

# Construction Best Management Practices Plan (CBMPP) Instructions

To help you develop the narrative section of your construction site CBMPP, the Alabama Department of Environmental Management (ADEM) has created this electronic CBMPP template. The template is designed to help guide you through the CBMPP development process and help ensure that your CBMPP addresses all the necessary elements for a complete application. You should use this template (available at <a href="https://www.adem.alabama.gov">www.adem.alabama.gov</a>) with the Alabama Handbook for Erosion Control, Sediment Control and Stormwater Management on Construction Sites and Urban Areas June 2003 (Revised 03/09). The handbook is available at <a href="http://swcc.alabama.gov/pages/erosion">http://swcc.alabama.gov/pages/erosion</a> control.aspx?sm=b b.

You are required by ADEM Admin. Code r. 335-6-12-.21(2) to develop a CBMPP which reflects the requirements of 335-6-12, as well as the conditions at your site. This template is intended to be used as a guide in development of your site's CBMPP, thus it should be customized for your site.

#### Using the CBMPP Template

Each section of this template includes "instructions" and space for project information. You should read the instructions for each section before you complete that section. This template is available in Word format if requested. The header can be customized to allow you to insert your own company logo. Some sections may require only a brief description while others may require several pages of explanation.

#### Tips for completing the CBMPP template

 Modify this CBMPP template so that it addresses the requirements of ADEM Admin. Code chapter 335-6-12 and meets the needs of your project. Consider adding rule citations in the CBMPP when you address a specific rule requirement(s).

## **Construction Best Management Practices Plan**

## for:

Insert Project Name
Insert Project Site Location/Address
Insert City, State, Zip Code
Insert Project Site Telephone Number (if applicable)

## **Operator:**

Insert Company or Organization Name
Insert Name
Insert Address
Insert City, State, Zip Code
Insert Telephone Number
Insert Fax/Email

## **CBMPP Contact(s) / QCP:**

Insert Company or Organization Name
Insert Name
Insert Address
Insert City, State, Zip Code
Insert Telephone Number
Insert Fax/Email

## **CBMPP Preparation Date:**

/	
Estimated Project Dates:	
Project Start Date://_ Project Completion Date://_	

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Appendix B – Site Maps

Appendix C – NOR and Acknowledgement Letter from ADEM

Appendix D – Inspection Reports

Appendix E - Sample Worksheet (see Part 1.5, calculating pre- and post-construction runoff volumes)

Appendix F – Corrective Action Log (or in Part 5.3)

Appendix G – CBMPP Amendment Log (or in Part 6.2)

Appendix H – Grading and Stabilization Activities Log (or in Part 6.1)

Appendix I – Training Log (Optional)

Appendix J – Delegation of Authority

Appendix K – Additional Information (i.e., Endangered Species, Historic Preservation and U.S. Corps of Engineers Documentation)

## SECTION 1: SITE EVALUATION, ASSESSMENT, AND PLANNING

## 1.1 Project/Site Information

#### Instructions:

- In this section, you can gather some basic site information that will be helpful to you later when you file for permit coverage.
- Detailed information on determining your site's latitude and longitude can be found at www.epa.gov/npdes/stormwater/latlong

Project/Site Name:		
Project Street/Location:		
City:	State: ZIP Code:	
County or Similar Subdivision:		
Latitude/Longitude of the Project Site (front gaand specify method]	ate). [Use <b>one</b> of three possible formats,	
Latitude:	Longitude:	
1°' _" N (degrees, minutes, seconds)	1 ° '" W (degrees, minutes, seconds)	
2 °' N (degrees, minutes, decimal)	2 °' W (degrees, minutes, decimal)	
3 ° N (decimal)	3 ° W (decimal)	
Method for determining latitude/longitude:  USGS topographic map (specify scale):  Other (please specify):	EPA Web site GPS	

## 1.2 Contact Information/Responsible Parties

#### Instructions:

 List the operator, project managers, stormwater contact(s), and person or organization that prepared the CBMPP. Indicate respective responsibilities, where appropriate.

#### **Operator:**

**Insert Company or Organization Name:** 

**Insert Name:** 

**Insert Address:** 

Insert City, State, Zip Code:

Insert Telephone Number:

Insert Fax/Email:

Insert area of control (if more than one operator at site):

Repeat as necessary

### **Project Manager(s) or Site Supervisor(s):**

Insert Company or Organization Name:

**Insert Name:** 

Insert Address:

Insert City, State, Zip Code:

**Insert Telephone Number:** 

Insert Fax/Email:

Insert area of control (if more than one operator at site):

Repeat as necessary

#### **CBMPP Contact(s) / QCP:**

**Insert Company or Organization Name:** 

Insert Name:

**Insert Address:** 

Insert City, State, Zip Code:

**Insert Telephone Number:** 

Insert Fax/Email:

Insert area of control (if more than one operator at site):

Repeat as necessary

QCI or Qualified Person(s):
Insert Company or Organization Name:
Insert Name:
Insert Address:
Insert City, State, Zip Code:
Insert Telephone Number:
Insert Fax/Email:
Insert area of control (if more than one operator at site):
Repeat as necessary
This CBMPP was Prepared by:
Insert Company or Organization Name:
Insert Name:
Insert Address:
Insert City, State, Zip Code:
Insert Telephone Number:
Insert Fax/Email:
Emergency 24-Hour Contact: Insert Company or Organization Name: Insert Name: Insert Telephone Number:  1.3 Nature and Sequence of Construction Activity
Instructions:
Briefly describe the nature of the construction activity and approximate time frames (one or more paragraphs, depending on the nature and complexity of the project).
Describe the general scope of the work for the project, major phases of construction, etc: INSERT TEXT HERE
Proposed Activity(ies) to be Conducted:
Residential Commercial Industrial Road Construction Linear Utility
Other (please specify):
If Non-Coal, Non-Metallic Mining, Recovery, or Construction Material Management Site:
☐ Dirt-Chert ☐ Sand-Gravel ☐ Shale-Clay ☐ Crushed-Dimension Stone
Other (please specify):

Construction Best Management Practices Plan (CBMPP) INSERT PROJECT NAME and DATE

Other (please specify): Other (please specify): Primary SIC Code: Primary NAICS Code: Brief Description of Construction, Non-coal Mining, or Materials Management Activity:
Estimated Project Start Date:/
<ul> <li>Instructions:         <ul> <li>Describe the existing soil conditions at the construction site including soil types, slopes and slope lengths, drainage patterns, and other topographic features that might affect erosion and sediment control.</li> <li>Also, note any historic site contamination evident from existing site features and known past usage of the site.</li> </ul> </li> </ul>
Soil type(s): Information Source(s):
Slopes (describe current slopes and note any changes due to grading or fill activities):
Drainage Patterns describe or provide map(s) of current drainage patterns and note any changes dues to grading or fill activities):
Vegetation: Other:

