



MS4 minimum control measures (MCMs). The MS4 Program Plan falls under the Lab's Environmental Management System (EMS).

- Each MCM documents an environmental program improvement initiative and identifies at least one Best Management Practice (BMP) that is a target identifying performance requirements to meet the permit's overall objective to reduce the pollution of surface waters.
- Each BMP includes at least one measureable activity or action to implement the BMP. The BMPs also include implementation documentation, planned completion dates, and other information as required by the permit requirements.

No concerns with the Lab's permit implementation during Permit Year 1 (PY1) were noted during a May 2009 DCR visit. In response to that visit the MS4 Program Plan was modified (in August 2009) to clarify and/or better address some permit conditions that would need attention in Permit Years 2 through 5.

One specific request from the May DCR visit was to provide the status of the most recent condition assessment:

On January 5, 2009, a condition assessment was conducted of our storm drainage system. Maintenance, repair, and stormwater improvement projects were identified. The assessment report identified a prioritized list of action items and a schedule for planned maintenance, repairs and improvement projects was established.

2. *an assessment of the appropriateness of the identified best management practices including an assessment of the appropriateness of the identified BMPs in addressing discharges into waters that are identified as impaired in the 2006 305(b)/303(d) Water Quality Assessment Integrated Report*

BMPs are reviewed at least annually to determine if they remain appropriate to address the permit. Changes at the Lab, such as revised waste management practices, are included in this review, and the BMPs and activities are updated accordingly.

Changes in the August 2009 MS4 Program Plan update included adding information regarding discharges to impaired waters. Changes were incorporated into BMP 3.A.

3. *progress towards achieving the identified measurable goals for each of the minimum control measures.*

The progress for each of the measurable goals is included as Attachment 1.

*c. Results of information collected and analyzed, including monitoring data, if any, during the reporting period.*

Not applicable.

The Lab did not have any requirements to sample under this permit.

*d. A summary of the stormwater activities the operator plans to undertake during the next reporting cycle.*

Stormwater related activities will include requiring project-specific SWP3s and/or E&SC Plans for all applicable construction projects; posting the latest version of the MS4 Program Plan on the public reading room website; and continuing sharing information with Lab staff and the community.

*e. A change in any identified best management practices or measurable goals for any of the minimum control measures including steps to be taken to address any deficiencies.*

Recommendations to modify some BMPs and measurable goals to better address some requirements were identified during the May 2009 DCR visit. These included improvements to further reference illicit discharges, post information on the Lab website, ensure additional items would be included on the storm drain system map, and add narration on long term pond maintenance. These recommendations were addressed and incorporated into the August 2009 MS4 Program Plan.

*f. Notice that the operator is relying on another government entity to satisfy some of the permit obligations (if applicable).*

Not applicable. The operator (Department of Energy) is not relying on another government entity to satisfy permit obligations.

*g. The approval status of any programs pursuant to Section II C of the General Permit (if appropriate), or the progress towards achieving full approval of these programs.*

No approvals are necessary. There are no existing programs from other entities used to satisfy one or more of the MCMs.

*h. Information required pursuant to Section II B 9 of the General Permit.*

1. 9.a. Copies of MS4 program plan updates issued as a follow up to PY1 DCR input:
  - August 2009 update that addressed May 2005 DCR comments. – see Attachment 2.
  - September 2009 update with some minor adjustments to fit standard TJNAF format for such documents. – see Attachment 3.
  - New information regarding TMDLs
    - o No TMDLs have yet been assigned in the offsite streams that receive our storm waters.
    - o The MS4 Program Plan will be updated after relevant TMDLs and WLAs are issued.
  
2. 9.b. Estimates of the volume of stormwater:
  - No information is provided as there are no WLA requirements at this time.

*i. The number of illicit discharges identified and the narrative on how they were controlled or eliminated pursuant to Section I1 B 3 f of the General Permit.*

During FY08, six releases of oil or cooling water occurred. All were remedied in a manner and time frame consistent with risk. To date during FY09, four releases of oil or cooling water have occurred. All were remedied in a manner and time frame consistent with risk. Events have been reviewed and actions taken to minimize the risk of re-occurrence.

Most spills were controlled with spill socks or peat moss prior to reaching any stormwater conveyance channel. The one that did reach the channel was contained and controlled in the nearby vicinity of the spill. Cooling water spills are contained by temporary controls then the coolant is vacuumed and reclaimed.

*j. Regulated land-disturbing activities data tracked under Section I1 4 c of the General Permit.*

There were three 'regulated' projects underway during July 1, 2008 to June 30, 2009. Two, the General Purpose Building finally stabilized in September 2008 and the East Retention Pond project was finally stabilized in June 2009. Only 1 project, the Hall D Complex, which is greater than 1 acre, started under the DCR01 permit and is still in

progress under a new VAR10 permit. During the permit year approximately 6 acres were disturbed. A Storm Water Pollution Prevention Plan (SWP3) was in place and enforced for all 3 projects. The ongoing CHL Addition project, started during PY1, disturbs less than one acre and did not require permit coverage. An Erosion and Sediment Control (E&SC) plan is followed at that site.

*k. All known permanent stormwater management facility data tracked under Section I1 B 5 b (6) of the General Permit submitted in a database format to be prescribed by the department. Upon filing of this list, subsequent reports shall only include those new stormwater management facilities that have been brought online.*


A copy of the Excel spreadsheet and a copy of the submitted email are included as Attachment 4.

*l. A list of any new or terminated signed agreements between the operator and any applicable third parties where the operator has entered into an agreement in order to implement minimum control measures or portions of minimum control measures.*

Not Applicable

*m. Copies of any written comments received during a public comment period regarding the MS4 Program Plan or any modifications.*

Not Applicable

Attachments: 

- 1 – Progress Towards Achieving Identified Measurable Goals
- 2 – August 2009 TJNAF MS4 Program Plan
- 3 – September 2009 TJNAF MS4 Program Plan
- 4 - TJNAF Storm Water Management Facility Data (item k)

## Attachment 1: Progress Towards Achieving Identified Measurable Goals

Report Reference: Item b.3.

Row	PARAMETER	BMP	GOAL	STATUS DESCRIPTION
1	MCM 1 - Public Education and Outreach on Storm Water Impacts	BMP 1 - Items Needed for Annual Report	BMP 1A Part 1 - The status of the MS4 Program Plan, which will be incorporated into or referenced in Ch. 6733, must be submitted by January 5, 2009 per the reissued General Permit.	The MS4 Program Plan was prepared in December 2008. The DOE mailed the letter to the DCR on December 22, 2008. It was updated again on Aug. 18, 2009.
2	MCM 1 - Public Education and Outreach on Storm Water Impacts	BMP 1 - Items Needed for Annual Report	BMP 1A Part 2 - Current list of significant aspects related to storm water and the names of at least one associated procedure to control releases.	These aspects relate to storm water. Wastewater discharge includes Surface - Storm Water Sanitary Sewer - industrial Surface - Activated Water Surface - Pumped Groundwater Process Wastewater
3	MCM 1 - Public Education and Outreach on Storm Water Impacts	BMP 1 - Items Needed for Annual Report	BMP 1A Part 2 - Current list of significant aspects related to storm water and the names of at least one associated procedure to control releases.	As of June 30, 2009, SOP-05-FM02 (Sewage and Cooling Tower Overflow) is being updated.
4	MCM 1 - Public Education and Outreach on Storm Water Impacts	BMP 1 - Items Needed for Annual Report	BMP 1B - The number and mode of posting(s) and the audience to whom provided.	Initial listing (yet to be verified): 1. all staff e-mail re: any discharge to surface must be authorized by FM&L Manager Dec. 1, 2008. This info was also included in the update to ES&H Manual Ch. 6730 in April 2009. 2. MS4 Program Plan and all BMPs were posted in ES&H Manual in January 2009. Both were reposted and notices to staff provided when Ch. 6730 and its appendices were updated in April 2009. 3. SAF100c ES&H/EMS training provided to all construction subcontractors during the permit year. 4. SAF127A EMS Awareness refresher was provided to most staff in early 2009. [Others have different 'refresher' dates depending when they took first EMS course.] 5. Other newsletter articles, including those announcing Adopt A Spot cleanup dates.
5	MCM 1 - Public Education and Outreach on Storm Water Impacts	BMP 1 - Items Needed for Annual Report	BMP 1C - The number of subcontractor and DOE contractor employees (often the same person) under the direction of FM&L, by contractor or subcontractor firm, receiving training that involves storm water	Of the current active subcontractors in the database. Approximately 25 employees are current with EMS training. Approximately 230 active employees are not current with EMS training either through the class being expired or having never taken the course. Of the 230 subcontractors, 90 have expired training. The remaining 140 have never taken the course. Approximately 30 inactive employees are listed that have either never taken the course or the course has expired.
6	MCM 1 - Public Education and Outreach on Storm Water Impacts	BMP 1 - Items Needed for Annual Report	BMP 1C - The number of subcontractor and DOE contractor employees (often the same person) under the direction of FM&L, by contractor or subcontractor firm, receiving training that involves storm water	Approximately 350 contract personnel have taken SAF127 since July 1, 2008 through June 30, 2009. This is versus the 25 listed above. Bruce does not why the list was significantly smaller.
7	MCM 2 - PUBLIC INVOLVEMENT AND PARTICIPATION	BMP 2 - Items for Annual Report	BMP 2A - Verify availability of the MS4 Program Plan on the TJNAF web site and in the public reading room	The BMPs and the MS4 Program Plan are available on the web through the ES&H Manual. These two documents are currently being merged into a revised MS4 Program Plan. The MS4 Program Plan, after the August update, will be posted in both the ES&H Manual and on the public reading room site. The information is available on the JLab web site, so the action is closed effective June 30, 2009. New goals will be added to both update the MS4 Program Plan and to post it in the public reading room/
8	MCM 2 - PUBLIC INVOLVEMENT AND PARTICIPATION	BMP 2 - Items for Annual Report	BMP 2A - Verify availability of the MS4 Program Plan on the TJNAF web site and in the public reading room	MS4 Program Plan is available on the TJNAF web site. Yet to post on the public reading room website.
9	MCM 2 - PUBLIC INVOLVEMENT AND PARTICIPATION	BMP 2 - Items for Annual Report	Updated MS4 Program Plan to DCR by August 19 [DOE by 8/14]	Updated Plan (ready for submittal to DCR) was provided to DOE on August 14 and to DCR on August 18.
10	MCM 3 - ILLICIT DISCHARGE DETECTION AND ELIMINATION	MCM 3 - Items Needed for Annual Report	BMP 3A - Statements verifying that the map is adequate, that the map has been updated that year, and that all improvements were added to the map in a timely fashion. List of retention ponds	The Site Utility Master CAD drawing (\\jlabgrp\group\planteng\PED_shares\cadstuff\Site_Drawings\Master Site Plans\Utility_Master.dwg) has been updated to reflect all changes in surface and subsurface stormwater channels and structures. This map continues to be an adequate and complete representation of all significant stormwater channels and structures under direct JLab control.

Attachment 1: Progress Towards Achieving Identified Measurable Goals

Report Reference: Item b.3.

Row	PARAMETER	BMP	GOAL	STATUS DESCRIPTION
11	MCM 3 - ILLICIT DISCHARGE DETECTION AND ELIMINATION	MCM 3 - Items Needed for Annual Report	BMP 3B - Provide the date and content of at least one notification to site staff about the hazards of illegal and improper discharge.	E-Mail Date: December 1, 2008 11:07:54 AM EST To: on_site_list@jlab.org Subject: JLab Storm Water Pollution Prevention Reminder Reply-To: deborah magaldi Polluted storm water runoff is often captured by municipal storm sewer systems and discharged into local rivers and streams without treatment. This pollution can impair waterways – discouraging recreational use of the resource, contaminating drinking water supplies and interfering with habitat for fish, other aquatic organisms and wildlife. Common pollutants found in storm water runoff include oil and grease from roadways; herbicides, pesticides and fertilizers from lawns and farming activities; sediment from construction sites, and carelessly discarded trash such as cigarette butts, paper wrappers and plastic bottles. The U.S. Environmental Protection Agency has established rules under the National Pollution Discharge Elimination System – Phase II of the NPDES – that include places like Jefferson Lab. - <i>continued in next row</i>
12				<i>This is continued from above row.</i> -The program is intended to improve the nation's waterways by reducing the quantity of pollutants that storm water picks up and carries into storm sewer systems during and after rainfall and snow melt. Per Virginia regulation, Jefferson Lab's Municipal Separate Storm Sewer System (MS4) program requires: "Any new activity that may result in a discharge to the storm water system (such as ditches or storm drains) at Jefferson Lab must have advance approval by the Facilities Management & Logistics Manager." If you have questions about making any discharges to the surface or if you identify a possible source of water pollution, please call Debra Brand at ext. 7684. For more information, see the following ES&H Manual chapters: -- Ch, 6730 Water Quality Management and its related appendices -- Ch, 6733 Storm Water Management Program This message is being sent on behalf of the ESH&Q Division and the Facilities Management and Logistics group.
13	MCM 3 - ILLICIT DISCHARGE DETECTION AND ELIMINATION	MCM 3 - Items Needed for Annual Report	BMP 3C - Number and disposition of spill or release incidents	During FY08, six releases occurred. All were remedied in a manner and time frame consistent with risk. To date during FY09, four releases have occurred. All were remedied in a manner and time frame consistent with risk. Events have been reviewed and actions taken to minimize the risk of re-occurrence. I believe it would be more effective if spills/releases were tracked and reported by the EHS&Q Spill Response Team. The Spill Response Team addresses all spills whereas Facilities Management only addresses spills related to facilities systems or when requested to provide assistance. Facilities Management is not aware of spills that involve site personnel other than Facilities Management. The requested information would most likely be more accurate and beneficial to the Lab.
14	MCM 3 - ILLICIT DISCHARGE DETECTION AND ELIMINATION	MCM 3 - Items Needed for Annual Report	BMP 3D.1 - Documentation of SOP review	HPP-ENV-004 was updated and reissued in March 2009. This goal is complete. Based on triennial review, it will be due again March 2012.
15	MCM 3 - ILLICIT DISCHARGE DETECTION AND ELIMINATION	MCM 3 - Items Needed for Annual Report	BMP 3D.2 - Annual Inspection	Valve configuration was inspected and verified in correct configuration to pump Accelerator groundwater pump discharge to the End Station Floor Drain System during February and Summer 2009 Maintenance Periods.
16	MCM 4 - CONSTRUCTION SITE STORM WATER RUNOFF CONTROL	BMP 4.A - Construction site storm water runoff control	Goal 1B - FM&L ensures that appropriate permits (or to meet the terms of the Lab's permit) for construction activities to discharge stormwater under a State permit are obtained for applicable projects	Compliance with the new MS4 permit is ongoing. All projects equal to or greater than 10,000 SF are required to have an E&SC Plan. All projects equal to or greater than 1 acre will have a project specific SWPPP along with a project permit number. Specification Section 015719 has been modified to change the term of Environmental Protection Plan to project specific SWPPP. SWPPP Inspection form is being drafted to start using 7/1/2009.
17	MCM 4 - CONSTRUCTION SITE STORM WATER RUNOFF CONTROL	BMP 4.B - [Preconstruction] Perimeter controls will be provided on all TJNAF construction sites of one acre or more.	Goal 1 - E&SC documentation for all construction projects disturbing 1 acre or more must be reviewed by ESH&Q and approved by the Project Manager and the Maintenance and Construction Department	All projects equal to or greater than 10,000 SF are required to have an E&SC Plan. All projects equal to or greater than 1 acre will have a project specific SWPPP along with a project permit number beginning 7/1/2009.

