



## TOWN OF CAVE CREEK

37622 North Cave Creek Road

Cave Creek, Arizona 85331

(480) 488-1400 (Office)

(480) 488-2263 (Fax)

SETTLED 1870 · INCORPORATED 1986

### ENGINEERING PLAN SUBMITTAL REQUIREMENTS

Please check your plan against the listed items for compliance. The following checklist should be used as a guideline. Additional data may be required based upon complexity of the design and location.

#### Cover Sheet

1. Parcel number, legal description and site location map
2. Site location map
3. Project engineer's and owner's name, address, phone number, fax number & email address
4. Buildings permit number
5. Benchmark/on-site temporary benchmark (TBM)
6. General notes/legend
7. Arizona registered professional civil engineer's seal & signature

#### Site Plan Sheet

1. North direction arrow & engineering scale
2. Property lines/dimensions
3. Building envelope/tracts/easements/floodplain boundaries
4. Finished floor elevation & statement, "all finished floors shown on this plan are free from inundation during a 100-year peak runoff event."
5. Contour lines/spot elevations
6. Drainage patterns/arrows/grade breaks
7. Quantify 100-year peak runoff event & delineate floodplains for all washes of 50 cfs or greater.
8. Perpendicular cross-sections through site.
9. Erosion protection should be provided for structures 20 feet or less from the nearest wash bank. Erosion protection for proposed structures must meet Arizona State Standards 5-96.
10. Roadway and driveway locations and profiles. Significant cuts may require stabilization details. Any portions of the structure greater than 150 feet from the nearest improved road or Town of Cave Creek Right of Way will be required to develop a road with a minimum width of 20 feet with a minimum 95 % compacted 4-inch aggregate base course that must be stabilized.
11. Culvert cross-section & profile. The minimum allowable culvert diameter is 24-inch. Culverts must be designed with headwalls at the inlet and outlet to Maricopa Association of Governments (MAG) or Arizona Department of Transportation (ADOT) Standards.
12. Fences/block walls with type & location of drainage openings.
13. Cut and fill slopes must not exceed 3:1 and 4:1 (horizontal to vertical), respectively and must be re-vegetated with native plants for erosion control. Steeper slopes can be stabilized with rock cover at 2:1 or certified to be stable by an Arizona Registered Geotechnical Engineer.
14. Detail riprap pads or equivalent below all roof drains.
13. Septic tank location or detail sewer line connection.
14. On-site temporary benchmark near the proposed structure (TBM)
15. Arizona registered professional civil engineer's seal & signature

#### Drainage Report

1. USGS drainage area map
2. Hydrologic analysis
3. Culvert analysis
4. Channel/wash hydraulic analysis
5. Arizona registered professional civil engineer's seal & signature

If you have any questions, please contact Engineering, Wayne Anderson at (480) 488-1400 or Souren Naradikian at (480) 488-1400.

## **ENGINEERING PLAN REQUIREMENTS FOR REVIEW OF SINGLE FAMILY RESIDENCE**

A complete site plan including a grading and drainage plan, drawn to scale must be submitted for engineering review and approval.

### **The Site Plan must include:**

1. A title block (name, address, phone/fax number, and email address for the applicant and project engineer).
2. A location map (How do we get to your property for inspection purposes?).
3. A North direction arrow and scale. (Engineering scaled preferred).
4. The proposed structures included on the permit application and existing structures if any, on site.
5. Detail roadway access. Approval of driveway or private roadway access and connection to public roadway. May include drainage improvements within public right-of-way to be paid by the applicant.
6. Right-Of-Way. Determination of additional required roadway rights-of-ways and public utility easements.
7. Wastewater treatment facility connection. Details and plans for sewer connection. An application for approval to connect to the sewage system is required if the parcel is within 300 feet of the sewer system.
8. The dimensions of the property, set back dimensions of side, front and rear yards, and locations of easements, if applicable or building envelopes.
9. Any washes, drainage tracts, or drainage channels located on site, or bordering the site, that may involve or affect the drainage of the site to be developed.

### **The Grading and Drainage Plan must include the following items as apply to the plan:**

1. Location of streets on the plan and include the name of all streets that border the property.
2. Show all finished floor elevation and the applicant's engineer must include a note that all finished floor elevations shown will be free from inundation during a 100-year peak runoff event. Prior to final inspection the original engineer will be required to submit as-built finished floor elevations.
3. Proposed contours, including existing contours or spot elevations.
4. Flow arrows indicating there is positive conveyance of runoff away from the structure.
5. Means of conveyance of runoff on-site (indicate swales, dips or pipes). Also provide a cross-section of these areas. If culvert pipes are proposed, indicate the size, type, and inlet and outlet elevations. All culverts must be designed by a civil engineer.
6. Indicate direction of flows and on-site and any off-site flows entering the site (include any grade breaks).
7. All proposed or existing fences or concrete masonry unit (CMU) walls on-site, including any gate openings. (If a CMU wall, indicate where the present or proposed drainage openings are or will be.).
8. Cross-sections through both axis of the proposed structure from 50 feet outside of the property line.

In order to help expedite the review process, it is important that all inclusions be made prior to submittal of plans for review and approval.

A minimum of three (3) site plans, including the grading and drainage plan must be submitted to start the review process.