

## 2006 INTERNATIONAL RESIDENTIAL CODE

Add and adopt new APPENDIX X as follows:

### APPENDIX X EXCAVATION AND GRADING

#### SECTION X101 - PURPOSE

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

#### SECTION X102 - 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 excavation/grading construction.

**SECTION X103 - STANDARDS.** The standards listed below are recognized standards.

**X103.1 Driveway Design Standards.** All new driveways and improvements to existing driveways shall be in conformance with Chapter 4 of the "County of Clear Creek Roadway Design and Construction Manual" as adopted by Resolutions R-07-90 and R-07-97, or as may be amended.

**X103.2 Testing.** The following are recognized testing standards:

- 1.1 *ASTM D 1557, Moisture-density Relations of Soils and Soil Aggregate Mixtures*
- 1.2 *ASTM D 1556, In Place Density of Soils by the Sand-Cone Method*
- 1.3 *ASTM D 2167, In Place Density of Soils by the Rubber-Balloon Method*
- 1.4 *ASTM D 2937, In Place Density of Soils by the Drive-Cylinder Method*
- 1.5 *ASTM D 2922 and D 3017, In Place Moisture Contact and Density of Soils by Nuclear Methods*

#### SECTION X104 - PERMITS REQUIRED

**X104.1 Permits Required.** Except as specified in Section X104.2 of this chapter, no person shall do any excavation or grading without first having obtained an excavation or grading permit from the Site Development Inspector.

**X104.2 Exempted Work.** An excavation or grading permit is not required for the following:

1. When approved by the Site Development Inspector, excavation/grading in an isolated, self-contained area if there is no danger to private or public property.
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 or exempt any excavation having an unsupported height greater than 5 feet (1524 mm) 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. Routine maintenance, including grading of state highways, county roads, city streets, or private roads, by the state, county, city or private contractors.
7. Tillage of land for agricultural or silvicultural purposes, and harvesting agricultural crops.
8. Snow plowing or removal where the snow is deposited on the shoulder or edge of the plowed road, driveway or site.
9. Mining, quarrying, excavating, processing or 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.
10. Exploratory excavations under the direction of soil engineers or engineering geologists.
11. An excavation that is (a) less than 2 feet (610 mm) in depth, (b) does not create a cut slope greater than 5 feet (1524 mm) in height and steeper than 1 unit vertical in 1 1/2 units horizontal (66.7% slope) and does not exceed 50 cubic yards, is exempt from this permit.

Exemption from the permit requirements of this chapter shall not be deemed to grant authorization for any work to be done in any manner in violation of the provisions of this chapter or any other laws or ordinances of this jurisdiction. All excavation, grading, road cut permits must follow the BMP standards as outlined in Section X107.

### **SECTION X105 - HAZARDS**

Whenever the Site Development Inspector determines that any existing excavation or embankment or fill on private or public 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 Site Development Inspector, shall within the period specified therein repair or eliminate such excavation or embankment to eliminate the hazard and to be in conformance with the requirements of this Code.

### **SECTION X106 - DEFINITIONS**

**X106 Definitions.** For the purposes of this Appendix X, certain terms are defined as follows:

**ADMINISTRATOR** means the County Site Development Inspector or the Inspector's designee, who shall be responsible for administration and enforcement of this resolution.

**APPROVAL** shall mean that the proposed work or completed work conforms to this chapter in the opinion of the Site Development Inspector.

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

**BEDROCK** is in-place solid rock.

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

**BEST MANAGEMENT PRACTICES (BMPs)** means permanent measures and measures taken during construction described in or adapted from the Manual to protect water quality and control runoff and erosion from earth disturbing activities.

**BMP PLAN** means a detailed, sight specific description of the BMPs to be implemented both during and after the earth disturbing activity.