#### 1.5 Pre- and Post- Construction Site Estimates

#### Instructions:

- See Appendix E for a selected discussion of stormwater calculation methodologies.
- Estimate the area to be disturbed by excavation, grading, or other construction activities, including dedicated off-site borrow and fill areas.
- Calculate the percentage of impervious surface area before and after construction
- Calculate the runoff coefficients before and after construction.
- Calculate the pre- and post- construction stream velocities and volumes. The storm water CBMPs design for construction sites should be sufficient to control the volume and rate of storm water runoff for the 2-year frequency, 24-hour duration rainfall, such that the post-construction volume and rate of storm water runoff will not significantly exceed the volume and rate of storm water runoff under pre-construction conditions. The CBMPP should include:

Pre-Construction Hydrologic Analysis for volume and velocity showing methodologies used and supporting calculations to include:

- A topographic map of existing site conditions with the basin boundaries indicated;
- Acreage, soil types and land cover of areas for each sub-basin affected by the project; and
- Methodologies, assumptions, site parameters and supporting design calculations used in analyzing the volume and rate of storm water runoff for pre-construction conditions utilizing a 2year, 24-hour design storm.
- Calculate / Develop a site hydrograph.

Post-Construction Hydrologic Analysis for volume and velocity showing methodologies used and supporting calculations to include:

- A topographic map of developed site conditions with the post-construction basin boundaries indicated;
- Total area of post-construction impervious surfaces and other land cover areas for each subbasin affected by the project, and
- Methodologies, assumptions, site parameters and supporting design calculations used in analyzing the volume and rate of storm water runoff for post-construction conditions utilizing a 2-year, 24-hour design storm.
- Calculate / Develop a site hydrograph.
- For more information reference the National Resources Conservation Services. *National Engineering Handbook. Part 630: Hydrology, 1969-2001.* Available online at: <a href="https://www.mi.nrcs.usda.gov/technical/engineering/neh.html">www.mi.nrcs.usda.gov/technical/engineering/neh.html</a>
- For precipitation data, reference NOAA's National Weather Service Hydrometeorological Design Studies Center available online at: http://hdsc.nws.noaa.gov/hdsc/pfds/other/al\_pfds.html
- Reference Appendix E of this guidance document for an example worksheet for calculating the change in runoff volume for a 2-year storm event as well as an example hydrograph.

The following are estimates of the construction site.

i otal project area:	acres
Construction site area to be disturbed:	acres
Percentage impervious area before construction:	%
Percentage impervious area after construction:	%

# FROM APPENDIX E, INSERT WORKSHEET AND ASSOCIATED HYDROGRAPHS HERE

## 1.6 Receiving Waters

#### Instructions:

- List the waterbody(s) that would receive stormwater from your site, including streams, rivers, lakes, coastal waters, and wetlands. Describe each as clearly as possible, such as *Mill Creek, an unnamed tributary to Mill Creek*, and so on.
- Indicate the location of all waters, including wetlands, on the site map.
- Note any stream crossings, if applicable.

Description of receiving waters:

- List the storm sewer system or drainage system that stormwater from your site could discharge to and the waterbody(s) that it ultimately discharges to.
- If any of the waterbodies above are Outstanding Alabama Waters (OAW) or Outstanding National Resource Waters (ONRW), your CBMPP should specifically include all reasonable measures to ensure the discharges from your site will not interfere with the waterbody(ies) designated use. For a list of OAW and ONRW waterbodies see: www.adem.state.al.us/WaterDivision/WQuality/WQUseClass.htm
- If any of the waterbodies above are impaired and/or subject to Total Maximum Daily Loads (TMDLs),
  please list the pollutants causing the impairment and any specific requirements in the TMDL(s) that are
  applicable to construction sites. Your CBMPP should specifically include all reasonable measures to
  prevent the discharge of these pollutants.
- Also, for a list of TMDLs and 303(d) impaired waters, see:
   <a href="http://www.adem.state.al.us/WaterDivision/WQuality/TMDL/ApprovedTMDLs030409.htm">http://www.adem.state.al.us/WaterDivision/WQuality/303d/WQ303d.htm</a>

Description of storm sewer systems:

Description of impaired waters or waters subject to TMDLs:

Other:

#### 1.7 Site Features and Sensitive Areas to be Protected

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 Describe unique site features including streams, stream buffers, wetlands, trees (such as oak, pine, etc.), natural vegetation, steep slopes, or highly erodible soils that are to be preserved.

Describe measures to protect these features:	

#### 1.8 Potential Sources of Pollution

#### Instructions:

- Identify and list all potential sources of sediment, which may reasonably be expected to affect the quality of stormwater discharges from the construction site.
- Identify and list all potential known sources of pollution, other than sediment, which may reasonably be expected to affect the quality of stormwater discharges from the construction site.

Potential sources of sediment to stormwater runoff:

INSERT TEXT OR TABLE HERE

Potential pollutants and known sources, other than sediment, to stormwater runoff:

INSERT TEXT OR USE TABLE BELOW

Trade Name Material	Potential Known Stormwater Pollutants	Storage Location

## 1.9 Endangered Species

#### Instructions:

- Before beginning construction, the determination of whether endangered or threatened species or their critical habitats are on or near your site should be made.
- Additional information on Endangered Species Act (ESA) provisions is found at <u>www.epa.gov/npdes/stormwater/esa</u>.

Are there any known endangered or threatened species and critical habitats on or near the project area?
☐ Yes ☐ No
If yes, ADEM strongly recommends that the site operator work closely with the appropriate field office of the U.S. Fish and Wildlife Service <a href="www.fws.gov/daphne">www.fws.gov/daphne</a> [Daphne, AL (251) 441-5181] and the Alabama Department of Conservation and Natural Resources Wildlife & Freshwater Fisheries [(334) 242-3465].
1.10 Historic Preservation
Instructions:
<ul> <li>Before you begin construction, you should review federal and any applicable state, local, or tribal historic preservation laws and determine if there are historic sites on or near your project. If so, you might need to make adjustments to your construction plans or to your stormwater controls to ensure that these historic sites are not damaged.</li> </ul>
Are there any known historic sites on or near the construction site?  Yes No
If yes, ADEM strongly recommends that the site operator work closely with the Alabama

## 1.11 Applicable Federal, State or Local Programs

Historical Commission's Historic Preservation office [(334) 230-2667].

