

# **Gloucester County Site Plan Handbook**

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# Gloucester County



## Office of Codes Compliance

### **SITE PLAN HANDBOOK**

This handbook is intended and designed as a site plan submittal guide for persons interested in developing a commercial (or non-residential) project in Gloucester County. Efforts have been made for this handbook to be comprehensive, however, this handbook is not ordinance and applicants should consult applicable County Code for complete requirements. Gloucester County's Site Plan Ordinance, Erosion and Sediment Control Ordinance, Chesapeake Bay Preservation Ordinance, Zoning Ordinance, Floodplain Ordinance and Wetlands Zoning Ordinance are administered by the Gloucester County office of Codes Compliance located in the County Administration Building at 6582 Main Street, Gloucester Courthouse, Virginia.

To contact the office of Codes Compliance:  
The mailing address is:

P.O. Box 329, Gloucester, Virginia 23061  
The phone number for Zoning is (804) 693-4040.  
The phone number for the Environmental Division is (804) 693-1217.

**Gloucester County**  
**Site Plan Handbook**

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## Submittal Requirements & General Information

Site plans are generally required for the construction of any commercial building or structure on any land within Gloucester County and shall be subject to review and approval by the Gloucester County Site Plan Review Committee.

### Submittal Requirements

1. The site plan shall be prepared by a professional engineer, land surveyor, or architect licensed in the Commonwealth of Virginia. No person shall prepare or certify design elements of site plans which are outside their professional expertise and license.

Please Note:

#### Number of copies required:

7 copies of a site plan

3 copies of E&S plan (& narrative)

10 copies if site plan and E&S plan are combined

2. Site plan sheets should not be cluttered with information & difficult to read. Please use additional sheets when necessary.
3. Complete a Gloucester County Site Plan Application form.
4. Include any supporting documents, such as but not limited to: wetland permits, Chesapeake Bay Stormwater Calculation worksheets, storm sewer design calculations, deed of easements, etc.
5. There is a fee for site plan review. The appropriate amount will be determined at time of submittal. Checks are to be made payable to: Gloucester County.
6. Call (804) 693-4040 for additional assistance.

Please note: Please **plan enough time** into your project schedule for site plan review and revision. The Gloucester County Site Plan Review Committee has sixty (60) days to review a site plan submittal (45 days for an erosion and sediment control plan submittal). In most cases the Committee will not use the total 60 (or 45) days and will provide comments as soon as possible. However, combined with the time for applicants to revise plans, the total site plan review process may take one month or more.

# **Site Plan Checklist**

## Gloucester County Site Plan Checklist

### General Information:

- Completed site plan application
- 7 copies submitted (or 10 if E&S plan is part of site plan)
- Name of Project
- Proposed Use
- Vicinity Map (Scale 1" = 2000')
- Scale of site plan (1' = 100' or smaller) – selected scale should be appropriate for clarity of plan
- Name, mailing address & telephone number of site plan preparer
- Name, mailing address & telephone number of property owner
- Name, mailing address & telephone number of developer
- Adjacent property owners
- Zoning of adjacent properties

### Site Information

- Gloucester County Tax Map Number(s) of subject parcel(s)
- Legal property description (subdivision, lot block, section #)
- Zoning of Site
- Source of Meridian
- North Arrow
- Total Acreage of Site

### Land Disturbing Information:

- Total impervious area indicated
- Impervious area minimized on site?
- Total green area
- Total acreage of land disturbance by clearing and grading
- Limits of clearing and/or grading indicated
- Area of land disturbance minimized?
- Natural/existing vegetation preserved?
- Existing Contour lines (2' intervals) of parcel and surrounding vicinity
- Final contour lines (2' intervals) of parcel and surrounding vicinity
- Description of any filling operations

### Existing Structures:

- All existing buildings, structures, utilities, roads, etc. shown
- Height, floor elevation, square footage, and use of all existing buildings
- Distances of structures from all property lines and from each other
- Location and identification of proposed easements

### Natural Features and Sensitive Areas:

- Natural features such as streams, lakes, ponds (include names) identified
- Flood zone information and FIRM panel number provided
- 100-yr flood plan delineated
- Wetland areas delineated and identified
- Wetland Delineation confirmed by Corps
- Verification of all wetland, DEQ and/or Corp permits
- Limits of Resource Protection Area (RPA) identified
- Development outside RPA?
- Existing tree lines and species and size of single trees on site shown
- Tree protection measures provided where necessary
- [# of trees required = (Developed area in sq.ft. x 10%)/200]
- Required trees (2" in diameter or greater) provided
- 50% of required trees in front of rear building line
- 30 foot (at least 20 feet vegetated) buffer for sites adjacent to SF-1
- Location of existing and proposed primary and reserve drainfield areas
- Location of existing and proposed wells

### Proposed Structures:

- Proposed buildings, structures, parking lots, roads, etc. shown & labeled
- Height, floor elevation, square footage, and use of all proposed buildings
- Distances of structures from all property lines and from each other
- Location and identification of proposed temporary structures
- Location and identification of proposed easements
- Location and dimensions of proposed signs

- All property boundary lines shown
- Delineation of project area, if different from property boundary lines
- All building restriction and setback lines provided
- Number of parking spaces required indicated
- Number of parking spaces provided (width and length labeled)
- Handicap accessible parking spaces shown
- Directional markings on driveway & parking aisle pavement for sites with more than one entrance and/or parking aisle
- Lighting in public parking areas
- Typical roadway and parking area pavement cross sections, and design support calculations
- Number of loading spaces provided (width and length labeled)
- Location and width of all proposed entrances to site
- Streets: Name, route #, width-of-right, width of road, & type of surface
- Location of all existing above and underground utilities and any other underground structures such as fuel tanks, etc.
- Location and identification of water lines and sewer lines

## **Erosion & Sediment Control (E&S) Plan**

- **Checklist for E&S narrative and plan**
- **Erosion and Sediment Control Notes**
- **Determination of an “Adequate Channel”**

## **Erosion and Sediment Control Plan**

Please note that sites disturbing 5 or more acres in total must obtain a Stormwater General Construction Permit from the Department of Environmental Quality (DEQ). Please contact Jeff Selengut of DEQ at (804) 527-5095 for more information.