**BORROW** is earth material acquired from an off-site location for use in grading on a site.

**CIVIL ENGINEER** is a professional engineer registered in the state to practice in the field of civil works.

**CIVIL ENGINEERING** is 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.

**COMPACTION** is the densification of a fill by mechanical means.

**EARTH DISTURBING ACTIVITY** means any change to the natural vegetation, soil, rock, drainage, or topography, and includes all grading, filling, excavating, clearing vegetation, snow plowing or removal, snow storage, construction of buildings or other improvements. Any activity that may result in or contribute to accelerated soil erosion or sediment transport is included.

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

**ENGINEERING GEOLOGIST** is a geologist experienced and knowledgeable in engineering geology.

**ENGINEERING GEOLOGY** is the application of geologic knowledge and principles in the investigation and evaluation of naturally occurring rock and soil for use in the design of civil works.

**EROSION** is the wearing away of the ground surface as a result of the movement of wind, water or ice.

**EXCAVATION** means any act by which soil or rock is cut into, exposed, dug, quarried, removed or relocated.

**FILL** is a deposit of earth material placed by artificial means.

**GEOTECHNICAL ENGINEER** See "soils engineer."

**GRADE** is the vertical location of the ground surface.

**Existing Grade** is the grade prior to grading.

**Finish Grade** is the final grade of the site that conforms to the approved plan.

**Rough Grade** is the stage at which the grade approximately conforms to the approved plan.

**GRADING** means any alteration of the existing topography.

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

**LARGE SCALE ACTIVITY** means any earth disturbing activity that disturbs more than 2,500 cubic yards and/or 20,000 square feet. Earth disturbing activities at contiguous locations within one site or project, such as different lots in a subdivision under common ownership or development, will be considered together.

**MANUAL** means the “Mountain Driveway Best Management Practices Manual“ and all appendixes adopted herewith, or as may be amended.

**PROFESSIONAL INSPECTION** is the inspection required by this Code 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 the work.

**SAND STORAGE** means stockpiling salt, sand, or other substances used for deicing or improving traction on roads and parking lots.

**SNOW STORAGE** means stockpiling snow removed from a street, road, highway, driveway or other site off the site from which it is removed.

**SITE** is any lot or parcel of land or contiguous combination thereof, under the same ownership, where excavation/grading is performed or permitted.

**SLOPE** is an inclined ground surface the inclination of which is expressed as a ratio of horizontal distance to vertical distance.

**SOIL** is naturally occurring superficial deposits overlying bedrock.

**SOILS ENGINEER (GEOTECHNICAL ENGINEER)** is an engineer experienced and knowledgeable in the practice of soils engineering (geotechnical) engineering.

**SOILS ENGINEERING (GEOTECHNICAL ENGINEERING)** is the application of the principles of soils mechanics in the investigation, evaluation and design of civil works involving the use of earth materials and the inspection or testing of the construction thereof.

**TERRACE** is a relatively level step constructed in the face of a graded slope surface for drainage and maintenance purposes.

## **SECTION X107 - PERMIT REQUIREMENTS**

**X107.1 Permits Required.** Except as exempted in Section X104.2 of this chapter, no person shall do any earth disturbing activity without first obtaining a grading, excavation, road cut, driveway, BMP or ISDS Permit. A separate permit shall be obtained for each site, and may cover both excavations and fills.

**X107.2 Application.** Application will be made on forms provided by the county. Additionally, the application shall state the estimated quantities of work involved.

