

# Morgan County Planning Commission

## APPLICATION FOR SUBDIVISION

NAME OF SUBDIVISION: \_\_\_\_\_ SECTION: \_\_\_\_\_

TYPE OF SUBDIVISION: \_\_\_\_\_

NUMBER OF LOTS: \_\_\_\_ TOTAL ACREAGE: \_\_\_\_ AVG. LOT SIZE: \_\_\_\_\_

BRIEF DESCRIPTION OF LOCATION: \_\_\_\_\_

TAXING DISTRICT: \_\_\_\_\_ TAX MAP/PARCEL: \_\_\_\_\_

---

NAME OF OWNER/DEVELOPER: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

TELEPHONE NUMBER: \_\_\_\_\_

NAME OF CONTRACTOR: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

TELEPHONE NUMBER: \_\_\_\_\_

NAME OF SURVEYOR: \_\_\_\_\_

REGISTRATION NUMBER: \_\_\_\_\_

COMPANY NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

TELEPHONE NUMBER: \_\_\_\_\_

NAME OF ENGINEER: \_\_\_\_\_

REGISTRATION NUMBER: \_\_\_\_\_

**COMPANY NAME:** \_\_\_\_\_

ADDRESS: \_\_\_\_\_

COMPANY CERTIFICATION  
OF AUTHORIZATION NUMBER: \_\_\_\_\_

\_\_\_\_\_  
SIGNATURE OF APPLICANT

\_\_\_\_\_  
DATE

**APPLICATION FOR EXEMPTION FROM  
MORGAN COUNTY SUBDIVISION REGULATIONS**

PERMIT NUMBER: \_\_\_\_\_ FEE: \$ \_\_\_\_\_

NAME OF LANDOWNER/SELLER: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

TELEPHONE NUMBER: \_\_\_\_\_

NAME OF PROPOSED BUYER: \_\_\_\_\_

.....  
TAX DISTRICT: \_\_\_\_\_ TAX MAP: \_\_\_\_\_ PARCEL: \_\_\_\_\_

DEED BOOK: \_\_\_\_\_ PAGE: \_\_\_\_\_

NUMBER OF PROPOSED LOTS: \_\_\_\_\_

LOT SIZES: \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_ / \_\_\_\_\_

.....  
LIST ALL OUTSALES OR PREVIOUS SUBDIVISION (When, How Many, Deed Book, Page):

REASON FOR EXEMPTION REQUEST:

- \_\_\_\_\_ A. First of four parcels less than 20 acres.
- \_\_\_\_\_ B. First of four parcels over 20 acres.
- \_\_\_\_\_ C. Transfer to parent, child, grandparent/child, stepchildren.
- \_\_\_\_\_ D. Division among heirs or court order of partition.
- \_\_\_\_\_ E. Boundary line settlement.
- \_\_\_\_\_ F. Cemetery Lots.
- \_\_\_\_\_ G. Right-of-way.
- \_\_\_\_\_ H. Merger of two or more lots.
- \_\_\_\_\_ I. Subdivision of real estate by public or private auction.
- \_\_\_\_\_ J. Resurvey.
- \_\_\_\_\_ K. Utility lots, easements and conservation easements.

.....  
Name of Registered Engineer/Surveyor: \_\_\_\_\_

Telephone Number: \_\_\_\_\_

I do hereby certify that the information given on this application is true.

Signature of Owner/Applicant/Representative: \_\_\_\_\_

.....  
FOR OFFICE USE ONLY

DATE RECEIVED: \_\_\_\_\_ DATE APPROVED: \_\_\_\_\_ GRANTED BY: \_\_\_\_\_

COMMENTS: \_\_\_\_\_

Morgan County Planning Commission  
77 Fairfax Street Room 105  
Berkeley Springs, WV 25411  
304-258-8540

**APPLICATION FOR WAIVER**

NAME OF OWNER \_\_\_\_\_

ADDRESS \_\_\_\_\_

NAME OF DEVELOPER \_\_\_\_\_

ADDRESS \_\_\_\_\_

PRIMARY CONTACT PERSON \_\_\_\_\_

PHONE AND EMAIL ADDRESS \_\_\_\_\_

NAME OF SUBDIVISION OR PROJECT \_\_\_\_\_

TAX MAP \_\_\_\_\_ PARCEL \_\_\_\_\_ TAXING DISTRICT \_\_\_\_\_

**REFER TO SECTION 6.0 OF THE MORGAN COUNTY SUBDIVISION REGULATIONS AS IT PERTAINS TO THE WAIVER REQUEST.**

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GENERAL DESCRIPTION OF WAIVER REQUEST: \_\_\_\_\_

