CHARLES COUNTY, MARYLAND

Plan Preparation Package

for

DEVELOPMENT SERVICES PERMITS

CODES, PERMITS AND INSPECTIONS DIVISION

www.charlescounty.org

Dedication ■ Floodplains ■ Roads ■ Water and Sewer
Grading ■ Storm Drainage ■ Stormwater Management

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MISSION STATEMENT

The mission of Charles County Government
is to provide our citizens the highest quality service possible in a timely, efficient, and a courteous manner. To achieve this goal, government must be operated in an open and accessible atmosphere, be based on comprehensive long and short term planning, and have an appropriate managerial organization tempered by fiscal responsibility.

OUR VISION

Charles County is a place where all people thrive and businesses grow and prosper;
where the preservation of our heritage and environment is paramount;
where government services to its citizens are provided at the highest level of excellence;
and where the quality of life is the best in the nation.

INTRODUCTION

This package is designed to assist developers and engineers in the preparation of plans for submissions to Charles County. A well-prepared plan will require minimal revisions, thereby expediting the review and approval process.

These guidelines are minimum requirements for submission of plans to Charles County. They have been drawn from the Charles County Road Ordinance, Grading Ordinance, Stormwater Management & Storm Drainage Ordinance, Floodplain Management Ordinance, the Water and Sewer Ordinance, the Standard Detail Manual (Detail Manual) and the Charles County Standards and Specifications for Construction Manual (Specification Manual). These guidelines are not intended to replace the above County ordinances or manuals. Charles County requires that all developers and engineers obtain and thoroughly review all ordinances, codes, manuals and any other materials required for design and construction of projects within Charles County.

Close adherence to these guidelines along with a working knowledge of the County ordinances, design manuals, construction manuals and procedures will produce uniform, clear, and concise plans that are easily reviewed and easily read and interpreted by field personnel. Plans not meeting the minimum standards established in this document will be rejected.

The Development Services Division works closely with developers and engineers during all phases of development, from plan review through inspection and project close out to assure our mutual goal of quality development of Charles County.

Any person applying for a Development Services Permit (DS Permit) and/or doing related work must purchase a Charles County Standard Detail Manual and a Standard and Specifications for Construction Manual.

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CHARLES COUNTY, MARYLAND

FORMAT GUIDELINES AND MINIMUM REQUIREMENTS FOR THE PREPARATION AND SUBMISSION OF CONSTRUCTION PLANS FOR ROADS, GRADING, WATER AND SEWER, STORM DRAIN AND STORMWATER MANAGEMENT

I. PLAN SUBMISSION

A. PURPOSE

1. The purpose of these guidelines is to establish a standard format and minimum requirements for the initial submission of site, subdivision, development and Capital Improvement Project documents to the Department of Planning and Growth Management, Development Services Division for review.

2. The primary objective is to expedite the review process by eliminating review time which is spent on incomplete submissions. Plans will be prepared in conformance with Section II of these guidelines and all applicable County Ordinances, Detail Manual, MSHA Drainage Manual (Drainage Manual), 2000 Maryland Stormwater Design Manual, Volumes I & II (SWM Design Manual) and the Standard Specifications for Construction Manual.

3. Submission packages will be administratively evaluated and only those which have the following minimum requirements will be accepted by the Development Services Division for review. Those which do not meet these requirements will be returned to the submitting Engineer with a letter indicating the deficiencies.

B. GENERAL REQUIREMENTS

1. The documents listed on the Initial Submission Checklist (Attachment D) are required for an initial submission of site and development plans to the Department of Planning and Growth Management, Development Services Division for review. The initial submission package and all subsequent submissions will be submitted at the Department of Planning and Growth Management Permits Counter, County Government Building, La Plata, Maryland.

   All checks for fees will be made payable to "Charles County Commissioners." Note that if the final review fee is less than the initial review fee submitted than a credit will be given toward the Inspection Fee.

II. PLAN PREPARATION GUIDELINES AND REQUIREMENTS FOR SUBDIVISION, COMMERCIAL, INDUSTRIAL, INSTITUTIONAL AND COUNTY CAPITAL PROJECTS

A. PURPOSE:

1. The purpose of these guidelines is to establish a standard format with minimum requirements for the preparation of constructions plans, reports, letters, forms, materials, and any other documents necessary in obtaining a DS Permit.

2. The primary objective of the guidelines is to produce clear, consistent, t and precise plans and materials that can be easily interpreted and implemented by Charles County or Charles County contract personnel.

3. Close adherence to these guidelines and applicable County ordinances will assist

developers and design professionals during their plan development stage and help expedite the review and approval process by the County.

4. The County reserves the right to reject any permit application package or any resubmittal for the following reasons:

   a. Incomplete plan assembly packages,
   b. Unclear or cluttered plans,
   c. Plans, letters or documents which are not sealed or signed by the design professional, or
   d. Other reasons the County determines warrants a rejection

B. GENERAL PLAN PREPARATION REQUIREMENTS FOR PROJECTS:

1. The following format guidelines are intended as general guidelines for the development and submission of plans for major & minor construction projects. However, other methods and alternatives that produce the desired results may be considered with prior approval from the County. Minor construction projects with limited disturbance and construction may submit an abbreviated permit as noted. Minor projects may include individual lot grading, driveway entrances, grease traps or other limited disturbance projects. Any proposed variations or deviations from these guidelines shall be requested in writing to the Chief of Development Services Division prior to plan preparation.

2. All plan sheets shall be separate and organized in the following order:

   a. Title Sheet
   b. Grading/Private Storm Drainage/Stormwater Management/Floodplain Plan
   c. Roadway and Public Storm Drainage Plan
   d. Roadway Profile Sheets
   e. Storm Drain Profile Sheets
   f. Stormwater Management/Floodplain Plan Sheets - If separate from Grading Plan
   g. Drainage Area Maps
   h. Water and Sewer Composite Plan
   I. Water and Sewer Plan - If separate from Roadway Plan
   j. Water and Sewer Profile - If separate from Roadway Profiles
   k. Typical Sections and Detail Sheet
   l. Forest Conservation Plan (note this sheet shall be separate from all other disciplines)
   m. Sediment and Erosion Control Sheets (note these sheets shall be separate from all other disciplines)
   n. Conceptual Grading

   Note: Water and sewer plan and profiles may be included on the Roadway plan and profile sheets if the plan and profile sheets remain legible. The County reserves the right to require information to be provided on separate sheets.

3. For site development projects or minor construction projects which require only one plan sheets, the typical sections, and profiles may be shown, if adequate space is available to show all the required information clearly, on the same sheets.

4. All drawings in a set of major construction plans shall be the same size sheets, 36 inches wide by 24 inches high with no exception. Minor construction projects may submit plans on 8½" x 11" sheets or 11" x 17" sheets provided all information can be obtained on one sheet.

   a. Drawings shall have a 1" margin along the top, bottom and right edges and a minimum 1-¼" left margin.
   b. Pages shall be stapled with five staples ½" to ¾" from the left side beginning 2"

below the top and 5" increments thereafter with the final approved paper sets having a blue or black binding strip.

5. The North Arrow shall be shown on each drawing. All vicinity maps and location plans shall be oriented so that North is towards the top of the sheet.

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

7. All plans shall be oriented, where feasible, on the drawing so that North is towards the top or right of the sheet. The North Arrow shall be shown on each sheet.

8. The requirements of Items 6 and 7 may be waived by the Development Services Division upon written request if better continuity of the plan and profile sheets can be obtained. However, there shall be consistency in stationing and north arrow orientation for all sheets throughout the plan assembly. This shall be in accordance with Section II, Paragraph B-1.

C. DRAFTING PRACTICES:

1. Good drafting practices shall be exercised in the preparation of all drawings. Plans need to be clear and not give a cluttered appearance. Line weights and line brightness shall be established for the maximum clarity. Unclear or cluttered plans may be rejected.

2. The minimum size of lettering for all notes and descriptions shall be 1/8" in size (lower case only) or font size eighteen (18). All other lettering shall be proportionately larger depending on the importance of the item referred. Street names and similar designations shall be boldly lettered to stand out.

3. Standard symbols to be used in preparation of the drawings shall be as shown on Attachment B. Additional symbols may be used provided such is included in the symbol list.

4. Any abbreviation or acronym used shall be provided in a list provided on the title sheet.

5. Scales to be used on the drawings shall be as follows and shall be clearly indicated on the drawings.

   a. Vicinity , Location and Drainage Area Maps - See Section II, Paragraphs D.1.a. & b. and Paragraph I-1.
   b. Typical Sections - 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.
   c. Typical Details - As appropriate to show details clearly. 1" = 20' minimum and multiples thereof for larger scales. Water and Sewer Details may be referenced to a Standard Charles County Detail by including a table with reference numbers and names on the Cover Sheet.
   d. Roadway and Water & Sewer plans - 1" = 50' minimum. 1" = 20' may be used for special paving plans, intersections and cul-de-sac details.
   e. Site Plan - 1" = 50' minimum.
   f. Roadway, Water, Sewer and Storm Drain Profiles - 1" = 50' horizontal and 1" = 5' vertical. Enlargements of these scales will be permitted for special detailing. All profiles will be represented on a horizontal and vertical grid line graph profile.

6. All drawings must be signed and sealed by (professional registered in the state of Maryland) the following:

   a. Grading: Professional Engineer or Professional Land Surveyor, or Registered Landscape Architect.
   b. Roadway: Professional Engineer or Professional Land Surveyor
   c. Water & Sewer: Professional Engineer

d. Stormwater Management & Floodplains: Professional Engineer, Professional Land Surveyor (see note below)
e. Storm Drainage: Professional Engineer or Professional Land Surveyor

Note: Or as allowed by Maryland law.

7. All drawings shall contain the following:

a. A PGM# will be assigned to each project. This will be incorporated on the plans in the lower right hand and upper right hand corners (see attachment G) of all drawings with a #4 pen or similar sized font. The PGM # shall be **bold** and be formatted as follows, **PGM# VCYY-XXXX** (category - VC,VR, VI, etc.) year-number (ex. PGM# VR03-0171). For construction revisions to issued permits the PGM# shall be formatted as follows, **PGM# VCYY-R-XXXX** (category (VC,VR, VI, etc.) year- revision number -number (ex. PGM# **VR03-2-0171**).
b. A Charles County Approval Block will be provided on the right side of each sheet immediately above the title block without exception. A sample approval block is provided as Attachment E.
c. A revision block will be incorporated on each sheet for revisions made to plans after the issuance of the DS Permit. See Attachment F for an example. Revisions will begin after the County has approved the construction drawings. The revisions shall be clearly marked adjacent to each revision with a revision number.
d. A title block shall be on each drawing and at a minimum shall contain the following:

1. project name
2. section number
3. phase number
4. date
5. scale
6. sheet number
7. sheet title

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D. INFORMATION TO BE SHOWN ON DRAWINGS:

1. Title Sheets

a. Vicinity Map - Scale: 1" - 2000' minimum. 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).
b. Location Plan - Scale: 1" - 200' preferred, 1" - 400' minimum. Location plans shall show overall subdivision layout, section limits, adjacent subdivisions, street names, control bench mark location(s) and north arrow. The section to be constructed shall be clearly delineated.
c. Title Information - subdivision name or project name, section number, election district, County and State.
d. Owner's Certificate, name, physical address and phone number.
e. Engineer's and/or Surveyor's Certificate, name, physical address, signature and seal.
f. Sheet index to drawings.
g. Legend of specific graphic special symbols applicable to the project which differ from the County's Standard Symbols. The Standard Symbols should be used to the fullest possible extent.
h. List of abbreviations and acronyms applicable to the project.
I. General Notes or notes applicable to the category.
j. Horizontal and vertical control references. (U.S.C.& G.S. and State of Maryland)
k. Charles County Planning Commission Preliminary Plan & Final Approval Number or Site Plan Number as applicable and date of approval to be located in the upper left corner of the title block.

l. Charles Soil Conservation District Approval Number with approval and expiration dates to be located in the upper left corner of the title block.
m. Applicable Grant Number.
n. Tax map and parcel number.
o. Any other information or note that the County determines is applicable for a particular project.

2. General Notes shall be as follows:

a. All work shall be in accordance with the latest Charles County Department of Planning and Growth Management Specifications Manual, the latest Charles County Detail Manual and in accordance with current county ordinances.
b. Contractor is responsible for contacting "Miss Utility" at 1-800-257-7777, 48 hours prior to any excavation work.
c. The developer is responsible to hold a “Preconstruction” meeting to include the contractor, Charles County Inspection personnel, public utilities, and any local, state or federal agencies as required prior to the start of construction.
d. The contractor is responsible for contacting the Charles County Department of Planning and Growth Management/Codes, Permits & Inspections Division 48 hours prior to the start of all construction in accordance to all permits issued @ 301-645-0700.
e. Maximum slopes shall be not greater than three (3) feet horizontal to one (1) foot vertical outside the road right-of-way. Slopes within the road right-of-way shall be not greater than two (2) feet horizontal to one (1) foot vertical, or as specified in the County Road Ordinance and in the Charles County Detail Manual.
f. Certified compaction tests are required for all trench/fill work in accordance with the latest edition of the Specifications Manual and Grading Ordinance. Final reports and certifications shall be provided prior to pre-final inspections.
g. Certified compaction tests and geotechnical reports shall be submitted on a bi-weekly basis throughout the course of construction as required by the Specifications Manual.
h. A progress set of as-built plans shall be submitted prior to “Substantial Inspections” for water and sewer construction for the purpose of obtaining an approval for substantial inspection
i. As-built plans shall be submitted prior to pre final inspections for all disciplines.
j. For all structures categorized as a “bridge” according to the definition contained in Section GP.1 of the Charles County Standards and Specifications for Construction Manual, bridge inspection report and certification requirements shall be met prior to the road pre final inspection.
k. With approval from the Department of Planning & Growth Management all erosion and sediment control structures must be removed prior to the release of bonds.

E. GRADING:

To be complete and in accordance with the Charles County Grading Ordinance and the Specifications Manual.

1. **Review and Inspection Fee**: The fee for the review and inspection of a permit for grading operations shall be:

a. As established in the latest Charles County Fee Schedule (**Fee Schedule**) based on the latest Charles County Unit Prices for Fee Establishment and Security Amounts (**Unit Prices**).
b. The fees shall be payable to the Commissioners of Charles County. The Review Fee shall be submitted with the initial submission and the Inspection Fee shall be submitted at the time of the issuance of the DS Permit. If the final Review Fee is less than the amount previously paid, a credit of the overpayment will be given toward the required Inspection Fee.

2. **Bond Amount:** The amount of the bond for grading operations shall be computed as follows:

a. As established in the latest edition of the **Unit Prices**.

3. Cost Estimate - A construction cost estimate for grading outside of the road right-of-way is required. Cost estimates shall be based on the latest **Unit Prices** and included under the Stormwater Management Bond.