### **Narrative:**

- ❑ Project description of the nature and purpose of the land disturbing activity, and the amount of land disturbance
- ❑ Description of the existing topography, vegetation, and drainage
- ❑ Description of the neighboring areas such as streams, lakes, residential areas, roads, etc. which may be affected by the land disturbance
- ❑ Description of any off-site land disturbing activities that will occur
- ❑ Description of the soils on site
- ❑ Description of the areas on site which will have potentially serious erosion problems (ex. steep slopes, channels, underground springs)
- ❑ Description of the methods which will be used to control erosion and sedimentation on site
- ❑ Description of how the site will be stabilized after construction is complete

### **Plan:**

- ❑ Erosion and sediment control plan is phased appropriately to address all stages of site development (clearing, grading, filling, conditions prior to and after installation of storm sewer system, etc.)
- ❑ Legend provided
- ❑ Total acreage of land disturbance by clearing and grading
- ❑ Existing tree line and grassy areas delineated
- ❑ Limits of clearing and/or grading indicated
- ❑ Area of land disturbance minimized?
- ❑ Natural/existing vegetation preserved?
- ❑ Existing contour lines (2' intervals) of parcel and surrounding vicinity
- ❑ Final contour lines (2' intervals) of parcel and surrounding vicinity
- ❑ Description of any filling operations
- ❑ Total impervious area indicated
- ❑ Impervious area exceed 16%
- ❑ Impervious area minimized on site?
- ❑ Total green area

- Description of soils on site – include seasonal water table elevation
- Boundaries of different soil types shown on plan
- Pre-development drainage areas delineated (include size of DA's)
- Pre-development Q2
- Pre-development Q10
- Post-development drainage areas delineated (include size of DA's)
- Post-development Q2
- Post-development Q10
- Drainage breaks and direction of flow within the drainage areas provided with flow arrows
- All on-site and receiving channels verified to be adequate
- Verified to resist erosion from the 2-yr storm (velocity)
- Verified to have capacity to convey the 10-yr storm
- Supporting calculations for all channels (existing and proposed) natural and man-made, including the following:
  - depth of channel
  - flow depth
  - type of lining
  - Manning's "n" value
  - bottom width
  - side slope
  - longitudinal slope
  - contributing drainage area
  - flow arrows
  - top width
  - Cross section
  - Location
- Location of erosion and sediment control measures to be used on site identified (Use the standard symbols found in Chapter 3 of the 1992 Virginia Erosion and Sediment Control Handbook)
- Schedule of regular inspection and repair of erosion and sediment control structures
- Detail drawings of structural E&S practices to be used
- Construction entrance shown (all other potential access points blockaded) [Construction access is limited to one access point]
- Settling area, if wash rack is used at construction entrance
- Calculations provided for the design of sediment traps, sediment basins, etc.
- Permanent and temporary seeding schedules provided

- Location and elevations of all existing and proposed drainage structures, pipes, roof drains, swales, ditches, curbs and channels and the direction
- Identification of off-site land disturbing activities and necessary erosion and sediment control measures
- Maintenance plan (schedule of regular inspections and repair of erosion and sediment control structures)
- Name and phone number of contact person responsible for implementation of erosion and sediment control plan
- E&S Notes

## **Erosion and Sediment Control Notes**

Contractor shall not commence any land disturbing activities prior to posting an erosion and sediment control bond and obtaining a land disturbing permit.

### **Erosion and Sediment Control Measures**

Unless otherwise indicted, all vegetation and structural erosion and sediment control practices will be constructed and maintained according to the minimum standards and specification of the Virginia Erosion and Sediment Control Handbook, 1992.

### **Management Strategies and Sequence of Erosion Control Measures**

The following sequence of events and erosion control measures shall be incorporated into the construction schedule for this project and shall apply to all construction activities.

1. All hard surface public roads shall be clean at the end of each work day. Temporary construction entrance(s) are required at all points of access where any material may be spilled, dropped, washed, or tracked off site. Additional points of access, not providing a temporary construction entrance, shall have access blocked.
2. Erosion and sediment control devices shall be constructed and installed as a first step in any land disturbing activity and shall be made functional before upslope land disturbance takes place.
3. Right-of-way diversions, sediment barriers, fill diversions, construction entrances and erosion control stone are to be placed during clearing and grubbing.
4. Stabilization measures shall be applied to earthen structures such as dams, dikes, and diversions *immediately* after installation.
5. Permanent or temporary soil stabilization shall be applied to denuded areas with seven (7) days after final grade is reached on any portion of the site.
6. Temporary soil stabilization shall be applied within seven (7) days to denuded areas that may not be at final grade, but will remain dormant for longer than thirty (30) days.

7. During construction of the project, any soil stock piles, on site or intentionally transported off site, shall be stabilized or protected with sediment trapping measures.
8. Additional erosion and sediment control measures to those found on the plans may be required by Gloucester County, if deemed necessary.
9. All temporary erosion and sediment control measures shall be removed and disposed of within thirty (30) days after final stabilization.

#### Temporary Stream Crossings

All steps necessary shall be taken to prevent sediment (generated by construction or erosion) from entering streams. Construction vehicles shall not be allowed in flowing stream channels or be allowed to damage streambanks. All applicable federal, state and local regulations pertaining to working in or crossing a live water course shall be met. Temporary stream crossings conforming to VE&SC Std. 3.24 (or approved equal) shall be installed in all flowing streams which will have construction traffic crossing them.

#### Maintenance

1. In general, all erosion and sediment control measures shall be checked after each rainfall or weekly, whichever is more frequent (at least daily during periods of prolonged rainfall). Any repairs or clean up necessary to maintain the effectiveness of the erosion control devices shall be made *immediately*, according to the VE&SC Handbook.
2. All erosion and sediment control devices shall be in place and functional at all times and if removed for construction progress, shall be replaced by the close of each workday.

Complying with Minimum Standard 19 of the Virginia Erosion and  
Sediment Control Regulations

## Determining Adequacy of a Channel

When developing a site in Gloucester County, the Virginia Erosion and Sediment Control Regulations VR 625-02-00 Minimum Standard 19 requires:

- a. Concentrated stormwater runoff leaving a development site shall discharge directly into an adequate channel or man-made receiving channel, pipe or storm sewer system. For those sites where runoff is discharged into a pipe or pipe system, downstream stability analysis at the outfall of the pipe or pipe system shall be performed.
- b. Adequacy of all channels and pipes shall be verified in the following manner:
  - (1) Natural channels shall be analyzed by the use of a two-year storm to verify that stormwater will not overtop channel banks nor cause erosion of channel bed or banks.
  - (2) All previously constructed man-made channels shall be analyzed by the use of a ten-year storm to verify that stormwater will not overtop its banks and by the use of two-year storm to demonstrate that stormwater will not cause erosion of channel bed or banks.
  - (3) Pipes and storm sewer systems shall be analyzed by the use of a ten-year storm to verify that stormwater will be contained within the pipe or system.
- c. All on-site channels must be verified to be adequate.

Information is provided on the following pages on how to determine the adequacy of a natural channel. For more detailed information, please refer to the Virginia Erosion and Sediment Control Handbook, 1992 – Chapter 5.

(Taken from the Alliance for the Chesapeake Bay, “Baybook: A Guide to Reducing Water Pollution at Home: February 1991, page 8)

# Determining Adequacy of a Natural Channel

\*\*\*\*\*

## Step 1

Determine the peak runoff rate for the stream channel using the 2-yr storm

$Q = C I A$       Where  $Q$  = peak runoff rate

$C$  = runoff coefficient (from Chart pg V-29)

$I$  = intensity (from curve, need to know  $T_c$ , use 2-yr line)

$A$  = acres of contributing post-development drainage area

## Step 2

Determine:

- Bankfull cross-sectional area of channel ( $A$ ) (pg. V-111)
- Hydraulic radius ( $R$ ) = ( $A/P$ ) (See page V-111)
- Longitudinal slope ( $S$ )
- Permissible velocity in the channel (Table 5-22) for most erodible section.

