BOARD OF COUNTY COMMISSIONERS
FOR ST. MARY'S COUNTY, MARYLAND

FORMAT GUIDELINES

For Development Plan and Plat Submissions

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION

P. O. BOX 508
CALIFORNIA, MARYLAND 20619

Effective: May 13, 2002

FORMAT GUIDELINES
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LIST OF EXHIBITS

1.0 PURPOSE

The purpose of these Guidelines is to establish a standard format for the preparation of development plans for site development, road and storm drain construction, stormwater management, and other associated plans for review by the Department of Public Works and Transportation. The primary objective of the Guidelines is to produce neat and precise plans that can be easily interpreted and implemented by field construction personnel. Close adherence to these Guidelines will assist developers, engineers and land surveyors during their plan development stages, and help expedite the review and approval process by the County. It will also ensure more consistent requirements of all developers and engineering firms.

2.0 GENERAL REQUIREMENTS

The Format Guidelines are intended as the County's Guidelines for development and submission of site plans, road plans, and stormwater management plans. However, other methods and alternatives that produce the desired results may be considered. Any proposed deviations from these Guidelines shall be approved by the Director of Public Works and Transportation prior to plan preparation.

Any use of these Guidelines, standards and associated drawings should be done under the supervision of a Professional Engineer accepting the responsibility for their use. These Guidelines are intended to assist, but not substitute, for competent work by design professionals.

- ❒ For development projects that require only one plan and profile sheet, the typical sections and storm drain profiles may be shown on the plan and profile sheet if adequate space is available to show all the required information clearly.

- ❒ All drawings in a set of construction plans shall be the same size sheet, and shall be 36 inches wide by 24 inches high. Drawings should have a 1 ½ inch margin on the left edge and must have a ½ inch margin along the top, bottom and right edges.

- ❒ The North arrow shall be shown on each map. All vicinity maps, location plans and drainage area maps shall be oriented so that North is towards the top of the sheet.

- ❒ Stationing on plan sheets shall increase from left to right across the drawing.

- ❒ The roadway plan shall be oriented, where feasible, on the drawings so that North is towards the top or right of the sheet.

- ❒ Standard drafting practices shall be exercised in the preparation of all drawings.

- ❒ The minimum size of lettering for all notes and descriptions shall be a minimum of 1/8" in size (for lower case lettering). All other lettering shall be proportionately larger depending on the importance of the item referred. Street names and similar designations shall be boldly lettered for ease of reference.

- ❒ Standard industry symbols shall be used in the preparation of all drawings.

- ❒ Scales used on the drawings shall be clearly indicated on plans, profiles, details, vicinity, location, and drainage area maps.

GENERAL REQUIREMENTS (Cont'd.)

- ⇨ Typical Sections – Scale shall be as appropriate to show necessary details clearly. An exaggerated horizontal or vertical scale may be used in developing the section and a notation of "not to scale" indicated on the plans.
- ⇨ Typical Details – As appropriate to show details clearly. 1" = 10' minimu m and multiples thereof for larger scales.
- ⇨ Roadway Plan – 1" = 50' minimum. 1"= 20' may be used for special paving plans, intersection and cul-de-sac details.
- ⇨ Roadway and Storm Drain Profiles – 1" = 50' Horizontal, and 1" = 5' Vertical. Enlargements of these scales will be permitted for special detailing.

- ❒ All drawings and computations must be signed and sealed by a Registered Professional Engineer, Land Surveyor or other qualified person, as appropriate.
- ❒ All drawing sheets shall contain a title block.
- ❒ The information listed and/or described in these Guidelines shall be shown on the drawings.
- ❒ Plans must be folded when submitted and are to be accompanied with a cover letter / transmittal with the submitting engineer's name, address and telephone number. For second and subsequent submittals, the cover letter shall contain an itemized listing of agency comments and the respective responses.

3.0 PLAN SHEET SUBMITTALS

3.1 TITLE SHEET

- ❒ Vicinity Map – Scale 1"= 2,000' Minimum, with intersecting roadway names clearly labeled.
- ❒ Vicinity Map is to show major roads or streets, major streams, towns, large institutions, north arrow, etc. and the site location (possible sources: U.S.G.S. and S.H.A. Maps). The site to be constructed shall be shaded.
- ❒ Location, elevation and reach description of two (2) County GPS monuments in closest proximity to the development.
- ❒ Location Plan – Scale 1"= 600'. Location Plan to show overall subdivision layout to scale, section limits, rights-of-way, adjacent subdivisions, owners, existing and proposed street names, and at least two (2) permanent bench mark locations and descriptions. The section to be constructed shall be clearly labeled.
- ❒ Title Information – subdivision / site name, type of plan (ie. preliminary, roadway construction, grading plan), section number, phase, election district, County and state. A tabular listing of road names, classification, right-of-way widths and station numbers.
- ❒ Owner's certificate, name and address, with the owner's name printed under the signature line.

