

CHAPTER 4

GRADING

AND

EROSION CONTROL

STANDARDS

CHAPTER 4 - GRADING AND EROSION CONTROL

A. GENERAL

This chapter reflects the requirements of Tehama County Code Chapter 9.43 pertaining to grading and erosion control, which is the authority for implementation of the following process and procedure.

1. Purpose

The purpose of this chapter is to promote and protect the public safety, convenience, comfort, prosperity, protection of water quality, environmental health and watershed functions, general welfare and the county's natural resources by establishing minimum requirements for grading, excavating, and filling in order to:

- a. Control erosion and sedimentation and prevent damage to off-site property and streams, water-courses, and aquatic habitat;
- b. Avoid creation of unstable slopes or filled areas;
- c. Prevent impairment or destruction of potential leach fields for sewage disposal systems; and
- d. Regulate de facto development caused by uncontrolled grading.

2. Definitions

For the purposes of this chapter, the following words and terms have the meanings indicated, unless the context in which any word or term is used or a specific provision of this code requires another meaning:

- a. Director means the Director of the Tehama County Department of Public Works.
- b. Earth material means any soil, sand, gravel, decomposed granite, rock organic or mulch cover, or other natural material or fill.
- c. Enforcing officer is the person or body so designated by the Tehama County Board of Supervisors.
- d. Grading means movement of any earth materials:
 - 1) In excess of 250 cubic yards; or

- 2) Which is conducted within 250 feet of any pre-existing watercourse, or
 - 3) To make a road, including but not limited to a temporary access road, building pad, mobile home pad, well drilling pad or a new sewage disposal system when the installation of the sewage disposal system requires changes in the natural contour of the land; or
 - 4) Which disturbs 10,000 square feet or more of surface area.
- e. Grading permits are identified as either "Discretionary" or "Ministerial" permits.
- 1) Discretionary Grading permits shall be required for any grading which will involve: 1) the movement of more than 2,000 cubic yards of earth, 2) the disturbance of more than five acres of earth material, or 3) is within 250 feet of any pre-existing watercourse. Notwithstanding the foregoing grading performed in connection with a detached single-family dwelling located on one parcel shall require a Ministerial Grading Permit. A Discretionary Grading Permit may be approved, conditionally approved, or denied by the Director, as provided in this Chapter. The issuance of all Discretionary grading permits is subject to CEQA review by the County.
 - 2) Ministerial Grading Permits shall be required for any grading not requiring a Discretionary Grading Permit.
- f. Grading Standards are standards for grading, set forth in Section D of this Chapter.
- g. Watercourse means any well-defined channel with distinguishable bed and bank showing evidence of having contained flowing water indicated by deposit of rock, sand, gravel or soil, including but not limited to, streams as defined in Public Resources Code Section 4528(f). "Watercourse" also includes man-made watercourses.
3. Enforcing Officer Designated

In addition to any other enforcing officer designated by the Board of Supervisors, the Director is hereby designated as the enforcing officer. The Department of Public Works and every other County department shall provide technical assistance to any designated enforcing officer.

4. Grading Restrictions

Except as provided in subsection 5 below, no person shall do, cause, permit, aid, abet, suffer, or furnish equipment or labor for any grading without first obtaining a grading permit in accordance with this Chapter. A Grading Permit may allow for preliminary grading as part of a valid and effective building permit, subdivision construction plan, or other development or land use entitlement. Preliminary grading permitted for a subdivision project shall limit the work thereunder to that necessary for septic testing, water well drilling, environmental assessments, or surveying. Grading Permits associated with any building permit, subdivision construction plan, or other development or land use entitlement shall comply with the provisions of this chapter.