4. General Requirements for an Overall Conceptual Grading Plan

   a. Overall conceptual grading plans for subdivision projects shall be provided for all subdivisions of 2 acres or less and with all subdivisions where grading single family lots impact adjacent lots. This plan shall be provided on a separate sheets. The following information shall be provided on the conceptual grading plans:

      1. building restriction lines
      2. projected house locations
      3. easement locations and dimensions (labeled)
      4. existing and proposed contours (2' contour interval minimum) (note that grades need to comply with all applicable building codes- BOCA, CABO, etc as well as the Grading Ordinance)
      5. projected entrance and driveway culvert locations and sizes
      6. the minimum finished floor elevation (ex. mff elev =100.00(fp) if based on floodplains, mff elev =200.00(ss) if based on sanitary sewer, etc.)
      7. environmentally sensitive areas such as Wetlands, RPZs, Critical Areas, Floodplains (with elevations), Forest Conservation, etc.
      8. Soil series and high groundwater information
      9. Geotechnical information necessary if located in the "**Area of Special Geotechnical Consideration**"
      10. Stormwater information for lots with individual lot swm design as outlined in the SWM Design Manual
      11. Other site information of particular interest which may affect the building or activities on the site.

It shall be the responsibility of the applicant of the DS Permit to assure that each individual subdivision lot may be properly graded during the Building Permit process without grading on adjacent lots or without obtaining offsite permission from offsite property owners. A note shall be added to the plans stating the following:

Building permits shall include a site plan showing that each individual lot be graded in substantial compliance with the overall conceptual lot grading plan or as approved by the Department of Planning and Growth Management.

5. Area of Special Geotechnical Consideration

   a. A geotechnical report will be required for new construction in the portion of the County designated as the "**Area of Special Geotechnical Consideration**". The geotechnical report shall be prepared by a professional engineer licensed in the state of Maryland. The geotechnical report shall identify all unstable soil conditions and make recommendations for construction requirements where the unstable soil conditions exist. Unstable soil conditions shall include but not be limited to, high shrink/swell or other unstable soil conditions as determined by the geotechnical engineer. These recommendations shall become a part of the construction permit requirements.

      The geotechnical construction recommendations shall include all necessary requirements for roads, grading, drainage, stormwater management, water & sewer, buildings, foundations, landscaping, utilities, and any other construction as determined by the county. A generalized map is attached in Attachment M.

6. Minimum grading design and plan information requirements

   a. Show property boundaries with bearings and distances.
   b. Provide a timing schedule with anticipated start date, major construction

milestone dates and completion date.

c. Show the location of all proposed buildings, structures, utilities, sewers, storm drains, stormwater management facilities, roads, parking areas, curb & gutters, landscape areas, streams, channels, ditches, wetlands, buffers, floodplains, backwaters, easements, resource protection zones, tree lines, limits of disturbance, or any other environmental feature or structures located within the limits of where the work is to be completed.

d. Gain authorization and provide written copy for off-site grading rights for all work proposed outside of the property boundaries. Any work requiring a recorded document shall have such document reveiewed, approved and recorded prior to the issuance of the DS permit.

e. Show the location of all existing buildings, structures, utilities, sewers, storm drains, stormwater management facilities, roads, parking areas, curb & gutters, landscape areas, streams, channels, ditches, wetlands, buffers, floodplains, backwaters, easements, resource protection zones, tree lines, limits of disturbance, or any other environmental feature or structures located within a minimum of one hundred feet (100') from where the work is to be completed or from the property line. Information beyond one hundred feet (100') may be required by the County if deemed necessary.

f. Existing topography shall be shown for the entire site extending at a minimum of one hundred feet (100') beyond the property line (farther if deemed necessary by the County). Contour interval shall be two feet (2') with elevations established on all contour lines.

g. Proposed topography shall be shown for the entire site extending at a minimum of one hundred feet (100') beyond the property line (farther if deemed necessary by the County). Contour interval shall be two feet (2') with elevations established on all contour lines.

h. Show an estimate of quantity of fill involved.

I. Show the locations of any soil boring or soil test.

j. If controlled fill is specified, provide soil classification and maximum dry density and moisture content of all controlled fill.

k. With approval from the Maryland Department of the Environment all erosion and sediment control devices must be removed prior to the release of the bonds.

F. ROADS:

To be in accordance with the Charles County Road Ordinance.

1. **Review and Inspection Fee:** The fee for review and inspection of a permit for road improvements shall be as follows:

   a. As established in the latest **Fee Schedule** based on the latest **Unit Prices** .

   b. The fees shall be payable to the Commissioners of Charles County . The Review Fee shall be submitted with the initial submission and the Inspection Fee shall be submitted at the time of the issuance of the DS Permit. If the final Review Fee is less than the amount previously paid, a credit of the overpayment will be given toward the required Inspection Fee.

2. **Bond Amount**: The bond amount for road and entrance improvements shall be as follows:

   a. 110% of the estimated cost of construction for construction within the right-of-way. The minimum bond amount for Commercial, Industrial, and muilti-family entrances shall be $5000.

3. Cost Estimate - A construction cost estimate for road and/or entrance improvements within the road right-of-way is required. Cost estimates shall be based on the latest **Unit Prices** .

4. Roadway Plan & Profile Sheets

a. Plan view and relative profile views, i.e. same station break points, shall appear on separate plan sheets.
b. Plans shall be drafted to scales which meet Section II, Paragraph C-4.
c. Roadway Plan View - The plan view shall contain the following information

1. Dimensions - Pavement, shoulders, and right-of-way widths shall be noted at a minimum rate of one per page per roadway shown.
2. Road Names - The road name shall be provided and placed outside of the road right-of-way limits. Names shall be placed so as not to cause confusion with other information on the sheet. These names shall be as approved previously by the 911 Addressing Office with the preliminary subdivision plans.
3. Design speed - Shall be noted per each roadway design and placed below, adjacent to roadway name.
4. Stationing - Shall meet provisions of Section II paragraph B - 6 & 7, and shall be comparable to the stationing of the profile view.

    (a) Stationing for roadway extensions shall be continued from the previous project, section, or phase.
    (b) Stationing for equivalency points of roadway intersections shall be labeled.

5. Horizontal Alignment Data - All data relative to the horizontal alignment shall be provided as follows:

    (a) Point of Intersection (P.I.)
    (b) Point of Curvature (P.C.)
    (c) Point of Tangency (P.T.)
    (d) Intersection Angle (DELTA)
    (e) Radius (R)
    (f) Tangent Distance (T)
    (g) Tangent Bearing (B)
    (h) Length of Curve (L)
    (I) Long Chord Length (L.C.)
    (j) Middle Ordinate (M)
    (k) Degree of Curve (D)

6. Property Lines - Property line boundaries shall be shown for each lot and parcel, or subdivision of each, which lies adjacent to the roadway.
7. Storm Drains and Drainage Road (Cross) Culverts - Storm drain systems and road culverts shall be shown and labeled with a description of the structures. Pipes shall be screened to include the type and size.

    (a) Easements shall be shown, labeled and dimensioned where necessary according to County regulations and Section II, Paragraphs M.2. of this package.

8. Cross Section - A representative , cross-sections will be provided for each roadway and/or roadway pavement widening in the remaining space available on the plan sheet or on separate sheets. These sections shall consist of not only the necessary widths of roadway, design, and dedication; but also the depths of the pavement section and description of material to be used, shoulders, roadside ditches, curb and gutter size and type, easements, and any other information as required by the County.
9. Location of Signs
10. Fillet or curb radii with P.C. and P.T. for all streets shall be shown.
11. Direction of flow arrows at curb returns and critical drainage points.
12. Location of handicap ramps.
13. Pavement Markings for acceleration and deceleration lanes, paved shoulders, pedestrian/hiker-biker facilities, and for all major collectors

and above in accordance with the MUTCD standards.

14. Sight distance shall be shown for all intersections and entrances.

5. Roadway Profile View - The profile view shall contain the following information:

   a. Utility Placement - All utility or storm drain systems crossing the roadway shall be shown on this view. Adequate cover protection must be shown and depths labeled.
   b. Stationing - Shall meet the provisions in Section II paragraphs B- 6 & 7 and shall be continued from the previous project, section, or phase when applicable for roadway extensions.
   c. Vertical Alignment Data - All data relative to the vertical alignment shall be provided as follows:

      1. Point of Vertical Intersection (P.V.I.)
      2. Point of Vertical Curvature (P.V.C.)
      3. Point of Vertical Tangency (P.V.T.)
      4. Grades of Tangents (in percent, with upgrades in direction of increasing stationing being positive and downgrades negative).
      5. Length of Vertical Curve (V.C.L.)
      6. Design Speed - as noted in plan view Section II, Paragraph F.4.c.3.
      7. Algebraic difference in grade (A)
      8. Vertical offset from P.V.I. to middle of curve, in feet (E).
      9. Profile rate of change (K).

   d. Elevations shall be noted for existing conditions at proposed roadway centerline and right-of-way lines left and right of centerline. In addition, the proposed profile conditions for centerline and right-of-way lines must be shown.
   e. Sight distance shall be shown for all intersections and entrances.

6. Cul-de-sacs Plan and Profile

   a. Shall meet all requirements stated in Section II, Paragraphs F-4 & 5 respectively.
   b. Shall show all necessary design features such as: all radii for roadway, cul-de-sac islands, shoulder, and right-of-way.
   c. Cross slope of cul-de-sac bulb shall be shown in plan view.
   d. Linear profile around cul-de-sac bulb at curb line for closed sections only.
   e. Show center point elevation and stationing.

7. Entrances

   a. Commercial-Industrial-Apartment Entrances - shall be shown in detail with respect to typical design standards. Detail shall be noted such as:

      1. Entrance width - measured at straight line tangents.
      2. Radius of entrance fillets
      3. Pavement section detail - All materials to be used for construction shall be noted, including descriptions, type, and thicknesses.
      4. Entrance profile - this shall be drafted to show adequate cover over drainage structures and utilities.
      5. Entrance landing grade or slope

   b. Subdivision Entrances - shall be shown in relation to Section II, Paragraphs F-4 & 5.
   c. Label entrance aprons to be constructed of bituminous concrete to be constructed using the same County standard pavement section as the adjacent County roadway, dependent upon road classification.

8. Sign Schedule table indicating quantity, type, size, material, and MUTCD reference number for all signs.

9. Street Tree Planting List indicating name, quantity, and caliper.

10. Maintenance of Traffic Control Plan shall be shown as per MUTCD and the MSHA standards.

11. School bus turnaround in accordance with the Road Ordinance.

G. STORMWATER MANAGEMENT: To be in accordance with the Charles County Stormwater Management & Storm Drainage Ordinance as amended and adopted on July 1, 2001.

1. **Review and Inspection Fee:** A Review Fee based on the **Fee Schedule** is required. This Review Fee shall be submitted with the initial submission of plan and the Inspection Fee shall be submitted prior to the issuance of a DS Permit. The fees are to be made payable to the Commissioners of Charles County. If the final Review Fee is less than the initial amount previously paid, a credit of the overpayment will be given toward the required Inspection Fee.

2. **Bond Amount:** The bond amount for stormwater management shall be 110% of the total estimated construction cost estimate. The construction cost estimate is based on unit prices established in the latest **Unit Prices** .

3. **Cost Estimate:** The construction cost estimate shall be based on the **Unit Prices**. Stormwater management shall be included with the cost estimate for stormwater conveyance facilities. Public facilities shall be broken out separate from the private facilities within the cost estimate.

4. Stormwater Management (SWM) will be addressed on all submissions. A completed Stormwater Management Summary Sheet (Attachment C) is required for all projects.

5. Plans - Stormwater Management Plans, Detail Sheets and notes shall be separate from all other categories and contain the following:

    a. A vicinity map;
    b. Topography showing existing and proposed conditions, including areas necessary to determine downstream analysis for the proposed stormwater management facilities;
    c. All proposed improvements including, locations of buildings or other structures, impervious surfaces, stormdrainage facilities, and all grading;
    d. The location of all existing onsite structures and offsite structures which may be impacted by the proposed development;
    e. Existing easements to include label, dimensions, liber and folio;
    f. Proposed easements with labels and dimensions;
    g. Existing and/or proposed right-of-ways with label and dimensions;
    h. Buffers, wetlands, or other environmental features with labels and dimensions;
    I. One hundred (100) year floodplains with source identified, labels, dimensions and elevations;
    j. Structural and construction details for all components of the proposed swm outfall system or systems and stormwater management facilities;
    k. Construction specifications;
    l. A sequence of construction specific to stormwater management;
    m. Data in table form for the total site area, disturbed area, existing impervious areas, new impervious areas, and total impervious areas;
    n. A table of materials used for the stormwater management facility(ies) stabilization and plantings;
    o. A table showing the unified sizing criteria volumes required in the Design Manual;
    p. All soil boring or soil investigation logs and locations;
    q. A maintenance schedule;
    r. A table of lots indicating the lot number and the structural or nonstructural swm

practices employed or required for the lot;

s. A table of swm facilities to include number (all to be numbered consecutively, ex. SWM-1, SWM-2, SWM3, etc.), type, MDE Design Manual designation (P-1, W-1, I-1, F-1, etc.), drainage area to the facility, total site acreage, ADC map number, northing and easting, developed RCN to the facility, State Watershed Designation (see Attachment K), Maryland Office of Planning Landuse Codes (see Attachment J), Address or description of location (ex. 100' N, 300' W of the intersections of X Road and Y Road) and the liber, foilio and date of recordation of the Inspection and Maintenance Agreement if applicable);

t. Owner's Certification (see Attachment M);

u. Engineer's Certification (see Attachment M);

v. As-built signature and certification block (see Attachment L);

w. Landscape plan;

x. Pond drain;

y. Drain valve;

z. Fences and gates;

aa. Railings on riser tops;

bb. Endwall fences on outfalls greater than 48" diameter;

cc. Safety benches;

dd. Observation wells;

ee. Any and all notes, details, tables, or information as requested by Charles County

6. Stormwater Management Computations shall include (with applicable appropriate formulas) the following:

a. Existing and developed RCN's;

b. Time of concentration calculations;

c. Existing and proposed discharge calculations;

d. TR-55;

e. TR20;

f. Stage-storage calculations;

g. Volume calculations;

h. Volumetric Runoff Coefficient (R_v) calculations;

I. Water Quality volume (WQ_v) calculations;

j. Recharge volume (Re_v) calculations;

k. Channel protection volume (Cp_v) calculations;

l. Overbank flood protection volume (Qp_{10}) calculations;

m. Extreme flood volume (Qf_{100}) calculations (if applicable);

n. Adequate outfall calculations (if applicable);

o. Water balance analysis (if applicable);

p. One-year post development peak discharge (Q_i) and

q. Any other calculation necessary to support the design or requested by Charles County

7. Channel Protection Volume Waiver - Cp_v waivers can only be obtained if the post development discharge for the one (1) year, 24-hour storm is less to two (2) cfs to the design point. Offsite areas areas discharging to the design point shall be modeled in present land use conditions.

8. Drainage Area Maps (Stormwater Management) - Drainage area maps shall be shall be incorporated as part of the plan assembly and provided on separate sheets. Existing and proposed maps shall be separate from each other. These maps shall be prepared at a scale of at least 1" = 200' and shall contain the following:

a. Subareas for each design point;

b. Design points shall be clearly, marked, labeled and numbered consecutively;

c. Time of concentration paths - show each reach length;

d. Land uses - existing and proposed showing RCN's (as applicable);

e. Show TR-20 cross-sections, structures, reaches, etc;

f. Topograghy extend to boundary lines and/or past drainage breaks to confirm drainage breaks;

g. Analysis shall extend downstream to limits of impact;
h. Show soil types and hydrologic soil groups;
i. Existing and or proposed roads, buildings or other structures;
j. One hundred (100) year flood plains and any other important environmental features; and
k. Any and all notes, details, tables, or information as requested by Charles County.

