally needed when the bedding planes are flatter than 12 degrees from horizontal), laboratory test data upon which the calculations are based, a copy of the approved grading plans showing the location of the buttress/stabilization fill a scaled section of the buttress/stabilization fill and recommendations with details of subdrain requirements.

(F) Utility line backfill.

(1) Backfill for utility line trenches in the public right-of-way, including, but not limited to, water, sewer, gas, electrical, telephone and cable television utility line trenches shall be compacted to a 95% relative density. Backfill for on-site utility line trenches that effect the stability of foundations or other structures are located in parking lots or areas used by the general public or are in sloping surfaces steeper than a ten to one (10:1) horizontal to vertical ratio and which utilize onsite material as backfill shall be compacted and tested in accordance with this section. Alternate materials and methods for utility line trench backfill may be used provided that the material specification and method of placement are recommended by the soil engineer and approved by the ~~Public Works Director~~City Engineer prior to backfilling.

(2) Utility line trench backfill for on-site areas other than those stated above do not need specific placement method or compaction criteria, but shall be sufficiently compacted to preclude differential settlement. In no case shall this subsection be construed to mean utility line trench backfill within any public rights-of-way.

(3) The final utility line trench backfill report from the project soil engineer shall include a statement of compliance by the soil engineer that the tested backfill is suitable for the intended use and that all tested areas meet the compaction requirements set forth in this section.

15.36.210 Hazardous conditions.

(A) A hazardous condition exists when any earth material, natural slope, excavation, fill or drainage device is situated on private property in such a manner that creates a risk of injury to persons or property, creates a danger to public safety or endangers the safety, usability or stability of adjacent property, structures or public facilities. The maintenance of any hazardous condition shall constitute a public nuisance.

(B) The ~~Public Works Director~~City Engineer, or any official authorized to enforce this code, may examine, or cause to be examined, every reported or alleged hazardous condition.

(C) Upon determining the existence of a hazardous condition, the ~~Public Works Director~~City Engineer or other official authorized to enforce the code shall provide written notification to the property owner describing the hazardous condition and requiring mitigation of the hazardous condition within a reasonable time given the risks created by the hazardous condition. The property

owner shall comply with the mitigation requirements set forth in the notice. In the event that the required mitigation is not completed within the period specified in the notice, the city may exercise any available legal remedy to correct the hazardous condition.

15.36.220 Setbacks.

(A) General. The setbacks and other restrictions specified by this section are minimum and may be increased by the ~~Public Works Director~~City Engineer or Building Official or by the recommendation of the civil engineer, the soil engineer or the engineering geologist, if necessary for safety and stability, to prevent damage to adjacent properties from deposition or erosion or to provide access for slope maintenance and drainage. Retaining walls may be used to reduce the required setbacks when approved by the ~~Public Works Director~~City Engineer. All setbacks required by this section shall comply with all applicable zoning requirements under Title 17 of the code. If the zoning setback requirements exceed the setback requirements in this section, the zoning setbacks shall govern.

(B) Design standards for setbacks.

(1) The tops and toes of slopes shall be setback from the outer boundaries of the grading permit area, including easements, in accordance with Figures A and B of this section.

(2) Setbacks between graded slopes (cut or fill) and structures shall be provided in accordance with Figures A and B of this section.

(3) A usable side yard of at least five feet from any building wall shall be provided to the top or toe of a slope unless waived by the ~~Public Works Director~~City Engineer.

(4) Lot lines shall be located at the top of slopes whenever possible.

FIGURE A

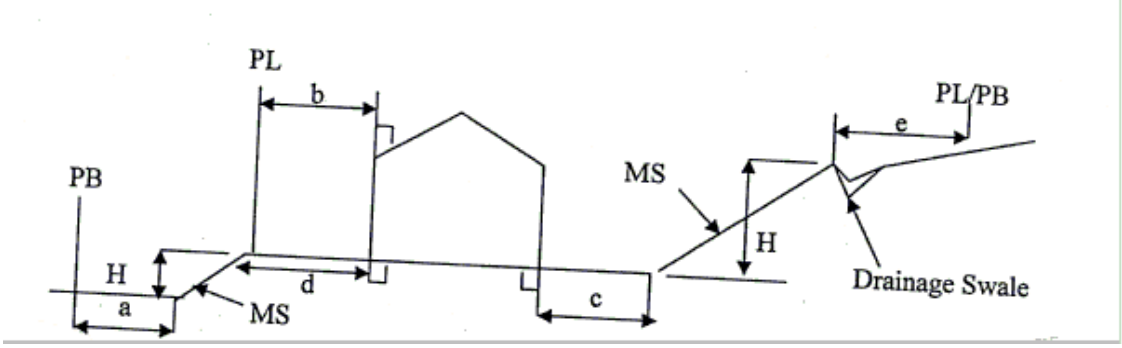

TABLE A-1 MINIMUM SETBACK FROM ADJACENT SLOPE					
H (Height-Ft)	a	b	c	d	e
0<6	2'	5'	3'	5'	3'
6' to 14'	H/2 or 5' (max)	5'	H/2	H/2 (5' min)	3'
14' to 30'	5'	H/2 (10' max)	H/2	H/2 (10' max)	6'
30'+	5'	10' max	15' max	10' max	6'

Notes:

1. PL means property line. PB means permit boundary. MS means manufactured surface.

2. Table A-1 applies to manufactured slopes and 2:1 (or steeper) natural slopes. Setbacks from natural slopes flatter than 2:1 shall meet the approval of the ~~Public Works Director~~City Engineer.

