

CITY OF MISSION VIEJO



GRADING AND EXCAVATION CODE

Title 8, Chapter 8.10
of the Codified Ordinances

**CITY OF MISSION VIEJO
TITLE 8, CHAPTER 8.10
GRADING AND EXCAVATION CODE**

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ORDINANCE 10-286

AN ORDINANCE BY THE CITY COUNCIL OF THE CITY OF MISSION VIEJO AMENDING THE MUNICIPAL CODE BY REPEALING CHAPTER 8.10 OF TITLE 8 AND ADDING A NEW CHAPTER 8.10 RELATING TO GRADING AND EXCAVATIONS

THE CITY COUNCIL OF THE CITY OF MISSION VIEJO DOES ORDAIN AS FOLLOWS:

SECTION 1. Findings.

A. The City of Mission Viejo, as a general law city, is authorized by Article XI, Section 7, of the California Constitution to make and enforce within its limits all local, police, sanitary, and other ordinances and regulations not in conflict with general laws.

B. The purpose of this Ordinance is to safeguard life, limb, property, and the public welfare by regulating grading on private property in the city.

SECTION 2. Ordinance Amending Title 8 of the Municipal Code.

Chapter 8.10 of Title 8 of the Mission Viejo Municipal Code is repealed and a new Chapter 8.10 is adopted to read as follows:

CHAPTER 8.10. GRADING AND EXCAVATION CODE

DIVISION 1. GENERALLY

Section 8.10.010 Title reference to code.

This chapter shall be known as and may be cited as the "City of Mission Viejo Grading and Excavation Code."

(Ord. No. 88-12, §6(7-1-800), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

Section 8.10.020 Grading manual.

(a) The director shall formulate such rules, procedures, and interpretations as may be necessary or convenient to administer this chapter. Such rules, procedures, and interpretations shall be referred to as the "City of Mission Viejo Grading Manual" or the "Grading Manual." The director is hereby authorized to incorporate further amendments into the Grading Manual provided such amendments are consistent with this chapter.

(b) The Grading Manual shall include provisions to ensure that the water quality requirements relevant to activities subject to this division apply to all such activities.

(c) In the event of any conflict between the Grading Manual and this chapter, the provisions of this chapter shall govern. The provisions of the Grading Manual, to the extent that they are made conditions of any grading permit by the director, shall be binding on the permittee.

(Ord. No. 88-12, §6(7-1-801), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

Section 8.10.030 Purpose and intent.

It is the intent of this chapter to safeguard life, limb, property, and the public welfare by regulating grading on private property in the city.

(Ord. No. 88-12, §6(7-1-802), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

Section 8.10.040 Scope.

This chapter sets forth rules and regulations to control excavation, grading, and earthwork construction, including fills and embankments, and establishes administrative requirements for issuance of permits and approvals of plans and inspection of grading construction in accordance with the requirements for grading and excavation as contained in the California Building Code then in effect as adopted and modified by city ordinance.

(Ord. No. 88-12, §6(7-1-803), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

DIVISION 2. DEFINITIONS

Section 8.10.200 Definitions

The following words, terms and phrases, when used in this chapter, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning:

“Approval” means a written engineering or geological opinion by the responsible engineer, geologist of record or responsible principal of the engineering company concerning the progress and completion of the work unless it specifically refers to the Director.

“Approved plans” means the current grading plans which bear the signature of approval by the Director.

“Approved 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, or the Grading Manual, as determined by the Director. This determination may be appealed to the City Council.

“Borrow” means earth material acquired from an off-site location for use in grading on a site.

“Building official” means the Director of Community Development or the Director’s duly delegated representative.

“Civil engineer” means a professional engineer registered in the State of California to practice in the field of civil engineering.

“Civil engineering” means the application of the knowledge of the forces of nature, principles of mechanics and the properties of materials for the evaluation, design, and construction of civil works for the beneficial uses of mankind.

“Clearing, brushing, and grubbing” means the removal of vegetation (grass, brush, trees, and similar plant types) by mechanical means.

“Commercial coach” means a vehicle with or without motive power, designed and equipped for human occupancy for industrial, professional, or commercial purposes, and shall include a trailer coach.

“Compaction” means the densification of a fill by mechanical means.

“Director” means Director of Public Works, City Engineer, or the Director’s duly delegated representative.

“Earth material” means any rock, natural soil or fill and/or any combination thereof.

“Engineering geologist” means a geologist certified in the State of California to practice engineering geology.

“Engineering geology” means 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.

“Erosion” means the wearing away of the ground surface as a result of the movement of wind, water, and/or ice.

“Erosion control system” means an effective combination of source control practices that protect the soil surface and prevent soil particles from being detached by rainfall, flowing water or wind, and sediment control practices that trap soil particles after they have been detached and moved by rain, flowing water or wind, to protect adjacent private property, watercourses, public facilities and receiving waters from an abnormal deposition of sediment or dust.

“Excavation” means the mechanical removal of earth material.

“Fill” means a deposit of earth material placed by artificial means.

“Grade” means the vertical location of the ground surface.

- (1) "Natural grade" is the ground surface unaltered by artificial means.
- (2) "Existing grade" is the ground surface prior to grading.
- (3) "Rough grade" is the stage at which the grade approximately conforms to the approved plan.
- (4) "Finish grade" is the final grade of the site which conforms to the approved plan.

"Grading" means any excavating or filling or combination thereof.

"Grading contractor" means a contractor licensed and regulated by the State of California who specializes in grading work or is otherwise licensed to do grading work.

"Grading permit" means an official document or certificate issued by the Director authorizing grading activity as specified by approved plans and specifications.

"Hillside site" means a site which entails cut and/or fill grading of three (3) feet or more in vertical height below or above natural ground; or a combination fill-over-cut slope equal to or greater than five (5) feet in vertical height; or where the existing grade is twenty (20) percent or greater; and which may be adversely affected by drainage and/or stability conditions within or from outside the site, or which may cause an adverse effect on adjacent property.

"Mobile home" means a structure, transportable in one or more sections, designed and equipped to contain not more than two dwelling units to be used with or without a foundation system. Mobile home does not include recreational vehicle, commercial coach, or factory-built housing.

"Owner" means any person, agency, firm, or corporation having a legal or equitable interest in a given real property.

"Rainy season" is predetermined by the Director and at the time of this printing is established from October 1 through April 30 of each year.

References. Unless indicated otherwise, or as reasonably appears from the context, references in this chapter to the civil engineer, the soil engineer, the geologist, and the engineering geologist refer to the professional person(s) preparing, signing, or approving the project plans and specifications which comprise the approved grading plan, and which professional person appears of record pursuant sections 8.10.400 through 8.10.525, or his successor appearing pursuant to section 8.10.1240, Transfer of Responsibility for Approval.

"Rough grading permit" means a permit that is issued by the Director on the basis of approved plans which need not show a structure location but must show interim building pad drainage to the degree required by the Director.

“Site” means any lot or parcel of land or contiguous combination thereof, under the same ownership, where grading is performed or permitted.

“Slope” means an inclined ground surface, the inclination of which is expressed as a ratio of horizontal distance to vertical distance.

“Soil” means naturally occurring surficial deposits overlying bedrock.

“Soil engineer” means a civil engineer duly registered in the State of California whose field of expertise is soil mechanics.

“Soil engineering” means the application of the principles of soil mechanics in the investigation, evaluation, and design of civil works involving the use of earth materials and the inspection and testing of the construction thereof.

“Special inspector” means an inspector duly licensed by the Director to perform inspection of asphalt concrete placement and related construction work or other grading related work approved by the Director.

“Stockpile” means imported compactable earth temporarily placed for future fill on or off site (no deleterious material).

“Storm water permits” means any permits issued by a regional, state, or federal agency regulating storm water flow over and from any project subject to this division, including, but not limited to National Pollutant Discharge Elimination System (“NPDES”) permits for Municipal Separate Storm Sewer Systems (MS4) permits and state general permits.

“Terrace” means a relatively level step constructed in the face of a graded slope surface for drainage and maintenance purposes.

“Water quality requirements” means the requirements relevant to activities subject to storm water permits.

(Ord. No. 88-12, §6(7-1-804), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

Cross references: Definitions generally, §1.01.170.

DIVISION 3. PERMITS REQUIRED

Section 8.10.300. Exemptions from requirements.

No person shall conduct any grading, clearing, brushing, or grubbing on natural or existing grade that is preparatory to grading, without first having obtained a grading permit from the Director. Exceptions to this requirement are as follows or as otherwise determined by the Director:

- (a) An excavation below finished grade for basements and footings of a building, mobile home, retaining wall, or other structure authorized by a

valid building permit or construction permit. This shall not exempt any excavation having an unsupported height greater than five (5) feet after the completion of such structure. This 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 Director, stability or flooding considerations warrant such inspection. Further, fill made with the excavated material is not exempt from a grading permit, unless otherwise waived by the Director.

- (b) Cemetery graves.
- (c) Refuse disposal sites controlled by other regulations.
- (d) Earthwork construction regulated by the Federal, State, County agencies, or City, or by any local agency as defined by Government Code Sections 53090 through 53095 (special districts). Pipeline or conduit excavation and backfill conducted by local agencies or public utilities. Earthwork construction performed by railway companies on their operating property. This exemption, however, shall apply only when the earthwork construction takes place on the property or dedicated rights-of-way or easements of the above agencies.
- (e) Excavation and backfill for installation of underground utilities by public utilities or companies operating under the authority of a franchise or public property encroachment permit.
- (f) Mining, quarrying, excavating, processing, stockpiling of rock, sand, gravel, aggregate, or clay where established and provided for by law, provided such operations do not affect the lateral support or increase the stresses in or pressures upon any adjacent or contiguous property.
- (g) Exploratory excavations under the direction of soil engineers or engineering geologists, provided all excavations are properly backfilled. All such excavations and trenches are subject to the applicable sections of Title 8 of the State Orders, Division of Industrial Safety.
- (h) Grading in conjunction with work performed pursuant to the provisions of Title 7, Division 8, Article 1 of the Codified Ordinance of the County of Orange (The Orange County Oil Code), unless the Director determines it is necessary to obtain a grading permit to assure proper construction of a building or other structure, or where it is necessary for the protection of adjacent properties not devoted to oil drilling or production.

(Ord. No. 88-12, §6(7-1-805), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

Section 8.10.310. Grading permit, paving.

No person shall construct pavement surfacing in excess of three thousand (3,000) square feet, on natural or existing grade for the purpose of a private road or commercial, industrial or multi-residential parking lot or travelway or sidewalk without a valid grading permit unless waived by the Director or a separate improvement plan for such paving is approved and signed by an authorized City official. Resurfacing or maintenance of existing paved surfaces shall be exempt from this requirement.

(Ord. No. 88-12, §6(7-1-806), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

Section 8.10.320. Grading permit, watercourse alteration.

No person shall alter an existing watercourse, channel, or revetment by excavating, or placing fill, rock protection or structural improvements without a valid grading permit, unless waived by the Director or performed an interim protection under emergency flooding-fighting conditions.

(Ord. No. 88-12, §6(7-1-807), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

Section 8.10.330. Grading permit, construction.

No person shall perform any construction for which a building permit is required, without a grading permit, unless waived by the Director. The following building categories shall be exempt from this requirement, provided that such construction does not alter an existing watercourse, channel or revetment: roofing, block walls, swimming pools and spas, demolition of existing swimming pools and spas, patio covers, driveways or on-site paving less than three thousand (3,000) square feet in area, patio enclosures less than four hundred (400) square feet in area, and building additions less than four hundred (400) square feet in area.

Section 8.10.340. Grading permit, stockpiling.

No person shall stockpile soil on a lot or parcel without a valid grading permit, unless waived by the Director.

- (a) A site plan of the lot showing the area in which the stockpile is to be placed, the approximate amount of soil to be stockpiled, and the erosion control system used shall be required. The placement of the stockpile shall not adversely affect the safety, use, or stability of any structure, nor create a nuisance because of dust or erosion therefrom, nor block a public way or drainage course; nor shall such placement of stockpile material constitute a hazard to public welfare or endanger property.
- (b) Stockpiling in a residential zone may be permitted under this Section for purposes of providing fill material to be used on-site only.
- (c) Stockpiling in residential zones for purposes of selling of material shall be prohibited.
- (d) The grading permit for stockpiling shall expire one year after issuance thereof. A new permit shall be required annually.
- (e) Stockpiling directly associated with construction of exempted building categories listed in Section 8.10.330 does not require a grading permit.

The permittee shall implement an effective erosion control system to prevent dust and erosion therefrom.

Section 8.10.350. Excavation blasting permit.

No person shall possess, store, sell, transport or use explosives and blasting agents to do any excavation without a permit from the fire department and authorization by the Director.

(Ord. No. 88-12, §6(7-1-808), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

Section 8.10.360. Types of grading permits.

- (a) Either a rough grading permit or a precise grading permit may be issued for grading work upon completion of an application in accordance with subarticle 5 of the Grading Manual and approval by the Director. The rough or precise grading permit is the option of the permittee provided that the plans satisfy the requirements of subarticle 5 of the Grading Manual.
- (b) Building permits may be issued for a site graded under a valid precise grading permit upon completion and approval of rough grade inspection, as specified in Section 8.10.1450. A building permit shall not be issued unless written confirmation that the rough grading has been completed in accordance with the City approved plans is received from an applicant's Engineer(s) of Record.
- (c) Building permits shall not be issued for a site graded under a rough grading permit until a new precise grading permit has been issued. The provisions of Subsection (b) of this Section have been satisfied, or the precise grading permit has been deemed by the Director to be unnecessary.

(Ord. No. 88-12, §6(7-1-809), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

DIVISION 4. ORGANIZATION AND ENFORCEMENT

Section 8.10.400. Powers and duties of the Director.

- (a) The provisions of Section 202, Powers and Duties of the Building Official, of the California Building Code shall apply to grading construction work. The Director of Public Works shall serve in that capacity in the City.
- (b) Stop or correct work orders. Whenever any grading work is being done contrary to the provisions of this chapter or the grading permit, the Director may order the work stopped or corrected by notice in writing served on any persons engaged in the doing or causing such work to be done, and any such persons shall forthwith stop or correct such work until authorized by the Director to proceed with the work.
- (c) Whenever any building or grading work is being done contrary to any water quality requirements related to activities subject to this chapter, the Director may take any enforcement action provided under this chapter.

(Ord. No. 88-12, §6(7-1-810), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

Section 8.10.410. Violations and penalties.

- (a) It shall be unlawful for any person to do grading in the City or cause the same to be done, contrary to, or in violation of, any of the provisions of this chapter.
- (b) The issuance of a building permit, performance of building permit inspections, or issuance of a certificate of occupancy may be withheld for property on which a violation of the provision of this chapter exists, including work performed not in accordance with approved plans, until such violation has been corrected to the satisfaction of the Building Official and/or the Director. The Building Official, as appropriate, such consult with the Director.
- (c) No tentative tract or parcel map shall be approved for property on which a violation of the provisions of this chapter exists, including work performed not in accordance with approved grading plans, unless conditioned to require such violation to be corrected or mitigated to the satisfaction of the Director prior to recordation.
- (d) No zone change or discretionary permit per the City zoning regulations shall be approved for property on which a violation of the provisions of the chapter exists, including work performed not in accordance with approved grading plans, unless conditioned to require such violation to be corrected or mitigated to the satisfaction of the Director prior to the issuance of any building permits.
- (e) The Building Official, in consultation with the Director, shall determine if corrective or mitigating action itself requires the approval of a site development permit per the City zoning regulations and/or an initial study per CEQA.
- (f) Any person violating any of the provisions of this chapter is guilty of a misdemeanor. Notwithstanding the foregoing, a violation may be prosecuted as an administrative civil action pursuant to chapter 1.02 or chapter 1.03 of this Code. Each such person shall be deemed guilty of a separate offense for each and every day or portion thereof during which any violation of any of the provisions of this chapter is committed, continued, or permitted. If prosecuted as a misdemeanor, upon conviction of any such violation, such person shall be punished by a fine of not more than \$1,000.00 or by imprisonment for not more than six months, or by both fine and imprisonment. In addition to any such fine or imprisonment, the court may also require such party to correct or mitigate the grading violation to the satisfaction of the Director.
- (g) In addition to the provisions of the subsection above, a notice of violation of this chapter may be recorded in accordance with the following procedures:
 - (1) Notice of intent. A written notice of intent to record a notice of violation shall be served on the current owner of record of the property. Such notice shall describe the property, the violation and the action necessary to correct or mitigate the violation. The notice shall inform the owner that a notice of violation will be recorded if the owner does not, within 20 days of receipt thereof, either correct

the violation or request a meeting with the Director as set forth below. The notice shall include a copy of this subsection (g) and be substantially as follows:

“Notice of Continuing Violation of the City of Mission Viejo Grading and Excavation Code.

Notice is hereby given that the City of Mission Viejo has determined a violation of the above Code exists on the following described property (description). The violation consists of (description).

While a violation of the above Code exists, the City of Mission Viejo may refuse to approve building or occupancy permits, subdivision maps, use permits, and other discretionary permits and development approvals.”

- (2) Correction of violation. If, within 20 days of receipt of a notice of intent, the owner corrects the violation, no notice of violation shall be recorded. The Director may grant extensions of time for good cause.
- (3) Meeting. If the owner requests a meeting, the Director shall schedule a meeting. Notice of the meeting shall be served on the owner not less than 15 days prior thereto. The Director may reschedule the meeting from time to time for a good cause with adequate notice to the landowner. At the meeting, the owner may be represented by counsel and may present any relevant evidence that violations do not exist.
- (4) Decision, notice. Within 30 days following completion of the meeting, the Director shall issue and serve on the owner his determination as to whether or not a notice of violation will be recorded. This determination shall be supported by appropriate findings on all material issues raised at the meeting. The decision of the Director shall be final with respect to recordation of a notice of violation, but shall not affect other proceedings under this section.
- (5) Recordation. If the Director determines that a notice will be recorded, such notice shall be recorded 15 or more days after service of notice of the decision.
- (6) Release of notice. When a violation is corrected or mitigated to the satisfaction of the Director, if a notice of violation had been recorded, the Director shall cause a release to be recorded. The release shall refer to the notice of violation and shall state that the violation described therein has been corrected.

(Ord. No. 88-12, §6(7-1-811), 6-27-88; Ord. No. 92-82, §1, 3-23-92; Ord. No. 97-174, §11, 8-18-97)

Section 8.10.420. Hazardous conditions.

- (a) Generally. Hazardous conditions exist when the state of any natural ground, natural slopes, excavation, fill or drainage device, all of which exist on private property, is a menace to life or limb, or a danger to public safety, or endangers or adversely affects the safety, usability or stability of adjacent property, structures or public facilities.
- (b) Examination by Director. The Director may examine or cause to be examined every condition reported as hazardous as set forth in subsection (a) of this section.
- (c) Notice of hazardous condition. In any case where a hazardous condition is found by the Director, he shall give notice, setting forth the finding to all owners of the property affected by the hazardous condition, authorized representative of the owners or a permittee under any active permit which gives permittee control of the property issued pursuant to this chapter hereinafter referred to as "owner," of such required corrective work. The notice may state the time and place of a hearing to be held if the owner fails to comply with any demand for corrective work or reports. The purpose of the hearing would be for the presentation of evidence concerning the hazardous conditions and demand for corrective work or submission of reports. The notice shall set forth the right of the owner to be present at the hearing, at his option, and introduce such relevant evidence on the issues as he desires. If the time and place of any hearing scheduled for the presentation of evidence is not included in the initial notice(s), it shall be included in a subsequent notice.
- (d) Evidence. At the time and place so specified for the hearing, evidence shall be submitted as to the facts of any condition as to reasonably establish its existence, and the Director or his designee, as hearing officer, shall determine whether the facts presented reasonably establish the existence of a hazardous condition to the satisfaction of the hearing officer. Evidence may submitted to the Director showing that workers reported the hazards and determined the necessary work to correct such hazards.
- (e) Order, finality and appeal. If the Director determines the existence of a hazardous condition, he shall determine whether such hazards are subject to corrective work and/or the need for more analysis through the preparation of reports and shall order such work or reports and specify a completion time.
 - (1) Finality of order. The determination and order may be made orally at the hearing and shall be written and transmitted to the owner within a reasonable time. The determination and order shall become final within five days, excluding Saturdays, Sundays and holidays, from the time it is first rendered, except in the event that the owner was not present at the city hearing, within five days of the mailing of the order to the last known address of the owner.
 - (2) Appeal. The owner may, at any time prior to the determination and order becoming final, appeal in writing the decision of the Director to the city council.

- (f) Completion of work. The owner shall, following the finality of the determination and order of the Director, or if appealed, the determination and order of the city council, commence the corrective action ordered or preparation of reports and such work or submissions shall be completed within the specified time.
- (g) Failure to complete work. If the owner neglects or fails to complete the corrective work or submit the reports ordered by the Director or city council within the specified time, the Director may: cause the work to be performed or reports to be prepared; or advise the owner of the need for corrective work and warn him/her that in the absence of such corrective work, subsequent future hazards may occur which could result in an order to vacate the premises. Nothing in this subsection shall be construed to limit the type of remedy or relief which the Director may have under any other provision of law.
- (h) Costs. Costs incurred by the city to perform any corrective work or prepare reports under subsection (g) above shall be charged to the owner. The Director may apply to the city council to cause the costs to be paid and levied as a special assessment against the property and collected in a manner provided for special assessments.
- (i) Vacation of property. If necessary, the notice and order in subsections (c) and (e) of this section shall include the requirement that the property, a portion thereof or adjacent sites be vacated within a specified time, in the interest of public safety, pending the finality of any determination and order or completion of corrective work. At the request of the Director, the Building Official shall cause the property to be posted at conspicuous locations with a notice containing at least the following:

UNSAFE TO OCCUPY

DO NOT ENTER

Building Official, City of Mission Viejo

Date Posted _____

The posted notice may also contain the date, time and place of the hearing and the name, address and telephone number of the office or building official where additional information may be obtained. Such posted notices shall remain posted until any necessary corrective work is completed. Such posted notices shall not be removed without written permission of the building official, and no person shall enter the property except for the purpose of making the required corrections or preparing reports.

