

**CHAPTER 9****EXCAVATION AND GRADING CODE**

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**ARTICLE I. GENERAL****15-9-1. Adoption and purpose.****15-9-1.1. Adoption.**

The following excavating and grading regulations are hereby adopted and this ordinance shall be referred to as the “Hot Springs Excavating and Grading Code:”

**15-9-1.2. Purpose.**

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

**15-9-2. Scope.**

This Code 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 and grading construction.

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**Cross references**-Plumbing, § 15-6-1 et seq; excavations in streets, § 15-10-29 et seq; fee schedule, §15-9-92.

**15-9-3. Permit exceptions.**

No person shall do any excavation or grading without first having obtained a permit from the city engineer except for the following:

- (a) Excavation or grading in an isolated, self-contained area of one-half acre or less if there is no danger apparent to private or public property.
- (b) 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 an unsupported height greater than 4 feet after the completion of such structure.
- (c) Cemetery graves.
- (d) Refuse disposal sites controlled by other regulations.
- (e) Excavations for wells or tunnels or utilities.
- (f) 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. Provided, further, that such operations shall comply with federal and state regulations and local zoning requirements governing such operations. Evidence of such compliance shall be submitted to the city engineer.
- (g) Exploratory excavations under the direction of soil engineers or engineering geologists.
- (h) An excavation which (a) is less than 2 feet in depth, or (b) which does not create a cut slope greater than 5 feet in height and steeper than one and one-half horizontal to one vertical.
- (i) A fill less than 1 foot in depth, and placed on natural terrain with a slope flatter than five horizontal to one vertical, or less than 3 feet in depth, not intended to support structures, which does not exceed one-half acre on any one lot and does not obstruct a drainage course.
- (j) Earth work performed under an approved building permit.

- (k) Utility cuts performed by or on behalf of a public utility.
- (l) Work performed as part of an approved subdivision development according to the subdivision regulations as may now or hereafter be enacted by the board of directors.
- (m) Street and drainage work performed within a public right-of-way by or on behalf of a public agency.
- (n) The requirement of this Code may be waived by the city manager or his designee in time of natural disaster or other such emergencies.

**15-9-4. Hazards.**

Whenever 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 city engineer 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 Code.

**15-9-5. Discovery of historic resources.**

Whenever, during the conduct of grading, any historical, pre-historical, or paleontological materials are discovered, excavation and grading shall cease and the city engineer and the appropriate state agencies shall be notified.

**15-9-6. Work site requirements.**

Provisions shall be made to adequately control dust. Provisions shall be made to keep public streets clean and all debris, soil or mud from the site, or hauling which is deposited on public streets shall be cleaned immediately. Any damage to existing underground utilities shall be repaired at the expense of the developer.

**15-9-7. Fording streams.**

Fording streams with construction equipment may be permitted provided that the methods are shown on the plans. Other activities, which destabilize stream banks, shall not be permitted.

**15-9-8. Related regulations.**

These regulations shall be used in association with the latest adopted regulations relating to: (a) street specifications; (b) drainage specifications; (c) building and technical codes; (d) subdivision regulations; (e) planning and zoning regulations; and (f) other applicable ordinances, rules and regulations of the city. Where two or more of these specifications conflict, the most restrictive specification or regulation shall govern.

**15-9-9. Variances.**

(a) The rules and regulations set forth in these regulations are the standard requirements of the city. Where the applicant alleges that extraordinary hardships or practical difficulties may result from strict compliance with these regulations, or the purpose of these regulations may be served to a greater extent by an alternative proposal, the city engineer shall review such requests for variances and shall forward his recommendation to the board of adjustments and appeals for final action so that substantial justice may be done and the public interest secured. Such variances, however, shall not have the effect of nullifying the intent and purpose of these regulations. The following criteria shall be used to determine whether a variance shall be granted:

- (1) The conditions upon which the request for variance is based are unique to the property because of its particular physical surroundings, shape or topographical conditions.
- (2) The granting of the variance will not be detrimental to the public safety, health or welfare of, or injurious to, other property.
- (3) The variance will not in any manner vary the provisions of this Code.

(b) No variance shall be granted except upon written petition by the applicant at the time a permit application is filed with the city engineer. The petition shall state fully the grounds for the variance and all of the facts upon which the petition is made. In approving variances, the board of adjustments and appeals may, at its option, require special conditions to ensure that work is accomplished in accordance with objectives, standards and requirements of this Code. (Ord. No. 5535, §2, 2-5-07)

**Cross reference-**§2-8-14, Board of adjustments and appeals.

**15-9-10. Penalty.**

The penalty for violation of this Code shall, upon conviction in the Hot Springs Municipal Court, or any other court of competent jurisdiction, be such fines and penalties as established by the general penalty clause for the Hot Springs Code of Ordinances as may now or hereafter be enacted by the Hot Springs Board of Directors.