3. "b" may be reduced to a five foot minimum if an approved drainage device is used; roof gutters and downspouts may also be required.

4. "b" may be reduced to less than five feet if no drainage is conveyed on one side and if roof gutters are included.

5. If the slope between "a" and "b" is replaced by a retaining wall, "a" may be reduced to zero and "b" shall remain as shown in Table A-1. The height of the wall shall be governed by zoning regulations.

6. "b" shall be measured from the face of the structure to the top of the slope.

7. "d" is measured from the lower outside edge of the footing, along a horizontal line to the face (daylight) of the slope. Under certain circumstances, "d" may be reduced as recommended in a soils report and approved by the Building Official.

FIGURE B

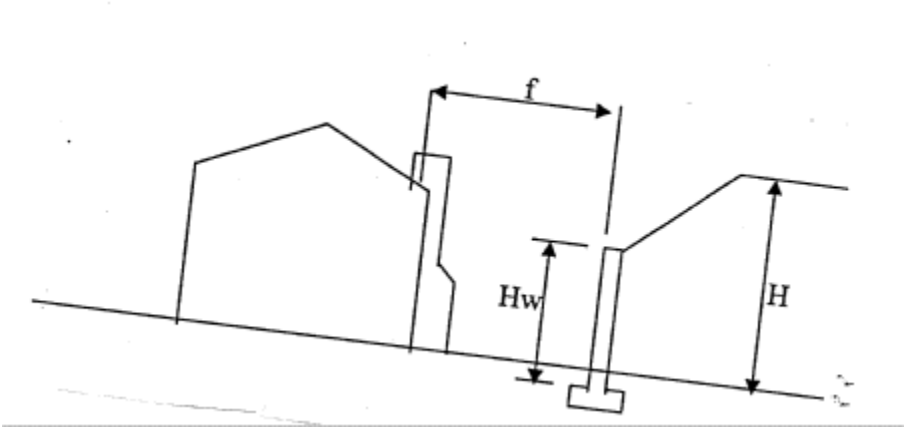

TABLE B-1 MINIMUM SETBACKS FROM RETAINING WALLS		
H (Height - Feet)	Hw (Height of wall)	f
0 to 6'	3' maximum	5' minimum
6' to 8'	4'	5' minimum
8' to 10'	5'	5' minimum
10' to 12'	6' (see note 3)	6'
12' to 30'	6' (see note 3)	H/2
30'+	6' (see note 3)	15' maximum

Notes:

1. The use of a retaining wall to reduce setbacks must be approved by the ~~Public Works Director~~City Engineer.

2. In limited situations, "f" may be reduced to zero feet if allowed by the Planning Director and if the Building Official approves a combination structure/retaining wall after submittal and review of structural calculations from a registered Civil Engineer or Structural Engineer and after the ~~Public Works Director~~City Engineer approves any necessary drainage devices.

3. "Hw" is the height of the retaining wall measured from the top of the footing to the top of the wall. The maximum height of retaining walls for developer initiated projects shall be four feet unless otherwise approved by the Planning Department. Wall heights greater than six feet may also be approved on a case-by-case basis as approved by the ~~Public Works Director~~City Engineer.

15.36.230 Drainage and terracing.

(A) General. Unless otherwise noted on the approved plans, drainage facilities and terracing of graded slopes shall conform to this section, to the currently adopted city design standards and to the city's Standard Plan No. 220-4.

(B) Terraces.

(1) Terraces at least eight feet in width shall be established at not more than 30 foot vertical intervals on all cut or fill graded slopes in order to control surface drainage and debris. Where only one terrace is required, it shall be at the mid-height of the slope. Terrace widths and spacing for cut and fill slopes greater than 120 feet in height shall be designed by the civil engineer based upon recommendations of the soil engineer and approved by the ~~Public Works Director~~City Engineer. Suitable access shall be provided to all terraces to permit proper cleaning and maintenance.

(2) Terrace drains shall have a minimum gradient of 2% unless waived by the ~~Public Works Director~~City Engineer. Terrace drains shall have a minimum depth at the deepest point of no less than one foot and a minimum paved width of at least three feet and shall be designed to accommodate all runoff created by the cut or fill slope as well as any tributary runoff which enters the terrace drain.

(C) Subsurface drainage. Cut and fill slopes shall be provided with subsurface drainage as necessary for stability and as recommended by the soil engineer or the engineering geologist.

(D) Storm water discharge. All drainage facilities shall be designed to carry storm water runoff to the nearest practicable drainage way approved by the ~~Public Works Director~~City Engineer and any other appropriate jurisdiction as an acceptable and safe location to deposit such runoff. Erosion of the ground in the area of discharge shall be prevented by installation of non-erosive down drains, energy dissipaters or other devices approved by the ~~Public Works Director~~City Engineer.