MS4 Permit Year 1 Report for  
Thomas Jefferson National Accelerator Facility

## Attachment 1: Progress Towards Achieving Identified Measurable Goals

Report Reference: Item b.3.

Row	PARAMETER	BMP	GOAL	STATUS DESCRIPTION
18	MCM 4 - CONSTRUCTION SITE STORM WATER RUNOFF CONTROL	BMP 4.B - [Preconstruction] Perimeter controls will be provided on all TJNAF construction sites of one acre or more.	Goal 2 - Verify that E&SC measures are in place for all projects prior to the start of construction, with a goal of 100% adherence to the requirements of the plan.	This is a SOTR (subcontracting officers's technical representative) requirement prior to any land disturbing activities.
19	MCM 4 - CONSTRUCTION SITE STORM WATER RUNOFF CONTROL	MCM 4 - Items Needed for Annual Report	BMP 4A - The number of applicable projects, the total disturbed acreage by project, and that there is an approved Environmental Protection Plan that incorporates E&SC plan for each project.	The only new project since 7/1/09 requiring an Environmental Protection Plan was for Hall D. General Purpose Building project was closed out, Pond - Majority of the site has been removed from the permit. A small area remained. The complete pond site was removed from the DCR01 permit in June, 2009.
20	MCM 4 - CONSTRUCTION SITE STORM WATER RUNOFF CONTROL	MCM 4 - Items Needed for Annual Report	BMP 4B - For major construction projects identify the type of perimeter controls utilized over the permit year	Silt fence and check dams have been installed as stormwater controls for the General Purpose Building Addition. Silt Fence for the pond project. Silt fence for the CHL project. Maintaining silt fence at the soil stockpile. Installed silt fence for tree clearing at Hall D.
21	MCM 4 - CONSTRUCTION SITE STORM WATER RUNOFF CONTROL	MCM 4 - Items Needed for Annual Report	BMP 4C - Validate performance of required inspections. Provide evaluation on time frame to address repairs and remediation	10 Stormwater Management Repair/Maintenance Activities were submitted for shop repairs to the silt fence. One item is still outstanding. For the 9 shop silt fence repair/maintenance activities the silt fence was repaired always within 20 days. The average time for the 9 work orders was 9 days. This timeframe is acceptable. Shop repairs to the silt fence were performed after pond contract completion and after the ground was temporarily stabilized. 2 Deferred maintenance items are currently in the system. 2 Clean-up stormwater management activities were performed including pond silt fence removal. One work order remains in the system yet to be performed. 10 stormwater management activities were listed on the work order report. One has not yet been performed. For the 9 projects the average time for completion is 21 days. This timeframe is also acceptable.
22	MCM 5 - POST-CONSTRUCTION STORM WATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT	MCM 5 - Items Needed for Annual Report	BMP 5A - Documentation of condition assessment; verification on annual inspection of each outfall; the data on the number of repairs or other corrective actions effected during the permit year	On January 5, 2009, VFA (for TJNAF) conducted a site assessment of our storm drainage system. Maintenance, repair, and stormwater improvement projects have been identified. Years have been identified for planned maintenance, repairs and improvement projects listed in the report. Stormwater is an "ASSET" in our FIMS system. Plan is for the stormwater system to be inspected and evaluated every 5 years.
23	MCM 5 - POST-CONSTRUCTION STORM WATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT	MCM 5 - Items Needed for Annual Report	BMP 5A - Documentation of condition assessment; verification on annual inspection of each outfall; the data on the number of repairs or other corrective actions effected during the permit year	ASSET DESCRIPTION ARCHITECTURAL The Storm Drainage System was installed beginning in 1962 and has expanded throughout the 170 acre DOE site and the additional 44 adjacent acres that make up the campus of the Thomas Jefferson National Accelerator Facility, referred to as Jefferson Lab, in Newport News, Virginia. Jefferson Lab is funded by the Office of Science for the U. S. Department of Energy and managed by the Jefferson Science Associates LLC / Southeastern Universities Research Association (SURA). According to diagrams in the building code, Newport News, Virginia is a seismically-benign area, with historically low seismic activity, however it has relatively high wind potential. Storm Drainage does not have an IBC Use Group. The storm drainage system primarily consists of approximately 42,930 linear feet of unpaved drainage ditches and swales along with 6,393 linear feet of underground piping to collect and channel storm water to the two retention ponds before release from the property to the south and east sides. The retention ponds on the east side of the site occupy approximately 10 acres and include headwalls.
24	MCM 5 - POST-CONSTRUCTION STORM WATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT	MCM 5 - Items Needed for Annual Report	BMP 5B - Report on the status of the initial condition assessment. Provide maintenance records for major maintenance performed at the retention ponds.	No major maintenance was performed at either of the two regional stormwater ponds as none was identified needed.
25	MCM 5 - POST-CONSTRUCTION STORM WATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT	MCM 5 - Items Needed for Annual Report	BMP 5B - Report on the status of the initial condition assessment. Provide maintenance records for major maintenance performed at the retention ponds.	Various maintenance activities have been performed throughout the year using both in- house resources and subcontracted resources. All activities have been tracked as "Roads, Parking, Sidewalk, & Sitework : Stormwater Drainage : Repair/Maintenance" items in the Maximo work order tracking system.



## Attachment 1: Progress Towards Achieving Identified Measurable Goals

Report Reference: Item b.3.

Row	PARAMETER	BMP	GOAL	STATUS DESCRIPTION
26	MCM 5 - POST-CONSTRUCTION STORM WATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT	MCM 5 - Items Needed for Annual Report	BMP 5C - The number of applicable projects that were considered over the previous fiscal year; documentation of any use of alternative methods.	Project Considered South Connector Road Parking Lot - Drainage was the largest concern. Porous pavement requires an underdrain system. With a future Wing D and Wing E along with a very wet area, the porous pavement was rejected. Contractor may require the use of the small parking lot as a construction laydown area.
27	MCM 5 - POST-CONSTRUCTION STORM WATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT	MCM 5 - Items Needed for Annual Report	BMP 5C - The number of applicable projects that were considered over the previous fiscal year; documentation of any use of alternative methods.	Projects also considered: Hall D Complex and the CHL Addition
28	MCM 6 POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS	MCM 6 - Items Needed for Annual Report	BMP 6A.1 - The number of subcontractor and DOE contractors employees (often the same person) meeting state certification, training, and testing requirements as well as TJNAF training.	As of June 15, 2009 six subcontractor personnel held state pesticide/herbicide applicator licenses. All subcontractor personnel (currently about 15 employees) have completed all required JLab training
29	MCM 6 POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS	MCM 6 - Items Needed for Annual Report	BMP 6A.2 - Volume of irrigation water used annually	Approximately 366,000 gallons have been used through May of 2009, assuming average use of about 3,900 gallons/month makes the estimated use in 2009 about 370,000 gallons total.
30	MCM 6 POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS	MCM 6 - Items Needed for Annual Report	BMP 6B - Documentation that no road salt was used and that alternatives are evaluated annually; locations and inspection results for deicing storage	Amendment made to Village Greenery specifically prohibiting the use of road salt.
31	MCM 6 POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS	MCM 6 - Items Needed for Annual Report	BMP 6B - Documentation that no road salt was used and that alternatives are evaluated annually; locations and inspection results for deicing storage	One location 100% inspection monthly. Inspection performed during the safety warden monthly inspections. Sand is left at the buildings. No de-icing materials are left at the buildings. Only FM personnel apply de-icing materials.
32	MCM 6 POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS	MCM 6 - Items Needed for Annual Report	BMP 6B - Documentation that no road salt was used and that alternatives are evaluated annually; locations and inspection results for deicing storage	In November 2008, conducted an evaluation of available de-icing materials. We are continuing to use the same ones from the 2007-08 season.
33	MCM 6 POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS	MCM 6 - Items Needed for Annual Report	BMP 6C.1 - The number of inspections at hazardous material storage area performed over the permit year.	Inspections at the hazwaste Central Accumulation Area (CAA) conducted on a weekly and monthly basis. monthly hazardous waste inspections completed at all Satellite Accumulation Areas (SAAs). hazardous material storage areas were also conducted during quarterly safety inspections at various locations onsite (including the Test Lab chemistry rooms, acid neutralization building, RadCon complex, CHL, ESR, Cryo Fab Shop - bldg 98)
34	MCM 6 POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS	MCM 6 - Items Needed for Annual Report	BMP 6C.2 - The number of inspections at hazardous material storage area performed over the permit year.	ESH&Q visually inspected the Lead Storage Bldg. at least twice monthly in 2009 for confirmation that there are no opportunities for contamination of ground water or runoff.
35	MCM 6 POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS	MCM 6 - Items Needed for Annual Report	BMP 6C.2 - The number of inspections at hazardous material storage area performed over the permit year.	ES&H conducts a monthly inspection at the bulb crusher (this started in April as a corrective action for the universal waste label issue from the Env Assessment), FM&L conducted two inspections (as part of quarterly safety warden inspections) of the crusher area during the past year. Also an inspection of the area is done during drum change outs (new drums have been put in place twice so far this calendar year). So for this calendar year we have 6 inspections so far.

## Attachment 1: Progress Towards Achieving Identified Measurable Goals

Report Reference: Item b.3.

Row	PARAMETER	BMP	GOAL	STATUS DESCRIPTION
36	MCM 6 POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS	MCM 6 - Items Needed for Annual Report	BMP 6C.3 - The number of inspections at hazardous material storage area performed over the permit year.	The following inspections report headers are from the following: <a href="https://devweb.acc.jlab.org/CSUEApps/safetywarden/login.php">https://devweb.acc.jlab.org/CSUEApps/safetywarden/login.php</a> Report Number: 1919 Safety Warden: T_Menefee/C. Wheeler Inspection Date: 05/18/2009 Report Date: 05/18/2009 Inspection Site: VARC bldg 28 Quarterly Inspection YES Report Number: 1839 Safety Warden: T_Menefee/K. Boyes Inspection Date: 04/20/2009 Report Date: 04/20/2009 Inspection Site: Forestry Bldg 19 & bldg 13 Quarterly Inspection NO Report Number: 1863 Safety Warden: T_Menefee Inspection Date: 05/01/2009 Report Date: 05/01/2009 Inspection Site: Acc Site manned and unmanned buildings around tunnel (Bldgs 67 & 38 included) Report Number: 1868 Safety Warden: T_Menefee Inspection Date: 05/01/2009 Report Date: 05/01/2009 Inspection Site: Service Bldg 92 Quarterly Inspection NO Quarterly Inspection NO Report Number: 1860 Safety Warden: G_DeKerlegand Inspection Date: 04/30/2009 Report Date: 04/30/2009 Inspection Site: Test Lab Bldg and Grounds Quarterly Inspection NO (Other specific test lab area inspections can also be found on the Safety warden Inspection Data base. No actions needed from any of the above reports.
37	MCM 6 POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS	MCM 6 - Items Needed for Annual Report	BMP 6C.3 - The number of inspections at hazardous material storage area performed over the permit year.	Hazardous material storage area's Located in the test lab are the following and their quarterly inspection dates so far for 2009, All inspections can be found at this link <a href="https://devweb.acc.jlab.org/CSUEApps/safetywarden/login.php">https://devweb.acc.jlab.org/CSUEApps/safetywarden/login.php</a> R & D Chem room 115 and Bays 2,3,4-5/01/09 - 1/30/09 Production chem room 140 and Bay 1- 6/24/09- 3/12/09 Acid Bldg 31& 33 Bay 5, Neutralization area-6/01/09 - 3/16/09
38	MCM 6 POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS	MCM 6 - Items Needed for Annual Report	BMP 6C.4 - The number of inspections at hazardous material storage area performed over the permit year.	There are currently 2 hazardous materials cabinets in building 18 (FEL). One in lab 1, (room 208) and one in lab 3A, (rooms 210A). A new cabinet has just been delivered to lab 6 (room 213), but has not yet been put into service. These are inspected monthly by the safety warden, and quarterly by ESH&Q industrial hygiene, and also they are subject to an annual inventory/inspection.
39	MCM 6 POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS	MCM 6 - Items Needed for Annual Report	BMP 6C.4 - The number of inspections at hazardous material storage area performed over the permit year.	There is an additional hazardous materials cabinet in the FEL vault, room 107 of building 18. This is also subject to the same inspections as the others, but cannot be checked unless the vault is in restricted access.
40	MCM 6 POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS	MCM 6 - Items Needed for Annual Report	BMP 6C.5 - The number of inspections at hazardous material storage area performed over the permit year.	Greater than one. For record keeping use the following dates: End Stations: 06-18-09 ARC: 06-04-09 EEL: 06-02-09 The Nuclear Experimental Physics Department hazardous material storage areas include: End Stations include the following locations and respective building number: Hall A - 101, and its Gas Shed 101a / and Tech Trailer 101b Hall B - 94, and its Gas Shed 96b and Tech Trailer 96a Hall C - 96 and its Gas Shed 96c Counting House - 97 Physics Storage Building - 72 Arc (Bldg. 1) includes the following rooms: Third floor - Rm. 312 Fifth - none Sixth - Rm. 628 EEL (Bldg. 90) includes the following rooms / and Test Lab (Bldg. 58) select area in the high bay and annex EEL Rooms: 102, 109, 121, 122, 124, 125, 126 and 127, plus 102 laser lab and control room. Test Lab: annex 10 A and 10 B and high bay 119 Any question contact Bert Manzlak, ext 7556
41	MCM 6 POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS	MCM 6 - Items Needed for Annual Report	BMP 6C.5 - The number of inspections at hazardous material storage area performed over the permit year.	All areas were inspected and all within acceptable requirements. This is a year round less formally documented evaluation and conducted routinely during scheduled division EH&S area inspection. The division inspection schedule is available upon request.
42	MCM 6 POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS	MCM 6 - Items Needed for Annual Report	BMP 6C.7 - The number of inspections at hazardous material storage area performed over the permit year.	This BMP needs to be presented to Engineering Division managers to ensure all potential areas are known. The plan is for jkelly to do so at the next division leaders meeting -- it's on the agenda.. This is scheduled for 7/22. July 31st is probably the earliest that inspections can be made and the relevant information compiled.
43	MCM 6 POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS	MCM 6 - Items Needed for Annual Report	BMP 6C.8 - Record that the RCRA inspections at all hazardous waste accumulation areas were performed monthly, and that the CAA was inspected weekly, per RCRA requirements.	Monthly inspections of CAA are conducted and submitted to ESH Environmental Engineer, along with monthly SQG report. Weekly inspections are conducted and filed in the CAA weekly logbook (maintained in Trailer 35).