9. Stormwater Management Report - All projects shall be submitted with a swm report prepared by a professional licensed in the State of Maryland. The report shall be properly bounded with a report cover and back and shall include the following:

a. Name of project (cover);
b. Seal and original signature of the licensed professional (cover);
c. Date of the report (cover);
d. Dates of all revisions (cover);
e. Election district (cover);
f. Tax map and parcel (cover);
g. Name, address & telephone number of the design firm (cover);
h. Vicinity map (cover);
i. Table of contents;
j. A list of acronyms, or abbreviations used in the report;
k. Summary of the proposed development;
l. Summary of the existing conditions of the site;
m. Methodologies;
n. Descriptions of all existing water courses, environmental features, existing impoundments, wetlands on or adjacent to the site into which stormwater directly flows;
o. Page numbers;
p. Any pictures, diagrams, or summaries as necessary;
q. Geotechnical investigations including soil maps, borings, site specific recommendations, and any other geotechnical related information necessary for the proposed swm design;
r. Summary of structural swm and nonstructural swm methods employed on the site with a discussion of where such measures are employed;
s. Copies of existing swm reports if used to support waivers with a summary discussing how the swm is addressed in an existing facility. The report shall include a certification that the existing swm report has been thoroughly reviewed and that there is a concurrence with the conclusions, findings and results of said report;
t. A thorough discussion of downstream conditions; and
u. Compact disc with a copy of the report, calculations, pictures, scanned drawings and any other information requested by Charles County. Scanned Drawings shall be in tif format, pictures shall be in jpg format and the report shall be in wpd (word perfect format) or pdf (portable drive format);
v. Stormwater management summary sheets; and
w. Any and all notes, details, tables, or information as requested by Charles County.
x. The report shall include a performance criteria discussion for each bmp designed on the site. Each item in the particular performance criteria must be listed with the discussion. The following is reference to the applicable references found in the 2000 Maryland Stormwater Design Manual Volume I:
    1. Stormwater Ponds (3.1.1, 3.12, 3.13, 3.14, 3.1.5, 3.1.6)
    2. Stormwater Wetlands (3.2.1, 3.2.2, 3.2.3, 3.2.4, 3.2.5, 3.2.6)
    3. Stormwater Infiltration (3.3.1, .3.3.2, 3.3.3, 3.3.4, 3.3.5, 3.3.6)
    4. Stormwater Filtering (3.4.1, 3.4.2, 3.4.3, 3.4.4, 3.4.5, 3.4.6)
    5. Open Channel (3.5.1, 3.5.2, 3.5.3, 3.5.4, 3.5.5, 3.5.6)
y. Chapter tabs

H. STORMWATER CONVEYANCE : To be in accordance with the Charles County Stormwater Management & Storm Drainage Ordinance.

1. **Review and Inspection Fees**: The Review and Inspection fees shall be based on the Fee Schedule . The fee shall be separate from all other categories.

2. **Bond Amount:** The bond amount for stormwater conveyance systems shall be 110% of the estimated cost of construction and included in the Stormwater Management bond.

3. **Cost Estimate** - The construction cost estimate shall be based on the Unit Prices for Fee Establishment and Security Amounts . Stormwater conveyance/drainage shall be included with the cost estimate for stormwater management facilities. Public facilities shall be broken out separate from the private facilities within the cost estimate.

4. Storm Drain Schedule shall include the following:

   a. Structure number
   b. Structure type
   c. Detail Reference Number (e.g. Cog-15, MD-374.64, Standard Drop Manhole, MD 383.11, etc.)
   d. Other information not placed on profiles.

   This table may not be combined with the Stormwater Management structure table but must be separate.

5. Plan View of Stormwater conveyance system shall include the following:

   a. Structure number for all structures including, inlets, manholes storm drains, etc.;
   b. Pipe diameter and type (CMP, RCP, HDPE, etc.) for all stormwater pipes;
   c. Drainage easement widths see Section II.M.7;
   d. Direction of water flow; and
   e. Any other information as requested by Charles County

6. Storm Drain and Ditch Profiles shall include the following:

   a. Scale;
   b. Elevation versus station plot (proposed and future grade);
   c. Structure number;
   d. Invert-In and Invert-Out elevations;
   e. Pipe diameter size/type/class;
   f. Percent of grade;
   g. Plot of 10 year hydraulic grade line;
   h. Ten year discharge, Q10;
   i. Ten year flow velocity, V10;
   j. All utility crossings, especially water and sewer crossings;
   k. 100 year water surface elevations and backwaters where applicable;
   l. Horizontal elevation lines and vertical station lines; and
   m. Any other information as requested by Charles County

7. Details (give scale) are required for the following:

   a. Inlets (modified inlets, show channelization);
   b. Pipe (field connection joints);
   c. Channels/ditches (stabilization/side slopes/percent grade/dimensions);

8. Computations shall be contained in a report sealed and signed by the responsible Professional Engineer or Professional Land Surveyor registered in the State of Maryland and contain the following and shall be separate from the stormwater management reports:

   a. Nomographs for inlet capacity;
   b. Nomographs for gutter capacity;
   c. Computations for storm drain capacity;
   d. Hydraulic gradient computations;

e. Computations for open channel flow;
f. Computations for energy dissipaters;
g. Culvert analysis;
h. Engineer's cost estimate;
i. Hydraulic jump (if applicable);
j. Adequate outfall calculations (AOC); and
k. Any other calculation as requested by Charles County.

Note: A software program acceptable to the County may be used in lieu of hand calculations provided approval is obtained in advance. If software programs are used they must be made available to Charles County upon request. Otherwise, all calculations must be submitted on MSHA forms as found in the MSHA Drainage Manual or submitted in a format consistent with those forms.

I. DRAINAGE AREA MAPS (Stormwater Conveyance Systems)

1. Drainage area maps (existing and proposed conditions are to be separate) with a scale of at least 1" = 200' shall be incorporated as part of the plan assembly and contain the following:

   a. Subareas for each structure or portion of drainage system;
   b. Time of concentration paths - show each reach length;
   c. Land uses - existing and proposed showing RCN's;
   d. Show TR-20 cross-sections, structures, reaches, etc;
   e. Show point of investigation;
   f. Analysis shall extend downstream to limits of impact; and
   g. Show soil types and hydrologic soil groups.

   Note: Drainage area maps for storm draiange shall be separate from the stormwater management draiange area maps.

J. WATER AND SEWER: In accordance with the Charles County Water and Sewer Ordinance.

1. Review and Inspection Fees: A Review Fee based on the Charles County Fee Schedule is required. This Review Fee shall be submitted with the initial submission of plan and the Inspection Fee shall be submitted prior to the issuance of a DS Permit. The fees are to be made payable to the Commissioners of Charles County. If the final Review Fee is less than the initial amount previously paid, a credit of the overpayment will be given toward the required Inspection Fee.

2. Bond Amount: The bond amount for water and sewer construction shall be 110% of the total estimated construction cost estimate. The estimated cost of construction shall be based on the latest "Unit Price List for Development Agreement Security Amounts and Plan Review Fees".

3. Cost Estimate - A construction cost estimate for water and sewer is required. Cost estimates shall be based on the latest Charles County “Unit Prices for Fee Establishment and Security Amounts”.

4. General Requirements

   a. A reference table to a County approved detail shall be shown for each major item on the cover sheet . The table shall include the detail number and name.
   b. Deed book references for each property (each occurrence) shall be provided.
   c. Utility crossing depicted in plan view shall be located correctly in profiles.
   d. Plan view scale shall match profile view scale in each occurrence.
   e. Service line shall be shown to each lot with clean-out or curb stop/box.
   f. Each line shall be labeled uniquely and stationed continuously
   g. State plane coordinates shall be indicated on each plan view.

h. Legend shall be provided.
i. Size, type, class and length of pipe shall be specified for each section.
j. Provide a signed, dated construction cost estimate broken down for water and sewer with totals for each.
k. Adequacy of off-site facilities shall be addressed - if capacities are questionable, documentation shall be provided. This documentation shall be stamped and signed by a Maryland Registered Professional Engineer.
l. Each lot/unit shall be labeled uniquely.
m. Water and Sewer notes shall be provided (Note #1 states scope of work).
n. Allocation forms shall be submitted to the Sanitation Planner.
o. Clear distinction shall be made for phases.
p. Indicate location of any gasoline or chemical storage facilities within 200 feet in any direction of a water or sewer line.
q. Easements for off-site lines are required.
r. Provide an overall composite map showing utilities (lines, valves, hydrants and manholes), street names, and sheet reference on which plan view can be found.
s. PGM #'s and/or deed book referenced for existing lines and easements are required.
t. Any specific water and/or sewer details not currently in the Detail Manual.

5. Ancillary Permits Required:

a. Maryland State Highway Administration Utility permit: required when any work is to be done in the right-of-way of any State road. This permit is issued in the name of the Charles County Department of Planning and Growth Management or Charles County Government. The developer submits three (3) completed applications, three (3) sets of site plan/profile (stamped and signed by a Maryland Professional Engineer) folded to 8 ½" x 11" along with three (3) 8-½" x 11" vicinity maps. The proposed work in the right-of-way should be highlighted with pink for water; yellow for sewer, and green for fire hydrants, with a written description of specific location and type of work being performed. The County Water and Sewer Engineer will review, stamp for MSHA Review and sign the application. The Development Services Division will then forward the permit to MSHA for processing.
b. Maryland Department of the Environment Utility Construction Permit; is required for:

1. Any water or gravity sewer mains sixteen inch (16") or greater in size.
2. Any size force mains.
3. Construction of any water booster pumping stations, wells, other water treatment facilities, storage towers or other storage facilities, sewer pumping stations and any sewer treatment facilities.

Application for this permit is made by the Developer to the State of Maryland, Department of the Environment, Division of Engineering & Permits, 2500 Broening Highway, Baltimore, MD 21224. This permit is issued by MDE only after the Charles County Water and Sewer Engineer has stamped the drawings "Approved/MDE Review". The County Water and Sewer Engineer must also sign the "Financial Management Plan" section of the prepared application, if the water and sewer facilities are to be dedicated to the County. This package will be returned back to the Developer for their submission to MDE. It should be noted that the water and sewer construction cannot start until the County has been furnished a copy of the issued MDE Permit. It is the responsibility of the Developer to abide by all conditions of the issued MDE Permit.

c. Other permits such as Wetlands, Critical areas, Army Corps of Engineers, etc. may be required. It is the Developers responsibility to address these concerns.

6. Requirements Specific to Water Plan View:

a. Indicate what previous project (PGM #) new lines tie into, provide liber/folio of dedication to County if applicable.

b. Lines shall be labeled uniquely and stationed continuously.

c Water plans submitted for review and approval to the County will not be required to include the standard Details. The plans, however, must include a table on the cover sheet listing by detail number and name all of the water details which are applicable to the set of plans. In cases where the County has no adopted standard detail for a specific construction method, the Engineer must submit a special detail to the County's Water and Sewer Engineer for review and approval. Once approved, the special detail shall be placed within the plans with notes referring to the special detail on all applicable sheets.

d. Service line shall be shown to each lot with a curb stop (or notation explaining why not).

e. Specify size, type, class and length of pipe for each section (12" - Class 52 - CL DIP, etc.).

f. Plot private wells for each lot (if applicable) or indicate none.

g. Provide concrete encasement for protection of water supply per State Health Standards/MDE requirements.

h. Bends shall be labeled and plotted.

i. Indicate water meter size and plot location.

j. Provide meter sizing computations ,using COMAR 09.20.11.13, for demands, and AWWA M22, for meter sizing for non-single family and non townhouse uses.

k. Indicate required permits on cover sheet - MDE, MSHA, etc.

7. Requirements Specific to Water Profile:

a. Specify size, type, class and length of pipe for each section (12" - Class 52 - CL DIP, etc.).

b. Specify depth of bury and "bury line" elevation on profile for each hydrant.

c. Each line shall be labeled uniquely and stationed continuously.

d. Original ground shall be plotted.

e. Finished grade shall be plotted.

f. Each line profiles shall have a vertical and horizontal scale.

g. Bends shall be labeled and plotted.

8. Requirements Specific to Sewer Plan View:

a. Indicate what previous project (PGM #) new lines tie into provide liber/folio of dedication to County if applicable.

b. Service line shall be shown to each lot with a clean-out ,at the ROW/Property line, (or notation explaining why not).

c. Kor-n-Seal or County approved equal, shall be specified and indicated on the plans for tie-in to existing manhole/pump station.

d. Computations shall be shown on plans in accordance with Chapter 2, 1.J, Technical Bulletin: M-DHMH-EHA-S-001 Edition "Design Guidelines for Sewer Facilities", State of Maryland.

e. Specify size, type, class, slope and length of pipe for each section from manhole to manhole.

f. Plot septic areas for each lot (if applicable) or indicate none.

g. Indicate required permits - on cover sheet, MDE, MSHA, etc.

h. Provide first floor elevations for each lot.

i. Sewer service line shall serve all lots to a mid point of lot at a 2% minimum slope.

j. Slope greater than 15%: Specify proper County Detail.

9. Requirements Specific to Sewer Profile:

a. Specify size, type, class, slope and length of pipe for each section from manhole to manhole.

b. Each line shall be labeled uniquely and stationed continuously.

c. Original ground shall be plotted.

d. Finished grade shall be plotted.

e. Each line profile shall have a vertical and horizontal scale.

K. SHA ENTRANCE PERMIT

1. A review is required by the State Highway Administration for entrances onto a State Road. Engineers are responsible to submit required information to State Highway Administration at 707 N. Calvert St. Baltimore, MD 21203.

L. PLANNING AND ZONING

1. Planning and Zoning review is conducted to assure that construction drawings are in compliance with Planning Commission and/or the Board of Appeals approval. Planning and Zoning final approval is required prior to the issuance of permits.

M. DEDICATION/CONVEYANCE DOCUMENTS

The items listed below must be submitted to the PGM Right-of Way Agent for review concurrently with the record plat.

1. Easement Agreements: water/sewer/public and or private drainage/stormwater management/slope; are intended to convey necessary rights to the "County Commissioners of Charles County, Maryland" to insure ingress and egress, and the ability to install, construct, reconstruct, operate, maintain, repair and inspect the above referenced facilities. Easements must be labeled to illustrate the intended use and therefore the term "utility" easement may not be used to identify an easement that will be conveyed to the County. The easements must agree with the approved As-built construction plans for construction outside of the County right-of-way and include the printed name and signature of the owner(s). A signature line must be provided for the Deputy County Administrator for Planning and Growth Management as shown below. When applicable lien holders may execute the easement agreement to demonstrate their consent or execute a separate consent agreement.