3.0 PLAN SHEET SUBMITTALS

3.1 TITLE SHEET (Cont'd.)

- ❒ Engineer's and/or surveyor's certificate, name, address, phone number, signature, and seal.
- ❒ Provide a 3" x 3" open area in bottom area of right corner of title sheet, above title block, for Departmental approval stamp.
- ❒ Sheet index and general Road Construction Notes (see page 19).
- ❒ Legend of specific graphic special symbols applicable to project, which differ from the County's standard symbols. The standard symbols should be used to the fullest extent possible.
- ❒ List of abbreviations applicable to project.
- ❒ Specify horizontal and vertical control references. (State plane, U.S. Coast & Geodetic Surveys, etc.).
- ❒ Specify the source of the topography used for preparation of the plans.
- ❒ Revision block must include date and reference of each revision.
- ❒ Department of Planning and Zoning control number.
- ❒ The approximate location of existing utilities should be coordinated with the respective utility companies and incorporated into the design.

3.2 TYPICAL SECTIONS AND DETAILS

- ❒ Typical roadway sections, properly drawn, dimensioned and labeled.
- ❒ Typical driveway entrance, if applicable.
- ❒ Typical cul-de-sac details, if applicable.
- ❒ Typical drainage ditch sections and details.
- ❒ Special details, as required (i.e. stormwater management structures).
- ❒ Road Construction Notes (if not shown on title sheet).
- ❒ MD 378 Embankment Specifications (if applicable).

3.3 ROADWAY PLAN AND PROFILE SHEETS

3.3.1 Roadway Plan

- ❒ Existing road or street details 100 feet on each side of the centerline of the new road and at the cross road intersections.

3.3 ROADWAY PLAN AND PROFILE SHEETS

3.3.1 **Roadway Plan** (Cont'd.)

- ❒ Existing road or street details 100 feet beyond limit of work for road continuations.
- ❒ Proposed road details, frontage improvements, cross-sections, sidewalk connections, location of street trees, entrance features, street lighting, etc.
- ❒ Existing structures, buildings and miscellaneous topographic features including contours 100 feet beyond right-of-way lines and 200 feet beyond limits of the property. Includes proper treatment of obstacles.
- ❒ Existing and proposed utilities within and immediately adjacent to the proposed development.
- ❒ Existing and proposed right of ways and easements, with dimensions.
- ❒ Lot lines and lot numbers (checked against the Record Plat).
- ❒ Property lines and reservation/dedication limits.
- ❒ Subdivision name, section number and tax map, block and parcel number. Includes existing adjacent and abutting developments.
- ❒ Properly named and approved road names.
- ❒ Proposed pavement (dimension and shaded) and proposed CBR test locations.
- ❒ Curb and gutter where applicable. Distinguish between catch and spill curbs by shading the limits of the spill curb.
- ❒ Centerline of roadway with complete bearings, distances, and stationing data (checked against the record plat). The stationing data shall include:
  - ➪ 100-foot stations with tic marks every 50 feet.
  - ➪ P.C. and P.T. stations and offsets.
  - ➪ Equality stations at intersections and along alignment where applicable.
  - ➪ Stations for special transitions and alignments.
- ❒ Complete curve data: delta angle, radius, degree of curve, tangent length, length of arc and centerline P.C., P.L., P.T. Stations, chord bearing and chord distance.
- ❒ Radii of face of curb or edge of pavement on intersection return (fillets). Spot elevations are to be at top of curb or edge of pavement on linear profile of fillet.
- ❒ Complete cul-de-sac information including:
  - ➪ Radii and curve data for edge of pavement.

3.3 ROADWAY PLAN AND PROFILE SHEETS

3.3.1 Roadway Plan (Cont'd.)

- ➪ Stations and offsets from centerline to important points (center of cul-de-sac, beginning and ending points of edge of pavement).

- ❒ Spot elevations along edge of pavement and a linear profile along edge of paving or top of curb. Identify stations and elevation of all high and low points.

- ❒ Direction of flow arrows at curb returns, critical drainage points, around parking islands and high and low points in the roadway profile.

- ❒ At least two (2) benchmark locations and elevations per plan sheet.

- ❒ Limits of grading for all driveways in excess of 15 %.

3.3.2 Roadway Profiles

- ❒ Existing ground profiles along the proposed centerline and right of way lines.

- ❒ Existing roadway profiles of intersecting and continued roadways with the location of the proposed intersection indicated. The profiles shall be of sufficient length to ascertain if adequate stopping sight distance is available along the major roadway and the road continuation.

- ❒ Profiles of exiting street connections or future connections extended a minimum of 200 feet.

- ❒ Proposed centerline or top of curb grade shown and labeled.

- ❒ A legend for profile ground lines and proposed grade lines.

- ❒ Tangent Grades:

  - ➪ Percents of grade to two (2) decimal places (i.e. 7.24%).

  - ➪ Profile elevations at 50-foot intervals.

- ❒ Vertical Curves

  - ➪ Station and elevation of P.V.C., P.V.I., P.O.C. and P.V.T.

  - ➪ Station and elevation of crest and sag points.