## Attachment 1: Progress Towards Achieving Identified Measurable Goals

Report Reference: Item b.3.

Row	PARAMETER	BMP	GOAL	STATUS DESCRIPTION
44	MCM 6 POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS	MCM 6 - Items Needed for Annual Report	BMP 6D.1 - Verification of Virginia certification, contract/subcontract language, (pesticides)	Verified on June 09, 2009. A-Active Pest Control personnel assigned to Jefferson Lab, hold current certificates through Virginia Department of Agriculture and Consumer Services. The VA. state certificate allows A-Active staff to perform pest control services consistent with environmental guidelines and in accordance with federal, state and local laws.
45	MCM 6 POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS	MCM 6 - Items Needed for Annual Report	BMP 6D.2 - Verification of Virginia certification, contract/subcontract language, (grounds)	Language in both subcontracts currently under direct JLab control requires compliance with all current state regulations relating to training, licensing and application of herbicides and pesticides.
46	MCM 6 POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS	MCM 6 - Items Needed for Annual Report	BMP 6D.3 - TJNAF training, and compliance with the minimum-use/least-harmful contract/subcontract clause. (pesticides)	A-Active takes all reasonable precautions to perform pest control services with sound business practices and to safeguard and protect the environment. A-Active's has a new designation from the National Pest Management Association as QualityPro Green. This designation not only reflects A-Active's pest management services but more, its commitment to cultivating an environmentally-responsible business.
47	MCM 6 POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS	MCM 6 - Items Needed for Annual Report	BMP 6D.4 - TJNAF training, and compliance with the minimum-use/least-harmful contract/subcontract clause. (grounds)	Both Grounds subcontracts under direct JLab control include language requiring compliance with all state herbicide/pesticide application procedures. Additionally, training given to all subcontract personnel includes topics on the safe use and handling of chemicals in general.
48	MCM 6 POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS	MCM 6 - Items Needed for Annual Report	BMP 6E.1 - Verify that contract/subcontract documents include requirements for proper waste disposal	The subcontract requires performing the collection, removal, and disposal of non-hazardous refuse and recycling materials. This includes to control or reduce the potential environmental impact and to clean-up any spill or leak from the subcontractor's equipment or vehicle. The equipment and vehicles are kept closed while in motion to prevent spillage. All vehicles carry absorbent materials for spill prevention and control. The subcontractor maintains the records of all refuse and recycle collections and disposals. These documents are provided to the SOTR each pick-up day, monthly - total of tonnage, and quarterly total of tonnage. The results can be reviewed through JLab Insight and under the Key Performance Indicators/Reports.
49	MCM 6 POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS	MCM 6 - Items Needed for Annual Report	BMP 6E.2 - Inspect solid waste and recycling container locations on at least a quarterly basis to ensure that no solid waste management practices are adversely affecting storm water	The subcontract requires performing the collection, removal, and disposal of non-hazardous refuse and recycling materials. This includes to control or reduce the potential environmental impact and to clean-up any spill or leak from the subcontractor's equipment or vehicle. The equipment and vehicles are kept closed while in motion to prevent spillage. All vehicles carry absorbent materials for spill prevention and control. The containers are inspected monthly by the subcontractor QC person and the reports are submitted to the SOTR. If any discrepancies are noted, the container is replaced by the subcontractor

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The Thomas Jefferson National Laboratory (Jefferson Lab) has an Environmental Management System (EMS). The EMS Plan defines the scope of the Jefferson Lab EMS and identifies the tools and methods for managing environmental stewardship performance. The Municipal Separate Storm Sewer System (MS4) Program Plan is an EMS-controlled document.

This MS4 Program Plan describes how the Lab implements the six MS4 storm water permit-required minimum control measures (MCMs).

- Each MCM is an EMS objective that documents an environmental program improvement initiative.
- Each EMS objective (MCM) has identified a minimum of two Best Management Practices (BMPs) that are environmental targets identifying performance requirements to meet the overall permit objective to reduce the pollution of surface waters.
- Each BMP, an environmental target itself, includes at least one activity or other action which may be a measurable goal to implement the BMP. The BMPs also include implementation documentation, planned completion dates, and other permit requirements.

The Lab tracks its permit implementation progress through an Assessment Methodology that includes reviewing progress to meet the identified measurable goals, schedule, or milestone dates. The Lab assesses progress to meet this permit on a regular basis with the preparation of the annual report and through various internal reviews.

On a regular basis the Lab uses an internal BMP database to track progress. The database assigns specific individuals for each action or activity.

**MCM:** Minimum control measures – the controls that must be included in a storm water management program that are designed to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP) to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act and the State Water Control Law.

**Best management practices (BMPs)** mean schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of surface waters. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

**NOTE:** MS4 permits were set up for municipalities but are also required for Federal facilities. The Jefferson Lab program has been adapted to apply to a physics research institution.

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**1.0 EMS OBJECTIVE: MCM 1 – PUBLIC EDUCATION AND OUTREACH ON STORM WATER IMPACTS.**

*TJNAF is a 170-acre DOE accelerator research facility. Lab operations have had multiple experiences with public and Federal reviews of Lab effects on the environment. Consequently, Federal and local stakeholders are informed about site operations and potential environmental impacts, including those related to surface waters. Lab, community, and Federal stakeholders also are informed of how the Lab meets health, safety, and environmental regulations through the publicly available ES&H Manual.*

*TJNAF also will provide education to site personnel and others affiliated with the Lab (such as nuclear physics experimenters (termed users), subcontractors, and other DOE contractors). The Lab community will be provided additional information on how to incorporate storm water pollution prevention into their activities on site as well as at home. The education will include providing information, e.g. a notice, briefing, or training for the Lab community under the Lab's Environmental Management System (EMS). Subcontractors and DOE contractors will receive storm water P2 guidance on a job or trade-specific basis.*

**1.1 BMP 1.A – Maintain the ES&H Manual as a community and public information resource.**

As storm water pollution prevention requirements are included in the TJNAF ES&H Manual, TJNAF will improve this portion of the ES&H Manual to ensure that important storm water issues are addressed, including elements of the final General Permit. ES&H Manual Chapter 6730 Appendix T4 Storm Water Management, MS4 Storm Water Management Program, will be improved to serve as the Lab's MS4 Program and include or reference the MS4 Program Plan. Significant environmental aspects related to surface water that are identified in the site's EMS will also be appropriately addressed.

**1.1.1 Responsible Party or Parties:** The ESH&Q (Environment, Safety, Health & Quality) Division administers the ES&H Manual.

**1.1.2 Implementation Documentation:** Updated ES&H Manual Chapter 6730 Appendix T4 Storm Water Management, SWMP, which will reference and/or include the MS4 Program Plan.

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**1.1.3 Actions/Activities (including measurable goals, schedule, and milestone dates):**

- Ensure that the current draft of ES&H Manual Chapter 6730 Appendix T4 Storm Water Management references the MS4 Program Plan by December 15, 2008. [completed]
- Update the current drafts of ES&H Manual Chapter 6730 Appendix T4 Storm Water Management and ES&H Manual Chapter 6730 Appendix R3 MS4 Program Plan, to incorporate final permit elements within 180 days after the effective date of the permit. [completed]
- Ensure ES&H Manual Chapter 6730 Appendix T4 Storm Water Management and its appendices are kept on the Jefferson Lab web site and are accessible by the Lab community that includes the public. {Also see BMP 2.A.}
- Verify implementation of ES&H Manual Chapter 6730 Appendix T4 Storm Water Management, MS4 Storm Water Management Program, annually.
- Through the TJNAF EMS, triennially reevaluate aspects related to storm water and determine their significance
- Triennially update ES&H Manual Chapter 6730 Appendix T4 Storm Water Management (next update scheduled for April 2012).

**1.1.4 Items Needed for the Annual Report:**

- Permit Requirement - Provide scheduled dates for submitting and implementing the original MS4 Program Plan. [completed]
- Permit Requirement – Provide updated MS4 Program Plan by August 19, 2009.
- Current list of significant aspects related to storm water and the name of at least one associated procedure to control releases.

**1.2 BMP 1.B – Provide storm water P2 information to the Lab community.**

TJNAF provides regular electronic briefings and newsletters to the Lab staff and nuclear physics users that offer information relevant to the Lab community. These media will be used to provide storm water pollution prevention (P2) information notices to the Lab community, e.g. with an Adopt-A-Spot announcement, and will can (or could) include steps that can be taken to minimize pollution in surface runoff. The Lab community is also informed about actions taken to prevent storm water pollution during construction activities and how the Lab addresses questions involving possible impacts, including from the public. [Refer to Section 3.2, BMP 3.B (MCM 1.b.) for how the Lab informs the community about illegal and improper discharges. Refer to Section 2.2, BMP 2.B (MCM 1.c) for group involvement information.]

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**1.2.1 Responsible Party or Parties:** ESH&Q Division and the Public Affairs Office

**1.2.2 Implementation Documentation:** Notices to staff, TJNAF web site, and [ES&H Manual Chapter 6710 Appendix T1 Communication Related to Environmental Management](#).

**1.2.3 Actions/Activities (including measurable goals, schedule, and milestone dates):**

- The Lab provided an updated notice to staff before December 1, 2008, which included reiterating that only the Facilities Management & Logistics (FM&L) Manager can authorize any new water discharge to the surface. [completed]
- An all-staff e-mail or other notice will be provided covering storm water P2 information, including about the MS4 Program Plan, and how the Lab handles public inquiries each calendar year upon publication of the MS4 annual report.
- Storm water-related articles will be made available, either in On-Target or on the TJNAF web site (or by other means) each year, with one the minimum number.
- At least once annually, storm water pollution prevention information is to be provided along with the announcement of the quarterly Adopt-a-Spot activity.
- Strategies for targeting TJNAF audiences to be considered with the calendar year 2012 revision to [ES&H Manual Chapter 6730 Appendix T4 Storm Water Management](#) MS4 Storm Water Management Program. [Refer to Section 1.1, BMP 1.A.]
- Considerations to improve TJNAF's outreach program to include storm water P2 to be considered with the calendar year 2012 revision to [ES&H Manual Chapter 6730 Appendix T4 Storm Water Management](#). [Refer to Section 1.1, BMP 1.A.]

**1.2.4 Items Needed for the Annual Report:**

Spill release information is provided under BMP 3.C.

- Provide the notice sent with an Adopt-A-Spot announcement.
- The number and mode of P2 awareness posting(s) including the annual notice to staff about the MS4 Program Plan and, if not staff, the audience to whom provided.

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**1.3 BMP 1.C – Convey relevant EMS requirements involving storm water P2 to subcontractors/other contractors that work on the site.**

TJNAF provides ES&H training to TJNAF subcontractors and the DOE service contractors. Along with trade-specific Safety and Health training, trade-specific EMS training elements that include preventing storm water pollution and preventing improper discharges {also in BMP 3.B} are provided to those persons via classroom training.

TJNAF maintains an effective strategy to convey relevant EMS requirements to subcontractors that work on-site whose work could impact storm water.

**1.3.1 Responsible Party or Parties:** Facilities Management & Logistics (FM&L)

**1.3.2 Implementation Documentation:** Master construction specification and service specification that indicate training requirements.

**1.3.3 Actions/Activities (including measurable goals, schedule, and milestone dates):**

- Information to be relayed to the employees of subcontractors and DOE service contractors (included in trade-specific training required before site access is granted) will be reviewed and updated to include reference to the MS4 Program Plan by December 30, 2009.
- All new badged on-site subcontractor and DOE service contractor employees (those hired since the last yearly report and under the direction of FM&L were informed of relevant EMS requirements during the previous calendar year through receipt of SAF100.
- Identify a means to inform subcontractor employees working about minimizing storm water P2 by June 30, 2010.

**1.3.4 Items Needed for the Annual Report:** The number of subcontractor and DOE contractor employees (often the same person) under the direction of FM&L, by contractor or subcontractor firm, receiving training that involves storm water P2 concerns during the previous calendar year.

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## 2.0 EMS OBJECTIVE: MCM 2 – PUBLIC INVOLVEMENT AND PARTICIPATION

### 2.1 *BMP 2.A – Promote the MS4 Program Plan and inform the lab about the annual report to the DCR*

ES&H Manual Chapter 6730 Appendix T4 Storm Water Management is available to the Lab community and the general public via the public reading room that can be accessed at [www.jlab.org](http://www.jlab.org). Information at Adopt-A-Spot announcements may also be provided. The MS4 Program Plan will also be available through the same website. This document will also be provided in the TJNAF public reading area. [Refer to Section 1.1, BMP 1.A.]

2.1.1 **Responsible Party or Parties:** FM&L, ESH&Q Division, and the Public Affairs Office.