   APPROVED FOR ACCEPTANCE:

   _____
   Director
   Planning and Growth Management

   a. Drainage Easements: These easements shall be provided when a development plan directs the discharge of water through the project. Drainage easements shall be provided for open or closed systems located outside of the County right-of-way. These easements shall be provided for all manmade systems or natural systems that have undergone improvements which will require monitoring and maintenance. A natural water course, channel, stream, creek, low, gully, etc. where no improvements have been made or no improvements or maintenance will be required shall not have drainage easements provided.

      All Drainage Easements shall be conveyed to the County and shall be located outside the limits of any proposed subdivision lot. There shall be two categories of Drainage Easements, private and public.

      1. A "Public Drainage Easement" shall be a Drainage Easement extending from an existing or future County or State right-of-way, carrying water from said right-of-way, conveying water through a residential subdivision (single family or townhouse). The easement shall extend for the length of the improvements to an adequate natural water course or stormwater management facility. These easements shall be maintained by the County. Easements in a residential subdivision draining to a County right-of-way not conveying "public" water shall be specified as a "Private Drainage Easement" unless otherwise specified by the County.
      2. A "Private Drainage Easement" shall be a Drainage Easement

extending from an existing or future County or State right-of-way through an industrial, commercial or institutional development. "Private Drainage Easements" shall also be provided where drainage improvements have been made and the easements do not convey public waters (waters from a County or State right-of-way). The easements shall also be provided as determined by the County. These easements shall be privately (not County) maintained.

b. Stormwater Management Easements: Stormwater Management Easements shall be conveyed to the County and shall be required for the operation, access and maintenance of stormwater management facilities.

1. A "Public Stormwater Management Easement" shall be provided for SWM facilities which the County has determined would be maintained by the County.
2. A "Private Stormwater Management Easement" shall be conveyed to the County and shall be for all SWM facilities except for those which the County has determined will be maintained by the County.

c. Public Slope Easement: these easements shall be provided for road fill slopes supporting a County road system.

d. Public Slope and Drainage Easement: these easements are similar to "public" drainage easements except that they include road fill slopes that support a County road system.

e. Private Temporary Grading Easements: These easements are for temporary grading on offsite properties when no continual maintenance is needed.

2. Deeds and Conveyances: deeds which convey fee simple ownership of road rights-of-way, public use lots (pump station lot, lift station lot, etc...) to the "County Commissioners of Charles County, Maryland" must include the printed name and signature of the owner(s), a reference to the record plats and the name of all streets to be conveyed. A signature line must be provided for the Deputy County Administrator for Planning and Growth Management as noted in Section II.M.2.

3. Deed of Partial Release: it is the intent of this document to separate the real property that will be conveyed to the County from the remainder of the project. This is accomplished by having the lienholder(s) relinquish their interest in the subject real property by fully releasing and discharging the developer from the lien, operation and effects of the trust in the subject area.

4. Preliminary Title Report: must be prepared by an attorney licensed to practice law in the State of Maryland. It is intended to identify persons or entities with an interest in, and disclose any encumbrances that would affect title to, the real property / easements that are to be conveyed to the County.

5. Dedication Agreement: is a standard form and is intended to convey title to the water and/or sewer facilities to the County. This agreement references the Development Agreement and signatures must match those found on the Development Agreement.

6. Easement Widths: The following minimum widths apply:

RECOMMENDED WATER OR SEWER				
Minimum:	15'	perpetual		
8" to 15" pipe:	15'	perpetual	30'	temporary
18" to 27" pipe	20'	perpetual	30'	temporary
30" to 48" pipe	30'	perpetual	40'	temporary
54" to 66" pipe	40'	perpetual	40'	temporary

Note: easement widths may vary based on depth & size of the pipe.

STORM DRAINS AND STORMWATER MANAGEMENT

15" to 48" pipe:	20' perpetual 30' temporary
greater than 48"	see below

The minimum 20' (twenty foot) easement widths for the 15" to 48" storm drains and stormwater management pipes shall only apply for pipe at a depth of 5' (five foot or less). For larger size pipes and greater depths the minimum easement width shall be 2x depth+diameter of the pipe+2 rounded up to the nearest 5' (five foot). For example a 5' diameter pipe at 7' deep shall have an easement width of 14'(2x7') + 5'(diameter of pipe)+2' = 21' specify a 25' Drainage Easement.

OPEN CHANNEL

20' (twenty foot) minimum width

Drainage Easements widths for open channels shall be a minimum of that specified above. The width of these easements shall increase to encompass the 100 (one hundred) year storm as necessary.

NOTE: If multiple pipes are located within the same easement the required width will be determined on a case by case basis.

N. BONDS

1. Bond amounts are set by the respective reviewers. When all applicable bond amounts have been set, they are forwarded to the Bond Clerk who then informs the Developer and/or Engineering Firm of the amounts and bonding procedures.

2. No permits are issued without a bond approved by the Charles County Commissioners.

3. Bonding shall be as established in the latest version of the Charles County Zoning Ordinance or Subdivision Regulations.

O. ORDINANCES

1. All projects are to be designed and constructed in accordance with all applicable county ordinances. Following are ordinances/regulations which may be purchased at the Charles County Department of Planning and Growth Management, Permits Counter Charles County Government Building, La Plata, Maryland. Fees shall be based on the latest Charles County Fee Schedule (attached).

   a. Road Ordinance
   b. Grading Ordinance
   c. Stormwater Management & Storm Drainage Ordinance
   d. Floodplain Management Ordinance
   e. Water and Sewer Ordinance
   f. Subdivision Regulations
   g. Forest Conservation Ordinance
   h. Zoning Ordinance
   I. Standard Details Manual
   j. Standard and Specifications for Construction Manual

P. REVIEWS

1. Upon review of the plans, comments are compiled and sent to the submitting Engineering Firm for revision with a copy to the Developer.

2. All review comments are to be addressed prior to re-submission of plans.

3. All review comments will be addressed individually in writing and will accompany revised plans.

4. Revised plans are submitted to the Department of Planning and Growth Management Building Permits Counter, Charles County Government Building, La Plata, Maryland for subsequent reviews.

5. All subsequent re-submissions and review will follow in accordance with the above procedures.

6. If requested by the submitting Engineering Firm , "marked-up" plans will accompany the review letter. The resubmittal of the revised plans and package MUST include the "marked-up" plans. Failure to return the "marked-up" plans will result in a return of the revised package to the submitting engineer as an "Incomplete resubmittal".

7. Time for review: It is anticipated that all initial submissions will be reviewed and returned in comment form to the submitting Engineering Firm within 3 (three) weeks of being placed on the review list. All subsequent reviews are anticipated to be returned within 2 (two) weeks of being placed on the review list. Charles County reserves the right to reject any package it feels is incomplete. Additional review time may be necessary due to incomplete submissions, workload or other circumstances. Abbreviated reviews may be sent to the engineer to meet internally imposed review deadlines. The County reserves the right to add or modify comments at any time during the review cycle.

8. Phasing and Sectioning: Phasing and sectioning of projects need to comply with the Zoning and Subdivision ordinances. Cluster developments may be phased with sections as a subset to the phase. In all other developments each new plan shall be a new section. There are no subsets of the section. Post permit phasing is not allowed without approval.

9. Two full set of plans, all studies, reports, forms, and specifications will be required at the time of plan approval on separate compact discs (CD). Plans shall be in “TIFF” and “AutoCAD” format (or any other format dictated by the County). All Studies, Reports, Forms, and Specifications shall be in Portable Drive Format (.pdf) or any other format dictated by the County. Five (5) additional blueline plan sets will be required two (2) weeks prior to permit issuance as follows:

    a. Grading and/or drainage only - three (3) additional blueline sets are required
    b. Water and Sewer only - four (4) additional blueline sets are required
    c. Road entrance only - three (3) additional blueline sets are required
    d. Any additional copies as required by the Development Services Division

    All electronic files shall be named according to the following criteria:

    <u>For Construction Plans</u>:
    PGM number sheet title sheet number.file extension
    (i.e. 05-0055_Water Profiles_Sheet 7.tif) for tiff files
    (i.e. 05-0055_Water Profiles_Sheet 7.dwg) for AutoCAD files

    <u>For As-Built Plans:</u>
    PGM number_sheet title_sheet number_ASB.file extension
    (i.e. 05-0055_Water Profiles_7_ASB.tif) for tiff files
    (i.e. 05-0055_Water Profiles_7_ASB.dwg) for AutoCAD files if requested

    <u>For Studies, Reports, Forms, and/or Specifications:</u>
    PGM number-report title.extension
    (i.e. 05-0055-Stormwater Management Report.pdf)

    All compact dics shall be provided in “Slim Line Jewel CD Case” and have a printed cd label with the following minimum information:

    a. PGM Number (i.e PGM# VR05-0105)

b. Project Name
c. Design Firm Name
d. Construction Drawings or As-Built Drawings (as applicable)
e. Date

10. Revised Plans to issued permits: Revisions to issued permits will follow the same procedures as those established above. Construction plan revisions will only be considered for changes to existing approved construction and will not apply to redevelopment of the existing site, expanding paving, expanding parking, expanding water and sewer, expanding stormwater management, expanding storm drainage, expanding grading, or expanding clearing operations unless such expansion is necessary to the operation of the original plans. Construction plan revisions shall not be used to expedite a review or circumvent changes to local, state or federal codes. Acceptance for processing the review shall be at the discretion of Charles County.

Approved revisions must be issued within two weeks of the approval. Failure to "pick up" the approved revision could result in a voiding of the project and/or the issuance of "Stop Work Orders" if construction is undertaken within the limits of the revisions.

Q. AS-BUILT PLAN REQUIREMENTS

1. Submittal/Approval

a. One (1) set of blue line progress prints of the as-built construction plans shall be submitted for water and sewer shall be submitted to the Development Services, Engineer I prior to substantial inspections for water and sewer for the purpose of obtaining an approval for substantial inspection.
b. One (1) set of blue line prints of the as-built construction plans shall be submitted for roads, drainage, grading and stormwater management prior to those prefinal inspections. Additionally, one (1) final set of water and sewer as-built will also be submitted at this time.
c. The Development Services Engineer I, will provide the appropriate county personnel with the as-built plan for review and comment.
d. If revision or additional information is required, the owner and the engineering firm will be notified in writing by the Development Services, Engineer I . Responses to comments and the revised as-builts are to be resubmitted to the Development Services Engineer I , for review and/or approval.
e. Upon acceptance, the owner and the engineering firm will be notified and requested to submit one (1) complete set of plans on a compact disc (CD) in “tif” format and one (1) set of blue line prints for water and sewer and one (1) set of blue line prints for roads, drainage, grading and stormwater management.

2. General requirements for as-built plans:

a. All data/information shall be drawn in ink on the Mylar sepia of the originally approved construction drawings.
b. Good drafting practices shall be exercised in the preparation of all drawings, as outlined in section II.C. of this package.
c. All as-built information that differs from the original (including line, location, elevation, material, size, etc.) shall be boxed-in, and a line marked through the original information, not to conflict with other data. As-built information may be shown in tabular form if conflicts cannot be avoided.
d. All as-built information that is identical to the original shall be indicated as such by placing a bold check mark adjacent to the original information, not to conflict with other data.
e. The cover sheet shall be labeled "AS-BUILTS" in bold lettering on the lower right-hand and upper right-hand corner of the plans (see Attachment I). All remaining sheets shall be labeled "Roads, Grading, Storm Drainage & Stormwater Management or Water & Sewer As-Builts" as appropriate. The cover sheet shall include an index of as-built sheets identifying the category.
f. All approved construction sheets shall be included within the as-built drawings.

Each sheet shall continue to reflect the construction sheet number, but also reflect the as-built sheet number.

g. All drawings must be signed and sealed by a Maryland Registered Professional Engineer or Professional Land Surveyor as appropriate with the date and the words "As-Builts" written adjacent to the seal.

h. The County may require additional information over and above that noted below for unique circumstances.

3. Minimum requirements for as-built plans for **Roads:**

a. Closed Section Roads (curb & gutter):

1. As-built elevations shall be provided at the centerline of all PVC's, PVT's, PC's, PT's, other breaks in grades and at the PC or PT of fillets for all intersections with exact elevations for all roads and shall be shown on the profile view.

b. Open Section Roads:

1. As-built elevations shall be provided at the centerline of all PVC's, PVT's, PC's, PT's, other breaks in grades and at the PC or PT of fillets for all intersections with exact elevations for all roads and shall be shown on the profile view.

2. As-built elevations shall be provided at 50' (fifty foot) intervals at the centerline of the ditches (both sides) and shown on the plan view of the plan & profile sheets.

4. Minimum requirements for as-built plans for **Water and Sanitary Sewer:**

a. Provide at least two physical ties/measurements from approved above ground reference points to all valves, curb-boxes, cleanouts, manholes, vaults, meter and/or sewer crocks/pits, blow-offs, hydrants and any other water and/or sewer utility structure. Approved reference points are hydrants, sanitary sewer manholes, storm drain manholes/inlets, corners of buildings and corners of street curbs. If no approved reference points exist, submit a proposal to the County's Water and Sewer Engineer for alternative reference point approval.

b. Plan view shall include all other utilities which come in contact within ten (10) feet of the public storm drains, water and/or sanitary sewer utilities or within the same easement. This may require Miss Utility or specific utility companies to locate all other utilities, incorporate information from the contractor or gathering of other information from the construction drawings prior to the survey crew making a site visit to gather as-built data.

c. Elevation information shall be field verified and recorded onto the as-built drawings at each main line and hydrant valve for all water and/or sanitary sewer force mains. The as-built information shall include elevations of the top of all valve stem/rod extensions.

d. As-built drawings shall also include contractor and all subcontractor names, addresses and phone numbers.

e. For booster and pump stations, an accurate as-built shall be submitted which reflects all interior and yard piping, vaults, valves, pits/crocks, manholes/wet wells, building information, electrical information, grading/paving information, easements, fencing and any other additional information requested by the County .

f. Reflect all new or relocated easements.

5. Minimum requirements for as-built plans for **Drainage, Grading and Management, Drainage and Grading:**

GRADING

As-Built Certifications shall be as found in Attachment L

Minimum information:

a. Sufficient spot shots to determine grades and slopes of all graded or constructed areas.

SWM/INFILTRATION FACILITIES
As-Built Certifications shall be as found in Attachment L.
Minimum information for line and grade:

a. Size and types of materials.
b. Dimensions, location, and elevation.
c. Size, material, and invert elevation of observation well.
d. Pipe diameter, length, slope, material, and elevation.
e. Structure type, size, material, and elevation.

SWM/PONDS/BASINS
As-Built Certifications shall be as found in Attachment L.
Minimum information for line and grade:

a. A profile of the top of the dam.
b. A profile along the centerline of the emergency spillway.
c. A cross-section of the emergency spillway at the control section.
d. Cross-section of the embankment at the principal spillway.
e. Elevation of the principal spillway crest.
f. The diameter, length, slope, invert (inlet and outlet), and type of material of the principal spillway conduit.
g. Principal spillway structure footing size, elevation, and type of material.
h. Size, type, and material of principal spillway structure.
i. Elevation and size of weir opening of principal spillway structure.
j. Size, elevation, and type of material of low flow orifice or drain pipe.
k. Riser and base dimensions, elevations, and type of materials.
l. The size, type, and elevation of anti-vortex and trash rack device.
m. The number, size, and locations of the anti-seep collars.
n. Core trench limits and elevation of bottom of cut off trench.
o. Cross-section of pond indicating length, width, depth, and contours to verify the design volume.
p. Cross-section of forebay indicating type, length, width, depth, elevation, and type of material.
q. Cross-section of outfall protection indicating type, length, width, depth, elevation, and type of material.
r. Statement on vegetation stabilization.
s. Fencing details.