### **X107.3 Best Management Practices (BMPs) Required.**

1. No person shall engage in any earth disturbing activity without utilization of BMPs to prevent erosion and sedimentation which could adversely affect water quality during and after the time such activities are undertaken.
2. BMPs are described in the manual. Since the circumstances of each earth disturbing activity are different, different BMPs may be required. The administrator shall approve the selection of applicable BMPs. The administrator may approve other practices or variations from the standards of the Manual where the BMP prescribed in the Manual is not practical, or which will be at least as effective in meeting the goals of this resolution.
3. All development that includes a driveway, building footprint, or septic and leach field, shall comply with the requirements of this Appendix Chapter through the “Driveway and Building Site Excavation Permit” when the ‘Driveway and Building Site Excavation Permit’ is required. All other excavation and road construction with less than 2,500 cubic yards and/or 20,000 square feet of earth disturbance shall comply with the requirements of this chapter through the “Excavation” or “Road Construction” or “ISDS” Permit.
4. No person shall undertake any large scale earth-disturbing activity except pursuant to an approved BMP plan. No permit shall be issued for any activity or project that includes any large scale earth-disturbing activity without incorporating an approved BMP plan. The proposed BMP plan must be submitted by the owner of the land on which the activity is to occur. Applications for permits for large scale earth disturbing activities must have an engineered excavation, grading and drainage plan accompanying the BMP plan. BMP plans shall incorporate sufficient measures, identified in the Manual or by qualified individuals, to prevent accelerated erosion, off-site sediment transport or adverse effects on water quality.
5. Persons undertaking exempt activities are recommended to use best management practices during the activity.
6. The Manual may be amended from time to time by resolution.
7. Installation of all permanent improvements required pursuant to this chapter is required prior to issuance of final project approval or a certificate of occupancy.
8. No graded, excavated or fill material or snow shall be deposited or stockpiled in a natural watercourse or where eroded material or melted snow will directly enter a natural water course.

**X107.4 Engineered Grading Requirements.** Application for an excavation/grading permit shall be accompanied by two sets of plans and specifications, and supporting data consisting of a soils engineering report and engineering geology report (if required). The plans and specifications shall be prepared and signed by an individual licensed by the state to prepare such plans or specifications when required by the Site Development Inspector. 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 code and all relevant laws, ordinances, rules and regulations. The first sheet of each set of plans shall give location of the work, 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.
1. 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 that are within 15 feet (4572 mm) of the property or that 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 Site Development Inspector, 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 reports.

**X107.5 Soils Engineering Report.** The soils engineering report required by Section X107.4 shall include data regarding the nature, distribution and strength of existing soils, conclusions and recommendations for excavation/grading procedures and design criteria for corrective measures, including buttress fills, when necessary, and opinion on adequacy for the intended use of sites to be developed by the proposed excavation/grading as affected by soils engineering factors, including the stability of slopes.

**X107.6 Engineering Geology Report.** The engineering geology report required by Section X107.4 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 on the adequacy for the intended use of sites to be developed by the proposed excavation/grading, as affected by geologic factors.

**X107.7 Excavation/Grading Permit Requirements.** Each application for an excavation/grading permit shall be accompanied by a plan in sufficient clarity to indicate the nature and extent of the work. The plans shall give the location of the work, the name of the owner and the name of the person who prepared the plan. The plan shall include the following information:

1. General vicinity of the proposed site.
2. Limiting dimensions and depth of cut and fill.
3. Location of any buildings or structures where work is to be performed, and the location of any buildings or structures within 15 feet (4572 mm) of the proposed excavation/grading.

**X107.8 Issuance.** After the application, scaled site plan, and permit fee have been submitted, the Site Development Inspector will make an appointment to meet the applicant at the site for the initial excavation/grading inspection. The proposed site, property lines and adjacent property lines shall be staked out in advance of the initial inspection.

The Site Development Inspector may require that excavation/grading operations and project designs be modified, if delays occur which may result in weather-generated problems not considered at the time the permit was issued.

The Site Development Inspector may require professional inspection and testing by the soils engineer. When the Site Development Inspector has cause to believe that geologic factors may be involved, which would include but not be limited to unstable slopes, mine waste, potential rock fall hazards, improper compaction, etc., the excavation/grading will be required to conform to engineered excavation/grading.

In regards to BMP Permits, the Site Development Inspector may, at the applicant's expense, hire an engineer to review the proposed work to be performed and/or perform testing and prepare a written report of their findings.

