MS4 Annual Report Response Submission 2010

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Minimum Control Measure No. 1: Public Education and Outreach on Storm Water Impacts.

BMP 1.1.1: Stormwater Website.

Goal: Provide information on Stormwater, Stormwater Management, Erosion and Sediment Control, and components of the MS4. In addition, to stormwater information, the website will provide links to activities that are related to improving stormwater quality to promote public education and links. The stormwater website also includes links to information regarding TMDLs.

Schedule and Evaluation: Virginia Tech is updating the website that will be available by July 19, 2010.

Responsible Party: Virginia Tech Planning, Design, and Construction.

Necessary Documents: Pages from Stormwater Website.

Measurable Goals: Complete success of this BMP will be seen upon student, staff, and faculty involvement in minimizing contamination of stormwater. Continue to modify and improve the website through user feedback. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Print outs from webpage.

Required Modifications: TBD.

Response: An updated and improved Stormwater Website went online as of July 19, 2010. The website contains information regarding public outreach and education, University projects, policies and procedures for Land Disturbing Activities, the MS4 program, VT Environmental Health and Safety Services, VT Recycling, as well as VT Sustainability. Links to DCR, DEQ and EPA websites related to TMDLs have been added to our Public Outreach & Education Page. Copies of the web pages of the website have been provided as well as print outs of activities available online. The web address is as follows: http://www.facilities.vt.edu/pdc/stormwater/home/

Documentation Provided:

i. Stormwater Management Home Page
ii. Around Campus Page
iii. Public Outreach & Education Page
iv. Activities & Events Page
v. University Projects Page
vi. Policies and Procedures for Land Disturbing Activities Page
vii. MS4 Program Page
viii. Hazardous Waste Disposal Page
ix. VT Recycle Page

x. Sustainability Page
xi. Stormwater Runoff Challenge
xii. Clean Water Challenge

BMP 1.1.2: Water Conservation Practices.

Goal: Provide annual reports of water consumption to the public.

Schedule and Evaluation: Virginia Tech will continue to provide water consumption reports on an annual basis during each permit cycle. Status: On-going.

Responsible Party: Virginia Tech Facilities Operations.

Necessary Documents: Quarterly water usage invoices and annual reports and repair logs.

Measurable Goals: Complete success of this BMP will be seen upon finalization of the development of a water, storm, and sanitary sewer system model to better quantify the consumption and impact of water in these three systems. Finalize the university's sanitary sewer infiltration and inflow (I&I) study to identify, prioritize, and eliminate future sanitary sewer capacity issues and potential over-flows. Continue to seek opportunities to implement water conservation projects on campus. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Annual water consumption summary and Water System Repair Log.

Required Modifications: TBD.

Response: Virginia Tech continues to reduce water consumption by repairing water lines and improving plumbing fixtures. According to the Blacksburg, Christiansburg, & VPI Water Authority, Virginia Tech consumed a reported 392,721,099 gallons of water from July 2009 to June 2010 as opposed to the 400,719,850 gallons consumed from July 2008 to June 2009. Provided is a log of domestic water system, stormwater system and sanitary sewer system repairs dated August 3, 2009 thru June 17, 2010. Sewer System Repair Log has been provided under BMP 3.2.4. Stormwater System Repair Log has been provided under BMP 3.3.1.

Documentation Provided:

i. Water System Repair Log
ii. Quarterly breakdown of water consumption

BMP 1.1.3: Proper Disposal of Hazardous Waste.

Goal: Provide information and training to university staff.

Schedule and Evaluation: Continue to post proper disposal methods information on website on a continuous basis during each permit cycle. Status: on-going

Responsible Party: Virginia Tech Environmental Health and Safety Services.

Necessary Documents: Examples of Hazardous Waste Procedures and training material.

Measurable Goals: Continue to post disposal procedures and information on website for university staff. Continue providing training opportunities on their website for university staff and personal exposure and area monitoring to identify and quantify biological and chemical contaminants in the work environment. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Location and Point of Contact for Training and hazardous waste disposal awareness documentation and summary.

Required Modifications: TBD.

Response: Environmental Health & Safety (http//www.ehss.vt.edu/) currently provides a written plan for each of the university labs (chemical, radiological, and biological) that they are REQUIRED to read and implement on a daily basis. The training sessions, in addition to the written plans discussed above, are provided when requested by the different departments on campus. Also, EHSS is available to answer questions or provide guidance with regards to the written plans as needed. Copies of the Chemical Hygiene Plan, Hazardous Chemical Communication and Management Plan, Lead Hazard Control Program, Hazardous Communication Plan for (Department) Template, and the Laboratory Inspection Checklist have been provided in this report.

As of September 2009, approximately 12 stencils have been placed at selected drop inlets and storm drain grates. However, due to the stencils wearing off, Virginia Tech is purchasing Duracast markers to use on storm drains instead.

The Stormwater Management webpage has been updated as of July 2010 and includes a link to the Environmental Health and Safety Services (EHSS)

at Virginia Tech. The link has been placed on the “Hazardous Waste Disposal” page of the website. See BMP 1.1.1 for webpage print out.

Documentation Provided:

i. Sample Training Log: Record for Compressed Gas Cylinder Training
ii. Environmental, Health and Safety Services webpage print out
iii. Chemical Hygiene Plan
iv. Hazardous Chemical Communication and Management Plan
v. Lead Hazard Control Program
vi. Hazardous Communication Plan for (Department) Template
vii. Laboratory Inspection Checklist
viii. Copy of Storm Drain Marker

BMP 1.1.4: Recycling and Trash Management.

Goal: Provide educational literature and information on an annual basis to the university.

Schedule and Evaluation: Continue to properly education the university on recycling and trash management during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Facilities and Virginia Tech Environmental Health and Safety Services.

Necessary Documents: Documentation of events that focus on recycling and trash management and annual recycling achievements.

Measurable Goals: Continues to notify and reinforce the proper recycling and trash disposal plan to university staff through a program that is available on the Residential Dining Programs website and Spectrum newspaper. Continue to provide recycling literature on the Virginia Tech recycling website for public access and post historical and up-to-date data on recycling efforts on their "sustainability" website for public education and outreach. Continue to support the annual "Y-Toss" (second annual event just completed) that is implemented though the YMCA. This function is aimed at keeping the campus clean and reducing waste that is placed into our landfills by collecting items that would typically be "tossed" by residents leaving for the summer (http://www.vtymca.org/Home.asp). Continue to participate in an event titled, "Recycle Mania," where the university community is encouraged to recycle items that would normally be disposed of in a traditional manner (http://facilities.vt.edu/physicalplant/depts.asp?value=recycling). Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Recycling and educational outreach documentation and summary.

Required Modifications: TBD.

Response: Virginia Tech Recycling continues to increase the amount of recycled material annually. Recycling bins are accessible all over campus as shown on the map provided. Virginia Tech also continues to participate in the RecycleMania! Program. Results from the 2009 and 2010 RecycleMania! program as well as results from the campus recycling program have been provided.

Virginia Tech continues to offer information to help educate the community on recycling on the VT Recycle webpage (http://facilities.vt.edu/bgh/recycle/). A link to the VT Recycle webpage can also be accessed through the Stormwater Management webpage. See BMP 1.1.1 for webpage print out. The Ytoss program in 2010 collected items that weighted approximately 10 tons.

Virginia Tech also recycles electrical equipment and batteries. This service is provided through Environmental Health and Safety (EHSS). There is an online form for Battery and Computer Monitor Pickup at http://www.ehss.vt.edu/programs/WBM_pickup_form.php; EHSS will pickup nonworking monitors and batteries. There are two locations on campus where these items are stored until an outside vendor comes to pick up these recyclable items. Also, EHSS recycles Fluorescent bulbs and ballast; for more information please contact EHSS, (540) 231-2982.