**Cross reference-**Violation of building and development codes - disconnection of water service, §15-1-8.

**15-9-11--15-9-14. Reserved.**

## ARTICLE II. DEFINITIONS

**15-9-15. Definitions.**

The following words, terms, phrases, abbreviations, or acronyms, when used in this Code, shall have the meanings ascribed to them in this section, except where the context clearly indicates a different meaning.

*Approval by city, submitted for approval or similar terms* shall refer solely to the action of the city in reviewing an excavation and grading plan submitted by a developer for the purpose of determining whether the proposal conforms with the requirements of this Code. Such review and approval shall not be construed to indicate that the city has engineered the project, has independently examined or reviewed the engineering design of the project, that the city has thoroughly inspected construction, that purchasers or users should rely on the city's action as indicating the project is properly designed or constructed, nor to indicate any other level of review, inspection or supervision in excess or in addition to review of the project to determine that it meets the minimum requirements of this Code. All acts of approval shall be accomplished only by the employees of the city expressly authorized by the board of directors or city manager to accomplish such tasks of approval. Further, in approving the proposed project as meeting the minimum requirements of this Code, the city shall rely on the statements and representations made in the request for application, design, plans and specifications.

*As-graded* is the surface conditions extent on completion of grading.

*ASTM* means American Society for Testing and Materials.

*Bedrock* is in-place solid rock.

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

*Board of adjustments and appeals.* Any reference to a board of adjustments and appeals shall mean such appeals board as may now or hereafter exist and be designated by the board of directors to serve in that capacity for the purposes of this code. (Ord. No. 5535, §1, 2-5-07)

*Board or board of directors* means the duly elected governing body of the City of Hot Springs, Arkansas.

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

*Certification* shall mean a written engineering or geological opinion concerning the progress and completion of the work.

*City:* The words “the City” or “this City” shall be construed as if the words “of Hot Springs” follow it and shall extend to and include its several officers, agents and employees.

*City engineer* means the employee of the City designated by the City Manager as the City Engineer or acting in the capacity of a City Engineer for purposes of this Code (e.g., Public Works Director, Planning Director, etc.).

*Civil engineer* shall mean a professional engineer registered in the state to practice in the field of civil works.

*Commission* means the Planning Commission of the City of Hot Springs, Arkansas, as established by ordinance of the Hot Springs Board of Directors.

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

*Comprehensive plan* means the officially adopted guide to the orderly, coordinated development of the community, i.e., the City of Hot Springs, Arkansas, Comprehensive Plan.

*County* means Garland County, Arkansas.

*County judge* means the chief executive officer of Garland County, Arkansas.

*Clearing* means the removal of natural vegetation including trees, bushes, vines, weeds, grass, etc.

*Cut* means the excavation or removal of earth material resulting in a surface elevation lower than the existing or original surface.

*Developer* means any person, firm, partnership, corporation, utility or other entity planning, constructing, altering, or reconstructing any excavation or grading work within or pertaining to any property within the city limits.

*Disturbed area* means surface areas that the natural vegetation has been destroyed or the surface elevation has been changed due to cutting or filling activities.

*Earth material* is any rock, natural soil or fill and/or any combination thereof.

*Easement* means authorization by a property owner for the use by another, and for a specified purpose, of any designated part of his property.

*Engineer* means a professional engineer registered to practice in the State of Arkansas.

*Engineer project* means the professional engineer retained by the developer to design a specific excavation or grading work project.

*Engineering geologist* shall mean a geologist experienced and knowledgeable in engineering geology.

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

*Excavation* is the mechanical removal of earth material.

*Existing grade* is the grade prior to grading.

*Fill* means the placement of earth material resulting in a surface elevation higher than the existing or original surface.

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

*Grade* means the slope of a surface, calculated by the vertical rise (+) or fall (-) of a segment divided by the horizontal length of the segment, expressed in percentage terms.

*Grading* is any excavating or filling or combination thereof.

*Highway* means a street or roadway which is part of the state highway system which is maintained and/or proposed by the Arkansas Highway and Transportation Department.

*Off-site* means any property not located within the bounds of the property on which excavation or grading work is performed.

*Paved area* means all areas which are or proposed to be surfaced with gravel, asphalt, concrete, or similar surface treatment material.