(E) Interceptor drains. Concrete interceptor drains (brow ditches) shall be installed along the top of all cut slopes where the tributary drainage area above the cut slope drains toward the cut slope, unless waived by the ~~Public Works Director~~City Engineer. The slope gradient for the interceptor drain shall be the same as for terrace drains or as approved by the ~~Public Works Director~~City Engineer.

(F) Storm water runoff. Storm water runoff shall not be allowed to flow over cut or fill slopes which are greater than a five to one (5:1) vertical to horizontal ratio, but shall be provided for as follows:

(1) Wherever practicable, each lot shall be graded so that storm water will drain from the backyard through the side yard and front yard directly to the abutting street or toward approved drainage facilities at a gradient of not less than 1%. Wherever practicable, drainage shall not be directed across other lots or over cut or fill slopes;

(2) When the provisions in the above subsection are not practicable, as determined by the ~~Public Works Director~~City Engineer, storm water shall be collected along the top of slopes or at the rear of graded lots by means of paved gutters and/or French drains and carried to properly sized outfall or area drains which shall also serve as erosion control devices. Such drainage shall not be allowed to drain across the surface of sidewalks or parkways. Asphalt concrete may not be used for any drainage device. Down drain ditches shall be a minimum of 18 inches deep;

(3) Where slopes are terraced at 30 foot intervals, drainage shall be provided in paved ditches a minimum of 36 inches wide and 12 inches deep. Construction of the ditches shall be as described below and shall be located on the terraces with one side of the ditch two feet from the toe of the slope. Where a terrace is constructed to conform to slope requirements, but is intended to be of a temporary nature, the ~~Public Works Director~~City Engineer may waive the drainage ditch requirements, if a satisfactory surety bond or other means to guarantee the improvement is posted with the city;

(4) Down drains, interceptor drains and terrace drains shall be connected together to collect and transport all storm water runoff entering the drains. They shall be of sufficient depth, as verified by hydraulic calculations, to allow for unimpeded flow when terraces are crossed. Down drains, interceptor drains and terrace drains shall be constructed of Portland cement concrete or air blown mortar. They shall be reinforced with wire mesh and/or other appropriate concrete reinforcement as determined by the project engineer and approved by the ~~Public Works Director~~City Engineer. If pipe is used for down drains to transport runoff from terrace ditches, it shall be either reinforced concrete pipe (RCP), plastic pipe (PVC) or other pipe material approved by the ~~Public Works Director~~City Engineer. Anchor lugs or collars may be required by the ~~Public Works Director~~City Engineer if the pipe slope is equal to or greater than a two to one (2:1)

horizontal to vertical ratio. Pipe specifications shall be approved by the ~~Public Works Director~~City Engineer. Special design features shall be provided for abrupt changes in direction of terrace ditches and down drains;

(5) The discharge from any down drain, ditch or pipe shall be controlled so as to prevent erosion of the adjacent grounds. Velocities shall be reduced by means of adequately sized aprons of rock, grouted rip-rap, box-type energy dissipaters or other materials approved by the ~~Public Works Director~~City Engineer.

(F) Maintenance of drainage facilities. Where the continuous functioning of a drainage facility is essential to the protection and use of more than one lot within the site of a development project, a mutual and reciprocal covenant or deed restriction shall be recorded by the owner of the lots on which the drainage facility is located, imposing on each such lot owner the responsibility for maintaining that portion of the drainage facility located on each lot owner's respective lot.

(H) Off-site drainage easements. All easements necessary for the construction of permanent off-site drainage facilities shall be acquired by the permittee. The easements shall be subject to the approval of the ~~Public Works Director~~City Engineer and the City Attorney and recorded prior to the issuance of the grading permit.

15.36.240 Golf course standards.

Notwithstanding anything to the contrary in this chapter, the following provisions shall be applicable to all golf course development projects:

(A) The property owner or developer may submit to the ~~Public Works Director~~City Engineer a request for deviation from the requirements of this chapter for golf course development projects. The request shall be in writing and shall include the reasons for the requested deviation(s). Documentation supporting the requested deviation shall include grading plans and erosion control plans, specifications and supporting data consisting of a soil engineering report, an engineering geology report and any hydraulic data necessary to evaluate the request. The ~~Public Works Director~~City Engineer shall evaluate the request and provide written response for approval, denial or approval subject to certain conditions;

(B) If the ~~Public Works Director~~City Engineer approves the requested deviation(s), the property owner or developer shall submit, upon completion of the work, a final soil engineering report and an as-built precise grading plan to the Public Works Department.

15.36.250 Retaining walls.

(A) Retaining walls constructed in connection with grading plans shall be constructed of reinforced concrete, reinforced masonry block, reinforced concrete block and geosynthetic fabric or a combination of the aforementioned materials. Retaining walls constructed in connection with grading plans shall be designed to resist all earth pressures acting upon them, including embankment or structure/vehicle surcharge loads. Retaining walls constructed in connection with grading plans shall be designed by a registered civil or structural engineer and submitted to the

Public Works Department for review and approval prior to installation. All retaining walls shall be shown on the grading plans, including appropriate structural calculations. Sufficient top of wall (TW) and top of footing (TF) elevations shall be shown on the grading plans to determine the overall height of the retaining wall at various locations.