SWM/OTHER
As-Built Certifications shall be as found in Attachment L.
As needed.

STORM DRAIN SYSTEM/CULVERTS
As-Built Certifications shall be as found in Attachment L
Minimum information:

a. Diameter, and class of all pipe.
b. Invert elevations of pipes.
c. Slope of pipe.
d. Pipe lengths
e. Types of material.
f. Location of all pipe and structures horizontally on the plan.
g. Length, width and depth of all rip rap and other outfall protection as specified.
h. Elevation of rip rap at outfall and at changes in grade.
i. Top and bottom elevations of all inlets, manholes and junction boxes.
j. Top and bottom elevation of any footings.

k. Type of inlet or manhole with dimensions.
l. Length of any throat opening.
m. Dimensions of slots for slotted inlets.
n. Location and line
o. Any other information required by PGM.

DITCHES
As-Built Certifications shall be as found in Attachment L.
As needed.

R. BRIDGE INSPECTION REPORT AND CERTIFICATION

1. Bridge Inspection Report - A bridge inspection report shall be required for all structures categorized as a "bridge" according to the definition contained in Section GP.1 of the Charles County Standards and Specifications for Construction Manual. The bridge report shall be signed by a Registered Professional Engineer currently licensed in Maryland and qualified to practice highway bridge inspections by the Federal Highway Administration through the Bridge Safety Inspection Evaluation course. This report shall, at a minimum, include the following:

    a. Location map
    b. Bridge sketches
    c. Report summary
        1. Description
        2. Condition summary
        3. Scour potential rating
        4. Load ratings summary
        5. Inspection access note
        6. Repair recommendations and estimates
    d. Color photographs
    e. Structure inventory and appraisal (SI&A) report
    f. Inspection report
    g. Sounding sheet
    h. Load rating calculations (H15, HS20, Maryland Legal Load Type 3, and Type 3S2)

2. Certification of Compliance - Certification shall be provided to the County Engineer that materials and installation were in compliance with the Contract Documents. This certification shall be made by a professional engineer currently licensed in Maryland and qualified to practice highway bridge inspections by the Federal Highway Administration through the Bridge Safety Inspection Evaluation course.

S. VOIDING DEVELOPMENT SERVICES PERMIT APPLICATIONS

1. A Development Services Permit application will be considered void if a response to the comments contained in the review letter has not been received within ninety (90) days of the date of the receipt of a written request if that request is received prior to the expiration date.

ATTACHMENT A

DEVELOPMENT SERVICES PERMIT APPLICATION

Charles County Government ▪P.O. Box 2150▪La Plata, MD 20646

Permit Number:_____ Associated Permit:_____

DEVELOPMENT SERVICES PERMIT APPLICATION

PROJECT INFORMATION:

Project Name:_____ Section No.:_____ Phase No.:_____

Commercial (VC) _____ Residential (VR) _____ Industrial (VI) _____ Blanket (VB) _____ Capital Improvement (VCI) _____

Property ID(s):_____ Tax Map _____ Grid _____ Parcel(s) _____

Project Address/Location (be specific):_____ ADC Map Coordinates:_____

Intended Use:_____ Total Disturbed Area:_____

APPLICANT INFORMATION:

Applicant's Name:_____ Fax No.:_____ Phone No:_____

Applicant's Address:_____

Consultant's Name:_____ Fax No.:_____ Phone No:_____

Consultant's Address:_____

FEE CALCULATION:

	Yes	No			
Grading:	____	____	Construction Cost Estimate:	_____	Review Fee:_____
Stormwater:			Construction Cost Estimate:	_____	Review Fee:_____
Floodplains	____	____			
Management	____	____			
Drainage	____	____			
Utility					
Water Main	____	____	Construction Cost Estimate:	_____	
Sewer Main	____	____	Construction Cost Estimate:	_____	
Water House Conn.	____	____	Subtotal:	_____	Review Fee:_____
Sewer House Conn.	____	____			
County Road	____	____	Construction Cost Estimate:	_____	Review Fee:_____
SHA	____	____	N/A		N/A
Entrance	____	____	N/A		N/A
Critical Area	____	____	N/A		N/A
Forest Cons.	____	____	N/A		N/A

Total Construction Cost Estimate:_____ Total Fee:_____

Make Checks Payable To: **Charles County Commissioners** Telephone: (301) 645-0618 or 870-3935 x2618

It shall be the duty of every permit holder to give verbal or written notification to the County Inspector prior to start of construction and at least forty-eight (48) hours prior to the time when such site will be ready for inspections.

Execution of this application constitutes binding agreement between the applicant and Charles County, Maryland. The applicant will indemnify and save harmless Charles County from any work performed under this permit.

The permit holder shall begin construction within six (6) months of the issued date and shall fully perform and complete all of the work within two (2) years of the date of the permit. The permit holder will perform no work on the above property not specifically described in this application. Any requests for extensions to the above time frames should be made in writing within thirty (30) days of the expiration and be addressed to the Director of Development Services.

I have carefully examined and read the entire application and know that the same is true and correct, and that, in doing this work, all provisions of Charles County Ordinances and state laws will be complied with, whether herein specified or not.

_____ _____

cc: file, applicant Applicant's Signature Date

pgm/lmc/forms/devserv 5/13/05

ATTACHMENT B

STANDARD SYMBOLS

COUNTY BOUNDARY
PROP. LINES (OTHER THAN ST. OR LOT)
STREET OR LOT LINES
FENCES – (WOOD)
CHAIN LINK (WIRE, BARB OR SMOOTH)
(IRON)
(HEDGE)
(STONE, BRICK OR CONC.) & WALLS
DIRT CURB, SLOPE INTERSECTIONS OR EARTH
MARKINGS, DITCHES UNLESS HAVING AN
APPRECIABLE WIDTH
CURB & SIDEWALK LINES (EXCEPT EARTH)
MISC. DRAINS, CULVERTS, ETC. EXISTING
GAS MAINS
GAS METER
OVERHEAD – (POLES & TOWERS)
(ELECTRIC)
UNDER – (TELEPHONE)
GROUND (TELEP. & TELEG. LINES)
(BURIED CABLE)
TREES
EARTH, SAND, GRAVEL, SHELL, &
BROKEN STONE ROAD.
WATER, BOUND, OIL, MACADAM,
CONC, BRICK, ETC. ROADS.
COMBINATION ROADS
RAILROADS
MARSH
SIGN POST
EXCAVATION OR CUT
EMBANKMENT OR FILL
SINK HOLES, POTHOLES, ETC.
PROP. & BOUNDARY STONE
TRIANG STA. U.S.
CONTROL STA. W.S.S.C.
STAKE WITH TACK CENTER
STAKE WITHOUT TACK CENTER
IRON PIPE WITH CENTER
IRON PIPE
BENCH MARK B.M.
NAIL, SPIKE OR IRON ROD
DESCRIBED TURNING POINT D.T.P.
VITRIFIED CLAY PIPE–STANDARD STRENGHT V.C.P.
VITRIFIED CLAY PIPE–EXTRA STRENGHT V.C.P.X.
CAST IRON PIPE C.I.P.
WROUGHT IRON PIPE W.I.P.
CORRUGATED METAL PIPE C.M.P.
CONCRETE SEWER PIPE–EXTRA STRENGHT C.S.P.X.
REINFORCED CONCRETE PIPE CLASS I, II, III & ETC. R.C.P.
ASBESTOS CEMENT PIPE A.C.P.
POLYVINYL CHLORIDE P.V.C.
TERRA COTTA T.C.
EXCAVATION EXC.
FIRST FLOOR F.F.
FOOTING FT.
CELLAR C.
RIGHT–OF–WAY R/W

EXISTING WORK

EXISTING (EX.)
SEWERS
STORM WATER DRAINS
SEWER TERMINAL M.H.
RECTANGULAR M.H.
INLETS
MANHOLES (SEWER)
MANHOLES (S.D.)
LAMPHOLES
WATER MAINS
MANHOLES (WATER)
VALVES
VALVES (AIR)
TEES
CROSSES
REDUCER
BENDS
BLOWS–OFFS
FIRE HYDRANTS
METER BOXES
PART OF WATER SYSTEM–ELEVATED TANK
STAND PIPE
CROWN
INVERT

PROPOSED WORK

SEWERS (S)
STORM WATER DRAINS (SD) RCP INLET
MANHOLES (M.H.)
CONNECTION (M.H.)
SEWER LAMPHOLES
Y BRANCH (Y BR.) SEWER
HOUSE CONNECTION (H.C.)
DROP HOUSE CONNECTION (D.H.C.)
WATER MAINS (W)
VALVES (V)
VALVES (AIR)
TEES (T)
CROSSES (C)
REDUCER (R)
BENDS (B)
FIRE HYDRANTS (F.H.)
BLOWS–OFFS
HOUSE SERVICE & METER BOX
WATER HOUSE CONNECTION
TAPPING SLEEVE & VALVE–C.I.P. (T.S. & V)
TAPPING ASSEMBLY & VALVE–CONC. (T.A.& V.)
PLUG (P.)
TOP OF FROST CASE (T.F.C.)
DUCTILE IRON PIPE DIP

CHARLES COUNTY GOVERNMENT

DEPARTMENT OF PLANNING & GROWTH MANAGEMENT

APPROVED: _____
DIRECTOR OF DEVELOPMENT SERVICES DATE

_____
WATER / SEWER ENGINEER DATE

STANDARD DETAIL

CONVENTIONAL SIGNS

REVISIONS:

M
1.00

ATTACHMENT C

STORMWATER MANAGEMENT SUMMARY SHEET

STORMWATER MANAGEMENT SUMMARY SHEET

Department of Planning & Growth Management

Development Services Division

Project Name:			
Address			
Location: (provide directions)			
Owner/Applicant:			
Address (street, city & zip):			
Phone:		Fax:	
Design Consultant:			
Address (street, city & zip):			
Phone:		Fax:	

Structure Number		Total Project Area	
Location			
Northing		Drainage Area to facility	
Easting		Maryland Landuse Code	
Design Manual Category		Runoff Curve Number	
ADC Map (ex: 04B05)		Development District (Yes/No)	
Tax Map		Parcel Number	

Structure Description (Check one)			
Artificial Wetlands		Infiltration Basin	
Bio-retention		Infiltration Trench.	
Check dams		1) Complete Exfiltration.....	
Detention Structure		2) Partial Exfiltration.....	
Dry Well		3) Water Quality Exfiltration.....	
Exemption (section_____)		Landscape	
Extended Detention Dry		Level Spreader	
Extended Detention Wet		Porous Pavement	
Flood Management Area		Regional Facility	
Forebay		Sand Filter	
Grass Swale (wet / dry)		Waiver (section_____)	
Hydrodynamic Structure		Other (type)	
Type		Other (type)	

See next page for additional information

CAREFULLY READ THE FOLLOWING

1. This form must be completed by the professional responsible for the deign.
2. Waivers shall be supported by calculations.
3. All waivers or exemptions should reference ordinance section.
4. Forms shall be completed for each facility and/or design point.

ADDITIONAL INSTRUCTIONS

1. Use the Maryland Grid Coordinates based on the 1927 Datum. If the 1983 Datum is used then note this fact on the forms and the plans.

2. Locate the structure/facility in the latest version of the ADC map for Charles County. The coordinates should be written as map number, column and row. For example 04A03.

3. The State Watershed Designations are found in the Appendices.

4. The Maryland Office of Planning Land use Codes can be found in the attachments.

Provide any additional information here:

The person completing this form shall provide the following	
name:	title:
signature:	date:
license number:	phone:
seal:	**for office use only:**

ATTACHMENT D

INITIAL SUBMISSION CHECKLIST

Charles County Government
Department of Planning & Growth Management
Development Services Division

INITIAL SUBMISSION CHECKLIST

Project Name:				
Location:				
tax map:	grid:	parcels:		
applicant name:			phone:	fax:
consultant name:			phone:	fax:
number of lots if residential		ADC Map No.		

	Items	Applicant	**County Use**
1.	Transmittal Sheet from Engineer listing submittal items		
2.	Four sets of sealed and signed project plans (five if pump station)		
3.	Three sets of separate pump station computations, studies and reports		
4.	Three sets of separate drainage computations, studies and reports		
5.	Three sets of separate swm computations, studies and reports		
6.	Forest Conservation Plans		
7.	Three sets of Construction Cost Estimates (see note b.)		
8.	Completed Development Services Permit Application		
9.	Three sets of checklists (Ordinances and Plan Preparation Package)		
10.	Preliminary Plan or Site Plan Approval Number		
11.	Soil Conservation Approval Number		
12.	Review Fees (based on the latest Charles County Fees and Charges Schedule)		
13.	Asset Summary Reports (**ASRS**)		
	reserved for future use		
	reserved for future use		

Notes:
a. Enter the following: X= included, NA=not applicable, O=outstanding (with explanation)
b. Construction cost estimates shall be based on the latest Charles County Unit Prices for Security Amounts and Review Fees.
c. CDs with copies of the approved plans will be required at the time of plan approval.
d. Prior to issuance of the permit additional sets of construction drawings are required or as indicated in the Plan Preparation Package(section II.P.9.).
e. Additional information may be requested by Charles County.

a.

Printed Name	Signature and seal by registered professional	date signed

ATTACHMENT E

APPROVAL/REVISION BLOCKS

Approval Block for Major Construction Projects
(Must be 6" x 6")

					Remarks or Conditions
Grading		Construction		as-builts	
Roads		Construction		as-builts	
Storm Drainage		Construction		as-builts	
Stormwater Management		Construction		as-builts	
Water		Construction		as-builts	
Sewer		Construction		as-builts	
Other		Construction		as-builts	**This Permit Expires on:**
		date:			date:

Approval Block for Minor Construction Projects
(Must be 2½" x 2½")

Charles County Government **Approval**	
PERMIT NO.	
signed	
date	
expires on	
remarks or conditions:	

Revision Block
(Must be 2" x 6")

Revision Number	**Construction Revision**	**Revision Date**
1		
2		

ATTACHMENT F

TELEPHONE NUMBERS FOR KEY PERSONNEL

FREQUENTLY REQUESTED TELEPHONE NUMBERS

Charles County Government Department of Planning & Growth Management		
ADMINISTRATION		
Acting Director	Melvin C. Beall, Jr.	301-645-0693
Assistant to the Acting Director	Donna Harty	301-645-0637
Bonding Clerk	Audrey Marshall	301-645-0634
Development Services Division (Plan Review and Permitting)		
Chief	Michael K. Hinchy	301-645-0625
Administrative Secretary	Vicky Wegand Linda Walter	301-645-0633 301-645-0618
Engineer IV	Hamendra K. Mathur	301-645-0623
Engineer III (Drainage, Grading, SWM & Floodplains)	Robert B. Harrington	301-645-0617
Engineer III (Roads)	Brian S. Kagarise	301-645-0596
Engineer III (Water & Sewer)	Mehari M. Abera	301-6454-0719
Engineer I (Site Plan Review)	Shanetta Ore	301-645-0722
Fax Number		301-645-0622
Inspections		
Field Operations Supervisor	Ray Shumaker	301-396-5842
Right-of-Way		
Property Acquisition Officer	Judy Michael	301-645-0516
Planning Division		
Director	David Umling	301-645-0698
Building Permits		
Chief	Peter Paff	301-645-0607
Outside Agencies		
Charles Soil Conservation District	Luis Dieguiez	301-934-9588
Maryland Department of the Environment		1-800-633-6101

ATTACHMENT G

CHECKLISTS - ORDINANCES

NOTE: **These checklists must be completed in it's entirety. If an item is not applicable then please mark in the appropriate box or note as N/A. Charles County reserves the right to reject any incomplete package. All items are to be typed or completed in black ink. This checklist is not intended to replace the Plan Preparation Package, ordinances, manuals, Planning Commission requirements, federal or state requirements or any other requirement**

Charles County Government
Stormwater Management & Storm Drainage Ordinance
Checklist

This checklist must be completed in it's entirety. If an item is not applicable then please mark in the appropriate box or note as N/A. Charles County reserves the right to reject any incomplete package. All items are to be typed or completed in black ink.

