

## CHAPTER 17.28 GRADING CODE

### Sections:

17.28.010	Purpose.
17.28.020	Short title.
17.28.030	Scope.
17.28.040	Permits required.
17.28.050	Hazards.
17.28.060	Definitions.
17.28.070	Grading permit requirements.
17.28.080	Grading fees.
17.28.090	Bonds.
17.28.100	Cuts.
17.28.110	Fills.
17.28.120	Setbacks.
17.28.130	Drainage and terracing.
17.28.140	Erosion control.
17.28.150	Drainage retention facilities.
17.28.160	Maintenance.
17.28.170	Grading inspection.
17.28.180	Completion of work.

### **17.28.010 Purpose.**

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

### **17.28.020 Short title.**

This chapter may be cited as the "Kern County Grading Code."

### **17.28.030 Scope.**

This chapter sets forth rules and regulations to control excavation, grading and earthwork construction, including fills and embankments; establishes the administrative procedure for issuance of permits; and provides for approval of plans and inspection of grading construction.

The standards listed below are recognized standards.

#### A. Testing:

1. ASTM D 1557, Moisture-density Relations of Soils and Soil Aggregate Mixtures;
2. ASTM D 1556, In Place Density of Soils by the Sand-Cone Method;
3. ASTM D 2167, In Place Density of Soils by the Rubber-Balloon Method;
4. ASTM D 2937, In Place Density of Soils by the Drive-Cylinder Method;
5. ASTM D 2922 and D 3017, In Place Moisture Content and Density

of Soils by Nuclear Methods.

**17.28.040 Permits required.**

A. Except as specified in subsection 17.28.040.B of this chapter, no person shall do any grading or cause the same to be done without first having obtained a grading permit from the building official.

B. Exempted Work:

1. When approved by the building official, grading in an isolated, self-contained area if the building official finds that no danger to private or public property can now or hereafter result from the grading operations;

2. An excavation below finished grade for basements and footings of a building, retaining wall, or other structure authorized by a valid building permit. This shall not exempt any fill made with the material from such excavation nor exempt any excavation having unsupported height greater than five feet after the completion of such structure;

3. Cemetery graves;

4. Refuse disposal sites controlled by other regulations;

5. Excavations for wells or tunnels or utilities;

6. 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 pressure upon any adjacent or contiguous property;

7. Exploratory excavations under the direction of soil engineers or engineering geologists;

8. An excavation for a building site which: (a) is less than two (2) feet in depth, or (b) which does not create a cut slope greater than five (5) feet in height and steeper than one and one-half (1 1/2) units horizontal to one (1) unit vertical;

9. A fill which does not exceed fifty (50) cubic yards on any one site which is: (a) less than one (1) foot in depth and placed on natural terrain with a slope flatter than five (5) units horizontal to one (1) unit vertical, or (b) less than three (3) feet in depth and not intended to support structures;

10. Accepted agricultural activities, including routine mowing, plowing, ditching, harrowing, disking, ridging, leveling, and other similar operations necessary to prepare a field or crop for production;

11. Accepted oilfield activities related to oilfield drilling, such as oilfield roads, drilling pads, and sumps used for drilling mud, and grading required for the setting of production equipment. This does not include access roads which lead from the public rights-of-way to the site of the oilfield activity and are covered under paragraph 12 of subsection 17.28.040(B);

12. Access roads with cut and fill slopes less than two (2) feet in height.

Exemption from the permit requirements of this chapter shall not be deemed to grant authorization for any grading which modifies or obstructs a natural drainage course without a grading permit.

**17.28.050 Hazards.**

Whenever the building official determines that any existing excavation or embankment or fill on private property has become a hazard to life and limb, or endangers property, or adversely affects the safety, use or stability of a public way or drainage channel, the owner of the property upon which the excavation or fill is located, or other person or agent in control of said property, upon receipt of notice in writing from the building official, shall within the period specified therein repair or eliminate such excavation or embankment so as to eliminate the hazard and be in conformance with the requirements of this chapter.

In the event that any excavation or embankment or fill was accomplished without obtaining the required grading permit and was existing at the time ownership changed for the property upon which the excavation or fill is located, or at the time another person or agent came into control of said property, it shall be the responsibility of the new owner, person or agent who is maintaining the excavation or fill to obtain the proper grading permit and remedy any conditions or violations which do not comply with this chapter.

