

Div. 5.7. Grading, Erosion Control, and Stormwater Management

5.7.1. Purpose and Applicability (1/1/17)

A. Purpose

It has been determined that runoff from construction sites carries a significant amount of sediment and other pollutants to the waters of the State of Wyoming and the County. Therefore, it is the purpose of this Division to preserve natural resources; to protect the quality of the waters of the State of Wyoming and the County; and to protect and promote the health, safety, and welfare of the people to the extent practicable by minimizing the amount of sediment and other pollutants carried by runoff or discharged from construction sites to lakes, streams, and wetlands. In addition, this Division is also intended to protect the health, safety and welfare of the citizens of the County from geologic hazards which may result through improper grading practices. Invasive Species standards are intended to maintain the character and function of native habitat by reducing the spread of noxious weeds and introduction of other invasive species through grading and revegetation practices.

B. Applicability

This Division shall apply to all land disturbing activity and all excavations unless explicitly exempted. Agriculture meeting the standards for exemption in Section 6.1.3.B. is not considered a land disturbing activity, unless it disturbs natural slopes of 30% or greater.

EXAMPLE: Examples of land disturbing activities include, but are not limited to, grading, topsoil removal, filling, road or drive cutting, altering or enlargement of a stream or channel, removal of streambed materials, channel clearing, ditching, drain tile laying, dredging, lagoon construction, soil and water conservation structures, and the extraction or placement of rock, sand, or gravel. Grading permits shall be reviewed and approved pursuant to Sec. 8.3.4. Also refer to the Teton Conservation District's Stormwater Pollution Prevention Plan Guide.

C. Varied Standards for Levee Construction and Maintenance

The standards of this Division may be varied as necessary to allow for construction and maintenance of flood control structures, such as levees.

D. Grading Permit Required

A grading permit shall be submitted to describe the site grading, erosion controls, and stormwater management that will be used to meet the requirements of this Division. A grading permit is required for all land disturbing activities unless explicitly exempted. There are 2 levels of grading permit.

1. **Statement Level Grading Permit.** The purpose of the statement level grading permit is to allow the County Engineer to review land disturbances that, while small in area, may impact other landowners and the environment. A statement level grading permit application for a ditch alteration shall be prepared by a professional engineer registered in the State of Wyoming or by both a land surveyor and landscape architect registered in the State of Wyoming in accordance with 7.7.4.D.
2. **Plan Level Grading Permit.** All plan level grading permit applications shall be prepared by a professional engineer or landscape architect registered in the State of Wyoming. Prior to submittal of a plan level grading permit the applicant shall have a pre-application conference pursuant to Sec. 8.2.1. A plan level grading permit application for a ditch alteration shall be prepared by a professional engineer registered in the State of Wyoming or by both a land surveyor and landscape architect registered in the State of Wyoming in accordance with 7.7.4.D.
3. **Geotechnical Report.** A geotechnical report shall be submitted with a plan level grading permit application for construction sites with existing slopes greater than 30% or when considered necessary by the County Engineer in consideration of soil type and stability and the proposed structure; the report may be waived by the County Engineer, when applicable. The report shall be prepared by a professional engineer registered in the State of Wyoming.
4. **Required Permit.** The table below establishes the type of grading permit required for various grading proposals. The required permit shall be the most rigorous requirement that applies to the proposal.

EXAMPLE: A proposal that would result in 41% impervious surface coverage or more requires a Grading Plan regardless of the amount of disturbance or slope.

Required Grading Permit Submittal			
Grading Proposal	Required Grading Permit		
	Exempt	Statement Level	Plan Level
Proposed impervious surface	See below	See below	≥ 41%
Total land disturbance	See below	≥ 12,000 sf and < 1 ac	≥ 1 ac
Disturbance of slopes ≤ 5%	< 12,000 sf	≥ 12,000 sf and < 1 ac	≥ 1 ac
Disturbance of slopes > 5% & ≤ 15%	< 1,000 sf	≥ 1,000 sf and < 1 ac	≥ 1 ac
Disturbance of slopes > 15%	n/a	≤ 3,000 sf	> 3,000 sf

5. **Permit Exemptions.** Grading proposals exempt below or in the table above shall be exempt from the requirements to obtain a Grading Permit; however, all activities shall comply with the standards of this Division regardless of whether or not a permit is required. Exemptions do not apply to ditch alterations, which

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are required to meet the standards of 7.7.4.D. In addition to the exemptions established in the table above, the following activities shall be exempt from the requirement to obtain a Grading Permit:

- a. **Agricultural Activities.** Earthmoving operations occurring on natural slopes that are less than 30%, which are associated with an agricultural use meeting the standards for exemption in Section 6.1.3.B.
 - b. **Emergency Flood Control Work.** A grading permit is not required prior to earthmoving operations occurring as emergency flood control measures; however, an after-the-fact grading permit is required to document the grading completed.
6. **Stormwater Management Plan.** Regardless of the grading permit requirement or exemption, the County Engineer may require submittal of a stormwater management plan, prepared by an engineer or landscape architect licensed in the State of Wyoming, if it is necessary to determine compliance with Sec. 5.7.4. The stormwater management plan shall be approved by the County Engineer prior to any physical development.

