

CHANNEL DESIGN REPORT CHECKLIST

Channel Design Reports shall include the following as a minimum. The DCM Criteria must be shown to be met with the Channel Design Report. Additional information may be required to show Criteria is being met.

REPORT TEXT

1. Cover Page
 - a. Report type (i.e., "Channel Design Report")
 - b. Subdivision name matching Final Plat (or project name for capital projects)
 - c. Prepared for
 - d. Prepared by
 - e. Date prepared

2. Signature Blocks
 - a. Engineer – must be signed/stamped prior to City approval
 - b. Owner/Developer – must be signed prior to City approval
 - c. City Review

3. Introduction / Project Description
 - a. Associated subdivision name(s) and Final Drainage Report review number(s)
 - b. Project purpose
 - c. Reference criteria used
 - d. Channel maintenance responsibility and ownership information
 - e. Total disturbance area
 - f. Location description, including major road, trail, and utility crossings
 - g. Soil conditions, including source of soils data (e.g., NRCS) and Hydrologic Soil Group
 - h. Description of DBPS or other planning study contents (if applicable)

4. Permitting
 - a. Description of 404 permitting requirements
 - b. Description of floodplain permitting (CLOMR/LOMR, No Rise)
 - c. Description of U.S. Fish and Wildlife Service permitting
 - d. Statement regarding 4 Step Process compliance
 - e. Streamside overlay requirements (if applicable)



5. Channel Analysis

- a. Description of existing channel conditions
- b. Description of proposed channel conditions
 - i. Bottom width
 - ii. Channel XS description (stages, sides slopes, bank protection)
 - iii. Longitudinal slope between drops
 - iv. Drop height and type
 - v. Outfalls
- c. Hydrology description including tributary area description
- d. Hydraulic modeling description, including Manning's n values and flow regime
- e. Description of trail, utility, and road crossings
 - i. Freeboard discussion (criteria and proposed values)
- f. Sediment transport modeling description (if applicable)
- g. Scour modeling description (if applicable)

6. Channel Vegetation

- a. Vegetation design

7. Variances

- a. List of variances requested, reference to Variance Request in Appendix

8. Summary

- a. Subdivision name matching Final Plat (or project name for capital projects)
- b. Statement that channel design will not adversely affect the downstream and surrounding developments
- c. Statement that this report and findings is in general conformance with relevant planning studies



APPENDICES

9. Vicinity Map

- a. Show surrounding streets and a label for the site, should show adjacent streets, nearby drainageways, and a few major roadways
- b. Site delineated with border shown or border and hatch
- c. North arrow and scale reference

10. Soils Data

- a. NRCS (or other) map copy or print with soil types (numbered) labeled
- b. Site delineated with border shown or border and hatch
- c. North arrow and scale reference

11. FEMA Floodplain Map

- a. FIRM copy or print out (maps can be made on the FEMA web site)
- b. Site delineated with border shown or border and hatch
- c. North arrow and scale reference
- d. FEMA map number and map effective date

12. Hydrologic Calculations – 5yr and 100yr minimum

- a. FEMA FIS excerpt with relevant values highlighted or boxed
- b. Routing calculations
 - i. CN calculations, including % imperviousness
 - ii. Rainfall values
 - iii. Inlet summary
 - iv. Model schematic
 - v. Output tables with relevant values boxed or highlighted
- c. Design points with contributing basins table

13. Hydraulic Calculations – all necessary input/output reports/figures must be included to show DCM Criteria is being met

- a. HEC-RAS calculations
 - i. Inlet summary
 - ii. Model schematic
 - iii. Output tables
 - iv. Cross-sections with 5-yr and 100-yr water surface elevations



- b. Boulder, revetment, channel bed sizing
 - c. Modified underground conveyance infrastructure
 - i. Hydraulic Grade Line (HGL) calculations, including profile printouts
 - ii. Calculations related to outfall protection for all pipe outlets and culverts (e.g., riprap calcs, etc.)
 - d. Scour calculations
 - e. Sediment transport model documentation
14. Variance Request Letter
15. Existing Channel Photographs
16. DBPS Excerpts
17. Permitting Documentation
18. Geotechnical Report
19. Basin Map (if applicable)

