

## **GRADING AND DRAINAGE**

1. The Grading and Drainage plans must be approved by the City Engineer or their designee. The City Engineer's Office shall be notified at (623) 773-7210, 48-hours before any on-site construction begins.
2. A separate permit is required prior to any on-site grading, including custom homes.
3. Grading and Drainage Plan approval includes:
  - a. Construction of all surface improvements shown on the approved grading and drainage plan, including but not limited to, retention areas and/or other drainage facilities, drainage patterns, channels, walls, curbing, asphalt pavement, bank protection and channelization, and building floor elevations.
  - b. Contractor shall provide minimum slope to the bottom in all retention basins at elevations as shown on the plans. Retention basin side slopes shall not exceed 2:1, as confirmed through the geotechnical report, on private property and 6:1 adjacent to public right-of-way unless noted otherwise on plans. Retention basins shall not exceed 3 feet in depth without written approval from the City Engineer or their designee.
4. All drainage protective devices such as swales, interceptor ditches, pipes, protective berms, concrete channels or other measures designed to protect homes or other improvements whether existing or proposed, from runoff or damage from storm water, must be constructed prior to the construction of any improvements.
5. Drywells must be drilled a minimum of ten (10) feet into permeable porous strata and percolation tests will be required. The Off-site Inspector must be present before backfill or wall pipes are placed within any drywell. Percolation tests must be conducted by an independent laboratory and results provided to the Engineering Department. All drywells must be registered with ADEQ. Copies of drilling logs and ADEQ registration information must be provided to the City.
6. All finish floor elevations shown are a minimum of 14-inches above the point of outfall, or one (1) foot above the 100-year base flood elevation as shown on the approved plan.
7. A FEMA Elevation Certificate for all new and substantially improved construction in the floodplain shall be submitted to the Engineering Department prior to final acceptance of the project.

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8. Soils compaction test results must be submitted to the City Engineer's office for all building pads that have one (1) foot or more of fill material indicated.
9. Staking pad and/or finish floor elevations is the responsibility of the developer and his engineer. No minimum finish floor elevation will be raised or lowered without approval of the City Engineer. In noncritical areas, developer's engineer shall submit certification of constructed building pad elevations prior to request for final inspection. In critical drainage areas or in the 100-year floodplain, substitute building floor elevation in above note, or FEMA Elevation Certificate.
10. The Contractor is responsible for locating and confirming depth of all existing utility lines within proposed retention and drainage facility areas. If the drainage facilities cannot be constructed per plan as a result of conflict with underground utilities, the Contractor should contact the City Engineer and the Design Engineer and request modification of the drainage facility design.
11. All bank protection and channelization must be completed prior to final acceptance of the project.
12. A separate haul permit shall be required whenever hauling in excess of 500 cubic yards of material in or out of a site. A haul route must be submitted and approved by the Engineering Department. Additional requirements as set forth by the Engineering Department shall be met.
13. The developer is responsible to obtain a Nation Pollution Discharge Elimination System (NPDES) permit in accordance with Federal and State Regulations, including Notice of Intent (NOI), Notice of Termination, and Storm Water Pollution Prevention Plan (SWPPP). A copy of the NOI and SWPPP shall be available on the job site at all times.
14. Once an existing shoulder is disturbed by the grading operation or any other phase of construction, the shoulder shall be barricaded. Such barricading shall remain in place until final acceptance of the project.