2.1.2 **Implementation Documentation:**

- Copies of MS4 Permit Annual Report
- TJNAF Web Site's public reading area
- ES&H Manual Chapter 6730 Appendix T4 Storm Water Management

2.1.3 **Actions/Activities (including measurable goals, schedule, and milestone dates):**

- Determine a means to promote the availability of the MS4 Program Plan to encourage involvement in this program. Include results in the calendar year 2012 update to ES&H Manual Chapter 6730 Appendix T4 Storm Water Management or other appropriate location.
- Ensure availability of the annual report on the JLab public reading room web site each year by December 31.

2.1.4 **Items Needed for the Annual Report:** Verify availability of the MS4 Program Plan on the TJNAF web site and make the August 2009 update available in the public reading room.

### 2.2 *BMP 2.B – Organize and execute on-site events and/or activities to involve staff volunteers in hands-on P2 activities related to storm water.*

This BMP is in practice and will be reviewed at the time of the site notification about the winter Adopt-A-Spot outing during at least the first 2 years of the permit. TJNAF will continue on the same schedule if Adopt-A-

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Spot is renewed; otherwise, during the preparation of the annual report under this permit and/or with the triennial update of the MS4 Program Plan for the remaining years of the permit.

**2.2.1 Responsible Party or Parties:** ESH&Q Division, FM&L, and the Public Affairs Office.

**2.2.2 Implementation Documentation:** Announcements to all staff on the TJNAF intranet.

**2.2.3 Actions/Activities (including measurable goals, schedule, and milestone dates):**

- Track the number of events per year, including staff participation, with a minimum of one event per calendar year.
- Track the number of open houses or activities where information is provided to staff, with a minimum of one every two calendar years.
- Track the number of volunteers per scheduled event.
- Promote the MS4 at any scheduled publicly available Open House.
- Participate in the Adopt-a-Spot Program for a minimum of two years (beginning in Fall 2007), on a quarterly basis, cleaning the roadside of Jefferson Avenue, along the Lab boundary as far as Oyster Point Road.
- Evaluate possibilities to increase individual or group involvement in local water improvement initiatives during 2009. Include results in the calendar year 2012 update to [ES&H Manual Chapter 6730 Appendix T4 Storm Water Management](#) or other appropriate location.

**2.2.4 Items Needed for the Annual Report:** Record the number of events per year, including Earth Day activities, and Adopt-a-Spot cleanups; the number of volunteers associated with each. Report if open house was held, and if MS4 or MS4 Program Plan was promoted.

**3.0 EMS OBJECTIVE: MCM 3 – ILLICIT DISCHARGE DETECTION AND ELIMINATION**

*TJNAF has several advantages over municipalities. Access to the property is limited during non-working hours, and roving security personnel should be able to intercept anyone who came onto the property with the intent to make an illicit discharge. Further, all Lab personnel and (sub)contractors are required to complete training that includes the proper notification of spills. Those personnel are made aware that Facilities Management & Logistics must approve all outdoor activities that may result in a discharge to surface waters*

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*(such as equipment washing). The key to illicit discharge detection and elimination therefore lies in the ongoing implementation of existing programs.*

**3.1 BMP 3.A – Prepare a storm drain system map.**

This map has been completed and contains site outfalls. The map is reviewed and updated annually as part of hurricane preparedness. FM&L will provide access to the final updated map.

**3.1.1 Responsible Party or Parties: FM&L**

**3.1.2 Implementation Documentation:**

- Updated storm drain system map.
- The current list of all retention ponds that qualify as BMPs.

**3.1.3 Actions/Activities (including measurable goals, schedule, and milestone dates):**

- Verify that the map is kept current with modifications and new piping and drainage installations (on or before July 1, 2010 and subsequent years of the permit term).
- Add receiving streams to storm drain map by end of permit term.
- Verify annually by July 1 that improvements are added to map within one year of their identification.
- Schedule to further improve the storm system map to include associated offsite surface waters (and their Hydrologic Unit Code), the names and locations of impaired surface waters that receive water from the site outfalls, and the estimated acreage that discharges to each impaired water. Map to be updated to include this information for reporting no later than the annual report due October 2011.

**3.1.4 Items Needed for the Annual Report:** Statements verifying that the map is adequate and include site outfalls, that the map has been updated that year, and that all improvements were added to the map in a timely fashion. List of retention ponds. Provide the schedule to make the noted additions to the map.

**3.2 BMP 3.B – Inform the Lab community about the hazards of illegal or improper discharges. Provide contact numbers for incident and routine reporting.**

TJNAF has a comprehensive emergency management plan that includes event reporting and notification responsibilities. Both routine and potential hazardous

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incidents are addressed in the TJNAF program. This plan is under revision to align with the requirements of DOE Order 151.C, Comprehensive Emergency Management System.

The goal of the plan is multifold, including educating and reminding the Lab community to contact x4444 for spills and other emergency management situations where immediate response is necessary and to contact x7400 to report routine storm water system problems and other concerns.

FM&L controls all water discharges from new or modified buildings and/or structures. ES&H Manual Chapter 6730 states that any non-storm water discharges are only authorized through the FM&L Manager. Note that FM&L routine maintenance activities involving discharges to the surface are covered in organizational programs or procedures that are approved by the FM&L Director. All staff and contracted/subcontracted employees involved with moving environmentally harmful materials receive appropriate training. Jefferson Lab phones have an information card attached covering emergency response. [Notice to Lab staff of this and other storm water P2 information is provided under BMP 1.B.]

This BMP is in practice through sharing information, sometimes through required training of staff and contractors/subcontractors. The training and informational message content and application of training will be reviewed at the time of preparation of the annual DCR report during all years of the permit.

- 3.2.1 Responsible Party or Parties:** ESH&Q Division, FM&L, and Public Affairs Office share the lead on providing relevant information to the Lab under this BMP. FM&L manages new and modified structures for any surface water discharges.
- 3.2.2 Implementation Documentation:** SAF 100 training modules; SAF 127 EMS awareness briefing for staff and users; ESH Manual Chapter 3510 – Emergency Management Plan, ESH Manual Chapter 6730-T4 – Storm Water Management Program, ESH Manual Chapter 6610 – Chemical Hygiene, ESH Manual Chapter 6750 – Environmentally Harmful Materials, ESH Manual Chapter 6770 – Waste Minimization and Pollution Prevention, organization SOPs, and the Oil Worker training package.
- 3.2.3 Actions/Activities (including measurable goals, schedule, and milestone dates):**

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- [MCM 3e] Review current programs, such as the SPCC Plan, to identify better means to prevent or minimize to the maximum extent practicable the discharge of any illicit discharge, including hazardous substances or oil. Identify existing procedures by June 30, 2010 and identified improvements to be incorporated into processes or procedures, as prioritized by risk, prior to July 2012.
- [MCM 3.c] Triennially, verify that the annual message this information is relayed to the Lab community through a site program which includes the stipulation that only FM&L can authorize any new discharge point to the storm water system.
- Evaluate the adequacy of current incident tracking methods and determine the best method for consolidating storm water incident/concern information (by the end of June 2009).
- Implement a tracking system for storm water incidents and train responsible personnel in its use (by the end of June 2010).
- Track the number of storm water problems/incidents reported to x4444 and/or to the Lab facility emergency telephone per permit year, with a goal to further minimize the total number of problems/incidents during the permit term (beginning in July 2010 and continue through the end of the permit term) and verify that resolutions, dependent on risk, are taken care of in a timely manner.
- [MCM 3g] Determine a means to inform downstream neighbors with MS4s about the site's MS4 during 2009. If applicable, include applicable information results in the calendar year 2012 update to [ES&H Manual Chapter 6730 Appendix T4 Storm Water Management](#) or other appropriate location.
- [MCM 3a and 3d] The Lab will review practices and procedures used to detect and eliminate non-stormwater discharges during 2009. Identified improvements to be incorporated into processes or procedures, as prioritized by risk, prior to July 2012.

#### 3.2.4 Items Needed for the Annual Report:

- Give summary of programs or procedures that are used to detect illicit discharges in report due Oct. 1, 2010.
- Provide the date and content of at least one notification to site staff about the hazards of illegal and improper discharge.
- Provide a brief report on the system used for incident tracking and a summary of incidents involving spills.
- Provide a status update for working with downstream MS4 neighbors.
- Confirm the SPCC Plan is current.

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- 3.3** *BMP 3.C – Continue to implement the program to address sanitary sewer backups, sewer or cooling tower overflows, cooling water system leaks, and other unexpected discharges, including reporting the incident to x7400 (or to x4444 if there is an emergency or other situation that requires immediate attention).*

Reduction and frequency of sanitation sewer and cooling water systems incidents contributing to storm water pollution prevention. Heightened awareness of immediate incident reporting importance and procedures.

**3.3.1 Responsible Party or Parties:** FM&L, ESH&Q Division.

**3.3.2 Implementation Documentation:** A log of spill reports to x4444 and incident reports involving spills or leaks provided to the ESH&Q Division.

**3.3.3 Actions/Activities (including measurable goals, schedule, and milestone dates):**

- Evaluate the adequacy of existing Standard Operating Procedure (SOP) or other procedures, and update as necessary (no less than triennially).
- Annually verify that training for staff involved with that work is current by the end of the permit year. Adjust training requirements and/or awareness materials if applicable
- Track the number of release incidents reported to x4444 and/or the facility emergency phone, and those remedied during each permit year, with a goal of 90% remedied in a manner and time frame consistent with the risk each poses.

**3.3.4 Items Needed for the Annual Report:** Number and disposition of spill, release, and illicit discharge incidents. Report if procedures were evaluated and if an update is scheduled.

- 3.4** *BMP 3.D – Implement a program to exclude routine accelerator tunnel sump pump discharges (excluding that from designated groundwater dewatering pumps) to the environment.*

In 2007, TJNAF undertook a capital project to install piping in the entire circumference of the Accelerator tunnel. The piping is routed to all the sump pumps in which potentially activated water from condensate or groundwater seepage may

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collect. This potentially activated water is collected and tested, then typically routed to the Hampton Roads Sanitation District (HRSD) wastewater treatment plant.

**3.4.1 Responsible Party or Parties:** Radiation Control (ESH&Q Division) and FM&L

**3.4.2 Implementation Documentation:** Standard Operating Procedure (SOP) for tunnel sump pump discharges.

**3.4.3 Actions/Activities (including measurable goals, schedule, and milestone dates):**

- Triennially, verify that the SOP for this program is current (due in 2010).
- At least annually (as allowed during Scheduled Accelerator Down periods that exceed 14 days), verify proper valve alignment and piping integrity.
- Review inspection reports to show effective maintenance of this closed sump pump discharge system is performed.

**3.4.4 Items Needed for the Annual Report:** Documentation of SOP review and annual inspection.

#### **4.0 EMS OBJECTIVE: MCM 4 – CONSTRUCTION SITE STORM WATER RUNOFF CONTROL**

*The MS4 SWMP activities implemented under MCM 4 will focus on developing, implementing, and enforcing a program that will reduce or eliminate the impacts of storm water runoff from construction activities.*

##### **4.1 *BMP 4.A – Construction site storm water runoff control.***

Construction activities planned under the MS4 Storm Water Management Program will be directed toward subcontractors, construction site operators, SOTRs, and enforcement personnel. Erosion and sediment control are critical to every construction project that needs to meet these MS4 criteria. Methods to prevent the export of sediments are planned during the site design process. TJNAF implements local Erosion & Sediment Control (E&SC) plans for any land disturbance greater than or equal to one acre. Although the site is not a Chesapeake Bay Preservation Area, the Lab implements E&SC measures (following the Virginia Erosion and Sediment Control Handbook) if needed for any other projects where storm water protection requirements are identified during the planning process. Project-specific planning

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addresses storm water treatment suitability, physical feasibility factors, and community and environmental factors. Lab has requirements already in place for land disturbing activities. A project of 10,000 SF or more requires an E&SC Plan. A project that is disturbing; one acre or more has additional requirements, including a project-specific Storm Water Pollution Prevention Plan (SWP3).

This BMP applies to projects of one acre or more.

[MCM 4.a. (1)] Subcontract requirements to require E&SC controls that follow the Virginia Erosion and Sediment Control Handbook are included in project specifications. The specifications are kept up to date to reflect permit conditions by FM&L.

**4.1.1 Responsible Party or Parties:** FM&L Maintenance and Construction Group

**4.1.2 Implementation Documentation:** TJNAF Stormwater Pollution Prevention Plan (SWP3) and E&SC measures that are included in the project-specific SWP3.

**4.1.3 Actions/Activities (including measurable goals, schedule, and milestone dates):**

- [MCM 4.a.(2) and MCM 4.a.(3)] FM&L reviews designs for proper stormwater management to maintain or best replicate predevelopment runoff characteristics and site hydrology. FM&L ensures that appropriate permits (or to meet the terms of the Lab's permit) for construction activities to discharge stormwater under a State permit are obtained for applicable projects.
- Document readiness of an FM&L-approved E&SC plan as part of the subcontractor's SWP3 for each applicable project during that permit year. Track number of project specific SWP3 plans in place for each permit year.
- [MCM 4.a.(4)] Public Affairs to validate that the procedure to receive and consider information provided by the public is current. {Refer to the procedure in BMP 1.B.}
- [MCM 4.b] FM&L to ensure that appropriate planners, subcontractors, and inspectors, are appropriately qualified.

**4.1.4 Items Needed for the Annual Report:** [MCM 4.c.] The number of applicable projects, the total disturbed acreage by project, and that there is an approved project specific SWP3 that incorporates E&SC measures for each project.

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**4.2 BMP 4.B – [Preconstruction] Perimeter controls will be provided on all TJNAF construction sites of one acre or more.**

The requirements [in MCM 4.a.(1), (2), and (3)] are prescribed by a FM&L program and included in subcontractor specifications.

**4.2.1 Responsible Party or Parties:** FM&L Maintenance and Construction Group

**4.2.2 Implementation Documentation:** Construction site plans that document preconstruction activities submitted by subcontractors for implementation of erosion and sediment controls before ground is broken.

**4.2.3 Actions/Activities (including measurable goals, schedule, and milestone dates):** [MCM 4.a.(1), 4.a.(2), 4.a.(3)]

- E&SC documentation for all construction projects disturbing 1 acre or more must be reviewed by ESH&Q Division and approved by the Project Manager and the Maintenance and Construction Department, with a goal of 100% of applicable projects being approved.
- Verify that E&SC measures are in place for all projects prior to the start of construction, with a goal of 100% adherence to the requirements of the plan.