Basic Information
Project Name:
Applicant:
Design Firm:

SECTION	ITEM	Applicant			for county use
		provided	not provided	not applicable	
4.0	**EXEMPTIONS**				
4.1	Agricultural land managements practices				
4.2	New Development < 5,000 sf not located in critical overlay zone				
4.4	Regulated under specific State laws				
5.0	**WAIVERS**				
5.1	Quantitative waiver for project in watershed management plan				
5.2A.	Direct Discharge to tidally influenced waters (documentation provided)				
5.3A.	Qualitative waiver for in-fill project (documentation provided)				
5.3B.	Redevelopment project with no increase in impervious area and less than 5,000 sf disturbance				
5.4	Impact study provided showing that there is no adverse impact to stream quality				
5.5	Watershed management plan waivers for implementing different swm policies				
5.5A.	Detailed hydrologic any hydraulic studies				
5.5B.	Quantity and Quality evaluated				
5.5C.	Cumulative impact assessment				
5.5D.	Identification of existing flooding and receiving channel conditions				
5.5G.	Consistent with general performance standards in the Design Manual				
5.5H.	Approved by MDE				
5.6	Quantitative waiver				
5.6A.	Project included in the regional facility design under ultimate conditions (documentation provided)				

5.6B.	Project has capacity for the site (documentation is provided)				
5.6B.(1)	On-site WQv and Rev unless provided in the regional facility and there is a manmade system to the offsite facility				
5.6B(2)	There is an adequate manmade stormwater conveyance system to the facility (documentation is provided)				
5.6B.(2)a)	Manmade channel analysis				
5.6B.(2)b)	Natural channel analysis				
5.6B.(2)c)	No downstream flooding or erosion (documentation provided)				
5.6B.(3)	Legal rights to utilize storage in offsite facility				
5.6B.(4)	Offsite easements exist (documentation provided)				
5.6B.(6)	Offsite facility is in Charles County maintenance program and I&M agreements exist				
5.7	Fee in-lieu-of provided for waivers				
6.0	**TRANSITIONAL EXEMPTION AND ADMINISTRATIVE VARIANCES**				
6.1	Variance submitted under separate letter to the Chief				
7.0	**DESIGN CRITERIA**				
7.2A.	BMPs designed per the Design Manual				
7.2B.	Overbank flood protection Qp_{10} waiver				
7.2B.(1)	No flooding or drainage problems (documentation provided)				
7.2B.(2)	Improvements proposed for downstream flooding or drainage				
7.2B.(3)	SWM facility drains to regulated floodplain				
7.2C.(4)	SWM facility drains to an adequate swm conveyance system designed for ultimate development of watershed				
7.2D.	Redevelopment - no increase in impervious area and disturbance greater than 5,000 sf				
7.2D.(1)a)	Twenty percent (20%) reduction in impervious area				
7.2D.(1)b)	SWM quality provided for twenty percent (20%) of impervious area for the site				
7.2D.(1)c)	Combination of impervious area reduction and swm quality control equal to twenty percent (20%) impervious area of the site				
7.2D.(1)d)	Practical alternatives				
7.2D.(1)d)1.	Offsite bmp provided				
7.2D.(1)d)2.	Watershed or stream restoration				
7.2D.(1)d)3.	Retrofitting existing structures				
7.2D.(1)d)4.	Drainage improvements				

7.2D.(1)d)5.	"Fee-in-lieu"				
7.3	**STORMWATER MANAGEMENT MEASURES**				
7.3B.(1)	Minimize the need for maintenance				
7.3B.(2)	Access designed				
7.3B.(3)	Drainable				
7.3B.(4)	Structurally sound				
7.3B.(5)	Safety features provided (documentation provided)				
7.3B.(6)a)	Twenty five foot (25') buffer from residentially zoned properties				
7.3B(6)b)	Landscaping provided per the Design Manual				
7.3B.(7)	Avoid concentrated discharge from ponds through downstream residential lots.				
7.3B.(7)(a)	Offsite improvements offset by watershed or stream restoration plan				
7.3B.(7)(b)	Offsite improvements offset by retrofitting of existing structure				
7.3B.(7)c)	Offsite improvements offset by drainage improvements				
7.3.B.(7)d)	Offsite improvements offset by "fee-in-lieu"				
7.3B.(8)	One foot (1') freeboard for all non SCS 378 ponds measured from 100-year water surface				
7.3B.(9)	Wet ponds designed to account for bank/shore erosion				
7.3E.	Protective enclosure provided in areas where small children may congregate				
7.3F.	No ponding in parking areas of residential developments. Ponding of other developments limited to 25% of fringe parking areas and no deeper than six inches (6").				
7.3I.	No direct discharge of road drainage to wetlands without pretreatment.				
7.3J.	SWM Facilities outside of Streams, Regulatory Floodplains, etc.				
7.3K.	SWM facilities located outside of County property and right-of-ways.				
7.5	**STORMWATER CONVEYANCE - SUBDIVISIONS**				
7.5B.	Existing conveyance systems receiving discharge analyzed and improved if inadequate.				
7.5E.	Major conveyance systems enclosed in easements and located outside of residential lots				
7.5G.	Conveyance systems designed based on the ultimate development				
7.5H.	Design professional has signed and sealed all plans, reports, letters and documents submitted.				
7.5J.	Project report has been provided and includes computer generated input and output on a floppy disc.				
7.5K.	Drainage area maps are included on the plans				
7.5N.	100-year surcharge shown with overflow paths.				
7.5O.	Yard inlets receive 2 acres or less of drainage and show 100-year ponding (less than 24").				
7.5Q.	Pipe slopes (storm drain systems) at 0.5% or greater with minimum full flow velocity of 3 fps.				
7.5R.	Designed drainage ditches at slopes of 1.5% or greater.				

7.5T.	Culverts designed based on 10-year storm with 100-year storm below edge of pavement.				
7.5W.	Five foot (5') horizontal and Twelve inches (12") vertical clearance between storm drains and other utilities				
7.5AA.	Minimum five foot (5') gutter pan on yard inlets. No grate inlets allowed in residential areas.				
7.5BB.	Grate inlets not allowed in closed section roads				
7.5CC.	Cover over pipes shall be 0.75' below flexible pavements sections or per manufacturer's requirements whichever is greater.				
7.5DD.	Anchors provided for pipes at grades of 15% or greater.				
7.5EE.	Riprap lining not allowed in roadside ditches or publically maintained channels.				
7.55FF.	Scour analysis required for all bridges.				
7.55GG.	Arch culverts are not allowed for publically maintained structures.				
8.0	**ADMINISTRATION**				
8.3A.(3)	Soil investigation				
8.3A.(4)	Topography including offsite areas				
8.3A.(6)	Geotechnical investigations				
8.3A.(7)	Descriptions of all water courses, impoundments, or wetlands on adjacent sites which receive discharges from the site.				
8.3B.(1)	Hydrology computations				
8.3B.(2)	Hydraulic computations				
8.3B.(3)	Structural computations				
8.3B.(4)	Unified Sizing Criteria volume computations				
8.3B.(6)	Scour analysis computations				
8.3B.(7)	Drainage computations				
8.3C.(1)	Location map shown on plans				
8.3C.(4)	Proposed improvements shown on plans				
8.3C.(5)	Existing structures shown on plans				
8.3C.(6)	All easements and right-of-ways shown on plans				
8.3C.(7)	100-year floodplains and onsite wetlands shown on plans				
8.3C.(8)	Structural and construction details shown on plans				
8.3C.(9)	Sequence of construction shown on plans				
8.3C.(10)	Site data including disturbed area, new impervious area and total impervious area provided on plans				
8.3C.(11)	Unified Sizing Criteria Volumes (table provided on plans)				
8.3C.(12)	Table of plantings shown on plan				
8.3C.(13)	Soil boring logs and test locations shown on plan				
8.3C.(14)	Pre and post development drainage area maps shown on plan				
8.3C.(15)	Location of all existing utilities shown on plan				
8.3C.(16)	Structural details shown on plan				
8.3C.(17)	Notes specifying all materials used shown on plan				
8.3C.(18)	Construction specifications shown on plan				

8.3E.	Construction cost estimate shown on plans				
8.3F.	Maintenance schedule for swm facilities shown on plan				
8.4	Engineer's and developer's certification				
8.5	Inspection and Maintenance Agreements and/or easement documents as necessary				
10.0	**INSPECTION**				
10.2	Inspection notification requirements shown on plans (48 hours prior to commencement of work and 48 hours prior to specific stages)				
10.2.A	Infiltration (drywells, trenches, basins, etc.)				
10.2A.(1)	Upon completion of preexcavation				
10.2A.(2)	Upon completion of excavation				
10.2A.(3)	During placement of filter fabric, observation well, and base aggregate material				
10.2A.(4)	During construction of concrete structures				
10.2A.(5)	During construction of cut-of trench and embankment				
10.2A.(6)	During the placement of surface layer				
10.2A.(7)	During the final excavation				
10.2A.(8)	Upon completion of final grading and establishment of permanent vegetative stabilization				
10.2B.	Flow Attenuation devices (open channels, ditches, etc.)				
10.2B.(1)	Upon completion of pre-excavation and construction of temporary sediment and erosion control measures				
10.2B.(2)	During placement and backfill of underdrain systems for drywells				
10.2B.(3)	During construction of check dams, diaphragms, or weirs				
10.2B.(4)	Upon completion of final grading and establishment of permanent vegetative stabilization				
10.2C.	Ponds (including wetland ponds)				
10.2C.(1)	Upon completion of pre-excavation and construction of temporary sediment and erosion control measures				
10.2C.(2)	Upon completion of excavation to sub-foundation and when required, installation of structural supports or reinforcement for structures, including but not limited to: a) Core trenches for structural embankments; b) Inlet and outlet structures, anti-seep collars or diaphragms, and watertight connectors on pipes; and c) Trenches for enclosed storm drainage facilities.				
10.2C.(3)	During placement of structural fill, concrete and installation of piping and catch basins				
10.2C.(4)	During backfill of foundations and trenches				
10.2C.(5)	During embankment construction				
10.2C.(6)	Upon completion of final grading and establishment of permanent stabilization				
10.2E.	Filtering systems				
10.2E.(1)	During excavation to subgrade				
10.2E.(2)	During placement and backfill of underdrain systems				
10.2E.(3)	During placement of geotextiles and all filter media				

10.2E.(4)	During construction of appurtenant conveyance systems such as flow diversion structures, prefilters and filters, inlets, outlets, orifices, and flow distribution structures				
10.2E.(5)	Upon completion of final grading and establishment of permanent stabilization				
10.2F.	Storm Drain System				
10.2F.(1)	At beginning of excavation				
10.2.F.(2)	During pipe laying and backfill				
10.2.F.(3)	During placement of precast or construction of cast-in placed structures				
10.2.F.(4)	During placement of outlet protection				
10.2.F.(5)	Upon completion of final grading and establishment of permanent stabilization				
10.2.G.	Open channel systems				
10.2.G.(1)	During excavation to subgrade				
10.2.G.(2)	During placement and backfill of under drain systems for dry swales				
10.G.(3)	During installation of diaphragm, check dams, or weirs				
10.G.(4)	Upon completion of final grading and establishment of permanent stabilization				
Notes:					

ATTACHMENT H

PLAN PREPARATION CHECKLIST

NOTE: **The following check list is provided solely to assist in the preparation of the plans. The items in the check list should not be considered as the only items needed to meet all Federal, State and local codes requirements. The plans should include all information necessary to meet all applicable codes. The plans should also be prepared to meet acceptable engineering standards.**

Charles County Government

Plan Preparation Package Checklist

This checklist must be completed in it's entirety. If an item is not applicable then please mark in the appropriate box or note as N/A. Charles County reserves the right to reject any incomplete package. All items are to be typed or completed in black ink. This checklist is not intended to replace the Plan Preparation Package, ordinances, manuals, Planning Commission requirements, federal or state requirements or any other requirement or condition imposed by any department, division or agency. This checklist is intended for guidance purposes only.

Basic Information
Project Name:
Applicant:
Design Firm:

SECTION	ITEM	Applicant			for county use
		provided	not provided	not applicable	
2.B. GENERAL PLAN PREPARATION REQUIREMENTS FOR PROJECTS					
2.B.2.	Plan sheet organization				
2.B.4.	Plan size, margins staples and binding				
2.B.5.	North arrow on all sheets and oriented to north or right				
2.B.6.	Stationing increasing from left to right				
2.C. DRAFTING PRACTICES					
II.C.1.	Line weights and brightness established for clarity				
II.C.2	Minimum letter size is No. 4 (18") or font size 18				
II.C.3.	Standard Symbols used				
II.C.4.	List of Acronyms and Abbreviations				
II.C.6.	Drawings signed and sealed				
II.C.7.a.	PGM number shown at required location on all plans				
II.C.7.b.	Approval block provided on each drawing				
II.C.7.c.	Revision block provided on each drawing				
II.C.7.d.	Title block provided on each drawing				
II.D. INFORMATION TO BE SHOWN ON PLANS					
II.D.1.a.	Vicinity Map provided on Title Sheet				
II.D.1.b.	Location Plan provided on Title Sheet				
II.D.1.c	Title Information (project name, etc.)				