#### **17.28.060 Definitions.**

For the purposes of this chapter the definitions listed hereunder shall be construed as specified in this section.

1. "Approval" means the proposed work or completed work conforms to this chapter in the opinion of the building official.
2. "Architect" means a professional architect, registered in the State to practice in the field of architecture.
3. "As-Graded" means the extent of surface conditions on completion of grading.
4. "Bedrock" means in-place solid rock.
5. "Bench" means a relatively level step excavated into earth material on which fill is to be placed.
6. "Borrow" means earth material acquired from an off-site location for use in grading on a site.
7. "Civil Engineer" means a professional engineer registered in the State of California to practice in the field of civil works.
8. "Civil Engineering" means the application of the knowledge of the forces of nature, principles of mechanics and the properties of materials to the evaluation, design and construction of civil works for the beneficial uses of mankind.
9. "Compaction" means the densification of a fill by mechanical means.
10. "Earth Material" means any rock, natural soil or fill and/or any combination thereof.
11. "Engineering Geologist" means a geologist experienced and knowledgeable in engineering geology, registered in the State of California.
12. "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.
13. "Erosion" means the wearing away of the ground surface as a result of the movement of wind, water and/or ice.
14. "Excavation" means the mechanical removal of earth materials.

15. "Existing Grade" means the grade prior to grading.
16. "Fill" means a deposit of earth material placed by artificial means.
17. "Finish Grade" means the final grade of the site which conforms to the approved plan.
18. "Geotechnical Engineer." See "Soils Engineer."
19. "Grade" means the vertical location of the ground surface.
20. "Grading" means any excavating or filling or combination thereof.
21. "Key" means a designed compacted fill placed in a trench excavated in earth material beneath the toe of a proposed fill slope.
22. "Professional Inspection" means the inspection required by this chapter to be performed by the civil engineer, soils engineer or engineering geologist. Such inspections include that performed by persons supervised by such engineers or geologists and shall be sufficient to form an opinion relating to the conduct of work.
23. "Registered Geologist" means a geologist registered in the State to practice in the field of geology.
24. "Rough Grade" means the stage at which the grade approximately conforms to the approved plan.
25. "Site" means any lot or parcel of land or contiguous combination thereof, under the same ownership, where grading is performed or permitted.
26. "Slope" means an inclined ground surface the inclination of which is expressed as a ratio of horizontal distance to vertical distance.
27. "Soil" means naturally occurring superficial deposits overlying bed rock.
28. "Soils Engineer (Geotechnical Engineer)" means an engineer experienced and knowledgeable in the practice of soils engineering (geotechnical) engineering.
29. "Soils Engineering (Geotechnical Engineering)" means the application of the principals of soils mechanics in the investigation, evaluation and design of civil works involving the use of earth materials and the inspection and/or testing of the construction thereof.
30. "Stockpile" means an accumulation of loose earth material (storage pile) generated during grading operations.
31. "Terrace" means a relatively level step constructed in the face of a graded slope surface for drainage and maintenance purposes.

#### **17.28.070 Grading permit requirements.**

A. Permits Required. Except as exempted in Section 17.28.040 of this chapter, no person, firm, corporation, owner of land, or possessor shall do any grading without first obtaining a grading permit from the building official. A separate permit shall be required for each site and may cover both excavations and fills. Adjacent sites being graded as one (1) integrated project may be considered as one (1) site for purposes of this section.

All permits will include the provisions that the applicant, his agents, contractors, or employees shall carry out the proposed work in accordance with the approved plans and specifications and in compliance with all the requirements of this chapter and other County and State laws which might be applicable. No approval shall exonerate the permittee or his agents from the responsibility of complying with the provisions and intent of this chapter.

B. Application. The provisions of Chapter 17.04, 17.06 and 17.08 are applicable to grading and, in addition, the application shall be accompanied by or include:

1. The estimated quantities and type of material to be graded, excavated, or filled, sufficient to establish fees.

C. Grading Designation. Grading in excess of two thousand (2,000) cubic yards shall be performed in accordance with the approved grading plan prepared by a civil engineer or architect, and shall be designated as "engineered grading." Grading involving less than two thousand (2,000) cubic yards shall be designated "regular grading" unless the permittee chooses to have the grading performed as engineered grading, or the building official determines that special conditions or unusual hazards exist, in which case grading shall conform to the requirements for engineered grading.