5. General Exemptions

The following activities are exempt from the permit requirements of this chapter:

- a. Cultivation and production of agricultural products, including but not limited to gardening, land leveling incidental to such cultivation and production, forestry regulated by the California Department of Forestry and Fire Protection under an approved Timber Harvest Plan, and the rearing and management of livestock, and any uses permitted under Section 17.10.020, subdivisions (a) and (b) (U-A Upland Agricultural District) or Section 17.12.020, subdivisions (a) and (b) (E-A Exclusive Agricultural District) of the Tehama County Code when undertaken upon lands within such zoning districts;
- b. Mechanical cultivation practices related to activities exempt under this section, subdivision (a), including, but not limited to: disking, plowing, ripping, chiseling, and harrowing or land planning to till the soil for the production of agricultural crops;
- c. Grading to support, keep, create, replace, maintain or continue existing agricultural support facilities related to activities exempt under this section, subdivision (a), including, but not limited to: drainage and erosion control facilities, irrigation systems, agricultural roads, and ponds or reservoirs;
- d. Brush clearing and creation of firebreaks in accordance with the provisions of Public Resources Code section 4291 et seq. or any County fire hazard abatement ordinance, or at the direction of the County Fire Chief for fire prevention and safety purposes;
- e. Mining, quarrying, excavating, processing, or stockpiling of rock, sand, gravel, aggregate or clay, for which a use permit and reclamation plan have been approved;

- f. Operation of refuse disposal sites for which a valid permit has been issued pursuant to Chapter 9.04 of the Tehama County Code;
- g. Temporary excavation for installation or abandonment of underground storage tanks and associated piping when no permanent change is made in the existing terrain and the excavation is refilled;
- h. Temporary trench or pit excavation for the purpose of installing underground or overhead utilities;
- i. Subsurface geologic exploration under the supervision of a licensed civil engineer, registered environmental health specialist, engineering geologist or archeologist;
- j. The construction of pits for the containment of drilling fluids, when well drilling is performed pursuant to Chapter 9.42 of the Tehama County Code;
- k. Grading conducted during a civil or hazardous material emergency or natural disaster to relieve or correct conditions caused by such emergency or disaster or to make emergency firebreaks;
- l. The removal and spreading of contaminated earth materials from underground tank excavations performed in compliance with Chapter 9.30; Tehama County Code and;
- m. Grading performed on public works projects by a governmental agency.

6. Other Regulations

- a. The provisions of this Chapter shall be deemed to supplement corresponding provisions of any of the technical codes adopted by Title 15 of the Tehama County Code relating to grading and erosion control. Where the provisions of any of the technical codes and this Chapter apply to the same subject matter, the provisions of this Chapter shall apply, unless the provisions of the technical codes are more stringent or more narrowly apply to the specific situation, in which case the specific provisions of the technical codes shall apply.
- b. All grading and other work performed pursuant to a Grading Permit issued in accordance with this Chapter shall comply with all applicable statutes, regulations, ordinances, and rules of all federal, state, and local agencies.

B. PERMITS

1. Contents of Permit

- a. Grading Plan – The applicant for any Grading Permit shall submit a grading plan in compliance with the Grading Standards and the other provisions of this Chapter. Upon approval and issuance of the permit, such grading plan shall be included with the permit and shall become part of the terms of the permit.
- b. Erosion Plan – The Grading Permit shall require the applicant to provide a permanent erosion plan in compliance with the Grading Standards to be implemented upon completion of the project, which plan shall be approved prior to the commencement of any work. For any Discretionary Grading Permit, the plan shall be prepared by a registered civil engineer experienced in erosion control, certified professional soil erosion and sediment control specialist, or a soil scientist certified by the American Registry of Certified Professionals in Agronomy, Crops and Soils.
- c. Wet Weather Season
 - 1) If work on the project will not be completed by October 15, and the permit does not provide for work to continue during the period October 15 through May 1 (the "wet weather season"), a plan for closing the project during the wet weather season, in compliance with the Grading Standards, shall be submitted by the applicant and shall be included as part of the terms of the permit. The closure plan shall be prepared and certified by a professional listed in Section 9.43.090.
 - 2) If the Grading Permit provides for work to be done during the wet weather season, the permit shall contain a condition requiring a wet weather operating and erosion control plan in compliance with the Grading Standards, which plan shall be approved prior to the commencement of any work. The wet weather plan shall be prepared and certified by a professional listed in subsection b above. That plan shall include all necessary temporary and permanent erosion control measures, as set forth in the Grading Standards, including those to be followed should the work stop at any time during the wet weather season. The permit shall contain a timetable for installation of the erosion control measures.
 - 3) The Director may refuse to allow any grading on a project for which a Discretionary Grading Permit is required during the wet weather season.