## Step 3

Determine:

Mannings roughness coefficient ( $n$ )

## Step 4

Determine:

Bankful channel velocity ( $V$ )       $V = 1.49 R^{2/3} S^{1/2}$  (Mannings equation)

Bankful channel capacity ( $Q$ )       $Q = VA$

$V$  = from Mannings equation above

$A$  = cross sectional area from Step 2

## Step 5

Compare:

- Bankful channel capacity ( $Q$ ) (from Step 4) with the actual  $Q$  (peak rate from Step 1)
- Bankful channel velocity ( $V$ ) (from Step 4) with the permissible velocity for channel lining (Table 5-22)

\*\*\*\*If the existing channel is NOT adequate with respect to both capacity and erosion resistance, on site measures and/or channel improvements must be incorporated into site design.

(adapted from the Virginia Erosion and Sediment Control Handbook, 1992)

*For diagram, please see V-29, Virginia Erosion and Sediment Control Handbook Third Edition 1992.*

*For diagram, please see V-III, Virginia Erosion and Sediment Control Handbook Third Edition 1992.*

*For diagram, please see V-15, Virginia Erosion and Sediment Control Handbook Third Edition 1992.*

*For diagram, please see V-62, Virginia Erosion and Sediment Control Handbook Third Edition 1992.*

*For diagram, please see V-63, Virginia Erosion and Sediment Control Handbook Third Edition 1992.*

*For diagram, please see V-140, Virginia Erosion and Sediment Control Handbook Third Edition 1992.*

*For diagram, please see III-135, Virginia Erosion and Sediment Control Handbook Third Edition 1992.*

## **Stormwater Management Plan**

- **Quantity and Quality Requirements**
- **SWM Plan Checklist**
- **Chesapeake Bay Stormwater Management Calculations.**
- **Sample Stormwater Maintenance Agreement**

## Stormwater Management Requirements

### • Quantity Requirements

- Section 15.5-1.7(h) of Gloucester County Code requires that adequate provisions shall be made for the collection, retention, and disposition of all on and off-site stormwater and natural water so as to protect other lands, structures, persons, and property.
- Projects must comply with Minimum Standard 19 of the Virginia Erosion and Sediment Control Regulations. Calculations must show that runoff from a proposed development will not damage adjacent properties, or exceed the capacity or cause erosion of receiving streams.

### • Quality Requirements

- Gloucester County Chesapeake Bay Preservation ordinance requires that, the post-development non-point source pollutant runoff load shall not exceed the pre-development load for new development sites.  
(If no combination of BMPs can meet the pollutant removal requirement, consideration must be given to a different site design. Increasing the proportion of site area covered with vegetation is the best way of reducing the pollutant load generated from a site).
- For redevelopment sites, the non-point source pollution load shall be reduced by at least 10 percent.

### • Maintenance Agreement

- A stormwater maintenance agreement executed between the landowner and the County is required under Section 5.5-10.D.2 of Gloucester County Code to ensure property construction and adequate maintenance of proposed BMPs. A stormwater maintenance agreement form for projects on single owner properties is enclosed in this handbook.
- Maintenance agreements for multiple owner projects such as subdivisions and shopping centers are different from those for single owner projects. Please contact the office Codes Compliance for more information on these projects. Please also note that surety in addition to an executed maintenance agreement may also be required for projects involving multiple owners.

## **General Stormwater Management Checklist:**

- Chesapeake Bay Stormwater Calculations (including information indicating how pollutant removal requirement will be met)
- Location of existing and proposed BMPs
- Cross sections of ditches, swales, filter strips, infiltration trenches, stormwater management ponds, etc. **with details** (see BMP Design section)
- Delineation of drainage area being served by each BMP
- Number of acres or sq.ft. actually draining to each BMP provided
- Percent or acreage of impervious area within drainage area draining to each BMP provided
- Maintenance Plan-long term schedule for inspection and maintenance of SWM facilities
- Maintenance agreement [Section 5.5-10.D.2 of Gloucester County Code requires a maintenance agreement ensuring proper construction and adequate maintenance of the proposed BMPs]
- Location, width, and recordation information for all existing drainage easements
- Storm sewer drainage calculations [Detail: capacity, HGL]
- Verification of receiving line or channel adequacy (Minimum Standard 19 of the VE&SCR)
- For all culverts:
  - ✓ Inverts
  - ✓ Length
  - ✓ Discharge protection
  - ✓ Diameter
  - ✓ Headwater depth
  - ✓ Outlet velocity
  - ✓ Composition: RCP,CMP,PVC, etc.
- Runoff coefficients for the pre-developed and post-developed drainage areas. Post-developed coefficients must reflect the conditions of ultimate development
- Supporting calculations for the computation of Q2 and Q10, (and Q100 suggested), both pre-developed and post-developed
- Time of concentration provided
- Support documentation for any calculations or methods used, but not founding the Virginia E&S Handbook (VESCH)

**Gloucester County Chesapeake Bay Stormwater Management  
Calculations**

\*\*\*\*\*

RE: New Development

Project Name: \_\_\_\_\_

***Step 1; Determine if site must provide BMPs to comply with stormwater requirements.***

A.) Does the site need to provide BMPs to comply with Chesapeake Bay Stormwater Management criteria?

- If the site contains 16% impervious area or less – stormwater management criteria is met
- If the site contains greater than 16% impervious area – stormwater management criteria requires BMPs

B.) Determine the imperviousness (I site) of the site:

Total acreage of site (A)= \_\_\_\_\_ acres \*(acreage of site, not drainage area)

Impervious Acres (Ia):

**(Please note: Gravel areas are considered impervious area in Gloucester County)**

structures (buildings) = \_\_\_\_\_ acres

parking lot areas = \_\_\_\_\_ acres

roads, walkways = \_\_\_\_\_ acres

other = \_\_\_\_\_ acres

TOTAL (Ia) = \_\_\_\_\_ acres

Percent of site that is impervious (Isite):  $(\text{Total Ia}/\text{A}) \times 100 =$  \_\_\_\_\_ %

C.) Determine if site must provide BMPs to comply:

If Isite from above is < or = to 16% - NO, You are finished.

If Isite from above is > 16% - YES, Go to Page 2 and continue with worksheet.