#### Instructions:

 Note other applicable federal, state or local soil and erosion control and stormwater management requirements that apply to your construction site.

#### **INSERT TEXT HERE**

### 1.12 Maps

#### Instructions:

- Attach site maps. For most projects, a series of site maps is recommended. The first should show the
  undeveloped site and its current features. An additional map or maps should be created to show the
  developed site or for more complicated sites show the major phases of development.
- Attach to the Registration, a 7.5 minute series USGS topographic map(s) or equivalent map(s) no larger than 11 by 17 inches (several pages may be necessary) of the area extending to at least one-mile beyond property boundaries. The topographic or equivalent map(s) must include a caption indicating the name of the topographic map, name of the registrant, site name, county, and township, range, & section(s) where the project site is located.

#### The topographic or equivalent map(s), at a minimum, must show:

- An outline of legal boundary of entire property, including right-of-ways;
- Boundaries of the project site or activity within the legal boundary of the entire property;
- Owners/lease or other boundaries;
- All existing & proposed disturbed areas;
- Existing Buildings and structures;
- All proposed Buildings and structures;
- Contour lines, township-range-section lines;
- All known project site dirt/improved access/haul roads;
- All surrounding unimproved/improved roads;
- All utilities & railroad tracks;
- Areas and timing of soil disturbance;
- Areas that will not be disturbed:
- Natural features to be preserved;
- Locations of major structural and non-structural BMPs identified in the CBMPP;
- Direction(s) of stormwater flow and approximate slopes before and after major grading activities;
- Locations and timing of stabilization structures/measures;
- Locations of off-site material, waste, borrow, or equipment storage areas;
- Locations of all waters of the State, including lakes/springs/wells/wetlands, perennial, intermittent, & ephemeral streams;
- Proposed and Existing stormwater point(s) discharging to a water of the State;
- Proposed and Existing stormwater point(s) discharging from the site;
- Locations of storm drain inlets:
- Drainage patterns/swales/washes; and
- Areas of final stabilization / vegetation following construction, if construction is phased then include timing of stabilization/vegetation for each phase.

Include the site maps with the CBMPP.

### SECTION 2: EROSION AND SEDIMENT CONTROL BMPS

#### Instructions:

- Describe the BMPs that will be implemented to control pollutants in stormwater discharges. Selection of the appropriate BMPs relies upon the proper characterization of the project site and accurate evaluation of the anticipated erosion and the effectiveness of proposed erosion and sediment control practices. The NRCS Revised Universal Soil Loss Equation Version 2 (RUSLE2) model is a useful modeling tool in estimating erosion rates and sediment yield. There are several benefits of using RUSLE2, specifically the ability to use a quantitative iterative process to select the most appropriate combination of permanent and temporary Best Management Practices (BMPs) for soil stabilization and erosion and sedimentation control during the construction and post-construction project phases. For each major activity identified:
- Clearly describe appropriate control measures.
- Describe the general sequence during the construction process in which the BMP measures will be implemented.
- Describe the maintenance and inspection procedures that will be used for each specific BMP.
- Include protocols, thresholds, and schedules for cleaning, repairing, or replacing damaged or failing BMPs.
- Identify staff responsible for maintaining BMPs.
- Categorize each BMP under one of the following 10 areas of BMP activity as described below:
  - 2.1 Minimize disturbed area and protect natural features and soil
  - 2.2 Phase Construction Activity
  - 2.3 Control Stormwater flowing onto and through the project
  - 2.4 Stabilize Soils
  - 2.5 Stabilize Slopes
  - 2.6 Protect Storm Drain Inlets
  - 2.7 Establish Perimeter Controls and Sediment Barriers
  - 2.8 Retain Sediment On-Site
  - 2.9 Establish Stabilized Construction Exits
  - 2.10 Any Additional BMPs (i.e., stream crossing protection, stream bank protection)
- Note the location of each BMP on your site map(s).
- You must submit Material Safety Data Sheets (MSDS) before anionic polymers or polyacrylamides (PAM) can be applied.
- For any structural BMPs, you should provide design specifications and details and refer to them. Attach
  them as appendices to the CBMPP or within the text of the CBMPP.
- Consult the Alabama Handbook for Erosion Control, Sediment Control and Stormwater Management on Construction Sites and Urban Areas June 2003 (Revised, 03/09) <a href="http://swcc.alabama.gov/pages/erosion\_control.aspx?sm=b\_b">http://swcc.alabama.gov/pages/erosion\_control.aspx?sm=b\_b</a>
- For more information or ideas on BMPs, see EPA's National Menu of BMPs www.epa.gov/npdes/stormwater/menuofbmps
- For more information regarding the NRCS RUSLE2, see
   http://fargo.nserl.purdue.edu/rusle2 dataweb/About RUSLE2 Technology.htm

#### 2.1 Minimize Disturbed Area

#### Instructions:

- Describe the areas that will be disturbed with each phase of construction and the methods (e.g., signs, fences) that you will use to protect those areas that should not be disturbed. Describe natural features identified earlier and how each will be protected during construction activity. Also describe how topsoil will be stockpiled appropriately. Include these areas and associated BMPs on your site map(s) also.
- Consult the Alabama Handbook for Erosion Control, Sediment Control and Stormwater Management on Construction Sites and Urban Areas June 2003 (Revised, 3-09)
- Also, see EPA's Preserving Natural Vegetation BMP Fact Sheet at www.epa.gov/npdes/stormwater/menuofbmps/construction/perserve\_veg

INSERT TEXT or TABLE HERE, include inspection and maintenance schedules as appropriate and staff responsible for maintenance

## 2.2 Phase Construction Activity

#### Instructions:

- Describe the intended construction sequencing and timing of major activities, including any opportunities for phasing grading and stabilization activities to minimize the overall amount of disturbed soil that will be subject to potential erosion at one time. Also, describe opportunities for timing grading and stabilization so that all or a majority of the soil disturbance occurs during a time of year with less erosion potential (i.e., during the dry or less windy season). Develop a separate, detailed site map for each phase of construction.
- Consult the Alabama Handbook for Erosion Control, Sediment Control and Stormwater Management on Construction Sites and Urban Areas June 2003 (Revised, 03/09)
- Also, see EPA's Construction Sequencing BMP Fact Sheet at www.epa.gov/npdes/stormwater/menuofbmps/construction/cons\_seq