- d. Ongoing Maintenance and Erosion Control – Each Grading Permit shall contain a plan for on-going maintenance of erosion control measures during the duration of the project and for three years after completion of the project, in compliance with the Grading Standards. The permittee shall be responsible for such maintenance. The maintenance plan shall be approved prior to the commencement of any work.
- e. Compliance – When a Grading Permit is issued, the plans and specifications required under this Chapter shall be endorsed in writing or stamped “APPROVED.” Plans that have been approved and included as part of the terms of a permit shall not be changed, modified, or altered without written authorization by the Director, and all work shall be done in accordance with the terms of the permit and the approved plans.
- f. Indemnification – As a condition of issuance of any Grading Permit, the permittee shall agree to defend, indemnify, and hold harmless, at the permittee's sole expense, the County and its employees, officers, directors, contractors and agents from and against any claim, action, or administrative proceeding challenging the County's decision to issue a permit to the permittee, any environmental review or absence thereof associated with the proposed grading, or the manner in which the County interprets or enforces the terms and conditions of this permit at any time, and to pay all losses, liabilities, damages, penalties, costs, awards, judgments, fees (including reasonable attorney's fees) and expenses arising from such claim, action, or administrative proceeding. Counsel for the County in any such legal defense shall be selected by the County. As a further condition of issuance of any such permit, upon demand from the County, the permittee shall reimburse the County for any court costs and/or attorney's fees which the County may be required by a court to pay as a result of any claim, action, or administrative proceedings described in this Section. Neither the issuance of a permit, nor compliance with the conditions thereof, relieves the Permittee from any responsibility otherwise imposed by law for damage to persons or property, nor shall the issuance of any permit hereunder serve to impose any liability upon the County, its officers or employees for injury or damage to persons or property. Except with respect to the County's sole negligence or intentional misconduct, the Permittee shall indemnify, defend and hold harmless the County, its officers, agents, and employees, from any and all claims, demands, costs, expenses, including attorney's fees, judgments or liabilities arising out of the work or operations described in a Grading Permit issued hereunder.

2. Posting of Security

A Discretionary Grading Permit may require the posting of security in an amount sufficient to cover all corrective action or site restoration work and the cost of

permanent erosion control measures for a period of three years from the date of completion of the permanent erosion control measures.

3. Fees

The Director of the Department of Public Works shall charge the fees established by resolution of the Board of Supervisors for issuance of a Ministerial or Discretionary Grading Permit. The Board of Supervisors may set such fees in an amount sufficient to recover the County's reasonable costs incident to the issuance of such permits, and to the investigation, inspection, administration, and maintenance of the system of supervision and enforcement as set forth in this Chapter.

4. Permit Issuance

- a. Ministerial Grading Permit shall be issued upon a determination by the Director of the Department of Public Works that the work described in the application for the permit and the plans filed therewith conform to the requirements of this Chapter and other pertinent laws and ordinances, and that the fee has been paid.
- b. A Discretionary Grading Permit may be issued only if the Director determines that the work described in the application for the permit and the plans filed therewith conform to the requirements of this Chapter and other pertinent laws and ordinances, and that the fee has been paid, and that all required security has been provided. The Director of Public Works may impose upon any Discretionary permit any conditions necessary to protect the public health, safety and welfare, ensure proper completion of grading and conform the proposed grading to the standards of this chapter. Such conditions may include, but are not limited to improvement of any existing grading project to bring it up to the standards of this Chapter, requirements for fencing of excavations or fills which would otherwise be hazardous, specification of haul routes for materials, and/or restriction upon hours of operation, season of work, weather conditions, or sequence of work. The Director may deny an application for a Discretionary permit if the Director determines that such denial is necessary to protect the public health, safety and welfare. An applicant may appeal the conditional approval or denial of a discretionary grading permit to the Board of Supervisors within thirty (30) days of the mailing of the Director's decision. The Board of Supervisors review upon such appeal shall be de novo, and the Board may affirm, modify, or set aside, in whole or in part, by its own order, any such decision of the Director.