- (j) Service of notices. The notices and order required by subsections (c) and (e) of this section may be served either:

- (1) By mailing a copy by certified mail, return receipt requested, to the owner's address as designated on papers, applications, or permits on file with the Director;
- (2) By personally delivering a copy to the owner's address as designated on papers, applications or permits on file with the Director;
- (3) If the owner is absent from his place of residence and from his usual or designated place of business, by leaving a copy with some person of suitable age and discretion at either place, and sending a copy by certified mail, return receipt requested, addressed to the owner or authorized representative at his place of residence; or
- (4) If such place of residence and business cannot be ascertained, or a person of suitable age or discretion there cannot be found, then by affixing a copy in a conspicuous place on the property, building, or structure and also delivering a copy to a person there residing, if any, or to the person in charge if any; and also sending a copy by certified mail, return receipt requested, addressed to the owner at the place where the property, building or structure is situated, or to the owner at his last known or designated address, or both.

(Ord. No. 88-12, §6(7-1-812), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

DIVISION 5. GRADING PERMIT REQUIREMENTS

Section 8.10.500. Required.

- (a) Except as exempted in section 8.10.300 of this Code, no person shall conduct any grading or clearing, brushing or grubbing on natural grade or existing grade that is preparatory to grading, without first obtaining a grading permit from the Director. A separate permit shall be required for each site and may cover both excavations and fills.
- (b) When such operations involve the extraction or relocation of more than 5,000 cubic yards, such operations are also subject to the approval of a site development permit application. The total number of cubic yards shall be the larger of cut, including any export, or fill, including any import.
- (c) A site development permit is not required under the following conditions:
 - (1) Grading and excavation conducted in compliance with approved sand and gravel extraction operations, an approved tentative map or use permit.
 - (2) Grading and excavation conducted in compliance with a building permit when limited to the area within the perimeter (footprint) of the structure, e.g., basement/foundation.
 - (3) Grading and excavation conducted in compliance with an approved area plan.
 - (4) Emergency grading to correct recent acts of nature.
 - (5) Other exemptions as defined in section 8.10.340.

(Ord. No. 88-12, §6(7-1-815), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

Section 8.10.505. Application.

- (a) To obtain a grading permit, the applicant must first file an application in writing on a form furnished by the Director. The permit application shall be accompanied by information required by the Director and as specified in subarticle 5 of the Grading Manual. Each person applying to the City for a grading or building permit for projects for which compliance is required with a State General Permit for Discharges of Stormwater Associated with Construction Activity (General Construction Permit) must submit satisfactory proof to City that coverage under the General Construction Permit has been obtained before the City shall issue any grading or building permit on the construction project. Documents required under the General Construction Permit shall be maintained on-site during grading and construction and shall be made available upon the request of any City inspector. The project must also comply with all activities required by the City's Storm Water and Urban Runoff Pollution Control Ordinance and Local Implementation Plan (LIP). Each person applying to the City for a grading or building permit for projects where compliance with the General Construction Permit is not required must submit evidence that the grading project will be in compliance with the provisions of all applicable storm water permits, including, but not limited to, the implementation of all applicable best management practices (BMPs), and in compliance with all activities required by the City's Water Quality Code and LIP.
- (b) Applications for which no permit is issued within 180 days following the date of application shall expire by limitation and plans submitted for checking may thereafter be returned to the applicant or destroyed by the Director and all plan check fees shall be forfeited. The Director may extend the time for action by the applicant up to three additional 180-day periods upon written request by the applicant showing that circumstances beyond the control of the applicant have prevented action from being taken. Extensions shall only be issued in 180-day increments, and shall be approved by the Director. In order to renew action for an application after expiration, the applicant may be requested to resubmit plans and pay new plan check fees, unless otherwise waived by the Director.
- (c) The Director shall approve the permit application once all City requirements have been satisfied.
(Ord. No. 88-12, §6(7-1-816), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

Section 8.10.510. Plans and specifications.

- (a) Each application for a grading permit shall be accompanied by plans and specifications, supporting data consisting of soil engineering and engineering geology reports, as specified in section 8.10.520, and plans and reports specified by the Water Quality Code, the City's LIP and any of its referenced documents.
- (b) Grading plans and specifications shall be prepared and signed by a civil engineer or authorized professional, unless otherwise approved by the Director. The Director, prior to waiving this requirement, shall consider the nature of the

project, the presence of critical drainage or geologic factors , the need for civil engineering design and control, and state law.

(Ord. No. 88-12, §6(7-1-817), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

Section 8.10.515. Information on plans and specifications.

Grading plans and specifications shall be prepared in accordance with the grading requirements of section 8.10.1420 and subarticle 5 of the Grading Manual.

(Ord. No. 88-12, §6(7-1-818), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

Section 8.10.520. Soil engineering and engineering geology reports.

A soil engineering and engineering geology report shall be required for grading projects, unless otherwise waived by the Director. The reports shall conform to the guidelines presented in the Grading Manual and shall include information appropriate for the site including any information required by the Director. Recommendations included in the reports and approved by the Director shall be incorporated in the grading plans or specifications. The soil engineer and engineering geologist shall review and sign the grading plans to assure inclusion of their recommendations. The Director may require that the soil engineering report be reviewed by a third-party registered civil engineer and that the engineering geology report be reviewed by a third-party certified engineering geologist. The cost of the review shall be paid by the grading permit applicant.

(Ord. No. 88-12, §6(7-1-819), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

Section 8.10.525. Issuance, expiration, and renewal.

- (a) Every permit issued shall be valid for a period of two years from the date of issuance.
- (b) Every permit issued shall expire by limitation and become null and void if the work authorized by such permit is not commenced within two (2) years from the date of such permit or if the work authorized by such permit is suspended or abandoned at any time after the work is commenced for a period of 180 days.
- (c) The time limitations and provisions of section 303, Permits issuance, of the California Building Code as amended are applicable to grading permits, except as stated in subsections (1) and (2) below:
 - (1) A permit issued hereunder shall expire upon a change of ownership if the grading work thereon, for which the permit was issued, has not been completed, and a new permit shall be required for the completion of the work. If the time limitations of subsections (a) and (b) of this section are not applicable and if no changes have been made to the plans and specifications last submitted to the Director, no charge shall be made for the issuance of the new permit under such circumstances. If, however, changes have been made to the plans and specifications last submitted to the Director, fees based on the valuation of the additional work, additional yardage and necessary plan checking as provided for in subarticle 6 of the

grading manual shall be charged to the permit applicant, unless waived by the Director.

- (2) The Director may extend the two (2) year expiration time limit on permits upon written request by the applicant showing that circumstances beyond the control of the applicant have prevented action from being taken.
- (d) The Director may require that grading operations and project designs be modified if delays occur which incur weather-related problems not considered at the time the permit was issued, and further subject to the provisions of section 8.10.530 of this chapter.
- (e) If the permittee presents satisfactory reasons for failure to continue or begin the work within the period specified in subsection (b) of this section, the Director, upon receiving a written request, may grant an extension of time as specified in subsection (c)(2) of this section, provided that:
 - (1) No changes have been made in the original plans and specifications for such work.
 - (2) Suspension or abandonment has not exceeded two years.
 - (3) A re-endorsement of the compliance of the plans, with the applicable regulations by the public works department, shall be obtained, if deemed necessary by the Director.

Such request for extensions must be submitted no later than the 60th day following the date on which the permit would otherwise expire. If the permittee fails to request an extension within the time provided, the Director may renew the grading permit for a fee based upon the original inspection fees paid.

- (f) If the permittee is unable to complete the work by the end of a two-year period, the Director may renew the grading permit for a 180-day period for a fee of one-quarter the amount required for the original permit for such work, unless otherwise approved by the Director, provided no changes have been made in the original plans and specifications for such work.

(Ord. No. 88-12, §6(7-1-820), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

Section 8.10.530. Denial of permit.

- (a) The Director shall not issue a permit in any case where he finds that the work as proposed by the applicant is liable to constitute a hazard to property or result in the deposition of debris on any public way or interfere with any existing drainage course. If it can be shown to the satisfaction of the Director that the hazard can be essentially eliminated by the construction of retaining structures, buttress fills, drainage devices or by other mitigation measures or means, the Director may issue the permit with the condition that such work be performed.
- (b) If, in the opinion of the Director, 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, the grading permit and the building permits for habitable structures shall be denied.
- (c) The Director may require plans and specifications to be modified in order to mitigate anticipated adverse environmental effects of proposed grading projects.

He may, under circumstances where the significant adverse environmental effects of a proposed grading project cannot be mitigated, deny the issuance of a grading permit.

- (d) The Director may require plans and specifications to be modified in order to make them consistent with the city general plan, specific plans, zoning code or other rules, regulations or conditions applicable to the project. He may deny the grading permit if the proposed project cannot be designed in accordance with these rules, regulations or conditions.

(Ord. No. 88-12, §6(7-1-821), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

Section 8.10.540. Time of grading operations.

Grading and equipment operations within one-half mile of a structure for human occupancy shall not be conducted between the hours of 8:00 p.m. and 7:00 a.m. nor on Sundays and federal holidays. The Director may, however, permit grading or equipment operations during specific hours after 8:00 p.m. or before 7:00 a.m. or on Sundays and federal holidays if he determines that such operations are not detrimental to the health, safety or welfare of the inhabitants of such a structure. Permitted hours of operation may be shortened by the Director's finding of a previously unforeseen effect on the health, safety, or welfare of the surrounding community. However, no permit that has been issued, nor any provision of this section, shall be construed to be a waiver of the applicability of the provisions set forth in chapter 6.35 of this Code relating to noise control.

(Ord. No. 88-12, §6(7-1-822), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

Section 8.10.545. Responsibility of permittee.

It shall be the responsibility of the permittee to be knowledgeable of the conditions and/or restrictions of the grading permit as outlined in applicable sections of this chapter, the Grading Manual, and as contained on the approved grading plans and in the approved soil and geology reports. The permittee shall also be responsible to maintain in an obvious and accessible location on the site, a copy of the grading plans bearing the signature of approval by the Director.

(Ord. No. 88-12, §6(7-1-823), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

Sec. 8.10.550. Protection of adjoining property.

Each adjacent owner is entitled to the lateral and subjacent support which his land receives from the adjoining land, subject to the right of the owner of the adjoining land to make proper and usual excavations on the same for purposes of construction or improvement as provided by law. California Civil Code §832 is contained in appendix G of the Grading Manual.

(Ord. No. 88-12, §6(7-1-824), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

Sec. 8.10.555. Import and export of earth material.

Where earth materials are moved on public roadways from or to the site of an earth grading operation, all the following requirements shall apply unless waived by the Director:

- (1) Either water or dust palliative or both must be applied for the alleviation or prevention of excessive dust resulting from the loading or transportation of earth from or to the project site on public roadways. The permittee shall be responsible for maintaining public rights-of-way used for handling purposes in a condition free of dust, earth or debris attributed to the grading operation.
- (2) Loading and transportation of earth from or to the site must be accomplished between the hours of 9:00 a.m. and 3:00 p.m. unless prior approval is given by the Director.
- (3) Access roads to the premises shall be only at points designated on the approved grading plan.
- (4) The last 50 feet of the access road, as it approaches the intersection with the public roadway, shall have a grade not to exceed three percent. There must be 300 feet of clear, unobstructed sight distance to the intersection from both the public roadway and the access road. If the 300-foot sight distance cannot be obtained, flagmen shall be posted.
- (5) A stop sign conforming to the requirements of the Vehicle Code shall be posted at the entrance of the access road to the public roadway.
- (6) An advance warning sign must be posted on the public roadway 400 feet on either side of the access intersection, carrying the words "truck crossing. The sign shall be diamond shape, each side being 30 inches in length; shall have a yellow background; and the letters thereon shall be five inches in height. The sign shall be placed six feet from the edge of the pavement and the base of the sign shall be five feet above the pavement level. The advance warning sign shall be covered or removed when the access intersection is not in use.
- (7) A haul route permit shall be obtained from the Director prior to earth material movement.

(Ord. No. 88-12, §6(7-1-825), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

DIVISION 6. FEES

*Cross references: Revenue and finance, tit. 3.

Section 8.10.600. Grading plan check fees.

Before accepting a grading permit application and plans and specifications for checking, the Director shall collect a plan-checking fees and deposits as approved by resolution of the city council and as provided in subarticle 6 of the Grading Manual.

(Ord. No. 88-12, §6(7-1-826), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

Section 8.10.610. Grading permit fees.

- (a) A fee for each grading permit shall be paid to the city prior to issuance of a grading permit as approved by resolution of the city council and as provided in subarticle 6 of the Grading Manual.
- (b) Failure to pay fees and obtain a permit before commencing work shall be deemed a violation of this chapter, except when it can be proven to the satisfaction of the Director that an emergency existed which made it impractical to first obtain the permit. A violation shall result in an assessment of double permit fees for work done prior to permit issuance. Payment of a double fee shall not relieve any person from fully complying with the requirements of this chapter nor from any other penalties prescribed in this article.
- (c) Additional fees approved by resolution of the city council and contained in subarticle 6 of the Grading Manual shall be paid as required to the Director.

(Ord. No. 88-12, §6(7-1-827), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

Section 8.10.620. Emergency work; cost recovery fees.

If the Director performs or causes the performance of emergency or other work on private property, he shall charge the property owner all direct and indirect costs which are necessary to complete the work to his satisfaction. In addition, the city may charge a mobilization cost equal to twenty (20) percent of the cost for performing the work.

(Ord. No. 88-12, §6(7-1-828), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

DIVISION 7. SECURITY

Section 8.10.710. Security.

- (a) Required. A grading permit shall not be issued unless the permittee shall first post with the Director an approved bond or other approved security in an amount specified in subarticle 7 of the grading manual. The security is required to assure that the work, if not completed in accordance with approved plans and specifications, will be corrected to eliminate hazardous conditions. This requirement may be waived at the discretion of the Director if he determines that:
 - (1) No hazardous situation is likely to occur as a result of incomplete or improper grading;
 - (2) No adverse effect is likely to occur to subject property, adjacent property or an existing or proposed structure thereon as a result of incomplete or improper grading;
 - (3) No significant drainage, erosion, flooding or siltation problems will exist as a result of incomplete or improper grading;
 - (4) No adverse geological or environmental impacts will occur as a result of incomplete or improper grading; or
 - (5) No conditions of the permit warrant a financial guarantee to assure their satisfactory completion.

- (b) Additional security. An additional cash security in an amount determined by the Director may be required to ensure the completion of finish grading under the permit as a condition of occupancy and energizing utilities. Security in an amount determined by the Director may be required for permits involving temporary earthen stockpiles to ensure their timely removal.
- (c) Failure to complete work. In the event of failure to comply with all of the conditions and terms of the permit, the Director may order the work authorized by the permit to be completed or put in a safe condition to his satisfaction. The surety executing such bond or deposit shall continue to be firmly bound under a continuing obligation for the payment of all necessary costs and expenses that may be incurred or expended in causing any and all such work to be done. In the case of a cash deposit, such deposit or any unused portion thereof shall be refunded to the permittee.
- (d) Default in performance of conditions. Whenever the Director finds or determines that a default has occurred in the performance of any requirement of a condition of a permit, written notice thereof shall be given to the principal and, when applicable, to the surety on the bond. Such notice shall specify the work to be done, the estimated cost thereof and the period of time deemed by the Director to be reasonably necessary for the completion. After receipt of such notice, the surety shall, within the time specified, cause or require the work to be performed, or failing therein, shall pay over to the Director the estimated cost of doing the work as set forth in the notice. Upon receipt of such monies the Director may cause the required work to be performed and completed. The surety shall pay the Director actual costs in excess of the estimated amount plus a mobilization charge specified in section 8.10.620.

(Ord. No. 88-12, §6(7-1-829), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

Section 8.10.720 Release of security.

Prior to the release of security, the following items shall be completed unless waived by the Director:

- (a) Completion of all improvements to the satisfaction of the Director;
- (b) Approval of all required certifications and reports for the permit;
- (c) Approval of as-built plans for the permit; and
- (d) Payment of any outstanding fees required to renew the permit prior to release of the security. The grading permit must be valid at time of release of security.

DIVISION 8. CUTS

Section 8.10.810. Cuts.

Cut slopes shall be no steeper than two horizontal to one vertical unless otherwise recommended in the soil engineering or engineering geology report and approved by the

Director. Any slope steeper than two horizontal to one vertical shall be reinforced unless the required is waived by the Director. The slope of cut surfaces shall be no steeper than is safe for the intended use.

(Ord. No. 88-12, §6(7-1-830), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

DIVISION 9. FILLS

Section 8.10.910. Fills.

- (a) Unless otherwise approved by the Director and recommended in the approved soil engineering report, fills shall conform to subarticle 9 of the Grading Manual. The provisions therein may be waived for minor fills not intended to support structures upon written request by the applicant on a form prescribed by the Director.
- (b) The Director may require that the soil tests or testing be performed by an approved testing laboratory.
- (c) Fill slopes shall be no steeper than two horizontal to one vertical unless otherwise recommended in the soil engineering report and approved by the Director. Any slope steeper than two horizontal to one vertical shall be reinforced unless the required is waived by the Director. The slope of fill surfaces shall be no steeper than is safe for the intended use.

(Ord. No. 88-12, §6(7-1-831), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

DIVISION 10. SETBACKS

Section 8.10.1010. Setbacks.

The setbacks and other restrictions specified by subarticle 10 of the Grading Manual are minimum and may be increased by the Director or by the recommendation of a civil engineer, soil engineer or engineering geologist, if necessary for safety and stability or to prevent damage to structures or adjacent properties from sediment deposition, erosion, water runoff of the slopes or to provide access for slope and drainage structure maintenance. The minimum setback may be reduced only in special circumstances where stability is proven to the satisfaction of the Director by the soil engineer or engineering geologist and other factors are of primary importance.

(Ord. No. 88-12, §6(7-1-832), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

DIVISION 11. DRAINAGE AND TERRACING

Section 8.10.1110. Drainage and terracing.

Drainage facilities and terracing shall conform to the provisions of subarticle 11 of the Grading Manual unless otherwise approved by the Director and delineated on the approved grading plan.

(Ord. No. 88-12, §6(7-1-833), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

DIVISION 12. ASPHALT CONCRETE PAVEMENT

Section 8.10.1210. Specifications, inspection, testing.

- (a) Asphalt concrete pavement for surfacing of parking lots, private streets or other similar use shall conform to the provisions of subarticle 12 of the Grading Manual unless otherwise approved by the Director.
- (b) The site soil engineer or special inspector shall inspect the construction of asphalt paved areas and verify to the Director that the work has been performed in compliance with the provisions of this section.
- (c) Asphalt concrete pavement within the public right-of-way shall be tested by the City unless otherwise approved by the Director.

(Ord. No. 88-12, §6(7-1-834), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

DIVISION 13. EROSION CONTROL

Section 8.10.1310. Erosion control system.

- (a) Erosion prevention is to be used as the most important measure for keeping sediment on site during construction. Sediment controls are to be used as a supplement to erosion prevention for keeping sediment on-site during construction.
- (b) The faces of cut and fill slopes and project site shall be prepared and maintained to control against erosion in accordance with this division. Where cut slopes are not subject to erosion due to the erosion-resistant character of the materials, such protection may be omitted upon approval by the Director.
- (c) An effective erosion control system shall be employed to control erosion and provide safety. Applicable erosion control, sediment control, wind erosion, tracking control, non-stormwater management and waste management and materials, pollution control best management practices (BMPs) from City engineering standard plans and the most current California Stormwater Quality Association Construction BMP Handbook shall be implemented for each project.
- (d) No grading work in excess of 200 cubic yards will be allowed during the rainy season on any single grading site under permit unless an erosion control system has been approved or waived by the Director.
- (e) 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 prevent storm flows from carrying sediment and debris outside the project boundaries. Watering shall not be used to clean streets unless the water is fully recovered prior to entering the City storm drain system and disposed of properly into the sanitary sewer system or another approved location.

- (f) The civil engineer or other qualified individual who prepared the grading plan and designed the erosion control devices shall be responsible for inspection and modification of the devices, as necessary, during the rainy season. Significant modifications to erosion control shall be approved by the Director.
- (g) Desilting facilities designed for 25-year storm intensity shall be provided at drainage outlets from the graded site.
- (h) Desilting basins shall be designed to provide a minimum desilting capacity equal to the current City standards as established by the Director.
- (i) Desilting basins shall be constructed around the perimeter of projects whenever feasible when it provides improved maintenance access from paved roads during wet weather.
- (j) Desilting basins constructed of compacted earth shall be compacted to a relative compaction of 90 percent of maximum density. A soil engineering report, prepared by the soil engineer, which includes the type of field testing performed, location and results of testing, shall be submitted to the Director for approval upon completion of the desilting basins.
- (k) Equipment and workers for emergency work shall be made available at all times during the rainy season. Necessary materials shall be available on-site and stockpiled at convenient locations to facilitate rapid construction of temporary devices when rain is imminent.
- (l) Slope stabilization must be used on all active slopes in preparation for and during the rainy events regardless of season and on all active and inactive slopes during the rainy season.
- (m) Erosion protection shall consist of effective planting of all slopes in excess of five-feet high unless otherwise approved by the Director. Slopes exceeding 15-feet high may require an adequate sprinkler system, as determined by the Director.
- (n) City-approved protection for the slopes shall be installed as soon as practicable, which may be prior to rough grade approval. Effective planting shall be installed and fully germinated, and shall effectively cover the required slopes prior to final approval unless otherwise approved by the Director.
- (o) The erosion control provisions shall take into account drainage patterns during the current and future phases of grading throughout the rainy season.
- (p) All removable protective devices shown shall be in place at the end of each working day when the five-day rain probability forecast exceeds 40 percent.
- (q) Graded areas around the tract perimeter must drain away from the face of slopes at the conclusion of each working day.
- (r) Vegetation clearing and brushing activities shall not be initiated during the rainy season on any sites which are not adequately protected with desilting basins or other temporary drainage or control measures.