D. Engineered Grading Requirements. Application for a grading permit shall be accompanied by two (2) sets of plans and specifications, and supporting data consisting of a soils engineering report, engineering geology report, engineering calculations and drainage computations. The plans, specifications and calculations shall be prepared and signed by an individual licensed by the State to prepare such plans or specifications when required by the building official.

Specifications shall contain information covering construction and material requirements. Plans shall be drawn to scale upon substantial paper or cloth and shall be of sufficient clarity to indicate the nature and extent of the work proposed and show in detail that they will conform to the provisions of this chapter 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 of the owner and the person by whom they were prepared.

The plans shall include the following information:

1. General vicinity of the proposed site;
2. Property limits and accurate contours of existing ground and details of terrain and area drainage;
3. Limiting dimensions, elevations or finish contours to be achieved by the grading, and proposed drainage channels and related construction;
4. Detailed plans 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 the estimated runoff of the area served by any drains;
5. Location of any buildings or structures on the property where the work is to be performed and the location of any buildings or structures on land of adjacent owners which are within fifteen (15) feet of the property or which may be affected by the proposed grading operations;
6. Recommendations included in the soils engineering report and the engineering geology report shall be incorporated in the grading plans or specifications. When approved by the building official, specific recommendations contained in the soils engineering report and the engineering geology report, which are applicable to grading, may be included by reference;
7. The dates of the soils engineering and engineering geology reports together with the names, addresses and phone numbers of the firms or

individuals who prepared the report.

E. Soils Engineering Report. The soil engineering report required by subsection (D) of this section shall include data regarding the nature, distribution, and strength of existing soils, conclusions and recommendations for grading procedures and design criteria for corrective measures, including buttress fills, when necessary, and opinion covering adequacy of sites to be developed by the proposed grading, as affected by soils engineering factors, including the stability of slopes.

F. Engineering Geology Report. The engineering geology report required by subsection (D) of this section shall include an adequate description of the geology of the site, conclusions and recommendations regarding the effect of geologic conditions on the proposed development, and opinion and recommendations covering the adequacy of sites to be developed by the proposed grading, as affected by geologic factors.

G. Liquefaction Study. The building official may require a geotechnical investigation in accordance with Section 1803 of the Building Code when, during the course of an investigation, both of the following conditions are discovered, the report shall address the potential for liquefaction:

1. Shallow ground water, fifty (50) feet or less.
2. Unconsolidated sandy alluvium.

H. Regular Grading Requirements. Each application for a grading permit shall be accompanied by two (2) sets of plans in sufficient clarity to indicate the nature and extent of work. The plans shall give the location of the work, the name of the owner and the name of the person who prepared the plans. The plans shall be drawn to scale and include the following:

1. General vicinity of the proposed site;
2. Property limits and accurate contours of existing ground and details of terrain and area drainage;
3. Elevations, dimensions, location, extent, and the slopes of all proposed grading shown by contours or other means and proposed drainage channels and related construction;
4. Detailed plans 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 the estimated runoff of the area served by any drains;
5. Location of any buildings or structures on the property where the work is to be performed and the location of any buildings or structures on land of adjacent owners which are within fifteen (15) feet of the property or which may be affected by the proposed grading operations.

I. The building official may require that grading operations and project designs be modified if delays occur which incur weather-generated problems not considered at the time the permit was issued.

The building official may require professional inspection and testing by the soils engineer. When the building official has cause to believe that geologic factors may be involved, the grading will be required to conform to engineered grading.

**17.28.080 Grading fees.**

A. General. A fee for each Grading Permit, including related plan checking

fee, shall be paid to the building official, as established by the Board of Supervisors and as set by Board Resolution.