*Public street system* means the total sum of the public streets including local, minor collectors, major collectors, arterials and highways. The public street system shall include all streets whether by dedication (platted) or prescriptive use and whether or not accepted for maintenance by the city or county.

*Re-vegetation* means the planting or seeding of areas for the purpose of establishing adequate vegetation to prevent erosion of earth material or migration of sediment.

*Right-of-way* means a parcel or strip of land dedicated or deeded to the public or belonging to the public, and accepted by proper authority, by prescriptive rights for use as a street, walkway, railroad, utility or other public use.

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

*Site* is any lot or parcel of land or contiguous combination thereof, under the same ownership, where 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.

*Stabilization* means the securement of soil or earth material in such a manner that it can not be moved or relocated by natural means such as gravity, water flow or wind.

*Street* means a right-of-way used or intended for use by vehicular traffic and either dedicated for public use or used by prescriptive right whether or not accepted for maintenance by the city or county.

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

*Utility* means any part of a group of units which provides service to the public, specifically including; electrical power, telephone service, gas supply, television cable service, water and sanitary sewer.



*Utility company* means the owner of any utility facility which holds a valid franchise to operate such utility within the area of an excavation or grading work project.

*Vegetation* means any natural or planted growth including trees, grass, vines, bush, weeds, shrubs, etc.

### ARTICLE III. PERMITS AND PLANS

#### **15-9-16. Permits required.**

Except as otherwise exempted in this Code, no person shall do any excavation or grading without first obtaining a permit from the city engineer. A separate permit shall be required for each site, and may cover both excavations and fills.

**Cross reference** - Permit issuance prohibited if indebted to city, §4-11-2.

#### **15-9-17. Application.**

To obtain a permit, the applicant shall first file an application therefore in writing on a form furnished for that purpose. Every such application shall include, either on the form or as an attachment thereto, the following information:

- (a) The name and address of the owner of the property on which the proposed work will take place;
- (b) The name, address and contact person for any person, firm, or corporation engaged to perform the work on behalf of the owner;
- (c) A description of the work to be covered by the permit for which application is made.
- (d) A map or plat of the property on which the proposed work is to be done, illustrating the lot, block, tract number, and street address, or similar description that will readily identify and definitely locate the proposed work including any adjacent public rights-of-way and street names and locations;
- (e) The total acreage of the subject property and the acreage of the area to be disturbed; and

- (f) Such additional information as the city engineer may consider appropriate to the review of the project, including flood information, downstream and/or upstream drainage structures, existing utility locations, soils information, provisions for collecting and discharging surface water, erosion control methods to be used, etc.

The permit application shall be signed by the permittee, or his authorized agent, who may be required to submit evidence to indicate such authority. The permit application shall be accompanied by such plans and specifications as may hereinafter be required.

**15-9-18. Plans and specifications -- engineered grading projects.**

(a) Each application for an excavation and grading permit shall be accompanied by two (2) sets of plans and specifications, prepared, stamped and signed by an Arkansas registered civil engineer, if:

- (1) the proposed excavation or grading would alter storm drainage discharge location or characteristics of storm water run-off; or
- (2) the maximum vertical cut or fill will exceed four feet (4') within ten feet (10') horizontal distance from the property line; or
- (3) the city engineer determines that the extent of the proposed excavation or grading work could create a significant impact to the public or adjacent properties.

(b) When required plans shall be to scale no smaller than 1 inch equals 100 feet 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 the location of the work and the name and address of the owner and the person by whom they were prepared. Information required to be contained in the permit application or attached thereto may be incorporated into the plans and specifications. In addition to the information required to be included in or attached to the application, the plans shall include the following additional information:

- (1) Accurate contours of existing ground shown in dashed lines at a maximum of two-foot elevations;
- (2) Limiting dimensions, elevations or finish contours to be achieved in solid lines by the grading, and proposed drainage channels and related construction;

- (3) Detailed plans of all surface and subsurface drainage devices, retaining walls, 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;
- (4) Location of any existing or proposed buildings or structures on the property where the work is to be performed and the location of any existing or proposed buildings or structures on land of adjacent owners which are within 15 feet of the property or which may be affected by the proposed grading operations;
- (5) Provisions for collecting and discharging surface water and erosion control methods to be used;
- (6) Grade designations expressed in percent (%);
- (7) Identification of all undisturbed land;
- (8) Location of any known underground utilities and easements within or adjacent to the property;
- (9) Location of the 100-year flood plain as identified by FEMA;
- (10) Location of natural features such as drainage ways, ponds, or rock outcropping;
- (11) All elevations must be stated in Mean Sea Level Datum and this fact indicated in a note on the plan sheet; and
- (12) Specifications shall contain information covering construction and material requirements.