Documentation Provided:

i. Virginia Tech Recycling Rate Report For Calendar Year 2009
ii. Print out of VT Recycle webpage
iii. VT Recycling Flyer/ Residential Hall Recycling Poster
iv. Map of recycling locations
v. RecycleMania! 2009- 2010 Results
vi. Virginia Tech Recycling Program Report 1998-2008
vii. Ytoss
viii. Print out of EHSS Battery and Computer Monitor Pickup Form

BMP 1.2.1: Partnership with Local Jurisdictions on Public Education.

Goal: Work with the Town of Blacksburg to promote sustainability and public education.

Schedule and Evaluation: Continue to participate in local stakeholder meetings to extend public education on an annual basis during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Facilities.

Necessary Documents: Agendas and Sample presentations.

Measurable Goals: Continue to be active in the stakeholders meetings to promote sustainability and public education of stormwater issues. Continue to participate on the advisory committee for the Town of Blacksburg's Low Impact Development initiative. This committee meets periodically and was organized in late 2006. Continue to partner with the Town of Blacksburg for an annual Watershed Open House (second year completed in 2007) to educate the public. Seek additional methods to collaborate on outreach opportunities. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Agendas and sample presentations.

Required Modifications: TBD.

Response: Virginia Tech has joined with the Town of Blacksburg to hold a Sustainability Week in October of 2009. This was to help educate the town and the University about sustainability issues and to get the community involved. During the Sustainability Week, DCR also presented a presentation on Stormwater.

Documents Provided:

i. Event Calendar for Sustainable Blacksburg 2009
ii. Stormwater presentation that was given during the event

BMP 1.3.1: Pollution Prevention Plan.

Goal: Educate university staff on the existing Pollution Prevention Plan.

Schedule and Evaluation: Continue to develop annual training programs for university staff on proper pollution prevention and reduction measures during each permit cycle. All university projects greater than 1-acre in disturbed area are required to develop and maintain a project specific SWPPP onsite. *Virginia Tech acquires the VSMP permits and oversees the SWPPP and SWPPP inspections*. Status: on-going.

Responsible Party: Virginia Tech's Environmental Health and Safety Services and Virginia Tech's Facilities.

Necessary Documents: Educational outreach documentation.

Measurable Goals: Continuing to develop reoccurring annual training sessions for university staff to educate on the proper pollution prevention and reduction measures through the plan developed in response to HJR 453, 1997. EHSS has implemented several programs in an effort to reduce pollution prevention on campus such as, (1) recycling, (2) environmental awareness programs, and (3) green engineering. Continue to implement a plan to detect potential sources of pollution at storm water inlets and outfalls. Continue requiring that all university projects greater than 1-acre in disturbed area develop and maintain a project specific SWPPP onsite. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Educational outreach documentation.

Required Modifications: TBD.

Response: Virginia Tech continues to participate in recycling, environmental awareness programs, and green engineering. Information regarding recycling events on campus can be found under BMP 1.1.4
Virginia Tech is working on being more sustainable, and has received a B from the Sustainable Endowments Institute. This rating has improved from 2009 where Tech received a B-.

Project Specific SWPPPs are provided under BMP 4.3.1.

Documentation provided:
i. Article about Campus Sustainability Report Cards 2010
ii. 2009 Sustainability Report card
iii. 2010 Sustainability Report card
iv. Virginia Tech Climate action commitment and sustainability plan "status report"

BMP 1.3.2: Campus Outreach through Table Cards.

Goal: Educate university students and staff about Stormwater issues and pollution prevention.

Schedule and Evaluation: Continue to develop and distribute table cards for educating the campus on stormwater issues and proper pollution prevention during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Planning, Design, and Construction Department.

Necessary Documents: Educational outreach documentation.

Measurable Goals: Continuing to develop and distribute table cards routinely throughout the permit cycle to educate students, staff, and faculty on stormwater and MS4 issues. Table cards will be placed in all dining facilities at least one time throughout the permit cycle. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Educational outreach documentation.

Required Modifications: TBD.

Response: Virginia Tech has begun to develop table cards to start distributing during the 2010-2011 school year. These table cards will be placed in the Dining Halls on a routine basis for a week at a time. The table cards have the potential to reach approximately 19,000 of the 30,000 people on the Virginia Tech campus. Currently, Virginia Tech is working on the cost of these table cards in order to print according to Virginia Tech Student Services specifications.

Documents Provided:

i. Example of table cards to be used in dining facilities.

BMP 1.4.1: Environmental Compliance.

Goal: Continue ensuring all environmental permitting is obtained.

Schedule and Evaluation: Continue to ensure all permits are obtained and compliance is met on annual (as needed) basis during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Environmental Health and Safety Department and Facilities Services.

Necessary Documents: VSMP Permits and other related permits.

Measurable Goals: Continue to ensure that Virginia Tech remains in compliance with all the necessary permits and complies with them. Continue to monitor the effectiveness of this BMP on a routine basis. Status: on-going.

Items to be Reported in Annual Report: VSMP Permits and other related permits.

Required Modifications: TBD.

Response: Virginia Tech obtains and maintains all necessary permits required for the MS4, Industrial, Agricultural, and Construction activities that occur on campus. Provided is a copy of permits and registration statements for the required permits.

Documents Provided:

i. VAR 040049: VSMP VAR 04 Permit
ii. Department of Conservation and Recreation Permit Fee Form
iii. Paid statement for Permit Fee/ Letter of Transmittal
iv. VAR050508: VSMP VAR 05 Industrial Permit
v. VPG100013: Animal Feeding Operations Permit
vi. VAR10-10-101788: VSMP VAR 10 Permit
vii. VSMP VAR10 Coverage Letters from Active Construction Sites

BMP 1.5.1: Funding and Staffing Needs for MCM-1.

Goal: Develop of a funding scope and achieve funding from the State for new staffing and infrastructure improvements to reach the goals of MCM-1.

Schedule and Evaluation: Continue to seek funding opportunities on an annual basis during each permit cycle. *Seek to hire an MS4 Coordinator within the next year.*

Responsible Party: Virginia Tech Facilities.

Necessary Documents: TBD.

Measurable Goals: Continue to seek methods for reaching the goals of MCM-1 through existing departmental budgets. No alternative funding sources have been identified to-date. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: TBD.

Required Modifications: TBD.

Response: Virginia Tech continues to seek methods for reaching the goals of MCM-1 through existing departmental budgets. No alternative funding sources have been identified, however, as of July 2009, a student-wage, part-time an Erosion and Sediment Control and SWPPP Inspector was hired to monitor erosion and sediment control measures on construction sites on campus. Also, as of May 2010 five new student employees were hired for the sole purpose of improving our Stormwater Management Program. One of these students was designated to the MS4 Coordinator, who is in charge of coordinating and compiling the annual MS4 Report components. The positions have been made student-wage, part-time until funding becomes available to fulfill a full-time position.

Minimum Control Measure No. 2: Public Involvement and Participation.

BMP 2.1.1: Stormwater Website.

Goal: Provide information on Stormwater, Stormwater Management, Erosion and Sediment Control, and components of the MS4. In addition to stormwater information, the website will provide links to the annual report for the MS4 program, SWPPP inspection reports, reports for illicit discharges, and inspections for BMPs.

Schedule and Evaluation: Virginia Tech is updating the website that will be available by July 19, 2010. The information will continue to be added to the website as it becomes available.

Responsible Party: Virginia Tech Facilities Services.

Necessary Documents: MS4, MS4 Annual Report, Virginia Tech Annual Standards and Specifications, Inspection Reports, Illicit Discharge Reports, and other associated documents.

Measurable Goals: Complete success of this BMP will be seen upon student, staff, and faculty involvement in minimizing contamination of stormwater. Continue to modify and improve the website through user feedback. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Print outs from the webpage and agendas of activities.