5. Permit Time Limits

Grading operations shall be started within one (1) year from the effective date of the Grading Permit unless extended by the Director for good cause, or the permit shall expire and a new application shall be required. "Good cause" shall include, but not be limited to, delays in obtaining required permits from other agencies provided the applicant has diligently pursued said permits. The Grading Permit shall be valid for a period of three (3) years.

6. Validity

The issuance of a Grading Permit or approval of plans and specifications shall not be construed as an approval of any violation of the provisions of this Chapter or of any other applicable laws, ordinances, rules or regulations.

7. Transfer of Permit

No Grading Permit issued under this section may be transferred or assigned in any manner whatsoever, without the express written consent of the Director.

8. Modification of Permit

Any person holding a valid Grading Permit may file an application to modify the permit. The application shall be filed and processed in the same manner as an application for a new Grading Permit, and shall emphasize changes to the grading activity. The Director's action authorizing a modification to a discretionary grading permit may include changes to conditions of the original Grading Permit.

9. Suspension or Revocation of Permit

The Director may, in writing, suspend or revoke a Grading Permit issued under the provisions of this Chapter when the permit is issued in error or on the basis of incorrect information supplied, or in violation of any law, ordinance, or regulation, or any of the provisions of this Chapter.

C. ENFORCEMENT

1. Stop Work Order

Whenever the enforcing officer determines that any grading is occurring or has occurred in violation of the provisions of this chapter, without a Grading Permit, in violation of the terms and conditions for the permit, or in violation of the Grading Standards or other applicable law, or without compliance with the conditions of any other applicable permit or governmental approval to perform

the work, the enforcing officer shall issue a stop order directing that the violation cease immediately. The order shall state the nature of the violation and that it is deemed to be a nuisance and shall contain references to applicable provisions of law, the Grading Standards or conditions of approval upon which the enforcing officer based his determination. The order shall include a statement of any corrective action or restoration work the enforcing officer deems necessary to abate the condition. It shall be unlawful and a violation of this code for any person to resume grading activities that were ordered to be stopped by the enforcing officer, unless the enforcing officer has first required and the person has agreed to any necessary corrective measures, and the enforcing officer has authorized resumption of work. The person to whom a stop work order is issued may appeal the issuance of the order to the Board of Supervisors within thirty (30) days of issuance of the order, but the filing of such appeal shall not permit the resumption of grading activities that were ordered to be stopped by the enforcing officer. The Board of Supervisors may affirm, modify, or set aside, in whole or in part, by its own order, any stop work order of the Director.

2. Administrative Penalties

In addition to any other penalty, each violation of this chapter may be subject to an administrative penalty of up to \$5,000 per day. The administrative penalty may be imposed via the administrative process set forth in this subdivision, as provided in Government Code section 53069.4, or may be imposed by the court if the violation requires court enforcement without an administrative process. In the case of a continuing violation, if the violation does not create an immediate danger to health or safety, the enforcing officer or the Court shall provide for a reasonable period of time, not to exceed three (3) days, for the person responsible for the violation to correct or otherwise remedy the violation prior to the imposition of administrative penalties. In determining the amount of the administrative penalty, the enforcing officer or the Court shall take into consideration the nature, circumstances, extent, and gravity of the violation or violations, any prior history of violations, the degree of culpability, economic savings, if any resulting from the violation, and any other matters justice may require. An order imposing an administrative penalty by the enforcing officer shall become effective upon issuance, and payment shall be made to the County within thirty (30) days, unless the person to whom the order is issued appeals to the Board of Supervisors for review of the order within that time. If the person to whom the order is issued appeals the enforcing officer's decision to impose an administrative penalty to the Board of Supervisors, the person shall be notified by certified mail when the matter has been set for hearing. After the hearing, the Board of Supervisors may affirm, modify, or set aside, in whole or in part, by its own order, any order of the enforcing officer imposing an administrative penalty. Any order of the Board of Supervisors shall become effective upon issuance thereof and shall be served by certified mail upon the appellant. Payment of an administrative penalty specified in the Board of Supervisors' order shall be made

to the County within thirty (30) days of service of the order. In addition to any other remedy, the County may prosecute a civil action through the Office of the County Counsel to collect any administrative penalties imposed pursuant to this Section.