**15-9-19. Soil and geology reports -- Building development project.**

Any application for an engineered grading project upon which a building(s) is proposed to be located following completion of the grading and excavation shall also be accompanied by the following reports:

- (a) A soil engineering report, including data regarding the nature, distribution and strength of existing soils, conclusions and recommendations for grading procedures and design criteria for corrective measures when necessary, and opinions and recommendations covering the adequacy of sites to be developed by the proposed grading. Recommendations included in the report and approved by the city engineer shall be incorporated in the grading plans or specifications.

- (b) An engineering geology report including an adequate description of the geology of the site, conclusions and recommendations regarding the effect of geologic conditions on the proposed development, and opinions and recommendations covering the adequacy of sites to be developed by the proposed grading. Recommendations included in the report and approved by the city engineer shall be incorporated in the grading plans or specifications.

**15-9-20. Issuance of permit.**

(a) The application, plans, and specifications filed by an applicant for a permit shall be checked by the city engineer. If the city engineer is satisfied that the work described in an application for permit and the plans filed therewith conform to the requirements of this Code and other pertinent laws and ordinances, and that the appropriate fees have been paid, a permit shall be issued to the applicant. When the city engineer issues the permit, he/she shall endorse in writing or stamp on both sets of plans and specifications "APPROVED." Such approved plans and specifications shall not be changed, modified, or altered without authorization from the city engineer, and all work shall be done in accordance with the approved plans.

(b) One set of approved plans, specifications, computations and reports shall be retained by the city engineer for a period of not less than 90 days from date of completion of the work covered therein, and one set of approved plans and specifications shall be returned to the applicant, which set shall be kept on such site at all times during which the work authorized thereby is in progress.

(c) The issuance or granting of a permit or approval of plans and specifications shall not be construed to be a permit for, or an approval of, any violation of any of the provisions of this Code. No permit presuming to give authority to violate or cancel the provisions of this Code shall be valid, except insofar as the work or use which it authorizes is lawful. The issuance of a permit based upon plans, specifications, and reports shall not prevent the city engineer from thereafter requiring the correction of errors in said plans and specifications. The city engineer may require that grading operations and project design be modified if delays occur which incur weather-generated problems not considered at the time the permit was issued.

(d) Every permit issued by the city engineer under the provisions of this Code shall expire by limitation and become null and void, if the work authorized by such permit is not commenced within 120 calendar days from the date of such permit. The work authorized by such permit shall not be suspended or abandoned at any time after the work is commenced but shall be carried through to completion.

(e) The city engineer may, in writing, suspend or revoke a permit issued under provisions of this Code whenever the permit is issued in error or on the basis of incorrect information supplied, or in violation of any ordinance or regulation or any of the provisions of this Code.

**15-9-21. Fees.**

A fee for each excavation and grading permit shall be paid to the city at the time the permit is issued. Said fee(s) shall be such amount as may be established by resolution of the board of directors.

**Editor's note**-Said permit fees are set out in §15-9-92 of this Code.

**Cross reference**-Permit issuance prohibited if indebted to city, §4-11-2.

**15-9-22–15-9-24. Reserved.**

## ARTICLE IV. PERFORMANCE

**15-9-25. Performance assurance.**

(a) The permittee shall provide a performance assurance to the city. Each assurance shall be in the amount of one hundred percent of the estimated cost of compliance with this ordinance. In this regard, the estimated costs shall be limited to those costs necessary to protect adjoining properties and the public health and safety. The assurance shall be provided in one of the following forms.

- (1) A bond issued by a bonding company licensed to do business in the state of Arkansas. The bond shall be in the form approved by the city attorney. A certificate of the power of attorney for the individual executing such bonds shall also be submitted.
- (2) A cash deposit or a cashier's check, in the full amount, made to the City of Hot Springs.
- (3) An irrevocable letter of credit in the full amount. If a letter of credit is utilized, the letter shall be from a bank insured under the Federal Depositors Insurance Corporation, and the city shall have the right of approval for the terms of such letter of credit.
- (4) An escrow account established with a bank which is insured by the Federal Depositors Insurance Corporation. Such escrow account shall be set up for the specific purpose of guaranteeing the performance and payment and/or maintenance of the project, and shall be in the amount of one hundred percent of the estimated project cost.

(5) The developer may provide a certificate of deposit, treasury bond or other negotiable government security, in the full amount. The instrument will be returned to the developer upon final acceptance of the project by the city.