**4.2.4 Items Needed for the Annual Report:** For major construction projects identify the type of perimeter controls utilized over the permit year.

**4.3 BMP 4.C – [Ongoing Construction] All construction-related storm water controls and measures will be inspected and maintained on a project-by-project basis.**

Controls and measures meeting the Virginia Erosion and Sediment Control Handbook are required for all activities disturbing 10,000 SF or more. Additional requirements, including the need for a SWP3 becomes necessary, for activities disturbing one acre or more. {See Section 4.1 for more a more complete description.}

Schedule for maintaining controls is based on the Virginia Erosion & Sediment Control Handbook. TJNAF's inspection and maintenance program for E&SC measures is overseen or performed by the FM&L organization or their subcontractors. If the project affects one or more acres, then the project will follow the requirements in the General Permit VAR 10 as issued by the DCR for that project.

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[MCM 4.a(2), 4.a.(5), 4.b] If repairs to measures cannot be promptly resolved, based on risk, temporary measures approved by the Subcontracting Officer's Technical Representative (SOTR) will be used.

**4.3.1 Responsible Party or Parties:** FM&L, Maintenance and Construction Department.

**4.3.2 Implementation Documentation:** Relevant subcontract specifications and completed SWP3 Inspection Forms for each active project.

**4.3.3 Actions/Activities (including measurable goals, schedule, and milestone dates):** [MCM 4.a.(2), 4.a.(5), 4.b]

- [MCM 4.a.(5)] FM&L inspects and enforces performance to meet permit requirements. Validate this performed with 80% adherence to the requirements.
- Monitor the percentage of storm water controls and measures that are reported as being in need of repair, and identify the percent corrected in a timeframe and manner consistent with the risk it poses. The goal is that 80% or more are corrected in this timeframe.

**4.3.4 Items Needed for the Annual Report:** Validate performance of required inspections, which are handled project by project. Provide evaluation on time frame to address repairs and remediation.

**5.0 EMS OBJECTIVE: MCM 5 – POST-CONSTRUCTION STORM WATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT**

*The Lab takes into account quantity and quality effects on local watersheds when planning for development or redevelopment. Storm water management planning considers both large projects affecting one acre or more and those that would affect less area that are in the site's ten year plan. [MCM 5.a.]*

*TJNAF continually reevaluates the potential for enhanced storm water management through both structural and non-structural controls. Two storm water retention ponds have been constructed and capture a large portion of site runoff. An example of the non-structural controls used at the Lab is the policy that FM&L must approve any planned activity that may result in a discharge to the storm water system. As a result of this policy, the potential risk of the activity is assessed, controls established, and then properly managed.*

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*TJNAF implements Section 438 of the Energy Independence and Security Act of 2007 by considering storm water runoff factors listed in the site planning process and then implementing them during the facility design and operation.*

**5.1 BMP 5.A – Develop a program for maintenance of structural and non-structural storm water controls, including catch basins.**

FM&L maintains the site's structural and nonstructural storm water controls in order to ensure that storm water is effectively managed to prevent damage at developed areas. Each retention pond will have an associated inspection or maintenance schedule; other structural and nonstructural controls are governed by a policy or procedure.

**5.1.1 Responsible Party or Parties:** FM&L Maintenance and Construction Group

**5.1.2 Implementation Documentation:** Site documents, including the site storm water drawings used for planning work and the planned maintenance schedule; the list of retention ponds (structural controls) referenced in BMP 3.A.

**5.1.3 Actions/Activities (including measurable goals, schedule, and milestone dates):**

- Identify existing stormwater BMPs by June 30, 2010.
- Conduct a condition assessment to identify priorities for major maintenance and implementation of structural and nonstructural controls by the end of the permit term. After the initial condition assessment is performed, annually review the maintenance plan for the stormwater system. The maintenance plan will be revised as necessary based upon maintenance work performed, a revised condition assessment and/or new information. The condition assessment will be performed every 5 years.
- Begin to track the number of repairs or other corrective actions that rise to the level of a subcontractor change order or new subcontract. Evaluate implementing appropriate wording (such as storm water) into the work request (or other) system to facilitate tracking during 2009. Implement identified improvements as resources allow over the life of the permit. [MCM 3f]
- Conduct at least one annual inspection during each permit year of each of the three site outfalls.
- Integrate these controls into a formal inspection and maintenance program within six months after installation or construction of the new

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BMP is complete. Perform inspection and maintenance activities on controls according to site program requirements.

**5.1.4 Items Needed for the Annual Report:** Report status of condition assessment and last date it was performed; verification on annual inspection of each site outfall; report on maintenance of the ponds for the past year beginning in July 2009. Report if a new BMP became effective during that permit year.

**5.2 *BMP 5.B – Minimize impacts to storm water during postconstruction development and redevelopment activities to ensure compliance with applicable permits.***

TJNAF develops, implements, and enforces procedures to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre. The procedures ensure that controls are in place that will prevent or minimize water quality and quantity impacts in accordance with permit requirements. All pre-construction and construction controls are covered under MCM 4. ES&H Manual updates are included under MCM 1.A. [MCM 5.b.(1) through 5.b.(6)]

**5.2.1 Responsible Party or Parties:** FM&L Maintenance and Construction Group

**5.2.2 Implementation Documentation:** ES&H Manual Chapter 6730 Appendix T4 for preventing and minimizing stormwater runoff from development and redevelopment projects.

**5.2.3 Actions/Activities (including measurable goals, schedule, and milestone dates):**

- Follow ES&H Manual Chapter 6730 Appendix T4 Storm Water Management for controlling storm water runoff from development and redevelopment projects.
- [MCM 5.b.(6)] By end of 2010, identify unknown and track all known permanent stormwater management facilities that discharge onto our site and submit data required by Section II E 3 of the permit.

**5.2.4 Items Needed for the Annual Report:** Verify Ch. 6730 Appendix T4 is current. Starting with the 2010 annual report, report status on discussions with MS4 neighbors.

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**5.3 BMP 5.C – Consider the use of alternative methods (such as using special pavers or porous pavement, maintaining grassed swales, or eliminating curbs and gutters) in the planning process.**

On a project-by-project basis, TJNAF evaluates how best to integrate alternative methods that avoid the use of impervious materials, thereby helping to minimize storm water runoff and pollutants.

**5.3.1 Responsible Party or Parties:** FM&L Maintenance and Construction Group

**5.3.2 Implementation Documentation:** The planned earth-disturbing projects are listed on a status report that is regularly provided to involved staff.

**5.3.3 Actions/Activities (including measurable goals, schedule, and milestone dates):**

- Track the percentage of applicable projects that were considered for the use of alternative devices during each fiscal year.
- Track the percentage of applicable projects where alternatives were used with a goal of accomplishing at least one project using alternative methods by the end of the permit term of June 30, 2014.

**5.3.4 Items Needed for the Annual Report:** The number of applicable projects that were considered over the previous fiscal year; documentation of any use of alternative methods.

**6.0 EMS OBJECTIVE: MCM 6 – POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS**

*Though not a municipality, some of the same situations that could be sources of storm water pollution also are in existence at TJNAF. TJNAF implements a program to operate and maintain the site through programs and practices that minimize pollutant runoff. Requirements are included in site operations manuals and delineated in contract and subcontract specifications.*

*Successful storm water pollution control relies in large part on proper training and education of employees, contractors, subcontractors, and users. It is essential that employees and others (such as service and construction subcontractors/service contractors) understand and implement the BMPs that apply to operations within the facility.*

*There are no nutrient applications on any TJNAF land; so MCM 6.f is not applicable to the TJNAF MS4 Storm Water Management Program.*

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**6.1 *BMP 6.A – Pollution prevention/good housekeeping for site operations.***

Training will emphasize the importance of keeping pollutants out of the storm drains because the drains go directly to the surface waters of the state without benefit of wastewater treatment that the sanitary sewers receive. Facility personnel will be educated about the harmful environmental effects of improper disposal of materials into the storm drain so that they understand the importance of preventing storm water pollution.

TJNAF provides ES&H training to TJNAF employees and subcontractors, as well as to DOE service contractors. Along with job-specific safety and health training, job-specific EMS training elements that include preventing storm water pollution are provided to those persons via classroom training. Where appropriate, that training includes job-specific storm water P2.

**6.1.1 Responsible Party or Parties:** FM&L

**6.1.2 Implementation Documentation:** Training records.

**6.1.3 Actions/Activities (including measurable goals, schedule, and milestone dates):**

- Continue to minimize use of fertilizers, herbicides, pesticides, and other materials with the potential to pollute.
- Periodically verify the absence of illicit discharges in storage yards, parking lots, and other open areas.
- Continue to minimize water use for grounds and landscaping, using drought-tolerant plants as feasible.

**6.1.4 Items Needed for the Annual Report:** The number of subcontractor and DOE contractors employees (often the same person) meeting state certification, training, and testing requirements as well as TJNAF training; volume of irrigation water used annually.

**6.2 *BMP 6.B – Use road salt alternatives for roadway deicing.***

The use of road salt as a deicer on roads and other impervious surfaces has been the preferred method to promote safe motor vehicle and pedestrian travel during winter months. The most commonly used deicing salt is sodium chloride (NaCl), which is readily available, inexpensive, and effectively depresses the freezing point of water to melt ice. Growing knowledge of the potential for roadside habitat degradation, wildlife impacts, water-quality issues and other environmental concerns led TJNAF to discontinue use of NaCl in recent years. [MCM 6.a., 6.d.]

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- 6.2.1 Responsible Party or Parties:** FM&L
- 6.2.2 Implementation Documentation:** MSDS and related information on the chemicals that are used and evaluated.
- 6.2.3 Actions/Activities (including measurable goals, schedule, and milestone dates):**
- Ensure that subcontracts specify that no road salt is to be used on site.
  - Track the number and location of storage facilities for deicing compounds, and the percentage included in a regular inspection and maintenance program, with a goal of at least 1 inspection each permit year.
  - Continue to use road salt alternatives. All available alternatives should be reevaluated for environmental effects annually.
- 6.2.4 Items Needed for the Annual Report:** Documentation that no road salt was used and that alternatives are evaluated annually; locations and inspection results for deicing storage.

- 6.3 *BMP 6.C – Maintain the site program for hazardous material and waste storage.*** TJNAF has site management programs for hazardous material storage and for hazardous waste storage. Procedures are implemented to ensure proper storage is practiced, in both interior and exterior areas, and hazardous waste storage is overseen by ESH&Q Division staff. [MCM 6.b, 6.c.]

For each permit year, TJNAF will continue its practice of properly managing such hazardous materials and wastes to prevent or minimize to the maximum extent practicable the discharges of hazardous substances including oil into surface waters. No hazardous wastes are stored outside except for one container in secondary containment that is occasionally used and may be temporarily staged outside during transit to the site Central Accumulation Area (CAA) and while being loaded for disposal transport.

- 6.3.1 Responsible Party or Parties:** Designated staff, who represents the Lab organizations, that generate or need to store hazardous materials or chemicals, are responsible for their Lab office or division. ESH&Q Division staff provides assistance and guidance to the individual or organization that stores hazardous material. The ESH&Q Division manages the hazardous waste and

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used oil programs that include storage, and, as appropriate, provides oversight to other organizations' handling of such materials.

**6.3.2 Implementation Documentation:** ESH&Q Hazardous Waste procedure, Used Oil Management Procedure.

**6.3.3 Actions/Activities (including measurable goals, schedule, and milestone dates):**

**6.3.4**

- The Lab will begin to maintain a central database of locations where hazardous materials are stored. [completed]
- Annual maintain the inventory of hazardous materials and storage locations.
- [MCM 6.c.] Maintain all hazardous waste manifests and ensure receipt at treatment facility.
- Document, by division, the frequency of inspection and maintenance visits to these areas by calendar year, with a goal of 100% of the locations inspected annually or more often.
- Document the amount of hazardous waste and used oil generated on at least a quarterly basis.
- Confirm by a random and significant sample of oil and chemical requisitions are filled only after verifying that (1) appropriate storage facilities exist and will be used, and (2) oil-free alternatives, or less hazardous chemicals, are not available or appropriate. This part of the program is to be implemented by the end of the permit period (2013).

**6.3.4 Items Needed for the Annual Report:** The number of inspections at hazardous material storage area performed over the permit year. Report that all RCRA inspections at all hazardous waste accumulation areas were performed monthly, and that the CAA was inspected weekly, per RCRA requirements.

**6.4 BMP 6.D – Ensure that performance objectives are included in any (sub)contract for building pest control or herbicide application by landscapers.**

Pest management and pesticides (including herbicides) usage are tightly regulated by Federal, State, and local authorities requiring training and licensing of technicians. Governing agencies include the Environmental Protection Agency (EPA), Food and Drug Administration (FDA), Occupational Safety and Health Administration (OSHA), and Center for Disease Control (CDC). Title 29 CFR (OSHA standards in

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the Code of Federal Regulations), Title 40 CFR (EPA standards), and Public Law 92-516 (the Federal Insecticide, Fungicide, and Rodenticide Act) (FIFRA) are typical governing standards.

TJNAF goes beyond these basic requirements by including performance objectives keyed to pollution prevention. Preference is granted to the least environmentally-harmful products that are effective for a given purpose, and applicators are instructed to use the minimum quantity feasible. [MCM 6.e.]

**6.4.1 Responsible Party or Parties:** FM&L

**6.4.2 Implementation Documentation:** Pest control and landscape contracts (with DOE)/subcontracts (with JSA)

**6.4.3 Actions/Activities (including measurable goals, schedule, and milestone dates):**

- Verify that 100% of contractor and subcontractor personnel are Virginia certified for the category of products they will use before a contract is initiated.
- Periodically verify that DOE contractor and JSA subcontractor personnel meet all state certification and training and testing requirements, including training needed for specific products or classes of products.
- Require use in accordance with label.
- Whenever feasible, require tank mix be prepared prior to site visit and that on-hand quantities of concentrated product are minimized.
- Periodically verify (at a minimum, annually) that the contractor or subcontractor is ensuring that any new hires or positions are provided a site-specific briefing.
- Maintain the Lab's "minimum-use/least-harmful" contract/subcontract for pest control services (verify contractor/subcontractor pest management plan annually).