3. Civil Enforcement

Violation of this chapter is hereby declared to be a public nuisance and such violations may be redressed, enjoined, and abated by civil action through the Office of the County Counsel. If, in the judgment of the enforcing officer, the violation requires court enforcement without an administrative process, County Counsel may also seek the administrative penalties provided by subsection 2 above.

4. Criminal Penalties

Any person violating any provision of this Chapter shall be guilty of a misdemeanor. Each such person shall be charged with a separate offense for each and every day or portion thereof during which any violation of this Chapter is committed, continued, or permitted. Upon conviction of any such violation, such person shall be punishable by a fine of not more than one thousand dollars (\$1,000.00) or by imprisonment in the county jail for not more than six months, or by both such fine and imprisonment.

5. Refusal to Issue Permits

No department, commission or employee of the county of Tehama vested with the duty or authority to issue or approve permits, licenses or other entitlements shall do so when there is an outstanding violation of this chapter, as determined by the Director, involving the premises to which the pending application pertains.

The authority to deny shall apply whether the applicant was the occupant or owner of record at the time of such violation or whether the applicant is either the current occupant or owner of record or a vendor of the current owner of record pursuant to a contract of sale of the real property, with or without actual or constructive knowledge of the violation at the time he or she acquired his or her interest in such real property. Upon notification by a Director that such a violation exists, all departments, such commissions, and employees shall refuse to issue permits or licenses or entitlements involving the premises except those necessary to abate such violation. The Director may waive the provisions of this section regarding refusal to issue if he or she determines such waiver to be required to allow necessary or desirable remedial, protective or preventative work.

6. Cumulative Remedies

All remedies provided for herein are cumulative and not exclusive, and are in addition to any other remedy or penalty provided by law

D. GRADING STANDARDS

1. Purpose and Limitations

The purpose of these standards is to safeguard life, limb, property, environmental health and water quality and the public welfare by regulating grading on private property.

2. Definitions

As used in this Section, and unless the context in which a word is used requires a different meaning, the following terms have the meanings indicated.

a. Definitions are as follows:

- 1) Approval: a written engineering or geological opinion concerning the progress and completion of the work.
- 2) As Graded: the surface conditions extent on completion of grading.
- 3) Bedrock: in-place solid rock.
- 4) Bench: a relatively level step excavated into earth material on which fill is to be placed.
- 5) Borrow: earth material acquired from an off-site location for use in grading on a site.
- 6) Civil Engineer: a professional engineer registered in the state to practice in the field of civil works.
- 7) Civil Engineering: the application of the knowledge of the forces of nature, principles of mechanics and the properties of the materials to the evaluation, design and construction of civil works for the beneficial uses of mankind.
- 8) Compaction: densification of a fill by mechanical means.
- 9) Earth Material: any soil, sand, gravel, decomposed granite, or other natural material or fill or any combination thereof.

- 10) Engineered Grading: grading in excess of 5,000 cubic yards or in variance with the Grading Standards.
- 11) Engineering Geologist: a geologist experienced and knowledgeable in engineering geology.
- 12) Engineering Geology: 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.
- 13) Engineering Geology Report: a report prepared by an engineering geologist that includes an adequate description of the geology of the site, conclusions and recommendations regarding the effect of geological conditions on the proposed development, and opinions and recommendations covering the adequacy of sites to be developed by the proposed grading.
- 14) Erosion: the wearing away of the ground surface as a result of the movement of wind, water, ice or a combination thereof.
- 15) Excavation: the mechanical removal of earth material.
- 16) Fill: a deposit of earth material placed by artificial means.
- 17) Grade: the vertical location of the ground surface.
- 18) Existing Grade: the grade prior to grading.
- 19) Rough Grade: the stage at which the grade approximately conforms to the plan.
- 20) Finish Grade: the final grade of the site which conforms to the plan.
- 21) Grading: any excavating or filling or combination thereof.
- 22) Key: a designed compacted fill placed in a trench excavated in earth material beneath the toe of a proposed fill slope.
- 23) Site: any lot or parcel of land or contiguous combination thereof, under the same ownership, where grading is performed or permitted.
- 24) Slope: an inclined ground surface, the inclination of which is expressed as a ratio of horizontal distance to vertical distance.