  - ➪ Vertical curve data; P.V.I. station and elevation; vertical curve length; middle ordinate correction; and minimum and actual K values.

  - ➪ Profile elevations at 25-foot intervals.

  - ➪ Design speed.

- ❒ Station and elevation of roadway intersections.

3.3 ROADWAY PLAN AND PROFILE SHEETS

3.3.2 Roadway Profiles (Cont'd.)

- ❒ Side drainage ditch profile for 50' to either side of culvert entrances and outfalls and when deviating from the typical section.
- ❒ Linear profiles of the road edge or top of curb around cul-de-sacs and at all curb return fillets in the right-of-way.
- ❒ Profiles of special curb or edge of pavement transitions at intersections, or as required due to super-elevation.
- ❒ Location and invert and headwater elevations of existing and proposed storm drain crossings.
- ❒ Locations and invert elevations of all utility crossings. Show connections of sidewalk under-drains to storm drain system or acceptable outfall.
- ❒ Guard Rail: Show location and stationing in plan view using proper symbol, if applicable. Specify detail number and end treatment.
- ❒ Shoulder Treatment: Specify type of treatment and station limits on Plan (or in chart form).
- ❒ Clearly define limits of contract, work or disturbance.
- ❒ Provide list of cross-reference notes as required.
- ❒ Provide match lines and corresponding sheet reference.
- ❒ Slope, drainage, sight distance and utility easements: Show correct location with proper dimensions.
- ❒ Proposed utilities (water, sewer, etc.) that are shown in detail on other sheets shall be shown in the correct location and the clearances with potential conflicts checked. The type and size of the utility shall be labeled (i.e. Prop. 8" San.).

3.4 ENTRANCE PLANS

- ❒ Detailed plan of proposed entrances subject to road plan requirements.
- ❒ Fillet radii labeled and profiled.
- ❒ Frontage improvements, acceleration/deceleration lanes shown.
- ❒ Typical paving section and extent of overlay proposed.
- ❒ Sight distance plan and profile.
- ❒ Show and label areas to remain clear of obstructions.
- ❒ Label all easements required. Off-site requirements addressed.

3.4 ENTRANCE PLANS

- ❒ Show existing and proposed lot lines and lot numbers.
- ❒ Show areas to remain clear of obstruction.
- ❒ Grading required for all driveways in excess of 15%.
- ❒ Show existing and proposed lot lines and lot numbers.
- ❒ Multiple driveway entrances shown in plan view with access easements.

3.5 STORM DRAIN PLAN AND PROFILES

3.5.1 General

- ❒ Existing ground and proposed grade at centerline of drain.
- ❒ Name of road or street labeled including intersecting streets.
- ❒ Profiles of the proposed drains shall be accurately plotted and include the following:
  - ❒ Number of structure.
  - ❒ Distances between centerline of structures, or face of end-sections.
  - ❒ Length, size, type, class (or gauge) and grade of the proposed drain: i.e., 306 L.F. 24" R.C.C.P., Class 4 at 2.78%.
  - ❒ Quantity of flow for the design storm frequency (i.e. Q_{10} = 27 CFS) and velocity of flow (V_{10}= 4.0 FPS).
  - ❒ Invert elevations, in and out, of all structures (inlets, manholes, throats, end-sections, etc.).
  - ❒ Stations and invert elevations at P.C. and P.T. of bend structures, pipe curves, cut-ins, wyes, etc.
  - ❒ Locations and limits of concrete cradles and/or encasements when required.
  - ❒ The hydraulic gradient profile for closed drainage systems, properly labeled.
  - ❒ Design headwater elevations for culverts.
  - ❒ Specify select backfill, bedding material and compaction requirements for pipes proposed on fill.
  - ❒ Dimension velocity dissipation device (LxWxD, filter cloth) and label velocity after the flow has dissipated in the receiving channel.

3.5 STORM DRAIN PLAN AND PROFILES

3.5.1 General (Cont'd.)

Profiles of inlet and outlet ditches shall be provided and include the following information:

- ❒ Proposed invert grade with stations and elevations.
- ❒ Ditch lining schedule (ie. 10 L.F. Class IV rip rap outlet ditch, d=1.0').
- ❒ Quantity of flow and velocity of flow.
- ❒ Existing and Proposed Utilities (water mains, sanitary sewers, gas mains, etc.) shall be shown as accurately as possible and labeled at crossings and where running parallel. Critical clearances between the utility and proposed drain shall be indicated.
- ❒ Special storm drain details and typical sections may be added to the storm drain profile sheets.

