Dawson County Public Works
25 Justice Way, Suite 2232, Dawsonville, GA 30534 (706) 344-3500 x 42233

# DAWSON COUNTY STORM WATER REVIEW CHECKLIST

Project Name: _____

Property Address: _____

Engineer: _____ Fax #/Email: _____

Date: _____ Case #: _____

Date Reviewed: _____ Reviewed By: _____

Review Status: Approved Denied

## SECTION 1: PURPOSE

Developments that will increase runoff at the 10 year storm by 1.0 c.f.s. shall be governed by section 3.2 of the Storm Water Ordinance.

## SECTION 2: STORM WATER CONTROL

2.1 Runoff Computation

1. 0-100 acres – Rational Method; 20-10,000 acres – SCS Method; Major Creeks - USGS Regression Equation Method or FEMA studies may be used.

2.2 Storm Drain Pipe Design

2. Street catch basins, inlets, cross drains serving basins of 20 acres or less, and longitudinal piping shall be designed for the 25-year storm.

3. Live streams, cross drains serving basins larger than 20 acres, and any other drainage system receiving and/or transferring offsite drainage flow shall be designed for the 100-year storm.

4. Minimum pipe size is 18 inches.

5. Inlet and outlets headwalls are required for all pipes.

6. Accepted pipe materials are: bituminous coated corrugated metal pipe (BCCMP), aluminized coated corrugated metal pipe (ACCMP), reinforced concrete pipe (RCP), or smooth interior, rigid, corrugated polyethylene pipe (HDPE).

7. ACCMP is not permitted within the County Right-of-Way.

8. RCP is required in the following conditions: 1) In a live stream and a more economical solution is not a viable alternative as determined by the County Engineer, 2) Under the paved surface of any commercial/industrial street, 3) Less

than 2 feet of cover, 4) Over 15 feet of cover and under the paved surface of a residential street, 5) Crossing a residential road with a pipe length greater than 50 feet, 6) On private property with greater than 10 feet of cover and a drainage easement is not adequate in width for future maintenance.

9. Construction standards and design criteria per GDOT Standards and Specifications.

10. Pipes up to and including 36 inches must extend 50 feet past the front building line, unless on a live stream.

11. Professional Engineer, registered Land Surveyor, or a Landscape Architect's Seal, signature, and date.

12. Pipe chart including (at a minimum): Line ID, pipe size, length, slope, type and inverts, design flow, design velocity.

13. Pipe profiles including the 100 year hydraulic grade line; 100-year HGL must be at or below the finished surface.

14. Note on the plans: "After construction and before C.O. or Final Plat approval, the registered professional that sealed the plans must also certify that the "as-built" conditions of the storm drains will function as designed and engineered in the approved construction drawings.

15. All dumpster pads shall provide sufficient grades for positive storm drainage away from dumpster area and pad.

16. Dumpster pads shall be properly connected when applicable to the sanitary system per Etowah Water and Sewer Authority specifications

17. Dumpster drains are prohibited from discharging to the storm sewer system of any natural outlet or any other body of water.

## SECTION 3: STORM WATER DETENTION

3.1 Storm Water Management Report Required

15. Report must be sealed, signed and dated by a Professional Engineer.

16. At a minimum, the report shall include: Table of Contents, Introduction, Project Description, Executive Summary, Methodology, Existing Conditions, Proposed Conditions, Downstream Analysis, Calculations, Conclusion, and accompanying maps. If applicable, all Erosion, Sedimentation, and Pollution Control measures that require and Engineer's certification (such as Temporary Sediment Basins – Sd3), the report shall also include calculations of such measures. If detention is required, additional information will be needed, see Section 4.0.

17. Downstream analysis shall address each and every point along the project site's boundaries at which runoff will exit the property and include (at a minimum) analysis of the 10-year storm from storm water discharge control structures and the development to the next downstream structure or to a point where the proposed development represents less than 10% of the total watershed.

3.2 Storm Water Detention Required

18. Whenever an adverse storm water related impact is expected to result from the development of the property, a storm water detention facility is required.

19. The Storm Water Management Report must include an evaluation of: 1) Existing land uses downstream, 2) Anticipated future land uses downstream, 3) Magnitude of increase in peak flows due to development, 4) Presence of existing drainage problems, 5) Capacity of existing and anticipated drainage systems, 6) Creation of concentrated flows where none had occurred previously, 7) Existing flows generated off-site which pass through the project site, and 8) The nature of the receiving watercourse.

20. The Engineer can waive detention as long the Engineer provides certified documentation that the conditions in section 3.2.C of the Storm Water Management Design Manual, as applicable, are true. A pre-submittal conference is required to discuss with staff prior to submittal of the construction documents.