- 25) Soil: naturally occurring surficial deposits overlying bedrock.
- 26) Soil Engineer: a civil engineer experienced and knowledgeable in the practice of soil engineering.
- 27) Soil Engineering: 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.
- 28) Soil Engineering Report: a report prepared by a soil engineer that includes data regarding the nature, distribution and strength of existing soils, conclusions and recommendations for grading procedures and design criteria for corrective measures when necessary, and opinions and recommendations covering adequacy of sites to be developed by the proposed grading.
- 29) Terrace: a relatively level step constructed in the face of a graded slope surface for drainage and maintenance purposes.
- 30) Vertical Height: the vertical distance between the toe of a slope and a line level with the top of that slope.

3. Cuts

- a. General. Unless otherwise recommended in a soil engineering and/or engineering geology report, cuts shall conform to the provisions of this subsection.
- b. Slope. The slope of cut surfaces shall be no steeper than is safe for the intended use. Cut slopes shall be no steeper than two horizontal to one vertical unless a soil engineering report is submitted and approved by the Enforcing Officer substantiating the need for a steeper cut slope, and a Discretionary Grading Permit is obtained in accordance with this Chapter.
- c. Drainage and Terracing. Drainage and terracing shall be provided as required by Subsection 6.

4. Fills

- a. General – Unless otherwise recommended in an approved soil engineering report, fills shall conform to the provisions of this subsection.

- b. Fill Location – Fill slopes shall not be constructed on natural slopes steeper than two to one. Fill slopes in excess of 30% shall be constructed under the direction of a soil engineer.
 - c. Preparation of Ground – The ground surface shall be prepared to receive fill by removing vegetation, non-complying fill, topsoil and other unsuitable materials and scarifying to provide a bond with the new fill, and where slopes are steeper than five to one (5-1), and the height is greater than five (5) feet, by benching into sound bedrock or other competent material. The bench under the toe of a fill on a slope steeper than five to one (5-1) shall be at least ten (10) feet wide. The area beyond the toe of fill shall be sloped for sheet overflow or a paved drain shall be provided. Where fill is to be placed over a cut, the bench under the toe of fill shall be at least ten (10) feet wide but the cut must be made before placing fill.
 - d. Compaction – All fills shall be compacted to a minimum of ninety (90) percent of maximum density. Compaction tests shall be conducted by a California registered Civil Engineering or Geotechnical Engineering Company, or by an approved materials testing laboratory. Compaction tests shall be done in compliance with California test methods 216 and 231.
 - e. Slope – The slope of fill surfaces shall be no steeper than is safe for the intended use.
 - f. Drainage and Terracing – Drainage and terracing shall be provided and the area above fill slopes and the surfaces of terraces shall be graded and paved as required by Subsection 6.
5. Setbacks
- a. General – The setbacks and other restrictions are minimum and may be increased by the recommendation of a civil engineer, soils engineer or engineering geologist, if necessary for safety and stability or to prevent damage of adjacent properties from deposition or erosion or to provide access for slope maintenance and drainage. Retaining walls may be used to reduce the required setbacks.
 - b. Setbacks from Property Lines – The tops of cuts and toes of fill slopes shall be set back from the outer boundaries of the property line, including slope areas and easements, in accordance with DWG # 0920.
 - c. Design Standards for Setbacks – Setbacks between graded areas (cut or fill) and structures shall be provided in accordance with DWG # 0920.
6. Drainage and Terracing

- a. General – Unless otherwise indicated on a grading plan prepared pursuant to Subsection 8, drainage facilities and terracing shall conform to the provision of this subsection.
- b. Terrace – Terraces at least six (6) feet 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 terrace is required, it shall be at mid-height. For cut or fill slopes greater than sixty (60) feet and up to 120 feet in vertical height one terrace at approximately mid-height shall be twelve (12) feet in width. Terrace widths and spacing for cut and fill slopes greater than 120 feet in height shall be designed by a civil engineer. Suitable access shall be provided to permit proper cleaning and maintenance.