Required Modifications: TBD.

Response: The MS4 Program webpage on the Stormwater Management website has been updated and provides information regarding the MS4 including the MS4 Permit, inspection reports, annual report and other documentation. Links to the VT Annual Standards and Specifications have been provided under the projects listed on the University Projects page. Print outs of the webpage can be found in BMP 1.1.1. For the actual inspections reports, refer to BMP 3.2.2 for Outfall Reconnaissance Inventory reports, BMP 4.2.1 for Construction site inspections reports, and BMP 5.2.3 for BMP inspection reports.

Documentation Provided:

i. MS4 Program Page
ii. MS4 Inspection Reports Page
iii. BMP Inspection Reports Page
iv. Outfall Inspection Report Page

BMP 2.1.2: Stream Clean-Up and Other Areas.

Goal: Continue to monitor linear feet of stream cleaned on annual basis and clean roadways/parking lots after major university events.

Schedule and Evaluation: Continue to develop a report that delineates the total linear feet and tonnage of clean-up on campus on an annual basis during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Facilities.

Necessary Documents: Stream clean-up and roadway/parking lot cleaning records.

Measurable Goals: Accomplish at the minimum two of the following activities to eliminate the potential impacts on the stormwater system and turf areas: 1) Stream clean event campus wide; 2) Planning, Design, and Construction Department adopts Stroubles Creek and maintains it yearly; 3) Student organizations help clean Lane Stadium after events; 4) Students and Faculty team up with VT Recycling; 5) Virginia Tech teams up with Good Will for handicapped individuals to help pick up trash on campus; 6) Household hazardous waste pickup at the end of the spring semester. Continue working on the development of an accurate account of stream cleaning footage and, in conjunction with the TMDL Implementation Plan, investigate stream bank buffers. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Linear footage/volume of stream, parking lot, and roadway records.

Required Modifications: TBD.

Response: Virginia Tech continues to minimize trash and debris from entering Stroubles Creek by collecting trash and debris after sporting events from roadways and parking lots as well as grass areas. Roadways and parking lots are cleaned by a street sweeper before and after each sporting event. Students and Faculty volunteer with VT Recycling to help maintain the program. A copy of the street sweeper log has been provided under BMP 6.2.1.

Virginia Tech is dedicated to keeping Stoubles Creek clean and accomplished the following activities to insure trash and pollutants did not reach the waterways.

1. Student organizations help clean Lane Stadium after events
2. Students and Faculty team up with VT Recycling
3. Virginia Tech teams up with Good Will for Handicapped individuals to help pick up trash on campus.

Documents Provided:

i. Student Groups and Volunteers page

BMP 2.1.3: Storm Drain Marking.

Goal: Mark all storm drain inlets with Duracast markers.

Schedule and Evaluation: Mark 8 to 10 inlets by November 2010 and 8 to 10 additional inlets by June 2011. Continue to mark inlets as maintenance crews are able to apply markers.

Responsible Party: Virginia Tech Site Development.

Necessary Documents: Markers, photographs, and map(s) of the inlet locations.

Measurable Goals: Continue to monitor for illicit discharges at the outfalls. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Proofs of Storm Drain Markers and map of storm drains.

Required Modifications: TBD.

Response: As of September 2009, Virginia Tech has begun stenciling storm drain inlets and grates as funding permits. However, the stencils wore off due to the elements. In 2010, Virginia Tech is accumulating funds to buy Duracast Storm Drain Markers. Approximately 600 markers will be ordered and 10% of the curb inlets will be marked by the end of the year. The goal is to have primary curb inlets and drop inlets (with adequate space for the markers) be marked in 5 years. Construction projects on campus will be required to place markers on inlets that are affected by the project. A print out of the storm drain markers has been provided as well as a map of storm drains to be marked.

Documentation Provided:
i. Copy of Storm Drain Marker
ii. Map of Stormwater Inlets locations

BMP 2.2.1: Stakeholder Meeting.

Goal: Continue to review and comment on all capital projects on campus to address erosion and sediment control and storm water related issues prior to construction.

Schedule and Evaluation: Continue to review and comment on all capital projects as they are developed during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Planning, Design, and Construction.

Necessary Documents: Project comment record and summary.

Measurable Goals: Continue to review and provide feedback on all Capital Projects to ensure that storm water and Erosion & Sediment Control and SWM issues are addressed in an effective manner. Continue to work with the TMDL Implementation Plan for Stroubles Creek that traverses campus in two areas. The TMDL stakeholders consist of DCR, Town of Blacksburg, Virginia Tech staff and concerned citizens. Continue developing Environmental Impact Reports for areas along campus that have been identified as sensitive for review and approval by the regulating agencies. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Project comment record and summary.

Required Modifications: TBD.

Response: Virginia Tech continues to review and provide feedback on all Virginia Tech Planning, Design, and Construction projects to ensure that stormwater and Erosion & Sediment Control issues are addressed in an effective manner.

BMP 2.3.1: Funding and Staffing Needs for MCM-2.

Goal: Develop of a funding scope and achieve funding from the State for new staffing and infrastructure improvements to reach the goals of MCM-2.

Schedule and Evaluation: Continue to seek funding opportunities on an annual basis during each permit cycle. Seek to hire a MS4 Coordinator within the next year. Status: on-going.

Responsible Party: Virginia Tech Facilities.

Necessary Documents: TBD.

Measurable Goals: Continue to seek methods for reaching the goals of MCM-2 through existing departmental budgets. No alternative funding sources have been identified to-date. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: TBD.

Required Modifications: TBD.

Response: Virginia Tech continues to seek methods for reaching the goals of MCM-2 through existing departmental budgets. As of May 2010, a student employee was hired to fill the MS4 Coordinator position until funding become available. No alternative funding sources have been identified.

Minimum Control Measure No. 3: Illicit Discharge Detection and Elimination.

BMP 3.1.1: Comply with Existing Regulations.

Goal: Track notices of violation for surface discharges and develop methods of elimination.

Schedule and Evaluation: Continue to detect and eliminate illicit discharges on a reoccurring basis during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Environmental Health and Safety Services.

Necessary Documents: Copy of TMDL; Notifications to downstream MS4s.

Measurable Goals: Continue to track this BMP and make recommendations for elimination for surface discharges. Seek additional methods for detecting, recording, and eliminating illicit discharges. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Copy of TMDL; Notifications to downstream MS4s.

Required Modifications: TBD.

Response: Inspection reports for all BMP's on campus have been provided in the document, under BMP 5.3.2, as well as results from inspections of 50% of outfall reconnaissance inventory under BMP 3.2.3. A high number of the outfalls on VT's campus discharge into Stroubles Creek, therefore, included in this document is a copy of the Upper Stroubles Creek Watershed TDML Implementation Plan. In order to improve the method of detecting illicit discharges an Oakton multimeter and additional types of test strips were purchased, which provides the following information: Conductivity, Salinity, Total Dissolved Solids, Free and Total Chlorine, Hardness and alkalinity. This is in addition to already testing temperature, pH and Ammonia.

Documentation Provided:

i. Upper Stroubles Creek Watershed TMDL
ii. Photographs of multimeter and test strips.

BMP 3.2.1: Inventory Regulated Storm Water Outfall Locations.

Goal: Continue to update existing comprehensive database and mapping and identify storm water outfalls and develop annual maintenance and inspection program for tracking illicit discharges.

Schedule and Evaluation: Continue to update and identify stormwater outfalls on an annual basis or on an as-needed basis during each permit cycle. New outfalls are to be added to the database by August 2010. Status: on-going.

Responsible Party: Virginia Tech Facilities.

Necessary Documents: Survey data, map(s), and photographs.