3.5.2 Open Drainage Systems

- ❒ Location of standard and a-typical transitions of side ditches, median ditches, and outlet ditches. Denote type of ditch, indicate stations and offsets, and specify lining.
- ❒ Cross-sections and profiles of all outfalls with provisions addressing adequacy.
- ❒ Cross pipe and driveway culverts.
  - ➪ Label size, inverts, and type of pipe. Show directional flow and effects of headwater in plan view.
  - ➪ Show Storm Drainage Out-fall Schedule with structure number, quantity (cfs), design storm (10, 25, 100), flow depth, width of channel, velocity, top width of flow and channel treatment.
  - ➪ Designation of maintenance and drainage easements and responsibilities. Include headwater elevations from culvert computations.
  - ➪ Inverts, size and type of pipe shall be tabulated on the roadway plan.
  - ➪ Show end sections and number them with increasing numbers from downstream end to upstream end.
  - ➪ Provide in tabular form the following information: Station and offset to ends of culvert; Length, size, type and class of pipe; Structure schedule with structure number, structure type and MSHA number, inverts and top elevations; and Invert elevation at invert in and invert out.

3.5 STORM DRAIN PLAN AND PROFILES

3.5.3 Closed Drainage Systems (Cont'd.)

- ❒ Show proposed drain at proper location with proper symbol, with location dimensioned from roadway centerline, right of way or property line, which ever is most appropriate.
- ❒ Label size and type of drain and show directional flow arrow.
- ❒ Show inlets, manholes, special structures (wyes, bends, etc.) with proper symbol and at correct location. Dimensions location with respect to centerline (i.e., station and offset) and show on plan and include in structure schedule.
- ❒ Number inlets, manholes and structures starting from downstream end and proceeding upstream.
- ❒ Show curve data for special bend structures and pipes laid on curves.
- ❒ Include a Storm Drain Structure Schedule with the following information:
  - ➪ Structure number, Station and offset of structure from centerline.
  - ➪ Designation of maintenance and drainage easements.
  - ➪ Type of structure and dimensions (i.e. inlet box dimension, throat length).
  - ➪ Top elevation of structure, including top of grate.
  - ➪ Inverts out, inverts in, throat elevations and hydraulic grade line between structures.
  - ➪ Standard detail number (Maryland State Highway Administration) or cross reference to special detail.
  - ➪ Storm drain pipe schedule specifying diameter, type, length, class or gauge.

3.6 STORMWATER MANAGEMENT PLANS

- ❒ A vicinity and location map.
- ❒ A map at a scale not smaller than 1"=1000' or as otherwise specified, outlining the entire drainage area that contributes to the water courses which pass through the development or which receive water from the development.
- ❒ Topographic survey showing existing and proposed contours, including the area necessary to determine downstream analysis for proposed stormwater management facilities. Topography shall be shown to at least 200-feet beyond the site boundary.

3.6 STORMWATER MANAGEMENT PLANS (Cont'd.)

- ❒ Any proposed improvements including the location and elevation of buildings or other structures, impervious surfaces, storm drainage facilities, and all grading. (Floor elevations shall be at least 18 inches above the maximum surface water elevation).
- ❒ The location of existing and proposed structures and utilities, easements, buffers and rights-of-way.
- ❒ The delineation and map references, if applicable, of the 100-year floodplain and limits of wetlands within 100' of the property boundary.
- ❒ The maximum impounded water elevation of the management structures during ultimate emergency spillway operation for dams and impoundment structures.
- ❒ Structural and construction details for all components of the proposed drainage system or systems, and stormwater management facilities.
- ❒ All necessary construction specifications.
- ❒ A Sequence of Construction showing the notification of the inspection authority, the installation of necessary erosion and sediment control devices, clearing, grubbing, rough grading, construction, final grading, vegetative stabilization, and removal of erosion and sediment control devices.
- ❒ Data for total site area, disturbed area, new impervious area, and total impervious area.
- ❒ A stormwater management summary table listing acreage of impervious areas (including pre-development and post development), method of quality control, unified sizing volume criteria per the Design Manual, required and provided water quality volume, water recharge volume, channel protection volume, over-bank flood protection volume, and extreme flood volume for the overall development, each drainage area by phase of development, pre- and post development runoff rates for the 1, 10, and 100- year storm events, *where applicable*, as well as cumulative acreage and weighted runoff curve number for incremental development of a watershed for a regional storm-water management facility, *where applicable.*
- ❒ A table of materials to be used for stormwater management facility planting.
- ❒ Geotechnical recommendations and all soil boring logs and locations. Percolation testing requirements are shown in Table D.1.1 of the Design Manual. A minimum of two (2) soil borings is required at each infiltration device. For Ponds, sufficient borings shall be taken to accurately depict the sub-surface strata in the pond and embankment.
- ❒ Detailed construction, inspection and maintenance schedules. Includes MDE I&M requirements.
- ❒ Detention pond bottom slope with channels provided from pipe outfall to release structure.
- ❒ Consistent dimensioning of the stormwater management facility and each opening on the control structure must be consistent with computations.
- ❒ Dimensioning of rip-rap at out-fall locations into and out of the stormwater management facility.
- ❒ Cross-sections through the principal spillway and pond profiles must show dimensions, elevations of top of dam, pond bottom and normal pool.
- ❒ A detail and a cross section of the emergency spillway are required.