***Step 2: Determine the pollutant removal requirement***

A.) Calculate the pre-development pollutant load (Ipre):

Ipre = .43 x Acreage of site (A)

= .43 x \_\_\_\_\_

= \_\_\_\_\_ pounds per year

B.) Calculate the post-development pollutant load (Ipost):

Ipost = 2.23 x [0.05 + (0.009 x Isite)] x A (\*Isite is a whole number, not a %)

= 2.23 x \_\_\_\_\_ x \_\_\_\_\_

= \_\_\_\_\_ pounds per year

C.) Calculate the pollutant removal requirement (RR):

Pounds of pollutant that must be removed from the site (RR) = Lpost – Lpre

RR = Lpost – Lpre

RR = \_\_\_\_\_ - \_\_\_\_\_

= \_\_\_\_\_ **pounds per year to be removed from site**

Overall BMP efficiency required (RR%):

%RR = RR/Lpost x 100

%RR = (\_\_\_\_\_/\_\_\_\_\_) x 100

%RR = \_\_\_\_\_

**Note:** This is the BMP efficiency required if a single BMP is proposed to treat the **entire** site. If the **entire** pollutant runoff load generated from the development is being treated by **one** BMP, installing a BMP with %RR removal efficiency will satisfy the stormwater removal requirement. However, if one BMP does not treat the entire site or more than one BMP will be used to treat separate drainage areas on site, this overall BMP efficiency rating (RR%) is not relevant. It is incorrect to add up the pollutant removal efficiencies of separate BMPs to determine if the pollutant removal requirement has been met for a site. For example, lets say the overall BMP efficiency required for a project is 85%. Mr. Joe Contractor has proposed two BMPs for this site. An extended detention pond with a pollutant removal efficiency rating of 35% and an infiltration trench with a pollutant removal efficiency of 50%. This combination of BMPs does **NOT** have an overall efficiency of 85%. The correct way to determine if the pollutant removal requirement of this site has been met is to determine the amount of pollutant load reaching each BMP and multiplying the removal efficiency of the BMP by the load going to it. For example, if 1 pound of pollutants is reaching a BMP and that BMP is 50% efficient, then .5 lbs is being removed by that BMP. To determine the total pollutant load removed is to add up the pollutant loads being removed by each BMP on site (See Step 3).

**Step 3: Determine how the pollutant removal requirement will be met.**

Type of BMP: \_\_\_\_\_ (Wet pond, infiltration trench, filter strip, extended detention pond, grass swale, etc.). (If a BMP is treating the entire site, Step 3 only needs to be computed once. If more than one BMP is serving the site, then step 3 needs to be computed for each BMP).

- 1) Land area (in acres) draining to the BMP (A): \_\_\_\_\_
- 2) Impervious area of land area draining to BMP (I): \_\_\_\_\_
- 3) Percent imperviousness of area = I/A = \_\_\_\_\_ x (100) = Iarea

Determine the pollutant load reaching the BMP:

$$L = 2.23 \times [0.5 + (.009 \times \text{Iarea})] \times A$$

$$L = 2.23 \times \underline{\hspace{2cm}} \times \underline{\hspace{2cm}}$$

$$L = \underline{\hspace{2cm}} \text{ pounds going to BMP}$$

Determine the pollutant load being removed by the BMP:

$$L_{\text{removed}} = L \times \text{BMP efficiency \%}$$

$$= \underline{\hspace{2cm}} \times \underline{\hspace{2cm}}$$

$$= \underline{\hspace{2cm}} \text{ pollutant load being removed}$$

For example, if the pollutant load reaching the BMP is 5 lbs and the pollutant removal efficiency of the BMP is 30%, the pollutant load being removed by the BMP is:

$$L_{\text{removed}} = 5\text{lbs.} \times .30$$

$$= 1.5 \text{ pounds}$$

Repeat all of Step 3 for each BMP proposed on the site and total the amount of pollutants being removed from the site.

$$L_{\text{removed of BMP\#1}} =$$

$$\text{BMP\#2} =$$

$$\text{BMP\#3} =$$

$$\text{BMP\#4} =$$

$$\text{BMP\#5} =$$

**Total pollutants removed:** \_\_\_\_\_ => **Total pollutants required to be removed:** \_\_\_\_\_?

**If YES:** Criteria are met.

**If NO:** A new site design, new combination of BMPs, or increased green area on site must be considered.

*Stormwater Maintenance Agreement*

This MAINTENANCE AGREEMENT is made this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, between \_\_\_\_\_ (the “Owner”) and the **County of Gloucester, Virginia** (the “County”).

**WHEREAS,** \_\_\_\_\_ is the Owner of that \_\_\_\_\_ acre parcel of land (Tax Map Number \_\_\_\_\_) located at \_\_\_\_\_ in Gloucester County, Virginia and described as

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

In the deed recorded at the Gloucester County Circuit Court Clerk’s office as Instrument # \_\_\_\_\_, (the “Property”); and

**WHEREAS,** a Site Plan prepared by \_\_\_\_\_, dated \_\_\_\_\_ and entitled \_\_\_\_\_ has been approved or submitted for approval by the County (the “Plan”); and

**WHEREAS,** said Site Plan provides for stormwater management facilities for the treatment and control of stormwater runoff (“the Facilities”) and described as

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_ and  
located \_\_\_\_\_.

**WHEREAS,** the County requires that the Facilities as shown on the Plan prepared by \_\_\_\_\_, dated \_\_\_\_\_ and entitled \_\_\_\_\_ be properly constructed and adequately maintained by the Owner;

NOW THEREFORE, in consideration of the foregoing premise, the mutual covenants contained herein and the following terms and conditions, the parties hereto agree as follows:

1. The Owner shall maintain the facilities in such a manner as to assure good working order acceptable to the County.
2. The Owner hereby grants permission to the County, its authorized agents and employees to enter upon the property and to inspect the facilities whenever it deems necessary. Whenever possible, the County shall notify the Owner prior to entering the property.
3. In the event the Owner fails to maintain the stormwater management facilities in good working order acceptable to the County, the County may enter upon the property to maintain the said stormwater management facilities. It is expressly understood and agreed that the County is under no obligation to maintain or repair said facilities and in no event shall this agreement be construed to impose any such obligations on the County.
4. In the event the County, pursuant to this agreement, performs work of any nature, or expends any funds in performance of said work for labor, use of equipment, supplies, materials and the like, the Owner or its successors shall reimburse the County, upon demand, within 30 days of receipt thereof for all costs incurred by the County hereunder.
5. This Agreement shall be recorded in the Gloucester County Circuit Court Clerk's office and shall constitute a covenant running with the land.
6. The Owner, its executors, administrators, assigns and other successors of interest shall indemnify and hold the County and its agents and employees harmless for any and all damages, accidents, casualties, occurrences or claims which might arise or be asserted against the County from the construction of the facilities. The Owner hereby agrees to indemnify and save the County harmless from any and all costs, liability, or expense arising from the malfunction of the facility or owner's failure to repair same in accordance with the requirements hereof.

IN WITNESS WHEREOF, the Owner and the County have entered into this MAINTENANCE AGREEMENT as of this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

By: \_\_\_\_\_ (SEAL)

Owner

\_\_\_\_\_ (SEAL)

Type Name

\_\_\_\_\_ (SEAL)

Title (if organization)

COMMONWEALTH OF VIRGINIA,  
COUNTY OF GLOUCESTER to wit:

I, a Notary Public, in and for the Commonwealth of Virginia, do hereby certify that \_\_\_\_\_, whose name is signed to this foregoing stormwater maintenance agreement bearing the date of \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, has acknowledged the same before me in the jurisdiction aforesaid.

Given under my hand this \_\_\_\_\_ day of \_\_\_\_\_, of 20\_\_\_\_\_.