#### Phase I

- Describe phase
- Duration of phase (start date, end date)
- List BMPs associated with this phase
- Describe stabilization methods for this phase (describe any temporary stabilization methods that will be used before final stabilization)

#### Phase II

- Describe phase
- Duration of phase (start date, end date)
- List BMPs associated with this phase
- Describe stabilization methods for this phase (describe any temporary stabilization methods that will be used before final stabilization)

## 2.3 Control Stormwater Flowing onto and through the Project

#### Instructions:

- Describe structural practices (e.g., diversions, berms, ditches, storage basins) including design specifications and details used to divert flows from exposed soils, retain or detain flows, or otherwise limit runoff and the discharge of pollutants from exposed areas of the site.
- Consult the Alabama Handbook for Erosion Control, Sediment Control and Stormwater Management on Construction Sites and Urban Areas June 2003 (Revised, 03/09)

BMP Description:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	
BMP Description:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	

#### 2.4 Stabilize Soils

#### Instructions:

- Describe controls (e.g., interim seeding with native vegetation, hydroseeding) to stabilize exposed soils
  where construction activities have temporarily or permanently ceased. Also describe measures to control
  dust generation. Avoid using impervious surfaces for stabilization whenever possible.
- Note: ADEM Administrative Code r. 335-6-12-.21(2)(b)5. requires measures to be implemented on all
  areas not undergoing active disturbance or active construction and progressive construction for longer
  than 13 days to prevent/minimize erosion and ensure timely temporary vegetative cover, and permanent
  vegetation or cover of all disturbed areas when disturbance is complete.
- Consult the Alabama Handbook for Erosion Control, Sediment Control and Stormwater Management on Construction Sites and Urban Areas June 2003 (Revised, 03/09)
- Also, see EPA's Seeding BMP Fact Sheet at www.epa.gov/npdes/stormwater/menuofbmps/construction/seeding

BMP Description:		
☐ Permanent	☐ Temporary	
Installation Schedule:		
Maintenance and Inspection:		
Responsible Staff:		
BMP Description:		
☐ Permanent	☐ Temporary	
Installation Schedule:		
Maintenance and Inspection:		
Responsible Staff:		

## 2.5 Stabilize Slopes

#### Instructions:

- Describe controls (e.g., erosion control blankets, tackifiers) including design specifications and details that will be implemented to protect all slopes.
- See EPA's Geotextiles BMP Fact Sheet at www.epa.gov/npdes/stormwater/menuofbmps/construction/geotextiles
- Also, see Alabama Handbook for Erosion Control, Sediment Control and Stormwater Management on Construction Sites and Urban Areas June 2003 (Revised, 03/09) <a href="http://swcc.alabama.gov/pages/erosion\_control.aspx?sm=b\_b">http://swcc.alabama.gov/pages/erosion\_control.aspx?sm=b\_b</a>.

BMP Description:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	
BMP Description:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	

#### 2.6 Protect Storm Drain Inlets

#### Instructions:

- Describe controls (e.g., inserts, rock-filled bags, or block and gravel) including design specifications and details that will be implemented to protect all inlets receiving stormwater from the project during the entire project.
- See EPA's Storm Drain Inlet Protection BMP Fact Sheet at www.epa.gov/npdes/stormwater/menuofbmps/construction/storm\_drain
- Also, see Alabama Handbook for Erosion Control, Sediment Control and Stormwater Management on Construction Sites and Urban Areas June 2003 (Revised, 03/09) <a href="http://swcc.alabama.gov/pages/erosion">http://swcc.alabama.gov/pages/erosion</a> control.aspx?sm=b

BMP Description:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	
BMP Description:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	

#### 2.7 Establish Perimeter Controls and Sediment Barriers

#### Instructions:

- Describe structural practices (e.g., silt fences or fiber rolls) including design specifications and details to filter and trap sediment before it leaves the construction site.
- See, EPA's Silt Fence BMP Fact Sheet at <u>www.epa.gov/npdes/stormwater/menuofbmps/construction/silt\_fences</u>, or Fiber Rolls BMP Fact Sheet at <u>www.epa.gov/npdes/stormwater/menuofbmps/construction/fiber\_rolls</u>
- Also, see Alabama Handbook for Erosion Control, Sediment Control and Stormwater Management on Construction Sites and Urban Areas June 2003 (Revised, 03/09) <a href="http://swcc.alabama.gov/pages/erosion">http://swcc.alabama.gov/pages/erosion</a> control.aspx?sm=b

BMP Description:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	
BMP Description:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	

## 2.8 Retain Sediment On-Site

#### Instructions:

- Describe sediment control practices (e.g., sediment trap or sediment basin), including design specifications and details (volume, dimensions, outlet structure) that will be implemented at the construction site to retain sediments on-site.
- Also, see Alabama Handbook for Erosion Control, Sediment Control and Stormwater Management on Construction Sites and Urban Areas June 2003 (Revised, 03/09)
   http://swcc.alabama.gov/pages/erosion\_control.aspx?sm=b\_b

BMP Description:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	
BMP Description:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	

#### 2.9 Establish Stabilized Construction Exits

#### Instructions:

- Describe location(s) of vehicle entrance(s) and exit(s), procedures to remove accumulated sediment offsite (e.g., vehicle tracking), and stabilization practices (e.g., stone pads or wash racks or both) to minimize off-site vehicle tracking of sediments and discharges to stormwater.
- Consult the Alabama Handbook for Erosion Control, Sediment Control and Stormwater Management on Construction Sites and Urban Areas June 2003 (Revised, 03/09)
- Also, see EPA's Construction Entrances BMP Fact Sheet at www.epa.gov/npdes/stormwater/menuofbmps/construction/cons\_entrance

BMP Description:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	
BMP Description:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	

### 2.10 Additional BMPs

#### Instructions:

- Describe additional BMPs that do not fit into the above categories.
- Also, see Alabama Handbook for Erosion Control, Sediment Control and Stormwater Management on Construction Sites and Urban Areas June 2003 (Revised, 03/09) <a href="http://swcc.alabama.gov/pages/erosion\_control.aspx?sm=b">http://swcc.alabama.gov/pages/erosion\_control.aspx?sm=b</a> b.