3.6 STORMWATER MANAGEMENT PLANS (Cont'd.)

- ❒ Required easements, letters of permission etc. for off-site work shown on the plans and/or the respective recordation information designated.
- ❒ All applicable material specifications.
- ❒ A 20' wide access easement to the storm-water management facility.
- ❒ MD 378 Pond Embankment specifications (if applicable).
- ❒ The 1-year, 10-year and 100-year storm elevations must be shown on the control structure, unless otherwise approved.
- ❒ Spot elevations are required.
- ❒ The outfall channel must be designed to handle the maximum discharge.
- ❒ Inspection and maintenance notes.
- ❒ Location of soil borings at control structure.
- ❒ Benchmark location and description.
- ❒ The 100-year backwater elevation must be delineated.
- ❒ The cutoff trench must be dimensioned on the profile of the principal spillway.
- ❒ Detail of trash racks.
- ❒ Detail of anti-vortex devices.
- ❒ The flow (Q) and velocity (V) through pipes and at outfall must be labeled for the 2-year and 10-year storm events.
- ❒ The phreatic line must be shown from the 10-year elevation to the intersection of the outfall pipe.
- ❒ A detail of the anti-seep collars, showing size, spacing, number and location along pipes is required.
- ❒ A certification statement and 2" x 3" open area for agency approval.
- ❒ Certification by the owner/developer that all stormwater management construction will be done according to this plan.
- ❒ An as-built certification signature block to be executed after project completion.
- ❒ Verify the 24-hour draw down rate, or specify actual draw down time.

3.6.1 Fencing Requirements

- ❒ The top of the fence must be between 60 and 72 inches above grade measured on the outside of the fence that faces away from the facility.

3.6 STORMWATER MANAGEMENT PLANS

3.6.1 Fencing Requirements (Cont'd.)

- ❒ The maximum acceptable vertical clearance between grade and the bottom of the fence is 4 inches measured on the side of the fence that faces away from the facility.
- ❒ Except when the access gate is opened, an opening in the fence cannot allow passage of a sphere 4 inches in diameter or larger.
- ❒ Fence pickets shall have a maximum separation of 4 inches.
- ❒ A fence, or barrier, with horizontal members less than 45 inches apart cannot have vertical openings greater that 1 ¾ inch in width and horizontal members along the outside perimeter.
- ❒ A chain link fence shall have a maximum mesh size of 2 ¼ inches and a minimum No. 12 gauge measured before any coating application.
- ❒ A lattice fence shall have a maximum mesh size of 1 ¾ inches.
- ❒ The maintenance access gate shall be: (a) located toward the shallow end of the facility; (b) must be supported on substantial hinges and be equipped with self-closing and self-latching devices; (c) shall have a lockable latch release located a minimum of 48 inches from ground level; (d) must be mounted to open away from the facility; (e) must be a minimum of 4 feet in width; and (f) must be of the same construction requirements and height as that required for the fence.
- ❒ Fence supports shall be securely anchored into the ground. Framework shall have a coating thickness of not less than 10 mils.
- ❒ Fencing may be PVC (black or dark green) coated galvanized steel, aluminized steel, aluminum or pressure treated wood fencing. PVC plastic resin finish shall be a minimum 7-mil thickness.
- ❒ Top rail shall be attached securely to each gate corner, pull and end post. A watertight closure cap is required for each post. If top tension wire is used in lieu of a top rail, a minimum 7 gauge, coated coil spring wire is required.
- ❒ Concrete shall be Portland cement mixed to obtain a minimum 28-day compressive strength of 2500 psi.
- ❒ Latch shall be forked type or plunger-bar type to permit operation from either side of the gate.
- ❒ Fencing shall not interfere with the operation of the emergency spillway.
- ❒ No person shall erect, construct, alter, or maintain a fence containing barbed wire, electricity, or any other material where there is a possibility that any person may be injured from it.
- ❒ The fencing and facility must be maintained in operationally good condition.
- ❒ Any other information required by Director of Public Works and Transportation.

3.7 DRAINAGE AREA MAPS (DAM)

- ❒ The drainage area map shall be at a maximum scale of 1" = 100' for drainage areas less than 50 acres. A scale of 1" = 200' shall be used for drainage areas between 50 and 100 acres. For drainage areas greater than 100 acres, a maximum scale of 1" = 2,000' may be used.

- ❒ Pre-development and post development drainage area maps at a scale of 1"=200' or larger showing soil types, time of concentration flow paths with lengths, slopes, and flow type labeled shall be provided. All drainage divides shall be shown, with sub-drainage areas labeled consistently with computations. Land uses showing the areas draining to each element of the proposed storm drain systems of the development and including all off-site areas of highly erodible soils that are down slope of the development to and including the point where the runoff will enter a blue-line stream or tidal waters.

- ❒ The entire drainage area shall be outlined with the sub-areas delineated. The major drainage areas and sub-areas shall be lettered or numbered for references to and in agreement with the design computations. Topography must be included for a minimum of 200 feet beyond the limits of submission to adequately show potential impact on adjacent properties.

- ❒ Additional information to be shown includes the existing and proposed street system and names and lot layout as accurately as possible.