II.D.1.d.	Owner's Certificate on Title Sheet				
II.D.1.e.	Engineer's/Surveyor's Certificate on Title Sheet				
II.D.1.f.	Sheet Index on Title Sheet				
II.D.1.g	Standard Symbols provided on Title Sheet				
II.D.1.h.	Abbreviations and acronyms provided				
II.D.1.k.	Preliminary/Site Plan Number and expiration date				
II.D.1.l.	Charles SCD number and expiration date				
II.D.1.n.	Tax Map and parcel number				
II.D.2.	General Notes provided on Title Sheet				
II.E. GRADING					
II.E.4.	Conceptual Grading Plan				
II.E.6.a.	Property boundaries with bearings and distances				
II.E.6.b.	Timing schedule				
II.E.6.c.	Show the location of all proposed buildings, structures, utilities, sewers, storm drains, stormwater management facilities, roads, parking areas, curb & gutters, landscape areas, streams, channels, ditches, wetlands, buffers, floodplains, backwaters, easements, resource protection zones, tree lines, limits of disturbance				
II.E.6.e.	Show the location of all existing buildings, structures, utilities, sewers, storm drains, stormwater management facilities, roads, parking areas, curb & gutters, landscape areas, streams, channels, ditches, wetlands, buffers, floodplains, backwaters, easements, resource protection zones, tree lines, limits of disturbance				
II.E.6.f.	Existing topograghy for the entire site and a minimum of 100' offsite				
II.E.6.g.	Proposed topograghy for the entire site and a minimum of 100' offsite				
II.E.6.h.	Estimate of quantity of fill				
II.E.6.i.	Locations fo soil borings or soil tests				
II.E.6.j.	Soil classifications, density and moisture content requirements				
II.F. ROADS					
II.F.4.c.(1)	Dimensions - Pavement, shoulders, and right-of-way widths shall be noted at a minimum rate of one per page per roadway shown.				
II.F.4.c.(2)	Road names				
II.F.4.c.(3)	Design speed adjacent to road name				
II.F.4.c.(4)	Stationing				

II.F.4.c.(4).(b)	Equivalency points of roadway intersections				
II.F.4.c.(5)	Horizontal alignment data				
II.F.4.c.(6)	Property lines for each lot shown (subdivisions)				
II.F.4.c.(7)(a)	Easements labeled and dimensioned				
II.F.4.c.(8)	Cross sections				
II.F.4.c.(9)	Sign locations				
II.F.4.c.(10)	Fillet or curb radii with PC and PT for all streets				
II.F.4.c.(11)	Direction of flow arrows				
II.F.4.c.(12)	Location of handicap ramps				
II.F.4.c.(13)	Pavement markings				
II.F.4.c.(14)	Sight distance shown at all intersections/entrances				
II.F.5.a.	Utility placement				
II.F.5.b.	Stationing				
II.F.5.c.	Vertical alignment data				
II.F.5.d.	Existing and proposed elevations				
II.F.5.e.	Sight distance shown at all intersections/entrances				
II.F.6.a	Cul-de-sac plan and profile				
II.F.6.b	Show all design features such as radii, shoulder,				
II.F.6.c	Cross slope of cul-de-sac bulb				
II.F.6.d	Linear profile around cul-de-sac bulb				
II.F.6.e	Show center point elevation and stationing				
II.F.7.**a.**	Commercial-Industrial-Apartment entrances				
II.F.7.b	Subdivision entrances				
II.F.7.c.	Road pavement section specified for bituminous concrete entrances				
II.F.8.	Sign schedule table				
II.F.9.	Street tree planting list				
II.F.10.	Maintenance of traffic control plan				
II.F.11.	School bus turnaround				
II.G. STORMWATER MANAGEMENT					
II.G.5.i.	Floodplains shown, labeled and dimensioned with elevations				
II.G.5.j.	Structural and construction details				
II.G.5.l.	SWM sequence of construction				
II.G.5.m	A table of materials used for the stormwater management facility(ies) stabilization and plantings				
II.G.5.n.	Unified Sizing Criteria table				

II.G.5.s.	A table of swm facilities to include number (all to be number consecutively, ex. SWM-1, SWM-2, SWM3, etc.), type, MDE Design Manual designation (P-1, W-1, I-1, F-1, etc.), drainage area to the facility, total site acreage, ADC map number, northing and easting, developed RCN to the facility, State Watershed Designation (see Attachment K), Maryland Office of Planning Landuse Codes (see Attachment H), Address or description of location (ex. 100' N, 300' W of the intersections of X Road and Y Road) and the liber, foilio and date of recordation of the Inspection and Maintenance Agreement if applicable);				
II.G.5.w.	SWM landscape plan				
II.G.5.x.	Pond drain				
II.G.5.y.	Pond drain valve				
II.G.5.z.	Safety fence				
II.G.8.a	Subareas to each design point - drainage area maps (dam)				
II.G.8.b.	Design points clearly marked and labeled - dam				
II.G.8.c.	Tc paths - show each length - dam				
II.G.8.d.	TR20 cross section - dam				
II.G.8.e	Topography extending beyond boundaries				
II.G.8.g.	Soil Types				
II.G.8.I.	100-year flood plains or other environmental features				
II.H. STORMWATER CONVEYANCE					
II.H.4.	Storm drain schedule				
II.H.4.a.	Structure number				
II.H.4.b.	Structure type				
II.H.4.c.	Detail reference number				
II.H.5.	Plan view of stormwater conveyance system (scs)				
II.H.5.a.	Structure number - scs				
II.H.5.b.	Pipe diameter for - scs				
II.H.5.d.	Direction of water flow (flow arrows)				
II.H.6.	Storm Drain and Ditch profiles (sdp)				
II.H.6.a.	Scale - sdp				
II.H.6.b.	Elevation vs. station plot				
II.H.6.c.	Structure number				
II.H.6.d.	Invert elevations				
II.H.6.e.	Pipe diameter, sizes, types, classes				
II.H.6.f.	Percent grade				
II.H.6.g.	Plot of 10-year HGL				
II.H.6.h.	Q_{10}				
II.H.6.i.	V_{10}				

II.H.6.j.	Utility crossings				
II.H.6.k.	100-year water surface elevations & backwaters				
II.H.6.l.	Horizontal elevation and vertical station lines				
II.I DRAINAGE AREA MAPS (STORMWATER CONVEYANCE)					
II.I.1.	Subareas for each structure or portion of drainage system				
II.I.2.	Tc paths with each reach length				
II.I.3.	Land Uses with RCNs				
II.I.4.	TR20 cross sections, structures, reaches, etc.				
II.I.5.	Points of investigations				
II.I.6.	Downstream analysis				
II.I.7.	Soil types and hydrologic soil groups				
II.J. WATER AND SEWER					
II.J.4.a.	Water Sewer Reference Table				
II.J.4.b	Deed references				
II.J.4.c.	Utility crossings				
II.J.4.e.	Service lines with cleanouts and curb stops				
II.J.4.f.	Lines labeled and stationed				
II.J.4.g.	State plane coordinates				
II.J.4.h.	Legend				
II.J.4.i.	Size, type, class and length of pipe				
II.J.4.k.	Offsite adequacy analysis				
II.J.4.l	Lots labeled				
II.J.4.m.	Water and Sewer notes				
II.J.4.o.	Phase lines				
II.J.4.p.	Location of any gasoline or chemical storage facility				
II.J.4.q.	Easements				
II.J.4.r.	Composite plan				
II.J.4.s.	PGM #s and deed book references for existing lines and easements				
II.J.6.a.	Indicate previous project (PGM#) new lines tie into				
II.J.6.c.	Lines labeled				
II.J.6.i.	Bends labeled				
II.J.6.k.	Meter sizing computations				
II.J.6.l.	Indicate required permits on cover sheet				
II.J.7.	Water profile (wp)				
II.J.7.a.	Size, type, class, etc. - wp				
II.J.7.b.	Depth of bury and “bury line elevation” for hydrants - wp				
II.J.7.d.	Original ground plotted - wp				
II.J.7.e.	Finished ground plotted - wp				

II.J.7.f.	Horizontal and vertical scales - wp				
II.J.7.g.	Bends labeled - wp				
II.J.8.f.	Plot septic areas				
II.J.9.	Sewer Profile - (sp)				
II.J.9.a.	Size, type, class, etc. - sp				
II.J.9.c.	Original ground plotted - sp				
II.J.9.d.	Finished ground plotted - sp				
II.J.9.e.	Horizontal and vertical scales - wp				
II.J. DEDICATION/CONVEYANCE DOCUMENTS					
II.M.	Dedication Documents				
II.M.1.	Easement Agreements				
II.M.2.	Deeds and Conveyances				
II.M.3.	Deed of Partial release				
II.M.4.	Preliminary Title Report				

Notes:

I hereby certify that all of the information noted above has been included on the plans or within the plan assembly package. I also certify that the plans have been prepared in accordance Furthermore I acknowledge that Charles County reserves the right to reject any plan or package if errors or omissions are found. I also acknowledge that Charles County reserves the right to require additional fees if errors or omissions are found on the plans or in the submission package.

Signature by submitting professional:

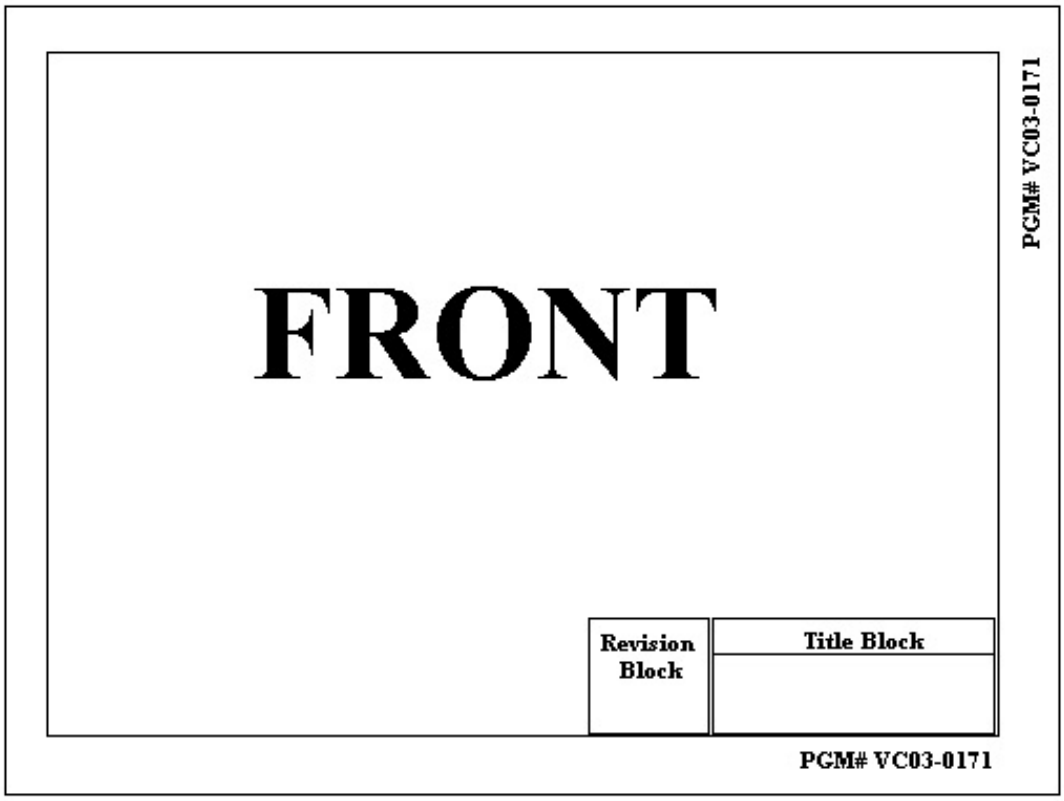
Date signed:

License number:

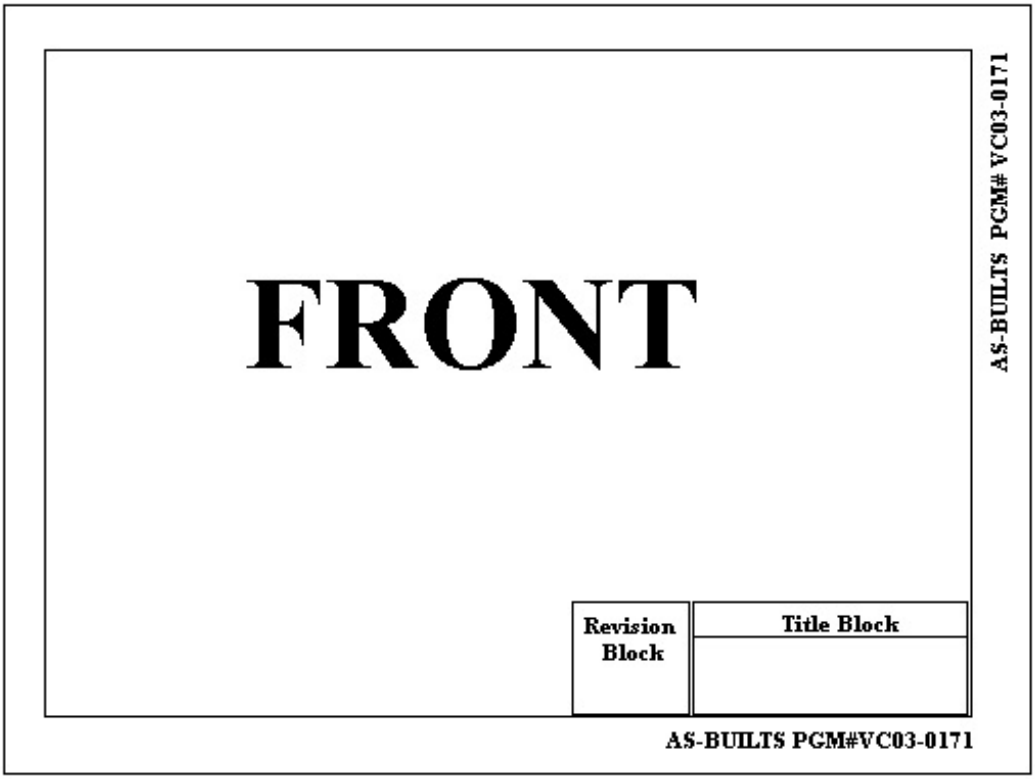
ATTACHMENT I

PGM NUMBER/TITLE BLOCK PLACEMENT

For Title Block and PGM Number Placement



For AS-BUILT PGM Number Placement



ATTACHMENT J

MARYLAND OFFICE OF PLANNING LANDUSE CODES

Maryland Office of Planning Land Use Codes

CATEGORY		SUBCATEGORY	
10	URBAN BUILD-UP	11	LOW DENSITY RESIDENTIAL (0.2-2 DU/AC)
		12	MEDIUM DENSITY RESIDENTIAL (>2-8 DU/AC)
		13	HIGH DENSITY (>8 DU/AC)
		14	COMMERCIAL
		15	INDUSTRIAL
		16	INSTITUTIONAL
		17	EXTRACTIVE
		18	OPEN URBAN LAND
		191	LARGE LOT SUBDIVISION (AGRICULTURAL)
		192	LARGE LOT SUBDIVISION (FOREST)
20	AGRICULTURE	21	CROP LAND
		22	PASTURE
		23	ORCHARDS
		24	FEEDING OPERATIONS
		241	FEEDING OPERATIONS
		242	AGRICULTURAL FACILITIES
		25	ROW AND GARDEN CROPS
40	FOREST	41	DECIDUOUS FOREST
		42	EVERGREEN
		43	MIXED FOREST
		44	BRUSH
50	WATER		
60	WETLANDS		
70	BARREN LAND	71	BEACHES
		72	BARE EXPOSED ROCK
		73	BARE GROUND

ATTACHMENT K

STATE WATERSHED DESIGNATIONS

State Watershed Designations
for Stormwater Management Purposes

(applicable to Charles County only)

Designation	Watershed
02131101	Patuxent River Lower
02140106	Wicomico River
02140107	Gilbert Swamp
02140108	Zekiah Swamp
02140109	Port Tobacco River
02140110	Nanjemoy Creek
02140111	Mattawoman Creek
02140101	Potomac River Lower Tidal (from south edge of Pomonkey Creek watershed to Cobb Island)
02140102	Potomac River Middle Tidal (northwest county line south to and including Pomonkey Creek watershed)

ATTACHMENT L

CERTIFICATIONS

Certifications

OWNER'S/DEVELOPER'S CERTIFICATION

I/We hereby certify that all construction including and not limited draiange, grading, stormwater management, roads, and water & sewer will be done pursuant to this plan, all local, state and federal codes and requirements, Charles County Standards and Specifications for Construction Manual, Charles County Details, approved site and/or preliminary plans, other PGM ordinances & regulations and any other requirements imposed by Charles County. I/We hereby authorize a right-of-entry to any Charles County, local, state of federal personnel for the purpose of inspection evaluation, or observation of any construction activity related to the project.