- (b) The assurance may be reduced during the construction period as each phase of work is completed in proportion to the value of such completed work.
- (c) Except as may be reduced based on completed work, the performance assurance shall remain in effect throughout the construction period including re-vegetation, and shall not be canceled or otherwise diminished prior to final acceptance of the project by the city.

**15-9-26–15-9-29. Reserved.**

#### ARTICLE V. CUTS

#### **15-9-30. Earth slopes.**

Excavation and/or embankment which is not restrained by a structure shall be governed by this Code when the boundary of the work is within a horizontal distance equal to twice the vertical distance from natural ground to proposed grade. Any placement of material for filling purposes or removal of the existing shall be done in a controlled manner so as to:

- (a) Maintain the boundaries of the work at least five feet (5'0") away from any public right-of-way or proposed right-of-way, unless approved otherwise by the city engineer.
- (b) Provide a minimum factor of safety of 1.5 against rotational or translational slides.
- (c) Maintain drainage inlet and outlet points at the same horizontal and vertical positions along the right-of-way as before the work.
- (d) Provide adequate drainage from the material and embankments and excavations to prevent instability caused by saturated materials.
- (e) Control erosion caused by surface water flowing over unprotected slopes. Adequate slope protection shall be provided on all earth slopes governed by this Code using either grass, ground cover, stone rip-rap, portland cement-concrete or asphalt.

**15-9-31. General.**

Unless otherwise recommended in the approved soil engineering and/or engineering geology report, cuts shall conform to the provisions of this Article.

**15-9-32. Slope.**

The slope of cut surfaces shall be no steeper than is safe for the intended use. Cut slopes shall be no steeper than two horizontal to one vertical except as may be approved by the city engineer.

**15-9-33. Drainage and terracing.**

Drainage and terracing shall be provided as required by Article XIII.

**15-9-34–15-9-39. Reserved.**

## ARTICLE VI. FILLS

**15-9-40. Retaining structures.**

Retaining structure where the difference in final grade elevation between the front and the back side exceeds four feet (4') and the face of the wall is within a horizontal distance of the right-of-way equal to twice the vertical distance from natural ground to proposed grade, the wall shall be designed by an Arkansas Registered Professional Engineer. Walls shall be designed taking into account fluid overturning pressures not less than thirty-five (35) pounds per cubic foot. Walls shall provide weep holes or other drainage adequately spaced to provide drainage from material behind the wall. Permanent retaining structures may be either cantilever, counterboot, buttress, binwall, tied or gravity types with a safety factor of at least two (2) against overturning.

Plans must include the necessary section drawings and elevation drawings to show reinforcement of concrete walls, dimensions of walls, elevations of walls, and the location of the wall on the property.

**15-9-41. Required retaining wall and rock cut design.**

(a) Any retaining wall more than 4 feet in height shall be designed by a registered professional engineer and shall be field inspected by the design engineer. The city engineer may require retaining walls less than 4 feet in height to be designed and certified by a professional engineer.

(b) All proposed rock cuts and any cut slope resulting in a vertical height of 10 feet or greater shall require a geotechnical investigation and a formal report submitted by a registered professional engineer qualified to make such investigations.

(c) Safety railings or other safety devices may be required on any retaining wall 2.5 feet or higher. The decision as to whether to require safety railing shall be based on potential pedestrian and public access to the retaining wall and applicable building codes. This requirement for safety rails shall also apply to vertical or near vertical rock cuts and to steep cut or fill slopes.

#### **15-9-42. General.**

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

#### **15-9-43. Fill location.**

Fill slopes shall not be constructed on natural slopes steeper than two to one or where the fill slope toes out within 12 feet horizontally of the top of existing or planned cut slopes.

#### **15-9-44. Preparation of ground.**

The ground surface shall be prepared to receive fill by removing vegetation, noncomplying fill, topsoil and other unsuitable materials as determined by the soil engineer, and, where the slopes are five to one or steeper, by benching into sound bedrock or other competent material.

#### **15-9-45. Fill material.**

Earth materials which have no more than minor amounts of organic substances and have no rock or similar irreducible material with a maximum dimension greater than 8 inches shall be used except as may be approved by the city engineer. No materials such as construction materials that are required to be placed in an Arkansas Department of Environmental Quality approved landfill shall be used as fill material.



**15-9-46. Compaction.**

All fills shall be compacted to a minimum of 90 percent of maximum density as determined by ASTM Standard for the moisture-density relations of soils. Field density shall be determined in accordance with ASTM Standard for the in-place density of soils or equivalent as approved by the city engineer. The city engineer may require soil tests during compaction work at the expense of the developer.