\_\_\_\_\_

Notary Public

My commission expires: \_\_\_\_\_

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County of Gloucester, Virginia

By: \_\_\_\_\_

William H. Whitley  
County Administrator

Approved as to form

By: \_\_\_\_\_

Jacob P. Stroman  
County Attorney

COMMONWEALTH OF VIRGINIA,  
COUNTY OF GLOUCESTER to wit:

I, a Notary Public, in and for the Commonwealth of Virginia, do hereby certify that William H. Whitley, County Administrator and Jacob P. Stroman, County Attorney, whose names are signed to this foregoing stormwater maintenance agreement bearing the date of \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, has acknowledged the same before me in the jurisdiction aforesaid.

Given under my hand this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_\_.

\_\_\_\_\_

NOTARY PUBLIC

My commission expires: \_\_\_\_\_.

# **BMP Design Criteria and Pollutant Removal Efficiencies**

## Infiltration Trenches

### Design Information:

- 1) Soil type at location of trench: \_\_\_\_\_
- 2) Infiltration rate (in/hr) of soils: \_\_\_\_\_  
(not to be less than .27 in/hr)
- 3) Maximum storage time of trench (hrs): \_\_\_\_\_  
(Storage time should not exceed 72 hrs) \_\_\_\_\_
- 4) Seasonal high groundwater table elevation(ft): \_\_\_\_\_
- 5) Minimum distance from trench bottom to groundwater table (ft): \_\_\_\_\_
- 6) Contributing drainage area (sq.ft. or acres): \_\_\_\_\_
- 7) Elevation of top of trench (ft): \_\_\_\_\_
- 8) Elevation of bottom of trench (ft): \_\_\_\_\_
- 9) Sizing rule used: (check one)
  - \* .5 inch of runoff over impervious area (50% eff.) \_\_\_\_\_
  - \* 1 inch of runoff over impervious area (65% eff.) \_\_\_\_\_
  - \* 2 year storm (70% eff.) \_\_\_\_\_

*(All calculations to be shown and submitted with site plan)*
- 10) Storage Volume Required (cu.ft.): \_\_\_\_\_
- 11) Trench Dimensions: \_\_\_\_\_
- 12) Trench Volume (cu.ft.): \_\_\_\_\_
- 13) Void Ratio of Trench Medium (%): \_\_\_\_\_
- 14) Storage Volume provided (cu.ft.): \_\_\_\_\_

Please note: Infiltration facilities are not highly recommended due to Gloucester County soil and water table conditions.

### **Infiltration Trench Design Checklist**

- Infiltration rate of soils more than .27 in/hr. (Trenches are not a feasible option in soils with “D” soil infiltration rates less than .27 inch/hr.)
- Seasonal high water table at least 2 feet below the bottom of the infiltration trench
- Infiltration trench fitted with a 4” to 6” perforated PVC pipe observation well to facilitate monitoring the function of the trench. (One well should be provided for each 300 foot of trench.)
- Trench located at least 100 feet from drinking water wells and at least 15 feet from building foundations
- Aggregate stone used is 1 to 3 inch diameter clean washed stone
- A minimum 20 foot wide grass filter strip or a water quality inlet is provided to filter runoff of coarse sediment, oil, and grease before it enters a trench (for open trenches only)
- Contributing drainage less than 5 acres
- Adequate overflow drainage system provided for excess stormwater. Infiltration trenches are normally designed for water quality purposes and therefore a significant portion of runoff volume will bypass the trench and not be infiltrated.
- Trench is designed to drain within 6 to 72 hours
- Stone subgrade extends below the frost line
- The slope of the bottom of the trench is as close to zero as drainage will permit. Longitudinal slope does not exceed 5% [Longitudinal slope = \_\_\_\_\_%]
- Trench will be constructed after site is stabilized
- Proposed trench location is roped off to prevent compacting of soils by heavy equipment or traffic
- If compaction is unavoidable, trench location will be tilled prior to trench construction to restore infiltration capacity of soil
- Bottom and sides of the stone reservoir will be lined with filter fabric to prevent upward pumping of underlying soils
- The trench is designed shallow and broad rather than deep and narrow. Pollutant removal in the trench is enhanced by increasing the surface area of the trench bottom
- Grass in filter strip will not be mowed less than three (3) inches high
- Grass filter strip sides slopes 3:1 or flatter
- Maintenance plan & schedule

## Wet Ponds

### Design Information:

- 1.) Soil type at location of pond: \_\_\_\_\_
- 2.) Contributing drainage area (sq. ft. or acres): \_\_\_\_\_
- 3.) Detention time (hours): \_\_\_\_\_
- 4.) Sizing rule uses: (choice one)
  - \* .5 inch of runoff over impervious area (35% eff.) \_\_\_\_\_
  - \* 2.5 Vr (40% eff.) \_\_\_\_\_
  - \* 4.0 Vr (50% eff.) \_\_\_\_\_

Vr – Volume of runoff generated by mean storm  
Eff. = efficiency

*(All calculations to be shown and submitted with site plans)*

- 5.) Water Quality volume required to be stored (cu. ft.): \_\_\_\_\_
- 6.) Storage volume provided (cu. ft.): \_\_\_\_\_
- 7.) Routings through pond to include:
  - \* inflow hydrograph
  - \* stage-storage relationship (for the 2- and 10-year storms; 100-year storm optional)
  - \* stage-discharge relationship (for the 2- and 10-year storms; 100-year storm optional)
  - \* outflow hydrograph
- 8.) Construction details for the basin and inlet and outlet devices
- 9.) 2-, 10-, and 100-year elevations; permanent pool elevation; & pond bottom elevation to be shown on pond detail.

### Wet Pond Design Checklist:

- Side slopes of pond no greater than 3:1
- Drainage area greater than 10 acres
- Channel below pond outlet lined with rip rap
- Aquatic vegetation established around the perimeter of pond to enhance pollutant removal
- Complete routings through pond provided
- Design calculations provided
- Cross sections & details provided & properly labeled

### **Grass Swale Design Checklist:**

- Swale slopes graded as close to zero as drainage will permit
  - \* Side-slopes no greater than 3:1
  - \* Longitudinal slope does not exceed 5%  
(Longitudinal slopes: \_\_\_\_\_%)
- Swale area will be tilled before grass cover is established to restore infiltration capacity lost as a result of construction activities
- A dense cover of water tolerant, erosion resistant grass such as reed canary grass, will be established. (Dense grasses offer a fine filter for sedimentation of particulates and relatively high friction to reduce velocity and increase residence time).
- Grass maintained at a length of 6 inches or greater to facilitate the filtering and hydraulic functions of the swale. (Effective filtration requires a vertical stand of vegetation higher than the water surface in the swale)
- Permeability or final infiltration rate of underlying soil equal to or greater than .27 inches per hour  
(Permeability of soil: \_\_\_\_\_ in/hr)
- Check dams installed in swales to promote additional infiltration. (The best method is to sink a railroad tie halfway into the swale, and place stone on the downstream side of the tie to prevent a scour hole from forming).
- Expected peak discharges not to exceed 5 cfs
- Runoff velocities must be non-erodible (in general not to exceed 1.5 fps)
- Seasonal high groundwater table is at least one or two feet below the bottom of the grassed swale. (Most ideal is a ground water surface high enough to provide moisture to vegetation during the dry season, but never so high that long periods of surface soil saturation occur).
- Swale is designed as wide as site conditions will permit
- Maximum ponding time in swale is 24 hours or less.