B. Plan Checking Fees. When a plan or other data are required to be submitted, a plan checking fee shall be paid to the building official at the time of submitting plans and specifications for review. Said plan check fee shall be established by the Board of Supervisors and set by Board Resolution. Separate plan check fees shall apply to retaining walls or major drainage structures as required in Title 17. For excavation and fill on the same site, the fee shall be based on the volume of excavation or fill, whichever is greater. Where plans are incomplete or changed so as to require additional plan checking, an additional plan-check fee may be charged.

C. Grading Permit Fee. A fee for each grading permit shall be paid to the building official as set forth by Kern County. Said grading permit fee shall be established by the Board of Supervisors and set by Board Resolution. Separate permits and fees shall apply to retaining walls or major drainage structures as required in Title 17. There shall be no separate charge for standard terrace drains and similar facilities.

#### **17.28.090 Bonds.**

The building official may require bonds in such form and amounts as may be deemed necessary to assure that the work, if not completed in accordance with the approved plans and specifications, will be corrected to eliminate hazardous conditions.

In lieu of a surety bond the applicant may file a cash bond or instrument of credit with the building official in an amount equal to that which would be required in the surety bond.

#### **17.28.100 Cuts.**

A. General. Unless otherwise recommended in the approved soils engineering and/or engineering geology report, cuts shall conform to the provisions of this section.

B. Slope. The slope of cut surfaces shall be no steeper than is safe for the intended use and shall be no steeper than two (2) units horizontal to one (1) unit vertical unless the applicant furnishes a soils engineering or an engineering geology report, or both, stating that the site has been investigated and giving an opinion that a cut at a steeper slope will be stable and not create a hazard to public or private property.

#### **EXCEPTIONS:**

1. A cut surface may be at a slope of 1.5 horizontal to 1 vertical (67 percent slope) provided that all the following are met:
  - 1.1. It is not intended to support structures or surcharges.
  - 1.2. It is adequately protected from erosion.
  - 1.3. It is no more than 8 feet in height.
  - 1.4. It is approved by the building official.

C. Drainage and Terracing. Drainage and terracing shall be provided as required by Section 17.28.130.

#### **17.28.110 Fills.**

A. General. Unless otherwise recommended in the approved soils engineering report, fills shall conform to the provisions of this section. In the absence of an approved soils engineering report, these provisions may be waived for minor fills not intended to support structures.

B. Fill Location. Fill slopes shall not be constructed on natural slopes steeper than two (2) horizontal units to one (1) vertical unit.

C. Preparation of Ground. The ground surface shall be prepared to receive fill by removing vegetation, noncomplying fill, topsoil and other unsuitable materials scarifying to provide a bond with new fill and, where slopes are steeper than five (5) horizontal units to one (1) vertical unit and the height is greater than five (5) feet, by benching into sound bedrock or other competent material as determined by the soils engineer. The bench under the toe of fill on a slope steeper than five (5) horizontal units to one (1) vertical unit 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. When fill is to be placed over a cut, the bench under the toe of the fill shall be at least ten (10) feet wide, but the cut shall be made before placing the fill and the cut shall be qualified by the soils engineer or engineering geologist or both as a suitable foundation for fill.

D. Fill material. Detrimental amounts of organic material shall not be permitted in fills. Except as permitted by the building official, no rock or similar irreducible material with a maximum dimension greater than (twelve) 12 inches shall be buried or placed in fills.

**EXCEPTIONS:** The building official may permit placement of larger rock when the soils engineer properly devises a method of placement, continuously inspects its placement and approves the fill stability. The following conditions shall apply:

1. Prior to issuance of the grading permit, potential rock disposal areas shall be delineated on the grading plan.
2. Rock sizes greater than twelve (12) inches in maximum dimension shall be ten (10) feet or more below grade, measured vertically.
3. Rocks shall be placed so as to assure filling of all voids with well graded soil.

E. Compaction. All fills shall be compacted to a minimum of ninety (90) percent of maximum density.

F. Slope. The slope of fill surfaces shall be no steeper than is safe for the intended use. Fill slopes shall be no steeper than two (2) units horizontal to one (1) unit vertical.

G. Drainage and Terracing. Drainage and terracing shall be provided as required by Section 17.28.130.

#### **17.28.120 Setbacks.**

A. General. Cut and fill slopes shall be set back from site boundaries in accordance with this section. Setback dimensions shall be horizontal distances measured perpendicular to the site boundary. Setback dimensions shall be as shown in Figure 17.28-1.