Swales or ditches on terraces shall have a minimum gradient of five (5) percent and must be paved with reinforced concrete not less than three (3) inches in thickness, or an approved equal paving or rock and fabric lining. They shall have a minimum depth at the deepest point of one (1) foot and a minimum paved width of five (5) feet.

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 downdrain.

- c. Subsurface Drainage – Cut and fill slopes shall be provided with subsurface drainage as necessary for stability.
- d. Disposal – All drainage facilities shall be designed to carry waters to the nearest practicable drainage way or other appropriate jurisdiction as a safe place to deposit such waters. Erosion of ground in the area of discharge shall be prevented by installation of non-erosive downdrains or other devices.

Building pads shall have a drainage gradient of two (2) percent toward approved drainage facilities, provided that the gradient from the building pad may be one (1) percent if all of the following conditions exist throughout the permit area:

- 1) no proposed fills are greater than ten (10) feet in maximum depth, and
- 2) no proposed finish cut or fill slope faces have a vertical height in excess of ten (10) feet, and

- 3) no existing slope faces, which have a slope face steeper than 10:1 horizontal to vertical, shall have a vertical height in excess of ten (10) feet.
- e. Interceptor Drains – Paved interceptor drains or properly designed rock channels lined with fabric shall be installed along the top of all cut slopes where the tributary drainage area above slopes towards the cut and has a drainage path greater than forty (40) feet measured horizontally. Interceptor drains shall be paved with a minimum of three (3) inches of concrete or gunite and reinforced. They shall have a minimum depth of twelve (12) inches and a minimum paved width of thirty (30) inches measured horizontally across the drain. Rock and fabric lined channels shall be designed by a soil engineer and must withstand the maximum potential flow and retain its integrity.

7. Erosion Control

When construction activities propose to disturb areas of existing vegetation and ground cover by grading, effective erosion and sediment control measures shall be employed.

- a. Erosion Control Plan – Whenever a grading permit requires an erosion control plan, it shall be submitted with the grading plan as per stipulations in the grading permit.

If the site or portion of the site is planned to be idle for more than 45 days, then vegetative stabilization must be accomplished within seven (7) days. The wet weather plan shall include a plan for the immediate (within 24 hours of the first forecast of a storm front) installation of emergency erosion control measures.

- b. Design Standards – Best management practices shall be employed.

8. Grading Plan and Inspection

All engineered grading requires a grading plan prepared by a civil engineer prior to commencement of work.

The civil engineer who prepares a grading plan shall incorporate all recommendations from the soil engineering report and any engineering geology report 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, at a minimum, grade and drainage of the development area.

A soil engineering report shall be prepared for each grading plan prepared by a civil engineer.

The soil engineer's area of responsibility shall include, at a minimum, the professional inspection and approval concerning the preparation of ground to receive fills, testing for required compaction, stability of all finish slopes and the design of buttress fills, where required, incorporating any data supplied by an engineering geologist.

If an engineering geologist is retained for the work, his area of responsibility shall include, at a minimum, professional inspection and approval of the adequacy of natural ground for receiving fills and the stability of cut slopes with respect to geological matters, and the need for subdrains or other ground water drainage devices. He shall report his findings to the soil engineer and the civil engineer for engineering analysis. If an engineering geologist is not retained, the civil engineer who prepares the grading plan shall assume the responsibilities of the engineering geologist.

9. Archeological Sites/Cultural Resource Protection

If, in the course of development, any archeological or cultural remains are encountered, work shall cease and a qualified archeologist contacted immediately.

- a. Cultural Resources Protection – If any potential prehistoric, protohistoric, and historic cultural resources are encountered during any phase of the project operations, all work should cease in the area of the find pending examination of the site and materials by a qualified archaeologist.