Measurable Goals: This BMP is measured by continuing to provide maintenance on all storm water outfalls, as well as pipes and structures, on campus. Continue updating maintenance forms to address and mitigate concerns and corrective actions taken as required. Continue developing and calibrating a storm water model that will analyze the entire campus system and keep a record of illicit discharges and actions taken. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Map of outfalls, inspection reports, and illicit discharge inventory report and summary.

Required Modifications: TBD.

Response: A map of all known outfalls has been provided. Virginia Tech has identified approximately an additional 30 outfalls with channelized flow that are not on main campus. Photographs were collected on each of these new outfalls and are provided in this document; however, no survey data is available at this time.

Documentation Provided:

i. Outfall Reconnaissance Inventory Map
ii. Photographs of outfalls

BMP 3.2.3: Locate Priority Areas or Operations for Illicit Discharge.

Goal: Development of a map delineating the priority areas on campus with unique pollution prevention schemes.

Schedule and Evaluation: Continue to update and identify priority areas, mapping, and documentation on annual or as-needed basis during each permit cycle. Status: on-going. Substantial Completion: November 2009.

Responsible Party: Virginia Tech Environmental Health and Safety Services and Virginia Tech Facilities.

Necessary Documents: Map and report of critical areas susceptible to illicit discharges.

Measurable Goals: This BMP is measured by monitoring and assessing campus to identify areas of immediate concern that require a unique pollution prevention scheme. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Priority area map and documentation summary.

Required Modifications: TBD.

Response: There was an illicit discharge flowing into the Duck pond from the twin 60" pipes that flow under the Perry Street Commuter lot. Virginia Tech Environmental Health and Safety Services were notified and after investigation a manhole, it was noted there was a false bottom. Approximately $5,606.00 was spent to correct this issue and replace the manhole. The source of the illicit discharge is unknown; however, repairs have been made to the manhole and dye testing was performed at the power plant, which is upstream. No dye was present in the stormwater.

Documents Included:

i. Map of Replaced Manhole in Sanitary System

BMP 3.2.2: Inspection of Storm Water Outfalls for Dry Weather Discharge.

Goal: Inspect all storm water outfalls on an annual basis during dry weather and identify illicit discharges and mitigation techniques.

Schedule and Evaluation: Continue to inspect and track all storm water outfalls on an annual basis during dry weather conditions or as-needed basis during each permit cycle. Inspect at least 25% of the outfalls annual and inspect critical areas as designated by BMP 3.2.2 yearly. Status: on-going. Substantial Completion: December 2009.

Responsible Party: Virginia Tech Facilities.

Necessary Documents: Inspection Reports, Photographs, and other documents as necessary.

Measurable Goals: This BMP will be measured by visually inspecting, on a routine basis, and documenting any unusual indicators at the outfalls. This BMP will require documentation and mitigation of any evident illicit discharges that are encountered in a timely manner. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Inspection reports, dry weather discharges, and mitigation methods.

Required Modifications: TBD.

Response: Inspection reports of outfalls are provided. As was stated, 50% of the outfalls were inspected and recorded on the outfall map provided under BMP 3.2.1.

Documents Provided:
i. 2010 Outfall Reconnaissance Reports

BMP 3.2.4: Inspect and Repair Sanitary Sewer to Prohibit Illicit Discharges.

Goal: Inspect and document existing problems with the sanitary sewer system and develop mitigation strategies.

Schedule and Evaluation: Continue to inspect and track all problems within the sanitary sewer system on a reoccurring basis during the permit cycle. Status: on-going (performing flow monitoring).

Responsible Party: Virginia Tech Facilities.

Necessary Documents: Sanitary Sewer System Repair Log.

Measurable Goals: This BMP will be measured by continuing to expand and improve the field data on the sanitary sewer system by assessing (visually) conditions of the pipe and manhole structures for defects that could lead to illicit discharges from the system. Virginia Tech has purchased eight area velocity flow meters that will assist the staff with quantifying the volumes of sewage at critical points along campus, which will aid in determining areas the need immediate attention to prevent potential illicit discharges. A campus-wide Inflow and Infiltration study (I&I) has begun, which will assist the university in accurately identifying illicit discharge prone areas. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Inspection and repair reports and summaries.

Required Modifications: TBD.

Response: A log sheet of repairs and maintenance performed on the sanitary sewer system has been provided dated August 5, 2009 thru July 15th, 2010. An inlet has been installed behind Sterrett Facilities Complex to provided a washout location for facilities field crews; this was originally installed as a washout for the HVAC workers in Mechanical Services, but facilities started using it to eliminate illicit discharges from around the grounds building.

Documentation Provided:

i. Sanitary Sewer System Repair Log
ii. Photographs of Sanitary Sewer Inlet for washout

BMP 3.2.5: Maintain In-House 24/7 Repair/Response Crew for Sanitary Sewer Issues.

Goal: Continue to respond to sanitary sewer problems and update utilities infrastructure database in a timely manner.

Schedule and Evaluation: Continue to respond to sanitary sewers issues as they arise and update utility database on a reoccurring basis during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Utilities and Building Systems.

Necessary Documents: Maintenance and repair reports.

Measurable Goals: This BMP will be measured by continuing to report and address all sanitary sewer problems in a timely manner to prevent exposure of the sewage to campus. Continue to document all overflow issues on campus and delineate the location of the problem and the corrective measures. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Maintenance and repair summary.

Required Modifications: TBD.

Response: Facilities Crews are on call in the evenings and on weekends in case of an emergency sanitary sewer issue. If an issue arises Virginia Tech Police Department notifies the crew of the issue, and they will fix the issue. See documentation provided under BMP 3.2.4 for sanitary sewer repairs.

BMP 3.3.1: Trace and Remove Illicit Discharge.

Goal: Continue to evaluate current program for improvements.

Schedule and Evaluation: Continue to report, trace, and respond to illicit discharges annually during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Environmental Health and Safety Services and Virginia Tech Facilities.

Necessary Documents: Stormwater System Repair Log and Summary of Illicit Discharges Reports.

Measurable Goals: This BMP will be measured by continuing to monitor the effectiveness of the established procedure for reporting and tracing illicit discharges and enforcement policies. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Stormwater System Repair Log and Summary of Illicit Discharges Reports.

Required Modifications: TBD.

Response: Through the Outfall Reconnaissance Inventory inspections and online reporting, Virginia Tech is able to trace illicit discharges. Summary reports of illicit discharges have been provided. The summary includes a description of the illicit discharge as well as how the issue was corrected. Individuals can also report spills and illicit discharges on the Environmental Health and Safety webpage: www.ehss.vt.edu/report_issue. Virginia Tech Facilities does repairs on the stormwater system to help prevent illicit discharges.

Documents Provided:

i. Summary of illicit discharges
ii. Stormwater System Repair Log

BMP 3.4.1: Illicit Discharge Reporting by Staff and Students.

Goal: Continue to publicize Environmental Heath & Safety contact numbers for illicit discharge reporting.

Schedule and Evaluation: Continue to provide reporting options on a daily basis for university community during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Environmental Health and Safety.

Necessary Documents: Contact numbers and reporting documentation.

Measurable Goals: This BMP will be measured by continuing to utilize EHSS as the primary contact for reporting discharges that are witness by staff and students. Seek alternative methods for raising awareness. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Documented reports of illicit discharges and mitigation efforts.

Required Modifications: TBD.

Response: Summary reports of illicit discharges have been provided in BMP 3.3.1. The summary includes a description of the illicit discharge as well as how the issue was corrected. Through the use of table cards, Virginia Tech is will educate Students and Staff on how to report illicit discharges to Environmental Health and Safety Services and the importance of reporting issues. Individuals can also report spills and illicit discharges on the Environmental Health and Safety webpage: www.ehss.vt.edu/report_issue.