**15-9-47. Slope.**

The slope of fill surfaces shall be no steeper than 15% (6.67 horizontal to 1 vertical) unless keyed into steps in the existing grade and thoroughly stabilized by mechanical compaction.

**15-9-48. Drainage and terracing.**

Drainage and terracing shall be provided and the area above fill slopes and the surfaces of terraces shall be graded and paved as required by Article VIII.

**15-9-49. Reserved.**

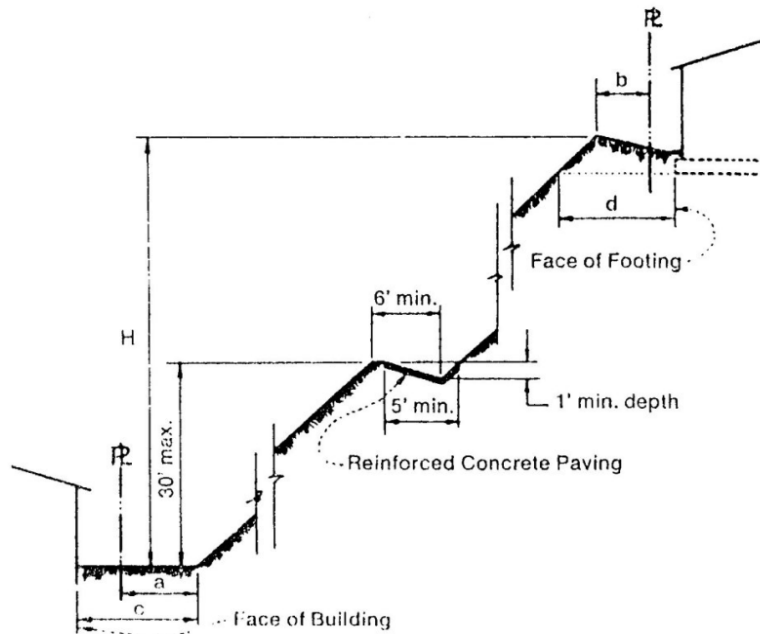
ARTICLE VII. SETBACKS

**15-9-50. General.**

The tops and the toes of cut and fill slopes shall be set back from property boundaries as far as necessary for safety of the adjacent properties and to prevent damage resulting from water runoff or erosion of the slopes. The tops and the toes of cut and fill slopes shall be set back from structures as far as is necessary for adequacy of foundation support and to prevent damage as a result of water runoff or erosion of the slopes. Unless otherwise recommended in the approved soil engineering and/or engineering geology report and shown on the approved grading plan, setbacks shall be no less than shown below.

SETBACKS

H in feet	a	b	c	d
1-10	3'	2'	3'	5'
11-30	(H/2)'	3'	(H/2)'	7'
31 and Over	15'	3'	15'	10'



**15-9-51–15-9-59. Reserved.**

## ARTICLE VIII. DRAINAGE AND TERRACING

**15-9-60. Storm drainage.**

The size in acres of any drainage basin larger than two (2) acres draining across the site shall be determined and shown on the site plan. Provisions shall be made for the water to be intercepted and deposited at the same location both horizontally and vertically, as prior to development of the site. Where drainage exists for streets and roads in the perimeter of the site, the drainage shall be developed according to criteria set forth by the city engineer. Drainage may be either open channel or culvert and the size of the drain must be shown on the site plan.

**15-9-61. General.**

Unless otherwise indicated on the approved grading plan, drainage facilities and terracing shall conform to the provision of this Article.

**15-9-62. Terraces.**

Terraces at least 6 feet in width shall be established at not more than 30-foot vertical intervals to control surface drainage and debris. Suitable access shall be provided to permit proper cleaning and maintenance. Swales or ditches on terraces shall have a minimum gradient of 5 percent and surfaces adequately protected against soil erosion and runoff. They shall have a minimum depth at the deepest point of 1 foot and a minimum paved width of 5 feet. A single run of swale or ditch shall not collect runoff from a tributary area exceeding 13,500 square feet (projected) without discharging into a down drain.

**15-9-63. Subsurface drainage.**

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

**15-9-64. Disposal.**

All drainage facilities shall be designed to carry waters to the nearest practicable drainage way approved by the city engineer and/or other appropriate jurisdiction as a safe place to deposit such waters. If drainage facilities discharge onto natural ground, riprap may be required. At least two percent gradient toward approved drainage facilities from building pads will be required unless waived by the city engineer for nonhilly terrain. Exception: The gradient from the building pad may be one percent where building construction and erosion control will be completed before hazardous conditions can occur.

