



*Planning and Development  
4385 Pecan Street  
P.O. Box 39  
Loganville, GA 30052  
Tel: 770-466-2633  
Fax: 770-554-5556*

## **ENGINEER'S CHECK LIST**

- I. LOCATION MAP**
- II. EVERY SHEET**
  - 1. Title Block**
  - 2. North Arrow**
  - 3. Scale**
- III. LEGAL**
  - 1. Adjoining street names, pavement limits, and rights-of-way**
  - 2. Adjoining property owners**
- IV. GENERAL NOTES**
- V. SITE PLAN I**
  - 1. Suitability of Lots for Development**
  - 2. Suitability of Lots to be Dedicated to the City for Public Purposes**
  - 3. Proposed Use of Property vs. Zoning**
  - 4. Required Public Improvements Shown**
  - 5. Lot Size and Shapes Shown**
  - 6. Survey Monuments Placed**
  - 7. Standard Drawings Use**
  - 8. Landscape Buffers and Tree Preservation Shown**
  - 9. Recreation Areas Shown**
  - 10. Wetlands Shown**
- VI. SITE PLAN II**
  - 1. Access to Adjoining Parcels Maintained**
  - 2. Dedication of Street Rights-of-way Shown**
    - a. New streets**
    - b. Existing streets**
  - 3. Street Improvements Designed**
    - a. New streets**
    - b. Existing streets**
  - 4. Street Layout Conforms with Comprehensive Plan**
  - 5. Traffic Control**
    - a. Striping per GDOT shown**
    - b. Street lights shown**
  - 6. Work Uses GDOT Specifications**
  - 7. Additions to Existing Street**
  - 8. Subgrade – Minor Streets**
  - 9. Surfaces – Minor Streets**
  - 10. Major Streets**
  - 11. Curb and Gutter**

**12. Underground Utilities**

**13. Sidewalks**

**VII. UTILITY PLAN**

- 1. New Utilities Placed in Standard Locations**
- 2. Water and Fire Hydrants Present or Designed**
  - a. Estimated Waste Water Flows in GPM**
- 3. Wastewater Present or Designed**
- 4. Utility Easements of Proper Width**
- 5. Street Cuts for utility Installation**

**VIII. GRADING PLAN**

- 1. Grading**
  - a. 2' contour intervals**
  - b. 2:1 maximum slope**
  - c. Building pads shown**
  - d. Roads and Ditches Show**
- 2. Storm Water Management Report**
  - a. GA professional stamp, PE stamp if floodplains involved**
  - b. Assumes upstream development per development plan**
  - c. Downstream analysis**
  - d. Exemption for small discharges into large streams**
  - e. Hydrographs (2, 5, 10, 25, 50, 100)**
  - f. Detention facility location**
  - g. No increase from predevelopment flows to postdevelopment flows (2, 5, 10, 25, 50, 100)**
  - h. Predevelopment flow can be no greater than that estimated by a Rational Method C of 0.25 or a SCS Method CN of 60**
  - i. One Year storm flows to be released over 24-hour period**
  - j. Calculations included**
  - k. Pond cannot disturb legally mandated stream buffer**
  - l. 100 year pool cannot cover public right-of-way utility easements**
  - m. 100 year pool cannot cover required private recreation facilities**
  - n. Pond on private property with private maintenance**
  - o. Pond not on a residential lot**
  - p. 20-foot pond access easement in commercial**
  - q. 30-foot pond access easement in residential**
  - r. 30-foot pond access easement when combined with another easement**
  - s. Pond easement to cover 100 year pool plus 10' wide buffer**
  - t. All tree stumps removed below 10 year pool**
  - u. Pond bottom grassed**
  - v. 6' high fence around pond if normally dry, with 12-foot gate, at least 10' from outside of pond easement**
  - w. If residential, no more than 50% of perimeter of pond may be walled**
  - x. Pond driveway must be grassed or paved, with a slope no steeper than 5:1**
- 3. Drain Pipes**
  - a. Comply with GDOT standards**