- (s) Erosion control plans shall consider preservation of natural hydrologic features, riparian buffers and corridors, and clearly indicate the areas not to be disturbed.
- (t) In addition to requirements specified above, the permittee shall perform all work in accordance with the water quality requirements.
- (u) Any violation of an applicable federal- or state-issued storm water permit, or failure to conform to the City's water quality requirements prepared pursuant to such a permit or pursuant to this chapter, or failure to comply with storm water related provisions of a City-issued grading permit or of a grading plan prepared to secure such a permit, is also a violation of this chapter.

(Ord. No. 88-12, §6(7-1-835), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

Section 8.10.1320. Erosion control plans.

Erosion control plans prepared in accordance with subarticle 13 of the Grading Manual and any applicable storm water permit issued to the City or to the permittee shall be submitted to the Director for approval by September 1 each year for all projects under grading permits. Plans are required to be submitted even though no revisions to the erosion control are required. The erosion control plan may be waived for grading projects on single residential lot projects providing that an erosion control system, meeting the approval of the Director, has been installed, placed, planted or constructed prior to the start of the City's defined rainy season.

(Ord. No. 88-12, §6(7-1-836), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

Section 8.10.1330. Erosion control maintenance.

- (a) After each rainstorm, silt and debris shall be removed from the erosion control system devices including check berms and desilting basins and the basins pumped dry. Slope protection measures damaged by a rainstorm shall be immediately repaired.
- (b) After each rainstorm, the performance of the erosion control system shall be evaluated and revised and repaired as necessary.
- (c) Devices shall not be moved or modified without the approval of the Director.
- (d) The contractor shall be responsible and shall take necessary precautions to prevent public trespass onto areas where impounded water creates a hazardous condition.
- (e) The contractor and permittee or project owner shall be responsible for continual maintenance of the devices. In the event of failure or refusal by the contractor, permittee or project owner to properly maintain the devices, the Director may cause emergency maintenance work to be done to protect adjacent private and public property. The cost shall be charged to the owner and shall include an initial mobilization cost plus the cost of doing the work as contained in division 6 of this chapter.

- (f) If the Director must cause emergency maintenance work to be done, he may revoke the grading permit in writing. The permit shall not be renewed until an erosion control system approved by the Director is installed and a fee of one-half the amount required for the original permit paid by the owner. The Director may waive installation of an erosion control system during the City's defined dry season (non-rainy season).
- (g) If any grading subject to section 8.10.340 of this chapter has commenced on private property without a valid grading permit, the property owner may be required to prepare and implement an erosion control plan which has been approved by the Director. In the event of failure by the property owner to install an approved erosion control system, the Director may cause emergency work to be done to protect adjacent private and public property. The procedures of section 8.10.420 of this chapter need not apply for emergency erosion control work between during the City's defined rainy season. The cost shall be charged to the owner in accordance with subsection (e) of this section.

(Ord. No. 88-12, §6(7-1-837), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

DIVISION 14. GRADING INSPECTION

Section 8.10.1410. General.

All grading operations for which a permit is required shall be subject to inspection by the Director.

(Ord. No. 88-12, §6(7-1-838), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

Section 8.10.1420. Grading requirements.

- (a) It shall be the responsibility of the civil engineer or other qualified individual who prepares the grading plan approved by the Director to incorporate all recommendations from the soil engineering and engineering geology reports and any applicable storm water permits or reports into the grading plan. He shall also be responsible for the professional inspection and approval of the grading within his area of technical specialty. This responsibility shall include, but need not be limited to, inspection and approval as to the establishment of line, grade and drainage of the development area. The project civil engineer and/or general contractor shall act as the coordinating agent in the event the need arises for liaison between the project professional grading contractor, and the Director, the civil engineer or other qualified person who prepares and signs the grading plan shall also be responsible for the preparation of revised plans, erosion control plans, storm water pollution control and water quality documents, and the submission of as-graded grading plans when required by the Director upon completion of the work. The civil engineer or other qualified individual that prepared grading plans for permitting shall be responsible to provide construction oversight for the

project sufficient to allow the preparation of as-built plans and certifications that the work was completed in accordance with the plans prepared. The grading permit shall not be finalized unless as-built plans and certifications are received to the satisfaction of the Director.

- (b) Soil engineering and engineering geology reports shall be required as specified in section 8.10.520 of this chapter. During grading, all necessary reports, compaction data, soil engineering and engineering geology recommendations shall be submitted to the owner by the soil engineer and engineering geologist. The owner shall submit copies of the report to the civil engineer and two copies of all reports to the Director.
- (c) The soil engineer's area of responsibility shall include, but need not be limited to, the professional inspection and approval concerning the preparation of ground to receive fills, testing for required compaction, stability of all finish slopes, design of buttress fills, subdrain installation and incorporation of data supplied by the engineering geologist.
- (d) The engineering geologist's area of responsibility shall include, but need not be limited to, professional inspection and written approval of the adequacy of natural ground for receiving fills, the stability of cut slopes with respect to geological matters, and the need for subdrains or other groundwater drainage devices. He shall report his findings to the soil engineer and the civil engineer for engineering analysis.
- (e) The Director may expeditiously inspect the project at the various stages of work requiring approval and at any more frequent intervals as may be necessary to determine that adequate control is being exercised by the professional consultants.
- (f) When preliminary soil engineering reports are not required by the Director, he may require inspection and testing by an approved testing agency. The testing agency's responsibility shall include, but need not be limited to, approval of cleared areas and benches to receive fill, and the compaction of fills.

(Ord. No. 88-12, §6(7-1-839), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

Section 8.10.1430. Notification of noncompliance.

If, in the course of fulfilling their responsibility under this chapter, the civil engineer, the soil engineer, the engineering geologist or the testing agency finds that the work is not being done in conformance with the provisions of the approved specifications and grading plans, the discrepancies shall be reported immediately in writing to the person in charge of the grading work and to the Director. Recommendations for corrective measures, if necessary, shall be submitted to the owner. The owner shall submit two copies of all recommendations and reports to the Director.

(Ord. No. 88-12, §6(7-1-840), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

Section 8.10.1440. Transfer of responsibility for approval.

- (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 shall be stopped unless: the owner submits a letter of notification verifying the change of the responsible professional; and unless the new responsible professional submits in writing that he has reviewed all prior reports and/or plans (specified by date and title) and work performed by the prior responsible professional and that he concurs with the findings, conclusions, and recommendations, and is satisfied with the work performed. He may modify or revise recommendations, specifications or work performed if accompanied by supporting data and approved by the Director. He must state that he assumes all responsibility within his purview as of a specified date. All exceptions must be justified to the satisfaction of the Director.
- (b) Where clearly indicated that the firm, not the individual engineer and/or geologist, is the contracting party, the designated engineer or geologist may be reassigned and another engineer and/or geologist within the firm may assume responsibility.

(Ord. No. 88-12, §6(7-1-841), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

Section 8.10.1450. Site inspection by the Director.

- (a) Prior to the approval of any grading plans and specifications, the Director may inspect the site to determine that the plans and specifications are current and reflect existing conditions.
- (b) The permittee or his agent shall notify the Director when the grading operations specified in subarticle 14 of the Grading Manual are ready for inspection.
- (c) If the inspector finds the soil or other conditions not as stated in the approved plans and soil or geology reports or as in additional information which was required for issuance of the grading permit, he may, using reasonable judgment, refuse to allow further work until approval is obtained for a revised grading plan which will conform to the conditions.
- (d) The provisions of section 202(d), Stop Orders, of the California Building Code shall apply to all grading work and whenever the Director determines that any work does not comply with the terms of a permit, or this chapter, or that the soil or other conditions are not as stated on the permit, he may order the work stopped by notice in writing served on any persons engaged in doing or causing of such work to be done and any such persons shall forthwith stop such work until authorized by the Director to proceed with the work.
- (e) Prior to the issuance of building permits for a graded site, the rough grading shall be completed in accordance with subarticle 14 of the Grading Manual and to the satisfaction of the responsible civil engineer, engineering geologist, soil engineer, or other authorized professional, and the Director. Certification in writing is required by the civil engineer,

engineering geologist, soil engineer and/or other authorized professional prior to issuance of a building permit.

- (f) Whenever any work on which inspections are required is covered or concealed by additional work without first having been inspected, the Director may require by written notice that such work be exposed for examination. The work of exposing and recovering shall not entail or be subject to expense by the City.

(Ord. No. 88-12, §6(7-1-842), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

Section 8.10.1460. Special inspections.

The Director may establish special inspection requirements in accordance with section 306, Special Inspections, of the California Building Code, as amended for special cases involving grading or paving related operations. Special cases may apply to work where in the opinion of the Director it is necessary to supplement the resources or expertise available for inspection.

(Ord. No. 88-12, §6(7-1-843), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

DIVISION 15. COMPLETION OF WORK

Section 8.10.1510. Final reports.

Upon completion of the rough grading work and at the final completion of the work, the Director may require the written approvals, reports, drawings and supplements thereto specified in subarticle 15 of the Grading Manual.

(Ord. No. 88-12, §6(7-1-844), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

Sec. 8.10.1520. Notification of completion.

The permittee or his agent shall notify the Director when the grading operation is ready for final inspection, and certifications have been prepared by the civil engineer, soils engineer and/or authorized professional of record indicating that all work has been completed in accordance with the approved plans and reports. All work including installation of all drainage facilities and their protective devices and all erosion control measures must be completed in accordance with the final approved grading plan and the required reports approved by the Director before final approval of the grading permit is given by the Director. He may approve the grading work prior to completion of all work in special cases of extreme hardship and if no hazard exists and an adequate bond is posted to assure completion of all remaining work.

(Ord. No. 88-12, §6(7-1-845), 6-27-88; Ord. No. 92-82, §1, 3-23-92)

SECTION 3. Severability. If any section, subsection, subdivision, sentence, clause, phrase, or portion of this ordinance is, for any reason, held to be invalid or unconstitutional by the decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this ordinance. The City Council hereby declares that it would have adopted this ordinance and each section, subsection, subdivision, sentence, clause, phrase, or

portion thereof, irrespective of the fact that any one or more sections, subsections, subdivisions, sentences, clauses, phrases, or portions thereof be declared invalid or unconstitutional.

SECTION 4. The City Clerk shall certify the passage and adoption of this Ordinance and shall cause the same or a summary thereof to be published and posted in the manner required by law.

PASSED, APPROVED, and ADOPTED this 6th day of December, 2010.


Trish Kelley
Mayor

STATE OF CALIFORNIA }
COUNTY OF ORANGE } ss.
CITY OF MISSION VIEJO }

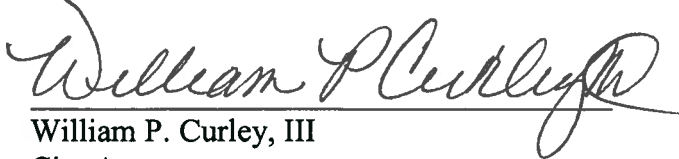
I, KAREN HAMMAN, City Clerk of the City of Mission Viejo, California, do hereby certify that the foregoing Ordinance 10-286 was duly introduced and placed upon its first reading at a regular meeting of the City Council on the 15th day of November, 2010, and that thereafter, said Ordinance was duly adopted and passed at a Regular Meeting of the City Council on the 6th day of December, 2010, by the following vote, to wit:

AYES: Kelley, Leckness, Ledesma, Schlicht, and Ury
NOES: None
ABSENT: None

ATTEST:


Karen Hamman
City Clerk

APPROVED AS TO FORM:


William P. Curley, III
City Attorney

CITY OF MISSION VIEJO



GRADING MANUAL

Revised December 2010

**CITY OF MISSION VIEJO
GRADING MANUAL**

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CITY OF MISSION VIEJO GRADING MANUAL

SUBARTICLE 1. GENERAL PROVISIONS

1.1 Authority

City of Mission Viejo Grading and Excavation Code, Section 8.10.020 "Grading Manual," directs the Director of Public Works to formulate such rules, procedures, and interpretations as may be necessary to administer the Grading Code. Such rules, procedures and interpretations, and amendments thereto shall be referred to as the City of Mission Viejo Grading Manual.

1.2 Scope and Purpose

The City of Mission Viejo Grading Manual (hereinafter referred to as Grading Manual) is a compilation of rules, procedures, and interpretations necessary to carry out the provisions of the City of Mission Viejo Grading Code. The Grading Manual is organized to follow the contents of subarticles in the Grading Code.

The purpose of the Grading Manual is to assist users of the Grading Code by supplementing it with detailed information regarding rules, interpretations, standard specifications, procedures, requirements, forms, and other information applicable to control excavation, grading, and earthwork construction in the City of Mission Viejo. Should any portion of the Grading Manual be found to be in conflict with the provisions of the Grading Code, the code provision shall govern.

1.3 Adoption and Revision

The provisions of the Grading Manual including revisions or additions thereto shall be prepared and incorporated by the Director of Public Works.

SUBARTICLE 2. DEFINITIONS

2.1 Definitions

The definitions contained in this subarticle are supplemental to those contained in the Grading Code.

AS-GRADED is the surface conditions extant on completion of grading.

BEDROCK is relatively unweathered, consolidated, or relatively hard formation that underlies the soil and other unconsolidated material.

BENCH is a relatively level step excavated into earth material on which fill is to be placed.

DIRECTOR shall mean Director of Public Works or the City Engineer of the City of Mission Viejo or his duly delegated representative.

EARTH MATERIAL is any rock, natural soil, or fill and/or any combination thereof.

FAULT is a fracture in the earth's crust along which movement has occurred. A *FAULT* is considered active if movement has occurred within the last $\pm 11,000$ years (Holocene geologic time).

FLATLAND SITE is any site which does not fit the definition of a hillside site.

HILLSIDE SITE is a site which entails cut and/or fill grading of three feet (3') or more in vertical height below or above natural ground; or a combination fill-over-cut slope equal to or greater than five feet (5') in vertical height; or where the existing grade is 20 percent (%) or greater; and which may be adversely affected by drainage and/or stability conditions within or from outside the site, or which may cause an adverse affect on adjacent property.

KEY is a designed compacted fill placed in a trench excavated in earth material beneath the toe of a proposed fill slope.

KEYWAY is an excavated trench into competent earth material beneath the toe of a proposed fill slope.

RETAINING WALL is a wall designed to resist the lateral displacement of soil or other materials.

SLOPE STABILITY

GROSS SLOPE STABILITY is the stability of slope material below a plane approximately three to four feet (3-4') deep measured from and perpendicular to the slope face.

SURFICIAL SLOPE STABILITY is the stability of the outer three to four feet (3-4') of slope material measured from and perpendicular to the slope face.

SULFATE (SO) is a chemical compound occurring in some soils which, at above certain levels of concentration, has a corrosive effect on ordinary Portland cement concrete and some metals.

SUBARTICLE 3. RESERVED

SUBARTICLE 4. ORGANIZATION AND ENFORCEMENT

4.1 Powers and Duties of the Director

The powers and duties of the Director shall be as specified in the Grading Code.

SUBARTICLE 5. GRADING PERMIT REQUIREMENTS

5.1 Grading Permit Application

A grading permit application shall consist of the items specified within the applicable submittal sheet in Appendix A and a grading permit application form completed and signed by the applicant or his representative unless otherwise specified by the Director.

The Director will inspect the site as necessary and determine whether a geology report is required prior to issuance of the grading permit. He shall notify the applicant of his determination in writing.

5.2 Grading Plan Clearances

The Director shall notify the applicant that, prior to issuance of a grading permit, written clearance will be required from the Community Development Department and may be required from other agencies. Depending on site conditions and location, written clearance or permits may be required from, but not limited to, the following agencies:

- a. California Regional Water Quality Control Board
- b. California Department of Fish and Game
- c. California Department of Food and Agriculture (Cooperative Red Imported Fire Ant Project)
- d. California Division of Industrial Safety
- e. Orange County Fire Marshal (fuel modification)
- f. Orange County Vector Control District
- g. State Water Resources Control Board

5.3 Types of Grading Permits

The types of grading permits that the Director can issue for a site are as follows:

1. Precise grading permit: A permit that is issued on the basis of approved plans which show the precise structure location, finish elevations, all on-site improvements, and erosion and sediment control devices.
2. Rough grading permit: A permit that is issued on the basis of approved plans which need not show a structure location but must show interim building pad drainage to the degree required by the Director.
3. Erosion control permit: A permit that is issued on the basis of approved plans which show the placement of erosion and sediment control devices, contour elevations, and all on-site existing or proposed improvements. Erosion control permits are required when in the opinion of the Director a site requires placement and maintenance of erosion and sediment control devices and when no other grading permits are valid for a site.
4. Demolition grading permit: A permit that is issued prior to the issuance of a preliminary or precise grading permit and on the basis of approved plans which show the demolition of on-site improvements and erosion and sediment control devices. Demolition grading permits shall be approved on a case-by-case basis by the Director and the City's Community Development Director.

5. Stockpile permit: A permit that is issued prior to stockpiling soil on a site and on the basis of approved plans which show the locations of the stockpile(s), quantity of soil stockpiled, and erosion and sediment control devices.

5.4 Grading Plan Check

Information on Plans and Specifications: Plans submitted for plan check shall be drawn to scale upon City of Mission Viejo standard grading sheets and shall be of sufficient clarity to indicate the nature and extent of the work proposed and to show in detail that the work will conform to the provisions of this Grading Manual, the Grading and Excavation Code, and all relevant laws, ordinances, rules, and regulations.

The first sheet of each set of plans shall give the location of the work and the name and address and telephone number of the owner, the person by whom they were prepared, the project soil engineer, engineering geologist, and when required the project paleontologist and archaeologist. A plan of workable size at a reduced scale may be required when the grading plans exceed two (2) sheets in number. All grading plans shall have a City-standard grading plan title sheet, which the City will provide to the applicant in AutoCAD.

a. Rough Grading Permit:

The plans shall include but not be limited to the following information:

1. Vicinity map of the site.
2. Property limits clearly labeled or otherwise identified and accurate contours of existing ground and details of terrain and area drainage a minimum of fifteen feet (15') beyond property limits (spot elevations may be used on flatland sites).
3. Prominent or natural terrain features.
4. Limiting dimensions including setbacks between property lines and top and toe of slopes, elevations of finish contours to be achieved by the grading, proposed drainage devices and related construction.
5. Details (plan and section) of all surface and subsurface drainage devices, walls, cribbing, dams, and other protective devices to be constructed with or as a part of the proposed work together with a map showing the drainage area and estimated runoff from the area served by any drains.
6. Location of any existing buildings, structures, or trees on the property where the work is to be performed and the location of any buildings or structures on land of adjacent owners which are within fifteen feet (15') of the property, or which may be adversely affected by the proposed grading operations.
7. If the grading project includes movement of earth material to or from the site in an amount considered substantial by the Director, the permittee shall submit the haul route for review and approved by the City Traffic

Engineer prior to the issuance of a grading permit. The Traffic Engineer may suggest alternate routes or special requirements in consideration of the possible impact on the adjacent community environment or effect on the public right-of-way itself, which the Director shall prescribe as a condition of the grading permit.

8. Additional plans, drawings, calculations, environmental impact information, or other reports required by the Director.
9. Erosion and sediment control device placements incorporating best management practices (BMPs) detailed in the latest City engineering standard plans, the California Stormwater Quality Association construction handbook, and Orange County Stormwater Program Construction Runoff Guidance Manual in compliance with NPDES, and as detailed in Subarticle 13 of this Manual.
10. If required, a Construction & Demolition Waste Reduction and Recycling Plan (C&D Plan) as detailed in Subarticle 5.9.

b. Precise Grading Permit:

The plans shall include the following in addition to the above items listed for Preliminary Grading Permits:

1. The footprint or allowable building area of all proposed structures (including appurtenances).
2. Setback distances between structures and top and toe of slopes.
3. Detailed finish grade and finish floor elevations.
4. Flowlines for typical lot drainage.
5. Details for building footing and side yard swale relationship (including extra height of footing).
6. All proposed concrete flatwork and/or driveways.
7. Sight distance diagrams at intersections.
8. Short- and long-term structural best management practices as listed in the approved project water quality management plan in compliance with NPDES.

The Precise Grading Plan shall identify all previous preliminary grading permits issued for the project site. It may include sheets from the preliminary grading plan which show original topography in lieu of reproducing original contours on the precise plan.

c. Erosion Control Permit:

The plans shall include but not be limited to the following information:

1. Vicinity map of the site.
2. Property limits clearly labeled or otherwise identified and accurate contours of existing ground and details of terrain and area drainage a minimum of fifteen feet (15') beyond property limits (spot elevations may be used on flatland sites).
3. Prominent or natural terrain features.
4. Details of all existing surface and subsurface drainage devices, walls, cribbing, dams, and other protective devices.
5. Location of any existing buildings, structures, or trees on the property where the work is to be performed and the location of any buildings or structures on land of adjacent owners which are within fifteen feet (15') of the property.
6. Additional plans, drawings, calculations, environmental impact information, or other reports required by the Director.
7. Erosion and sediment control device placements incorporating best management practices (BMPs) detailed in the latest City engineering standard plans, the California Stormwater Quality Association construction handbook, and Orange County Stormwater Program Construction Runoff Guidance Manual in compliance with NPDES, and as detailed in Subarticle 13 of this Manual.

d. Demolition Grading Permit:

The plans shall include but not be limited to the following information:

1. Vicinity map of the site.
2. Property limits clearly labeled or otherwise identified and accurate contours of existing ground and details of terrain and area drainage a minimum of fifteen feet (15') beyond property limits (spot elevations may be used on flatland sites).
3. Prominent or natural terrain features.
4. Limiting dimensions including setbacks between property lines and top and toe of slopes.
5. Details of all existing surface and subsurface drainage devices, walls, cribbing, dams, and other protective devices.

