

CHAPTER 11

GRADING

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CHAPTER 11

GRADING

11.0 INTRODUCTION

This chapter describes the requirements for compliance with KCC 12.16, Grading. For application submittal requirements and process, please see Chapter 1, Preparation of Plans and Reports.

11.1 SEPA REQUIREMENTS

Unless the proposed grading has already been addressed in a SEPA (State Environmental Protection Act) Environmental Checklist submitted as part of a land use application, a SEPA Environmental Checklist must be submitted at the time of application for a Site Development Activity Permit for grading, for those activities exceeding the thresholds established per Kitsap County Code 18.04.090.

A final determination of whether or not a SEPA Environmental Checklist is required for a project will be made by the SEPA responsible official.

A Determination of Non-Significance (D.N.S.) or a final Environmental Impact Statement (F.E.I.S.) must be issued before the Site Development Activity Permit is issued. Provisions contained in the Determination of Non-Significance or the final Environmental Impact Statement shall be considered when approving the Site Development Activity Permit for grading, and the conditions of issuance of the permit shall not be less restrictive than the D.N.S. or the F.E.I.S.

The SEPA Environmental Checklist review may run concurrently with the application for the Site Development Activity Permit.

11.2 REVIEW COORDINATION

When grading activities are proposed for a site and such activities are related to a project requiring land use approval from Kitsap County, a Site Development Activity Permit for the proposed grading activity will not be issued by Kitsap County until all land use permits and/or approvals are granted.

Conditions imposed by the Board of Commissioners, the Kitsap County Department of Community Development, the Kitsap County Hearing Examiner, or other governmental agencies affecting the Site Development Activity Permit for grading must be incorporated into the project's design and must be implemented prior to final approval of the project.

When development is intended or proposed on a site affected by issuance of a Site Development Activity Permit for grading, work allowed by issuance of that permit shall be subordinate to future site development conditions or requirements.

When grading on a parcel of land is proposed which is intended to facilitate the future development of a site, or which may limit the future use of the site, the County may at its own discretion require that a notice be recorded as a public record containing provisions which will include the nature and extent of the grading which has occurred on the parcel. The latest version of the form entitled "Notice of Grading or Filling" shall be used.

11.3 PERMIT REQUIREMENTS

All Site Development Activity Permits for grading shall be submitted in accordance with KCC 12.16 and the requirements of Chapter 1, Preparation of Plans and Reports.

11.3.1 CONSTRUCTION LIMITS

Prior to the commencement of permitted clearing and grading activities, clearing and grading limits must be clearly and visibly identified using staking and/or flagging. Under no circumstances may areas beyond the property boundaries be disturbed without the prior approval of the owners of those properties and without the issuance by Kitsap County of all necessary permits to work within these areas. Clearing limits may require inspection by the Department of Community Development prior to commencement of site work activities.

11.3.2 ENGINEERS' NOTIFICATION OF NONCOMPLIANCE

If, in the course of fulfilling his/her responsibility under this chapter, the project civil engineer or any associated engineer finds the work is not being done in conformance with this chapter or with the conditions of permit approval or the approved Grading Plan, 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.

11.3.3 INSPECTIONS

The Kitsap County Department of Community Development shall be called for minimum inspection as follows; additional inspections may be required:

1. After erosion and sedimentation control facilities are in place and prior to the commencement of grading operations.
2. After rough grading is completed.
3. For final inspection, following site stabilization.

11.3.4 COMPLETION OF WORK AND FINAL APPROVAL

Final approval of work and the release of performance bonds shall not take place until the following has been completed:

1. All work, including installation of all drainage facilities and their protective devices, and all erosion control measures, including permanent stabilization, have been completed in accordance with the final approved Grading Plan and the approved Stormwater Pollution Prevention Plan.
2. Final inspection and approval of work by the County.
3. Any required final reports and statements of approval from the project engineer have been submitted to and approved by the County.
4. Any required easements related to operation and maintenance of drainage facilities have been recorded.

11.4 GRADING STANDARDS

The following grading standards are intended as MINIMUM requirements for grading in Kitsap County. If circumstances create a hazard to life, endanger or adversely affect the use or stability of a public way, adjacent property, critical area, or drainage course, the County may impose additional or more stringent requirements to fulfill the intent of the Kitsap County Code, Title 12.

11.4.1 GEOTECHNICAL ENGINEERING INVESTIGATION REPORT

When a geotechnical analysis is required by KCC 12.10.080, a Geotechnical Engineering Investigation Report shall be submitted in accordance with the requirements of Chapter 1, Preparation of Plans and Reports.