**X107.9 Expiration.** Every permit issued pursuant to this Appendix X by the Site Development Inspector shall expire by limitation and become null and void two years after the issuance of such permit. All work under the permit must be completed before expiration of the permit.

**X107.10 Renewal Permit.** A renewal for a permit may be applied for within one year of the permit's expiration. The renewal will be subject to the provisions of this Appendix X under which it was originally issued provided no new significant life safety code changes affecting the proposed permitted activity have occurred. If, between the time of the original issuance of the permit and the application for renewal, a new code has been adopted which includes significant life safety changes, the renewal permit must comply with the new code provisions. In all cases, the cost of a renewal permit will be an amount equal to twenty-five percent (25%) of the original permit fee.

**X107.11 Permit Extension.** Any permittee holding an unexpired permit may apply for an extension of the time to complete the work and inspections under that permit when the permittee is unable to complete the work within the time required by the permit due to circumstances beyond the control of the permittee. The extension shall be requested in writing prior to the expiration of the permit and must demonstrate justifiable cause for the extension. The Site Development Inspector is authorized to grant one extension of time for a period not more than 180 days.

**X107.12 Permit Transfer.** An unexpired permit may be transferred from one party to another upon written application to the Site Development Inspector by the new owner of the property or his/her authorized agent, provided there is no change in the plans and specifications. Documentation of the change in ownership must be provided by the new owner. No change shall be made in the expiration date of the original permit. A Transfer Fee is required to transfer the permit and will be an amount equal to twenty-five percent (25%) of the original permit fee.

**SECTION X108 - EXCAVATION/GRADING FEES**

**X108.1 General.** Fees shall be assessed in accordance with the provisions of this section or shall be as set forth in the fee schedule as adopted by Resolution R-07-92.

**X108.2 Plan Review Fees.** When a plan or other data are required to be submitted, a plan review fee shall be paid at the time of submitting plans and specifications for review. Said plan review fee shall be as set forth in Table 1-X. Separate plan review fees shall apply to retaining walls or major drainage structures as required elsewhere in this code. For excavation and fill on the same site, the fee shall be based on the volume of excavation or fill, whichever is greater.

**X108.3 Excavation/Grading Permit Fees.** A fee for each excavation/grading permit shall be paid to the Site Development Inspector as set forth in Table 1-X. Separate permits and fees shall apply to retaining walls or major drainage structures as required elsewhere in this code. There shall be no separate charge for standard terrace drains and similar facilities.

Add the following Table 1-X:

**Table 1-X Excavation/Grading Permit Fees**

Scope of Work	Plan Review Fee	Permit Fee
50 cubic yards (38.2 m <sup>3</sup> ) or less	No Charge	\$23.50
51 to 100 cubic yards (40 m <sup>3</sup> to 76.5 m <sup>3</sup> )	\$23.50	\$37.00
101 to 1,000 cubic yards (77.2 m <sup>3</sup> to 764.6m <sup>3</sup> )	\$37.00	\$37.00 for the first 100 cubic yards (76.5 m <sup>3</sup> ) plus \$17.50 for each additional 100 cubic yards (76.5 m <sup>3</sup> ) or fraction thereof.
1,001 to 10,000 cubic yards (765.3 m <sup>3</sup> to 7645.5 m <sup>3</sup> )	\$49.25	\$194.50 for the first 1,000 cubic yards (764.6 m <sup>3</sup> ), plus \$14.50 for each additional 1,000 cubic yards (764.6 m <sup>3</sup> ), or fraction thereof.
10,001 to 100,000 cubic yards (7646.3 m <sup>3</sup> to 76,455 m <sup>3</sup> )	\$49.25 for the first 10,000 cubic yards (7645.5 m <sup>3</sup> ), plus \$24.50 for each additional 10,000 cubic yards (7645.5 m <sup>3</sup> ) or fraction thereof.	\$325.00 for the first 10,000 cubic yards (7645.5 m <sup>3</sup> ), plus \$66.00 for each additional 10,000 cubic yards (7645.5 m <sup>3</sup> ) or fraction thereof.