\_\_\_\_\_

REASON(S) FOR WAIVER REQUEST: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

ADDITIONAL COMMENTS: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

SIGNATURE OF PERSON COMPLETING FORM \_\_\_\_\_ PRINT NAME OF PERSON COMPLETING FORM \_\_\_\_\_  
DATE \_\_\_\_\_ DATE RECEIVED BY PLANNING OFFICE AND INITIAL \_\_\_\_\_

**MORGAN COUNTY PLANNING COMMISSION  
SUBDIVISION AND COMMERCIAL APPLICATION  
CHECKLIST**

DATE _____	CONTACT PERSON _____
OWNER _____	PHONE _____
ADDRESS _____	FAX _____
_____	ENGINEER/SURVEYOR NAME _____
_____	_____
PROJECT TITLE _____	ADDRESS _____
_____	_____
	PHONE/FAX _____

**DOCUMENTATION AND ADDITIONAL PERMITS NEEDED FOR SUBMITTAL  
(Please indicate with N/A if not applicable)**

	Completed	Comments
Morgan County Application	_____	_____
Waiver Application	_____	_____
WV Dept of Health Permits For Water and/or Sewer Provide copies of testing data and Results	_____	_____
Morgan County Dept of Health For Well and/or Septic	_____	_____
WVDOH Entrance Permits	_____	_____
Stormwater Management Calculations	_____	_____
WVDEP NPDES Permit Approval	_____	_____
Corp. of Engineers Permit Approval	_____	_____
EPCD Submittal for Review/Approval	_____	_____
Fire Marshall Review (CILP Apps.)	_____	_____
Covenants	_____	_____
Preliminary Plat (min. of 3 copies)	_____	_____
Public Hearing Sign Prepared for Site	_____	_____
Plans submitted on 24"x36" Sheets	_____	_____

**PLAN REVIEW CHECKLIST**

	Completed	Comments
One set of supporting engineering calculations Signed/sealed by WV Engineer and/or Surveyor	_____	_____
Vicinity Map at scale between 1"=1000' And 1"=5000'	_____	_____
Minimum Scale of 1"=50' (Not including drainage area maps)	_____	_____
North Arrow on all Sheets	_____	_____
Two elevation bench marks provided	_____	_____
Topography provided at 2 foot contour Intervals	_____	_____
Source of Topography Noted	_____	_____
Existing utilities shown on Plan	_____	_____
Topography at and beyond the project Boundaries shall be adequate to allow Review of off-site drainage and other off-site Impacts	_____	_____
Proposed grading/contours with limits Of disturbance shown	_____	_____
All utility conflicts shown on plan and Profile	_____	_____
Central Water and Sewer, if any, shown On plan and profile with line sizes and Appurtenances shown	_____	_____
Responsible entity for any central water And/or sewer clearly identified on plans	_____	_____
Drainage Calculations for all open and Closed storm drainage systems provided	_____	_____
Minimum velocity of 2ft/s shown for all Storm drain	_____	_____
Minimum slope of 1% shown for all Drainage channels and culverts	_____	_____
Well and Septic locations shown in accordance With all requirements in the Morgan County Subdivision Ordinance and Health Dept. Regulations	_____	_____
Signature of Surveyor/Engineer completing checklist _____		Date: _____

**MORGAN COUNTY PLANNING COMMISSION  
ENVIRONMENTAL AND PROJECT CONSIDERATIONS CHECKLIST**

**PLEASE ATTACH COMMENTS**

**General**

1. What types of uses are proposed for the entire subdivision?
2. What is the estimated number of housing units and resulting increased number of persons this project will bring to the area?
3. When will development work begin and what is the planned completion date?
4. Are there special/unique/distinguishing features to this development?

**Environmental Considerations**

1. How will you mitigate the impact of the development on local ground water (including aquifers and surface lakes, ponds, streams or wetlands)?
2. What is the source of water for the development? If an on-site source is proposed (e.g. a well), have draw down tests been planned or performed to prove there is sufficient water without impacting neighboring properties?
3. Is there a mapped floodplain or wetland on the proposed project site? What steps are being taken to protect these areas?
4. Will the development/project affect air quality or increase noise levels?
5. Please list significant or large rock outcrops or known sinkholes, caverns or view-sheds on the site or adjoining properties.