**15-9-65–15-9-69. Reserved.**

## ARTICLE IX. EROSION CONTROL

**15-9-70. Erosion and sedimentation control.**

(a) Permanent improvements. Permanent improvements such as streets, storm sewers, curbs, gutters and other features for control of runoff shall be scheduled coincidental to removing vegetative cover from the area so that large areas are not left exposed beyond the capacity of the temporary control measures.

(b) Top soil. Top soil may be stockpiled and protected for later use on areas requiring landscaping. If top soil or other soil is to be stockpiled for more than 30 days, it shall be temporarily covered.

(c) Existing vegetation. Existing vegetation shall be protected in all undisturbed areas as shown on the plans.

(d) Re-vegetation. Re-vegetation shall be required within three months after completion cutting or filling disturbed areas. Re-vegetation shall be required to meet the following performance standards:

- (1) 0 to 10% grade: Re-vegetation shall be a minimum of seeding and mulching. Said seeding shall provide complete and uniform coverage that minimizes erosion and run-off in no more than two growing seasons.
- (2) 10% to 15% grade: Re-vegetation shall be a minimum of hydro-seeding with mulch and fertilizer, staked sod and/or ground cover. Said planting shall provide complete and uniform coverage in no more than two growing seasons.
- (3) 15% to 25% grade: The slope shall be covered with landscape fabric and planted with ground cover.
- (4) More than 25% grade: Any finish grade over 25% shall be stabilized with retaining walls, cribbing, terraces, landscape fabric, vegetation, or riprap. If riprap is used the slope's stability and erodibility must be equivalent to or better than its pre-development state.

(e) Plant/Water. Plant materials may need to be watered or irrigated. Where irrigation or regular watering is not available, only native or acclimated plant species shall be used. If the soil cannot properly sustain vegetation, it must be appropriately amended. If re-vegetation is not established after one year, the city engineer shall require that it be redone in part or in total.

(f) Plant/Terrace bench. Plant materials shall be planted along terrace benches. Said plantings shall be spaced as necessary to thoroughly stabilize the terrace bench. The remainder of the terraced slope shall be re-vegetated and stabilized according to §15-9-1.70 (d) above.

(g) Permanent erosion control. Permanent erosion control measures shall be constructed or installed within thirty (30) days of completion of cutting or filling. Temporary erosion control measures shall be used to correct conditions that develop during construction that were unforeseen during the design stage, that are needed prior to installation of permanent erosion control features, or that are needed temporarily to control erosion that develops during normal construction projects, but are not associated with permanent control features on the project.

#### **15-9-71. 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 slope 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.

#### **15-9-72–15-9-79. Reserved.**

### ARTICLE X. GRADING INSPECTION

#### **15-9-80. Field changes.**

The city engineer shall be notified of any field changes prior to commencing with the work involved if earth slopes, retaining structures or storm drainage is affected.

#### **15-9-81. General.**

All grading operations for which a permit is required shall be subject to inspection by the city engineer. Special inspection of grading, operations and special testing shall be performed in accordance with the engineered grading requirements hereinafter.

#### **15-9-82. Non-engineered grading requirements.**

Projects for which plans and specifications are not required (non-engineered grading projects) shall be inspected by the city engineer.

**15-9-83. Engineered grading requirements.**

(a) For engineered grading, it shall be the responsibility of the civil engineer who prepares the approved grading plan to incorporate all recommendations from the soil engineering and engineering geology reports into the grading plan. He shall also be responsible for the professional inspection and certification of the grading within his area of technical specialty. This responsibility shall include, but need not be limited to, inspection and certification as to the establishment of line, grade and drainage of the development area. The civil engineer shall act as the coordinating agent in the event the need arises for liaison between the other professionals, the contractor and the city engineer. The civil engineer shall also be responsible for the preparation of revised plans and the submission of as-graded grading plans upon completion of the work.

(b) Soil engineering and engineering geology reports shall be required as specified in Article III. During grading all necessary reports, compaction data and soil engineering and engineering geology recommendations shall be submitted to the civil engineer and the city engineer by the soil engineer and the engineering geologist.

(c) The soil engineer's area of responsibility shall include, but need not be limited to, the professional inspection and certification concerning the preparation of ground to receive fills, testing for required compaction, stability of all finish slopes and the design of buttress fills, where required, incorporating data supplied by the engineering geologist.