6. Location of any existing buildings, structures, or trees on the property where the work is to be performed and the location of any buildings or structures on land of adjacent owners which are within fifteen feet (15') of the property, or which may be adversely affected by the proposed demolition operations.
7. Additional plans, drawings, calculations, environmental impact information, or other reports required by the Director.
8. Erosion and sediment control device placements incorporating best management practices (BMPs) detailed in the latest City engineering standard plans, the California Stormwater Quality Association construction handbook, and Orange County Stormwater Program Construction Runoff Guidance Manual in compliance with NPDES, and as detailed in Subarticle 13 of this Manual.
9. If required, a Construction & Demolition Waste Reduction and Recycling Plan (C&D Plan) as detailed in Subarticle 5.9.

e. Stockpile Permit:

The plans shall include but not be limited to the following information:

1. Vicinity map of the site.
2. Property limits clearly labeled and surface flow direction arrows showing the general direction of drainage.
3. Prominent or natural terrain features.
4. Top and toe of slopes.
5. Existing drainage device inlets, and optionally surface and subsurface drainage devices, walls, cribbing, dams, and other protective devices.
6. Location of any existing buildings, structures, or trees on the property where the work is to be performed and the location of any buildings or structures on land of adjacent owners which are within fifteen feet (15') of the property, or which may be adversely affected by the proposed stockpile operations.
7. Additional plans, drawings, calculations, environmental impact information, or other reports required by the Director.
8. Erosion and sediment control device placements incorporating best management practices (BMPs) detailed in the latest City engineering standard plans, the California Stormwater Quality Association construction handbook, and Orange County Stormwater Program Construction Runoff Guidance Manual in compliance with NPDES, and as detailed in Subarticle 13 of this Manual.

9. If required, a Construction & Demolition Waste Reduction and Recycling Plan (C&D Plan) as detailed in Subarticle 5.9.

f. Grading Plan Submittal List:

Preliminary and Precise Grading Plan Submittal Sheets are included in Appendix A, which identify the items typically required during the grading plan review process.

5.5 Soil and Engineering Geology Report Content

Three (3) copies of each report required in this section shall be submitted as part of the application for grading permit. Each report shall contain all information applicable to the project. Guidelines are provided in Appendix B, "Technical Guidelines for Soil and Geology Reports".

Recommendations contained in the approved reports shall be incorporated into the grading plans and specifications and shall become conditions of the grading permit.

a. Preliminary Soil Report:

Soil engineering reports shall be required for all projects for which a grading permit is required.

The preliminary (initial) soil engineering report shall include information and data regarding the nature, distribution, and the physical and chemical properties of existing soils; conclusions as to adequacy of the site for the proposed grading; recommendations for general and corrective grading procedures; foundation and pavement design criteria and shall provide other recommendations, as necessary, commensurate with the project grading and development.

b. Preliminary Engineering Geology Report:

Engineering geology reports shall be required for all developments on hillside sites where geologic conditions are considered to have a substantial effect on existing and/or future site stability. This requirement may be extended to other sites suspected of being adversely affected by faulting.

The preliminary (initial) engineering geology report shall include a comprehensive description of the site topography and geology; an opinion as to the adequacy of the proposed development from an engineering geologic standpoint; an opinion as to the extent that instability on adjacent properties may adversely affect the property; a description of the field investigation and findings; conclusions regarding the effect of geologic conditions on the proposed development; and specific recommendations for plan modification, corrective grading, and/or special techniques and systems to facilitate a safe and stable development, and shall provide other recommendations as necessary, commensurate with the project grading and development. The preliminary engineering geology report may be combined with the soil engineering report.

c. Seismicity Report:

A seismicity report shall be required as a condition for issuance of a grading permit and/or building permit for all subdivisions (tracts) and all sites for critical structures (fire stations, nursing homes, etc.) and major structures, as determined by the Director or Building Official.

The report shall be prepared by an engineering geologist, geophysicist, or a civil engineer with expertise in earthquake technology and its application to buildings and other civil engineering works. The scope of the report shall be commensurate with the proposed development and shall reflect currently accepted engineering principles and practices. The seismic report may be combined with the soil and engineering geology reports.

d. Final Reports:

Rough grade and final soil and engineering geology reports shall be submitted in accordance with Subarticle 15 of this Grading Manual.

5.6 Permit Issuance

Either a preliminary or precise grading permit may be issued for a project after the approval of a Tentative Tract or Tentative Parcel Map. Grading permits subject to the above subdivision requirements shall not be issued prior to the approval of the Tentative Maps unless otherwise provided in zoning regulations or approved by the Director.

5.7 Permit Expiration

The time limitations and provisions of Section 303, Permits Issuance, of the California Building Code as amended relating to expiration of grading permits, are included in Appendix C.

5.8 Haul Route Permits

If the grading project includes the movement of earth material to or from the site in an amount considered substantial by the Director, the permittee shall submit the haul route for review and approval by the City Engineer prior to the issuance of a grading permit. The City Engineer may suggest alternate routes or special requirements in consideration of the possible impact on the adjacent community environment or effect on the public right-of-way itself, which the Director shall prescribe as a condition of the grading permit.

5.9 Construction & Demolition Waste Reduction and Recycling Plan

The City of Mission Viejo is required by Assembly Bill 939 to divert fifty-percent (50%) of its citywide solid waste from landfill disposal. To achieve the fifty-percent citywide diversion requirement, construction and demolition (C&D) debris must be diverted from disposal through reuse and recycling.

If a grading project includes the demolition of five (5) or more cubic yards (CY) of material (excluding earthwork), the applicant must submit a C&D Waste Reduction and Recycling Plan (C&D Plan) that proposes to divert seventy-five (75%) of the C&D waste

from landfill disposal. Applicants are expected to follow the C&D Plan throughout the course of the project and will be required to show the City Inspector, upon demand, compliance with the C&D Plan.

SUBARTICLE 6. FEES

6.1 Overview of Fees

The fees associated with the issuance of a grading permit are as follows:

1. Plan checking deposit
2. Plan checking fee
3. Pre-inspection fee
4. Grading permit fee (inspection fee)
5. Erosion control plan check and inspection fees
6. Soil and engineering geology report review fees

Other fees that may be charged prior to or subsequent to the issuance of a grading permit are as follows:

7. Grading permit renewal fee
8. Re-inspection fee
9. Investigation fee
10. Public Works Department temporary occupancy fee

6.2 Plan Checking Deposit

Prior to the commencement of the first complete plan check, the applicant or his representative shall post a plan check deposit as specified by City Council resolution. The purpose of this deposit is to ensure that funds are available to pay for City services rendered during the plan check process.

6.3 Plan Checking Fee

Plan checking fees on each site shall be based on (1) the volume (cubic yards) of excavation or fill, whichever is greater, and (2) the estimated value of on-site improvements. The amount of the plan checking fee for grading plans shall be as specified by resolution of the City Council.

For the purpose of this section, on-site improvements shall include the items listed on the City's Engineering Cost Estimate Form in Appendix A and additional items as determined by the Director. On-site improvements will typically include but need not be limited to pavement surfacing, inlets, outlet structures, subsurface drainage devices, rip rap, curb and gutter, and erosion control facilities. Asphalt concrete is classified as a secondary drainage device when used for roadway and parking lot surfacing, or other similar uses for the purposes of determining plan checking and permit fees.

Separate permits and/or fees shall apply to retaining walls, major drainage structures, and other improvements as prescribed by the Director.

Plans submitted prior to issuance of a permit which are substantially incomplete, or changed from a previous submittal, as determined by the Director, and require additional

plan checking are either subject to rejection or shall require a new plan check fee to be charged by the Director.

The fee for checking substantial revisions to previously approved grading plans for which a valid permit is active shall be based on the fees computed from the difference of the total new yardage and/or valuations and the original yardage and/or valuations. The fee increment shall be calculated at the rate of the combined original and new yardage and/or valuation. The fee increment used shall be the adopted fee in effect at the time the revisions were approved. The fee may be waived if in the opinion of the Director it is not warranted due to the minor nature of the charges.

Erosion control plans checked subsequent to grading permit issuance shall be treated as a substantial revision for the purpose of determining plan checking fees.

6.4 Pre-inspection Fee

Before issuance of a grading permit, the Director may collect a grading pre-inspection fee, as specified by City Council resolution, to verify site conditions or other special requirements. Where subdivision (tract), multiple housing, or commercial units are part of one grading site, only one fee is required. Where individual lots are preinspected separately, a fee shall be charged for each site.

6.5 Grading Permit Fee

Grading permit fees (also known as inspection fees) on each site shall be based on (1) the volume (cubic yards) of excavation or fill, whichever is greater, and (2) the estimated value of on-site improvements. On-site improvements shall be considered the same as described for plan checking fees in this Subarticle.

The fee for a minimum fee grading permit for inspection purposes only shall be as specified by City Council resolution.

The fee(s) for authorizing additional grading work to that under a valid grading permit, including erosion control work, shall be computed as specified for plan checking substantial revisions in this Subarticle. No allowance for reduced earthwork volume or valuation shall be permitted.

6.6 Erosion Control Fee

Prior to grading permit issuance, plan check and inspection fees shall be collected based on the estimated value of the on-site erosion control improvements depicted on the approved erosion and sediment control plan.

Subsequent to permit issuance, plan check and inspection fees shall be collected annually based on the estimated value of the improvements. However, if improvements are shown from the previous rainy season and no changes to the erosion and sediment control plan are required by the Director, no additional plan check fee will be assessed.

6.7 Soil and Engineering Geology Report Review Fees

Upon submittal of soil and engineering geology reports to the City, a fee shall be collected as established by City Council resolution. Response reports shall be considered as another submittal and additional fees as established by City Council resolution shall be paid.

6.8 Grading Permit Renewal Fee

The fee for renewing an expired or invalid grading permit shall be as specified in Section 8.10.525, Issuance, Expiration, and Renewal, of Grading Code.

Grading permit renewal fees shall be paid even if on-site work has been completed, but the applicant has not submitted to the City the required reports, certificates and documents, or has not filed an as-built plan approved by the Director prior to permit expiration. Obtainment of temporary occupancy or final occupancy from the Building Department or Public Works Department does not constitute completion of all required items.

6.9 Re-inspection Fee

When any reinspection is required due to the negligence of the permit holder, his agent, or other responsible persons, or due to the failure of said parties to comply with previous correction instructions as determined by the Director, a fee as established by City Council resolution shall be charged by the Director for each such inspection. The fee shall be paid before any further inspections are made.

This subsection is not to be interpreted as requiring reinspection fees the first time a job is rejected for failure to comply with the requirements of this Manual, but as controlling the practice of calling for inspection before the job is ready for such inspection or reinspection.

6.10 Investigation Fee

Any investigation fee as established by City Council resolution may be charged by the Director whenever any work for which a permit is required by the Grading Code has been commenced without first obtaining said permit. This fee shall be paid, and the investigation shall be made prior to the issuance of any permit for said work.

An investigation fee may be charged for any investigation of a building, structure, site, or any other related work, requested by an owner or authorized agent of such owner. An investigation fee shall not be charged for complaints against projects under a valid grading permit or for investigations of hazardous conditions as determined by the Director.

6.11 Public Works Department Temporary Occupancy Fee

A permittee may request temporary occupancy from the Public Works Department for circumstances where there are minor outstanding items/issues to be completed before the project is ready for permanent occupancy. Under no circumstances will temporary occupancy be granted where in the opinion of the Director unsafe conditions exist or the

potential for unsafe conditions exist (such as the safety of the public during completion of the outstanding items/issues once the project is occupied). The site must also be maintained in a clean and orderly fashion. Furthermore, the Public Works Department has no obligation to grant temporary occupancy requests and each case will be determined on an individual basis. Past performance of the contractor on the project will also be used as a determining factor for eligibility due to the fact that the City needs to have a reasonable expectation that outstanding items will be completed correctly in a reasonable amount of time.

In such cases where temporary occupancy is granted, a monthly fee as determined by City Council resolution shall be paid. This fee is in addition to the monthly temporary occupancy fee charged by the Building Department.

6.12 Construction & Demolition Waste Recycling Deposit

The applicant or his representative may be required by the Director to post a deposit as specified by City Council resolution to ensure compliance with the approved C&D Waste Reduction and Recycling Plan. The deposit will be refunded with all required receipts showing proof of diversion has been presented to the Director and accepted by the Director.

6.13 Refunds

- a. Grading permit fee (inspection fee) refunds will be made in an amount equal to eighty percent (80%) where work authorized by said permit has not commenced, except that no refund will be made for less than twenty-five dollars (\$25.00), and no refund will be made if one (1) year has elapsed from the date of permit issuance except as provided for in Subarticle 6.12.d below.
- b. No plan check fee refunds will be made for services already rendered except as provided for in Subarticle 6.12.d below.
- c. Plan check deposits will be refunded in its entirety if the request for such refund is received before the commencement of the first complete plan check. If the request for such refund is received after the commencement of the plan check, the Director will compute monies due for plan check and processing services based upon time and materials costs incurred by the City and return the balance of the deposit as a refund. In no case will refunds be made for less than twenty-five dollars (\$25.00), and no refund will be made if one (1) year has elapsed from the date of submittal of the first plan check except as provided for in Subarticle 6.13.d below.
- d. Permit and plan check fees will be refunded in their entirety when inadvertently paid for a project outside the jurisdiction of the City of Mission Viejo or as duplicate fees, except that no refund will be made if one (1) year has elapsed from the date of payment.
- e. All requests for refunds shall be made in writing to the Director.

SUBARTICLE 7. SECURITY

7.1 Types of Security

In lieu of a surety bond, the applicant may file a cash bond or a letter of credit or time certificate of deposit from financial institutions subject to regulation by the State or Federal governments in an amount equal to that which would be required in the surety bond.

7.2 Security Amount

The amount of security shall be based on 30% of the cost of the project cut or fill volume, whichever is greater, and 100% of the cost of the on-site improvements and erosion and sediment control facilities being constructed or installed under the permit.

The amount of the security may be reduced by the Director, but not by more than 50%, to the extent that he determines that potential hazards exist and the nature of the project does not justify the full amount.

The amount of the security may also be increased by the Director up to 100% of the cost of the total cut and fill volume and 100% of the drainage improvements and erosion control facilities if the potential hazards or nature of the project justifies such an increased amount.

7.3 Security Conditions

Every security shall be made on the form contained in Appendix C or contain the conditions prescribed therein and be approved as to form by the City Attorney.

7.4 Term of Security

The term of each bond shall begin upon the date of permit issuance and shall remain in effect until the completion of the work to the satisfaction of the Director.

7.5 Security Release

All requests for security releases must be made in writing to the Director.

Securities will only be released for projects with valid, unexpired grading permits, all required reports and documents have been provided to and approved by the City, and an as-built plan approved by the Director has been filed with the City. Documents the Director may require to be submitted prior to security release are included in Subarticle 15 of this Manual.

Obtainment of temporary occupancy or final occupancy from the Building Department does not constitute completion of all required items and does not warrant release of any security unless otherwise approved by the Director.

7.6 Substitution

A substitute security may be filed in lieu of the above-mentioned securities and the Director may accept the same if it is suitable to insure completion of the work remaining to be performed and in proper form and substance.

SUBARTICLE 8. CUTS

8.1 Cut Slopes

Cut slopes shall be no steeper than two horizontal to one vertical (2:1). In special circumstances where no evidence of previous instability exists and when recommended in the soil engineering or engineering geology report and approved by the Director, cut slopes may be constructed steeper than 2:1 with reinforcement approved by the City Engineer. In no case shall cut slopes steeper than 2:1 be approved if 2:1 or flatter slopes are required as a condition of approval of any project by the Planning Commission, Zoning Administrator, Subdivision Committee, or the City Council without appropriate revision of said condition by the approving body.

Recommendations in the soil engineering and/or engineering geology report for cut slopes to be steeper than 2:1 shall be accompanied by a slope stability analysis for all slopes greater than five feet (5') in height. The soil engineer shall consider both gross and surficial stability of the slope and provide a written statement approving the slope stability.

SUBARTICLE 9. FILLS

9.1 Fill Location

Fill slopes shall not be constructed on natural slopes steeper than two horizontal to one vertical (2:1) or where the fill slope toes out within twelve feet (12') horizontally of the top of existing or planned cut slopes, outside the permit area boundary, except in the case of slopes of minor height when approved by the Director.

9.2 Preparation of Ground

The ground surface shall be prepared to receive fill by removing vegetation, noncomplying fill, topsoil, and other unsuitable materials and by scarifying to provide a bond with the new fill. Where existing slopes exceed five feet (5') in height and/or are steeper than five horizontal to one vertical (5:1), the ground shall be prepared by benching into sound bedrock or other competent material, as determined by the soil engineer and/or engineering geologist and approved by the Director. The lowermost bench beneath the toe of a fill slope shall be a minimum ten feet (10') in width. The ground surface below the toe of fill shall be prepared for sheet flow runoff, or a paved drain shall be provided.

Where fill is to be placed over a cut slope, the bench under the toe of the fill shall be at least fifteen feet (15') wide, but the cut slope must be made before placing fill and shall meet the approval of the soil engineer and/or engineering geologist as suitable foundation for fill.

Unsuitable soil is soil which is not dense, firm, or unyielding; is highly fractured; or has a high organic content; and in the opinion of the Director, civil engineer, soil engineer, or engineering geologist, 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.

9.3 Fill 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 twelve inches (12") shall be buried or placed in fills.

The Director may permit placement of larger rock 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:

- a. Prior to issuance of the grading permit, potential rock disposal area(s) shall be delineated on the grading plan.
- b. Rock sizes greater than twelve inches (12") in maximum dimension shall be ten feet (10') or more below grade, measured vertically. This depth may be reduced upon recommendation of the soil engineer and approval of the Director providing that the permitted use of the property will not be impaired.
- c. Rocks greater than twelve inches (12") shall be placed so as to be completely surrounded by soils; no nesting of rocks will be permitted.

9.4 Compaction

All fills shall be compacted to a minimum of ninety percent (90%) of maximum density as determined by ASTM D1557 or equivalent, as approved by the Director. Field density shall be determined in accordance with ASTM D1556, D2922, or D2937, or equivalent, as approved by the Director.

Locations of field density tests shall be determined by the soil engineer or approved testing agency and shall be sufficient in both horizontal and vertical placement to provide representative testing of all fill placed. Testing in areas of a critical nature or special emphasis shall be in addition to the normal representative samplings.

Exceptions:

- a. Fills excepted in Section 8.10.300, Grading Permits, of the Grading Code and where the Director determines that compaction is not a necessary safety measure to aid in preventing saturation, settlement, slipping, or erosion.
- b. Where lower density and very high potential expansion characteristics as defined by Table No. 29-C of the California Building Code exist, lesser compaction may be granted by the Director upon justification and recommendation by the soil engineer.

Fill slopes shall be compacted to the finish slope face as specified above. The soil engineer shall provide specifications for the method of placement and compaction of the soil within the zone of the slope face.

Sufficient maximum density determinations by test method specified in Section 9.4 shall be performed during the grading operations to verify that the maximum density curves used are representative of the material placed throughout the fill.

9.5 Slopes

Fill slopes shall be no steeper than two horizontal to one vertical (2:1). In special circumstances where no evidence of previous instability exists and when recommended in the soil engineering report and approved by the Director, slopes may be constructed steeper than 2:1 with reinforcement approved by the City Engineer. In no case shall slopes steeper than 2:1 be approved if 2:1 or flatter slopes are required as a condition of approval of any project by the Planning Commission, Zoning Administrator, Subdivision Committee, or the City Council without appropriate revision of said condition by the approving body.

Recommendations in the soil engineering report for fill slopes to be steeper than 2:1 shall be accompanied by a slope stability analysis for all slopes greater than five feet (5') in height. The soil engineer shall consider both the gross and surficial stability of the slope and provide a written statement approving the slope stability. In addition, the soil engineer shall recommend alternative methods of construction or compaction requirements necessary for surficial stability (e.g., geogrid, soil-cement, etc.).

9.6 Utility Line Backfill

Utility line backfill beneath and adjacent to structures, beneath pavements, adjacent and parallel to the toe of a slope, and in sloping surfaces steeper than ten horizontal to one vertical (10:1), shall be compacted and tested in accordance with Subsection 9.4, Compaction, of this section. Alternately, relative self-compacting material or slurry cement may be used. The material specification and method of placement shall be recommended and inspected by the soil engineer and approved by the Director prior to backfilling.

Utility line backfill in areas other than those stated above need no specified placement method or compaction criterion, but shall require approval by the soil engineer.

The final utility line backfill report from the project soil engineer shall include an approval statement that the backfill is suitable for the intended use.

SUBARTICLE 10. SETBACKS

10.1 Setbacks from Permit Area Boundary

The tops of cuts and toes of fill slopes shall be set back as far as necessary from the outer property boundaries of the permit area, including slope easements, and in accordance with Detail 1, unless waived by the Director.

10.2 Design Standards for Setbacks

The tops and toes of cut and fill slopes shall be set back from structures as far as is necessary for adequacy of foundation support and to prevent damage as a result of water runoff, erosion, or maintenance of the slopes.

Unless otherwise approved by the Director based on recommendations in the approved soil engineering and/or engineering geology report on the approved grading plan, setbacks shall be no less than shown in Detail 1.

10.3 Retaining Walls

Retaining walls may be used to reduce the required setback in accordance with Detail 1 when approved by the Director.