**Project Considerations**

1. How will this project affect road and traffic patterns? Are there any unique public road entrance permit issues/concerns that must be addressed?
2. How will this project affect the Morgan County School system? (Please attach Public School Impact Analysis Form)
3. How will this project affect local emergency services (fire, EMS, police)? Where are the closest emergency services, (fire, EMS, police) that will serve this development?
4. What are the closest commercial/shopping areas that will serve this development?
5. Please list any known archaeological or historic sites, or historic buildings or cemeteries on the site or adjoining properties.
6. Will this project/development provide recreational amenities usable by the public?

**Additional Information**

1. What is the estimated sale or rental price for housing units and/or lots in this development?
2. What is the marketing plan for selling the lots, units and/or commercial space?
3. Was there a marketing analysis or needs study completed for the proposed project? If so, please provide a copy.
4. Will some form of public financing be involved in this project?
5. Will there be any community impacts such as safety concerns, during construction?

**Morgan County Planning Commission  
Residential Development Public School Impact Analysis Form**

(To be submitted along with the Subdivision Preliminary Plat Application and Checklist)

1. Name of Development:

\_\_\_\_\_

2. Location of proposed development:

\_\_\_\_\_

3. Owner's Name, Address and Phone:

\_\_\_\_\_

4. Number and type of units proposed:

\_\_\_\_\_

5. Impacted School Districts:

(Note: This information may be obtained by calling the Morgan County School District, Board of Education Office)

Elementary: \_\_\_\_\_

Middle: \_\_\_\_\_

High: \_\_\_\_\_

6. First year of impact: \_\_\_\_\_

7. Number of students projected for each school district for first year of development/occupancy:

Elementary: \_\_\_\_\_

Middle: \_\_\_\_\_

High School: \_\_\_\_\_

8. Pupil Yield Factor: The number of elementary, middle and high school students expected to be generated by a single residential dwelling unit. These factors or multipliers have been approved by the Morgan County School Board and are based upon historical information. The projected number of additional students is calculated by multiplying the number of dwelling units (by type) by the county average pupil yield factor (by dwelling unit type). The product shall be rounded to

the next highest whole number. The pupil yield factors for housing type and school type are provided below.

Unit Type	Elementary School Students	Middle School Students	High School Students
Single-Family Dwelling	.22	.08	.13
Townhouse	.23	.06	.11
Multi-Family Apartments (rental)	.23	.05	.10
Multi-Family Apartments (condominium)	.17	.05	.05

Please Note: This form is intended to provide guidance to the report preparer as to the general nature and scope of the information which the Planning Commission requires. Please feel free to provide this information in report form or in a format of your choice.

**INSPECTION AND MAINTENANCE AGREEMENT  
OF PRIVATE STORM WATER MANAGEMENT FACILITIES**

THIS AGREEMENT, made this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_,

By and between \_\_\_\_\_

Hereinafter referred to as the "OWNER(S)" of the following property:

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

and the Morgan County Planning commission, hereinafter referred to as the "Commission".

**WITNESSETH:**

We, the OWNER(S), with full authority to execute deeds, mortgages, other covenant, all rights, titles and interests in the property described above, do hereby covenant with the Commission and agree as follows:

1. THE OWNER(S) shall provide for the maintenance of the stormwater management facility to ensure that the facility is and remains in proper working condition in accordance with approved design standards, rules and regulations and applicable laws. The OWNER(S) shall perform necessary landscaping (grass cutting, etc) and trash removal as part of regular maintenance.
2. If necessary, the OWNER(S) shall levy regular or special assessments against all present or subsequent owners of property served by the facility to ensure that the facility is properly maintained.
3. The OWNER(S) shall grant the Commission or its agent and contractor the right of entry at reasonable times and in a reasonable manner for the purpose of inspecting, operating, installing, constructing, reconstructing, maintaining, or repairing the facility.
4. Should the OWNER(S) fail to maintain the facility or correct any defects within a reasonable period of time (30 days maximum) after proper written notice by the Commission, the Commission is authorized to perform the necessary maintenance or repairs and may assess the OWNER(S) served by the facility for the cost of the work, and applicable penalties, and legal fees and court costs, if any. Said assessment shall be a lien against all properties served by the facility and may be placed on the property tax bill of said property and collected as ordinary taxes by the Commission. The OWNER(S) shall maintain perpetual access from public rights-of-way to the facility for the Commission or its agent and contractor.
5. The OWNER(S) shall indemnify and save the Commission harmless from any and all claims for damages to persons or property arising from the construction, maintenance and use of the facility.
6. The agreement and covenants contained herein shall apply to and bind the OWNER(S) and the OWNER(S) heirs, executors, successors, and assigns, and shall bind all present and subsequent owners of the property served by the facility.