BMP Description:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	
BMP Description:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	

## SECTION 3: GOOD HOUSEKEEPING (GROUNDS KEEPING) BMPS

#### Instructions:

- Describe the key good housekeeping BMPs that will be implemented to control pollutants in stormwater.
- Categorize each good housekeeping BMP under one of the following seven categories:
  - 3.1 Material Handling and Waste Management
  - 3.2 Establish Proper Building Material Staging Areas
  - 3.3 Designate Washout Areas
  - 3.4 Establish Proper Equipment/Vehicle Fueling and Maintenance Practices
  - 3.5 Allowable Non-Stormwater Discharges and Control Equipment/Vehicle Washing
  - 3.6 Spill Prevention, Control and Management
  - 3.7 Any Additional BMPs
- Consult the Alabama Handbook for Erosion Control, Sediment Control and Stormwater Management on Construction Sites and Urban Areas June 2003 (Revised, 03/09).
   http://swcc.alabama.gov/pages/erosion\_control.aspx?sm=b\_b
- For more information or ideas on BMPs, see EPA's National Menu of BMPs www.epa.gov/npdes/stormwater/menuofbmps
- Please consider pollution prevention (P2) ADEM encourages you to exercise pollution prevention
  practices and alternatives at your facility. Pollution prevention will assist you in complying with effluent
  limitations and permit regulations.

## 3.1 Material Handling and Waste Management

#### Instructions:

- Describe measures (e.g., trash disposal, sanitary wastes, recycling, and proper material handling) to prevent the discharge of solid materials and/or wastes to receiving waters, except as authorized by a permit issued under section 404 of the CWA.
- Also, see EPA's General Construction Site Waste Management BMP Fact Sheet at www.epa.gov/npdes/stormwater/menuofbmps/construction/cons wasteman

BMP Description:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	
BMP Description:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	

## 3.2 Establish Proper Building Material Staging Areas

#### Instructions:

 Describe construction materials expected to be stored on-site and procedures for storage of materials to minimize exposure of the materials to stormwater.

BMP Description:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	
BMP Description:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	

## 3.3 Designate Washout Areas

#### Instructions:

- Describe location(s) and controls to eliminate the potential for discharges from washout areas for concrete mixers, paint, stucco, etc.
- For information reference ADEM Administrative Code Chapters 335-6-5 and 335-6-6 for applicable SID and NPDES permit requirements.
- Also, see EPA's Concrete Washout BMP Fact Sheet at <u>www.epa.gov/npdes/stormwater/menuofbmps/construction/concrete\_wash</u>

BMP Description:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	
BMP Description:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	

# 3.4 Establish Proper Equipment/Vehicle Fueling and Maintenance Practices

#### Instructions:

- Describe equipment/vehicle fueling and maintenance practices that will be implemented to control
  pollutants to stormwater (e.g., secondary containment, drip pans, and spill kits).
- For more information reference ADEM Administrative Code Chapters 335-6-5 and 335-6-6 for applicable SID and NPDES permit requirements.
- Also, see EPA's Vehicle Maintenance and Washing Areas BMP Fact Sheet at <u>www.epa.gov/npdes/stormwater/menuofbmps/construction/vehicile\_maintain</u>

BMP Description:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	
BMP Description:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	

## 3.5 Control Equipment/Vehicle Washing

#### Instructions:

- Describe equipment/vehicle washing practices that will be implemented to control pollutants to stormwater
- For more information reference ADEM Administrative Code Chapters 335-6-5 and 335-6-6 for applicable SID and NPDES permit requirements.
- Discharges containing solvents/detergents and/or petroleum must be authorized under an NPDES industrial permit.
- Also, see EPA's Vehicle Maintenance and Washing Areas BMP Fact Sheet at www.epa.gov/npdes/stormwater/menuofbmps/construction/vehicile\_maintain

BMP Description:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	
BMP Description:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	

## 3.6 Spill Prevention, Control and Management

#### Instructions:

- A Spill Prevention, Control and Countermeasures (SPCC) Plan as set forth at 40 CFR Part 112 is required for petroleum products. The SPCC Plan should be prepared as a separate document or as a component of the CBMPP.
- In accordance with ADEM Admin. Code rs. 335-6-6-.12 and 335-6-12-.29 spill prevention, control and management must be provided for any product which in the event of a release has the potential to impact waters of the state (including groundwater) or the collection system of a publicly or privately owned treatment works.
- Describe the spill prevention and control plan to include ways to reduce the chance of spills, stop the source of spills, contain and clean up spills, dispose of materials contaminated by spills, and train personnel responsible for spill prevention and control.
- Also, see EPA's Spill Prevention and Control Plan BMP Fact sheet at www.epa.gov/npdes/stormwater/menuofbmps/construction/spill control

#### INSERT TEXT HERE or REFERENCE ATTACHMENT

### 3.7 Any Additional BMPs

#### Instructions:

- Describe any additional BMPs that do not fit into the above categories. Indicate the problem they are intended to address.
- Consult the Alabama Handbook for Erosion Control, Sediment Control and Stormwater Management on Construction Sites and Urban Areas June 2003 (Revised, 03/09)

BMP Description:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	
BMP Description:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	

## 3.8 Non-Stormwater Discharge Management

#### Instructions:

- Identify all other sources of non-stormwater discharges that are not identified. The non-stormwater discharges identified might include the following (see your permit for an exact list):
  - ✓ Waters used to wash vehicles where detergents are not used.
  - ✓ Water used to control dust
  - ✓ De-chlorinated potable water including uncontaminated water line flushings
  - ✓ Routine external building wash down that does not use detergents
  - ✓ Pavement wash waters where spills or leaks of toxic or hazardous materials have not occurred (unless all spilled material has been removed) and where detergents are not used
  - ✓ Uncontaminated air conditioning or compressor condensate
  - ✓ Uncontaminated ground water or spring water
  - ✓ Foundation or footing drains where flows are not contaminated with process materials such as solvents
  - ✓ Uncontaminated excavation dewatering
  - ✓ Landscape irrigation
- Identify measures used to eliminate or reduce these discharges and the BMPs used to prevent them from becoming contaminated.
- Also, see ADEM Administrative Code chapters 335-6-5 and 335-6-6 for applicable SID and NPDES permit requirements and ADEM Administrative Code r. 335-6-12-.02(c)2. and 335-6-12-.02(e) for construction associated de minimus non-stormwater and process wastewater discharges.

