STORMWATER MANAGEMENT
Final Plan CHECKLIST (III)

Project: _____ Developer: _____

Submittal Date: _____ Designer: _____

Reviewer: _____ GPA No. _____

LEGEND FOR CHECKLIST

__√__ Accepted __**X**__ Not Accepted __**N/A**__ Not Applicable
__**I**__ Incomplete __**R**__ Required, not submitted

A. GENERAL DATA

_____ 1. "Inspection and Maintenance Agreement of Private Stormwater Management Facilities" signed and recorded.
_____ 2. Application is accompanied by an acceptable performance security.

Comments:_____

STORMWATER CREDITS APPLIED:

_____ Natural Area Conservation
_____ Disconnection of Rooftop Runoff
_____ Disconnection of Non Rooftop Runoff
_____ Sheet Flow to Buffers
_____ Open Channel Use
_____ Environmentally Sensitive Development

SIZING CRITERIA

(WQv) Water Quality Volume _____
_____

(Rev) Recharge Volume Requirements _____
_____

(Cpv) Channel Protection Storage Volume Requirements _____
_____

(Qp2 or Qp10) Overbank Flood Protection Volume Requirements _____
_____

(Qf) Extreme Flood Volume _____
_____

B. HYDROLOGY

_____ 1. Drainage area map
- _____ a. Subareas shown
- _____ b. Time of concentration paths shown
- _____ c. Land use existing and proposed
- _____ d. Soil types and hydrologic soil groups shown
- _____ e. County and state storm drains shown with size and drawing no.

_____ 2. Hydrology computations (TR55 and TR20 methods only)
- _____ a. Drainage areas (acres and square miles)
- _____ b. Runoff curve numbers calculations.
  - _____ 1. Uses Maryland Soil Classification
  - _____ 2. Based on SCS "good" hydrologic condition
- _____c. Time of concentration calculations.
  - _____ 1. Selected "typical" path area.
- _____ d. Appropriate storms managed

Comments:_____
_____

C. SITE PLAN (all of the following must be included on the plan sheet).

_____ 1. Purpose of plan.
_____ 2. Legend, scale, and north arrow (scale 1"= 50' or less)
_____ 3. Title block in lower right hand corner containing
- ____ a. Name of project, location, and name of applicant
- ____ b. Name of company or individual who prepared plan.

_____ 4. Stormwater management sheets labeled, numbered, and identified as sheet no. ___ of ___.
_____ 5. Signed Certification on the drawings that all clearing, grading, drainage, construction, and development shall be conducted in strict accordance with the plan.
_____ 6. Topography survey showing
- _____ a. Existing and proposed contours
- _____ b. Area necessary to determine downstream analysis for proposed ESD design facility.

_____ 7. Soils investigation including borings for construction of infiltration practices shown.
_____ 8. Description and delineation of all water courses, impoundments, and wetlands on or adjacent to the site or into which stormwater flows.
_____ 9. Delineation of 100-yr. Floodplain, if applicable.

_____ 10. Vicinity map.
_____ 11. Drainage area map showing the watershed boundaries, drainage area and stormwater flow paths.
_____ 12. Existing and proposed improvements including location of buildings or other structures, imperious surfaces, and storm drainage facilities, if applicable.
_____ 13. Location of utilities.
_____ 14. Structural details and provide calculations for all components of the proposed drainage system and stormwater management facilities.
_____ 15. Sequence of construction and timing schedules of development.
_____ 16. Maintenance schedule for each practice or structure.
_____ 17. Notes specifying materials to be used.
_____ 18. Location of easements.
_____ 19. Estimate of stormwater management construction cost including engineering as-built certification and comparison to issued permit design.
_____ 20. Engineer's seal.
_____ 21. If the project discharge into or through the Deep Creek Lake "Buy Down" area an approval letter to discharge through this area must be obtained through Carolyn Mathews with the Department of Natural Resources.

Comments:_____
_____

Ponds:

Does the pond require SCS Pond Standard 378 review. _____Yes _____No

If No please provide sound engineering design of pond and items below that pertain to structure.

If Yes please provide the following:

_____ 1. Design Criteria
- _____ a. Structure class
- _____ b. Watershed area (acres)
- _____ c. Normal surface area
- _____ d. Principal spillway capacity
- _____ e. Emergency spillway capacity
- _____ f. Required freeboard above emergency spillway design storm
- _____ g. Stream classification

_____ 2. Plan view of dam and storage area with approximate bottom dimensions shown.
- _____ a. Topography provided for the embankment, emergency spillway and pool area (Existing and proposed contours)
- _____ b. Temporary benchmark labeled on plan view with description

_____ c. Location of soil borings

_____ 3. Profile along centerline of dam
- _____ a. Top of dam (constructed and settled)
- _____ b. Location of emergency and principal spillways
- _____ c. Existing and proposed ground
- _____ d. Bottom cut-off trench shown at 4' minimum depth below barrel and existing ground
- _____ e. Core extended up to design high water on either side
- _____ f. Stationing corresponding to that on plan view
- _____ g. Emergency spillway width, side slopes & channel protection

_____ 4. Profile through principal spillway (cross section of dam)
- _____ a. Existing ground
- _____ b. Elevations
  - _____ 1. Settled top of dam
  - _____ 2. Constructed top of dam
  - _____ 3. Emergency spillway crest (dotted line)
  - _____ 4. Riser crest
  - _____ 5. Design high water
  - _____ 6. Inlet and outlet inverts of pipe
- _____ c. Top width
- _____ d. Side slopes
- _____ e. Cut-off trench
  - _____ 1. 4' minimum bottom width
  - _____ 2. Sideslopes 1:1
  - _____ 3. Depth 4' minimum below barrel and existing ground
- _____ f. Anti-seep collar
  - _____ 1. Phreatic line (4:1 slope at normal pool)
  - _____ 2. Saturated length (dimensioned)
  - _____ 3. 10' minimum from riser and completely beneath phreatic line
  - _____ 4. Minimum spacing between collars
  - _____ 5. Maximum spacing between collars
- _____ g. Barrel
  - _____ 1. Length (dimensioned)
  - _____ 2. Slope
  - _____ 3. Size
  - _____ 4. Material
  - _____ 5. Manning's "n" value

_____ 5. Profile of emergency spillway
- _____ a. Existing ground
- _____ b. Elevation of level control section
- _____ c. Length of level control section
- _____ d. Inlet section and outlet section slopes

_____ e. Length of outlet section
_____ f. Design Q and Velocity (stated on plans)
_____ g, Emergency spillway located in cut or channel protection (detail required) provided
_____ h. The inlet channel may be curved to fit the topography but the level section must be straight and continue out to a point down-slope of the down-stream toe, at which point it may follow existing topography to direct flow to “stream channel” below the pond outfall.

_____ 6. Rip-rap or gabion outlet protection or scour hole
_____ a. Stone size as per SCS design criteria
_____ b. Median stone size and minimum depth of rip-rap section shown on plan.
_____ c. Rip-rap placed upon approved filter cloth
_____ d. Cross section detail of rip-rap areas
_____ e. Rip-rap apron dimensioned

_____ 7. Anti-seep collar detail (dimensioned) with construction specs

_____ 8. Trash rack and anti-vortex device details and construction specs

_____ 9. Riser base detail (dimensioned)

_____ 10. Soil boring log locations

_____ 11. Seeding plan

_____ 12. Permission needed for pond discharge onto adjacent property owner

_____ 13. Note that as-builts will be submitted within 45 days of project completion.

Comments:_____
_____
_____