7. The COMMISSION shall record this AGREEMENT in the land records of the COUNTY.

IN WITNESS WHEREOF, the OWNER(S) and the COMMISSION executed this AGREEMENT as of this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_

ATTEST:

FOR THE OWNER(S)

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

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

ATTEST:

FOR THE COMMISSION

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

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

STATE OF \_\_\_\_\_

COUNTY OF \_\_\_\_\_, TO WIT:

I hereby certify that on this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, before the subscribed, a Notary Public of the State of \_\_\_\_\_, and for the County of \_\_\_\_\_, aforesaid personally appeared \_\_\_\_\_ for the Commission and did acknowledge the foregoing instrument to be their Act.

In testimony whereof,  
I have affixed by official seal,

\_\_\_\_\_  
NOTARY PUBLIC

My Commission Expires: \_\_\_\_\_

SEAL:

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# STORMWATER MANAGEMENT IN MORGAN COUNTY



*An Informational Handout*

*Provided by the*

**Morgan County Commission &  
Morgan County Planning Commission  
Morgan County, WV**

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## BACKGROUND

The United States Environmental Protection Agency (EPA) and the State of West Virginia Department of Environmental Protection (DEP) have agreed to partner in an effort to reduce nutrients and sediment loads entering the Chesapeake Bay. As required by EPA, each of the seven (7) states (including West Virginia) with drainage areas contributing to the Bay, developed a Watershed Implementation Plan (WIP) which provides an implementation strategy to reduce levels of nitrogen, phosphorus and sediment to acceptable levels by 2025.

Morgan County and the State of West Virginia have adopted and enforced numerous regulations regulating land development activity. The County adopted a Comprehensive Plan in 2007 which, in general terms, encourages measures to protect the environment. One of the guiding principles of the Comprehensive Plan as it relates to the environment can be found in the Introduction.

“The natural environment and the physical factors affecting it are important to the local quality of life and the local economy. If new development is most efficiently guided toward existing population centers which provide basic public service and infrastructure, development can occur in the most cost-effective way, while preserving the rural open space, and sensitive areas. Unplanned growth, loss of farmland and open space, and subdivision of rural land, are among the top concerns for Morgan County residents. Since preventive measures to protect the environment are preferable to corrective measures, this Plan should accentuate goals and objectives which will prevent scattered sprawl in the rural areas, loss of open space, and degradation of the environment.”

Chapter 4 of the Comprehensive Plan identified the potential in Morgan County for water quality issues due to sediment and nutrient loadings, which occur after heavy rains. Sediment includes organic and inorganic pollutants from fertilizers, pesticides, animal wastes, and construction materials. Chemical pollutants can be toxic to fish. Over time, sediment fills the water courses, contributing to flooding and reduces light availability for growth of aquatic plants and animals.

The existing sediment and erosion control laws require approval of plans and monitoring of construction activity by the County Soil Conservation District and State for disturbance over 5,000 square feet. The County's Floodplain Ordinance restricts disturbance along a stream within 50 feet of the stream bank in order to protect the stream against erosion. The County's current stormwater management ordinance requires maintaining the peak discharge rate of the 2 year and 10 year storm events to pre-existing quantities to limit erosion and flooding. The current ordinance does not, however, require water quality enhancements specifically for nutrient reduction at this time.