(B) Retaining walls not constructed in connection with grading plans shall be designed by a registered civil engineer or structural engineer and shall be submitted to the Building Department with appropriate structural calculations for review and approval.

15.36.260 Expansive soils.

Expansive soil is any soil with an expansion index greater than 20, or as otherwise determined by the ~~Expansion Index Tests (Uniform Building Code Standard 29-2) and as listed in the Uniform~~ Building Code ~~Table 29-C~~. Whenever expansive soils are encountered within four feet of the finish grade of an area intended or designed as a location for a building, then one of the following shall apply.

(A) The permittee shall remove such expansive soil to a minimum depth of four feet below finish grade within the building footprint area. Non-expansive, properly compacted soil shall be installed in the area where the expansive soil was removed.

(B) If sufficient non-expansive material is not readily available on site, the permittee may at his or her option import non-expansive material to be used as fill or the soil engineer may waive or reduce the requirement for removal and replacement of the expansive soils for the project. The soil engineer, however, shall make recommendations for the design of footings, foundations, slabs and other load bearing features or other special procedures to alleviate any potential problem created by the remaining expansive soils.

(C) Based on recommendations of the soil engineer, expansive soil from cut areas may be placed in the lower extremities of embankments, and non-expansive materials shall be reserved and stockpiled for placement as a cap over the expansive soil. Whenever expansive soil is placed closer than four feet of finish grade, the soil engineer shall so indicate and make corrective recommendations as noted above.

15.36.270 Asphalt paving.

(A) Requirements. For the purpose of this section, asphalt concrete (A.C.), aggregate base material (A.B.), prime coat, tack coat and seal coat shall meet all current material specification standards of the city for public road construction or receive the approval of the ~~Public Works Director~~City Engineer.

(B) Subgrade compaction. Compaction of subgrade materials shall be in accordance with the requirements of § 15.36.200.

(C) Soil sterilization. Unless otherwise approved by the ~~Public Works Director~~City Engineer, subgrade earth materials shall be sterilized to preclude plant growth.

(D) Pavement structural section. The soil engineer or the civil engineer shall determine the pavement structural section(s) for private parking areas, access lanes, driveways and private streets. The structural section(s) shall be based on:

(1) Soils tests of the subgrade soil(s) performed in accordance with the latest revision of Test Method Number California 302 and anticipated traffic and/or loading conditions;

(2) The design shall be determined by R-value testing in accordance with CalTrans Design Method with recommended safety factors.

(E) Alternative design method. In lieu of the recommended structural section from the soil engineer or the civil engineer, the following standards may be used for private parking areas, access lanes, driveways and private streets:

INDUSTRIAL AND COMMERCIAL DEVELOPMENTS	***MINIMUM STRUCTURAL SECTION***
Parking areas	.25' AC/.33' AB
Driveways and perimeter drives for industrial development	.25' AC/.83' AB
Driveways and perimeter drives for commercial development	.25' AC/.67' AB
HIGH DENSITY RESIDENTIAL	
Parking areas and access lanes	.25' AC/.33' AB
Drives and areas subject to heavy truck use	.25' AC/.67' AB
PRIVATE STREETS	
Structural roadway section for private streets	.25' AC/.50' AB

AC means asphalt concrete pavement.

AB means class II aggregate base material.

(F) Dedicated streets. Minimum structural sections for dedicated city streets shall conform with the current addition of the city's standard plans.

(G) Exceptions. The provisions of this section shall not apply to private asphalt concrete driveway(s) providing access to not more than two single-family residences, proposed in conjunction with a project for which a grading permit has been issued or to commercial, industrial or high-density residential developments where all pavement areas are constructed of Portland Cement Concrete (PCC) pavement.

15.36.280 Erosion control systems.

(A) Design and development standards. All erosion control systems required by the Erosion Control Plan shall be designed and developed in accordance with the following standards:

(1) Erosion control systems shall be designed and developed in conformance with the Erosion Control Plan unless otherwise approved by the ~~Public Works Director~~City Engineer;

(2) All sediment shall be contained on-site. Runoff from disturbed areas shall be detained or filtered by beans, swales, ditches, filter strips or other means as necessary to prevent the escape of sediment from the site. Sediment control devices shall be installed prior to or concurrent with the initial grading work and shall be maintained throughout the development process;

(3) Erosion shall be prevented at locations where runoff is concentrated. Where runoff will be discharged to natural ground or channels, appropriate energy dissipaters shall be installed to prevent erosion at the point of discharge;

(4) Desilting facilities shall be provided at drainage outlets from the graded site;

(5) Desilting basins shall be designed to provide a desalting capacity capable of containing the anticipated runoff for a period of time adequate to allow sediment of suspended particles;

(6) Desilting basins shall be constructed around the perimeter of development projects. Basins should be located where maintenance access is provided from paved roads during wet weather;

(7) Desilting basins constructed from compacted earth shall be compacted to a relative compaction of 90% of maximum density. A soil engineering report including the type of field-testing performed and the location and results of testing shall be submitted to the ~~Public Works Director~~City Engineer for approval upon completing the desalting basin(s);