100,001 to 200,000 cubic yards (76,456 m <sup>3</sup> to 152,911 m <sup>3</sup> )	\$269.75 for the first 100,000 cubic yards (7645.5 m <sup>3</sup> ), plus \$13.25 for each additional 10,000 cubic yards (7645.5 m <sup>3</sup> ) or fraction thereof.	\$919.00 for the first 100,000 cubic yards (76,455 m <sup>3</sup> ), plus \$36.50 for each additional 10,000 cubic yards (7645.5 m <sup>3</sup> ) or fraction thereof.
200,001 cubic yards (152,912 m <sup>3</sup> ) or more	\$402.25 for the first 200,000 cubic yards (152,911 m <sup>3</sup> ), plus \$7.25 for each additional 10,000 cubic yards (7645.5 m <sup>3</sup> ) or fraction thereof.	\$1,284.00 for the first 200,000 cubic yards (152,911 m <sup>3</sup> ), plus \$36.50 for each additional 10,000 cubic yards (7645.5 m <sup>3</sup> ) or fraction thereof.
<p>Other fees</p> <p>1. Inspection outside of normal business hours . . . . . \$50.50 per hour* (Minimum charge 2-hours)</p> <p>2. Reinspection Fees . . . . . \$50.50 per hour</p> <p>3. Inspections where no fee is specifically indicated . . . . . \$50.50 per hour* (Minimum charge-one half hour)</p> <p>4. Additional plan review required by changes, additions or revisions to approved plans \$50.50 per hour* (Minimum charge-one half hour)</p> <p>5. Permit Renewal Fee.....An amount equal to 25% of the original permit fee</p> <p>6. Permit Transfer Fee .....An amount equal to 25% of the original permit fee</p>		

**SECTION X109 - PERFORMANCE GUARANTEES**

The Site Development Inspector may require performance guarantees in such form and amounts as may be deemed necessary to ensure that the work, if not completed in accordance with the approved plans and specifications, will be corrected to eliminate hazardous conditions.

All performance guarantees will be either (1) in cash, together with an executed Security Agreement approved by the Clear Creek County Board of County Commissioners or (2) by Letter of Credit issued by a bank located and physically doing business in the State of Colorado.

The performance guarantees shall be in the amount of 125% of the estimated cost of the proposed scope of work.

The work will be deemed complete for purposes of starting the warranty period upon final inspection approval by the Site Development Inspector and delivery of an acceptable as-built drawing to the Site Development Department.

A letter of credit performance guarantee will be drawn on if the conditions for its release are not satisfied within ten (10) business days before its expiration, unless prior to that time a replacement letter of credit or extension is delivered to the Site Development Department.

## **SECTION X110 - CUTS**

**X110.1 General.** Unless otherwise recommended in the approved soils engineering or engineering geology report, cuts shall conform to the provisions of this section X110.

In the absence of an approved soils engineering report, these provisions may be waived for minor cuts not intended to support structures.

**X110.2 Slope.** The slope of cut surfaces shall be no steeper than is safe for the intended use and shall be no steeper than 1 unit vertical in 1 1/2 units horizontal unless the permittee 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. In areas of solid rock slopes shall not be cut steeper than 1/2:1 (V:H).

## **SECTION X111 - FILLS**

**X111.1 General.** Unless otherwise recommended in the approved soils engineering report, fills shall conform to the provisions of this section X111.

In the absence of an approved soils engineering report, these provisions may be waived for minor fills not intended to support structures.

**X111.2 Fill Material.** Detrimental amounts of organic material shall not be permitted in fills. Except as permitted by the Site Development Inspector, no rock or similar irreducible material with a maximum dimension greater than 24 inches (610 mm) shall be buried or placed in fills.