B. Top of Cut Slope. The top of cut slopes shall not be made nearer to a site boundary line than one fifth of the vertical height of cut with a minimum of two (2) feet and a maximum of ten (10) feet. The setback may need to be increased for any required interceptor drains.

C. Toe of Fill Slope. The toe of fill slope shall not be made nearer to the site boundary line than one-half (1/2) the height of the slope with a minimum of two (2) feet and a maximum of twenty (20) feet. Where a fill slope is to be located near the site boundary and the adjacent off-site property is developed, special precautions shall be incorporated in the work as the building official deems necessary to protect the adjoining property from damage as a result of such grading. These precautions may include but are not limited to:

1. Additional setbacks.
2. Provision for retaining or slough walls.
3. Mechanical or chemical treatment of the fill slope surface to minimize erosion.
4. Provisions for the control of surface waters.

D. Modification of Slope Location. The building official may approve alternate setbacks. The building official may require an investigation and recommendation by a qualified engineer or engineering geologist to demonstrate that the intent of this section has been satisfied.

#### **17.28.130 Drainage and terracing.**

A. General. Unless otherwise indicated on the approved grading plan, drainage facilities and terracing shall conform to the provisions of this section for cut or fill slopes steeper than three (3) units horizontal to (1) unit vertical.

B. Terrace. Terraces at least six (6) feet in width shall be established at not more than thirty (30) foot 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 sixty (60) feet and up to one hundred twenty (120) feet in vertical height, one (1) terrace at approximately mid-height shall be twelve (12) feet in width. Terrace widths and spacing for cut and fill slopes greater than one hundred twenty (120) feet in height shall be designed by a civil engineer and approved by the building official. 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. 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 thirteen thousand five hundred (13,500) square feet (projected) without discharging into a down drain.

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 approved by the building official and/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, unless waived by the building official.

**EXCEPTIONS:** The gradient from the building pad may be 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.
2. No proposed finish cut or fill slope faces have a vertical height in excess of ten (10) feet.
3. No existing slope faces, which have a slope face steeper than ten (10) units horizontally to one (1) unit vertically, have a vertical height in excess of ten (10) feet.

E. Interceptor Drains. Paved interceptor drains shall be installed along the top of all cut slopes where the tributary drainage area above slopes toward 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. The slope of drain shall be approved by the building official.

#### **17.28.140 Erosion control.**

A. Slopes. The faces of cut and fill slopes shall be prepared and maintained to control against erosion. This control may consist of effective planting. The protection for the slopes shall be installed as soon as practicable and prior to calling for final approval. Where cut slopes are not subject to erosion due to the erosion-resistant character of the materials, such protection may be omitted.

B. Other Devices. Where necessary, check dams, cribbing, riprap or other devices or methods shall be employed to control erosion and provide safety.

C. Temporary Devices. Temporary drainage and erosion control shall be provided as needed at the end of each work day during grading operations, such that existing drainage channels would not be blocked. Dust control shall be applied to all graded areas and materials and shall consist of applying water or another approved dust palliative for the alleviation or prevention of dust nuisance. Deposition of rocks, earth materials or debris onto adjacent property, public roads or drainage channels shall not be allowed.

#### **17.28.150 Drainage retention facilities.**

General. All drainage retention/detention facilities and their associated conveyance facilities shall be designed in accordance with the Kern County Development Standards or latest revision thereof.

#### **17.28.160 Maintenance.**

The owner of any property on which grading has been performed pursuant to a permit issued under the provisions of this chapter, or any other person or agent in control of

such property, shall maintain in good condition and repair all drainage structures, sumps and other protective devices shown on the grading plans filed with the application for grading permit and approved as a condition precedent to the issuance of such permit.

**17.28.170 Grading inspection.**

A. General. All grading operations for which a permit is required shall be subject to inspection by the building official. Professional inspection of grading operations and testing shall be provided by the civil engineer, soils engineer and the engineering geologist retained to provide such services in accordance with Subsection 17.28.170(E) for engineered grading and as required by the building official for regular grading.

B. Civil Engineer. The civil engineer shall provide professional inspection within such engineer's area of technical specialty, which shall consist of observation and review as to the establishment of line, grade and surface drainage of the development area. If revised plans are required during the course of the work they shall be prepared by the civil engineer.