Documentation Provided:

i. Example of Table Cards

BMP 3.5.1: Funding and Staffing Needs for MCM-3.

Goal: Develop of a funding scope and achieve funding from the State for new staffing and infrastructure improvements to reach the goals of MCM-3.

Schedule and Evaluation: Continue to seek funding opportunities on an annual basis during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Facilities.

Necessary Documents: TBD.

Measurable Goals: Continue to seek methods for reaching the goals of MCM-3 through existing departmental budgets. No alternative funding sources have been identified to-date. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: TBD.

Required Modifications: TBD.

Response: Virginia Tech continues to seek methods for reaching the goals of MCM-3 through existing departmental budgets. No alternative funding sources have been identified.

Minimum Control Measure No. 4: Construction Site Stormwater Runoff.

BMP 4.1.1: Provide Guidance to Project Managers in University Planning, Design, and Construction Services on Appropriate ESC and SWM Requirements.

Goal: Continue to provide Project Managers of university projects with clear guidance on ESC and SWM requirements.

Schedule and Evaluation: Continue to provide ESC and SWM guidance on all university projects as the projects are developed during each permit cycle. Pre-construction meetings are held for all projects requiring ESC and SWM submittals. Status: on-going.

Responsible Party: Virginia Tech Planning, Design, and Construction.

Necessary Documents: Virginia Tech Annual Standards and Specifications and other documentation as determined.

Measurable Goals: This BMP will be measured by continuing to review and advise project managers on university projects to ensure completeness of the Erosion & Sediment Control measures and Storm Water compliance in accordance with Virginia Tech Annual Standards and Specifications. The Virginia Tech Annual Standards and Specifications for Erosion and Sediment Control and Stormwater Management are located on the Virginia Tech Stormwater Management website for access by Project Managers and the public. **http:**//www.facilities.vt.edu/pdc/project/esc_swm.asp. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Inspection reports, information about land disturbing projects, and other documentation deemed necessary.

Required Modifications: TBD.

Response: The Virginia Tech Annual Standards and Specifications for Erosion and Sediment Control and Stormwater Management are located on the Stormwater Management website for access by Project Managers and the public. (http://www.facilities.vt.edu/pdc/project/esc_swm.asp) A copy of the VT Anuual Standards and Specifications has been included in this document as well as a list of all currently active projects noting the start date, completion date, and disturbed area of each project. (See Exhibit 4.1.1)

Documentation Provided:

i. List of Current/Proposed Projects
ii. Approval of VT Annual Standards and Specifications for ESC & SWM
iii. VT Annual Standards and Specifications for ESC & SWM

BMP 4.2.1: Construction Site Inspections for ESC and SWM Compliance.

Goal: Continue to provide ESC and SWM plan review, inspections, and compliance.

Schedule and Evaluation: Projects under construction or reviewed by DCR prior to July 1st will remain with DCR. Projects starting on and after July 1st will be reviewed by Virginia Tech Site Development Department. This is performed throughout the duration of the project. Virginia Tech is working through the budget process to designate two positions for these responsibilities. Status: on-going.

Responsible Party: Virginia Tech Planning, Design, and Construction.

Necessary Documents: Sample Inspection reports, Annual Report(s), Notices, Land-disturbing activities and other associated documents.

Measurable Goals: This BMP will be measured by continuing to accompany DCR evaluation of the Virginia Tech Annual Standards and Specifications. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Inspection report summary, annual report, summary of compliance issues, and associated documents.

Required Modifications: TBD.

Response: Virginia Tech's Planning, Design, and Construction Department has been issued the responsibility by the Department of Conservation and Recreation to inspect all of the campus projects as of July 1st, 2009. A sample of the Stormwater Pollution Prevention Plan inspection reports for campus projects has been provided in this document. The inspection reports are also available online on the Stormwater Website under the University Projects link for each specific project.

Documentation Provided:

i. University Projects Webpage
ii. Sample Project Webpage: Materials Management
iii. Sample Inspection Report Webpage: Materials Management
iv. Samples: Stormwater Pollution Prevention Plan Inspection Reports

BMP 4.3.1: Construction Site Operators Need to Control Waste at Construction Sites to Avoid Adverse Impacts to Water Quality.

Goal: Continue conducting periodic inspections for each construction project to ensure that water quality impacts are not present.

Schedule and Evaluation: Continue with periodic inspections in accordance with VSMP permitting, where applicable. Require all university projects greater than 1-acre in disturbed area to develop and maintain a SWPPP on-site during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Planning, Design, and Construction.

Necessary Documents: Inspection reports and SWPPP.

Measurable Goals: This BMP will be measured by continuing to conduct periodic inspections for each construction project on campus, whether being constructed by in-house forces or convention contractors in accordance with VSMP permitting. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Inspection summaries and updated SWPPP summaries.

Required Modifications: TBD.

Response: A copy of each project's SWPPP and SWPPP inspection reports for all projects on campus that require a VSMP Permit have been provided. A copy of the Stormwater Construction Site Inspection Report has been provided in BMP 4.2.1.

Documentation Provided:
i. Abridged Project Specific SWPPPs

BMP 4.4.1: Funding and Staffing Needs for MCM-4.

Goal: Virginia Tech is seeking positions that will perform the ESC/SWM/SWPPP inspections, reviews, and approvals. Currently, Virginia Tech is using outside staff to assist with these inspections. Develop of a funding scope and achieve funding from the State for new staffing and infrastructure improvements to reach the goals of MCM-4.

Schedule and Evaluation: Continue to seek funding opportunities on an annual basis during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Facilities.

Necessary Documents: TBD.

Measurable Goals: Continue to seek methods for reaching the goals of MCM-4 through existing departmental budgets. No alternative funding sources have been identified to-date. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: TBD.

Required Modifications: TBD.

Response: Virginia Tech continues to seek methods for reaching goals of MCM-4 through existing departmental budgets. Through the use of student employees, Virginia Tech is able to work towards accomplishing this goal; however, no alternative funding sources have been identified.

Minimum Control Measure No. 5: Post-Construction Storm Water Management in New Development and Re-Development.

BMP 5.1.1: Watershed Master Plan for Future Development and Re-Development.

Goal: Ensure that all development and redevelopment projects fall under the guidelines of the Master Plan for campus. Finalize the development of a campus-wide storm water management master plan for existing and future build-out conditions.

Schedule and Evaluation: Continue to provide input on all development and redevelopment in accordance with the Master Plan during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Planning, Design, and Construction.

Necessary Documents: Approved Master Plan.

Measurable Goals: This BMP will be measured by following the approved Master Plan that addresses the impacts to the existing watershed in conjunction with the future build-out plan. The Master Plan has identified specific BMP's and LID techniques along the portions of campus marked for future development as well as design guidelines. Continue investigating the feasibility of retrofitting existing facilities and sites with better BMP's and LID techniques. Stormwater management sub-models are being developed as part of the SWM review process. Gain approval from DCR on storm water management master plan. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: TBD.

Required Modifications: TBD.

Response: Virginia Tech continues development in accordance with the current Master Plan set forth in 2006. Provided is the 2006 Master Plan along with the concept overlay for the Corporate Research Center that was not included in the current Master Plan, along with 2009 Amendments and the HABB1 Precinct addition.

Documentation Provided:

i. 2006 VT Master Plan
ii. 2006 VT Master Plan with 2008 CRC Concept Overlay
iii. 2006 VT Master Plan with 2009 Master Plan Amendment
iv. HABB1 Precinct

BMP 5.2.1: O&M Program for Structural Storm Water Control.

Goal: Match inventory of controls with O&M program and develop checklists for inspectors to ensure consistency and completeness during inspections.

Schedule and Evaluation: Continue to develop checklists by the end of year of the second permit cycle. Continue inspecting and implementing corrective actions to adhere to O&M program during each permit cycle. Status: on-going
Responsible Party: Virginia Tech Facilities.