**6.4.4 Items Needed for the Annual Report:** Verification of Virginia certification, contract/subcontract language, TJNAF SAF100 or equivalent training, and compliance with the "minimum-use/least-harmful" contract/subcontract clause.

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**6.5 BMP 6.E – Ensure that performance objectives for managing solid waste and recycling services include preventing storm water pollution.**

TJNAF, in its intent to minimize impacts to storm water resources, ensures that performance objectives are included in any subcontract for solid waste and recycling services. Note – Solid hazardous waste and oil collection is not included as it is addressed in BMP 6.C. [MCM 6.b, 6.c]

For each permit year, TJNAF proposes to continue validating the subcontractor performance to the terms of the subcontract. The subcontract includes a requirement to minimize storm water pollution, including from leaks from collection containers and waste hauling equipment.

**6.5.1 Responsible Party or Parties:** FM&L, Construction and Maintenance Group

**6.5.2 Implementation Documentation:** Subcontract/purchase order clauses applicable for this permit.

**6.5.3 Actions/Activities (including measurable goals, schedule, and milestone dates):**

- Verify that contract/subcontract documents include requirements for proper waste disposal. [MCM 6.c.]
- Inspect solid waste and recycling container locations on at least a quarterly basis to ensure that no solid waste management practices are adversely affecting storm water.

**6.5.4 Items Needed for the Annual Report:** Document that inspections of equipment and container locations are performed as noted above.

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This Municipal Separate Storm Sewer System (MS4) Program Plan describes how the Lab implements the six MS4 storm water permit-required minimum control measures (MCMs). Thomas Jefferson National Laboratory (Jefferson Lab) implements this Plan through the Lab's Environmental Management System (EMS).

- Each MCM documents an environmental program improvement initiative.
- Each MCM has identified a minimum of two Best Management Practices (BMPs) that are targets identifying performance requirements to meet the permit's overall objective to reduce the pollution of surface waters.
- Each BMP includes at least one activity or other action which may be a measurable goal to implement the BMP. The BMPs also include implementation documentation, planned completion dates, and other permit requirements.

The Lab tracks its permit implementation through a methodology that includes reviewing progress to meet the identified measurable goals, schedule, or milestone dates. The Lab assesses progress to meet this permit on a regular basis with the preparation of the annual report and through various internal reviews.

On a regular basis the Lab uses an internal BMP database to track progress. The database assigns specific individuals for each action or activity.

MCM: Minimum control measures – the controls that must be included in a storm water management program that are designed to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP) to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act and the State Water Control Law.

Best management practices (BMPs) mean schedules of activities, prohibitions of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of surface waters. BMPs also include treatment requirements, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage.

**NOTE: MS4 permits were set up for municipalities but are also required for Federal facilities. The Jefferson Lab program has been adapted to apply to a physics research institution.**

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### 1.0 MCM 1 – PUBLIC EDUCATION AND OUTREACH ON STORM WATER IMPACTS.

*TJNAF is a 170-acre DOE accelerator research facility. Lab operations have had multiple experiences with public and Federal reviews of Lab effects on the environment. Consequently, Federal and local stakeholders are informed about site operations and potential environmental impacts, including those related to surface waters. Lab, community, and Federal stakeholders also are informed of how the Lab meets health, safety, and environmental regulations through the publicly available [ES&H Manual](#).*

*TJNAF also will provide education to site personnel and others affiliated with the Lab (such as nuclear physics experimenters (termed users), subcontractors, and other DOE contractors). The Lab community will be provided additional information on how to incorporate storm water pollution prevention into their activities on site as well as at home. The education will include providing information, e.g. a notice, briefing, or training for the Lab community under the Lab's Environmental Management System (EMS). Subcontractors and DOE contractors will receive storm water P2 guidance on a job or trade-specific basis.*

#### 1.1 **BMP 1.A – Maintain the [ES&H Manual](#) as a community and public information resource.**

As storm water pollution prevention requirements are included in the TJNAF [ES&H Manual](#), TJNAF will improve this portion of the [ES&H Manual](#) to ensure that important storm water issues are addressed, including elements of the final General Permit. [ES&H Manual Chapter 6730 Appendix T4 Storm Water Management](#), MS4 Storm Water Management Program, will be improved to serve as the Lab's MS4 Program and include or reference the MS4 Program Plan. Significant environmental aspects related to surface water that are identified in the site's EMS will also be appropriately addressed.

- 1.1.1 Responsible Party or Parties:** The ESH&Q (Environment, Safety, Health & Quality) Division administers the [ES&H Manual](#).
- 1.1.2 Implementation Documentation:** Updated [ES&H Manual Chapter 6730 Appendix T4 Storm Water Management](#), SWMP, which will reference and/or include the MS4 Program Plan.
- 1.1.3 Actions/Activities (including measurable goals, schedule, and milestone dates):**

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- Ensure [ES&H Manual Chapter 6730 Appendix T4 Storm Water Management](#)] and its appendices are kept on the Jefferson Lab web site and are accessible by the Lab community that includes the public. {Also see BMP 2.A.}
- Verify implementation of [ES&H Manual Chapter 6730 Appendix T4 Storm Water Management](#), MS4 Storm Water Management Program, annually.
- Through the TJNAF EMS, triennially reevaluate aspects related to storm water and determine their significance
- Triennially update [ES&H Manual Chapter 6730 Appendix T4 Storm Water Management](#) (next update scheduled for April 2012).

### 1.1.4 Items Needed for the Annual Report:

- Permit Requirement – Provide updated MS4 Program Plan by August 19, 2009. [completed]
- Current list of significant aspects related to storm water and the name of at least one associated procedure to control releases.

### 1.2 *BMP 1.B – Provide storm water P2 information to the Lab community.*

TJNAF provides regular electronic briefings and newsletters to the Lab staff and nuclear physics users that offer information relevant to the Lab community. These media will be used to provide storm water pollution prevention (P2) information notices to the Lab community, e.g. with an Adopt-A-Spot announcement, and can (or could) include steps that can be taken to minimize pollution in surface runoff. The Lab community is also informed about actions taken to prevent storm water pollution during construction activities and how the Lab addresses questions involving possible impacts, including from the public. [Refer to Section 3.2, BMP 3.B (MCM 1.b.) for how the Lab informs the community about illegal and improper discharges. Refer to Section 2.2, BMP 2.B (MCM 1.c) for group involvement information.]

**1.2.1 Responsible Party or Parties:** ESH&Q Division and the Public Affairs Office

**1.2.2 Implementation Documentation:** Notices to staff, TJNAF web site, and [ES&H Manual Chapter 6710 Appendix T1 Communication Related to Environmental Management](#).

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### 1.2.3 Actions/Activities (including measurable goals, schedule, and milestone dates):

- An all-staff e-mail or other notice will be provided covering storm water P2 information, including about the MS4 Program Plan, and how the Lab handles public inquiries each calendar year upon publication of the MS4 annual report.
- Storm water-related articles will be made available, either in On-Target or on the TJNAF web site (or by other means) each year, with one the minimum number.
- At least once annually, storm water pollution prevention information is to be provided along with the announcement of the quarterly Adopt-a-Spot activity.
- Strategies for targeting TJNAF audiences to be considered with the calendar year 2012 revision to [ES&H Manual Chapter 6730 Appendix T4 Storm Water Management](#) MS4 Storm Water Management Program. [Refer to Section 1.1, BMP 1.A.]
- Considerations to improve TJNAF's outreach program to include storm water P2 to be considered with the calendar year 2012 revision to [ES&H Manual Chapter 6730 Appendix T4 Storm Water Management](#). [Refer to Section 1.1, BMP 1.A.]

### 1.2.4 Items Needed for the Annual Report:

Spill release information is provided under BMP 3.C.

- Provide the notice sent with an Adopt-A-Spot announcement.
- The number and mode of P2 awareness posting(s) including the annual notice to staff about the MS4 Program Plan and, if not staff, the audience to whom provided.

### 1.3 *BMP 1.C – Convey relevant EMS requirements involving storm water P2 to subcontractors/other contractors that work on the site.*

TJNAF provides ES&H training to TJNAF subcontractors and the DOE service contractors. Along with trade-specific Safety and Health training, trade-specific EMS training elements that include preventing storm water pollution and preventing improper discharges {also in BMP 3.B} are provided to those persons via classroom training.

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TJNAF maintains an effective strategy to convey relevant EMS requirements to subcontractors that work on-site whose work could impact storm water.

**1.3.1 Responsible Party or Parties:** Facilities Management & Logistics (FM&L)

**1.3.2 Implementation Documentation:** Master construction specification and service specification that indicate training requirements.

**1.3.3 Actions/Activities (including measurable goals, schedule, and milestone dates):**

- Information to be relayed to the employees of subcontractors and DOE service contractors (included in trade-specific training required before site access is granted) will be reviewed and updated to include reference to the MS4 Program Plan by December 30, 2009.
- All new badged on-site subcontractor and DOE service contractor employees (those hired since the last yearly report and under the direction of FM&L were informed of relevant EMS requirements during the previous calendar year through receipt of SAF100.
- Identify a means to inform subcontractor employees working about minimizing storm water P2 by June 30, 2010.

**1.3.4 Items Needed for the Annual Report:** The number of subcontractor and DOE contractor employees (often the same person) under the direction of FM&L, by contractor or subcontractor firm, receiving training that involves storm water P2 concerns during the previous calendar year.

## 2.0 MCM 2 – PUBLIC INVOLVEMENT AND PARTICIPATION

**2.1 *BMP 2.A – Promote the MS4 Program Plan and inform the lab about the annual report to the DCR***

ES&H Manual Chapter 6730 Appendix T4 Storm Water Management is available to the Lab community and the general public via the public reading room that can be accessed at [www.jlab.org](http://www.jlab.org). Information at Adopt-A-Spot announcements may also be provided. The MS4 Program Plan will also be

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available through the same website. This document will also be provided in the TJNAF public reading area. [Refer to Section 1.1, BMP 1.A.]

**2.1.1 Responsible Party or Parties:** FM&L, ESH&Q Division, and the Public Affairs Office.

**2.1.2 Implementation Documentation:**

- Copies of MS4 Permit Annual Report
- TJNAF Web Site's public reading area
- [ES&H Manual Chapter 6730 Appendix T4 Storm Water Management](#)

**2.1.3 Actions/Activities (including measurable goals, schedule, and milestone dates):**

- Determine a means to promote the availability of the MS4 Program Plan to encourage involvement in this program. Include results in the calendar year 2012 update to ES&H Manual Chapter 6730 Appendix T4 Storm Water Management or other appropriate location.
- Ensure availability of the annual report on the JLab public reading room web site each year by December 31.

**2.1.4 Items Needed for the Annual Report:** Verify availability of the MS4 Program Plan on the TJNAF web site and make the August 2009 update available in the public reading room.

**2.2 BMP 2.B – Organize and execute on-site events and/or activities to involve staff volunteers in hands-on P2 activities related to storm water.**

This BMP is in practice and will be reviewed at the time of the site notification about the winter Adopt-A-Spot outing during at least the first 2 years of the permit. TJNAF will continue on the same schedule if Adopt-A-Spot is renewed; otherwise, during the preparation of the annual report under this permit and/or with the triennial update of the MS4 Program Plan for the remaining years of the permit.

**2.2.1 Responsible Party or Parties:** ESH&Q Division, FM&L, and the Public Affairs Office.

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**2.2.2 Implementation Documentation:** Announcements to all staff on the TJNAF intranet.

**2.2.3 Actions/Activities (including measurable goals, schedule, and milestone dates):**

- Track the number of events per year, including staff participation, with a minimum of one event per calendar year.
- Track the number of open houses or activities where information is provided to staff, with a minimum of one every two calendar years.
- Track the number of volunteers per scheduled event.
- Promote the MS4 at any scheduled publicly available Open House.
- Participate in the Adopt-a-Spot Program for a minimum of two years (beginning in Fall 2007), on a quarterly basis, cleaning the roadside of Jefferson Avenue, along the Lab boundary as far as Oyster Point Road.
- Evaluate possibilities to increase individual or group involvement in local water improvement initiatives during 2009. Include results in the calendar year 2012 update to [ES&H Manual Chapter 6730 Appendix T4 Storm Water Management](#) or other appropriate location.

**2.2.4 Items Needed for the Annual Report:** Record the number of events per year, including Earth Day activities, and Adopt-a-Spot cleanups; the number of volunteers associated with each. Report if open house was held, and if MS4 or MS4 Program Plan was promoted.

### **3.0 MCM 3 – ILLICIT DISCHARGE DETECTION AND ELIMINATION**

*TJNAF has several advantages over municipalities. Access to the property is limited during non-working hours, and roving security personnel should be able to intercept anyone who came onto the property with the intent to make an illicit discharge. Further, all Lab personnel and (sub)contractors are required to complete training that includes the proper notification of spills. Those personnel are made aware that Facilities Management & Logistics must approve all outdoor activities that may result in a discharge to surface waters (such as equipment washing). The key to illicit discharge detection and elimination therefore lies in the ongoing implementation of existing programs.*

**3.1 *BMP 3.A – Prepare a storm drain system map.***

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This map has been completed and contains site outfalls. The map is reviewed and updated annually as part of hurricane preparedness. FM&L will provide access to the final updated map.

### 3.1.1 Responsible Party or Parties: FM&L

### 3.1.2 Implementation Documentation:

- Updated storm drain system map.
- The current list of all retention ponds that qualify as BMPs.

### 3.1.3 Actions/Activities (including measurable goals, schedule, and milestone dates):

- Verify that the map is kept current with modifications and new piping and drainage installations (on or before July 1, 2010 and subsequent years of the permit term).
- Add receiving streams to storm drain map by end of permit term.
- Verify annually by July 1 that improvements are added to map within one year of their identification.
- Schedule to further improve the storm system map to include associated offsite surface waters (and their Hydrologic Unit Code), the names and locations of impaired surface waters that receive water from the site outfalls, and the estimated acreage that discharges to each impaired water. Map to be updated to include this information for reporting no later than the annual report due October 2011.

### 3.1.4 Items Needed for the Annual Report: Statements verifying that the map is adequate and include site outfalls, that the map has been updated that year, and that all improvements were added to the map in a timely fashion. List of retention ponds. Provide the schedule to make the noted additions to the map.