- b. No smooth interior corrugated polyethylene pipe under pavement
  - c. Rational method C and SCS curve numbers per City of Loganville
  - d. Pipes must convey 100 year storm with 1.5' of freeboard below road centerline
  - e. Pipes must convey 100 year storm with out increasing water elevations upstream
  - f. 100 year water surfaces shown on plans
  - g. Minimum culvert size 18"
  - h. Minimum long storm flow collector size 15"
  - i. Plans show flows, velocities, and 25 year and 100 year hydraulic grade lines on profile views
  - j. Energy dissipation at outfalls per GA Storm Water Management manual
  - k. Headwalls or flared ends at all inlets and outlets
  - l. Flared ends same material as pipe
  - m. Submittals include pipe flow calculations
4. Surface Drainage
- a. Channels designed to carry 25 year flows with freeboard equal to 20% of design depth
  - b. Post development channel velocities cannot exceed predevelopment channel velocities at down stream property line
  - c. No V shaped channels
  - d. 25 year hydraulic grade line shown on channel profiles
  - e. Channels must convey 100 year flows below building and street leverls
  - f. Channels in fills must be lined
  - g. Other channel must be grassed or lined
5. Erosion Control
6. Dams
- a. Must comply with state standards if development downstream
  - b. Must comply with state standards if 9' high or impound 20 acre-feet at normal pool
  - c. Must have GA PE certification
  - d. If a or b apply but not designed to state standards, a dam breach easement must be obtained downstream
  - e. Existing dams renovated to same standards as new
7. Wet Ponds (Lakes) and Dry Ponds with Wetland Plantings
- a. Wet ponds shall have a drainage area between 20 and 300 acres
  - b. Dry ponds with wetland plantings shall have a drainage area less than 20 acres
  - c. Wet ponds shall have permanent pool that averages 3 to 7 feet deep, with no point more than 12 feet deep
  - d. Wet ponds shall have a minimum surface area of 0.25 acres or 1% of the drainage area, whichever is greater
  - e. 3:1 maximum slopes
  - f. 10' wide beach 1' above permanent pool
  - g. Forebay volume
  - h. Inlet velocity diffuser

- i. Outlet velocity diffuser
  - j. Water quality volume must be provided
  - k. Trash racks or hood required on outlets
  - l. Anti seep collars required under dams
8. Storm Water Quality
9. Runoff Treatment
- a. Volume =  $1.2 (.05 + .009I) As/12$
  - b. Half of this volume pass out of pond over 24 hours through a filter drain
  - c. If detention pond for a new development was constructed before 4/27/1999, it must be retrofitted
  - d. If more than 5% of a development with an existing pond is being redeveloped, the pond must be retrofitted

## **IX. ENGINEERING**

- 1. GA PE or other appropriate professional stamp on every sheet
- 2. Size and Shape of Lots
  - a. House location plan for lots with easements, flood plains, detention ponds, or have an odd shape
  - b. Residential drainage plan for lots with drainage easements, flood plains, or steep slopes
- 3. Size and Shape of Blocks
- 4. Roadway Access to Development
- 5. Street Design
  - a. Minimum and maximum grades
  - b. Vertical curves
  - c. Horizontal curves
  - d. Superelevation
  - e. Clearances
- 6. Street Intersections
  - a. 90 degree angles
  - b. Horizontal alignments
  - c. Vertical alignments
- 7. Driveways
  - a. Driveway intersections
  - b. Driveway widths
  - c. Auxiliary lanes on existing streets
  - d. Sight distances
  - e. Spacing and alignment
- 8. Storm Water Detention
  - a. Outlet orifices no smaller than 3"
  - b. Outlet orifices smaller than 15" require trash racks
  - c. Emergency spillway is required unless all criteria are met
  - d. Earthen dams shall have 8' wide tops
  - e. Riprap faced dams shall have 2:1 max slopes
  - f. Earth faced dams shall have 3:1 max slopes
  - g. 1.5 feet of freeboard above 100-year pool for earthen dams
  - h. 1.0 feet of freeboard above 100-year pool for concrete dams

- i. **Parking lot detention away from buildings and entry drives**
  - j. **Parking lot detention max depth 12'**
  - k. **Parking lot detention must drain in 30 minutes after peak**
  - l. **Parking lot detention slopes between 1 and 5%**
  - m. **Underground and rooftop detention**
  - n. **Sedimentation basins used wherever possible**
  - o. **Lakes not used for detention must comply with regulation**
- 9. Storm Water Runoff**
- a. **Maximum velocity**
  - b. **Maximum slope**
  - c. **Minimum cover**
  - d. **Outfall locations**
  - e. **Maximum flows into streets**