C. Soils Engineer. The soils engineer shall provide professional inspection within such engineer's area of technical specialty, which shall include observation during grading and testing for required compaction. The soils engineer shall provide sufficient observation during the preparation of the natural ground and placement and compaction of the fill to verify that such work is being performed in accordance with the conditions of the approved plan and the appropriate requirements of this chapter. Revised recommendations relating to conditions differing from the approved soils engineering and engineering geology reports shall be submitted to the permittee, the building official and the civil engineer.

D. Engineering Geologist. The engineering geologist shall provide professional inspection within such engineer's area of technical specialty, which shall include professional inspection of the bedrock excavation to determine if conditions encountered are in conformance with the approved report. Revised recommendations relating to conditions differing from the approved engineering geology report shall be submitted to the soils engineer.

E. Permittee. The permittee shall be responsible for the work to be performed in accordance with the approved plans and specifications and in conformance with the provisions of this Ordinance Code, and the permittee shall engage consultants, if required, to provide professional inspections on a timely basis. The permittee shall act as a coordinator between the consultants, the contractor and the building official. In the event of changed conditions, the permittee shall be responsible for informing the building official of such change and shall provide revised plans for approval.

F. Building Official. The building official may inspect the project at the various stages of the work requiring approval to determine that adequate control is being exercised by the professional consultants.

G. Notification of Noncompliance. If, in the course of fulfilling their responsibility under this chapter, the civil engineer, the soils engineer, or the engineering geologist finds that the work is not being done in conformance with this chapter or the approved grading plans, the discrepancies shall be reported immediately

in writing to the permittee and to the building official. Recommendations for corrective measures, if necessary, shall also be submitted.

H. Transfer of Responsibility. If the civil engineer, the soils engineer, or the engineering geologist of record is changed during the course of the work, the work shall be stopped until:

1. The civil engineer, soils engineer, or engineering geologist, has notified the building official in writing that they will no longer be responsible for the work and that a qualified replacement has been found who will assume responsibility.

2. The replacement civil engineer, soils engineer, or engineering geologist notifies the building official in writing that they have agreed to accept responsibility for the work.

#### **17.28.180 Completion of work.**

A. Final Reports. Upon completion of the rough grading work and at the final completion of the work the building official may require the following reports and drawings and supplements thereto:

1. An as-built grading plan prepared by the civil engineer or architect retained to provide such services in accordance with Subsection 17.28.170(E) showing original ground surface elevations, as-graded ground surface elevations, lot drainage patterns and locations and elevations of all surface drainage facilities and of the outlets of subsurface drainage facilities. As-constructed locations, elevations and details of subsurface drains shall be shown as reported by the soils engineer. The civil engineer(s) shall state that to the best of their knowledge the work within their area of responsibility was done in accordance with the final approved grading plan.

2. A report prepared by the soils engineer, retained to provide such services in accordance with Subsection 17.28.170(C), including locations and elevations of field density tests, 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 approved soils engineering investigation report. Soils engineers shall submit a statement that, to the best of their knowledge, the work within their area of responsibilities is in accordance with the approved soils engineering report and applicable provisions of this chapter. They shall also render a finding as to the adequacy of the site for the intended use as affected by soil factors.

3. A report prepared by the engineering geologist retained to provide such services in accordance with Subsection 17.28.170(E), including a final description of the geology of the site and any new information disclosed during the grading and the effect of same on recommendations incorporated in the approved grading plan. Engineering geologists shall submit a statement that, to the best of their knowledge, the work within their area of responsibility is in accordance with the approved engineering geologist report and applicable provisions of this chapter. They shall also render a finding as to the adequacy of the site for the intended use as affected by geologic factors.

4. The grading contractor shall submit in a form prescribed by the

building official a statement of conformance to said as-built plans and the specifications.

B. Notification of Completion. The permittee or his agent shall notify the building official when the grading operation is ready for final inspection. Final approval shall not be given until all work, including removal of all stockpiled material not shown to remain, installation of all drainage facilities and their protective devices, and all erosion-control measures have been completed in accordance with the final approved grading plan and the required reports have been submitted.