DETAIL 1

Min. Setback from Adjacent Slope					
H (hgt.) Feet	a	b	c	d	e
0<6	3'	7'	3'	5'	1'
6-14	5'	7'	H/2	H/2 5' min	H/5
14-30	5'	H/2 10' max.	H/2	H/2 10' max.	H/5
+30	5'	10'	15'	10'	6'

TABLE A

H (hgt.) Feet	Max. Hw	Min. Setback f
0-6	3'	3' min.
6-12	H/2	H/2
12-30	6'	H/2
+30	6'	15'

TABLE B

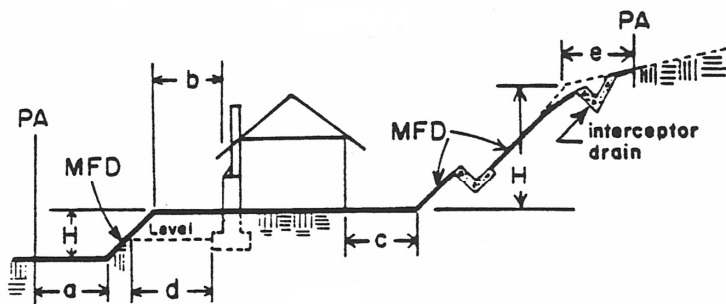


FIGURE A

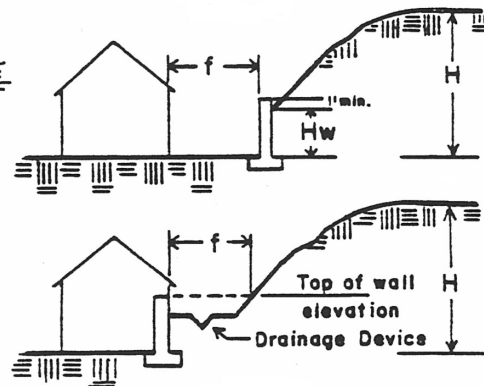


FIGURE B

1. PA means permit area boundary and/or property line; MFD means manufactured surface.
2. Setbacks shall also comply with applicable zoning regulations.
3. Table A 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 Director.
4. "b" may be reduced to five feet (5') minimum if an approved drainage device is used; roof gutters and downspouts may be required.
5. "b" may be reduced to less than five feet (5') if no drainage is carried on this side and if roof gutters are included.
6. If the slope between "a" and "b" levels is replaced by a retaining wall, "a" may be reduced to zero and "b" remains as shown in Table A. The height of the retaining wall shall be controlled by zoning regulations.
7. "b" is measured from the face of the structure to the top of the slope.

8. "d" is measured from the lower outside edge of the footing along a horizontal line to the face of the slope. Under special circumstances "d" may be reduced as recommended in the approved soil report and approved by the Director.
9. The use of retaining walls to reduce setbacks (Figure B) must be approved by the Director.
10. "f" may be reduced if the slope is composed of sound rock that is not likely to produce detritus and is recommended by the soil engineer or engineering geologist and approved by the Director.
11. "a" and "e" shall be two feet (2') when PA coincides with arterial or local street right-of-way and when improved sidewalk is adjacent to right-of-way.
12. "a" shall be increased as necessary for interceptor drains.

10.4 Block/Masonry Walls

Locations of block or masonry walls shall be shown on the grading plans with a typical section detail.

SUBARTICLE 11. DRAINAGE AND TERRACING

11.1 Controlling Design Standard

The controlling design standard for drainage requirements is the Orange County Local Drainage Manual, latest edition. In the event of a conflict between this Manual and the Orange County Local Drainage Manual, the Orange Control Local Drainage Manual shall control.

11.2 Terrace

Terraces at least six feet (6') in width shall be established at not more than thirty-foot (30') vertical intervals on all cut or fill slopes to control surface drainage and debris, except that where only one (1) terrace is required, it shall be at mid-height. For cut or fill slopes greater than 60 feet and up to 120 feet in vertical height, one terrace at approximately mid-height shall be 12 feet in width. Terrace widths and spacing for cut and fill slopes greater than 120 feet in vertical height shall be designed by the civil engineer and approved by the Director. Suitable access shall be provided to permit proper cleaning and maintenance.

Swales or ditches on 6-foot- and 12-foot-wide terraces shall have a minimum gradient of six percent (6%) and must be paved with reinforced concrete, or approved equal, not less than three inches (3") in thickness. They shall have a minimum depth at the deepest point of eighteen inches (18") and a minimum paved width of five feet (5').

A single run of swale or ditch shall not collect runoff from a tributary area exceeding 13,500 square feet (projected) without discharging into a down drain.

11.3 Subsurface Drainage

Cut and fill slopes shall be provided with approved subsurface drainage as necessary for stability and protection of adjacent properties from the influence of groundwater. The design of such facilities shall be contained in the approved preliminary (initial) soil engineering or engineering geology report and/or shall appear on the approved grading plan pursuant to the approval of the soil engineer and/or the engineering geologist.

Subsurface drainage facilities shall be installed where natural and/or artificially introduced ground water affects or is likely to affect the project in a potentially unstable, hazardous, or otherwise deleterious manner.

11.4 Disposal

All drainage facilities shall be designed to carry waters to the nearest practicable drainage way approved by the Director and/or other appropriate jurisdiction as a safe place to deposit such water. Erosion of ground in the area of discharge shall be prevented by installation of non-erosive down drains, rock slope protection (rip rap), energy dissipaters, or other approved devices including a return of flow to a natural sheet flow condition.

Where surface waters are to be conducted or directed onto adjacent property in an unnatural manner, the Director may require the applicant, prior to issuance of a grading permit, to obtain written permission from the owner of said property, accepting the surface waters.

Building sites shall have a sheet flow drainage gradient of two percent (2%) from the structure toward approved swales and/or drainage facilities, unless otherwise waived by the Director. The maximum drainage gradient of an earth swale shall be four percent (4%), unless waived by the Director.

Grading of future building sites under a preliminary grading permit for the purpose of lot sales shall have a sheet flow drainage gradient of two percent (2%) toward approved drainage facilities. The Director may reduce this minimum gradient to one percent (1%) upon the written request of the applicant or his agent, providing the applicant demonstrates the following:

- a. Finish grades for drainage of building sites can be constructed in accordance with the requirements of this subsection without importing additional fill, and
- b. Sufficient approved swales and/or drainage facilities are constructed to prevent water from ponding on any lot supported by a natural slope or cut or fill slope over five feet (5') in height.

Finish grades, other than above, shall conform to the following minimum drainage gradient standards:

	<u>Minimum Gradient</u>
a. Earth swales	1.00%
b. Earth (sheet flow)	1.00%
c. Asphalt pavement (sheet flow)	1.00%
d. Concrete drain in earth area	0.50%
e. Concrete gutter in asphalt paved area	0.28%

11.5 Interceptor Drains

Paved interceptor drains shall be installed along the top of all manufactured slopes where the tributary drainage area flows toward the slope and has a drainage path to top of slope greater than forty feet (40') measured horizontally. Interceptor drains shall be

paved with a minimum of three inches (3") of reinforced concrete or gunite. They shall have a minimum depth of eighteen inches (18") and a minimum paved width of thirty-six inches (36") measured horizontally across the drain. The slope of the drain shall be approved by the Director.

11.6 Pipe Specifications

Pipe material specifications shall be shown on the approved plans or in the approved soil report by the civil engineer or soil engineer and approved by the Director. The pipe shall conform to the currently adopted Standard Specifications for Public Works Construction unless otherwise recommended by the civil engineer or soil engineer and approved by the Director.

Approved pipe includes:

b. Acrylonitrile Butadiene Styrene (ABS) Solid Wall Pipe:

1. *Subdrain*

- (a) Applicable ASTM standard, SDR 35
- (b) Applicable ASTM standard, schedule 80

2. *Stormdrain*

- (a) Applicable ASTM standard, SDR 35, maximum velocity, eight feet (8') per second
- (b) Applicable ASTM standard, schedule 40, maximum velocity, fifteen feet (15') per second

c. Polyvinyl Chloride Plastic Pipe (PVC):

1. *Subdrain*

- (a) Applicable ASTM standard, SDR 35
- (b) Applicable ASTM standard, schedule 80

2. *Stormdrain*

- (a) Applicable ASTM standard, SDR 35, maximum velocity, eight feet (8') per second
- (b) Applicable ASTM standard, schedule 80, maximum velocity, fifteen feet (15') per second

d. Reinforced Concrete Pipe (RCP):

RCP shall be designed in conformance with the Orange County Local Drainage Manual.

e. Corrugated Steel Pipe (CSP):

Metal thickness to be designed and shown on approved grading plans. Pipe is to be aluminumized. (Temporary installation only.)

f. Corrugated Aluminum Pipe (CAP):

Metal thickness to be designed and shown on approved grading plans. Pipe to be bituminous coated. (Temporary installation only.)

g. Nonreinforced Concrete Pipe:

Non-reinforced concrete pipe shall be designed in conformance with the Orange County Local Drainage Manual.

h. High-Density Polyethylene Pipe (HDPE)

4- through 10-inch (100 to 250mm) double wall pipe shall meet applicable AASHTO standard.

12- through 60-inch (300 to 1500 mm) shall meet applicable AASHTO or ASTM standard.

The maximum flow design parameters may be exceeded in special circumstances in conformance with the Orange County Local Drainage Manual when justified and recommended by the civil engineer and approved by the Director.

11.7 Area Drain Grates

The minimum cross-sectional area of area drain grates shall not be less than 100 square inches and shall contain a grate cover having 50% net opening, unless waived by the Director.

11.8 Conduits Beneath Structures

Drainage conduits placed beneath structures shall conform to the requirements for sewer and waste plumbing. PVC and ABS pipes shall be schedule 40.

SUBARTICLE 12. ASPHALT CONCRETE AND PORTLAND CEMENT CONCRETE PAVEMENT

12.1 Asphalt Concrete and Untreated Base Standards

When asphalt concrete pavement is proposed for surfacing of private parking lots, private streets, or other similar use, this paving, including the tack coat, prime coat, seal coat, and base course, shall conform to the current County of Orange Standard Plan 1805 for asphalt concrete and untreated base materials unless otherwise approved by the Director.

Exception: The provisions of this section shall not apply when (1) another governmental agency is designated to assume the responsibility for plan check and inspection of

private streets, and (2) a private asphalt concrete driveway providing access to a single-family residence is proposed.

Prime coat shall be placed on subgrade or untreated base when the base will be subjected to substantial construction traffic for long periods of time before asphalt concrete is placed, as determined by the soil engineer and approved by the Director.

Untreated base may require testing by an approved testing agency to ensure it complies with the applicable specifications and special provisions when determined necessary by the Director. Tests may include but shall not be limited to:

- a. Sieve analysis
- b. Sand equivalent
- c. Percent of crushed particles retained by a No. 4 screen

12.2 Subgrade Compaction

The top six inches (6") of the subgrade material shall be compacted to relative compaction of ninety percent (90%) of maximum density as determined by ASTM D1557 or approved equivalent unless otherwise recommended by the soil engineer in the preliminary soil report and approved by the Director.

12.3 Soil Sterilization

Weed killer shall be required on subgrade if no aggregate base is used.

12.4 Surface Drainage

All concentrated drainage in asphalt paved areas shall be carried by approved concrete drainage devices.

12.5 Pavement Structural Section

The project soil engineer or design civil engineer shall determine the pavement structural section(s) for parking lots/service roads and private streets based on: (1) soils tests of the subgrade soil(s) performed by an approved soil testing laboratory; and (2) anticipated traffic and/or loading conditions. The methods used for soil testing and pavement design shall be that currently in use by the City of Mission Viejo for construction of public roadways, or methods acceptable to the Director. Unless otherwise specified by the soil engineer and approved by the Director, the relative compaction of each layer of compacted base material shall not be less than 95 percent.

In lieu of a recommended structural section an approved soils report for parking lots/service roads, the following standards may be used as determined by the Director.

Pavement Structural Section

- | | | |
|----|---|----------------|
| a. | Parking stall areas | 4" AC / 4" UB |
| b. | Commercial driveways, perimeter drives, and loading areas | 4" AC / 8" UB |
| c. | Industrial driveways, perimeter drives, and loading areas | 4" AC / 10" UB |

12.6 Driveways

Whenever access is taken from a street, alley, or driveway to an off-street parking area serving four (4) or less dwelling units, the driveway or other vehicular accessway shall have a maximum grade of plus fifteen percent (+15%) or minus six percent (-6%), measured from the street, alley, or driveway grade along the driveway centerline for a distance of not less than eighteen feet (18') from the street, alley, or driveway right-of-way line.

Whenever access is taken from a street, alley, or driveway to an off-street parking area serving industrial, commercial, or professional uses, public or community facilities, or five (5) or more dwelling units, the driveway or other vehicular accessway shall have a maximum grade of plus fifteen percent (+15%) or a minus two percent (-2%) measured from the street, alley, or driveway grade along the driveway centerline for a distance of not more than eighteen feet (18') from the street, alley, or driveway right-of-way line.

12.7 Portland Cement Concrete

Where required, Portland Cement Concrete (PCC) shall be Type V.

SUBARTICLE 13. EROSION CONTROL

13.1 Information on Erosion Control Plans

The plan shall include but not be limited to:

- a. The name and 24-hour telephone number of the person responsible for performing emergency erosion control work.
- b. The signature of the civil engineer or other qualified individual who prepared the grading plan and who is responsible for inspection and monitoring of the erosion control work.
- c. All desilting and erosion protection facilities necessary to protect adjacent property from sediment deposition.
- d. The streets and drainage devices that will be completed and paved by October 1.
- e. The placement of sandbags or gravel bags, slope planting, or other measures to control erosion from all slopes above and adjacent to roads open to the public. Use of gravel bags is encouraged over sandbags.
- f. Sandbag or gravel bag stockpile areas.
- g. The plan shall indicate how access will be provided to maintain desilting facilities during wet weather.
- h. Temporary soil stabilization measures for graded slopes in excess of 4:1 ratio or three feet (3') in height.

SUBARTICLE 14. GRADING INSPECTION

14.1 Site Inspection by the Director

Prior to any grading, brushing, or clearing, there shall be a pregrading meeting held on the site. Prior to pouring curb and gutter or placement of pavement base material, there shall be a prepaving meeting forty-eight (48) hours prior to paving held on the site. The permittee, or his agent, shall notify the Director at least two (2) working days prior to the meetings and shall be responsible for notifying all principals responsible for grading or paving-related operations.

It shall be the duty of the person doing the work authorized by a permit to notify the Director at least forty-eight (48) hours prior to the work being ready for the inspections identified in the "Required Inspections for Grading" provided in Appendix A.

14.2 Special Inspections

The responsibilities and duties of a special inspector as provided in Section 306, Special Inspections, of the California Building Code as amended are included in Appendix E.

14.3 Alternate Materials and Methods of Construction

- a. The provisions of this Grading Manual are not intended to prevent the use of any material or method of construction not specifically prescribed by the Grading Code or this Grading Manual provided any such alternate has been approved pursuant to this section.
- b. The Director may approve any such alternate provided he finds that the proposed design is satisfactory and complies with the provisions of the Grading Code and this Grading Manual and that the material, method, or work offered is for the purpose intended, at least the equivalent of that prescribed in quality, strength, effectiveness, and safety.
- c. The Director shall require that sufficient evidence or proof be submitted to substantiate any claims that may be made regarding its use.
- d. Whenever there is insufficient evidence of compliance with the provisions of this Grading Manual or evidence that any material or any construction does not conform to the requirements of this Grading Manual or in order to substantiate claims for alternate material or methods of construction, the Director may require tests as proof of compliance to be made at the expense of the owner or his agent by an approved testing agency.
- e. Test methods shall be as specified by this Grading Manual for the material in question. If there are no appropriate test methods specified, the Director shall approve the test procedure. Copies of the results of all such tests shall be retained for a period of not less than two (2) years after the acceptance of the grading.

SUBARTICLE 15. COMPLETION OF WORK

15.1 Final Reports

Upon completion of the grading work and at the final completion of the work under the grading permit but prior to the issuance of building permits or release of grading bonds or issuance of a certificate of use and occupancy, the Director may require:

- a. An as-built grading plan prepared by the civil engineer, architect, or other qualified person which shall include corrected original ground surface elevations if necessary, grading ground surface elevations, lot drainage patterns, manufactured slope inclination, and location of all drainage facilities and subdrains.
- b. A statement in writing by the civil engineer on a City form describing the grading as being substantially in conformance with the approved grading plan and which specifies the following items as appropriate to the project and stage of grading:
 1. Line and grade for all engineered drainage devices and retaining walls (rough and precise grading).
 2. Line and grade for all building pad elevations (rough grading).
 3. Staking of property corners for proper building location (rough grading).
 4. Setting of all monuments in accordance with the recorded tract map (rough or precise grading).
 5. Location of permanent walls or structures on property corners or property lines (precise grading).
 6. Location and inclination of all manufactured slopes (rough and precise grading).
 7. Construction of earthen berms and positive building pad drainage (rough and precise grading).

When the approved grading plan is not prepared by a civil engineer, the architect or other licensed professional who prepared the plan shall provide written approval of the grading as being substantially in conformance with the approved grading plan.

- c. A final soils engineering report prepared by the soils engineer, including type of field testing performed, suitability 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 their effect on the recommendations made in the soils engineering investigation report. Each field density test shall be identified, located on a plan or map, the elevation of test and finish grade elevation shown, and the ASTM method of obtaining the in-place density described, or the approved equal shall be so noted. The soil engineer shall provide a written approval as to the adequacy of the site for the intended

use, as affected by soil engineering factors. The Director may require that the soils tests or testing be performed by an approved testing agency.

- d. A geology report prepared by the engineering geologist, including a final description of the geology of the site including any new information disclosed during the grading, and the effect of same on recommendations incorporated in the approved grading plan. He shall provide a written approval as to the adequacy of the site for the intended use as affected by geologic factors and, when required by the Director, shall submit an as-built geologic map.
- e. A statement prepared by the grading contractor on a City form describing the volume of excavation and fill moved on the project. In addition, if the grading plan was not prepared by a registered civil engineer or registered professional authorized to prepare grading plans and perform inspections, the grading contractor shall submit a written statement that the work was completed in accordance with the approved plans. If the amount of yardage moved has changed from the original permitted yardage, additional fees may be required, as outlined in Subarticle 6.
- f. A statement prepared by the soils engineer on a City form certifying to the supervision of the testing and inspection under his purview during the project.

APPENDIX A

**PUBLIC WORKS DEPARTMENT
GRADING-RELATED FORMS & DOCUMENTS**

SUBMITTAL SHEETS
ENGINEER'S COST ESTIMATE
REQUIRED INSPECTIONS
TEMPORARY AND PERMANENT OCCUPANCY REQUIREMENTS

**CITY OF MISSION VIEJO
PRECISE GRADING PLAN SUBMITTAL SHEET**

TRACT/PARCEL MAP NO.: _____
 LOT NOs: _____
 APPLICANT: _____
 SUBMITTED BY: _____
 COMPANY: _____
 TELEPHONE: _____

GRADING PLAN CHECK NO.: _____
 PLAN NAME: _____
 GRADING PERMIT NO.: _____
 RECEIPT NO.: _____
 RECEIVED BY: _____
 DATE: _____

THE FOLLOWING ITEMS MUST ACCOMPANY EACH TYPE OF SUBMITTAL:

FIRST CHECK

- 6 Sets of prints
- 4 Copies of soils reports
- 2 Cost estimates for improvements
- 2 Sets hydrology & hydraulics
- 2 Approved tentative map & site plan
- 2 Copies of signed conditions of approval
- 2 Tract maps
- 2 Copies of approval from other agencies
- 2 Copies of approval from State Water Quality Control Board (if applicable)
- 2 Copies of Water Quality Management Plan
- WQMP review fee of \$1,200
- Scanning fee of \$50
- Pre-inspection fee of \$400
- Soils report review fee of \$ _____
- Plan check deposit of \$ _____
(see Deposit Schedule listed below)

SUBSEQUENT CHECKS*

- 3 Sets of prints
- Previous check print
- Previous check correction lists
- 2 Sets revised hydrology
- Previous hydrology check
- Required bond and fee payment

FINAL SUBMITTAL FOR CITY APPROVAL

- Originals (all sheets must be stamped and signed by civil engineer)
- 1 Set of prints

REQUIRED PLANS AFTER APPROVAL

- Originals
- 3 Sets of prints (1 folded, 2 rolled)

Cost Estimate Amount	Deposit	Cost Estimate Amount	Deposit
1 Lot – Homeowner	\$395	\$200,001 – \$500,000	\$6,000
\$1 – \$50,000	\$1,500	\$500,001 – \$1,000,000	\$9,000
\$50,001 – \$200,000	\$3,000	\$1,000,001 – Up	\$10,000

- Extraordinary Overtime plan check requested: No Yes (App. Initials) _____
 (Plan check fees will be 1½ times standard fees)

***Total plan check fees are due at time of second plan check submittal.**

REVISION SUBMITTAL:

1. Submit one print with revisions **marked in red** or **highlighted** for City Engineer's review and fee determination.
2. Check print will be returned with any corrections or changes needed.
3. Submit one revised print with the corrections or changes highlighted, last check print, and originals for the City Engineer's review and approval. Pay any additional fees as required.
4. After revision has been approved, City requires three sets of prints and the approved originals (reduced Mylar set if plans are larger than 24" by 36").

NOTE: Upon completion of the project, as-built plans are required. See the handout titled "As-Built Submittal Process" available from Public Works.