### **Filter Strip Design Checklist:**

- Level spreader provided for filter strip
- Filter strip plan species provided on plan

## **Grass Swales**

### Design Information:

(Gloucester County highly encourages the use of vegetation BMPs)

1. Cross sectional diagram of grass swale provided (to include):
  - a. flow depth
  - b. flow length
  - c. longitudinal slope
  - d. side slopes
  - e. width
  - f. flow velocity
  - g. type of vegetation lining swale
  - h. height of checkdams (if applicable)
  - i. distance between checkdams
2. Drainage area being treated by the grass swale
3. Size of drainage area provided in acres or square feet.
4. Swale design should provide adequate storage volume to contain .5 inch of runoff per impervious acre in the contributing site area.
5. Location of proposed grass swales shown on site plan..
6. Grass swale efficiency:
  - \* Minimum 20 feet wide and 100 feet long (no check dams) = 10% eff.
  - \* Minimum 20 feet wide and 100 feet long (with check dams) = 20% eff.

## **Filter Strips**

### Design Information:

For filter strips:

- a. Runoff from adjacent impervious area must be evenly distributed across the filter strip. If necessary, the filter strip should be equipped with a level spreading device.
- b. Strips should be densely vegetated with a mix of plant species. Proposed plant species need to be indicated on plan.
- c. Strips should be graded to a uniform, even, and relatively low slope

Filter strip efficiency:

Generally strips at least:

- \* 50 feet wide and a minimum of 200 feet long = 35% efficiency
- \* 50 feet wide and a minimum of 100 feet long = 30% efficiency
- \* 20 feet wide and a minimum of 200 feet long = 25% efficiency

## Extended Detention Ponds

### Design Information:

- 1) Soil type at location of pond: \_\_\_\_\_
- 2) Contributing drainage area (sq. ft. or acres): \_\_\_\_\_
- 3) Detention time (hours): \_\_\_\_\_
- 4) Sizing rule used: (check one)
  - \* .5 inch of runoff over impervious area (20% eff.) \_\_\_\_\_
  - \* 1 inch of runoff over impervious area (30% eff.) \_\_\_\_\_
  - \* 1 inch/imper. area with a shallow marsh bottom (50% eff.) \_\_\_\_\_eff. = efficiency  
*(All calculations to be shown and submitted with site plan)*
- 5) If shallow marsh is selected, supporting design and plan information is required (See design guidelines for wetland enhanced extended detention ponds)
- 6) Water Quality volume required to be stored (cu. ft.): \_\_\_\_\_
- 7) Storage volume provided (cu. ft.) \_\_\_\_\_
- 8) Routings through pond to include:
  - \* inflow hydrograph
  - \* stage-storage relationship (for the 2- and 10-year storms; 100-year optional)
  - \* stage-discharge relationship (for the 2- and 10-year storms; 100-year optional)
  - \* outflow hydrograph
- 9) Construction details for the basin and inlet and outlet devices
- 10) 2-,10-, and 100-year elevations; pond bottom elevation to be shown on pond detail.

## Wetland Enhanced Extended Detention Ponds

### Design Guidelines:

- 1) A minimum drainage area of 10 acres is recommended to provide the necessary hydrology to support a marsh system.
- 2) The facility should have several areas of differing hydrology. These areas include a forebay, micropool, low marsh, high marsh, and semi-wet depth areas. These areas should be allocated as follows:

<u>Percent of Surface Area</u>		<u>Percent of Treatment Volume</u>	
Forebay	5	Forebay	10
Micropool	5	Micropool	10
“Low Marsh”	40	“Low Marsh”	20
“High Marsh”	40	“High Marsh”	10
“Semi-Wet”	10	“Semi-Wet”	50

The depth of these areas vary as follows:

- Forebays and micropools – one to six feet below normal pool elevation
- Low Marsh – six to eighteen inches below normal pool elevation
- High Marsh – zero to six inches below normal pool elevation
- Semi-Wet – zero to two feet above normal pool elevation

- 3) Extended detention may be provided above the permanent pool. The maximum water surface elevation should not be greater than three feet above the normal pool elevation.
- 4) The wetland planting area should be comprised of the “low marsh”, “high marsh” and “semi-wet” areas. Each area should be planted with wetland vegetation appropriate for its depth zone. Planting five to seven species within each area is recommended.
- 5) The wetland-to-watershed ratio should be a minimum of 1%.
- 6) The dry weather flow path through the basin should be maximized.
- 7) Water quality volume depth should be no greater than 3 feet.
- 8) Draining time should not exceed 24 hours.
- 9) A 25-foot wide vegetated buffer strip, measured from the maximum water surface, located adjacent to the stormwater wetland should be provided.

*Taken from: Design of Stormwater Wetland Systems: Guidelines for Creating Diverse and Effective Stormwater Wetland Systems in the Mid Atlantic Region*



**County of Gloucester**  
*Office of Codes Compliance*  
*Post Office Box 329*  
*Gloucester, Virginia 23061*

**Gloucester County Site Plan Application**

Date Received: \_\_\_\_\_

Project Name: \_\_\_\_\_

Applicant Name: \_\_\_\_\_

Address: \_\_\_\_\_

Phone#: \_\_\_\_\_

*Please note: Only applicant will be sent the site plan review letter and be designated the sole contact person for all matters concerning the submitted site plan).*

**Project Information:**

- 1.) Proposed Use: \_\_\_\_\_
- 2.) Tax Map # of parcel(s) involved in project review: \_\_\_\_\_
- 3.) Property Owner: \_\_\_\_\_
- 4.) Address: \_\_\_\_\_
- 5.) Are there any covenants of record or proposed covenants that may affect this project? \_\_\_\_\_  
If yes, please attach explanation.

*I do hereby certify that I have read and am familiar with the requirements for the submission of site plans as provided for under the Site Plan Ordinance (Section 15.5 of Gloucester County Code).*

Signature of Applicant: \_\_\_\_\_

Date: \_\_\_\_\_

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**Site Plan Review Fee:        \$500.00 base fee plus  
   \$50.00 per acre of disturbed area or fraction thereof**





- Is there a landscape plan showing the HCOD requirements? Y N N/A  
*(Drawn to scale, showing dimensions and distances, delineating all proposed structures, parking areas, and drives, and specifying the location, size and description of all landscaping materials.)*

- Does the landscape plan have the following notes:

*All plant materials shall be living and in healthy condition when installed.* Y N

*The owner, or his agent, shall be responsible for the maintenance, repair and replacement of all landscape materials.* Y N

*All plant material shall be tended and maintained in a healthy growing condition and free from refuse and debris at all times.* Y N

*All unhealthy, dying or dead plant material shall be replaced during the next planting season.* Y N

- Does the landscape plan identify existing trees 8 inches DBH or greater to be preserved as per Section 6A-7(2)(c)? Y N N/A

- Is the plan using preserved tree credits to meet the HCOD requirements? Y N N/A