Necessary Documents: Inventory report, inspector checklists, and O&M documents.

Measurable Goals: Continue to update the comprehensive survey of the campus' storm water facilities in an effort to further develop an accurate storm water model for the university. This BMP will be measured by continuing to conduct thorough inspections of the facilities in an effort to address any deficiencies or required maintenance (i.e. sedimentation removal, debris clean-up, etc.). As part of the overall storm water modeling plan, routine inspections will be scheduled (wet/dry) to assess the functionality of the facility and make recommendations for repairs or maintenance. To better facilitate the incorporation of inspection reports and data with the university GIS and storm water model, inspection sheets will be developed in a manner consistent with the requirements of the databases. Continue documenting storm events on an occurrence basis. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: TBD.

Required Modifications: TBD.

Response: The elements of the O&M program include inspections and clean-up of outfalls, inlet structures, channels, and SWM ponds to remove sedimentation, debris and trash that is collected. As part of the O&M manual, inspection and maintenance forms be developed and updated.

Documentation Provided:
i. Summary of O&M for all BMPs
ii. Retention Pond Inspection Form
iii. Retention Pond Maintenance Form
iv. Detention Pond(s) Inspection Form
v. Detention Pond(s) Maintenance Form
vi. Conveyance System Inspection Form
vii. Conveyance System Maintenance Form
viii. Vault Inspection Form
ix. Vault Maintenance Form
x. Biofiltration Swale Inspection Form

xi. Biofiltration Swale Maintenance Form
xii. Bioretention Facility Inspection Form
xiii. Bioretention Facility Maintenance Form
xiv. Bioretention Pretreatment Facility Inspection Form
xv. Bioretention Pretreatment Facility Maintenance Form
xvi. Outfall Reconnaissance Inventory Field Sheet
xvii. Outfall Reconnaissance Inventory (Manhole)
xviii. Sanitary Sewer Pipe Replacement Checksheet
xix. Sanitary Sewer Manhole Replacement Checksheet

BMP 5.2.2: Storm Water Management Facilities Mapping.

Goal: Continue to update existing facility inventory database and mapping showing maintenance on facilities, storm water conveyance and control structures, and receiving surface water bodies. Status: on-going. Substantial Completion: September 2009. Continual updates: on-going.

Schedule and Evaluation: Continue to update facility inventory database on a monthly basis and project-by-project basis during each permit cycle.

Responsible Party: Virginia Tech Facilities.

Necessary Documents: Project as-build documentation.

Measurable Goals: This BMP will be measured by continuing to update and improve the comprehensive survey of the storm water management facilities and channels for campus for integration into a storm water model and GIS geo-database. The university is currently in the process of redeveloping the storm water management methods on campus to ensure that the university meets the current DCR SWM Regulations and addresses the needs of the watersheds. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: SWM Mapping.

Required Modifications: TBD.

Response: A map of the Stormwater Management facilities has been included in this document showing locations of all known BMP's. This is updated as new BMP's are added.

Documentation Provided:
i. Existing BMP Location Map with corresponding maps of individual BMP's

BMP 5.2.3: Inspections of Storm Water Management Facilities.

Goal: Inspect Stormwater facilities on an annual basis and identify any maintenance issues.

Schedule and Evaluation: Continue to inspect facilities on an annual basis along with the maintenance inspections per O&M handbook. Inspect at least 25% each year. Status: on-going.

Responsible Party: Virginia Tech Facilities.

Necessary Documents: Inspection Reports, Photographs and other documents as necessary.

Measurable Goals: This BMP will be measured by inspecting on a routine basis and documenting any necessary maintenance required. This BMP will require documentation and remedy of any needed maintenance. Continue to monitor the effectiveness of this BMP on regular basis.

Items to be Reported in Annual Report: SWM Inspection Reports.

Required Modifications: TBD.

Response: The majority of BMPs have been inspected for maintenance required and proper functionality. Inspection reports have been documented in the section.

Documentation Provided:
i. Inspection Reports of BMPs

BMP 5.3.1: Green Parking.

Goal: Evaluate and install, where applicable, grass pavers in different areas along campus.

Schedule and Evaluation: Continue to evaluate opportunities for grass paver installation on a project-by-project basis during each permit cycle. Will utilize as opportunities present themselves. Status: on-going.

Responsible Party: Virginia Tech Facilities.

Necessary Documents: Photographs of existing green parking.

Measurable Goals: This BMP will be measured by adhering to the Master Planning efforts and review/assign different BMP's and LID techniques that may include grass pavers, if applicable, to pertinent areas. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Photographs of existing green parking.

Required Modifications: TBD.

Response: Virginia Tech offers green parking where applicable. Due to high traffic flow in certain areas the areas available are minimal. Photographs of green parking on campus have been provided.

Documentation Provided:

i. Photographs of VT Green Parking at Architecture Demonstration and Research Building
ii. Photographs of VT Green Parking at War Memorial Gym
iii. Photographs of VT Green Parking by Shanks Hall

BMP 5.4.1: Staffing and Funding Needs for Program.

Goal: Evaluate and request funding for program support and staffing requirements.

Schedule and Evaluation: Continue to evaluate opportunities for funding during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Facilities.

Necessary Documents: TBD.

Measurable Goals: Continue being proactive in responding to reported issues around campus through internal funding from their own budget allocation on an annual basis. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Funding status.

Required Modifications: TBD.

Response: Physical Plant is proactive in responding to reported issues around campus, which is funded from their own budget allocation on an annual basis. No alternative funding sources have been identified that would fund additional support for this program.

BMP 5.5.1: Funding and Staffing Needs for MCM-5.

Goal: Develop of a funding scope and achieve funding from the State for new staffing and infrastructure improvements to reach the goals of MCM-5.

Schedule and Evaluation: Continue to seek funding opportunities on an annual basis during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Facilities.

Necessary Documents: TBD.

Measurable Goals: Continue to seek methods for reaching the goals of MCM-5 through existing departmental budgets. No alternative funding sources have been identified to-date. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: TBD.

Required Modifications: TBD.

Response: Virginia Tech continues to seek methods for reaching the goals of MCM-5 through existing departmental budgets. No alternative funding sources have been identified.

Minimum Control Measure No. 6: Pollution Prevention/Good Housekeeping for Virginia Tech Facility Operations.

BMP 6.1.1: Spill Prevention, Control, and Countermeasure Plan.

Goal: Maintain documentation of existing, and publicly accessible SPCC Plans for petroleum storage on main campus and research farms adjacent to campus.

Schedule and Evaluation: Continue to update policies and procedures as necessary. Status: on-going.

Responsible Party: Virginia Tech's Environmental Health and Safety-540.231.3600.

Necessary Documents: Contact information for Policy and Procedures for Spill Prevention, Control and Countermeasures.

Measurable Goals: This BMP will be measured by maintaining the current required EPA SPCC Plan that covers all petroleum storage on the main campus as well as research farms adjacent to campus. EHSS currently maintains full documentation of each individual SPCC Plan for all pertinent sited on and off Virginia Tech's main campus. EHSS inspects and tracks spills on a per occurrence basis. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Contact information for plans within Virginia Tech.

Required Modifications: TBD.

Response: Virginia Tech currently has a required EPA SPCC Plan in place that covers all petroleum storage on the main campus as well as research farms adjacent to campus; a list of these can be found at Environmental Health and Safety during normal business hours. There are policies in place for Fleet Services, Maintenance and Agricultural Departments for spill prevention.

Fleet Services have the following countermeasures currently in place: Monthly Fuel tank testing, daily fuel inventory, stick readings to verify inventory versus gallons pumped, Leak detection system in pumps, and spill pads on site in case of small spills.