### **GOALS AND OBJECTIVES**

Land Development activities create an increase in volumes, rates and duration of runoff-related discharges, along with a corresponding increase in pollutant loadings. Morgan County's current stormwater management ordinance manages the impacts from land developments based on the peak rate of discharge to control downstream flooding, channel protection and erosion. This approach typically involves the creation of a detention or retention basin at the low point of the development. This approach, while effective in controlling peak discharge rates, do not effectively reduce pollutant loadings or achieve reduction in volumes of runoff to the extent desired by EPA and the State of West Virginia in meeting the 2025 target goals. At this time, implementing water quality controls for stormwater runoff on developed lands is voluntary in Morgan County. This is however, subject to change in the future, if the target goals for nutrient loadings to the Chesapeake Bay are not achieved.

Morgan County is however encouraging land developers to implement water quality control measures in addition to the current peak discharge control requirements for future land development projects.

To assist the development community in this voluntary effort, this handout is being made available as guidance in implementing water quality enhancements for stormwater runoff.

## STORMWATER MANAGEMENT RECOMMENDATIONS FOR STORMWATER QUALITY CONTROL

The Morgan County Planning Commission requires that developers and/or their engineer meet with staff for a pre-design advisory meeting and discussion for the purposes of reviewing various best management practices to address stormwater management for their project. The pre-design advisory meeting will focus on practical solutions in meeting the County's stormwater management ordinance and where feasible and cost effective, implementing water quality enhancements and runoff reduction methods.

Stormwater quality treatment is voluntary for all discharges. If stormwater quantity as required in Section 4 of the Morgan County Stormwater Management Plan does not provide for stormwater quality control, then certain best management practices may be implemented to meet quantity and quality control objectives.

You are encouraged to refer to the West Virginia Stormwater Management and Design Guidance Manual found on WV DEP's website:

<http://www.dep.wv.gov/WWE/Programs/stormwater/MS4/Pages/StormwaterManagementDesignandGuidanceManual.aspx> to assist you during the design stage in an effort to utilize the best management practices that will be best suited for your project.

Design objectives for achieving water quality enhancements are as follows:

- a. Stormwater quality control facilities shall reduce solids, sediment, nutrients and other pollutants from the stormwater. This shall be presumed to occur when each of the following criteria is met:
  - i. The facility is sized to capture the prescribed volume of water.
  - ii. The facility is designed per the requirements and engineering calculations in the latest edition of the West Virginia Stormwater Management and Design Guidance Manual.

- iii. The facility is constructed in accordance with all applicable plans and permits.
- b. Infiltration of runoff shall be as close to the source of runoff as possible via infiltration testing and analysis of infiltration rates. Preferences shall be given to a combination of surface and subsurface infiltration measures.
- c. Site design shall minimize disturbance. All grading should be designed to distribute runoff evenly. Areas of depression should be designed for subsurface infiltration techniques.
- d. Natural wetlands shall not be used to meet minimum requirements when used as the end of an outfall pipe. The velocity shall not exceed two (2) feet per second for the two (2)-year storm event and it shall be demonstrated that the discharge will not create erosion.
- e. For all new development activities, each of the following regulations shall apply:
  - i. Stormwater management practices that provide or encourage infiltration shall be considered first and foremost in all site designs.
  - ii. Stormwater quality management practices shall be designed to capture and treat the first 1-inch of stormwater runoff from the impervious cover of development.
  - iii. Stormwater quality may be achieved with or as part of infiltration practices.
  - iv. Stormwater quality improvement shall be provided for on-site drainage areas not otherwise addressed by infiltration practices.
  - v. Stormwater shall be infiltrated and/or discharges within the same drainage area of the stream receiving the runoff prior to development.
- f. Infiltration methods should be designed to infiltrate all of the stored volume within 48 hours of the storm event.
- g. All inflows to an infiltration area shall be treated to prevent the discharge of sediment into the infiltration practice.
- h. During site construction, the infiltration area shall be protected from compaction, storage of fill, or construction materials.

## EXAMPLES OF BEST MANAGEMENT PRACTICES

The attached references are provided as an overview of Best Management Practices for information and are extracted from the West Virginia Stormwater Management and Design Guidance Manual.

Figure 1.1. Overview of Stormwater Best Management Practices (BMPs) With Reference to Design Specifications in Chapter 4

### Vegetated Filter Strips (Specification 4.2.1)



Vegetated Filter Strips are areas that manage runoff from adjacent developed areas by slowing the runoff and allowing sediment and attached pollutants to settle out, filtering runoff through the vegetation, and infiltrating into the existing or amended soils.