<i>8"-9" caliper = 2.5 points</i>	<i>No. of trees</i>	<i>_____</i>	<i>Total Credits</i>	<i>_____</i>
<i>10"-11" caliper = 3.0 points</i>	<i>No. of trees</i>	<i>_____</i>	<i>Total Credits</i>	<i>_____</i>
<i>12" caliper or greater = 4.0 points</i>	<i>No. of trees</i>	<i>_____</i>	<i>Total Credits</i>	<i>_____</i>

- Does the plan show existing tree(s) to be removed? Y N N/A

- **REQUIREMENTS (USE WORKSHEET ON PAGES 5 & 6)**

**Perimeter landscaping A:**

- Large deciduous tree – 1 per 50 linear feet.
- Small deciduous tree – 1 per 50 linear feet.
- Evergreen tree – 1 per 30 linear feet.
- Medium shrub – 1 per 15 linear feet
- Low shrubs and ground cover dispersed throughout to avoid large areas of bare ground

**Perimeter landscaping B:**

- Large deciduous tree – 1 per 50 linear feet.
- Small deciduous tree – 1 per 30 linear feet.
- Evergreen tree – 1 per 30 linear feet
- Medium shrub – 1 per 10 linear feet
- Low shrubs and ground cover dispersed throughout to avoid large areas of bare ground

**Perimeter landscaping B (option II):**

- A minimum three feet high undulating berm, landscaped with ground cover and other stabilizing vegetation
- Perimeter Landscaping A.

**Perimeter landscaping C (option I):**

- Large deciduous tree – 1 per 50 linear feet.
- Small deciduous tree – 1 per 30 linear feet.
- Evergreen tree – 1 per 30 linear feet.
- Medium shrub – 1 per 5 linear feet, OR  
continuous hedgeforms for the entire lot width, OR  
a continuous picket fence for the entire lot width.  
*(The fence can be no taller than 4 feet and no shorter than 3 feet).*
- Low shrubs and ground cover dispersed throughout to avoid large areas of bare ground.

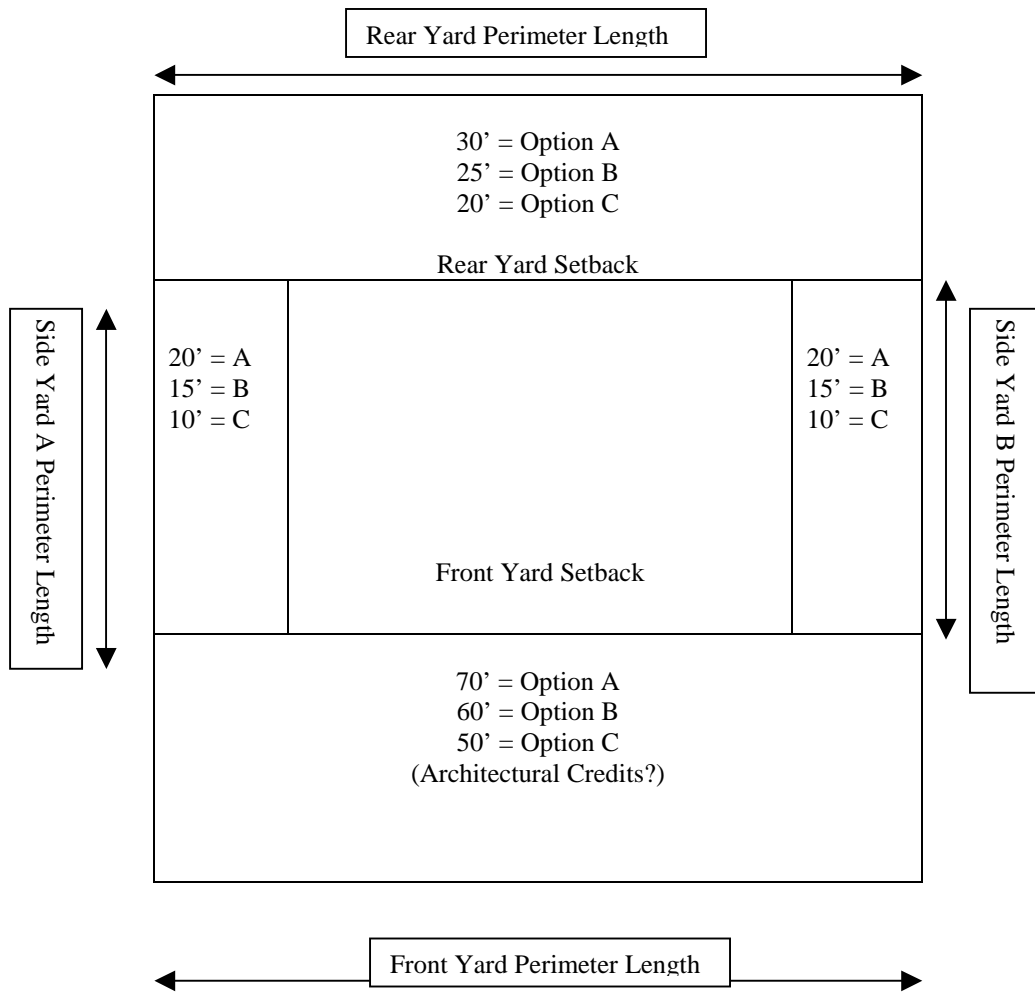
**Perimeter landscaping C (option II):**

- A minimum three feet high undulating berm, landscaped with ground cover and other stabilizing vegetation
- Perimeter landscaping B, Option I.

- |  |   |   |     |
|--|---|---|-----|
| • Is there a text box on the plan showing the HCOD requirements?<br><i>Including the internal landscaping and following size requirements:<br/>Large and small deciduous trees = 2½" caliper<br/>Evergreen trees = 5' tall<br/>Medium Shrubs = 2' tall</i> | Y | N | N/A |
| • Does the plan address irrigation for the HCOD landscaping?   | Y | N | N/A |
| • Does the plan show the proposed landscaped area to be enclosed within a visible barrier prior to the start of construction?  | Y | N | N/A |
| • How will the landscaped areas be protected from vehicular encroachment once completed?   |   |   |     |
| • Will the landscaping be installed prior to the issuance of the C.O.?   | Y | N | N/A |
| • If no, has the owner or developer provided surety?   | Y | N | N/A |
| • Has it been noted on the plan that installation will occur the first planting season following the issuance of the C.O.?   | Y | N | N/A |

Section 6A-8. Signs

- |   |   |   |     |
|---|---|---|-----|
| • Zoning of site _____ On-premises sign style _____ Required setback _____  |   |   |     |
| • Is the on-premises sign shown on the plan?  | Y | N | N/A |
| • Does the on-premises sign meet the setback?   | Y | N | N/A |
| • Does the landscape plan incorporate plantings around the base of the sign?  | Y | N | N/A |
| • Is there a note on the plan saying a comprehensive sign package must be submitted to the office of Codes Compliance for approval? | Y | N | N/A |



### Perimeter Landscaping Worksheet

Front Yard: Setback \_\_\_\_\_; Perimeter Length \_\_\_\_\_; Landscape Option \_\_\_\_\_

Type of Landscaping	Perimeter Length Linear Feet	# per linear feet	# of Plants
Large Deciduous Tree	_____	÷ _____	= _____
Small Deciduous Tree	_____	÷ _____	= _____
Evergreen Tree	_____	÷ _____	= _____
Medium Shrub	_____	÷ _____	= _____
Low shrubs and ground cover	_____		_____

