

## Final Drainage Report (FDR) Checklist

The purpose of the Final Drainage Report is to finalize concepts and to present the design details for the drainage facilities presented in the PDR. Also, any change to the preliminary design concepts, which were incorporated due to review comments by the County, must be presented.

### Report Contents

The FDR shall contain all components of the PDR checklist plus additional necessary information relating to the design of specific facilities associated with the development. Such additional information shall include the following:

- 1) Table of contents, pages numbered.

### Drainage Facility Design – General Concept

- 2) Discussion of proposed drainage patterns.   
3) Discussion of compliance with offsite runoff considerations.   
4) Discussion of the content of tables, charts, figures, plates, or drawings presented in the report.

### Drainage Facility Design – Specific Details

- 5) Presentation of detention storage and outlet design (including reservoir routings) when applicable.   
6) Presentations of all hydrologic and hydraulic calculations including hydraulic grade line computations as appropriate.   
7) Presentation of an accurate, complete, current estimate of cost of proposed facilities.   
8) Presentation of all drainage fees and bridge fees for the property in question if applicable.

### Other Government Agency Requirements

- 9) Federal Emergency Management Agency (FEMA)   
10) Army Corps of Engineers (COE)   
11) Colorado State Engineer   
12) Colorado Water Conservation Board (CWCB)   
13) Others

### Drawing Contents

- 14) General Location Map – See PDR checklist.   
15) Drainage Plan – Map (s) of the proposed development at a scale of 1"=20' to 1"=200' shall be included.

**The drainage plan shall show the following:**

- 16) Existing and proposed contours at 2 feet maximum intervals. For subdivisions involving rural lots greater than 1.0 acre, the maximum interval may be 5 feet where approved. In terrain greater than 10% - 10 feet.
- 17) Property lines and existing or proposed easements with purposes noted.
- 18) All Streets
- 19) Existing drainage facilities and structures, including irrigation ditches roadside ditches, drainageways, gutters and culverts, all indicating flow direction. All pertinent information such as material, size, shape, slope, and locations shall also be included.
- 20) Overall drainage area boundary and drainage sub-area boundaries relating to the subdivision.
- 21) Proposed type of street sections (i.e., vertical or ramp curb and gutters, roadside ditch, gutter flow and/or cross pans).
- 22) Proposed storm sewers and open drainageways, including inlets, manholes, culverts, and other appurtenances.
- 23) Proposed outfall point for runoff from the developed area and facilities to convey flows to the final outfall point without damage to downstream properties.
- 24) Routing and summary of initial and major flow rates at various design points for all storm runoff associated with the property.
- 25) Path (s) chosen for computation of time of concentration.
- 26) Details of and design computations for detention storage facilities including outlet.
- 27) Location and elevations of all defined 100-year flood plains affecting the property.
- 28) Location of all existing and proposed utilities affected by or affecting the drainage design.