(8) Equipment and workers for emergency work shall be available at all times. Necessary materials shall be available on-site and stockpiled at convenient locations to facilitate rapid construction of temporary erosion control devices if needed;

(9) Unless otherwise approved by the ~~Public Works Director~~City Engineer, erosion control systems shall include effective planting on all slopes in excess of three feet in height. Slopes exceeding 15 feet in height may require an adequate sprinkler system, as determined by the ~~Public Works Director~~City Engineer;

(10) All slopes greater than five feet in height shall be permanently landscaped with the landscaping established prior to November 1. If the permanent landscaping is not installed and sufficiently established prior to November 1, the slope(s) shall be covered with protective materials and soil stabilizers approved by the ~~Public Works Director~~City Engineer;

(11) All slope planting which is to be completed after September 15 will require jute matting or other acceptable turf matting or erosion control blankets prior to planting or hydroseeding;

(12) All disturbed slopes shall be planted and protected within 45 days of the completion of each stage of grading. Suitable measures to prevent slope erosion, including, but not limited to, rapid growth vegetation sufficient to stabilize the soil, shall be installed on all disturbed areas until such time as the permanent vegetative cover sufficiently matures to provide permanent stability;

(13) Erosion control systems shall include and complement drainage patterns during the current and future phases of grading throughout the rainy season;

(14) Graded areas around the perimeter of the development project must drain away from the face of slopes at the conclusion of each working day;

(15) If a development project includes grading or construction within 100 feet of any environmentally sensitive area, additional erosion control systems may be required within all disturbed areas in order to minimize the impacts to the environment. The erosion control systems shall be completed, inspected and operational no later than October 1. The additional erosion control measures may include, but are not limited to, installing protective materials and stabilizers along banks and within waterways and over all disturbed areas. The additional erosion control systems may also require a 24-hour on-site guard during storms and when the precipitation amount is expected to exceed one-half inch in any 24-hour period. The precipitation forecast shall be as established by the National Weather Service;

(16) If construction of an erosion control system outside of the boundaries of the development project is necessary, permission to construct such system from the affected property owner(s) shall be obtained. Erosion control plans for off-site erosion control systems shall be included with the on-site erosion control plans submitted to the ~~Public Works Director~~City Engineer. The Erosion Control Plan for the off-site erosion control systems shall include permission to grade and maintain the erosion control systems from all affected property owners and letters of clearance and/or permits from all appropriate governmental entities;

(17) The faces of cut and fill slopes and the project site shall be prepared and maintained to control erosion. Slope protection may be waived by the ~~Public Works Director~~City Engineer for cut slopes, which are not subject to erosion because of the erosion resistant character of the materials.

(B) Construction and installation of erosion control systems. All erosion control systems required by the Erosion Control Plan shall be constructed and installed in accordance with the following:

(1) Erosion control systems shall be constructed and installed in conformance with the Erosion Control Plan unless otherwise approved by the ~~Public Works Director~~City Engineer;

(2) The construction and installation of all erosion control systems shall be approved by the ~~Public Works Director~~City Engineer and approved and certified by the civil engineer. All erosion control system(s) shall be constructed, installed, approved and certified no later than October 1;

(3) All erosion control systems shall remain in place at all times for all areas in which construction is not scheduled to commence within the next seven days;

(4) All erosion control systems shall remain in place until May 31. The May 31 date may be extended by the ~~Public Works Director~~City Engineer upon determination that there is a substantial likelihood of significant precipitation after May 31. The ~~Public Works Director~~City Engineer shall use information as provided by the National Weather Service to make such determination;

(5) All erosion control systems required to retain sediment on-site and to safely discharge any accelerated runoff generated by the associated development project shall be installed during the initial construction phase of the development project;

(6) All removable protective devices shall be in place at the end of each working day when the five day rain probability forecast exceeds 40%. The forecast shall be as determined by the National Weather Service.

(C) Maintenance of erosion control systems. All erosion control systems required by the Erosion Control Plan shall be maintained in accordance with the following:

(1) Erosion control systems shall be maintained in conformance with the Erosion Control Plan unless otherwise approved by the ~~Public Works Director~~City Engineer;

(2) The performance of all erosion control systems shall be evaluated by the ~~Public Works Director~~City Engineer and revised and replaced as ordered;

(3) Erosion control systems shall be serviced and maintained to provide continuous capacity and to adequately function as designed. After precipitation exceeding one-quarter inch in any 12 hour period, or upon direction of the ~~Public Works Director~~City Engineer, silt and debris shall be removed from check dams and desilting basins and the basins pumped dry and otherwise restored to the original design condition;

(4) The grading contractor, permittee and property owner shall be responsible for and shall take all necessary precautions to prevent public trespass into areas where impounded water creates a hazardous condition. Necessary precautions may include, but are not limited to, appropriate perimeter fencing or a 24 hour guard;

(5) Any sprinkler system controlled by timers and used with an erosion control system shall be inspected every 30 days to ensure proper functioning of the timer device;

(6) Paved streets, sidewalks and other improvements shall be maintained in a neat and clean condition, free of loose soil, construction debris and trash. Street sweeping or other equally effective means shall be used on a regular basis to control erosion that has been deposited on streets or sidewalks. Watering shall not be used to clean streets except for the removal of fine material not otherwise removed by sweeping or other mechanical means.