**EXCEPTION:** The Site Development Inspector may permit placement of larger rock when the soils engineer properly devises a method of placement, and continuously inspects its placement and approves the fill stability. The following conditions shall also apply:

1. Prior to issuance of the excavation/grading permit, potential rock disposal areas shall be delineated on the excavation/ grading plan.
2. Rock sizes greater than 24 inches (610 mm) in maximum dimension shall be 10 feet (3048 mm) or more below grade, measured vertically.
3. Rocks shall be placed so as to assure filling of all voids with well-graded soil.

**X111.3 Compaction.** All fills shall be compacted to a minimum of 90 percent of maximum density.

**X111.4 Slope.** The slope of fill surfaces shall be no steeper than is safe for the intended use. Fill slopes shall be no steeper than 1 unit vertical in 1 1/2 units horizontal.

## **SECTION X112 - EROSION CONTROL**

**X112.1 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.

**X112.2 Other Devices.** Where necessary, check dams, cribbing, rip rap or other devices or methods shall be employed to control erosion and provide safety.

## **SECTION X113 - EXCAVATION/GRADING INSPECTION**

**X113.1 General.** Excavation/grading operations for which a permit is required shall be subject to inspection by the Site Development Inspector. Professional inspection of excavation/grading operations shall be provided by the civil engineer, soils engineer and the engineering geologist retained to provide such services for engineered excavation/grading and as required by the Site Development Inspector for regular excavation/grading.

**X113.2 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.

**X113.3 Soils Engineer.** The soils engineer shall provide professional inspection within such engineer's area of technical specialty, which shall include observation during excavation/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 Site Development Inspector and the civil engineer.

**X113.4 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.

**X113.5 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 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 Site Development Inspector. In the event of changed conditions, the permittee shall be responsible for informing the Site Development Inspector of such change and shall provide revised plans for approval.

**X113.6 Site Development Inspector.** The Site Development Inspector shall inspect the project at the various stages of work requiring approval to determine that adequate control is being exercised by the professional consultants.

**X113.7 Notification of Noncompliance.** If, in the course of fulfilling their respective duties 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 excavation/grading plans, the discrepancies shall be reported immediately in writing to the permittee and to the Site Development Inspector.

**X113.8 Transfer of Responsibility.** If the civil engineer, the soils engineer, or the engineering geologist of record is changed during excavation/grading, the work shall be stopped until the replacement has agreed in writing to accept their responsibility within the area of technical competence for approval upon completion of the work. It shall be the duty of the permittee to notify the Site Development Inspector in writing of such change prior to the recommencement of such excavation/grading.

## **SECTION X114 - COMPLETION OF WORK**

**X114.1 Final Reports.** Upon completion of the rough excavation/grading work and at the final completion of the work, the following reports and drawings and supplements thereto may be required for engineered excavation/grading or when professional inspection is performed for regular excavation/grading, as applicable.

1. An as-built excavation/grading plan prepared by the civil engineer retained to provide such services in accordance with Section X113.2 showing original ground surface elevations, as-graded ground surface elevations, lot drainage patterns, and the locations and elevations of surface drainage facilities and of the outlets of subsurface drains. As-constructed locations, elevations and details of subsurface drains shall be shown as reported by the soils engineer. Civil engineers 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 Section X113.3, including locations and elevations of field density tests, summaries of field and laboratory tests, other substantiating data, and comments on any changes made during excavation/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.
3. A report prepared by the engineering geologist retained to provide such services in accordance with Section X113.4, including a final description of the geology of the site and any new information disclosed during the excavation/grading and the effect of same on recommendations incorporated in the approved excavation/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.
4. The excavation/grading contractor shall submit on a form prescribed by the Site Development Inspector a statement of conformance to said as-built plan and the specifications.

**X114.2 Notification of Completion.** The permittee shall notify the Site Development Inspector when the excavation/grading operation is ready for final inspection. Final approval shall not be given until

all work, including installation of all drainage facilities and their protective devices, and all erosion-control measures have been completed in accordance with the final approved excavation/grading plan, and the required reports have been submitted.

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