5.7.2. Grading Standards (8/7/18)

A. General Standards

The following general standards shall be met before a grading permit is issued.

1. **Avoid Risk of Landslides.** The grading shall avoid the risk of landslides or other forms of slope failure, rock-falls, and avalanches.
2. **Not Significantly Increase Rate of Stormwater or Snowmelt Runoff.** The grading shall not significantly change the rate of stormwater or snowmelt runoff, and shall avoid or minimize the erosion of natural or constructed slopes and sediment accumulation in natural drainage channels or watercourses.
3. **Not Significantly Alter Drainage Patterns.** The grading shall not significantly alter natural drainage patterns.
4. **Conforms to General Natural Forms.** The grading shall preserve and conform to the general natural form and contours of the land surface.
5. **Preserves Natural or Established Vegetation.** The grading shall be designed to preserve natural or established vegetation as much as is practically possible.
6. **Provides for Revegetation.** The affected site area shall be revegetated as is necessary for the stabilization of disturbed surfaces with the exception of areas covered by impervious surfaces and/or structures. Revegetation plans should contain components as identified in Teton County Weed and Pest District's Revegetation Guide (www.tcweed.org/Revegetation.php).
7. **Allows Most Rapid Possible Recovery of Disturbed Lands.** The grading shall allow for the most rapid possible recovery of disturbed lands to natural or introduced vegetation.

8. **Stabilizes Slope.** The revegetation shall stabilize the slope and shall be compatible with native vegetation.
9. **Minimizes Cut and Fill.** The plan shall minimize cut and fill on a site. An application for a grading and erosion control permit shall be denied if it is determined that its issuance would result in excessive cutting and filling and that the intended structure or use would be feasible with less alteration of the natural terrain.
10. **Discovery of Historic or Prehistoric Ruins and Monuments.** Whenever during excavation there are uncovered, or become apparent, any historic or prehistoric ruins or monuments not previously accounted for in the issuance of a permit, all work in the immediate area shall cease until the Wyoming State Archaeologist determines what precautions shall be taken to preserve the historic or prehistoric artifacts.
11. **Maintenance and Repair Measures.** All graded surfaces, sedimentation basins, and other control measures necessary to meet the requirements of this Section shall be maintained by the applicant, landowner, or subsequent landowner during the period of land disturbance and land development of the site in a satisfactory manner to ensure adequate protection from erosion and to prevent nuisance conditions. Nuisance conditions include, but are not limited to, the tracking of dirt and mud onto public streets, and fugitive dust. Should any dredging or soil removal occur for the construction of temporary sedimentation basins or other control measures, such areas shall be restored when the temporary sedimentation basin or other control measures are removed.
12. **Invasive Species Management.** An Invasive Species Management Plan is required to be submitted as part of any Grading Permit application. The purpose of the Invasive Species Management Plan is to assist in maintaining the character and function of native habitat helping to reduce the spread of noxious weeds as defined in WS 11-5-101 - 119, and introduction of other invasive species through grading and revegetation practices (also see WS 11-9-101 - 109 and WS 11-12-101 - 125). Noxious weeds and other invasive species require prevention or control during all phases of construction to limit severe and costly infestations in the future.
 - a. The Invasive Species Management Plan shall include pre-construction, active construction, and post-construction integrated control elements.
 - b. Teton County Weed and Pest will review and approve a plan prepared by the applicant, or will prepare the Plan for a site given advance notice.
 - c. Plans should include components identified in Teton County Weed and Pest District's Invasive Species Management publication (www.tcweed.org/LandDevelopmentWMP.php)

B. Grading Standards

All grading activities shall meet the following technical standards.