**CITY OF MISSION VIEJO
MASS/ROUGH GRADING PLAN SUBMITTAL SHEET**

TRACT/PARCEL MAP NO.: _____
 LOT NOs: _____
 APPLICANT: _____
 SUBMITTED BY: _____
 COMPANY: _____
 TELEPHONE: _____

GRADING PLAN CHECK NO.: _____
 PLAN NAME: _____
 GRADING PERMIT NO.: _____
 RECEIPT NO.: _____
 RECEIVED BY: _____
 DATE: _____

THE FOLLOWING ITEMS MUST ACCOMPANY EACH TYPE OF SUBMITTAL:

FIRST CHECK

- 6 Sets of prints
- 4 Copies of soils reports
- 2 Cost estimates for improvements
- 2 Sets hydrology & hydraulics
- 2 Approved tentative map & site plan
- 2 Copies of signed conditions of approval
- 2 Tract maps
- 2 Copies of approval from other agencies
- 2 Copies of approval from State Water Quality Control Board (if applicable)
- Scanning fee of \$50
- Pre-inspection fee of \$400
- WQMP review fee of \$1,200
- Soils report review fee of \$ _____
- Plan check deposit of \$ _____
(see deposit schedule listed below)

SUBSEQUENT CHECKS*

- 3 Sets of prints
- Previous check print
- Previous check correction lists
- 2 Sets revised hydrology
- Previous hydrology check
- Required bonds and fee payment

FINAL SUBMITTAL FOR CITY APPROVAL

- Originals (all sheets must be stamped and signed by civil engineer)
- 1 Set of prints

REQUIRED PLANS AFTER APPROVAL

- Originals
- 3 Sets of prints (1 folded, 2 rolled)

Cost Estimate Amount	Deposit	Cost Estimate Amount	Deposit
1 Lot – Homeowner	\$395	\$200,001 – \$500,000	\$6,000
\$1 – \$50,000	\$1,500	\$500,001 – \$1,000,000	\$9,000
\$50,001 – \$200,000	\$3,000	\$1,000,001 – Up	\$10,000

- Extraordinary Overtime plan check requested: No Yes (App. Initials) _____
(Plan check fees will be 1½ times standard fees)

**Total plan check fees are due at time of second plan check submittal.*

REVISION SUBMITTAL:

1. Submit one print with revisions **marked in red** or **highlighted** for City Engineer's review and fee determination.
2. Check print will be returned with any corrections or changes needed.
3. Submit one revised print with the corrections or changes highlighted, last check print, and originals for the City Engineer's review and approval. Pay any additional fees as required.
4. After revision has been approved, City requires three sets of prints and the approved originals (reduced Mylar set if plans are larger than 24" by 36").

NOTE: Upon completion of the project, as-built plans are required. See the handout titled "As-Built Submittal Process" available from Public Works.

**CITY OF MISSION VIEJO
ENGINEERING COST ESTIMATE FORM**

Project: _____ #: _____ Date: _____

STREET & PARKING IMPROVEMENTS

Pavement: Up to 4" AC/8" AB or 7" AC/Native	_____	SF	@	\$1.65	=	_____
Greater than 4" AC/8" AB or 7" AC/Native ...	_____	SF	@	\$2.25	=	_____
Stamped Concrete or Enhanced Pavement	_____	SF	@	\$7.50	=	_____
C&G Type A - 8	_____	LF	@	\$15.50	=	_____
C&G Type A - 6, Type D or Rolled	_____	LF	@	\$13.50	=	_____
Curb Type B or C.....	_____	LF	@	\$10.50	=	_____
AC Berm Type E.....	_____	LF	@	\$8.50	=	_____
Sidewalk (4")	_____	SF	@	\$4.50	=	_____
Handicap Access Ramps	_____	EA	@	\$1,000.00	=	_____
PCC Driveway & Approach.....	_____	SF	@	\$5.50	=	_____
PCC Aprons, Trash Bin Pads, Loading Docks, etc.	_____	SF	@	\$7.50	=	_____
Street Name and Warning Signs	_____	EA	@	\$300.00	=	_____
Striping	_____	LF	@	\$1.00	=	_____
Street Lights	_____	EA	@	\$2,500.00	=	_____
Wheel Stops	_____	EA	@	\$150.00	=	_____
_____	_____	_____	@	_____	=	_____
_____	_____	_____	@	_____	=	_____
Cross Gutter	_____	SF	@	\$7.50	=	_____
Terrace Drain or PCC V-ditch.....	_____	LF	@	\$10.00	=	_____
Catch Basin (3.5' includes local depression)	_____	EA	@	\$3,000.00	=	_____
Catch Basin (7'-14' includes local depression)	_____	LF	@	\$500.00	=	_____
Catch Basin (over 14' includes local depression)	_____	LF	@	\$400.00	=	_____
Grated Basin 12x12 or larger.....	_____	EA	@	\$1,000.00	=	_____
Grated Drainage Inlet or Clean Out.....	_____	EA	@	\$100.00	=	_____
Water Quality Filter.....	_____	EA	@	\$500.00	=	_____
Junction Structure (no manhole).....	_____	EA	@	\$2,000.00	=	_____
Junction Structure (with manhole)	_____	EA	@	\$3,000.00	=	_____
Parkway Culvert	_____	EA	@	\$2,000.00	=	_____
Downdrain to Pipe Transition.....	_____	EA	@	\$2,500.00	=	_____
Concrete Collar or Slope Anchor	_____	EA	@	\$1,000.00	=	_____
Curb Core	_____	EA	@	\$150.00	=	_____
PVC Stub.....	_____	EA	@	\$50.00	=	_____
Reinforced Concrete Structure	_____	CY	@	\$600.00	=	_____
Rip-Rap	_____	TON	@	\$100.00	=	_____
4"-6" Drain Pipe	_____	LF	@	\$15.00	=	_____
8"-10" Drain Pipe	_____	LF	@	\$30.00	=	_____
12"-15" Drain Pipe	_____	LF	@	\$45.00	=	_____
18"-24" Drain Pipe	_____	LF	@	\$80.00	=	_____
27"-33" Drain Pipe	_____	LF	@	\$110.00	=	_____
36"-42" Drain Pipe	_____	LF	@	\$150.00	=	_____
48"-54" Drain Pipe	_____	LF	@	\$200.00	=	_____
60" Drain Pipe	_____	LF	@	\$260.00	=	_____
_____	_____	_____	@	_____	=	_____
_____	_____	_____	@	_____	=	_____
				Subtotal		_____
				15%		_____
				Total		_____

EROSION CONTROL DEVICES

Stabilized Construction Entrance.....	_____	EA	@	\$500.00	=	_____
Gravelbags/Sandbags	_____	EA	@	\$2.00	=	_____
Silt Fence/Fiber Roll	_____	LF	@	\$5.00	=	_____
Visqueen/Soil Binder/Hydroseed/etc.	_____	SF	@	\$0.25	=	_____
Desilting Basin w/riser	_____	EA	@	\$750.00	=	_____
_____	_____	_____	@	_____	=	_____
				Subtotal		_____
				15%		_____
				Total		_____

CITY OF MISSION VIEJO

REQUIRED INSPECTIONS FOR GRADING

Date: _____ Inspector: _____

Phone No.: _____ Office Hours: _____ a.m. to _____ p.m.

Owner/Developer: _____

Grading Permit No.: _____ Expiration Date: _____

Tract/Parcel Map No.: _____ Lot(s): _____, inclusive

Address/Location: _____

GENERAL REQUIREMENTS

- A. An approved set of grading plans, a copy of the grading permit, copy of the City of Mission Viejo Grading and Excavation Code, and any special permit provisions must be on the job site at all times.
- B. **City shall be notified a minimum of 48 hours prior to when the job is ready for inspection.** You must furnish the permit number, owner's name and address of the job. **To request inspection, call (949) 470-3058.** Inspections will be provided on the date and time requested if workload and logistics allow.
- C. The **grading permit number** for this site **shall be referred to on the plans and in all reports, certifications, and correspondence.** The City may request that any documentation be revised if it does not contain the correct grading permit number. All civil certificates of line and grade, soils engineer certificates, and grading contractor's certificate shall be on City forms.
- D. If the inspector finds the soil or other conditions not as stated in the approved plans or geotechnical reports, he may refuse to approve further work until approval is obtained for a revised grading plan or geotechnical report which will conform to the existing conditions.
- E. Prior to placement of any utilities within a tract or commercial site, approval must be obtained from the grading inspector. All joint utility trenches within the right of way require an encroachment permit.
- F. **All** soils reports must be submitted to the City for review and approval. A plan check fee is required at the time the report is submitted.

GRADING INSPECTIONS

The following is a list of normally required grading inspections to be made by the grading inspector. If any work requiring inspection is covered or concealed by additional work without first having been inspected, the grading inspector may require, by written notice, that such work be exposed for examination. Any special inspections required are outlined in Appendix E of the Grading Manual.

A. **Start of Work**

A pre-construction meeting is required on the site prior to the start of any work.

B. Excavation and Fill Inspection

1. **Canyon Clean-out:** After all brush and unsuitable material has been removed and an acceptable base has been exposed, but before any fill is placed. The soil engineer and/or geologist shall provide a field memo confirming the adequacy of the work completed for inspection at or before time of inspection.
2. **Toe Bench and Key:** After the natural ground or bedrock is exposed and prepared to receive fill, but before fill is placed. The soil engineer and/or geologist shall provide a field memo confirming the adequacy of the work completed for inspection at or before time of inspection.
3. **Over-Excavation:** After area has been excavated but before fill is placed. The soil engineer and/or geologist shall provide a field memo confirming the adequacy of the work completed for inspection at or before the time of inspection.
4. **Excavation:** After the excavation is started, but before the vertical depth of the excavation exceeds ten feet (10'), and every ten-foot (10') interval thereafter. The soil engineer and or geologist shall provide a field memo confirming the adequacy of the work completed for inspection at or before the time of inspection.
5. **Fill:** After the fill has started, but before the vertical height of the fill exceeds ten feet (10') and every ten-foot (10') interval thereafter. The soil engineer and or geologist shall provide a field memo confirming the adequacy of the work completed for inspection at or before the time of inspection.

C. Rough Grade Inspection (Precise Grading Permits Only - Building Pad Release)

When all rough grading has been completed, this inspection may be called for without the necessity of the Director having previously reviewed and approved the required reports. Rough grade release will be withheld pending review and approval of the required reports. Under normal circumstances, all subdrains and slope drains shall be in place before requesting rough grade inspection. At or before the time of inspection, the inspector shall be provided with:

1. Civil engineering certificate of rough grade. A blue top and witness stake with actual elevation shall be provided for each building pad. Temporary or final property corners shall be installed for inspection.
2. Soils report from the soil engineer and/or geologist outlining all compaction test results and rough grade observation and testing. Building permits will not be issued until the report is reviewed and approved (this limitation generally includes retaining wall permits).
3. Soils Engineer Certificate of Compliance.

D. Final Inspection - Rough or Precise Grading

When all work, including installation of all drainage structures, monumentation and protective devices has been completed and all written professional approvals and the required reports have been submitted, this inspection may be requested.

Professional approvals and reports include:

1. Final certificate of rough or precise grading from civil engineer.
2. Final certificate of compliance from soils engineer (rough only).
3. Grading contractor statement of compliance (rough only).
4. Final soils report.

Required reports from the soil engineer shall include but not be limited to interior and exterior utility trench backfill compaction, retaining wall backfill compaction, and asphalt concrete, base and subgrade compaction (when appropriate).

As-built plans will be required, and must be submitted for first check **prior** to the issuance of occupancy. Two blue-line plans are required for first submittal - stamp **all** sheets of the plans "As-Built".

Final grading release will be withheld pending review and approval of the required reports and concurrence of public works inspector. All bond releases must be requested in writing to the Director of Public Works. Bonds will not be released until after final approval of the as-built plans and all file documentation is received and approved.

E. Erosion Control Facilities (Rainy Season: October 1 to April 30)

1. **Pre-Build:** Prior to the start of any work on desilting basins and erosion control facilities, the grading inspector shall be called to review the placement of said facilities.
2. **During Installation:**
 - a. After excavation, but prior to fill placement. Pre-fabricated devices to be available on-site for inspection.
 - b. After fill placement, but prior to placement of concrete or other non-erosive materials.
 - c. Before any concrete is poured and after structure is complete, memo from the soil engineer approving earth-constructed basins.
3. **Deadline for Placement in the Field:** All erosion control facilities shall be in place per approved plans by **October 1** each year. Stop work notices may be issued after October 1 if work is incomplete or plans have not yet been approved.
4. **Erosion Control Revisions:** All erosion control plans must be re-submitted for approval each year **prior to September 1**. If no changes are required, plans shall note a delta revision stating erosion control is valid for that rainy season.

F. Concrete or Gunite Drainage Devices Inspection The inspector may request concrete mix tickets and/or 7- and 28-day cylinder break test results for any concrete placed.

1. **Alley Gutter and/or Concrete Devices Draining Asphalt:**
 - a. **Subgrade (Prior to Placement of Concrete):** Subgrade is to be prepared and the forms shall be in place with the required reinforcement. The civil engineer shall provide a field memo that line and grade has been set per approved plans. The soils engineer shall provide a field memo approving the subgrade at or before the inspection.
 - b. **Concrete Placement:** Concrete placement need not await the arrival of the grading inspector provided proper notification has been made to the Director.
2. **Curb and Gutter (Private Property)**
 - a. **Subgrade (Prior to Placement of Concrete):** Subgrade is to be made, forms shall be in place with the required reinforcement. The civil engineer shall provide a field memo that line and grade has been set per approved plans. The soils engineer shall provide a field memo confirming the adequacy of the work completed for inspection at or before time of inspection.
 - b. **Concrete Placement:** Concrete placement need not await the arrival of the grading inspector provided proper notification has been made to the Director.

3. Terrace Drains, Down Drains, Brow Ditches, and All Other Paved Drainage Devices

- a. **Subgrade:** Prior to placement of welded wire mesh or reinforcing steel. The civil engineer shall provide a field memo that line and grade has been set per approved plans.
- b. **Reinforcement:** Thickness control wire or forms and reinforcing steel or welded wire mesh are to be installed prior to placement of gunite or concrete. The civil engineer shall provide a field memo that line and grade has been set per approved plans. The soils engineer shall provide a field memo confirming the adequacy of the work completed for inspection at or before time of inspection.
- c. **Concrete or Gunite Placement:** Concrete placement need not await the arrival of the grading inspector provided proper notification has been made to the Director.

4. Sidewalks

Subgrade: Prior to placement of concrete, subgrade is to be made, forms shall be in place with the required reinforcement. The civil engineer shall provide a field memo that line and grade has been set per approved plans.

5. Storm Drain and Inlets

- a. After RCP delivery (if used) to confirm that pipe conforms to plan requirements.
- b. After placement of storm drains but prior to covering with backfill. The civil engineer shall provide a field memo that line and grade is set in accordance with the approved plans.
- c. After placement of inlet forms, but prior to pouring concrete. The civil engineer shall provide a field memo that line and grade is set in accordance with the approved plans.

6. Driveways and Decorative Concrete Paving

- a. **Subgrade:** Prior to placement of welded wire mesh or reinforcing steel. The civil engineer shall provide a field memo that line and grade has been set per approved plans.
- b. **Reinforcement:** Thickness control wire or forms and reinforcing steel or welded wire mesh are to be installed prior to placement of gunite or concrete. The civil engineer shall provide a field memo that line and grade has been set per approved plans. The soils engineer shall provide a field memo confirming the adequacy of the work completed for inspection at or before time of inspection.
- c. **Concrete or Gunite Placement:** Concrete placement need not await the arrival of the grading inspector provided proper notification has been made to the Director.

7. Concrete Pavement

- a. **Subgrade:** After subgrade has been established, tested and approved by the soil engineer or his qualified representative, a field memo of tests results must be left on-site for the inspector. The civil engineer shall provide a field memo that line and grade has been set in accordance with approved plans.
- b. **Reinforcement:** Thickness control wire or forms and reinforcing steel or welded wire mesh are to be installed prior to placement of gunite or concrete. The civil engineer shall provide a field memo that line and grade has been set per approved plans. The soils engineer shall provide a field memo confirming the adequacy of the work completed for inspection at or before time of inspection.
- c. **Concrete Placement:** Inspection shall be made during the concrete placement to verify continuous inspection by the soil engineer or his qualified representative. The soil engineer must inspect for proper material, equipment, and thickness. Material invoices may be required.

G. Drainage Device Other Than Concrete or Gunite Inspection

1. Subdrains

- a. After excavation, but prior to placement of filter material and pipe. Subdrain pipe and filter material shall be on-site for inspection.
- b. After subdrain and supporting filter material have been placed, but prior to covering with remaining filter material and fill. Soil engineer shall provide a field memo approving placement of subdrain.
- c. After all filter material has been placed. Soil engineer shall provide a field memo approving placement of filter material.

2. Storm Drains and Inlets

- a. After placement of storm drains but prior to covering with backfill. The civil engineer shall provide a field memo that line and grade is set in accordance with approved plans.
- b. After placement of inlet forms but prior to pouring concrete. The civil engineer shall provide a field memo that line and grade is set in accordance with approved plans.

3. Earth Swales

- a. Prior to rough grading approval or lumber drop.
- b. Prior to final grading approval.

H. Paving Inspection

Pavement and base course specifications shall be in accordance with the provisions of the standard specifications currently used by the City of Mission Viejo. All pavement sections shall be approved by the Director.

1. **Pre-Paving Meeting:** Pre-paving meeting shall be held when required by the grading inspector. The project coordinator shall contact the inspector at least 48 hours in advance and shall also contact the following principals to be represented at the meeting: City inspector, paving contractor, civil engineer, and the soil engineer.
2. **Subgrade:** After subgrade has been established, tested and approved by the soil engineer or his qualified representative, a field memo of tests results must be left on-site for the inspector. The civil engineer shall provide a field memo that line and grade has been set in accordance with approved plans.
3. **Base Laydown:** After untreated base course has been placed, tested and approved by the soil engineer or his qualified representative, but prior to asphalt placement. The soil engineer is required to leave memo on-site to provide compaction test results for the inspector. The civil engineer may be required to provide a field memo of line and grade at or before inspection. Material invoices may be required.
4. **Asphalt Laydown:** Inspection shall be made during the asphalt laydown to verify continuous inspection by the soil engineer or his qualified representative. The soil engineer must inspect for proper material, equipment, temperatures, thickness and compaction. Material invoices may be required. Any asphalt placed within the right-of-way must be tested by the City. The payment for these tests shall be the responsibility of the Owner.
5. **Water Test:** Prior to application of seal coat, the paved surface shall be water tested to reveal any irregularities and shall be patched where required. Material invoices may be required.

I. Other Concerns and/or Special Requirements

Owner/Developer

By: _____
Address: _____

Phone No.: _____

Civil Engineer

By: _____
Address: _____

Phone No.: _____

Soil Engineer

By: _____
Address: _____

Phone No.: _____

Geologist

By: _____
Address: _____

Phone No.: _____

Grading Contractor

By: _____
Address: _____

Phone No.: _____

Superintendent

By: _____
Address: _____

Phone No.: _____

Other

By: _____
Address: _____

Phone No.: _____

Other

By: _____
Address: _____

Phone No.: _____



City of Mission Viejo

Memorandum

TEMPORARY OCCUPANCY INSPECTIONS

Date: April 22, 2008

To: All Developers with Ongoing Projects in the City of Mission Viejo

From: Richard Schlesinger, P.E., City Engineer

Subject: Temporary Occupancy from the Public Works Department

The Developer may request temporary occupancy from the Public Works Department for circumstances where there are minor outstanding items/issues to be completed before the project is ready for permanent occupancy. Under no circumstances will temporary occupancy be granted where in the opinion of the City's Inspector unsafe conditions exist or the potential for unsafe conditions exist (such as the safety of the public during completion of the outstanding items/issues once the project is occupied). The site must also be maintained in a clean and orderly fashion. Furthermore, the Public Works Department has no obligation to grant temporary occupancy requests, and each case will be determined on an individual basis. Past performance of the contractor on the project will also be used as a determining factor for eligibility due to the fact that the City needs to have a reasonable expectation that outstanding items will be completed correctly in a reasonable amount of time.

Prior to requesting a temporary occupancy inspection, the following items must be completed:

1. The Developer must post a \$15,000 cash deposit (payable by cash or check) and pay the first month's reoccurring temporary occupancy fee of \$250/month to the Public Works Department. There will be a monthly fee of \$250/month that will be charged during temporary occupancy until final occupancy is granted. In addition, final occupancy will not be granted and bonds will not be released for the project until all past due fees are paid.
2. The Developer's on-site manager must review the memo titled "Documentation Requirements for Inspection for Occupancy from the Public Works Department." The on-site manager must have all of the documents requested in this memo or a written letter stating the reason why these documents have not been provided and an estimated completion date. The City reserves the right to reject the request for temporary occupancy if in the opinion of the City Engineer missing items must be completed prior to any occupancy (temporary or permanent).



City of Mission Viejo

Memorandum

OCCUPANCY INSPECTIONS

Date: January 30, 2007

To: All Developers with Ongoing Projects in the City of Mission Viejo

From: Richard Schlesinger, P.E., City Engineer

Subject: **Documentation Requirements for Inspection for Occupancy (Final or Temporary) From the Public Works Department**

Prior to requesting inspection from the City's Public Works/Engineering inspector for final inspection for occupancy, the Developer's on-site manager must have the following documents listed below. These documents must be presented to the City inspector at the time of inspection.

1. A copy of the title page of the geotechnical final report addressing post grading, trench backfill, etc., **APPROVED BY THE CITY**. The report will be stamped "APPROVED" by the City or the City's geotechnical consultant. Please note that **three** copies of this report must have previously been submitted to the Engineering Counter at the City of Mission Viejo and appropriate review fees paid. Typically, a minimum of five (5) working days is required for the City to review the report. A copy of the report will be forwarded to the Developer upon approval.
2. An original "Grading Contractor Statement of Compliance" wet signed and stamped on a City of Mission Viejo form. Faxed copies will not be accepted (see attached example).
3. An original "Civil Engineer's Certificate of Precise Grade" wet signed and stamped on a City of Mission Viejo form. Faxed copies will not be accepted (see attached example).

The Developer's on-site manager should review all of the reports and certificates to make sure that they reference the proper grading permit number, tract number, and lots. Documents that are submitted with the improper information will be rejected, causing unnecessary delay.

In addition, the City has additional requirements for temporary occupancy which are described in the memo titled "**Temporary Occupancy From the Public Works Department.**" If the Developer wishes to apply for temporary occupancy all items in the temporary occupancy memo must be provided.