- Applies to small commercial and residential impervious areas.
- Critical design elements include maximum allowable contributing impervious area, slope, and minimum dimensions.

### Sheet Flow to Conservation Area (Specification 4.2.1)



Conservation Areas are the "natural" alternative to Vegetated Filter Strips, and consist of areas of natural vegetation (e.g., forest, meadow) that receive runoff as sheetflow from adjacent developed areas. Conservation Areas are often adjacent to streams or natural features, and should be protected with easements or other legal instruments to ensure that they function as a natural buffer system. As opposed to Vegetated Filter Strips, Conservation Areas are outside the limits of disturbance and are not graded.

- Applies to residential and commercial drainage areas.
- Critical design elements include maximum allowable contributing drainage area, slope, minimum dimensions, and long-term management of vegetation.

### Simple Impervious Surface Disconnection (Specification 4.2.2)



Simple Impervious Disconnection is a landscape practice that directs runoff from rooftops and other small areas of impervious surface to adjacent pervious areas as sheet flow.

- Small-scale (as compared to filter strips) and intended for residential or small commercial areas;
- Critical design elements include maximum allowable drainage area, slope, and minimum dimensions

### Impervious Disconnection with Alternative Practices (Specification 4.2.2)



Alternative Practices are utilized when there is insufficient room to establish sheet flow or meet other Simple Impervious Disconnection criteria (see above).

- Alternative Practices include Soil Amendments, Residential Rain Gardens, Rainwater Harvesting, Stormwater Planters, and Infiltration.
- Effectiveness is based on the same performance mechanisms as the individual practices (covered separately in more detail below).
- Critical design elements include the volume and depth of incorporation of soil amendments, and design elements of the alternative practice

### Bioretention (Specification 4.2.3)



*Credit: Beckley Sanitary Board*

Bioretention is a landscaped practice that uses plants, mulch, and soil to treat runoff. Commonly used in parking lot islands and edges and as part of commercial site plans.

- Can be designed as an infiltration practice or an extended filtration practice (with an underdrain).
- Critical design elements include surface ponding volume, soil media depth, and underdrain. Includes several design variations.

### Permeable Pavement (Specification 4.2.4)



Permeable Paving materials include concrete, asphalt, and interlocking pavers that allow runoff to filter through voids into a gravel storage reservoir.

- Can be designed as an infiltration practice, extended filtration practice (with an underdrain and stone sump), or a filtering practice (underdrain without sump).
- Critical design elements include structural load capacity for traffic, surface slope, and limiting the size of the "external" drainage area (adjacent impervious that "runs onto" the permeable pavement).

### Grass Swale (Specification 4.2.5)



Grass Swales are designed as conveyance systems with enhanced design features to also provide a level of stormwater treatment and retention.

- Designs can be cost effective when used in place of curb & gutter pipes, and other conveyance systems.
- Design features include maximum allowable longitudinal slope (or the use of check dams), maximum velocity and depth of flow, large storm conveyance, and trapezoidal cross-section geometry.

### Infiltration (Specification 4.2.6)



Infiltration practices utilize temporary surface or underground storage to allow incoming stormwater runoff to infiltrate into underlying soils. Runoff first passes through multiple pretreatment mechanisms to trap sediment and organic matter before it reaches the practice.

- Can be designed as basin, trench, or small-scale practice
- Key design features include runoff pretreatment, soil permeability testing, and subsoil conditions – such as groundwater. Strict limitations on use at hotspots or Brownfields.

### Regenerative Stormwater Conveyance (RSC) System (Specification 4.2.7)

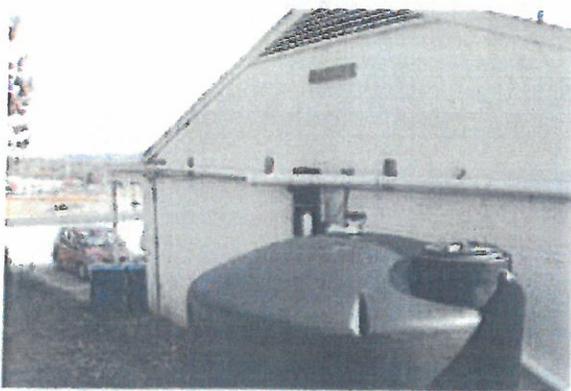


Source: Biohabitats, Inc.

