Appendix E.

Generic Storage and Maintenance Areas Stormwater Pollution Prevention Plan (SWPPP)

Example SWPPP

The following Appendix is split into two segments.

The first section provides a SWPPP example for a hypothetical facility/site.

The second provides blank worksheets to be included with a site map as the SWPPP.

SWPPP Checklist

____ Generalized Description and Site Map

___ 1 - Pollution Prevention Team

___ 2 - Materials Inventory

___ 2A - Significant Materials Exposed

___ 3 - Potential Pollutants

___ 4 - Significant Spill and Leaks

___ 5 - Associated Areas

___ 6 - Non-Stormwater Discharge Assessment (Dry Weather)

___ 7 - Non-Stormwater Discharge Assessment and Failure to Certify

___ 8 - Minimum BMP Identification

___ 8A - Additional BMP Identification

___ 9 - Implementation

___ 10 - Employee Training

___ 11 - Visual Inspections

Site Map

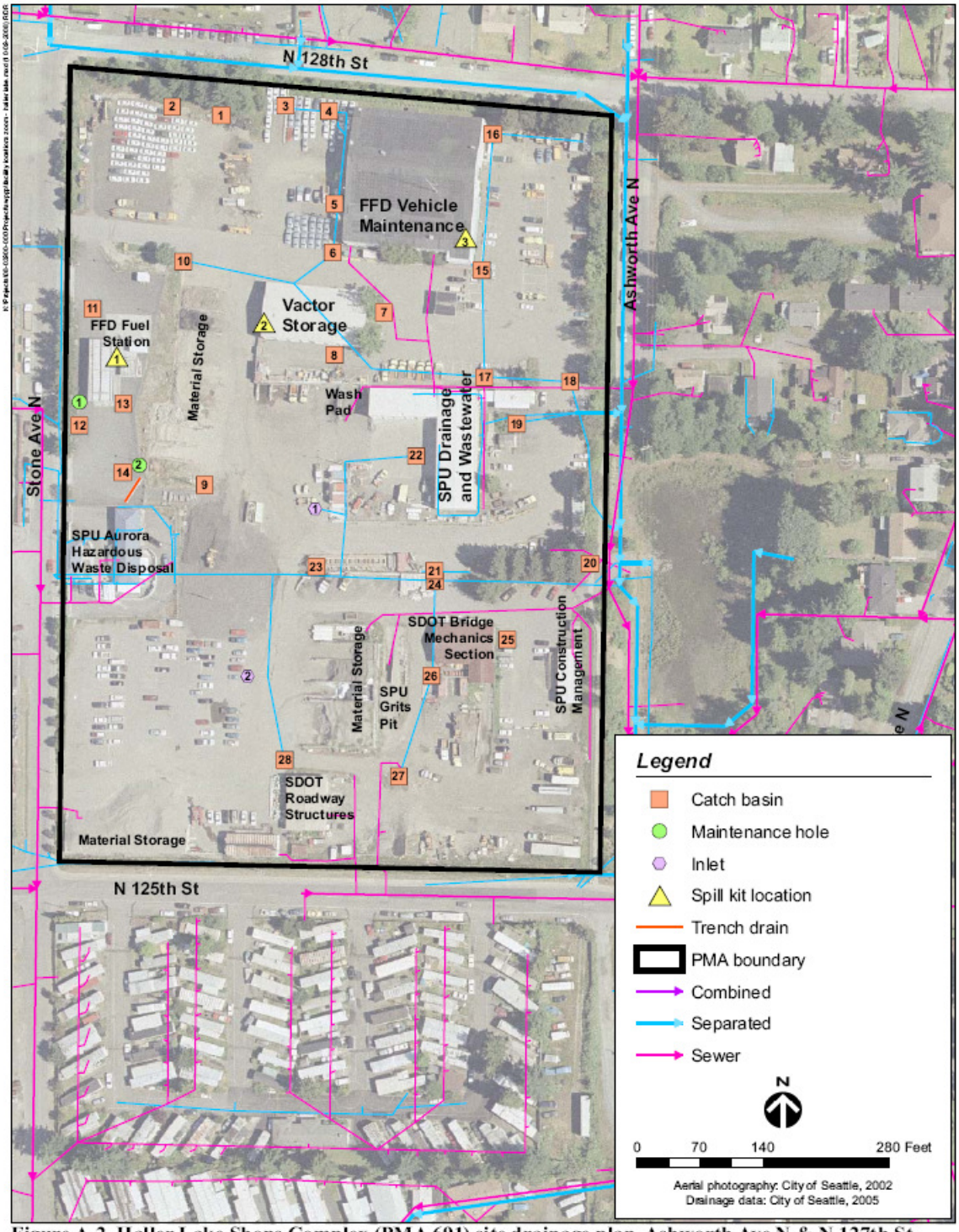

Figure A-2. Haller Lake Shops Complex (PMA 691) site drainage plan, Ashworth Ave N & N 127th St., Seattle, Washington.

(City of Seattle, 2007)

Pollution Prevention Team	**Worksheet #1** **Completed by:** John Smith **Title:** Plant Manager **Date:** October 31, 2002

Responsible Official: _____ Title: Plant Manager

Team Leader: John Smith Office Phone: (101) 555-1234

Responsibilities:

Signatory authority; coordinate all stages of plan development and implementation; coordinate employee training program; keep all records and ensure reports are submitted.