(D) Failure of erosion control system. The grading contractor, permittee or property owner shall be responsible for construction, installation, inspection, modification and proper maintenance of all erosion control systems. If the grading contractor, permittee or property owner fails or refuses to properly construct, install or maintain an erosion control system, the ~~Public Works Director~~City Engineer may order emergency maintenance work to be done in order to protect public or private property or to protect the public health, safety and welfare. The cost of such emergency work, including initial mobilization, performance of the work and applicable administrative costs shall be charged to the permittee or the property owner pursuant to the procedures set forth in this chapter. The ~~Public Works Director~~City Engineer may also suspend or revoke the grading permit as provided in this chapter. The grading permit shall not be reinstated or renewed until all required erosion control system(s) have been properly constructed, installed and maintained as approved by the ~~Public Works Director~~City Engineer.

15.36.290 National Pollution Discharge Elimination System (NPDES).

(A) All development projects requesting a grading permit shall comply with Chapter 13.27 (Storm Water Management and Discharge Controls) and all applicable requirements of the State Water Resources Control Board (SWRCB) and the Santa Ana Regional Water Quality Control Board (SARWQCB). In general, for all development projects that disturb one or more acres the SARWQCB requires compliance with the General Construction Activity Storm Water Permit (general permit), and the SARWQCB may require compliance with individual permits it has issued under the NPDES program. The general permit and individual permits typically require an applicant to file a Notice of Intention (NOI), prepare a Storm Water Pollution Prevention Plan (SWPPP) and implement a Monitoring Program.

(B) Prior to issuance of a grading permit, each applicant shall provide evidence of compliance with the appropriate storm water standards, and if applicable, a copy of the required NPDES permit to the ~~Public Works Director~~City Engineer. Such information shall be maintained on-site during construction and shall be presented upon demand by SWRCB, SARWQCB, the city or any member of the public.

15.36.300 Grading inspection.

(A) Pre-grading and pre-paving meeting. Prior to any grading or clearing, brushing and grubbing there shall be a pre-grading meeting held on the site unless waived by the ~~Public Works Director~~City Engineer. Prior to placing concrete for curb and gutter, sidewalk, pavement base material or other similar improvement in the public right-of-way, there shall be a pre-paving meeting held on the site unless waived by the ~~Public Works Director~~City Engineer. The permittee shall notify the ~~Public Works Director~~City Engineer and request the meeting(s) at least two working days prior to the meeting(s) and shall notify all principals responsible for grading or paving operations.

(B) Pre-work inspection. Prior to the commencement of any work authorized by a grading permit, the ~~Public Works Director~~City Engineer may inspect the site of the work to determine that the approved plans are current and reflect existing conditions. If the ~~Public Works Director~~City Engineer finds the soil or other conditions do not reflect the conditions shown on the approved plans or stated in the geotechnical reports, the ~~Public Works Director~~City Engineer may issue a stop work order until revised grading plans or modified geotechnical reports that reflect the actual site conditions have been submitted and approved by the ~~Public Works Director~~City Engineer.

(C) Site inspections. All work authorized under a grading permit shall be subject to the following inspections, where applicable, and the permittee shall provide notice to the ~~Public Works Director~~City Engineer at least one working day prior to the work being ready for the inspection.

(1) Excavation and fill inspection. All excavation and fill work shall be inspected as follows:

(a) Canyon clean out. After all brush and unsuitable material is removed and an acceptable base is exposed, but before any fill is placed;

(b) Toe bench and key. After the natural ground or bedrock is exposed and prepared to receive fill, but before fill is placed;

(c) Over excavation. After the area is excavated but before fill is placed;

(d) Excavation. After the excavation is started, but before the vertical depth of the excavation exceeds ten feet and every ten foot interval thereafter.

(e) Fill. After the fill is started, but before the vertical height of the fill exceeds ten feet and every ten foot interval thereafter;

(2) Concrete or gunite drainage device inspection. All concrete of gunite drainage devices shall be inspected as follows:

(a) Alley gutter or concrete drainage device. After the sub-grade is prepared and any reinforcement placed but prior to concrete placement and then again after concrete placement;

(b) Terrace drains, down drains, brow ditches. After grade is established but before placement of welded wire mesh or reinforcement and then again after placement of concrete or gunite.

(3) Other drainage devices. Any subdrains, city storm drain or inlets or any earth swales shall be inspected as follows.

(a) Subdrains. After excavation but prior to placement of filter materials and pipe. The subdrain pipe and filter material shall be on site for inspection. Inspection shall also occur after placement of pipe and filter material but before backfill.

(b) City storm drains and inlets. After installation of form work and placement of reinforcement, but before concrete placement and then again after placement of concrete and removal of form work, but prior to backfilling. Inspection shall also occur after backfilling and completion of storm drain.

(c) Earth swales. Prior to rough grading approval and then again prior to final grading approval.