List non-stormwater discharges and the measures used to eliminate or reduce them and to prevent them from becoming contaminated:

BMP Description:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	
BMP Description:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	

## SECTION 4: SELECTING POST-CONSTRUCTION BMPs

#### Instructions:

- Describe all post-construction stormwater management measures that will be installed during the construction process to control pollutants in stormwater discharges after construction operations have been completed. Selection of the appropriate BMPs relies upon the proper characterization of the project site and accurate evaluation of the anticipated erosion and the effectiveness of proposed erosion and sediment control practices. The NRCS Revised Universal Soil Loss Equation Version 2 (RUSLE2) model is a useful modeling tool in estimating erosion rates and sediment yield. There are several benefits of using RUSLE2, specifically the ability to use a quantitative iterative process to select the most appropriate combination of permanent and temporary Best Management Practices (BMPs) for soil stabilization and erosion and sedimentation control during the construction and post-construction project phases.
- Examples of post-construction BMPs/LIDS (low impact development designs) include the following:
  - ✓ Biofilters
  - ✓ Bioretention
  - ✓ Detention/retention devices
  - ✓ Earth dikes, drainage swales, and lined ditches
  - ✓ Green Roofs
  - ✓ Infiltration basins
  - ✓ Porous pavement
  - ✓ Other proprietary permanent structural BMPs
  - ✓ Outlet protection/velocity dissipation devices
  - ✓ Slope protection
  - ✓ Vegetated strips and/or swales
- Identify any applicable federal, state, or local requirements for design or installation.
- Describe how low-impact designs or smart growth considerations have been incorporated into the design.
- For any structural BMPs, you should have design specifications and details and refer to them. Attach
  them as appendices to the CBMPP or within the text of the CBMPP.
- Consult the Alabama Handbook for Erosion Control, Sediment Control and Stormwater Management on Construction Sites and Urban Areas June 2003 (Revised, 03/09)
- Visit the post-construction section of EPA's Menu of BMPs at: <a href="www.epa.gov/npdes/menuofbmps">www.epa.gov/npdes/menuofbmps</a>
- For more information regarding the NRCS RUSLE2, see
   http://fargo.nserl.purdue.edu/rusle2\_dataweb/About\_RUSLE2\_Technology.htm

BMP Description:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	

BMP Description:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	

## **SECTION 5: INSPECTIONS**

## 5.1 Inspections

#### Instructions:

- Identify the individual(s) responsible for conducting inspections and describe their qualifications. ADEM Form 500 must be used. <a href="http://www.adem.state.al.us/DeptForms/Formpdf.htm">http://www.adem.state.al.us/DeptForms/Formpdf.htm</a>
- Pending your activity and following ADEM Admin. Code chap. 335-6-12; describe the frequency that
  inspections will occur at your site including any correlations to storm frequency and intensity.
- Note that inspection details for particular BMPs should be included in Sections 2 and 3.
- You should also document the repairs and maintenance that you undertake as a result of your inspections.
   These actions can be documented in the corrective action log described in Part 5.3 below.
- 1. Inspection Personnel: Identify the person(s) who will be responsible for conducting inspections and describe their qualifications:

#### 2. Inspection Schedule and Procedures:

Describe the inspection schedules and procedures you have developed for your site (include frequency of inspections for each BMP or group of BMPs, indicate when you will inspect, e.g., before/during/and after rain events, spot inspections):

Describe the general procedures for correcting problems when they are identified. Include responsible staff and time frames for making corrections:

Attach a copy of ADEM Form 500. REFERENCE ATTACHMENT

## 5.2 Delegation of Authority

#### Instructions:

- Identify the individual(s) or specifically describe the position where the responsible official has delegated authority for the purposes of signing inspection reports, certifications, or other information. (Reference ADEM Administrative Code r. 335-6-6-.09)
- Attach the delegation of authority form that will be used.

#### **Duly Authorized Representative(s) or Position(s):**

Insert Company or Organization Name:

**Insert Name:** 

**Insert Position:** 

Insert Address:

Insert City, State, Zip Code:

Insert Telephone Number:

Insert Fax/Email:

Attach a copy of the signed delegation of authority form in Appendix J.

### 5.3 Corrective Action Log

#### Instructions:

- Create here, or as an attachment, a corrective action log. This log should describe repair, replacement, and maintenance of BMPs undertaken as a result of the inspections and maintenance procedures described above. Actions related to the findings of inspections should reference the specific inspection report.
- This log should describe actions taken; date completed, and note the person that completed the work.

#### Corrective Action Log:

**INSERT LOG HERE or REFERENCE ATTACHMENT** 

### SECTION 6: RECORDKEEPING AND TRAINING

### 6.1 Recordkeeping

#### Instructions:

- The following is a list of records you should keep at your project site available for inspectors to review:
- Dates of grading, construction activity, and stabilization (which is covered in Sections 2 and 3)
- The signed and certified NOR form or permit application form (attach)
- A copy of the letter from ADEM acknowledging receipt of your complete NOR/application (attach)
- Inspection reports (attach)
- Rainfall data (Reference ADEM Administrative Code r. 335-6-12-.26(4) which requires precipitation measurement in tenths of an inch using continuous recorders or daily readings of a precipitation gauge.)
- Copy of your CBMPP Plan.

Records will be retained for a minimum period of at least 3 years after the permit is terminated.

Date(s) when major grading activities occur:

INSERT LOG HERE or REFERENCE ATTACHMENT

Date(s) when construction activities temporarily or permanently cease on a portion of the site:

INSERT LOG HERE or REFERENCE ATTACHMENT

Date(s) when an area is either temporarily or permanently stabilized:

**INSERT LOG HERE or REFERENCE ATTACHMENT** 

### 6.2 Log of Changes to the CBMPP

#### Instructions:

Create a log here, or as an attachment, of changes and updates to the CBMPP. You should include
additions of new BMPs, replacement of failed BMPs, significant changes in the activities or their timing on
the project, changes in personnel, changes in inspection and maintenance procedures, updates to site
maps, and so on.

Log of changes and updates to the CBMPP
INSERT LOG HERE or REFERENCE ATTACHMENT

## 6.3 Training

#### Instructions:

- Training your staff and subcontractors is an effective BMP. As with the other steps you take to prevent stormwater problems at your site, you should document the training that you conduct for your staff, for those with specific stormwater responsibilities (e.g. installing, inspecting, and maintaining BMPs), and for subcontractors.
- Include dates, number of attendees, subjects covered, and length of training.
- Training includes, but is not limited to, the Qualified Credentialed Inspection Training (QCIP) program.
   Additional training may be necessary.