1. **Removal of Organic Materials.** Fill areas shall be properly prepared by removing organic materials, such as vegetation and rubbish, and any other material which is detrimental to the proper compaction of the site or not otherwise conducive to the stability of the site.
2. **Site Vegetation Removal and Revegetation.** The removal of existing vegetation shall not occur more than 30 days prior to the commencement of grading, and permanent revegetation shall be commenced as soon as practical after the completion of grading. Site specific native seed mixtures shall be used to revegetate all disturbed areas with the exception of lawn and landscaped areas. Mulching shall be used in order to assure vegetation growth.
3. **Topsoil, Stripping, Stockpiling, and Redistribution.** The existing topsoil shall be stripped and stockpiled on site for redistribution over the completed final grade.
4. **Retaining Walls and Facings.** All retaining walls or facings with a total vertical projection in excess of 4 feet shall be designed as structural members keyed into stable foundations capable of sustaining the design loads, and shall be designed by a professional engineer registered in the State of Wyoming.
5. **Compaction on Structural Load Bearing Areas of the Site.** Fills on structural load bearing areas or roadways shall be compacted to at least 95% of maximum density, as determined by the American Association of State Highway and Transportation Officials (AASHTO T99, most recent edition) and/or the American Society of Testing Materials (ASTM D698, most recent edition), or to the compaction level deemed necessary by a Wyoming registered professional engineer, considering the types of soil, groundwater infiltration and percolation, degree of slope, exposure, and other factors pertaining to slope stability.
6. **Interceptor Ditches.** Interceptor ditches shall be provided above all cut slopes greater than 5 feet, with a drainage area of 13,000 square feet, unless deemed unnecessary by the County Engineer taking into account vegetation, soil type, total drainage area, topography and potential rain and snow fall. Interceptor ditches may also be required when the drainage area is less than 13,000 square feet at the discretion of the County Engineer in consideration of the factors listed above. The intercepted water shall be conveyed to a stable channel or natural drainageway with adequate capacity to carry the flow.
7. **Fill Slopes near Roads.** On roads, fill slopes shall not be located where the base of the slope is within 15 feet horizontally of the top of an exterior or planned cut slope, except at road switchbacks.
8. **Cut and Fill within Site Boundaries.** The tops and toes of cut and fill slopes shall be within the property lines of the proposal, and outside of right-of-way lines and vehicular access easements. Where adjacent landowners agree to waive this requirement for all or a portion of their common boundary, an easement for the grading activity, maintenance activity and the final grading configuration shall be required for each lot of record affected. A copy of the easement(s) shall be submitted for staff review as a part of the grading approval process. Permanent easement(s) shall be recorded by the Teton County Clerk and recorded against the subject lots of record.

9. **Borrowing for Fill Prohibited.** Except for existing quarries, borrowing for fill shall be prohibited unless the fill material is obtained from a cut authorized by the issuance of a grading and erosion control permit obtained for some purpose other than to produce fill material.
10. **Cut and Fill Slopes.** Cut and fill slopes shall be graded to a slope no steeper than 2:1, or 50%, to allow for permanent revegetation or landscaping unless a retaining wall is used or a steeper slope is approved by the County Engineer. The County Engineer may require the submission of a detailed engineering report and analysis prepared by a registered State of Wyoming professional engineer relative to the safety of such cuts and fills, if necessary considering soil type, soil stability, and any proposed structures.

5.7.3. Erosion Control Standards (1/1/15)

A. Erosion Control

Erosion is to be controlled on-site, both permanently and during construction to reduce erosion and attendant pollution.

B. Design Criteria, Standards, and Specifications for Erosion Control Measures

The following standards shall apply to all grading activities during land disturbance.

1. **Site Dewatering.** Water pumped from the site shall be treated by temporary sedimentation basins, grit chambers, sand filters, up-slope chambers, hydro-cyclones, swirl concentrators, filter fences, or other appropriate controls as determined by the County Engineer. Water may not be discharged in a manner that causes erosion of the site or receiving channels. All required State discharge permits for discharging to surface waters or groundwaters shall be obtained and applicable State requirements met prior to discharge.
2. **Waste and Material Disposal.** All waste and unused building materials (including garbage, debris, cleaning wastes, wastewater, toxic materials, or hazardous materials) shall be properly disposed and not allowed to be carried by runoff into a receiving channel, basin, or storm sewer system. No on-site burial of construction wastes or unused materials is allowed.
3. **Drain Inlet Protection.** All storm drain inlets shall be protected with a straw bale, filter fabric, or equivalent barrier.
4. **Site Erosion Control.** The following criteria apply only to land development or land disturbing activities that result in runoff leaving the site:
 - a. Channelized runoff from adjacent areas passing through the site shall be diverted around disturbed areas, if practical. Otherwise, the channel shall be protected as described in this Section. Sheet flow runoff from adjacent areas greater than 13,000 square feet shall also be diverted around disturbed areas unless shown to have non-scouring velocities. Diverted runoff shall be conveyed in a manner that will not erode the conveyance and receiving channels.