The RSC System is an open-channel conveyance structure that encourages surface flow to transition to shallow groundwater flow through a series of step-pools and riffles and an underlying sand/mulch bed. Can be adapted for moderately steep slopes.

- Can be used to retrofit existing degraded outfalls or for new development in some cases.
- Critical design features include storage volume and peak flow design of riffles and pools, adequate energy dissipation and anchoring system, hydraulic design for large storms, and tying into existing stream channels.

### Rainwater Harvesting (Specification 4.2.8)



Rainwater Harvesting systems provide for the capture, storage, and release of rainwater for future beneficial use, either inside or outside the building. Systems usually capture rooftop runoff. Storage tanks can be a variety of materials and either above ground or underground.

- Ideal for sites with a beneficial use of the water, such as irrigation, toilet flushing, cooling towers, vehicle washing, etc.
- Benefits include reducing use of potable water for irrigation and other outdoor uses, flushing, etc.
- Design elements include establishing a reliable water budget and pretreatment.

### Vegetated Roofs (Specification 4.2.9)



Credit: WWDEP

Vegetated Roofs are an alternative roof surface that typically consists of waterproofing and drainage materials and an engineered growing media that is designed to support plant growth.

- Captures and temporarily stores stormwater within the growing media.
- Provides significant life-cycle cost benefits to the building and the environment beyond the stormwater reduction.

### Filtration Practices (Specification 4.2.10)



Filtration Practices can be designed as either surface or subsurface systems, and utilize a variety of filter media types (e.g., sand, organic filters). Filters are not considered a runoff reduction practice, but can be used to target stormwater hotspot runoff or areas where specific pollutants must be removed.

- Includes a pretreatment separation chamber to remove particulates and oils, and can effectively target hotspot pollutants.
- Design features include sizing of the pretreatment and filter bed components to prolong the operational life, and adequate maintenance access.

### Constructed Stormwater Wetland (Specification 4.2.11)



Constructed Stormwater Wetlands are shallow vegetated depressions with multiple cells of varying depths. Stormwater wetlands are not considered a runoff reduction practice, but can be used for water quality treatment and, in some cases, to meet stormwater detention requirements.

- Design typically includes multiple cells: a pretreatment forebay, an outlet micro-pool, and at least one or two additional cells separated by a submerged weir or overflow.
- Design features include the number of cells and corresponding pool volume, depth zones, maximum allowable storm ponding depth, and vegetation plan.

**Morgan County Planning Commission**  
**Meeting Dates and Submittal Deadlines**  
**2018**

**NOTE: Projects will not be placed on the agenda until proposal is reviewed by our engineer. Recommendation for placement on agenda will come from engineer once review is completed. Allow a minimum of two weeks for reviews to be completed. Listed below are the submittal deadlines to meet advertising requirements.**

**January 23, 2018 Meeting**

Preliminary Plat submittals must be approved by Arro Consulting by December 15, 2017  
Commercial Improvement Location Permit Application submittals must be approved by  
Arro Consulting by December 15, 2017  
Final plat submittals must be approved by Arro Consulting by December 15, 2017

**February 27, 2018 Meeting**

Preliminary Plat submittals must be approved by Arro Consulting by January 26, 2018  
Commercial Improvement Location Permit Application submittals must be approved by  
Arro Consulting by January 26, 2018  
Final plat submittals must be approved by Arro Consulting by January 26, 2018

**March 27, 2018 Meeting**

Preliminary Plat submittals must be approved by Arro Consulting by February 23, 2018  
Commercial Improvement Location Permit Application submittals must be approved by  
Arro Consulting by February 23, 2018  
Final plat submittals must be approved by Arro Consulting by February 23, 2018

**April 24, 2018 Meeting**

Preliminary Plat submittals must be approved by Arro Consulting by March 23, 2018  
Commercial Improvement Location Permit Application submittals must be approved by  
Arro Consulting by March 23, 2018  
Final plat submittals must be approved by Arro Consulting by March 23, 2018

**May 22, 2018 Meeting**

Preliminary Plat submittals must be approved by Arro Consulting by April 20, 2018  
Commercial Improvement Location Permit Application submittals must be approved by  
Arro Consulting by April 20, 2018  
Final plat submittals must be approved by Arro Consulting by April 20, 2018