(d) The engineering geologist's area of responsibility shall include, but need not be limited to, professional inspection and certification of the adequacy of natural ground for receiving fills and the stability of cut slopes with respect to geological matters, and the need for subdrains or other ground water drainage devices. He shall report his findings to the soil engineer and the civil engineer for engineering analysis.

(e) The city engineer shall inspect the project at various stages of the work requiring certification and at any more frequent intervals necessary to determine that adequate control is being exercised by the professional consultants.

**15-9-84. Regular grading requirements.**

The city engineer may require inspection and testing by an approved testing agency. The testing agency's responsibility shall include, but need not be limited to, certification concerning the inspection of cleared areas and benches to receive fill, and the compaction of fills. When the city engineer has cause to believe that geologic factors may be involved, the grading operation will be required to conform to "engineered grading" requirements.

**15-9-85. Notification of noncompliance.**

If, in the course of fulfilling their responsibility under this Code, the civil engineer, the soil engineer, the engineering geologist or the testing agency finds that the work is not being done in conformance with this Code or the approved grading plans, the discrepancies shall be reported immediately in writing to the person in charge of the grading work and to the city Engineer. Recommendations for corrective measures, if necessary, shall be submitted.

**15-9-86. Transfer of responsibility for certification.**

If the civil engineer, the soil engineer, the engineering geologist or the testing agency of record are changed during the course of the work, the work shall be stopped until the replacement has agreed to accept the responsibility within the area of their technical competence for certification upon completion of the work.

**15-9-87–15-9-89. Reserved.**

## ARTICLE XI. COMPLETION OF WORK

**15-9-90. Final reports.**

Upon completion of the rough grading work and at the final completion of the work, for any engineered grading project, the city engineer may require the following reports and drawings and supplements thereto:

- (a) An as-graded grading plan prepared by the civil engineer including original ground surface elevations, as-graded ground surface elevations, lot drainage patterns and locations and elevations of all surface and subsurface drainage facilities. He shall provide certification that the work was done in accordance with the final approved grading plan.
- (b) A soil grading report prepared by the soil engineer including locations and elevations of field density test, 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 soil engineering investigation report. He shall provide certification as to the adequacy of the site for the intended use.
- (c) A geologic grading report prepared by the engineering geologist including a final description of the geology of the site including any new information disclosed during the grading and the effect of same on recommendations incorporated in the approved grading plan. He shall provide certification as to the adequacy of the site for the intended use as affected by geologic factors.

**15-9-91. Notification of completion.**

The permittee or his agent shall notify the city engineer when the 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 grading plan and the required reports have been submitted.

(Ord. No. 5096, §§1, 5-20-02)



**15-9-92. Fees.**

*The following fees are hereby adopted for permits issued pursuant to the Excavation and Grading Code.*

<i><b>DISTURBED AREA</b></i> <i>(in acres)</i>	<i><b>FEE PER PERMIT</b></i>	
	<i><b>Non-Engineered Projects</b></i> <i>(plans not required)</i>	<i><b>Engineered Projects</b></i> <i>(plans required)</i>
<i>Less than 1 acre</i>	\$50	\$100
<i>Greater than 1 acre</i>	<i>\$50 for first acre plus \$25 for each additional acre, up to a maximum of 10 acres; \$275 maximum per permit.</i>	<i>\$100 for first acre, \$50 for each additional acre, up to a maximum of 10 acres; \$550 maximum per permit.</i>

*(Res. No. 4902, 5-20-02)*

*Editor's note-§15-9-92 was adopted by Resolution but included in the Code of Ordinances due to its permanent nature.*

*Cross reference - Permit issuance prohibited if indebted to city, §4-11-2.*

**15-9-93--15-9-94. Reserved.**

**15-9-95. Participation in state one-call system.**

(a) Act 600 of 1987, the state Underground Facilities Damage Prevention Act, requires cities to participate in the state one-call system unless electing not to participate by ordinance by December 31, 1988. The city agrees in principle with the state one-call system and will voluntarily call when doing excavations that may affect other utilities.

(b) The city elects not to mandatorily participate in the one call system at this time. The city further reserves the right to become a member of the state one-call system at a later date.

(c) The city encourages utility companies and others doing excavations to cooperate with the state one-call system in notifying that agency of planned excavations at least forty-eight (48) hours prior to actual work except for bona fide emergencies. Notification of emergencies should be as soon as practical and prior to excavation when possible.

(d) Nothing in this section shall be construed to eliminate the requirement for all persons, firms or corporations making a cut in any street within the corporate limits of the city to obtain a permit from the city engineer's office under the provisions of Ordinance No. 4835.

(Ord. No. 3979, §§ 1-3, 11-21-88)