Signed _____ Date _____

Title _____

ENGINEER'S CERTIFICATION STATEMENT

I hereby certify that this plan meets or exceeds the requirements of the Stormwater Management & Storm Drainage Ordinance, Floodplain Management Ordinance, Grading Ordinance, Road Ordinance, Water & Sewer Ordinance, the 2000 Maryland Stormwater Design Manual, Volumes I & II , all state and federal codes, the Charles County Standards and Specifications for Construction Manual, the Charles County Details Manual, the approved site plan or preliminary plan, other PGM ordinances and regulations and any conditions imposed by Charles County.

_____ Date: _____

Maryland Registered Professional Engineer
Maryland Registered Professional Land Surveyor

License Number _____

Stormwater Management & Stormwater Conveyance Systems As-Built Plan Certification Statement

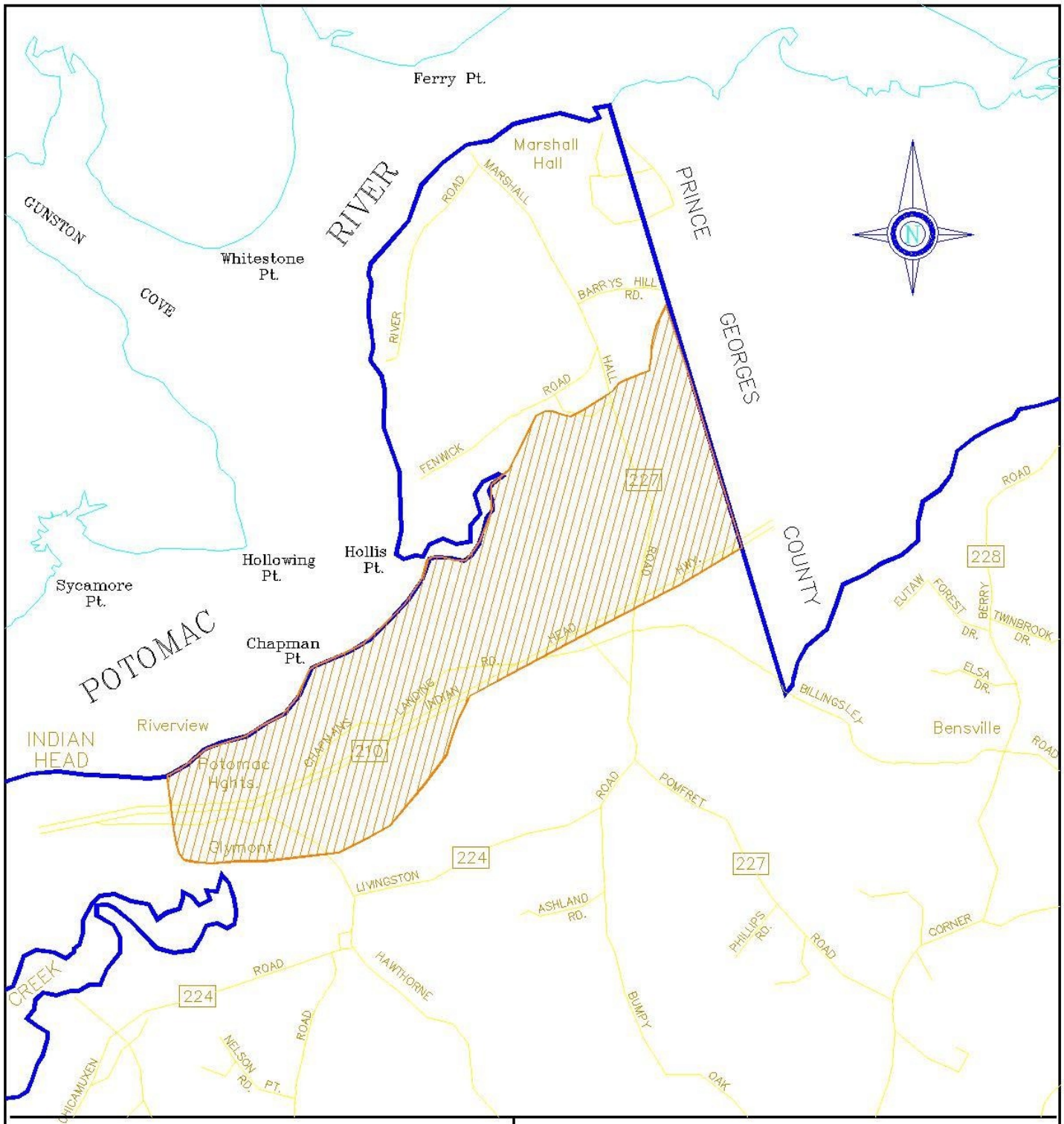
I hereby certify that to the best of my knowledge that this ``As-Built'' is in compliance with the design and the grading (line & grade). Furthermore I certify that the stormwater management facilities and stormwater conveyance systems as constructed meets all requirements of the SWM & Storm Drainage Ordinance, the 2000 Maryland Stormwater Design Manual, the Grading Ordinance, the Standards and Specification for Construction Manual, the Charles County Detail Manual and/or the pond/basin as constructed, meets the requirements of the Maryland Natural Resources Conservation Service, Standards and Specifications for ponds (MD-378) and the appropriate standards and specifications on the approved plan.

_____(SEAL) Date: _____

Maryland Registered Professional Engineer
Maryland Registered Professional Land Surveyor

ATTACHMENT M

AREA OF SPECIAL GEOTECHNICAL CONSIDERATIONS



AREA OF SPECIAL GEOTECHNICAL CONCERNS

CHARLES COUNTY, MARYLAND

ATTACHMENT N

ASSET SUMMARY REPORTS

Asset Summary Reports
Public Improvements Instructions

1. Asset summary reports shall be provided for all "public" improvements for both County and private developments.

2. Separate Asset Summary Reports (ASRS) shall be provided for each category:

   A. Drainage
   B. Pump Stations
   C. Roads
   D. Sewer
   E. Stormwater Management
   F. Water
   G. Water Storage Facilities
   H. Miscellaneous

3. All public improvements shall be summarized in the appropriate category. Those not fitting in a particular category shall be listed on a "Miscellaneous Asset Summary Report".

4. The values for all public improvements shall be those found in the latest "Unit Prices for Development Agreement Security Amounts and Plan Review Fees" (Unit Prices).

5. All items not listed in the Unit Prices should be estimated based on current market values. The following list of items not found in the Unit Prices should be included on the ASRS. This list is not necessarily inclusive of all items not found in the Unit Prices.

   A. Hiker/Biker Paths (within County right-of-ways)
   B. Bridges (include length, width and type)
   C. All improvements in "public easements"

6. The ASRS will be required with the initial submittal of the project. The reports shall be updated by the applicant's engineer if the scope of the project changes during the project review cycle.

7. For roadways the asset summary should include the widths and total lengths of all various road sections and pavement widening for existing roads. However, the values shall be based upon the volume quantities of the full depth pavement sections. Description shall include type of road surface.

8. Traffic signals must include intersection names and type of traffic lights (i.e. hung- wire, poles, etc.).

9. After the completion of all the infrastructure improvements, the ASRS shall be verified and updated by the applicant's engineer if necessary. Final ASRS must be submitted with the approved as-builts.

CHARLES COUNTY GOVERNMENT **Form ASRDRN06**
Development Services Division

Asset Summary Report
Public Drainage Improvements
(see instructions -Form ASRINS06)

for office use only do not complete this section	for office use only do not complete this section
TO: Accounting, Public Facilities **SUBJECT:** ASSET SUMMARY REPORT PGM# _____ **FROM:** Development Services Division	**Date:** **By:**

Project:	**Tax Map:**
Applicant:	**Parcel(s) No:**
Applicant address:	**applicant tel no:**
Engineer:	**engineer tel no:**
Engineer address:	**date:**

DESCRIPTION/TYPE	LENGTH AND/OR QUANTITY	SIZE	VALUE

Asset Summary Report
Page # _____________
PGM# _____________

LENGTH/QUANTITY	*SIZE*	*DESCRIPTION*	*VALUE*
		TOTAL:	*$*

Note:

1. *Include all public structures such as culverts, storm drain pipes, water and sewer facilities, stormwater management facilities lengths and widths of roads, etc.*

CHARLES COUNTY GOVERNMENT *Form ASRPST06*
Development Services Division

Asset Summary Report
Public Pump Station
(see instructions -Form ASRINS06)

for office use only *do not complete this section*	*for office use only* *do not complete this section*
TO: *Accounting, Utilities* *SUBJECT:* *ASSET SUMMARY REPORT* *PGM# _____* *FROM:* *Development Services Division*	*Date:* *By:*

Project:	*Tax Map:*
Applicant:	*Parcel(s) No:*
Applicant address:	*applicant tel no:*
Engineer:	*engineer tel no:*
Engineer address:	*date:*

DESCRIPTION	*VALUE*
TOTAL:	*$*

Notes

CHARLES COUNTY GOVERNMENT *Form ASRROD06*
Development Services Division

Asset Summary Report
Public Road Improvements
(see instructions -Form ASRINS06)

for office use only do not complete this section	*for office use only do not complete this section*
TO: *Accounting, Public Facilities* *SUBJECT:* *ASSET SUMMARY REPORT* *PGM# _____* *FROM:* *Development Services Division*	*Date:* *By:*

Project:	*Tax Map:*
Applicant:	*Parcel(s) No:*
Applicant address:	*applicant tel no:*
Engineer:	*engineer tel no:*
Engineer address:	*date:*

DESCRIPTION	*LENGTH AND/OR QUANTITY*[1]	*SIZE AND/OR WIDTH* [1]	*VALUE*

Asset Summary Report
Page # _____
PGM# _____

DESCRIPTION	*LENGTH AND/OR QUANTITY*[1]	*SIZE*[1]	*VALUE*
TOTAL:			*$*

1. For road quantities please provide the length of road for each appropriate width of road section.
2. Use extra sheets as necessary

CHARLES COUNTY GOVERNMENT *Form ASRSEW06*
Development Services Division

Asset Summary Report
Public Sewer Improvements
(see instructions -Form ASRINS06)

for office use only *do not complete this section*	*for office use only* *do not complete this section*
TO: *Accounting, Utilities* *SUBJECT:* *ASSET SUMMARY REPORT* *PGM# _____* *FROM:* *Development Services Division*	*Date:* *By:*

Project:	*Tax Map:*
Applicant:	*Parcel(s) No:*
Applicant address:	*applicant tel no:*
Engineer:	*engineer tel no:*
Engineer address:	*date:*

DESCRIPTION/TYPE	*LENGTH AND/OR QUANTITY*	*SIZE*	*VALUE*

Asset Summary Report
Page # _____
PGM# _____

DESCRIPTION/TYPE	*LENGTH AND/OR QUANTITY*	*SIZE*	*VALUE*
TOTAL:			*$*

CHARLES COUNTY GOVERNMENT *Form ASRSWM06*
Development Services Division

Asset Summary Report
Public Stormwater Management Improvements
(see instructions -Form ASRINS06)

for office use only do not complete this section	*for office use only do not complete this section*
TO: *Accounting, Public Facilities* *SUBJECT:* *ASSET SUMMARY REPORT* *PGM# _____* *FROM:* *Development Services Division*	*Date:* *By:*

Project:	*Tax Map:*
Applicant:	*Parcel(s) No:*
Applicant address:	*applicant tel no:*
Engineer:	*engineer tel no:*
Engineer address:	*date:*

DESCRIPTION	*LENGTH AND/OR QUANTITY*	*SIZE*	*VALUE*

Asset Summary Report
Page # _____
PGM# _____

DESCRIPTION	*LENGTH AND/OR QUANTITY*	*SIZE*	*VALUE*
TOTAL:			*$*

CHARLES COUNTY GOVERNMENT *Form ASRWAT06*
Development Services Division

Asset Summary Report
Public Water Improvements
(see instructions -Form ASRINS06)

for office use only *do not complete this section*	*for office use only* *do not complete this section*
TO: *Accounting, Utilities* *SUBJECT:* *ASSET SUMMARY REPORT* *PGM# _____* *FROM:* *Development Services Division*	*Date:* *By:*

Project:	*Tax Map:*
Applicant:	*Parcel(s) No:*
Applicant address:	*applicant tel no:*
Engineer:	*engineer tel no:*
Engineer address:	*date:*

DESCRIPTION/TYPE	*LENGTH AND/OR QUANTITY*	*SIZE*	*VALUE*

Asset Summary Report
Page # ______________
PGM# ______________

LENGTH/QUANTITY	SIZE	DESCRIPTION	VALUE
TOTAL:			$

Asset Summary Report

Public Water Storage Facilities

(see instructions -Form ASRINS06)

for office use only ***do not complete this section***	***for office use only*** ***do not complete this section***
TO: ***Accounting, Utilities*** ***SUBJECT:*** ***ASSET SUMMARY REPORT*** ***PGM# _____*** ***FROM:*** ***Development Services Division***	***Date:*** ***By:***

Project:	***Tax Map:***
Applicant:	***Parcel(s) No:***
Applicant address:	***applicant tel no:***
Engineer:	***engineer tel no:***
Engineer address:	***date:***

DESCRIPTION	***VALUE***
TOTAL:	***$***

Notes

Development Services Division

Asset Summary Report

Public Miscellaneous Improvements

(see instructions -Form ASRINS06)

for office use only ***do not complete this section***	***for office use only***
TO: ***Accounting*** ***SUBJECT:*** ***ASSET SUMMARY REPORT*** ***PGM# _____*** ***FROM:*** ***Development Services Division***	***Date:*** ***By:***

Project:	***Tax Map:***
Applicant:	***Parcel(s) No:***
Applicant address:	***applicant tel no:***
Engineer:	***engineer tel no:***
Engineer address:	***date:***

LENGTH/QUANTITY	***SIZE***	***DESCRIPTION***	***VALUE***

Asset Summary Report
Page # _______________
PGM# _______________

LENGTH/QUANTITY	***SIZE***	***DESCRIPTION***	***VALUE***
TOTAL:			***$***