(4) Siltation control facilities (October 1 to May 31). All siltation control facilities shall be inspected as follows:

(a) After excavation of desilting basins but prior to fill placement. Prefabricated drainage devices shall be available on-site for inspection;

(b) After fill placement of desiltation basins but prior to placement of concrete or other non-erosive materials (if applicable);

(c) After completion of an erosion control system in accordance with the approved Erosion Control Plan and any requirements of the ~~Public Works Director~~City Engineer.

(5) Rough grade inspection. All rough grading work shall be inspected when all rough grading is complete. Inspection shall occur after the ~~Public Works Director~~City Engineer has received, reviewed and approved the required geotechnical certification(s) and/or compaction reports and the civil engineer has submitted approval of line and grade on city approved format. Under normal

circumstances, all subdrains and slope drains, if required, shall be in place and approved as a condition of rough grading inspection.

(6) Paving inspection. All paving work shall be inspected as follows:

(a) Subgrade. After subgrade is established, tested and approved by the soil engineer. The soil engineer may leave a field memo of compaction test results on site. The civil engineer shall provide approval of line and grade;

(b) Base. After base course is in place, tested and approved by the soil engineer, but prior to prime coat and asphalt placement. The soil engineer may leave a field memo of compaction test results on site. Material invoices or weight tickets shall be required;

(c) Asphalt concrete. During asphalt placement to verify compliance with the approved plans. Material invoices or weight tickets shall be required. Prior to application of seal coat, the paved surface shall be water tested to reveal any irregularities and shall be patched where required.

(7) Special inspections. For special cases involving grading or paving related operations, the ~~Public Works Director~~City Engineer may establish special inspection requirements in accordance with the ~~Uniform~~ Building Code~~, 1997 Edition, § 1701, as amended~~. Special cases may apply to work where, in the opinion of the ~~Public Works Director~~City Engineer, it is necessary to supplement the resources or expertise available for inspection.

(8) Final inspection. All work shall undergo final inspection when all work, including the installation of all drainage structures and other protective devices, is complete and all written professional approvals and the required reports are submitted.

(D) Enforcement of inspections.

(1) Whenever any work for which inspection is required, is covered or concealed by additional work without first being inspected, the ~~Public Works Director~~City Engineer may require, by written notice, that such work be exposed for examination. Any cost for exposing and recovering such non-inspected work shall be at the permittee's sole cost and expense.

(2) The provisions of the ~~Uniform~~ Building Code ~~(UBC), 1997 Edition, § 104.2.4, Stop Orders,~~ shall apply, whenever the ~~Public Works Director~~City Engineer determines that any work does not comply with the terms of the grading permit, the approved plans, any applicable provisions of this chapter or the code or state or federal law or that the soil or other conditions are not as stated on the grading permit, approved plans or geotechnical reports. Pursuant to such authority, the ~~Public Works Director~~City Engineer may order the work stopped by notice in writing served any person(s) engaged in doing or causing of such work to be done, and any such person(s) shall immediately stop such work until authorized by the ~~Public Works Director~~City Engineer to proceed with the work.

(E) Inspections by professionals of record.

(1) The soil engineer shall be responsible for the professional inspection and approval concerning the preparation of ground to receive fills, testing for required compaction, stability of all finished slopes, design of buttress fills where required and incorporating data supplied by the engineering geologist.

(2) The engineering geologist shall be responsible for the professional inspection and approval of the stability of cut slopes with respect to geological matters and the needs for subdrains or other ground water drainage devices. The engineering geologist shall report all findings to the soil engineer for engineering analysis.

(3) When preliminary soil engineering reports are not required by the ~~Public Works Director~~City Engineer, inspection and testing may be required by a testing agency. The testing agency shall be responsible for the professional inspection and approval of cleared areas and benches to receive fill and the compaction of fills.

(4) The ~~Public Works Director~~City Engineer, or his or her designee, shall inspect the project at various stages of work requiring approval and at any more frequent intervals necessary to determine that adequate inspection and testing are being completed by the professional consultants and to insure conformance with the approved plans.

(F) Noncompliance; notification; corrective measures. If the civil engineer, the soil engineer, the engineering geologist or the testing agency finds during any inspection conducted pursuant to this chapter that the work is not being completed in conformance with the grading permit, the approved plans, any applicable provisions of this chapter or the code or state or federal law, the nonconformance shall be immediately reported in writing to the permittee, any contractor performing the work, the property owner and the ~~Public Works Director~~City Engineer. The civil engineer, the soil engineer, the engineering geologist or the testing agency shall submit recommendations for corrective measures to the ~~Public Works Director~~City Engineer for review and approval. The ~~Public Works Director~~City Engineer may require additional or revised soil engineering reports or engineering geology reports for approval of the corrective measures.

(G) Incorporation of corrective measures. The civil engineer shall incorporate any corrective measures approved by the ~~Public Works Director~~City Engineer into the approved plans, and the changes shall automatically be deemed to be made a part of the grading permit. The civil engineer of record during construction shall be responsible for establishing line and grade for the grading and drainage improvements and shall act as the coordinating agent in the event the need arises for liaison between the other professionals, the grading contractor and the ~~Public Works Director~~City Engineer. The civil engineer of record during construction shall also be responsible for preparing revised grading plans for review and approval, if required by the ~~Public Works Director~~City Engineer. Upon completion of the work, the submission of an as-built precise grading plan shall incorporate all corrective measures, changes and additions made during construction.