- ❒ Drainage divides shown for inlets, on-site and off-site.

- ❒ Designation of all floodplains within the development.

- ❒ The entire proposed drainage system schematically, complete with end sections, manhole, inlet and structure numbers which agree with the construction plans and design computations, and the proposed size of drains (i.e. 36" RCP).

- ❒ Flow arrows for existing and proposed drainage paths.

- ❒ Names of established drainage courses, runs, creeks or tributaries.

- ❒ Sizes of existing drains (i.e. Ex. 48" RCP).

- ❒ Hydrologic soil types delineated and labeled.

- ❒ Time of concentration flow paths. Label each segment, type of flow, length, and slope of path.

- ❒ Existing, proposed, and ultimate land uses.

- ❒ Delineate 100-year flood plain limits, if applicable.

3.8 GRADING, SEDIMENT AND EROSION CONTROL PLANS

- ❒ Sediment and erosion control devices located on plans and details provided for pre- and post-developed conditions.

- ❒ Construction sequence and timing schedule.

3.8 GRADING, SEDIMENT AND EROSION CONTROL PLANS (Cont'd.)

- ❒ Grading limits match approved SCD plan.
- ❒ All existing and proposed contours, including temporary stockpile areas with earthwork quantities tabulated.
- ❒ Limits of disturbance shown and tabulated.
- ❒ A-forestation and re-forestation limits/easements shown.
- ❒ Additional information as required by St. Mary's Soil Conservation District.
- ❒ Locations of proposed septic fields, or perc test locations.

3.9 UTILITY AND LANDSCAPING PLAN

- ❒ Incorporate the St. Mary's County Metropolitan Commission plan submittal requirements.
- ❒ Show all existing utilities in plan and profile, with test pit locations as necessary. Designate proposed streetlight locations.
- ❒ Proposed streetlight and landscaping may be shown on the grading or road plan profile sheets.
- ❒ Utility crossings designated on plans with conduit provisions.
- ❒ Minimum cover requirements met; Telephone cable (24" min.), Electric cable (36" min.), Sewer line (48" min.), Water line (42" min.), Concrete/steel pipes (12"), frost depth (18").
- ❒ Type and size shall be shown for underground conduits and location of above ground poles with identification. Sanitary sewer size, top and invert elevations are required. Locations of drop and service connections not in conflict with proposed landscaping.
- ❒ Minimum clearances between utilities provided or protective measures (expansion material, concrete piers etc.)

3.10 STORMWATER MANAGEMENT AS-BUILT PLANS

- ❒ The minimum plan information shall be shown prior to review.
- ❒ A profile of the top of dam with adequate spot elevations. Show top width and dam crest elevations. Show <u>constructed</u> core trench and spillways.
- ❒ A cross-section of the emergency spillway at the control section. Denote width of spillway and dimension limits of rip rap.
- ❒ A profile along the centerline of the emergency spillway.
- ❒ A profile along the centerline of the principal spillway extending at least 100 feet downstream of the fill. Show dimensions and elevations of outfall.
- ❒ The elevation of the principal spillway crest opening of overflow or top of wall.

3.10 STORMWATER MANAGEMENT AS-BUILT PLANS (Cont'd.)

- ❒ The elevation of the principal spillway conduit. Specify invert of barrel (inlet and outlet).
- ❒ The diameter, length, and type of material for the riser.
- ❒ The diameter, length, and type of material for the barrel or conduit.
- ❒ The size and type of anti-vortex trash rack device and its elevations/locations in relation to the principal spillway crest.
- ❒ Certification of the number, size, and location of the anti-seep collars and anti-floatation devices.
- ❒ The diameter, type, length, and invert of any low stage orifices, permanent drain pipes and contributing drainage structures.
- ❒ Show the length, width, and depth or contours of the pond area so that design volumes can be verified. Provide adequate spot elevations throughout the pond depicting shape for verification or design volumes, bottom slope, etc. Applicant may be required to redraw the pond if data is not readable.
- ❒ A certification statement and seal by a Professional Engineer that the As-built is accurate and complete and that the pond as constructed meets the requirements of the Standards and Specifications for Ponds, SCS-378. In particular, certification of storage volumes must provided.
- ❒ Verify maintenance accessibility; verify if fence/gate exists. Specify height and location of gate.
- ❒ Provide all information possible for underground detention (Certify underground detention/retention is in place as per approved plans).
- ❒ Verify accessibility to the storm-water management control structure for inspection and maintenance purposes.
- ❒ A check mark (✓) must be made beside planned values if they represent the actual as-built values. For changed values, line out the planned value and enter the actual value. May require re-routing of design storms for the as-built conditions to verify release rates and adequacy of the stormwater management facility. Elevations to the nearest 0.01' are required for all control structures.

3.10.1 Acceptable Construction Criteria:

The following items should be considered in reviewing as-built plans to determine if it is acceptable:

- ❒ The pipe and riser diameter, materials, and elevations must be correct.
- ❒ The number, size and location of the anti-seep collars must be correct.
- ❒ The emergency spillway exit slope may be 1-2% steeper than design.
- ❒ The top of fill elevation must be no less than the design elevation plus the allowance for settlement.
- ❒ The top width of dam must be equal, and side slopes must be equal to or flatter than the design.