Rear Yard: Setback \_\_\_\_; Perimeter Length \_\_\_\_; Landscape Option \_\_\_\_

Type of Landscaping	Perimeter Length Linear Feet		# per linear feet	=	# of Plants
Large Deciduous Tree	_____	÷	_____	=	_____
Small Deciduous Tree	_____	÷	_____	=	_____
Evergreen Tree	_____	÷	_____	=	_____
Medium Shrub	_____	÷	_____	=	_____
Low shrubs and ground cover	_____				_____
					_____
					_____

Side Yard A: Setback \_\_\_\_; Perimeter Length \_\_\_\_; Landscape Option \_\_\_\_

Type of Landscaping	Perimeter Length Linear Feet		# per linear feet	=	# of Plants
Large Deciduous Tree	_____	÷	_____	=	_____
Small Deciduous Tree	_____	÷	_____	=	_____
Evergreen Tree	_____	÷	_____	=	_____
Medium Shrub	_____	÷	_____	=	_____
Low shrubs and ground cover	_____				_____
					_____
					_____

Side Yard B: Setback \_\_\_\_; Perimeter Length \_\_\_\_; Landscape Option \_\_\_\_

Type of Landscaping	Perimeter Length Linear Feet		# per linear feet	=	# of Plants
Large Deciduous Tree	_____	÷	_____	=	_____
Small Deciduous Tree	_____	÷	_____	=	_____
Evergreen Tree	_____	÷	_____	=	_____
Medium Shrub	_____	÷	_____	=	_____
Low shrubs and ground cover	_____				_____
					_____
					_____



**Regarding Handicap Accessible Parking, use the following chart:**

Total Parking in Lot	Required Number of Handicap Spaces
1 – 25	1
26 – 50	2
51 – 75	3
76 – 100	4
101 – 150	5
151 – 200	6
201 – 300	7
301 – 400	8
401 – 500	9
501 – 1000	Two percent of total
1001 and over	20 plus 1 for each 100 over 1000

Total number of handicap spaces required. \_\_\_\_\_

- *For uses in the Gloucester County Village area, defined within the following boundaries:  
“Length” – From the Court Circle (by the Masonic Lodge) to Smith Avenue (between the Courthouse Restaurant and the Exxon gas station).  
“Width” – 900’ from the centerline of Main Street.*

*Where any use, by virtue of physical limitations relating to the built-out nature of development in this area, cannot reasonably comply with the parking requirements listed herein, the [zoning] administrator may modify or waive such requirements to the extent necessary.*

Will the Zoning Administrator be modifying or waiving the parking requirements? Y N N/A

**Section 11-3. Dimensions of parking spaces and aisles**

- Are the parking spaces a minimum of 9’ X 18’? Y N N/A
- Do the drive aisles meet the following requirements:
 

<i>Angle of Parking</i>	<i>Direction of Traffic</i>	<i>Width of Aisle</i>
<i>Parallel</i>	<i>One-way</i>	<i>12 feet</i>
<i>45 degrees</i>	<i>One-way</i>	<i>12 feet</i>
<i>60 degrees</i>	<i>One-way</i>	<i>18 feet</i>
<i>90 degrees</i>	<i>Two-way</i>	<i>24 feet</i>

**Section 11-4. Loading space dimensions.**

- Are the loading spaces a minimum of 12” X 25”? Y N  
N/A
- Do the loading spaces have a minimum clearance of 14 feet? Y N  
N/A

**Section 11-5. Design requirements for off-street parking and loading requirements.**

- Do the parking areas have adequate parking? Y N  
N/A

- Will the lighting shine away from adjoining properties and r/w's? Y N N/A
- Is the parking area(s) located in or adjacent to a residential zoning district? Y N N/A
- If yes, is the parking screened on all sides adjoining the residential district by a dense evergreen hedge? (4'-6' tall evergreen hedge) Y N N/A
- Does the parking area contain more than 5 parking spaces? Y N

If yes, the following are the requirements for internal landscaping:

- For each space, the parking area shall have 20 square feet of internal landscaping  

<i>Number of spaces</i>	<i>X</i>	<i>20 s.f. =</i>	<i>Required S.F.</i>
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- Is there existing vegetation to be credited? Y N
- N/A  
*(Existing trees greater than 8" DBH shall be credited as 2 newly planted Large Deciduous trees)*

	<i>Total Credits</i>	
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- Are the landscaped areas larger than 100 square feet? Y N
- N/A
- Are the areas an average of 9' in width at minimum? Y N
- N/A
- Required trees for the landscaped area:  
1 Small Deciduous per 100 square feet.  
1 Large Deciduous per 200 square feet.
  
- Is there groundcover on the landscaped islands? Y N N/A
- Are there double rows of parking spaces on the plan? Y N N/A
- If yes, is a landscape island provided for every 8 spaces in a row? Y N N/A
  
- Are the landscaped areas dispersed throughout the parking area? Y N N/A
  
- If the parking lot is adjacent to the public r/w, is it screened? Y N N/A
- Either by:  
*A continuous evergreen hedgeform no shorter than 3' tall, OR*  
  
*A continuous undulating earthen berm no shorter than 3' and landscaped With groundcover and other stabilizing vegetation; OR*  
  
*A continuous picket fence, no shorter than 3' and no taller than 4', painted white or whitewashed (a plastic composite fence designed to look like a picket fence is permitted).*

**Section 11-6. Maintenance of off-street parking and loading areas.**

- The owner of the property used for parking and/or loading shall maintain such area in good condition without holes and free of all trash and other debris.

**Section 11-7. Location of parking spaces.**

- Are there parking spaces within 400 feet of the use being served? Y N N/A

- Are the bicycle spaces within 250 feet of the use? Y N N/A
- Are the handicap spaces within 100 feet of the use? Y N N/A

**Section 11-8. Minimum distance and setbacks.**

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- Is there a dwelling unit, school, hospital, or other institution for human care located on an adjoining property?  
If yes, is there any are of parking less than 20' to the structure? Y N N/A  
Y N N/A
- Is any parking area less than 4' from a lot line or r/w? Y N N/A

**Section 11-9. Joint use**

- Will 2 or more uses jointly share the parking area?  
(Due to difference in hours of operation.) Y N N/A
- If yes, does the parking area meet all the requirements? Y N N/A
- If yes, is there a note on the plan referencing a written agreement to be filed with the Zoning Administrator with the zoning permit? Y N N/A

**Section 11-10. Access.**

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- Will vehicles be moving in a forward motion when entering or exiting a parking area? Y N N/A
- Will vehicles entering or exiting a parking area be clearly visible to any pedestrian or motorist approaching the access driveway from a public or private r/w? Y N N/A

**Section 11-11. Width of access driveway.**

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- Are the entrances and exits clearly marked? Y N N/A
- Do the access roads (those roads that do not provide direct access to parking spaces) meet the following width requirements:  
  
One-way traffic                      12 feet  
Two-way traffic                      24 feet at minimum
- Do the access roads have directional signs or markings? Y N N/A