15.36.310 Change in professional of record.

(A) If the civil engineer, the soil engineer, the engineering geologist, the testing agency or the grading contractor of record is changed during the course of the work, the work may be stopped by the ~~Public Works Director~~City Engineer until:

(1) The permittee submits a letter of notification to the ~~Public Works Director~~City Engineer verifying the change of the responsible professional or the civil engineer who prepared the approved plans submits a letter indicating that he or she is not the engineer of record for construction of the project; and

(2) The new responsible professional submits in writing that he or she has reviewed all prior reports and approved plans (specified by date and title) and work performed by the prior responsible professional and that he or she concurs with the findings, conclusions and recommendations and is satisfied with the work performed. The new responsible professional must also state that he or she assumes all responsibility within his or her purview as of the specified date.

(B) All exceptions to the requirements of this section must be justified to the satisfaction of the ~~Public Works Director~~City Engineer.

(C) Where clearly indicated that a corporation, partnership, limited liability partnership or limited liability corporation, not the individual engineer and/or geologist, is the responsible professional, the designated engineer and/or geologist may be reassigned and another engineer and/or geologist within the corporation, partnership, limited liability partnership or limited liability corporation may assume responsibility without the requirement for written notification to the ~~Public Works Director~~City Engineer.

15.36.320 Completion of work.

(A) Final reports. Upon completion of the rough grading work and at the final completion of all work authorized under the grading permit, but prior to the release of grading security or issuance of a certificate of occupancy, the ~~Public Works Director~~City Engineer shall require:

(1) An as-built precise grading plan prepared by the civil engineer which shall include original ground surface elevations, as-graded ground surface elevations, slope inclinations, elevations and locations of all surface and sub-surface drainage facilities, location with scaled sections of all buttress/stabilization fill and location and depth of all areas of unsuitable soil;

(2) Written approval by the civil engineer that the grading conforms with the approved plans and that specifically identifies the following items as conforming with the approved plans:

(a) Construction of line and grade for all engineered drainage devices and retaining walls (both rough and final grading);

(b) Staking of property corners for proper building locations (rough grading only);

(c) Locations of permanent walls or structures on property corners or property lines where monumentation is not required (final grading only);

(d) Location and inclination of all manufactured slopes (both rough and final grading);

(e) Construction of earthen berms and positive building pad drainage (both rough and final grading);

(3) A final soil engineering report (compaction report) prepared by the soil engineer, including the type of field testing performed, the stability of utility trench and retaining wall backfill, summaries of field and laboratory tests and other substantiating data and comments on any changes made during grading and the effect of the same on recommendations and changes incorporated in the approved plans. Each field density test shall be identified, located on a plan or

map, the elevation of the test and finish grade elevation shown and the method of obtaining the in-place density described (either ASTM 1556-78 or the approved equal shall be noted). The final soil engineering report shall provide written approval as to the adequacy of the site for the intended use, as effected by soil engineering factors, and a statement of compliance to finish grade;

(4) A final engineering geology report prepared by the engineering geologist, including a final description of the geology of the site, including any new information discovered during the grading and the effect of the same on recommendations and changes incorporated in the approved plans. The engineering geologist shall provide written approval as to the adequacy of the site for the intended use as effected by geologic factors, a statement of compliance to finish grade, and when required by the ~~Public Works Director~~City Engineer, shall submit an as-built geologic map;

(5) The ~~Public Works Director~~City Engineer may require a statement of compliance prepared by the grading contractor that all work was completed in accordance with the grading permit and approved plans.

(B) Notice of completion. The ~~Public Works Director~~City Engineer shall give final approval of the work and a notice of completion shall not be issued until all work, including installation of all drainage facilities and their protective devices and all erosion control measures have been completed in accordance with the approved plans and undergone final inspection, the required final reports and statements of compliance have been submitted and approved by the ~~Public Works Director~~City Engineer and all fees and costs incurred by the permittee have been paid or satisfied by the security.

15.36.330 Issuance of building permits.

(A) Building permits may be issued for a site graded under an approved plan and valid grading permit upon completion, inspection, approval of rough grade and inspection as required by this chapter. Only building permits for construction of model homes may be issued prior to completion of rough grading for the site, provided that rough grading is completed and inspected for the model home sites.

(B) Building permits shall not be issued for a site graded under a rough grading permit until a new precise grading plan is approved, a grading permit issued and the provisions noted above are satisfied.

15.36.340 Penalties for violation.

(A) Any person violating any provision of this chapter shall be deemed guilty of a misdemeanor, and upon conviction thereof in a court of law, shall be punishable by a fine of not more than $1,000 or imprisonment for not more than six months, or by both. Each person shall be deemed guilty of a separate offense for every day during any portion of which any violation of any provision of this chapter, including any physical condition created in violation of this chapter, is continued or permitted to continue and shall be punishable as provided for in this chapter.

(B) Any lot, street, alley, road or driveway constructed contrary to the provisions of this chapter shall constitute a public nuisance.