Maintenance has taken proactive step in enclosing a covered area that housed concrete mixtures and other supplies to prevent the elements from affecting them.

As part of the Agriculture Operations' SPCC, a plastic sealed barrel containing a spill pad and absorbent compound is located at each large fuel tank, as well as available compound at each 55-gallon drum.

Documents Provided:

i. Emergency Contact List
ii. Preparedness Statement
iii. General Response Procedure
iv. Sample inspection forms
v. Photographs of Spill Prevention

BMP 6.1.2: Educate Staff on Vehicle and Equipment Washing.

Goal: All departments that own vehicles or conduct equipment and container washing are educated of the policy.

Schedule and Evaluation: Continue to educate university staff on an annual basis during each permit cycle. Status: on-going.

Responsible Party: TBD.

Necessary Documents: Education and participation records.

Measurable Goals: This BMP will be measured by educating the Physical Plant Grounds Department regarding storm sewer inlet protection for vehicle wash-down areas. Fleet Services continues to provide wash down areas within their facility and connected to the sanitary sewer system via floor drains and oil-water separator. Continue enforcing that all approved wash-down areas must connect and drain into the sanitary sewer system. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Education, participation, and Inspection summaries.

Required Modifications: TBD.

Response: As of September 2009, Fleet Services at Virginia Tech has constructed a new vehicle wash facility. The facility houses two vehicle wash stations that discharge directly to the sanitary sewer system. The wash stations have been equipped with grease and oil separators. Personnel working with the wash stations have been educated on the use of this facility. An additional washout was put in behind Sterrett Facilities that is tied into the sanitary sewer system, see documentation in BMP 3.3.1. An information session will be held to further educate the staff about the importance of stormwater, and how their work plays into keeping the storm drains clean.

Documentation Provided:

i. Photographs of Fleet Services Wash Station
ii. Pamphlet from information session on washing

BMP 6.1.4: Personnel Training.

Goal: Record annual training schedules and attendance for university staff.

Schedule and Evaluation: Continue to document training schedules and attendance on an annual basis during each permit cycle. Status: on-going.

Responsible Party: TBD.

Necessary Documents: Training and participation records.

Measurable Goals: This BMP will be measured by developing a training schedule to educate university staff by demonstrating the effects of pollution prevention on water quality though a storm water model. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Training and participation summary.

Required Modifications: TBD.

Response: Virginia Tech continues to educate individuals on illicit discharge as the issues arise as well as through mandatory training for all personnel. The training shall encompass reasons for not allowing such issues as rinsing or dumping vehicles and equipment over storm drain inlets, in creek beds, and over pavement as well as dumping any discharge other than stormwater into storm drain systems. The impact the illicit discharges, which include sediment and debris, will have on Stroubles Creek will be defined as well as how and when to report illicit discharges. Alternatives to rinsing and dumping vehicles shall be presented.

Virginia Tech is working to improve personnel training for the future in all areas as funding and staff becomes available.

Documents Provided:

i. Heavy Machinery and Maintenance
ii. Landscape and Grounds Maintenance

BMP 6.2.1: Parking Lot and Street Cleaning.

Goal: Track maintenance program and clean parking lots/roads on an annual basis.

Schedule and Evaluation: Continue maintaining and cleaning parking lots and roadways on an periodic basis and immediately after significant events (i.e. football games, commencement, etc.) during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Physical Plant Grounds Department.

Necessary Documents: Maintenance and cleaning records.

Measurable Goals: This BMP will be measured by ensuring parking lots and roadways are maintained on a periodic basis and immediately after significant events on campus. Continue monitoring the parking lots and roadways on a daily basis between different departments that work around campus on a daily basis. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Maintenance and cleaning records and summary.

Required Modifications: TBD.

Response: Virginia Tech continues to maintain streets and parking lots by sweeping streets as needed as well as before and after sporting events. A log showing dates and locations of street sweeping has been provided. A total of 60,827 pounds was collected from July 2009 through September 2009 with an additional 15,021 pounds on football weekends.

Documentation Provided:

i. Street Sweeper Log

BMP 6.2.2: Road Maintenance and Repair.

Goal: Educate all departments that handle road maintenance about policies and procedures.

Schedule and Evaluation: Continue to educate university staff on an annual basis during permit cycle. Status: on-going.

Responsible Party: Virginia Tech Physical Plant.

Necessary Documents: Education and participation records.

Measurable Goals: This BMP will be measured by educating departments regarding storm sewer inlet protection for repairing and marking roads. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Education and participation records.

Required Modifications: TBD.

Response: Virginia Tech repairs and maintains the roads on campus and works to resolve potential stormwater issues that may arise during this work; therefore, information sessions will be set up to educate the employees on what is acceptable for stormwater pollution prevention.

Documentation Provided:

i. Pamphlet on road repair and maintenance

BMP 6.3.1: Storm Drain System Intake Cleaning.

Goal: Track maintenance program and clean storm sewer intakes on an annual basis.

Schedule and Evaluation: Continue maintaining and cleaning storm sewer intakes on an annual basis or immediately after identification of problem prone areas during each permit cycle. Inspect and clean at least 25% per year. Status: on-going.

Responsible Party: Virginia Tech Facilities.

Necessary Documents: Maintenance and cleaning records.

Measurable Goals: This BMP will be measured by developing and maintaining a list of structures and pipe intakes that require attention (i.e. cleaning, repair, and etc.) and develop a mitigation plan for corrective action. Provide routine inspection and documentation on a routine basis. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Maintenance and cleaning summary.

Required Modifications: TBD.

Response: Virginia Tech is working to perform storm drain system intake cleaning as much as possible. Utilities routinely clean the storm drains after the leaves have fallen. The Utilities recently bought a vacuum truck that aids in the cleaning of storm drain inlets. Virginia Tech Facilities student employees inspect inlets for future cleaning. A priority list of inlets will be developed to track which inlets are in greater need of cleaning.

Documents Provided:

i. Photographs of Vacuum Truck

BMP 6.4.1: Hazardous Materials and Chemical Storage and Management.

Goal: Document locations and methods of hazardous material storage and inspect storage facilities annually.

Schedule and Evaluation: Inspect and monitor hazardous waste facilities on a monthly basis during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Environmental Health and Safety.

Necessary Documents: Inspection and monitoring records.

Measurable Goals: This BMP will be measured by inspecting hazardous waste facilities at least monthly and maintain an inspection report. Laboratories and chemical stock rooms are inspected on an annual basis and recorded. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Inspection and monitoring summary.

Required Modifications: TBD.

Response: Virginia Tech currently inspects hazardous waste facilities weekly and maintains a report for each respectively. Laboratories and chemical stock rooms are inspected on annual basis and recorded. Also, Virginia Tech is currently building a Materials Management Facility for storage and proper disposal of hazardous materials.

Documents Provided:

i. Laboratory Inspections (Sample)
ii. Waste Accumulation Weekly Inspection logs (Sample)
iii. Photographs of Chemical Storage (In Lab)
iv. Photographs of Chemical Storage (Disposal with Secondary Containment)

BMP 6.4.2: Salt Storage and Application.

Goal: Document application locations and methods of storage with annual inspections. If possible, reduce the amount of salt application.

Schedule and Evaluation: Document application areas and record winter application volumes during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Physical Plant Grounds Department.

Necessary Documents: Application and location records.

Measurable Goals: Virginia Tech has partnered with the Town of Blacksburg to successfully construct a combined salt storage facility. This BMP will be measured by ensuring that the facility and any subsequent runoff from the salt storage will be collected and distributed into the sanitary sewer system. Continue to look at alternative methods to reduce salt application. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Facility inspection and salt application records.

Required Modifications: TBD.