CITY OF MISSION VIEJO
200 Civic Center
Mission Viejo, CA 92691
(949) 470-3057 Engineering

GRADING CONTRACTOR STATEMENT OF COMPLIANCE

Re: **Grading Permit No.:** _____

Date: _____

Project: **Tract/Parcel Map No.:** _____ **Lot(s):** _____, inclusive

Address: _____

Owner: _____

I declare that the grading was done in accordance with the plans and specifications, the grading ordinance and the recommendations of the Civil Engineer, Soils Engineer and Engineering Geologist. It is understood that this declaration includes only those aspects of the work that can be determined by me, as a competent grading contractor.

The cubic yardage involved in our contract for this grading project was:

Estimated Excavation:	_____ CY	Actual Excavation:	_____ CY
Estimated Fill:	_____ CY	Actual Fill:	_____ CY
Estimated Import:	_____ CY	Actual Import:	_____ CY

Grading Contractor:

Signature

License No.: _____

CITY OF MISSION VIEJO
200 Civic Center
Mission Viejo, CA 92691
(949) 470-3057 Engineering

CIVIL ENGINEER'S CERTIFICATE OF PRECISE GRADE

Re: Grading Permit No.: _____
Date: _____
Project: Tract/Parcel Map No.: _____ Lot(s): _____, inclusive
Address: _____

I hereby approve the precise grading for the referenced project in accordance with my responsibilities under the City of Mission Viejo Grading and Excavation Code. The volume of earth materials moved by cut and/or fill grading *agrees/does not agree* with the permitted yardage stated on the approved grading plan. Precise grading has been completed substantially in conformance with the approved grading plan, which includes:

1. Line and grade for all engineered drainage devices and retaining walls.
2. Setting of all monuments in accordance with the recorded tract map. All centerline ties have been submitted to the City.
3. Location of permanent walls or structures on property corners or property lines.
4. Location and inclination of all manufactured slopes.
5. Construction of earthen berms and positive building pad drainage.

(All exceptions from items listed above must be noted.)

Civil Engineer:

Signature

Place Stamp Here

R.C.E. No.: _____

Expiration Date: _____

APPENDIX B
TECHNICAL GUIDELINES FOR SOIL AND GEOLOGY REPORTS

CITY OF MISSION VIEJO

Technical Guidelines for Soil and Geology Reports

PREFACE

The ultimate responsibility for safe design, construction, and maintenance of any grading project rests with the consulting engineers, geologists, contractors, and the owner. Since site conditions and the proposed development plan varies so greatly between projects, the City recognizes the discretion and judgments that must be used by the consulting professionals. It is, therefore, essential to enhance the general understanding between the permit applicants, consultants, and the City.

The purpose of these technical guidelines is to inform grading permit applicants and their professional consultants of the basic information looked for by the City in reviewing preliminary (initial) soil and geology reports for grading permit applications and rough grade compaction reports. The guidelines used for the preparation of this document are:

The City of Mission Viejo Grading and Excavation Code, the California Building Code, the California State Board of Registration policy statement (effective 1/1/79) on adequacy of professional geological work as represented by the guidelines for standards of practice issued by the California Division of Mines and Geology, report guidance issued by the technical advisory committee between 1983 and 1989 to the former Board for Geologists and Geophysicists¹, the City of Mission Viejo Planning Commission conditions of approval, the City of Mission Viejo Subdivision Code, and presently accepted geotechnical engineering and engineering geologic practices.

DESCRIPTION

The technical guidelines are divided into six parts to distinguish report content for different project types and topographic areas to be developed by grading. The more involved grading projects will encompass, but not be limited to, several parts listed below:

- Part I *Single-Family Dwellings (flatland)*—identifies the report content for precise grading permits on single-family dwellings in flatland areas.

- Part II *Single-Family Dwellings (hillside)*—identifies the report content for precise grading permits on single-family dwellings in hillside areas (additive to the requirements of Part I).

- Part III *Single-Family Dwellings (supplemental information)*—identifies additional report content which may be needed with Part I and Part II depending on the site conditions and development proposed (additive to the requirements of Parts I and II).

¹ The California State Assembly during the 4th Extraordinary Session of 2009 eliminated the Board for Geologists and Geophysicists and transferred all of the duties, powers, purposes, responsibilities, and jurisdiction to regulate the practices of geology and geophysics to the Board for Professional Engineers and Land Surveyors

- Part IV *Commercial and Industrial Sites*—identifies the report content for precise grading permits on commercial and industrial sites including apartment complexes (additive to the requirements of Part I and applicable items of Part III).
- Part V *Residential, Commercial, and Industrial Subdivisions (tracts and parcels)*— identifies the report content for preliminary grading permits of large commercial and industrial subdivisions and preliminary and precise grading permits of residential subdivisions in flatland and hillside areas (additive to the requirements of Part I and applicable items of Parts II and III).
- Part IV *Rough Grade Compaction Reports*—identifies the report content for preliminary reports and rough grade compaction reports for precise grading permits.

Due to particular site conditions, proposed improvements or the policies of testing firms or project consultants, some of these items may be included in subsequent reports on the same project with the conditional approval of the City.

GRADING PLAN REVIEW REPORT

A grading plan review report is an evaluation of the conclusions and recommendations in the preliminary soil and geology report as they relate to the proposed grading plan. It is usually required when there are changes in the proposed developments, consulting firms, soil engineer or engineering geologist, an update of the preliminary report or signatures are needed, or the project is a conversion to precise permit application. The grading plan review reports are supplements to the preliminary reports and are an opportunity for the consultants to review the planned development. The purpose is to determine if the preliminary reports are adequate and complete for the presently planned grading and construction on the site and if the conclusions and recommendations still apply to the proposed operations. It is not intended that the soil engineer or engineering geologist approve or disapprove the grading plan, but provides them an opportunity to update the preliminary reports and include additions or qualifications as necessary. The date and name of the person preparing the latest grading plan reviewed should be identified for reference purposes.

PART I TECHNICAL GUIDELINES FOR PRELIMINARY REPORTS (SOIL REPORTS) ON SINGLE-FAMILY DWELLINGS IN FLATLAND AREAS

A. General

1. Signature and RCE number of project soil engineer.
2. Job address.
3. Location description and/or location index map with reference north, scale, etc.
4. Description of site conditions (topography, relief, vegetation, man-made features, drainage and watershed).
5. Proposed grading (general scope, amount, special equipment, and/or methods if applicable).

6. Planned construction (type of structure and use, type of construction and foundation/floor system, number of stories, estimated structural loads).

B. Field Investigations

1. Scope (date work done, investigative methods, sampling methods, logs of borings/test pits, elevations of borings/test pits for reference of materials and samples to finished grade or footing elevations, identify real or assumed elevations).
2. Plan with legend showing: site limits, terrain features, man-made features, boring/test pit locations, proposed improvements (including slopes with ratios, soil limits, daylight lines, paving areas, retaining walls, subdrains, over excavation/cleanout/uncertified fill areas).
3. Location of all samples taken, surface, and subsurface.
4. Groundwater conditions and potential (future natural and artificial seepage effects).

C. Engineering/Material and Characteristics and Testing

1. Test methods used, type or condition of samples, applicable engineering graphics and calculations, results of all tests, and sample locations of all test samples.
2. Unified soil classification of materials.
3. Material competency and strength.²
 - a. Field densities (and relative compactions where pertinent) and moisture content.
 - b. Shear strength of foundation material (drained or undrained conditions, effective stress or total stress analysis, in-situ or remolded samples must be identified).
 - c. Consolidation or settlement potential.
 - d. Expansion potential.
4. Maximum density-optimum moisture parameters of proposed fill material if available by California Building Code Standard No. 70-1 or approved equivalent.
5. Shrinkage and/or bulking factors.

² *CBC requirements may be used as an alternative: soil classification of founding materials by CBC Standard No. 29-1 and use minimums and maximums based on CBC Tables 29-A and 29-B or approved equivalent.*

D. Foundation Design Criteria

1. Footing depth and width.¹
2. Criteria for foundation material preparation.¹
3. Allowable bearing values based on testing.¹
4. Lateral pressures (active, passive, or at rest conditions) and coefficient of friction.¹
5. Settlement—total, differential, and rate of settlement.

E. Reference

1. In supplemental or grading plan review reports referencing earlier reports, supply copies of those referenced reports or applicable portions as required by the Director.

F. Conclusions and Recommendations

1. Ground preparation (clearing, unsuitable material removal, scarification and moisturization).
2. Fill support:
 - a. Suitability and precompaction conditions of in-situ materials (describe test results and other pertinent data to be used to determine suitability).
 - b. Densification and moisturization of dewatering measures (equipment, surcharge, and settlement monitoring if applicable).
3. Placement of fill:
 - a. Material approved (on-site, imported).
 - b. Methods and standard (California Building Code Standard No. 70-1 or approved equivalent).
 - c. Testing (minimum 90% relative compaction by California Building Code Standard No. 70-2 or equivalent) and frequency of field density testing by vertical intervals and/or volume of fill.
4. Elimination of cut/fill or other differential transitions beneath improvements.

¹ *CBC requirements may be used as an alternative: soil classification of founding materials by CBC Standard No. 29-1 and use minimums and maximums based on CBC Tables 29-A and 29-B or approved equivalent.*

5. Utility trenches:
 - a. Backfill specifications and recommendations under structures, pavements, and slopes (minimum 90% relative compaction using native materials) versus landscape and other areas.
6. Provisions for approval inspections and necessary testing during and on completion of grading.
7. Opinion as to adequacy of site for the proposed development. (This option should also be summarized in the first part of the report.)
8. Other pertinent geotechnical information for the safe development of the site.

PART II
TECHNICAL GUIDELINES FOR PRELIMINARY REPORTS (SOIL AND GEOLOGY REPORTS)
SINGLE-FAMILY DWELLINGS IN HILLSIDE AREAS

All guidelines listed in Part I for preliminary reports are applicable in addition to the following:

A. General

1. Engineering geology report with signature and CEG number of project engineering geologist (generally needed depending on site conditions and proposed developments).
2. Source of base map with date.
3. Geologist performing mapping (if different than signing CEG).
4. Geological setting including general description, index of site on portion of recent large-scale geologic map (if available), and references to previous reports (or published papers) and aerial photo data on site area.
5. Topographic features and relationship to site geology (outcrop distribution, slope height and angles and/or ratios, dip slopes, cliffs, faults contacts, erosion pattern, etc.).

B. Field Investigations

1. Geologic map showing: site geology, approximate location of proposed keyways, proposed buttresses, proposed or existing subdrains, seeps or springs, etc., and be suitable for the general purpose in its size, scale, and manifestation and contains an adequate legend. The map should have highlighted representative geologic data of sufficient amount and location for evaluation of: general rock or soil unit distribution, geologic structure, downslope movement features (including soil/rock creep), groundwater conditions, subsidence/settlement features or potential, and other pertinent site characteristics.

2. Substantiation of any known gross differences of opinion with recently available geologic reports or published data or maps on site area.

C. Earth Materials (Bedrock and Surficial Units)

1. Unit classification, general lithologic type, geologic age, origin.
2. Unit description and characteristics (in sequence for relative age) including:
 - a. Composition, texture, fabric, moisture, etc.
 - b. Pertinent engineering geologic attributes (clayey, weak, loose; alignments, fissility, planar boundaries; pervious or water-bearing parts; susceptibility to mass wasting, erosion, piping, or compressibility).
 - c. Distribution, dimensions, or occurrence (supplemental to data furnished on illustrations).
 - d. Suitability as construction and foundation material.
 - e. Effects and extent of weathering (existing and relationship to project design and future site stability, material strength, etc.).

D. Geologic Structure

1. General structure.
2. Distribution of structural features including position, attitude, pattern, and frequency of:
 - a. Fissures, joints, shears, faults, and other features of discontinuity.
 - b. Bedding, folds, and other planar features.
3. Character of structural features including: continuity, width of zones and activity, dominant vs. subordinate, planar nature, plunge, depth, open vs. closed (degree of cementation or infilling), gouge.
4. Structural or cross-sections (one or more appropriately positioned and referenced on map; especially through critical areas, slopes, and slides) of suitable size and engineering scale; with labeled units, features, and structures; and a legend. These sections should correlate with surface and subsurface data showing representative dip components, projections, and stratigraphic/structural relationships.

E. Stability Features and Conditions

1. Adequate mapping, sections and description showing position, dimensions and type of existing downslope movement features including soil/rock creep, flows, falls, slumps, slides if any.
2. Activity, cause, or contributing factors of downslope movement features.
3. Recent erosion, deposition, or flooding features.
4. Subsidence/settlement, piping, solution, or other void features or conditions.
5. Groundwater and surface drainage characteristics or features.
 - a. Surface expression (past and present); permeability/porosity of near surface materials.
 - b. Actual or potential aquifers or conduits, perching situations, barriers, or other controls to percolation and groundwater movement and fluctuation of groundwater levels at the site.

F. Conclusions and Recommendations (Including Slope and Site Stability)

1. Unsuitable material removal (canyon cleanout, over excavation, etc.).
2. Keyways and benching for existing slopes steeper than 5:1.
3. Specifications for the method of placement and compaction of soil within the zone of the slope face.
4. Slope stability—susceptibility to mass-wasting (creep to rapid failure potential).
 - a. Favorable or unfavorable interrelationships of fractures (joints, shears, faults, or zones) to planar structures (bedding, contacts, folds, plunges, weathered zones, etc.) and to each other forming potential failure planes, veneers, masses, or blocks.
 - b. Favorable or unfavorable interrelationships of geologic structures, conditions, and potential failure planes to natural and/or man-made topography forming actual or potential adverse dips and contacts, adverse fractures (jointing, shearing, faulting), adverse fold limbs or synclinal axes, adverse earth masses or blocks.
 - c. Favorable or unfavorable interrelationships of height of existing or proposed slopes to present and future (weathering effects, rate, depth, etc.) strength of earth materials.
 - d. Slope stability effects onto or from developed, natural, or proposed slopes of adjacent properties.

5. Statement of site stability and summary of actual and potential unstable situations relative to the proposed site configuration and necessary stabilization or remedial measures for downslope movements, erosion, groundwater, or settlement/subsidence effects. Opinion and recommendations of surficial and gross stabilities of natural and manufactured slopes.
6. Provisions for necessary inspections of excavations to competent material by the project engineering geologist and/or soil engineer and their approval and/or testing of material competency.
7. Geologic feasibility of the site for the proposed development. (This opinion should also be summarized in the first part of the report.)

PART III

TECHNICAL GUIDELINES FOR PRELIMINARY REPORTS (SOIL AND GEOLOGY REPORTS) SINGLE-FAMILY DWELLINGS: SUPPLEMENT TO PARTS I AND II

This section includes additional report content that may be necessary depending on project site conditions or proposed developments for either flatland or hillside locations.

A. General

1. *Site conditions*—distress on existing improvements in area (expansive, settlement/subsidence, or creep areas).
2. *Proposed grading*—special grading equipment or methods needed for resistant, saturated, or other unusual materials or situations.
3. Proposed rock disposal methods (for clasts and residuals larger than 12 inches) and disposal areas (include on geotechnical plan if disposal area is on site).
4. References to publications and other reports cited.

B. Engineering/Material Characteristics and Testing

1. Shear strength evaluations and results (drained or undrained conditions, effective stress or total stress analysis, in-situ or remolded samples).
2. Expansivity analyses of foundation material (test by CBC Standard No. 29-2 or approved equivalent and classify potential by CBC Table No. 29-C).
3. Material densities and/or penetration tests (Standard Penetration or other methods of known correlation to material density).
4. Soluble sulfate content of soils in contact with concrete (test by ASTM D516 or equivalent).
5. Gradation/size analyses, if appropriate.
6. Atterberg limit analysis and parameters, if appropriate.

7. Geophysical survey, if appropriate—graphics and results.
8. Include all test methods used, type or condition of sample used, applicable engineering graphics and calculations, results of all tests, sample locations of all test samples.

C. Slope Stability Analysis

(Dependent on slope height and ratios, strength of earth materials, internal structure, susceptibility to weathering, actual or potential groundwater, surficial covering, proximity to site improvements or structures, and proposed landscaping and maintenance).

1. Gross stability of natural or man-made slopes with calculations, graphics, supporting data, and applicable parameters.
2. Surficial stability of slopes with calculations, graphics, supporting data, and applicable parameters.

NOTE: General guidelines for gross stability analyses are provided in “Minimum Standards for Slope Stability Analyses” (Appendix F) formulated by the LA/ASCE Geotechnical Group Committee on Seismic Stability of Soil and Rock and adopted by the County of Los Angeles on July 25, 1978, except that they shall apply to all slopes steeper than 2:1. Guidelines for surficial stability analyses are established in “Slope Stability Report” formulated by the City of Mission Viejo Slope Stability Committee dated January 10, 1972.

- D.** Seismic evaluation should include regional seismicity; potential for strong shaking, ground rupture, and liquefaction; lateral spread, seismically-induced landsliding, and seismically-induced flooding, etc.; applicable parameters (peak and/or design ground acceleration, duration of strong shaking, site period) or reference to CBC standards for earthquake design (Chapter 23).

E. Foundation Design Criteria—Special Provision for Expansive Earth Materials

1. Footing design and placement criteria.
2. Slab thickness, reinforcement, separation and expansion joints, construction joints, doweling, or ties.
3. Bridging, grade beam specifications, and recommendations, when applicable.
4. Prestressed (post-tensioned) floatation slab specifications and recommendations if this system is proposed.
5. Exterior flatwork recommendations.
6. Moisture barriers and/or selective grading (aggregate or sand base or other subbase).

7. Soil moisture measures.
 - a. Treatment prior to concrete pouring: “prepour moistening”, “presoaking”, or “presaturation”.
 - b. Drainage/irrigation controls to maintain moisture content in foundation materials (including increased positive drainage, paving, cut-off walls, sealed planters, gutters, and downspouts, etc.).

F. Foundation Design Criteria—Other Special Provisions

1. Soluble sulfate content specifications and recommendations based on CBC Section 2604 (c)2G.
2. Footing setback from base of slopes and other setbacks (faults, fracture zones, contacts, etc.).
3. Effects of adjacent loads when footings are at differing elevations.
4. Deep foundation systems.
 - a. Allowable bearing values.
 - b. Foundation design criteria, parameters, and calculations when applicable.
 - c. Additional loads or potential loads caused by geologic conditions (parameters and calculations).
5. Engineering calculations with supporting data and applicable parameters used as a basis for recommended values. These will be needed depending on the values presented relative to the foundation materials, groundwater table, proposed improvements, and imposed loads.

G. Retaining Walls; Design Criteria on Proposed Walls (Surcharged or greater than three feet (3') in height above the base)

1. Slope surcharge and geologic surcharge factors, parameters, and calculations.
2. Drainage and backfill requirements including waterproofing of living areas and suitable drains.
3. Allowable bearing values, lateral bearing resistance and coefficient of friction based on testing or CBC (Chapter 29).
4. Active, passive, or at-rest lateral pressure.
5. Footing setback from base of slopes or from slope face.

H. Conclusions and Recommendations

1. Corrective or selective grading.
2. Subgrade specifications and recommendations.
3. Soil cement or lime stabilization.
4. Rock clast disposal.
5. Blasting.
6. Irrigation/drainage controls, dewatering, surface and subsurface drains and subdrains.
7. Special planting and irrigation measures, slope coverings, and other erosion control measures which may be apparent from the preparation of the geotechnical report.
8. Slough walls (including free board on retaining walls).
9. Protection of existing structures during grading.
10. Foundation/wall excavation inspections and approval by engineering geologist and/or soil engineer.
11. Shoring requirements.
12. Actual or potential effects extending into site from adjacent areas or from the site into adjacent areas and recommendations pertaining to stability, erosion, sedimentation, groundwater, etc.
13. Stabilization measures (see note under items for guidelines and minimums).
 - a. Fill blankets for pads or stabilization blankets for slopes.
 - b. Stabilization fills: specifications (including subdrains and landscape) and parameters (include stability analysis and calculations if geologically surcharged).
 - c. Buttress fills: specifications (including landscape), subdrains, stability analysis with calculations and supporting test data and parameters.
14. Fill over cut slope specifications and recommendations.
15. Subsidence, hydrocompaction and piping potential, factors, time frame, and recommendations.

PART IV
**TECHNICAL GUIDELINES FOR PRELIMINARY SOIL AND GEOLOGY REPORTS ON
PRECISE COMMERCIAL/INDUSTRIAL GRADING APPLICATIONS**

This section includes the necessary report content in addition to Part I and applicable items of Parts II and III for the proposed commercial/industrial development.

A. Pavement Design (Indicate Areas and Type on Geotechnical Plan)

1. AC pavement design criteria.
 - a. R-value testing: method (California 301-f or equivalent), results, sample location(s), or provide minimum AC sections per excavation and Grading Code.
 - b. Traffic indices or projected loading conditions.
 - c. AC structural sections: parking areas, access areas, service areas, heavy vehicle areas.
 - d. Untreated base compaction recommendations (minimum 95% relative compaction).
 - e. Subgrade recommendations: minimum depth, compaction (minimum 90% relative compaction); special recommendations for bridging, or founding, e.g., soil cement or lime treatment, over excavation, selective grading, etc.
2. Concrete pavement.
 - a. Minimum thickness and reinforcement.
 - b. Size of poured or sawed sections; expansion joints.
 - c. Untreated base specifications and recommendations.
 - d. Subgrade recommendations.

- B.** Seismic evaluation of site (if site involves a critical or major structure or is in close proximity to an active fault); see Part III for description of necessary content.

PART V
**TECHNICAL GUIDELINES FOR PRELIMINARY SOIL AND GEOLOGY REPORTS ON
RESIDENTIAL OR COMMERCIAL/INDUSTRIAL SUBDIVISIONS (TRACTS AND PARCELS);
FLATLAND OR HILLSIDE AREAS**

This section includes necessary report content in addition to Part I and the applicable items of Parts II and III.

- A.** Seismic evaluation of site (see Part III for description of necessary content).

