

ARTICLE VI

MISCELLANEOUS DESIGN STANDARDS

601.00 GENERAL REQUIREMENTS FOR LOT GRADING

601.01 Grading Plan Requirements: The following items are to be included on all grading plans:

- A. Spot elevations are required to be shown at all house entrances, at the driveway entrance and at all changes in grade of the driveway. Spot elevations should be shown at each corner of the house. Walkout basements should be indicated on the plans, showing the entrance and the appropriate spot elevations.
- B. The minimum size allowed for a driveway culvert is 12 inches and the inverts for the pipe must be shown. In any case, where a driveway culvert must be larger than 12 inches based on the flow, culvert computations must be submitted.
- C. A parking pad at least 360 square feet in area shall be allotted on driveways for parking. This parking pad should be at no greater than 5% grade and no less than 1%. A 180 square foot parking pad will be allowed for houses that include a single car garage or carport. No parking pad is required for houses that include a garage or a carport for two or more vehicles. The portion of the driveway from the street to the parking pad should be on grade of no more than 15% and no less than 1%. A waiver request shall accompany any plans which do not conform to these driveway standards.
- D. The lead walk and all risers must be shown on the plan and the elevations at all landings must be specified.
- E. In subdivisions where yard lights are required, their locations must be shown on each individual lot.
- F. The grading of the front of the lot along with whatever cuts and fills are proposed should be shown inasmuch as they define the ditch line and the location of the driveway culvert.
- G. Erosion controls are required for all areas on the lot where the ground will be disturbed. The original erosion controls for the subdivision are satisfactory for areas that they will cover as long as the erosion controls won't be removed (or the escrow

release requested) until all the construction on the lot is completed and the ground stabilized.

- H. Lot grading plans shall be to a scale of one (1) inch as equal to 30 feet, or less on lots with areas of less than one (1) acre. A scale of one (1) inch as equal to 50 feet is the maximum that will be allowed for lots of areas of one (1) acre or greater. All plans will have two foot contours defining lot grading and all proposed changes at the time the plan is submitted.
- I. All existing (platted) storm drainage and sanitary sewer easements will be shown with deed book and page number.
- J. Easements must be provided for all areas of concentrated flow on lot grading plans and subdivision plans. These areas include natural drainage ways (swales) concentrating flow from several lots, swales leading into culverts, and those stabilized existing drainageways handling the outfall of the culverts. These easements are not required inside State right-of-way.
- K. All slopes greater than 3:1 must be provided with special stabilization. Slopes greater than 3:1 shall be permitted by the Director under critical conditions. The type of special stabilization must be specified on the plan. Slopes greater than 2:1 are not permitted.
- L. The minimum lot grade should be 2%. Any swales on a lot must be at a minimum 2% slope but should preferably be at 3%. Any swale with steep longitudinal slope must be properly stabilized in accordance with the Virginia Erosion and Sediment Control Handbook.
- M. All retaining walls over four (4) feet in height shown on lot grading plans must be accompanied by structural plans and calculations certified by a Virginia registered engineer . The grading plan should also note where handrails will be required on any retaining wall as specified in the Virginia Uniform Statewide Building Code.

601.02

Grading Plan Submission: Lot grading plans must be submitted and approved prior to the issuance of a building permit. It is noted that the lot grading plans are used to check the final grading prior to the issuance of the occupancy permit. The permit will be refused if the plan and the on-site grading

do not agree unless such deviation has been approved by the Director or his agent as being substantially in accordance with the intent of this plan. Preferably, lot grading plans are incorporated in the final plans when submitted. Otherwise, they can be submitted after approval and release of the final plans. Minor revisions to an approved lot grading plan may be approved by submitting a description of the proposed revisions in letter form. Once approved these revisions become part of the lot grading plan for this lot.

601.03

Grading in Subdivisions: Overlot grading plans for subdivision houses should be designed so that if stormwater is collected in a mid-block swale along the rear yards and routed toward the street in an open swale running between two adjacent houses - the maximum allowable watershed area for such a surface swale passing between two adjacent houses shall be one (1.0) acre. This should not be construed to mean that surface swales discharging water toward the street between adjacent pairs of houses will automatically be approved so long as the watershed of each does not exceed 1.0 acre. Individual circumstances such as street slope exceeding 5% potential sidewalk erosion problems etc. may lead to further requirements such as yard inlets.

601.04

Flooding:

- A. The storm drainage system plans for pipes, inlets, etc. are based upon a storm drainage map showing the areas contributing to flow at various inlets. Overlot grading plans should delineate the drainage divide lines to insure the originally approved drainage map is followed, or notation should be made on the plan that it conforms to the approved overall drainage plan.
- B. Designs for overlot grading, and the siting and elevation of houses, should provide for protection of the house against flooding from storms exceeding the capacity of the normal design storm for which the pipe system is sized. Consideration of this factor will also provide protection against occasional blockage of pipes. Houses should not be sited in areas of depressed grading where overland flow out of the depressed area could only take place when ponded water reached an elevation higher than that of the house. Provision of a yard inlet in any such depression is necessary, but not sufficient by itself since it can be blocked or its capacity exceeded by a storm exceeding the 10-year design storm.

Consideration should similarly be given to houses located adjacent to street sags where, in the event of a storm greater than the design 10-year storm water would tend to flood out of the street and flow overland. Paths of overland flow (including a 100-year storm) shall, in conjunction with the pipe system, provide for discharge of similar flows through internal areas of a development without flooding of homes. Where overlot grading and house location plans do not appear to meet this requirement, the Director will request that hydraulic calculations be submitted proving the adequacy of the proposed plan to thus dispose of the design flood.

- C. In developments where the FHA is not the insuring agency, and where FHA overlot criteria are not mandatory, be advised that the City considers FHA Criteria to provide reliable guidance. In such matters as protective swales and slopes, and maximum driveway grades, the City strongly recommends designs to similar standards.
- D. Where design flood elevations have been established for larger streams adjacent to lots by flood plain studies, lot grading shall provide for siting of lot areas above such a flood elevation. Further, such flood plain studies are based upon certain cross sectional areas of flow in the flood waterway. Filling, in conjunction with overlot grading, of any part of this waterway restricts the flow and raises the floodwater surface. Therefore, if any such filling not accounted for in the flood plain study is proposed, it shall be accompanied by submittal of a suitably revised flood plain study to show the effect of the reduction in waterway area.

602.00

EROSION AND SEDIMENT CONTROL

602.01

General Goal: The general goal of the City of Manassas Park's erosion and sediment control policy is to protect its soil and water resources by limiting soil erosion and sediment deposition caused by land disturbing activities.

602.02

General Requirements: The City must comply with all current erosion and sediment control requirements as set forth in the Virginia Erosion & Sediment Control Handbook. Additional erosion and sediment control measures may be required by the City, when deemed necessary by the Director of Public Works.

END OF SECTION