Response: Virginia Tech purchased salt from VDOT and is stored in the newly constructed building preventing rain water from coming in contact with the stored salt. Provided is a spreadsheet that outlines the application and location of the salt that was used on campus from December 2009 to February 2010.

Documentation Provided:
i. Salt Application History Log

BMP 6.4.3: Oil and Antifreeze Recycling.

Goal: Document oil and antifreeze recycling amounts in accordance with program.

Schedule and Evaluation: Documentation on a daily basis (as required) during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Fleet Services Department.

Necessary Documents: Recycling summary.

Measurable Goals: This BMP will be measured by maintaining documentation of the volume of oil and antifreeze properly recycled annually. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Recycling summary.

Required Modifications: TBD.

Response: Approximately 3000 gallons of oil are collected from Fleet Services. On average, 1000 gallons are used in an oil burner for space heating in the Fleet Services wash area. Also, approximately 1000 gallons are used in oil burners on Plantation Road. Environmental Health and Safety sends the remaining to be recycled along with the oil collected from the farms and other Virginia Tech operations.

Virginia Environmental Health and Safety is responsible for sending the antifreeze off site to be recycled. Fleet Services recycles approximately 30 to 50 gallons of antifreeze per year.

BMP 6.5.1: Pesticides and Fertilizer Application.

Goal: Inspect facilities on an annual basis and record inspection results. Develop a database of all applicators that are EPA licensed. Maintain accurate and up-to-date applicator database.

Schedule and Evaluation: Inspection on an annual basis or as required during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Environmental Health and Safety Services.

Necessary Documents: Documentation of products and Certified Applicators.

Measurable Goals: This BMP will be measured by continuing to plant new trees and shrubs; renovating old landscaping sites; mowing and trimming campus turf; applying fertilizer and pesticides; pruning the campus collection of trees and shrubs; and installing and maintaining over 200 perennial and annual flowerbeds in accordance with EPA application guidelines. Applicators, for different departments of campus, are certified and adhere to EPA guidelines and measures. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Documentation of products and Certified Applicators.

Required Modifications: TBD.

Response: There are five groups on campus that are responsible for applying pesticides and fertilizers as needed: Grounds, NCAA Athletics, Recreational Sports, Virginia Tech Golf Course, and Peggy Lee Hahn Garden Pavilion. Each department is responsible for maintaining Certification for Applicators and a list of products used. Provided is a sample from four of the departments. A map of Agriculture Operations application area is included in BMP 6.5.3.

Documents Provided:

i. Map of Areas on Campus that Pesticides and Fertilizers are used
ii. List of Certified Applicators
iii. Virginia Tech Athletic Department List of Products
iv. Virginia Tech Recreational Sports List of Products
v. Peggy Lee Hahn Garden Pavilion List of Products
vi. Virginia Tech Agriculture Operations List of Products

BMP 6.5.2: Maintenance of Landscaped Areas.

Goal: Track volumes of compost and mulch application.

Schedule and Evaluation: Track volumes on an application-basis during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Facilities.

Necessary Documents: Application Area Maps.

Measurable Goals: This BMP will be measured by inspecting and maintaining landscaped areas on a regular basis to prohibit the potential for soil erosion and debris entry into the storm water sewer system. Continue to monitor and develop alternative methods to compost and mulch applications and provide recommendations for action. Continue to monitor the effectiveness of this BMP on a routine basis.

Continue monitoring the conversion of 13 areas of campus (approximately 35 acres) from regularly maintained turf grass lawn to low maintenance native grass meadows and wildflowers in an effort to create biodiversity, aid storm water management, and reduce fossil fuel use.

Items to be Reported in Annual Report: Application Area Maps.

Required Modifications: TBD.

Response: Virginia Tech continues to maintain campus though several different methods. Current projects include reforestation of areas, wildflower gardens, and two events of tree planting each year depending on funding and weather. Volumes of compost and mulch were not able to be tracked, however, each year Virginia Tech Grounds re-mulches flower beds campus wide. Wood chips are being used to improve the infiltration and root growth of the surrounding trees.

Virginia Tech waits to mow the wild flower gardens until late fall for sustainability. The longer the flowers are there the more stormwater is impeded. Also, the dried flowers release seeds which help to regenerate the wild flower gardens.

Documents Provided:

i. Maps of Landscaped Areas on Campus
ii. Tree Campus USA 2009 article
iii. Photographs of Green Roofs
iv. Photographs of Native Meadows

BMP 6.5.3: Nutrient Management Plan.

Goal: Continue to update and evaluate existing plan as need for operations.

Schedule and Evaluation: Periodic review, update, and evaluation of existing plan during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Environmental Health and Safety Services.

Necessary Documents: Updated Nutrient Management Plan (as applicable).

Measurable Goals: This BMP will be measured by ensuring that the current plan is up-to-date and continues to be effective. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: Updated Nutrient Management Plan.

Required Modifications: TBD.

Response: Virginia Tech has a VPA permit for the agricultural areas that was issued in 1995 is still in effect. A copy of the Nutrient Management Plans for the non-agricultural areas as well as a copy of the VPA permit has been provided.

Documents Provided:

i. Nutrient Management Plan (Non-Agriculture Areas) Map
ii. Nutrient Management Plan (Agriculture Areas) Map
iii. Summary of Each Nutrient Management Plan
iv. Nutrient Management Plan Identification for Agriculture
v. DCR Approval for Virginia Tech Campus NMP
vi. Virginia Tech Campus Grounds Soil Test Analysis and NMP
vii. DCR Approval for Virginia Tech NCAA Sports NMP
viii. Virginia Tech NCAA Sports Soil Test Analysis NMP
ix. DCR Approval for Virginia Tech Recreation NMP
x. Virginia Tech Recreational Sports, Soil Test Analysis and NMP
xi. DCR Approval for Virginia Tech Peggy Lee Hahn Garden Pavilion NMP
xii. Virginia Tech Department of Horticulture, Peggy Lee Hahn Garden Pavilion Soil Test Analysis and NMP
xiii. DCR Approval for Virginia Tech Golf Course NMP
xiv. Virginia Tech Golf Course Soil Test Analysis and NMP

BMP 6.5.4: General Maintenance and Upkeep.

Goal: Continue to do general maintenance on campus that will improve stormwater.

Schedule and Evaluation: Perform tasks that will improve the stormwater system and help reduce pollutants from entering the waterways. Status: on-going.

Responsible Party: Virginia Tech Facilities Operations.

Necessary Documents: List of projects on campus that will improve stormwater.

Measurable Goals: This BMP will be measured by documenting any maintenance done on campus that prevents pollutants from entering the stormwater system. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: photographs of improvements.

Required Modifications: TBD.

Response: Virginia Tech re-seeds and places mulch across campus to maintain the grass which helps reduce the amount of runoff. Certain inlets are protected year-round to reduce the amount of sediment that reaches the waterway. Also, ditches where erosion was an issue, Virginia Tech has installed check dams to reduce the velocity of the flow on those slopes.

Documents Provided:

i. Photographs of Campus Improvement
ii. Map of Improvements

BMP 6.6.1: Funding and Staffing Needs for MCM-6.

Goal: Develop of a funding scope and achieve funding from the State for new staffing and infrastructure improvements to reach the goals of MCM-6.

Schedule and Evaluation: Continue to seek funding opportunities on an annual basis during each permit cycle. Status: on-going.

Responsible Party: Virginia Tech Facilities.

Necessary Documents: TBD.

Measurable Goals: Continue to seek methods for reaching the goals of MCM-6 through existing departmental budgets. No alternative funding sources have been identified to-date. Continue to monitor the effectiveness of this BMP on a routine basis.

Items to be Reported in Annual Report: TBD.

Required Modifications: TBD.

Response: Virginia Tech continues to seek methods for reaching goals of MCM-6 through existing departmental budgets. No alternative funding sources have been identified.