11.4.2 EXCAVATIONS

Unless otherwise recommended in an approved soils engineering investigation report or geotechnical engineering investigation report, all excavations must comply with the following minimum requirement:

Excavated slope faces shall be no steeper than is safe for the intended use and shall not be steeper than 2 horizontal to 1 vertical (2:1).

11.4.3 FILLS AND EMBANKMENTS

Unless otherwise recommended in an approved soils engineering investigation report or geotechnical engineering investigation report, all fills and embankments must comply with the following minimum requirements.

1. **Preparation of Ground**
Fill slopes shall not be constructed on natural slopes steeper than 2 horizontal to 1 vertical (2:1). The ground surface shall be prepared to receive fill by removing vegetation, noncomplying fill, topsoil and other unsuitable materials, scarifying the surface to provide a bond with the new fill and, where natural slopes are steeper than 3 horizontal to 1 vertical (3:1) and the height is greater than 5 feet, by benching into sound bedrock, glacial till or other competent material as determined by a soils engineer.

The bench under the toe of fill on a slope steeper than 3 horizontal to 1 vertical (3:1) shall be at least 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 steeper than 3:1 and higher than 5 feet is to be placed over an excavation, the soils engineer and/or geotechnical engineer shall certify that the foundation is suitable for the fill.

2. **Fill Material**

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

3. **Exception:**

The Director may permit placement of larger rock or similar irreducible material i.e. concrete, etc. when a soils engineer properly devises a method of placement and continuously inspects its placement and approves the fill stability. The following conditions shall also apply:

- a. Prior to issuance of a Site Development Activity Permit for grading, potential rock disposal areas shall be delineated on the grading plan.
- b. Rock sizes greater than 12 inches in maximum dimension shall be 10 feet or more below grade, measured vertically.
- c. Rocks shall be placed so as to assure filling of all voids with well-graded soil.

4. **Compaction**

All fills and embankments shall be compacted to a minimum of 90 percent of maximum dry density, as determined by the tests described in the WSDOT/APWA Standard Specifications for Road, Bridge, and Municipal Construction. Embankments constructed as berms for the holding back of water shall be compacted to a minimum of 95 percent of maximum dry density. Soil density shall be determined utilizing the Modified Proctor method. Fills on sites of proposed structures shall be compacted as directed by the Kitsap County Building Official in accordance with the International Building Code. Where the Director requires testing of the compaction of soils outside public right-of-way, compaction shall be tested by an independent soils testing lab at the owner's expense.

5. **Slope**

The slope of fill surfaces shall be no steeper than is safe for the intended use and shall be no steeper than 2 horizontal to 1 vertical (2:1).

6. **Structures**

Fills which are intended to support structures shall be constructed in conformance with the requirements of the latest edition of the International Building Code, and an assignment of allowable soil-bearing pressures will be under the jurisdiction of the Kitsap County Building Official in accordance with the I.B.C. When fill is proposed over an area that the County deems to be a potential building site, and the Applicant does not state an intent to construct buildings on the fill area, the County may at its own discretion require that a notice be recorded as a public

record containing provisions which will include the nature and extent of the grading which has occurred on the parcel. The latest version of the form entitled "Notice of Grading or Filling" shall be used.

11.4.4 SETBACKS

A. General

Excavation 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.

B. Top of Cut Slopes

The top of cut slopes shall not be made nearer to a site boundary line than one fifth (1/5) of the vertical height of cut with a minimum of 2 feet and a maximum of 10 feet. The setback may need to be increased for any required interceptor drains.

C. Toe of Fill Slopes

The toe of fill slopes shall be made not nearer to the site boundary line than one half (1/2) the height of the slope with a minimum of 5 feet and a maximum of 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 Director 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 Director may approve or require alternate setbacks and may require an investigation and recommendation by a qualified engineer to demonstrate that the intent of this section has been satisfied.

11.4.5 DRAINAGE AND TERRACING

A. General

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

B. Terrace

Terraces at least 6 feet in width shall be established at not more than 30-foot vertical intervals on all cut or fill slopes to control surface drainage and sloughing. Where only one terrace is required, it shall be at approximately mid-height. For 3:1 or steeper cut or fill slopes greater than 60 feet and up to

120 feet in vertical height, one of the required terraces shall be located at approximately mid-height and shall be 12 feet in width.

Example:

1. A vertical slope of 36-foot height is proposed. A minimum of one terrace, at least 6 feet in width, shall be provided at approximately 18-foot vertical height.
2. A vertical slope of 75 feet is proposed. One terrace, 12 feet in width, shall be provided at approximately 37.5-foot vertical height. Two additional terraces, each at least 6 feet in width (one higher and one lower) shall be provided so that no vertical height greater than 30-feet is created without a terrace).
3. Terrace widths and spacing for cut and fill slopes greater than 120 feet in height shall be designed by a geotechnical civil engineer and approved by the Director. Suitable access shall be provided to permit proper cleaning and maintenance of the terraces.
4. 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.