Individual(s) Responsible for Training:

**INSERT TEXT or TABLE HERE** 

Describe Training Conducted:

- General stormwater and BMP awareness training for staff and subcontractors:
- Detailed training for staff and subcontractors with specific stormwater responsibilities:

## **SECTION 7: FINAL STABILIZATION**

#### Instructions:

- Describe procedures for final stabilization. If you complete major construction activities on part of your site, you can document your final stabilization efforts for that portion of the site. Discontinuing inspections can be approved upon submittal of inspection reports of subject area(s), certification of complete stabilization and NOR requesting modification of existing authorization to remove subject area(s) from coverage.
- Update your site plans to indicate areas that have achieved final stabilization.
- Note that dates for areas that have achieved final stabilization should be included in the CBMPP.
- Consult the Alabama Handbook for Erosion Control, Sediment Control and Stormwater Management on Construction Sites and Urban Areas June 2003 (Revised, 03/09)

BMP Description:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	
BMP Description:	
Installation Schedule:	
Maintenance and Inspection:	
Responsible Staff:	

Repeat as needed

### **SECTION 8: CERTIFICATION AND NOTIFICATION**

#### Instructions:

 In accordance with ADEM Administrative Code r. 335-6-12-.21 the CBMPP should be signed and certified by a QCP. Attach a copy of the NOR and permit authorization letter received from the State in Appendix C.

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Name:	Title:
QCP Designation/Description:	Registration/Certification:
Address:	Phone Number:
Signature:	Date:

### **CBMPP APPENDICES**

Attach the following documentation to the CBMPP:

Appendix A – General Location Map

Appendix B – Site Maps

Appendix C - NOR and Acknowledgement Letter from ADEM

Appendix D – Inspection Reports

Appendix E - Change in Runoff Volume for 2-Yr, 24-hr Storm Event and Hydrograph (see Part 1.5)

Appendix F – Corrective Action Log (or in Part 5.3)

Appendix G – CBMPP Amendment Log (or in Part 6.2)

Appendix H – Grading and Stabilization Activities Log (or in Part 6.1)

Appendix I – Training Log (Optional)

Appendix J – Delegation of Authority

Appendix K – Additional Information (i.e., Endangered Species, Historic Preservation, and U.S. Corps of Engineers Documentation)

## Appendix A – General Location Map

[INSERT MAP HERE]

## Appendix B – Site Maps

[INSERT MAPS HERE]

## Appendix C – NOR and Acknowledgement Letter from ADEM

# [INSERT DOCUMENTS HERE]

## Appendix D – Inspection Reports

# [INSERT REPORTS HERE]

## Appendix E - Discussion of Storm Water Methodologies for Part 1.5

There are many methodologies developed to estimate the total runoff volume, the peak rate of runoff, and the runoff hydrograph from land surfaces under a variety of conditions. This section describes some of the methods that are most widely used. It is not a complete list of procedures.

There are a wide variety of computer models available for performing stormwater calculations. The computer models use one of more calculation methodologies to estimate runoff characteristics. The procedures most commonly used in computer models are the same ones discussed below.

#### **Existing Methodologies for Runoff Volume Calculations**

#### (1) Runoff Curve Number Method

The runoff curve number method is the most commonly used tool for estimating runoff volumes. In this method, runoff is calculated based on precipitation, curve number, watershed storage. and initial abstraction. When rainfall is greater than the initial abstraction, runoff is given by (NRCS, 1986):

$$Q = \frac{(P - I_a)^2}{(P - I_a) + S}$$

Where:

Q = runoff (in.) P = rainfall (in.) I<sub>a</sub> = initial abstraction (in.)

= potential maximum retention after runoff begins (in.)

Initial abstraction (I<sub>a</sub>) includes all losses before the start of surface runoff: depression storage, interception, evaporation, and infiltration. Ia can be highly variable but it can be empirically approximated by:

$$I_a = 0.2S$$

Therefore, the runoff equation becomes:

$$Q = \frac{(P - 0.2S)^2}{(P + 0.8S)}$$

Finally, S is a function of the watershed soil and cover conditions as represented by the runoff curve number (CN):

$$S = \frac{1000}{CN} - 10$$

Therefore, runoff can be calculated using only the curve number and rainfall. Curve numbers are determined by land cover type, hydrologic condition, antecedent moisture condition (AMC), and hydrologic soil subgroup (HSG). Curve numbers for various land covers based on an average AMC for annual floods and I<sub>a</sub> = 0.2S can be found in Urban Hydrology for Small Watersheds (Soil Conservation Service, 1986) and various other references.

Often a single, area-weighted CN is used to represent a watershed consisting of sub-areas with different CNs. While this approach is acceptable if the CNs are similar, if the difference in CNs is more than 5 the use of a weighted CN significantly reduces the estimated amount of runoff

from the watershed. This is especially problematic with pervious/impervious combinations. Therefore, the runoff from different sub-areas should be calculated separately and then combined or weighted appropriately.

The CN method is less accurate for storms that generate less than 0.5 inches of runoff. An alternate method for calculating runoff from small storms is the *Small Storm Hydrology Method (SSHM)*.

#### **Existing Methodologies for Peak Rate/Hydrograph Estimations**

Numerous hydrologic methods are available for estimating peak discharges and runoff hydrographs. The omission of other methods from this manual does not necessarily preclude their use. Determine which method seems to be the most reasonable for the specific situation. Here are some of the most widely used methods:

- Rational Method
- NRCS Runoff Curve Number Methods
- USGS Regional Regression Equations.

#### (1) The Rational Method

The Rational Method can be used to estimate peak runoff rates from relatively small, highly developed drainage areas (generally less than 200 acre drainage area). The peak runoff rate from a given drainage area is given by:

$$Q_v = C \times I \times A$$

Where:

 $Q_v$  = peak runoff rate (cfs)

C = the runoff coefficient of the area (dimensionless)

= the average rainfall intensity (in/hr) for storm with a duration equal to the

time of concentration (t<sub>c</sub>) of the area

A = the size of the drainage area (acres)

Although it is a simple and straightforward method, estimating both the time of concentration ( $t_c$ ) and runoff coefficient introduce considerable uncertainty in the calculated peak runoff rate. In addition, the method was developed for relatively frequent events so the peak rate as calculated above should be increased for more extreme events. For these reasons, the Rational Method should be used only to predict peak runoff rate for very small (e.g.  $\leq$ 200 acres), highly impervious areas (e.g.  $t_c \leq$  15 minutes).

#### (2) SCS (NRCS) Unit Hydrograph Method

NRCS has developed a system to estimate peak runoff rates and runoff hydrographs using a dimensionless unit hydrograph. The NRCS methodologies are available in several public domain computer models including TR-55 (WinTR-55) computer model, Technical Release 20 (TR-20); Computer Program for Project Formulation Hydrology, and in addition, the U.S. Army Corp of Engineers' Hydrologic Modeling System (HEC-HMS), NRCS NEH 650 Engineering Handbook EFH2, and the U.S. EPA's Storm Water Management Model (SWMM).