- B. Evaluation of expansivity of site.
- C. Stability evaluation of site, slopes, tract boundary areas, etc.

PART VI
TECHNICAL GUIDELINES FOR ROUGH GRADE COMPACTION REPORTS

A. General

- 1. Signature and RCE or RGE number of project soil engineer.
- 2. Job address, lot, and tract number.
- 3. Grading permit number.

B. Placement of Fill

- 1. Purpose for which fill was placed.
- 2. Preparation of natural grade to receive fill.
- 3. Placement of fill (depth of layers, watering, etc.).
- 4. Equipment used for compaction.
- 5. Method of compacting outer slope area.

C. Testing (Compaction)

- 1. Test procedure (field and laboratory).
- 2. Plot plan with the location of all density tests.
- 3. Summary of test results.
 - a. Test identification number.
 - b. Test method performed.
 - c. Maximum dry density.
 - d. Optimum moisture.
 - e. Field dry density.
 - f. Field moisture.
 - g. Relative compaction.

- h. Approximate elevation of test.
- i. Approximate finish grade elevation at test site.

D. Testing (Utility Trench Compaction)

- 1. Location of test.
- 2. Depth of trench and test.
- 3. Method of backfill and compaction equipment.
- 4. Summary of test results.

E. Testing (Other)

- 1. Summary of expansion test results (identify lots or areas with swelling potential, plot test locations on plot plan).
- 2. Summary of soluble sulfate test results.
- 3. Summary of “R” value tests for asphalt concrete design if applicable.

F. As-Built Conditions

- 1. Plot plan showing limits of the approved compacted fill area (approximate pad elevation, depth of fill, areas of over excavation, canyon cleanout, buttress fills, stabilization fills, and subdrains).
- 2. Treatment of “daylight” or cut/fill transition zones (extent of over excavation outside of footing).
- 3. Type of soil encountered during grading (fill, in-situ, imported borrow).
- 4. Groundwater conditions identified and subdrains or other methods used to mitigate adverse effects.
- 5. Geologic conditions encountered.
- 6. Comments on changes made during grading and their effect on the recommendations made in the geotechnical report.

G. Recommendations and Opinions

- 1. Footing recommendations and bearing value on compacted fill or natural soils.
- 2. Footing and floor slab recommendations based on results of expansion and soluble sulfate tests (construction details of footing if applicable).
- 3. Pavement structural section design recommendations and specifications if applicable.

4. Opinion of the suitability of natural soil to support the fill or structure.
5. Approval as to the adequacy of the site for the intended use, as affected by soil engineering and/or geologic factors.
6. Opinion as to the gross and surficial stability of all slopes.
7. Opinion as to the suitability of utility trench and retaining wall backfill.
8. A statement that the soil engineering and engineering geologic aspects of the grading having been inspected and are in compliance with the applicable conditions of the grading permit and the soil engineer's and engineering geologist's recommendations.

APPENDIX C
SURETY BOND FORMS

CITY OF MISSION VIEJO

GRADING BOND

A. WHEREAS, the City Council of the City of Mission Viejo, State of California (hereinafter "City"), has adopted by reference portions of the Orange County Code pursuant to City Ordinance No. 88-12, and has adopted the City of Mission Viejo Grading and Excavation Code pursuant to City Ordinance No. 10-286, located at Section 8.10 et seq. of the Codified Ordinances;

B. WHEREAS, Section 8.10.710 of the City of Mission Viejo Grading and Excavation Code, provides that an applicant for a grading permit shall provide a security, as hereinafter conditioned, to insure compliance with all terms of said Code and the terms of the grading permit;

C. WHEREAS, _____ (hereinafter designated as "Principal") has applied for a Grading Permit in order to perform grading and excavation on the following described property: _____;

D. WHEREAS, Principal has obtained the following discretionary permits and entered into the following agreements, all of which are prerequisites to obtaining said Grading Permit, (No. _____) and which are incorporated herein by reference and shall hereinafter be referred to as "Approvals": _____;

E. WHEREAS, pursuant to City Resolution No. 10-59, the City has adopted the City of Mission Viejo Grading Manual;

F. WHEREAS, the City of Mission Viejo Grading and Excavation Code and the City of Mission Viejo Grading Manual shall hereinafter be referred to as the "Grading Code"; and

G. WHEREAS, the conditions of this bond are as follows:

- (1) That all work shall be done in compliance with the Grading Code and other applicable laws, ordinances and regulations.
- (2) That all work shall be done in accordance with approved plans and specifications and in compliance with the terms and conditions of said

Grading Permit and the Approvals to the satisfaction of the Director of Public Works.

- (3) That for a period of one (1) year after the issuance of the certificate of completion, the Principal shall perform all maintenance and comply with all conditions required under said Permit, the Approvals, the Code, and all other applicable laws, ordinances and regulations.
- (4) That in the event the Principal fails to comply with the above terms and conditions, the Surety will promptly comply with any lawful order of the Director of Public Works requiring the work authorized by the Permit to be completed and that the premises covered by the Permit be made safe to life and property to the satisfaction of the Director of Public Works, and in the event such Surety fails to promptly do so, the Surety will pay the City of Mission Viejo all costs and expenses incurred by said City in completing the work authorized by the Permit making the premises safe to the satisfaction of the Director of Public Works.
- (5) That neither the City nor any officer, employee or agent thereof shall be responsible for any damage or liability occurring by reason of anything done or omitted to be done by Principal under or in connection with any works permitted under said Grading Permit. It is also understood and agreed that Principal shall fully indemnify, defend and hold City harmless from any liability imposed for injury (as defined in Government Code Section 810.8) occurring by reason of anything done or omitted to be done by Principal under or in connection with any work permitted under said Grading Permit.

1. NOW, THEREFORE, we, the Principal and _____, as Surety, are held and firmly bound unto the City of Mission Viejo, California, in the penal sum of \$ _____, lawful money of the United States, for the payment of

which we bind ourselves, our heirs, successors, executors and administrators, jointly and severally, firmly by these presents.

2. The condition of this obligation is such that the obligation shall become null and void if the above-bounded Principal, his or its heirs, executors, administrators, successors, or assigns, shall in all things stand to, abide by, well and truly keep, and perform the covenants, conditions, and provisions of this Bond; otherwise, this obligation shall be and remain in full force and effect.

3. As a part of the obligation secured hereby and in addition to the face amount specified therefor, there shall be included costs and reasonable expenses and fees, including reasonable attorney's fees, incurred by City in successfully enforcing such obligation, all to be taxed as costs and included in any judgment rendered.

4. The Surety hereby stipulates and agrees that no change, extension of time, alteration or addition to the terms of said Grading Permit or to the work to be performed thereunder or the specifications accompanying the same shall in any way affect its obligations on this Bond, and it does hereby waive notice of any such change, extension of time, alteration or addition to the terms of said Grading Permit.

\\

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\\

IN WITNESS WHEREOF, this instrument has been duly executed by the Principal and Surety above named, on _____, 20__.

SURETY

PRINCIPAL

By: _____
Attorney-in-Fact

By: _____

Name

Name

Address

Title

(Attach Notary Acknowledgement)

Address

By: _____

Name

Title

Address

(Attach Notary Acknowledgment)

APPROVED AS TO FORM:

William P. Curley, III
City Attorney

CITY OF MISSION VIEJO

GRADING BOND EXECUTION INSTRUCTIONS

1. **All blanks in the bond form must be completed.** This includes identifying the location of the property to be graded at paragraph "C". In addition, all planning approvals or agreements must be identified at paragraph "D". For example, any and all tentative tract map numbers, site plan permits, CUPs and subdivision agreements must be identified. If there are no such approvals or agreements, they type "None".
2. **Both the Principal and the Surety must execute bonds.**
3. **If the Principal is a corporation,** the bond must be executed in the corporation name and signed by the President or Vice President and the Secretary or Assistant Secretary and the corporate seal affixed. As an alternative, others may sign on behalf of the corporation if a corporate resolution duly executed with the corporate seal affixed is presented authorizing the individuals who have signed the bond to bind the corporation.

If the Principal is a partnership, the bond must be signed by all partners. If the partnership is comprised of two or more corporations, each corporation's President or a Vice President and Secretary or Assistant Secretary must sign the bond. The above alternative may also be used with the appropriate resolution.

If the Principal is an individual, doing business under a fictitious name, it must be signed by all persons having an interest in the business, and the fictitious name must be signed also.
4. The names of all signatories must be typed in where indicated in the signature blocks.
5. **The signatures of both the Principal and the Surety on the bond must be notarized.**
6. The bond must contain signed approval by the City Attorney of the City of Mission Viejo.
7. The bond, after approval by the City Attorney, will be returned to the City Clerk for processing.
8. Two copies of the bond are to be given to the City (either two originals or one original and one copy).

IRREVOCABLE LETTER OF CREDIT

[Bank Name and Address]

*This form is an EXAMPLE only and wording must be as shown on the **Bank's letterhead.***

TO: CITY OF MISSION VIEJO
Public Works Department
200 Civic Center
Mission Viejo, California 92691

DATE: _____
LETTER OF CREDIT NO.: _____
AMOUNT: _____

At the requires of (the "Customer"), (the "Bank") hereby establishes in your favor an Irrevocable Letter of Credit ("the Credit") for a total amount of \$_____ available by your sight draft, drawn on (the "Bank") expiring _____*, unless automatically renewed as provided herein.

This Letter of Credit shall be automatically extended for additional periods of one year from the present or future expiration date, unless we notify you and (the "Customer") via courier or certified mail at least 120 (one hundred twenty) calendar days prior to the then expiration date that we have elected not to renew this Letter of Credit. Thirty (30) days after receipt of such notice, you may draw on this Letter of Credit by presentation of the documents mentioned herein.

This Credit is issued in connection with the obligation of (the "Customer") for grading and pertinent improvements (outlined in Grading Permit No. _____) to property located at _____ within the City of Mission Viejo, California. A drawing under this Credit shall be made by your presenting to us this Letter of Credit, and a demand in writing signed by a person who has been duly authorized to sign on your behalf.

Said demand shall refer to this Credit by the above number, shall state the amount demanded and shall certify one of the following:

- a. That the customer has failed to comply with the conditions of the grading permit, after 15 (fifteen) days written notice to the customer demanding compliance with the conditions of said permit; or
- b. The work authorized by the above permit has been left in a hazardous condition; or
- c. The work remains incomplete and the City of Mission Viejo has received notice that we have elected not to renew this Letter of Credit.

Upon receipt of the said documents we shall pay to you the amount stated in the said demand to be payable to you without inquiring whether you have a right to such amount as between yourself and the customer, provided that such amount, together with the other amounts paid to you under this Credit, if any, do not exceed the amount of the Credit. This Credit shall be terminated upon receipt of your letter certifying that subject grading has been completed in a satisfactory manner.

*Must be at least 2 (two) years from date of issuance.

BANK: _____

By: _____
(Authorized Representative)
(Notary Acknowledgment Attached)

**CITY OF MISSION VIEJO
TIME CERTIFICATE OF DEPOSIT**

DEFINITIONS:

Assignor	Person depositing funds for certificate.
Assignee	The City of Mission Viejo.
Federal Insurance Agency	Name of federal agency insuring the bank or savings and loan association issuing certificate.

INSTRUCTIONS FOR COMPLETING CERTIFICATE OF DEPOSIT FORM:

1. Certificate to be made payable to City of Mission Viejo.
2. Minimum maturity date shown on certificate shall be six (6) months.
3. Face of certificate needs to state funds will be automatically renewed after maturity date.
4. Attach notary acknowledgements for signatures of authorized officer of bank or savings and loan association and assignor.
5. Submit original certificate or passbook and certificate of deposit form.

**CERTIFICATE OF DEPOSIT
ASSIGNMENT**

TO: CITY OF MISSION VIEJO
Public Works Department
200 Civic Center
Mission Viejo, California 92691

DATE: _____
CERTIFICATE OF DEPOSIT NO.: _____
AMOUNT: \$ _____

_____ [Name] _____, hereinafter referred to as "Assignor", whose address is _____, does hereby assign and set over to City of Mission Viejo hereinafter referred to as Assignee, all right, title and interest of whatever nature, of Assignor, in and to the insured account of Assignor in the _____ [Bank or Savings & Loan Association] _____ evidenced by a time certificate of deposit in the amount of \$ _____, which is delivered to the Assignee herewith. Assignor agrees that this assignment carries with it the right in the insurance of the account by the _____ [Appropriate Federal Insurance Agency] _____ and includes and gives the right to the Assignee to redeem, collect, and withdraw the full amount of such account at any time without notice to the Assignor. Assignor agrees that this assignment is given as security for the following:

Completion of Grading and Improvements at: _____ [Project Address] _____ (Grading Permit No. _____) and that the Assignee may, without notice to Assignor, redeem, collect and withdraw the account for the purpose of having not fulfilled the above agreement.

_____ [Bank or Savings & Loan Association] _____ acknowledges the assignment of the account and certificate identified above to the Assignee.

(Assignor)

Dated: _____

(Notary Acknowledgment Attached)

RECEIPT FOR NOTICE OF ASSIGNMENT

Receipt is hereby acknowledged to the Assignee of written notice of the Assignment to said Assignee of the account and certificate identified above. We have noted in our records the Assignee's interest in said account as shown by the above assignment and have retained a copy of this document. We hereby certify that we have received no notice of lien, encumbrance, hold, claim, or obligation of the above-identified account prior to the assignment to the Assignee. We agree to make payment to the Assignee immediately upon request.

(Authorized Officer)

Dated: _____

(Bank or Savings & Loan Association)

(Address)

(Notary Acknowledgments Attached)

CITY OF MISSION VIEJO
GRADING PERMIT CASH BOND

This agreement is entered into between _____, hereinafter referred to as "Principal" and the City of Mission Viejo, or its assigns, hereinafter referred to as "City", to ensure the completion of grading required by Grading Permit No. _____ on the property located at _____.

NOW, THEREFORE, IT IS AGREED THAT:

1. Principal agrees to indemnify, protect, defend, and hold harmless the City and its elected and appointed officers, agents, and employees from any and all claims, demands, costs, or liability arising from or connected with the undertaking provided hereunder due to the negligent acts, errors, or omissions of Principal. Principal will reimburse the City for any expenditures, including reasonable attorney's fees, incurred by the City in enforcing the terms of this Agreement, or incurred by the City in defending against claims ultimately determined to be due to negligent acts, errors, or omissions of the Principal.
2. Principal does herewith post a cash bond in the amount of \$_____ for which City acknowledges receipt.
3.
 - a) If Principal complies with all the provisions of the "City of Mission Viejo Grading and Excavation Code", commencing with section 8.10 of the Codified Ordinances of the City of Mission Viejo; and other applicable laws, and ordinances; and
 - b) Complies with all of the terms and conditions of the permit for excavation or fill to the satisfaction of the Director of Public Works; and
 - c) Completes all of the work contemplated under the permit within the time limit specified in the permit, and any extension or extensions thereof, or completes the work to a safe condition satisfactory to the Director of Public Works, the cash bond shall be released.
4.
 - a) If principal, or its heirs, successors, executors, administrators, or assigns fails to comply with the aforementioned requirements, the Director of Public Works may order the work required by the permit to be completed or put in a safe condition to his satisfaction.
 - b) The cash bond shall be used as necessary to pay for the completion of this work. After completion of the work, any funds remaining in this bond shall be refunded to the Principal.
 - c) If the cost of the work exceeds the amount of this bond, Principal hereby agrees to reimburse the City for such excess costs.

- d) Principal agrees that if the City brings suit to collect for the work contemplated by this permit that the reasonable attorney's fees as fixed by the court shall be paid by the Principal.
- 5. Principal hereby stipulates and agrees that no change, extension of time, alteration, or addition to the terms of the Agreement, the work to be performed thereunder, with the specifications accompanying the Agreement, shall in any way affect its obligations on this bond. Principal hereby waives notice of any such change, extension of time, alteration, or addition to the terms of the Agreement, the work, or the specifications.

Dated: _____

Principal:

(Signature)

(Printed Name)

City Receipt No.: _____

(Title)

Address

(Attach Notary Acknowledgment)

APPENDIX D

MINIMUM STANDARDS FOR SLOPE STABILITY ANALYSIS

**(LA/ASCE Geotechnical Group Committee on
Seismic Stability of Soil and Rock)**

MINIMUM STANDARDS FOR SLOPE STABILITY ANALYSIS

The following minimum standards for slope stability analysis will generally be required for fill slopes steeper than 2:1 [Section 7010(c)] and cut slopes steeper than 1½:1 [Section 7009(a)]. A more detailed field and laboratory investigation combined with a seismic stability analysis utilizing such information may be required where unusual soils or geologic conditions exist.

1. Separate calculations shall be performed for static and seismic conditions.
2. The pseudostatic slope stability analysis shall be the minimum seismic analysis accepted for design.
3. Conventional static methods of slope stability analysis based upon principles of mechanics may be used to analyze the stability of slopes under both static and pseudostatic loads.
4. The minimum acceptable factor of safety on shear strength is 1.5 for static loads and 1.1 for pseudostatic loads. The factor of safety on strength is defined as the ratio of the shearing resistance force to the actual driving force acting along the potential failure surface.
5. The static analysis shall include the effect of expected maximum moisture conditions, soil weight, and seepage or pore pressure where applicable. Saturated moisture conditions shall be utilized unless it can be shown that other moisture contents will represent worst possible conditions for the project.
6. Pseudostatic analysis shall include the effect of static loads combined with a horizontal inertial force acting out of the slope and through the center of gravity of the potential sliding mass.
7. A minimum pseudostatic horizontal inertial force equal to 0.15 times the total weight of the potential sliding mass shall be used. This minimum lateral design value should be increased where subsurface conditions or the proximity to active faults warrants the use of higher values in the opinion of the private consultant(s).
8. The critical potential failure surface used in the analysis may be composed of circles, planes, or other shapes considered to yield the minimum factor of safety against sliding and most appropriate to the soil and geologic site conditions. In cohesive soils, a vertical tension crack extending down from the top of the slope to the potential failure surface may be used to limit the lateral extent of the potential sliding mass.
9. The critical potential failure surface having the lowest factor of safety on strength shall be sought for the static case. This same static surface and sliding mass may be assumed critical for the pseudostatic case.
10. Soil properties including unit weight and strength parameters (cohesion and friction angle) may be based on conventional field and laboratory tests and/or field performance. Where appropriate, laboratory tests for long-term residual strengths shall be performed. Shear resistance along bedding planes normally requires estimation of bedding strength values of the weakest unsupported plane. It is expected that the engineer will use

considerable judgment in the selection of appropriate shear tests and interpretation of the results in arriving at strength characteristics fitting the present and anticipated future slope conditions. Dynamic strengths used in a pseudostatic analysis shall not exceed peak point static strengths unless supported by dynamic test results or other convincing physical evidence.

11. In the design of slope support, bedding planes flatter than twelve degrees (12°) from the horizontal need not normally be considered in a pseudostatic analysis.
12. Each slope stability analysis shall be accompanied by a geotechnical report including a summary of the results of field exploration and laboratory investigation. This report should at least include the following items:
 - a. Boring logs and plan locations relative to the proposed grading.
 - b. Geotechnical description of soil and/or rock encountered in the proposed cut slope and/or expected to be used in the proposed fill. Soil description should include engineering classification with moisture and density or stiffness. Rock description should include, but not be limited to, geologic assessment of hardness, degree of weathering, strata thickness, clay surfaces, and oriented planar discontinuities such as strike and dip of bedding, joint spacing, joint thickness, fracture and fault surfaces.
 - c. Groundwater conditions encountered at the site as well as anticipated future groundwater conditions that may affect the design.
 - d. Description of laboratory tests performed with summary of laboratory test results. Both the moisture and drainage conditions during any shear strength tests should be clearly defined.
 - e. Shear strength parameters for design which are based on field experience should be properly referenced or explained.
13. All design parameters shall be verified during construction. This includes applicable geologic structures—such as bedding attitudes, joint orientation, and existing shear surfaces—fill strength, and groundwater conditions. If any significant variation from the design values is discovered, revised calculations shall be made and submitted.

APPENDIX E
PROTECTION OF ADJACENT PROPERTY
CALIFORNIA CIVIL CODE, SECTION 832

CALIFORNIA CIVIL CODE, SECTION 832

Lateral and subjacent support; excavations; degree of care; damages; protection of other structures.

Each coterminous owner is entitled to the lateral and subjacent support which his land receives from the adjoining land, subject to the right of the owner of the adjoining land to make proper and usual excavations on the same for purposes of construction or improvement, under the following conditions:

1. Any owner of land or his lessee intending to make or to permit an excavation shall give reasonable notice to the owner or owners of adjoining lands and of buildings or other structures, stating the depth to which such excavation is intended to be made, and when the excavating will begin.
2. In making any excavation, ordinary care and skill shall be used and reasonable precautions taken to sustain the adjoining land as such, without regard to any building or other structure which may be thereon, and there shall be no liability for damage done to any such building or other structure by reason of the excavation, except as otherwise provided or allowed by law.
3. If at any time it appears that the excavation is to be of a greater depth than are the walls or foundations of any adjoining building or other structure, and is to be so close as to endanger the building or other structure in any way, then the owner of the building or other structure must be allowed at least 30 days if he so desires, in which to take measures to protect the same from any damage, or in which to extend the foundations thereof, and he must be given for the same purposes reasonable license to enter on the land on which the excavation is to be or is being made.
4. If the excavation is intended to be or is deeper than the standard depth of foundations, which depth is defined to be a depth of nine feet (9') below the adjacent curb level, at the point where the joint property line intersects the curb and if on the land of the coterminous owner there is any building or other structure the wall or foundation of which goes to standard depth or deeper, then the owner of the land on which the excavation is being made shall, if given the necessary license to enter on the adjoining land, protect the owner thereof, from any damage by reason of the excavation, and shall be liable to the owner of such property for any such damage, excepting only for minor settlement cracks in buildings or other structures.