### 3.2 *BMP 3.B – Inform the Lab community about the hazards of illegal or improper discharges. Provide contact numbers for incident and routine reporting.*

TJNAF has a comprehensive emergency management plan that includes event reporting and notification responsibilities. Both routine and potential hazardous incidents are addressed in the TJNAF program. This plan is under revision to align

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with the requirements of DOE Order 151.C, Comprehensive Emergency Management System.

The goal of the plan is multifold, including educating and reminding the Lab community to contact x4444 for spills and other emergency management situations where immediate response is necessary and to contact x7400 to report routine storm water system problems and other concerns.

FM&L controls all water discharges from new or modified buildings and/or structures. ES&H Manual Chapter 6730 states that any non-storm water discharges are only authorized through the FM&L Manager. Note that FM&L routine maintenance activities involving discharges to the surface are covered in organizational programs or procedures that are approved by the FM&L Director. All staff and contracted/subcontracted employees involved with moving environmentally harmful materials receive appropriate training. Jefferson Lab phones have an information card attached covering emergency response. [Notice to Lab staff of this and other storm water P2 information is provided under BMP 1.B.]

This BMP is in practice through sharing information, sometimes through required training of staff and contractors/subcontractors. The training and informational message content and application of training will be reviewed at the time of preparation of the annual DCR report during all years of the permit.

**3.2.1 Responsible Party or Parties:** ESH&Q Division, FM&L, and Public Affairs Office share the lead on providing relevant information to the Lab under this BMP. FM&L manages new and modified structures for any surface water discharges.

**3.2.2 Implementation Documentation:** SAF 100 training modules; SAF 127 EMS awareness briefing for staff and users; ESH Manual Chapter 3510 – Emergency Management Plan, ESH Manual Chapter 6730-T4 – Storm Water Management Program, ESH Manual Chapter 6610 – Chemical Hygiene, ESH Manual Chapter 6750 – Environmentally Harmful Materials, ESH Manual Chapter 6770 – Waste Minimization and Pollution Prevention, organization SOPs, and the Oil Worker training package.

**3.2.3 Actions/Activities (including measurable goals, schedule, and milestone dates):**

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- [MCM 3e] Review current programs, such as the SPCC Plan, to identify better means to prevent or minimize to the maximum extent practicable the discharge of any illicit discharge, including hazardous substances or oil. Identify existing procedures by June 30, 2010 and identified improvements to be incorporated into processes or procedures, as prioritized by risk, prior to July 2012.
- [MCM 3.c] Triennially, verify that the annual message this information is relayed to the Lab community through a site program which includes the stipulation that only FM&L can authorize any new discharge point to the storm water system.
- Evaluate the adequacy of current incident tracking methods and determine the best method for consolidating storm water incident/concern information (by the end of June 2009).
- Implement a tracking system for storm water incidents and train responsible personnel in its use (by the end of June 2010).
- Track the number of storm water problems/incidents reported to x4444 and/or to the Lab facility emergency telephone per permit year, with a goal to further minimize the total number of problems/incidents during the permit term (beginning in July 2010 and continue through the end of the permit term) and verify that resolutions, dependent on risk, are taken care of in a timely manner.
- [MCM 3g] Determine a means to inform downstream neighbors with MS4s about the site's MS4 during 2009. If applicable, include applicable information results in the calendar year 2012 update to [ES&H Manual Chapter 6730 Appendix T4 Storm Water Management](#) or other appropriate location.
- [MCM 3a and 3d] The Lab will review practices and procedures used to detect and eliminate non-stormwater discharges during 2009. Identified improvements to be incorporated into processes or procedures, as prioritized by risk, prior to July 2012.

### 3.2.4 Items Needed for the Annual Report:

- Give summary of programs or procedures that are used to detect illicit discharges in report due Oct. 1, 2010.
- Provide the date and content of at least one notification to site staff about the hazards of illegal and improper discharge.
- Provide a brief report on the system used for incident tracking and a summary of incidents involving spills.
- Provide a status update for working with downstream MS4 neighbors.

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- Confirm the SPCC Plan is current.

- 3.3** *BMP 3.C – Continue to implement the program to address sanitary sewer backups, sewer or cooling tower overflows, cooling water system leaks, and other unexpected discharges, including reporting the incident to x7400 (or to x4444 if there is an emergency or other situation that requires immediate attention).*

Reduction and frequency of sanitation sewer and cooling water systems incidents contributing to storm water pollution prevention. Heightened awareness of immediate incident reporting importance and procedures.

**3.3.1 Responsible Party or Parties:** FM&L, ESH&Q Division.

**3.3.2 Implementation Documentation:** A log of spill reports to x4444 and incident reports involving spills or leaks provided to the ESH&Q Division.

**3.3.3 Actions/Activities (including measurable goals, schedule, and milestone dates):**

- Evaluate the adequacy of existing Standard Operating Procedure (SOP) or other procedures, and update as necessary (no less than triennially).
- Annually verify that training for staff involved with that work is current by the end of the permit year. Adjust training requirements and/or awareness materials if applicable
- Track the number of release incidents reported to x4444 and/or the facility emergency phone, and those remedied during each permit year, with a goal of 90% remedied in a manner and time frame consistent with the risk each poses.

**3.3.4 Items Needed for the Annual Report:** Number and disposition of spill, release, and illicit discharge incidents. Report if procedures were evaluated and if an update is scheduled.

- 3.4** *BMP 3.D – Implement a program to exclude routine accelerator tunnel sump pump discharges (excluding that from designated groundwater dewatering pumps) to the environment.*

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In 2007, TJNAF undertook a capital project to install piping in the entire circumference of the Accelerator tunnel. The piping is routed to all the sump pumps in which potentially activated water from condensate or groundwater seepage may collect. This potentially activated water is collected and tested, then typically routed to the Hampton Roads Sanitation District (HRSD) wastewater treatment plant.

**3.4.1 Responsible Party or Parties:** Radiation Control (ESH&Q Division) and FM&L

**3.4.2 Implementation Documentation:** Standard Operating Procedure (SOP) for tunnel sump pump discharges.

**3.4.3 Actions/Activities (including measurable goals, schedule, and milestone dates):**

- Triennially, verify that the SOP for this program is current (due in 2010).
- At least annually (as allowed during Scheduled Accelerator Down periods that exceed 14 days), verify proper valve alignment and piping integrity.
- Review inspection reports to show effective maintenance of this closed sump pump discharge system is performed.

**3.4.4 Items Needed for the Annual Report:** Documentation of SOP review and annual inspection.

#### **4.0 MCM 4 – CONSTRUCTION SITE STORM WATER RUNOFF CONTROL**

*The MS4 SWMP activities implemented under MCM 4 will focus on developing, implementing, and enforcing a program that will reduce or eliminate the impacts of storm water runoff from construction activities.*

##### **4.1 BMP 4.A – Construction site storm water runoff control.**

Construction activities planned under the MS4 Storm Water Management Program will be directed toward subcontractors, construction site operators, SOTRs, and enforcement personnel. Erosion and sediment control are critical to every construction project that needs to meet these MS4 criteria. Methods to prevent the

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export of sediments are planned during the site design process. TJNAF implements local Erosion & Sediment Control (E&SC) plans for any land disturbance greater than or equal to one acre. Although the site is not a Chesapeake Bay Preservation Area, the Lab implements E&SC measures (following the Virginia Erosion and Sediment Control Handbook) if needed for any other projects where storm water protection requirements are identified during the planning process. Project-specific planning addresses storm water treatment suitability, physical feasibility factors, and community and environmental factors. Lab has requirements already in place for land disturbing activities. A project of 10,000 SF or more requires an E&SC Plan. A project that is disturbing; one acre or more has additional requirements, including a project-specific Storm Water Pollution Prevention Plan (SWP3).

This BMP applies to projects of one acre or more.

[MCM 4.a. (1)] Subcontract requirements to require E&SC controls that follow the Virginia Erosion and Sediment Control Handbook are included in project specifications. The specifications are kept up to date to reflect permit conditions by FM&L.

#### 4.1.1 Responsible Party or Parties: FM&L Maintenance and Construction Group

#### 4.1.2 Implementation Documentation: TJNAF Stormwater Pollution Prevention Plan (SWP3) and E&SC measures that are included in the project-specific SWP3.

#### 4.1.3 Actions/Activities (including measurable goals, schedule, and milestone dates):

- [MCM 4.a.(2) and MCM 4.a.(3)] FM&L reviews designs for proper stormwater management to maintain or best replicate predevelopment runoff characteristics and site hydrology. FM&L ensures that appropriate permits (or to meet the terms of the Lab's permit) for construction activities to discharge stormwater under a State permit are obtained for applicable projects.
- Document readiness of an FM&L-approved E&SC plan as part of the subcontractor's SWP3 for each applicable project during that permit year. Track number of project specific SWP3 plans in place for each permit year.
- [MCM 4.a.(4)] Public Affairs to validate that the procedure to receive and consider information provided by the public is current. {Refer to the procedure in BMP 1.B.}

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- [MCM 4.b] FM&L to ensure that appropriate planners, subcontractors, and inspectors, are appropriately qualified.

**4.1.4 Items Needed for the Annual Report:** [MCM 4.c.] The number of applicable projects, the total disturbed acreage by project, and that there is an approved project specific SWP3 that incorporates E&SC measures for each project.

**4.2 BMP 4.B – [Preconstruction] Perimeter controls will be provided on all TJNAF construction sites of one acre or more.**

The requirements [in MCM 4.a.(1), (2), and (3)] are prescribed by a FM&L program and included in subcontractor specifications.

**4.2.1 Responsible Party or Parties:** FM&L Maintenance and Construction Group

**4.2.2 Implementation Documentation:** Construction site plans that document preconstruction activities submitted by subcontractors for implementation of erosion and sediment controls before ground is broken.

**4.2.3 Actions/Activities (including measurable goals, schedule, and milestone dates):** [MCM 4.a.(1), 4.a.(2), 4.a.(3)]

- E&SC documentation for all construction projects disturbing 1 acre or more must be reviewed by ESH&Q Division and approved by the Project Manager and the Maintenance and Construction Department, with a goal of 100% of applicable projects being approved.
- Verify that E&SC measures are in place for all projects prior to the start of construction, with a goal of 100% adherence to the requirements of the plan.

**4.2.4 Items Needed for the Annual Report:** For major construction projects identify the type of perimeter controls utilized over the permit year.

**4.3 BMP 4.C – [Ongoing Construction] All construction-related storm water controls and measures will be inspected and maintained on a project-by-project basis.**

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Controls and measures meeting the Virginia Erosion and Sediment Control Handbook are required for all activities disturbing 10,000 SF or more. Additional requirements, including the need for a SWP3 becomes necessary, for activities disturbing one acre or more. {See Section 4.1 for more a more complete description.}

Schedule for maintaining controls is based on the Virginia Erosion & Sediment Control Handbook. TJNAF's inspection and maintenance program for E&SC measures is overseen or performed by the FM&L organization or their subcontractors. If the project affects one or more acres, then the project will follow the requirements in the General Permit VAR10 as issued by the DCR for that project.

[MCM 4.a(2), 4.a.(5), 4.b] If repairs to measures cannot be promptly resolved, based on risk, temporary measures approved by the Subcontracting Officer's Technical Representative (SOTR) will be used.

**4.3.1 Responsible Party or Parties:** FM&L, Maintenance and Construction Department.

**4.3.2 Implementation Documentation:** Relevant subcontract specifications and completed SWP3 Inspection Forms for each active project.

**4.3.3 Actions/Activities (including measurable goals, schedule, and milestone dates):** [MCM 4.a.(2), 4.a.(5), 4.b]

- [MCM 4.a.(5)] FM&L inspects and enforces performance to meet permit requirements. Validate this performed with 80% adherence to the requirements.
- Monitor the percentage of storm water controls and measures that are reported as being in need of repair, and identify the percent corrected in a timeframe and manner consistent with the risk it poses. The goal is that 80% or more are corrected in this timeframe.

**4.3.4 Items Needed for the Annual Report:** Validate performance of required inspections, which are handled project by project. Provide evaluation on time frame to address repairs and remediation.

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### 5.0 MCM 5 – POST-CONSTRUCTION STORM WATER MANAGEMENT IN NEW DEVELOPMENT AND REDEVELOPMENT

*The Lab takes into account quantity and quality effects on local watersheds when planning for development or redevelopment. Storm water management planning considers both large projects affecting one acre or more and those that would affect less area that are in the site's ten year plan. [MCM 5.a.]*

*TJNAF continually reevaluates the potential for enhanced storm water management through both structural and non-structural controls. Two storm water retention ponds have been constructed and capture a large portion of site runoff. An example of the non-structural controls used at the Lab is the policy that FM&L must approve any planned activity that may result in a discharge to the storm water system. As a result of this policy, the potential risk of the activity is assessed, controls established, and then properly managed.*

*TJNAF implements Section 438 of the Energy Independence and Security Act of 2007 by considering storm water runoff factors listed in the site planning process and then implementing them during the facility design and operation.*

#### 5.1 **BMP 5.A – Develop a program for maintenance of structural and non-structural storm water controls, including catch basins.**

FM&L maintains the site's structural and nonstructural storm water controls in order to ensure that storm water is effectively managed to prevent damage at developed areas. Each retention pond will have an associated inspection or maintenance schedule; other structural and nonstructural controls are governed by a policy or procedure.

##### 5.1.1 **Responsible Party or Parties:** FM&L Maintenance and Construction Group

5.1.2 **Implementation Documentation:** Site documents, including the site storm water drawings used for planning work and the planned maintenance schedule; the list of retention ponds (structural controls) referenced in BMP 3.A.

##### 5.1.3 **Actions/Activities (including measurable goals, schedule, and milestone dates):**

- Identify existing stormwater BMPs by June 30, 2010.

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- Conduct a condition assessment to identify priorities for major maintenance and implementation of structural and nonstructural controls by the end of the permit term. After the initial condition assessment is performed, annually review the maintenance plan for the stormwater system. The maintenance plan will be revised as necessary based upon maintenance work performed, a revised condition assessment and/or new information. The condition assessment will be performed every 5 years.
- Begin to track the number of repairs or other corrective actions that rise to the level of a subcontractor change order or new subcontract. Evaluate implementing appropriate wording (such as storm water) into the work request (or other) system to facilitate tracking during 2009. Implement identified improvements as resources allow over the life of the permit. [MCM 3f]
- Conduct at least one annual inspection during each permit year of each of the three site outfalls.
- Integrate these controls into a formal inspection and maintenance program within six months after installation or construction of the new BMP is complete. Perform inspection and maintenance activities on controls according to site program requirements.