**Morgan County Planning Commission**  
**Meeting dates and Submittal Deadlines**  
**2018**

**June 26, 2018 Meeting**

Preliminary Plat submittals must be approved by Arro Consulting by May 25, 2018  
Commercial Improvement Location Permit Application submittals must be approved by  
Arro Consulting by May 25, 2018  
Final plat submittals must be approved by Arro Consulting by May 25, 2018

**July 24, 2018 Meeting**

Preliminary Plat submittals must be approved by Arro Consulting by June 22, 2018  
Commercial Improvement Location Permit Application submittals must be approved by  
Arro Consulting by June 22, 2018  
Final plat submittals must be approved by Arro Consulting by June 22, 2018

**August 28, 2018 Meeting**

Preliminary Plat submittals must be approved by Arro Consulting by July 27, 2018  
Commercial Improvement Location Permit Application submittals must be approved by  
Arro Consulting by July 27, 2018  
Final plat submittals must be approved by Arro Consulting by July 27, 2018

**September 25, 2018 Meeting**

Preliminary Plat submittals must be approved by Arro Consulting by August 24, 2018  
Commercial Improvement Location Permit Application submittals must be approved by  
Arro Consulting by August 24, 2018  
Final plat submittals must be approved by Arro Consulting by August 24, 2018

**October 23, 2018 Meeting**

Preliminary Plat submittals must be approved by Arro Consulting by September 21, 2018  
Commercial Improvement Location Permit Application submittals must be approved by  
Arro Consulting by September 21, 2018  
Final plat submittals must be approved by Arro Consulting by September 21, 2018

**November/December 2018 Meeting**

Meeting and Submittal dates are determined at the October Meeting

Morgan County Subdivision and Commercial Development  
Listing of Local and State Agencies

Morgan County Health Department  
Berkeley Springs, WV 304-258-1513  
Approved Well and Septic Permits

Warm Springs Public Service District  
Berkeley Springs, WV 304-258-4118  
Review and approval of public sewer design and hookup  
Review and approval of community water/sewer designs

Berkeley Springs Water Works  
Berkeley Springs, WV 304-258-9152  
Review and approval of public water design & hookup

West Virginia Department of Health and Human Resources  
Kearnyville, WV and Charleston, WV  
304-725-9453 304-558-2981  
Review and approval of Community water and sewer proposals

West Virginia Department of Highways  
Burlington, WV 304-289-2259  
Review and approval of all Entrances (Entrance Permits)

West Virginia Department of Environmental Protection  
Romney, WV 304-822-7266  
NPDES (Stormwater & Sediment/Erosion Control permit) Approval

West Virginia Department of Natural Resources  
Romney, WV 304-822-3551  
Stormwater Management/Discharge Permit Review and Approval  
(for community sewage systems)

West Virginia Fire Marshall  
Charleston, WV 304-348-2191  
Review and approval of project for fire protection (if applicable)

Us Army Corp. of Engineers Pittsburgh Office  
Pittsburgh, PA 412-395-7155  
Permitting activity within a stream or wetland



## Berkeley Springs Volunteer Fire Company #1

34 North Mercer Street, Berkeley Springs, WV, 25411 Phone#: 304.258.3191  
[www.berkeleyspringsfire.com](http://www.berkeleyspringsfire.com)

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To: Morgan County Planning Commission

From: Marshall N. Younker II, Deputy Chief Berkeley Springs VFC

Date: February 13, 2017

We are forward this request to be able to provide the best service possible to our community and the great Morgan County area. It has been noted on the last two commercial structure built in the county that the fire hydrants that are being installed are not correct for our operations. One of the mentioned buildings the hydrant had already been installed and changes had to be made per the WV State Fire Marshal's office, the second building, I was able to talked with the developer before the hydrant was installed and they could order the proper hydrant before install. Both building had hydrants with "Martinsburg" thread, this thread count will not allow the hoses carried by all fire departments in Morgan County to be used. We are requesting that all developers be made aware that all Morgan County fire departments use what is known as Nation Standard thread or "NSH". It was farther noted that they hydrants being install had a four side "stem" which makes the hydrant operate. These style hydrants require a different type of wrench to operate, so we are requesting that the hydrants that are installed have a five sided or pentagon type "stem" to ensure that the responding apparatus has the proper equipment to be able to use water from the hydrant system.

Respectfully submitted,



Marshall N. Younker II, Deputy Chief

ACD  
2-13-17