21. If detention is waived, then strict compliance with section 3.2.D is mandatory.

## SECTION 4: DETENTION DESIGN CRITERIA

4.0 Detention Design Criteria

22. All storm water detention facilities to control peak flow rates for the 2, 10, 25 & 100-year storm frequencies.

23. Report to include additional data such as: 1) Topographic map(s) showing all on-site contributing drainage areas, 2) Runoff coefficient basis, 3) Time of concentration calculations, 4) Inflow hydrographs with peak flows for the 2, 10, 25 and 100-year storm frequencies, 5) stage/storage/discharge table for all proposed detention ponds, 6) details and calculations for all outlet control structures, including buoyancy calculations and emergency spillways, 7) routing calculations, 8) summary data tables showing calculations.

24. Emergency spillway calculations to be provided in the event the outflow control structure becomes obstructed.

25. Detention facility detailed, including outflow and overflow control devices in plan and cross-sectional views.

26. Graded 3:1 or flatter access easement around all detention ponds in areas inaccessible to vehicular traffic.

27. Dry detention pond(s) to discharge post-developed rates at 90% of the pre-developed rate.

28. Wet detention pond(s) to discharge post-developed rates at 100% of the pre-developed rates.

29. If a wet detention pond is designed, the following criteria has to be incorporated: 1) Detention storage to be above the normal pool elevation, 2) Minimum pool depth shall be 4 feet, 3) Design a cool water release system which discharges runoff from below the normal pool elevation for all storms, 4) Must be compared to the Georgia Safe Dams Program latest requirements for dam categorization and design criteria.

4.1 As Constructed Certification of Detention Pond

30. After construction and before C.O. or Final Plat approval, the designer shall submit a certified field run topographic map of the detention area and a revised hydrology study using the as-built topographic map to verify that the required detention storage and outflow rates are being provided.

4.2 Detention Pond Fencing

31. Fences shall be 5 feet chain link or other approved material with a 10 foot wide access gate and located on the outside edge of the 20 foot perimeter easement when possible on all detention structures over 4 feet deep and in a location that constitutes a danger to human habitation.

4.3 Detention Pond and Drainage Easements

32. A minimum of 20 feet in width drainage easement is required along a drainage pipe, ditch, stream, or other area that is designated for storm water to flow.

33. A 20 foot access easement is required from a public street to a detention facility.

34. A 20 foot detention facility easement is required around the outside perimeter of the facility. No fences or shrubbery shall be allowed on the access easement.

## SECTION 5: MAINTENANCE OF DETENTION FACILITIES

35. Please provide a note on the plans as applicable, "The maintenance of the detention facility is the responsibility of the owner of the property where it exists. Storm water Division personnel will perform periodic inspections of existing and new private detention ponds to determine that they are functioning properly. Deficiencies will be noted to the Owner in writing. It shall be the responsibility of the Owner to repair deficiencies in a timely manner. Failure on the part of the Owner to repair deficient storm water detention pond structures will be a violation of the County Storm Water Ordinance and will be punishable according to Section 15: Penalties."

36. Please provide a note on the plans as applicable, "When a subdivision has areas that will be maintained by a legally created homeowners association, the association will also be responsible for maintenance of all drainage easements and all detention facilities within the entire subdivision. The homeowners association will have to be formed prior to final plat approval. Any emergency maintenance required by Dawson County will be done or sub-contracted and the charge will be assessed to the homeowners association."

## SECTION 6: STORM WATER QUALITY REQUIREMENTS

37. Water Quality must be provided by one of four means: 1) Limit clearing to 70% of the total residential site area, or 80% of the total commercial/industrial site area, 2) Increase undisturbed buffer widths by 15 feet around all property lines except the property line which includes the major entrance/exit drive, 3) Expand existing stream buffers by 15 feet on both sides, or 30 feet if the stream forms the property line, 4)

Limit impervious area percentage to 70% of the total residential site area, or 80% of the total commercial/industrial site area.

38. Show clearing or impervious percentage calculations on the plans, if applicable.

39. Show additional buffers on the plans, if applicable.

40. Design dry storm water detention structures such that post-developed discharge is less than 90% of the pre-developed discharge.

41. Design wet storm water detention structures to include: 1) Detention storage above normal pool, 2) Minimum lake depth shall be 4 feet, 3) Design cool water release system which discharges runoff from below the normal pool elevation for all storms, 4) post-developed discharge is less than 100% of the pre-developed discharge, 5) Georgia Safe Dams Program requirements must be met if applicable.

42. If detention is exempted, water quality must still be provided by way of: 1) A 50 foot undisturbed buffer around all property lines; Properties which adjoin 100 year floodplain or Lake Lanier shall begin their buffer at the 100 year floodplain location or at the 1085 elevation respectively, and 2) Install an infiltration basin at each discharge point releasing to the floodplain or into Lake Lanier.

**ADDITIONAL COMMENTS:**

This checklist is established for use by the Department of Public Works and the Board of Commissioners. Surveyors, developers, etc, may utilize this checklist, but are urged to reference the Dawson County Storm Water Ordinance when preparing plans.