**5.1.4 Items Needed for the Annual Report:** Report status of condition assessment and last date it was performed; verification on annual inspection of each site outfall; report on maintenance of the ponds for the past year beginning in July 2009. Report if a new BMP became effective during that permit year.

**5.2 *BMP 5.B – Minimize impacts to storm water during postconstruction development and redevelopment activities to ensure compliance with applicable permits.***

TJNAF develops, implements, and enforces procedures to address stormwater runoff from new development and redevelopment projects that disturb greater than or equal to one acre. The procedures ensure that controls are in place that will prevent or minimize water quality and quantity impacts in accordance with permit requirements. All pre-construction and construction controls are covered under MCM 4. [ES&H Manual](#) updates are included under MCM 1.A. [MCM 5.b.(1) through 5.b.(6)]

**5.2.1 Responsible Party or Parties:** FM&L Maintenance and Construction Group

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**5.2.2 Implementation Documentation:** ES&H Manual Chapter 6730 Appendix T4 for preventing and minimizing stormwater runoff from development and redevelopment projects.

**5.2.3 Actions/Activities (including measurable goals, schedule, and milestone dates):**

- Follow [ES&H Manual Chapter 6730 Appendix T4 Storm Water Management](#) for controlling storm water runoff from development and redevelopment projects.
- [MCM 5.b.(6)] By end of 2010, identify unknown and track all known permanent stormwater management facilities that discharge onto our site and submit data required by Section II E 3 of the permit.

**5.2.4 Items Needed for the Annual Report:** Verify Ch. 6730 Appendix T4 is current. Starting with the 2010 annual report, report status on discussions with MS4 neighbors.

**5.3 *BMP 5.C – Consider the use of alternative methods (such as using special pavers or porous pavement, maintaining grassed swales, or eliminating curbs and gutters) in the planning process.***

On a project-by-project basis, TJNAF evaluates how best to integrate alternative methods that avoid the use of impervious materials, thereby helping to minimize storm water runoff and pollutants.

**5.3.1 Responsible Party or Parties:** FM&L Maintenance and Construction Group

**5.3.2 Implementation Documentation:** The planned earth-disturbing projects are listed on a status report that is regularly provided to involved staff.

**5.3.3 Actions/Activities (including measurable goals, schedule, and milestone dates):**

- Track the percentage of applicable projects that were considered for the use of alternative devices during each fiscal year.
- Track the percentage of applicable projects where alternatives were used with a goal of accomplishing at least one project using alternative methods by the end of the permit term of June 30, 2014.

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- 5.3.4 Items Needed for the Annual Report:** The number of applicable projects that were considered over the previous fiscal year; documentation of any use of alternative methods.

### 6.0 MCM 6 – POLLUTION PREVENTION/GOOD HOUSEKEEPING FOR MUNICIPAL OPERATIONS

*Though not a municipality, some of the same situations that could be sources of storm water pollution also are in existence at TJNAF. TJNAF implements a program to operate and maintain the site through programs and practices that minimize pollutant runoff. Requirements are included in site operations manuals and delineated in contract and subcontract specifications.*

*Successful storm water pollution control relies in large part on proper training and education of employees, contractors, subcontractors, and users. It is essential that employees and others (such as service and construction subcontractors/service contractors) understand and implement the BMPs that apply to operations within the facility.*

*Total Maximum Daily Load (TMDL) and Waste Load Allocation (WLA) information about actions that the Lab will be addressing in the future are expected to be covered under this MCM. No TMDLs or WLAs are yet identified. Until TMDL and WLA discharge limits have been established the Lab will monitor regulatory updates. The Lab anticipates identifying a BMP and at least one measurable goal be added to the MS4 Program Plan after applicable TMDLs and WLAs for local impaired waters are established.*

*There are no nutrient applications on any TJNAF land; so MCM 6.f. is not applicable to the TJNAF MS4 Storm Water Management Program.*

#### 6.1 **BMP 6.A – Pollution prevention/good housekeeping for site operations.**

Training will emphasize the importance of keeping pollutants out of the storm drains because the drains go directly to the surface waters of the state without benefit of wastewater treatment that the sanitary sewers receive. Facility personnel will be educated about the harmful environmental effects of improper disposal of materials into the storm drain so that they understand the importance of preventing storm water pollution.

TJNAF provides ES&H training to TJNAF employees and subcontractors, as well as to DOE service contractors. Along with job-specific safety and health training, job-specific EMS training elements that include preventing storm water pollution are

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provided to those persons via classroom training. Where appropriate, that training includes job-specific storm water P2.

**6.1.1 Responsible Party or Parties:** FM&L

**6.1.2 Implementation Documentation:** Training records.

**6.1.3 Actions/Activities (including measurable goals, schedule, and milestone dates):**

- Continue to minimize use of fertilizers, herbicides, pesticides, and other materials with the potential to pollute.
- Periodically verify the absence of illicit discharges in storage yards, parking lots, and other open areas.
- Continue to minimize water use for grounds and landscaping, using drought-tolerant plants as feasible.

**6.1.4 Items Needed for the Annual Report:** The number of subcontractor and DOE contractors employees (often the same person) meeting state certification, training, and testing requirements as well as TJNAF training; volume of irrigation water used annually.

**6.2 *BMP 6.B – Use road salt alternatives for roadway deicing.***

The use of road salt as a deicer on roads and other impervious surfaces has been the preferred method to promote safe motor vehicle and pedestrian travel during winter months. The most commonly used deicing salt is sodium chloride (NaCl), which is readily available, inexpensive, and effectively depresses the freezing point of water to melt ice. Growing knowledge of the potential for roadside habitat degradation, wildlife impacts, water-quality issues and other environmental concerns led TJNAF to discontinue use of NaCl in recent years. [MCM 6.a., 6.d.]

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**6.2.1 Responsible Party or Parties:** FM&L

**6.2.2 Implementation Documentation:** MSDS and related information on the chemicals that are used and evaluated.

**6.2.3 Actions/Activities (including measurable goals, schedule, and milestone dates):**

- Ensure that subcontracts specify that no road salt is to be used on site.
- Track the number and location of storage facilities for deicing compounds, and the percentage included in a regular inspection and maintenance program, with a goal of at least 1 inspection each permit year.
- Continue to use road salt alternatives. All available alternatives should be reevaluated for environmental effects annually.

**6.2.4 Items Needed for the Annual Report:** Documentation that no road salt was used and that alternatives are evaluated annually; locations and inspection results for deicing storage.

**6.3 *BMP 6.C – Maintain the site program for hazardous material and waste storage.***

TJNAF has site management programs for hazardous material storage and for hazardous waste storage. Procedures are implemented to ensure proper storage is practiced, in both interior and exterior areas, and hazardous waste storage is overseen by ESH&Q Division staff. [MCM 6.b, 6.c.]

For each permit year, TJNAF will continue its practice of properly managing such hazardous materials and wastes to prevent or minimize to the maximum extent practicable the discharges of hazardous substances including oil into surface waters. No hazardous wastes are stored outside except for one container in secondary containment that is occasionally used and may be temporarily staged outside during transit to the site Central Accumulation Area (CAA) and while being loaded for disposal transport.

**6.3.1 Responsible Party or Parties:** Designated staff, who represents the Lab organizations, that generate or need to store hazardous materials or chemicals, are responsible for their Lab office or division. ESH&Q Division staff provides assistance and guidance to the individual or organization that stores

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hazardous material. The ESH&Q Division manages the hazardous waste and used oil programs that include storage, and, as appropriate, provides oversight to other organizations' handling of such materials.

**6.3.2 Implementation Documentation:** ESH&Q Hazardous Waste procedure, Used Oil Management Procedure.

**6.3.3 Actions/Activities (including measurable goals, schedule, and milestone dates):**

**6.3.4**

- Maintain the inventory of hazardous materials and storage locations and verify annually.
- [MCM 6.c.] Maintain all hazardous waste manifests and ensure receipt at treatment facility.
- Document, by division, the frequency of inspection and maintenance visits to these areas by calendar year, with a goal of 100% of the locations inspected annually or more often.
- Document the amount of hazardous waste and used oil generated on at least a quarterly basis.
- Confirm by a random and significant sample of oil and chemical requisitions are filled only after verifying that (1) appropriate storage facilities exist and will be used, and (2) oil-free alternatives, or less hazardous chemicals, are not available or appropriate. This part of the program is to be implemented by the end of the permit period (2013).

**6.3.4 Items Needed for the Annual Report:** The number of inspections at hazardous material storage area performed over the permit year. Report that all RCRA inspections at all hazardous waste accumulation areas were performed monthly, and that the CAA was inspected weekly, per RCRA requirements.

**6.4 BMP 6.D – Ensure that performance objectives are included in any (sub)contract for building pest control or herbicide application by landscapers.**

Pest management and pesticides (including herbicides) usage are tightly regulated by Federal, State, and local authorities requiring training and licensing of technicians. Governing agencies include the Environmental Protection Agency (EPA), Food and

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Drug Administration (FDA), Occupational Safety and Health Administration (OSHA), and Center for Disease Control (CDC). Title 29 CFR (OSHA standards in the Code of Federal Regulations), Title 40 CFR (EPA standards), and Public Law 92-516 (the Federal Insecticide, Fungicide, and Rodenticide Act) (FIFRA) are typical governing standards.

TJNAF goes beyond these basic requirements by including performance objectives keyed to pollution prevention. Preference is granted to the least environmentally-harmful products that are effective for a given purpose, and applicators are instructed to use the minimum quantity feasible. [MCM 6.e.]

#### 6.4.1 Responsible Party or Parties: FM&L

#### 6.4.2 Implementation Documentation: Pest control and landscape contracts (with DOE)/subcontracts (with JSA)

#### 6.4.3 Actions/Activities (including measurable goals, schedule, and milestone dates):

- Verify that 100% of contractor and subcontractor personnel are Virginia certified for the category of products they will use before a contract is initiated.
- Periodically verify that DOE contractor and JSA subcontractor personnel meet all state certification and training and testing requirements, including training needed for specific products or classes of products.
- Require use in accordance with label.
- Whenever feasible, require tank mix be prepared prior to site visit and that on-hand quantities of concentrated product are minimized.
- Periodically verify (at a minimum, annually) that the contractor or subcontractor is ensuring that any new hires or positions are provided a site-specific briefing.
- Maintain the Lab's "minimum-use/least-harmful" contract/subcontract for pest control services (verify contractor/subcontractor pest management plan annually).

#### 6.4.4 Items Needed for the Annual Report: Verification of Virginia certification, contract/subcontract language, TJNAF SAF100 or equivalent training, and compliance with the "minimum-use/least-harmful" contract/subcontract clause.

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**6.5 BMP 6.E – Ensure that performance objectives for managing solid waste and recycling services include preventing storm water pollution.**

TJNAF, in its intent to minimize impacts to storm water resources, ensures that performance objectives are included in any subcontract for solid waste and recycling services. Note – Solid hazardous waste and oil collection is not included as it is addressed in BMP 6.C. [MCM 6.b, 6.c]

For each permit year, TJNAF proposes to continue validating the subcontractor performance to the terms of the subcontract. The subcontract includes a requirement to minimize storm water pollution, including from leaks from collection containers and waste hauling equipment.

**6.5.1 Responsible Party or Parties:** FM&L, Construction and Maintenance Group

**6.5.2 Implementation Documentation:** Subcontract/purchase order clauses applicable for this permit.

**6.5.3 Actions/Activities (including measurable goals, schedule, and milestone dates):**

- Verify that contract/subcontract documents include requirements for proper waste disposal. [MCM 6.c.]
- Inspect solid waste and recycling container locations on at least a quarterly basis to ensure that no solid waste management practices are adversely affecting storm water.

**6.5.4 Items Needed for the Annual Report:** Document that inspections of equipment and container locations are performed as noted above.

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Stormwater Management Facility Data for Thomas Jefferson Nation...

**Subject:** Stormwater Management Facility Data for Thomas Jefferson National Accelerator Facility (Permit # VAR040079)  
**From:** Tina Johnson <cjohnson@jlab.org>  
**Date:** Wed, 23 Sep 2009 13:54:20 -0400  
**To:** StormBMP.po-richmond.dom-richmond@dcr.virginia.gov  
**CC:** Linda Even <lle@jlab.org>, Bill Rainey <wrainey@jlab.org>, Patty Hunt <phunt@jlab.org>

To whom it may concern:

Attached please find the "Stormwater Management Facility Data" on Thomas Jefferson National Accelerator Facility reference Permit # VAR040079. It is in response to item k in the June 29, 2009 DCR letter addressed to Patty Hunt. Should you have any questions or concerns, feel free to contact Bill Rainey 757-269-7898 or Linda Even 757-269-7308.

A copy of this e-mail will be included with the Lab's annual report.

Thank you,  
Tina

--  
Tina Johnson  
ESH&Q Executive Assistant  
JSA/Jefferson Lab  
12050 Jefferson Ave  
Suite 602  
Newport News, VA 23606  
757-269-7611

<b>attachment 4 - item k - 15Sep09 - draft.xlsx</b>	<b>Content-Type:</b> application/vnd.openxmlformats-officedocument.spreadsheetml.sheet <b>Content-Encoding:</b> base64
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## Attachment 4: Stormwater Management Facility Data

Report Reference: Item k.

MS4 Permit Year I

Permit No. VAR040079

City of Newport News

<u>BMP Type</u>	<u>HUC</u>	<u>Discharges to Impaired Water</u>	<u>No. of Acres Treated</u>
a. Vegetated filter strip - Natural and Manmade Ditches on site. Covers Existing Conditions			
b. Grassed Swale (with check dams)	CB-22	Brick Kiln Creek	18
c. Constructed wetlands			
d. Extended detention			
e. Extended detention enhanced			
f. Bioretention			
g. Retention basin Pond - CEBAF Pond - Pond Sized for 10 Year Development	CB-22	Brick Kiln Creek	41
g. Retention basin Pond - East Pond - Pond Sized for 10 Year Development	CB-22	Brick Kiln Creek	21
h. Sand filter			
i. Infiltration			
j. Infiltration Basin			
k. Detention			
l. Manufactured BMPs			
m. Other-Provide description of facility function (e.g., infiltration, filtration)			