3.10.1 Acceptable Construction Criteria: (Cont'd.)

- ❒ There must be the proper relation between the elevations of the principal spillway crest, the emergency spillway crest, and the top of dam.
- ❒ The structure must have an acceptable outlet as provided in the plans.
- ❒ Any major change or deviation from the original plan must be redesigned and revised plans submitted to the St. Mary's Soil Conservation District prior to performance of the work.

4.0 COMPUTATIONS AND REPORTS

- ❒ Transmittal (cover letter, explaining any waiver requests, etc).
- ❒ Title Sheet must include engineer's name, address and phone number, name of development and Department of Planning and Zoning control number in the bottom right corner.
- ❒ Table of Contents, all pages numbered, complete computations.
- ❒ Computations must be dated and certified by a professional.
- ❒ Appendices clearly marked, labeled and bound into the report.
- ❒ Recommendations from approved reports (i.e. geotechnical) shall be incorporated into the design plans.
- ❒ Computations must be bound. Closure computations for road right-of-ways shall indicate the names of the roadways.
- ❒ Must include or reference State Highway Administration or Soil Conservation Service charts/graphs.
- ❒ Must be accompanied by post-development drainage area map showing sub-drainage areas contributing runoff to each inlet and ditch section.
- ❒ Must be signed and sealed by a Registered Professional Engineer.

5.0 RECORD PLAT SUBMISSIONS

Plat Submissions shall be prepared in accordance with the Record Plat Checklist on Page 17.

6.0 PLAN CERTIFICATION AND AFFIDAVIT

A certification shall be completed by the submitting engineer (Applicant) for each plan submission (see attachment on Page 18).

DEPARTMENT OF PUBLIC WORKS & TRANSPORTATION
RECORD PLAT CHECKLIST

SUBJECT: _____CONTROL NO._____
SUBMITTAL DATE:_____

____ Roads must have an executed Public Works Agreement, bond and fees.
____ Road plans must be approved and signed by the Director of Public Works.
____ Easements for work on property owned by others are required.
____ Certificate of Title (Format available upon request. Must be dated no earlier than 2 days prior to signature by Director)
____ Closure computations submitted and certified as meeting or exceeding industry standards.

The Following Items Are Required on Record Plats:

_____Owner's certification *(attached) and note* that grants and conveys public roads/rights-of-way to the BCC
NOTE: (Insert correct name of public roads and dedicated areas) will be dedicated for public use to the Board of County Commissioners for St. Mary's County via the recording of this plat.
_____Bearings and distances of public road(s). Plat reference for establishment of existing public road(s).
_____Correct and approved road name(s).
_____Dedication along existing road(s) by deed, or HB 744.
_____Slope easements (use note if space for labeling distances is limited).
NOTE: Slope easements shown hereon are approximate. Exact limits are as shown on the road construction plans on file at the Department of Public Works.
_____Drainage and stormwater management easements (label lengths and widths).
_____Stormwater Management must be addressed as per the MDE Design Manual.
_____Sight distance easements. (NOTE: Encroachments within this area are prohibited.)
_____Private right(s)-of-way or access easements.
_____Signatures of the Owner and Surveyor registered in Maryland.
_____Railroad Right-of-Way or Airport Environs easements, if required.

The Following Items Are Required on Record Plats for Private Roads:

_____Private road names must end in "Way" or "Lane", unless otherwise approved.
_____Note specifying which lots use the private right-of-way or access easements (The note can be modified):
EXAMPLE: Lots ___, ___, & ___ are to be accessed by the private right(s)-of-way as shown on this plat. The above lots are to be served by an R-20 (R-18/19 if urban) multiple driveway entrance as per the St. Mary's County Road Ordinance. The Developer shall be responsible for the installation / bonding of the multiple driveway entrance(s) prior to the recording of this plat.
_____Private road maintenance note (Examples below):
"The right-of-way shown hereon does not necessarily provide access from this lot to a County or State road at this time. Road and utility construction and maintenance are the responsibility of the buyer of this lot of this lot, unless otherwise provided herein".

"The right-of-way for Lanes as defined in the St. Mary's County Zoning Ordinance are private and shall not be maintained by the County; nor shall such Lanes be considered for acceptance into the County Highway Maintenance System until such are improved to the appropriate County Road Standard at the individual lot owner's expense".

The Following Entrances Are Required (For Department of Planning & Zoning Use Only):

_____R-16 (urban) required for single lot entrances to County roads.
_____R-17 (rural) required for single lot entrances to County roads.
_____R-18/19 required for shared (urban) entrances to County roads.
_____R-20 required for shared (rural) entrances to County roads.