#### (3) USGS Regional Regression Equations

To provide simple methods of estimating flood-peak discharges, the U.S. Geological Survey (USGS) has developed and published equations for every State, the Commonwealth of Puerto Rico, and a number of metropolitan areas in the United States. For more information reference The National Flood-Frequency Program-Methods for Estimating Flood Magnitude and Frequency in Rural and Urban Areas in Alabama (USGS Fact Sheet 088-97, June 1999). A copy of the USGS Fact Sheet 088-97 is available online at: <a href="http://pubs.usgs.gov/fs/fs-088-97/">http://pubs.usgs.gov/fs/fs-088-97/</a>.

#### **Precipitation Data for Stormwater Calculations**

Current precipitation frequency information and documents are available from NOAA's National Weather Service Hydrometeorological Design Studies Center online at: <a href="http://hdsc.nws.noaa.gov/hdsc/pfds/other/al\_pfds.html">http://hdsc.nws.noaa.gov/hdsc/pfds/other/al\_pfds.html</a>. These rainfall estimates are recommended for all applicable stormwater calculations.

# Appendix E - Sample Worksheet (for Part 1.5) (Calculate for each outfall)

CBMPP Contact:						Outfall No.:			
	CHANGE	IN RUNOFF	VOLUME F	OR 2-1	/R, 24-	HR STORM EVENT WOF	KKSHEET		
PROJECT Name Receiving Stream Drainage Area(s)						Receiving Stream Name			
2-Year, 24-Hr Rainfall			inches			-			
Total Site Area:			acres		Total	Outfall Drainage Area:			acres
Disturbed Area:			acres		Total	Outfall Disturbed Area:			acres
Pre-construction Condi	tions:								
Cover Type/Condition	Soil Type	Area (sf)	Area (ac)	CN	s	la (0.2*S)	Q Runoff <sup>1</sup> (in)	Runoff \	
Example Woodland									
Example Meadow									
Example Impervious									
TOTAL:									
Post-construction Condition	ons:								
Cover Type/Condition	Soil Type	Area (sf)	Area (ac)	CN	S	la (0.2*S)	Q Runoff¹ (in)	Runoff \	
TOTAL:									
2-Year Volume Incre	ase (ft³):								
2-Year Volume Incre	ase = Post-C	onstruction	n Condition	s Runc	off Volu	ume – Pre-Construction	Conditions Run	off Volur	ne
1. Runoff (in) = Q = (	$P - 0.2S)^2 /$	(P + 0.8S) w	here						
	P = 2-Year, 2 Rainfall (in)	24-Hr							

2. Runoff Volume (CF) =  $Q \times Area \times 1/12$ 

Q = Runoff (in)

S = (1000 / CN) - 10

Area=Land use area

(sf)

Note: Runoff Volume must be calculated for EACH land use type/condition and soil. The use of a weighted CN value for volume calculations is not acceptable.

## Appendix E Continued

Site hydrograph generation under pre- and post-construction site conditions with appropriate design for 2-year, 24-hour Storm.

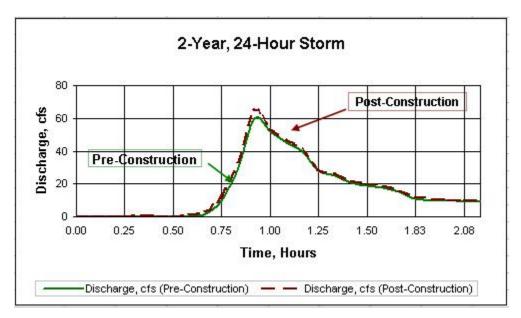


Figure 1 Example Site Hydrograph for Inclusion in CBMPP

# Appendix F – *Sample* Corrective Action Log

Project Name: CBMPP Contact:

Inspection Date	Inspector Name(s)	Description of BMP Deficiency	Corrective Action Needed (including planned date/responsible person)	Date Action Taken/Responsible person

# Appendix G – *Sample* CBMPP Amendment Log

Project Name: CBMPP Contact:

Amendment No.	Description of the Amendment	Date of Amendment	Amendment Prepared by [Name(s) and Title]

# Appendix H – Sample Grading and Stabilization Activities Log

Project Name: CBMPP Contact:

Date Grading Activity Initiated	Description of Grading Activity	Date Grading Activity Ceased (Indicate Temporary or Permanent)	Date When Stabilization Measures are Initiated	Description of Stabilization Measure and Location
			_	

# Appendix I – *Sample* CBMPP Training Log (Optional)

# **Stormwater Pollution Prevention Training Log**

Projec	t Name:				
Projec	et Location:				
Instrud	ctor's Name(s):				
Instruc	ctor's Title(s):				
Cours	e Location:			Date:	
Cours	e Length (hours):				
Storm	water Training Topic: (check a	s app	oropriate)		
	rosion Control BMPs		Emergency Pro	ocedures	
□ S	Sediment Control BMPs		Good Houseke	eeping BMPs	
	Ion-Stormwater BMPs				
Specif	ic Training Objective:				_
•					
Attend	lee Roster։ <i>(attach additional բ</i>	nages	s as necessary)		
No.	Name of Attendee			Company	
1				, ,	
2					
2 3 4 5 6					
<u>4</u> 5					
<u>5</u> 6					
<del>5</del> 7					
8					
9					
10					

# Appendix J – *Sample* Delegation of Authority Form

## **Delegation of Authority**

compliance wi the	(name), hereby designate the person or specifically ition below to be a duly authorized representative for the purpose of overseeing th environmental requirements, including ADEM Admin. Code chap. 335-6-12, at construction site. The designee is authorized ports, stormwater pollution prevention plans and all other documents required by
	(name of person or position) (company) (address) (city, state, zip) (phone)
I certifunder my direction of the person of gathering the true, accurate	ning this authorization, I confirm that I meet the requirements to make such a set forth in ADEM Admin. Code r. 335-6-609.  y under penalty of law that this document and all attachments were prepared ction or supervision in accordance with a system designed to assure that qualified perly gathered and evaluated the information submitted. Based on my inquiry of persons who manage the system, or those persons directly responsible for information, the information submitted is, to the best of my knowledge and belief, and complete. I am aware that there are significant penalties for submitting false cluding the possibility of fine and imprisonment for knowing violations.
Name:	
Company:	
Title:	
Signature:	
Date:	

Appendix K – Additional Information (i.e., Endangered Species, Historic Preservation, and U.S. Corps of Engineers Documentation)

[INSERT ADDITIONAL INFORMATION HERE]