C. Subsurface Drainage

Cut and fill slopes shall be provided with subsurface drainage as necessary for stability.

D. Disposal

1. All drainage facilities shall be designed to carry waters to the nearest practicable drainage way approved by the Director 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 down-drains or other devices.
2. Building pads shall have a drainage gradient of 2 percent (2%) toward approved drainage facilities, unless waived by the Director.

E. Interceptor Drains

Paved interceptor drains shall be installed along the top of all graded slopes where the contributing drainage area uphill from the slope has a drainage path greater than 40 feet measured horizontally. Interceptor drains shall be paved with a minimum of 3 inches of concrete or gunite and reinforced. They shall have a minimum depth of 12 inches and a minimum paved width of 30 inches measured horizontally across the drain. The slope of drain shall be approved by the Director.

11.4.6 EROSION CONTROL

An application for a Site Development Activity Permit for grading shall include a Construction Stormwater Pollution Prevention Plan in accordance with KCC 12.18.

A. Applicant's Responsibility

Temporary erosion and sedimentation control facilities shall be installed prior to any clearing and/or grading taking place. The Applicant is responsible at all times for the installation and maintenance of erosion and sedimentation

control facilities, as stated under minimum requirement #2, element 12: Manage the Project.

1. Development projects shall be phased to the maximum degree practicable and shall take into account seasonal work limitations.
2. The Permittee must require construction site operators to maintain, and repair as needed, all sediment and erosion control BMPs to assure continued performance of their intended function.
3. The Permittee must require construction site operators to periodically inspect their sites. Site inspections shall be conducted per the requirements of Chapter 2.
4. Permittee must require construction site operators to maintain, update and implement their SWPPP. Permittees shall require construction site operators to modify their SWPPP whenever there is a change in design, construction, operation, or maintenance at the construction site that has, or could have, a significant effect on the discharge of pollutants to waters of the state.

B. Emergency Contact Person

An emergency contact person having the means and the authority to institute emergency erosion and sedimentation control measures shall be available at all times until construction is completed, on a 24 hour per day basis. The name, address and 24-hour telephone number(s) for the emergency contact person shall be listed with the County Department of Community Development. In the event that the County becomes aware of an emergency condition on the project site and is unable to contact the designated emergency contact person, or deems that the response to the emergency situation is inadequate, the County may enter the project site and perform any emergency work deemed necessary to protect life and limb, property, or adjacent public ways, critical areas or drainage courses. The project owner will be required to reimburse the County for all related costs incurred by the County for such emergency work.

C. Sealing the Surface

At the end of each day's work, the contractor must grade all areas to drain, and seal the surface using an acceptable means of compaction.

D. Revegetation

Unless the approved plan provides otherwise, all cleared areas shall be seeded as soon as possible, or receive some other acceptable surface stabilization treatment in accordance with Chapter 2, Construction Stormwater Pollution Prevention.

NOTICE OF GRADING OR FILLING

THIS NOTICE made this ___ day of _____, _____ by the Kitsap County, by and through the Kitsap County Department of Community Development;

WHEREAS, _____, is the owner or contract purchaser of certain piece of property located in the Kitsap County, State of Washington, and described as follows:

AND,

WHEREAS, The KITSAP COUNTY, by and through the Department of Community Development, has issued a Site Development Activity Permit for grading or filling for a project on the above-noted parcel of property; and whereas the approved plans are on file in the office of the Department of Public Works, at 216 Prospect Street, Kitsap County, Washington;

NOW, THEREFORE, the public is hereby notified that grading or filling may occur on the above-described property and **said activity may limit the use of the property for development purposes.** Prospective purchasers may wish to consult County records and requirements before purchasing said property.

OWNER OR OWNER'S AGENT

Address

County, State, Zip

STATE OF WASHINGTON

} ss

County of Kitsap

On this day personally appeared before me _____, to me known to be the individual or individuals, described in and who executed the within and foregoing instrument and acknowledged that he (she or they) signed the same in a free and voluntary act, for the uses and purposes therein mentioned.

GIVEN under my hand an official seal this _____ day of _____, _____.

NOTARY PUBLIC in and for the State
of Washington, residing at

Note: This notice may be recorded as a courtesy only; no guarantee of recording is made or implied nor is this notice intended to substitute for actual physical inspection of any real property.