COMMENTS:

_____ Not approved, address comments above and submit one copy to this Department for review.
_____ Ready for final approval, submit mylar/print package to Planning and Zoning for circulation.
_____ APPROVED

REVIEWED BY:_____ **DATE:**_____
St. Mary's Department of Public Works & Transportation

Department of Public Works & Transportation
44825 St. Andrews Church Road
P. O. Box 508
California, MD 20619

APPLICANT CERTIFICATION FOR SUBMISSIONS

Tax Map: _____

Parcel Number: _____ DPZ No.: _____

Project Name: _____

Project Location: _____

_____

Descriptive Summary of Proposed Work: _____

_____

Submission Type:

Check ***all*** Applicable Items:

This is a: ❒ Road/Entrance Plan ❒ Site/Grading Plan ❒ Stormwater Management Plan ❒ Record Plat

This is a: ❒ Report ❒ Computations ❒ Review Submittal

Property Owner: _____ Telephone No. _____

Mailing Address: _____City_____MD____ Zip:_____

Applicant Name: _____ Telephone No. _____

Mailing Address: _____City_____MD____ Zip:_____

Plan Preparation Compliance:

The undersigned declares:

1. That he/she is competent to be a witness herein;
2. That he/she is the applicant for the above project;
3. That to the best of the applicant's knowledge, the plans and computations submitted herein have been prepared by an authorized agent of the property owner;
4. That this submittal has been reviewed by a licensed professional and prior to submission for accuracy and completeness; and has been prepared in accordance with all applicable codes and regulations, and the Format Guidelines;
5. That any existing easements, deed restrictions, or other encumbrances restricting the use of the property are shown on the plans submitted; and
6. That all prior comments from the review agency have been addressed, in writing.

Signature: _____ Date: _____

NOTE: This Form is to be completed by the submitting professional (Applicant) for each submission.

ROAD CONSTRUCTION NOTES

1. The specifications for this project shall be those of the Maryland State Highway Administration titled "Standard Specifications for Construction and Materials", January 2001 as currently amended with the following exceptions: SN and BF pavement mix, use 1982 specifications; BF, SF and SC pavement mix, use October 1993 specifications.

2. No construction (i.e., grading , etc.) or the installation of utilities will be permitted in the bed of any proposed street until the street grade has been officially established, plat of same approved by the Department of Public Works and transportation.

3. Traffic Control signs and Street Name signs must be installed upon completion of the base asphalt course. The Contractor/developer will be responsible for maintenance of these signs until acceptance of the road into the County Highway Maintenance System. Sheeting shall be "high intensity" unless otherwise noted. Sign construction and installation shall be in accordance with the "Manual of Uniform Traffic Control Devices" as currently amended.

4. Sampling of materials (bank run gravel, etc.) shall be done in accordance with the St. Mary's County Subdivision Road Construction and Inspection Procedures as directed by the Department of Public Works and Transportation to insure compliance with the current Maryland State Highway Administration specifications.

5. Stabilization of all drainage channels, road shoulders, slopes and other disturbed areas will be completed prior to acceptance of the road into the St. Mary's County Highway Maintenance System.

6. All corrugated metal pipes will be galvanized, minimum 14 gauge (arch type recommended) with standard end sections (SHA Standard No. 370.01 and 371.01). All reinforced concrete pipe shall be minimum Class IV. All reinforced pipe end sections shall be in accordance with SHA Standard No. 368.03 and 368.04.

7. Stone or riprap shall be Class I as per Maryland State Highway Administration Specifications, Section 901.02.01 as currently amended.

8. All riprap is to be placed on dry filter cloth. Filter cloth shall meet the requirements of Section 921.09 of the Maryland SHA Specifications as currently amended.

9. Sod or seed mixtures used in lining drainage channels shall be Kentucky 31 Tall Fescue, unless otherwise directed by the Department of Public Works and Transportation, and shall be in accordance with Maryland State Highway Administration Specifications Section 920.04.

10. Guardrail is to be provided along all fills of 15 feet in height or greater, with slopes steeper than 3:1, and/or as otherwise recommended in the Roadside Design Guide. Guardrail shall be placed where noted on plan and constructed in accordance with Traffic Barrier W-Beam SHA Standard No. 660.01. End sections shall be Type G unless otherwise noted. Type A and C end treatments are also permissible.

11. Roadway center line and edge line markings shall be placed on all roads classified as a major collector or higher. Transverse markings, symbols, and word marking shall be thermoplastic. All striping shall be in accordance with the Manual of Uniform Traffic Control Devices and all materials shall meet the requirements of the Maryland State Highway Administration Specifications.

12. Soils found to be unsuitable for construction shall be excavated and removed as encountered during construction of road.

13. At least 48 hours prior to the start of construction, the Contractor shall contact St. Mary's County Department of Pubic Works and Transportation at 301-863-8400.

14. Attention is called to Public Service Commission Order number 60838, Chapter 863, effective date August 1, 1974, and Section 28A, Article 78 of the Annotated Code of Maryland, 1994, regarding the protection of underground utilities and the responsibility of the Contractor contained therein. The Contractor shall contact other utility companies which operate in the area and not in the "Miss Utility" program.