(1) Stephen Michaels Title: Production Supervisor

Office Phone: (101) 555-3923

Responsibilities:

Note any process changes; help conduct inspections.

(2) Rachel Meyers Title: Environmental Engineering Dept. Supervisor

Office Phone: (101) 555-5870

Responsibilities:

Responsible for implementing the pollution prevention maintenance program; oversee inspections.

(3) Isaac Feldman Title: Maintenance Dept. Supervisor

Office Phone: (101) 555-0482

Responsibilities:

Mr. Feldman is the spill response coordinator; oversees "good housekeeping."

(4) Group Activities Title: _____

Office Phone: _____

Responsibilities:

Developing the SWPPP elements, choosing stormwater management options.

Material Inventory	Worksheet #2 Completed by: John Smith Title: Plant Manager Date: January 31, 2003

List materials handled, treated, stored, or disposed of at the site that may potentially be exposed to precipitation or runoff. Also indicate if any spills or leaks of pollutants have occurred during the three years prior to the effective date of the permit. (Including any pollutants no longer handled on-site.)

Material	Purpose/Location	Quantity (Units)			Exposed Since Nov. 89 (Yes/No)	Likelihood of contact With stormwater. If Yes, describe reason	Past Spill or Leak	
		Used (indicate per/wk. or yr.)	Produced	Stored			Yes	No.
Machine oil	Truck unloading area	20 gal/wk	—	80 gal/ wk	No	Truck loading/unloading area outside and possible		✓
						Exposure with ruptured drums		
Gasoline	Truck fueling	80 gal/wk	—	300 gal/wk	Yes	Leaking valve overfilling fuel tanks	✓	
Motor oil	750 gal above grd tank	20 gal/wk	—	—	No	Possible exposure in event of defective tank or		
						Transfer of materials from tanks to containers		

Description of Exposed Significant Material	Worksheet #2A Completed by: John Smith Title: Plant Manager Date: 8/31/2006

Based on your material inventory, list significant materials that have been exposed since November 18, 1989, and/or are currently exposed.

List of Exposed Significant Materials	Period of Exposure	Quantity Exposed (units)	Location (as indicated on the site map)	Method of storage, handling, treatment, or disposal (e.g., sealed drum standing outside, or covered pile, drum, tank)
Machine oil	12/7/ 2002	10 gal	Storage bldg tank #2	50 gallon tanks (2)

Potential Pollutant Source Identification	Worksheet #3 Completed by: John Smith Title: Plant Manager Date: 3/28/2003	
List all potential stormwater pollutants from materials handled, treated, or stored on-site.		
Potential Stormwater Pollutant	**Stormwater Pollutant Source**	**Likelihood of pollutant being present in your stormwater discharge. If yes, explain**
1. Oil and grease on pavement in fueling area	Oil and water separators installed in stormwater drain	Install drip pads
2. Erosion in field below employee parking	Planted some grass after construction, grassed swales along Wonka Drive	Plant more grass
3. Potential for spills from oil storage tanks (leak detected in oil tank #1 and past spill on 5/10/98	Curbing around fuel storage tank (see SPCC plan)	Replace oil tank #1, replace valve on oil tank #2, install curbing around other outside tanks, spill prevention response plan, inspection
4. Use of toxic cleaning agent		Use non-toxic cleaning agent
5. Trash in loading/unloading fueling areas	Regular trash pickup (daily) by maintenance crew, collect and recycle used oil.	Train staff in good housekeeping practices.

List of Significant Spills and Leaks	Worksheet #4 Completed by: John Smith Title: Plant Manager Date: January 31, 2003

List all spills and leaks (as indicated on Worksheet #2) of toxic or hazardous pollutants since November 18, 1989, that were significant. Significant spills and leaks include but are not limited to, release of oil or hazardous substances in excess of reportable quantities (see chapter 2 of text). Although not required, we suggest you list spills and leaks of non-hazardous materials.

Date (month/day/year)	Location (as indicated on site map)	Description				Response Procedure		Preventive Measure Taken
		Type of Material	Quantity	Source, If Known	Reason for Spill/Leak	Amount of Material Recovered	Material No longer exposed to Storm-water (Yes/No)	
12/21/2002	Storage bldg	Oil	10 gal	Tank #2	Leaky valve	8 gal – balance	Yes	Complete the installation of
						contained and mopped		Curbing around tank Have "kitty" litter available

Identify Areas Associated With Storage or Maintenance Activity	Worksheet #5 Completed by: John Smith Title: Plant Manager Date: 4/27/03

List areas and activities, not included on Worksheets 2, 2A, and 3, which may be sources of pollution. Discuss the potential of these areas and activities as potential pollutant sources and identify any pollutant that may be generated by that activity...

Storage or Maintenance Area/Activity	Potential Stormwater Pollutant from Area or Activity	Likelihood of being present in your stormwater discharge. If yes, describe reason.
Gravel Loading and Unloading Area	Dust from Gravel	No
Fuel Station	Gasoline, Oils, and Vehicle Fluids	No
Paved Entrance Road	Dust, small amount dropped material from transport trucks.	Yes, Sediment and other materials could be washed into storm drains.

Non-Stormwater Discharge Dry Weather (July, August, September) Assessment and Certification	Worksheet #6 Completed by: Rachel Meyers Title: Engineering Dept Supervisor Date: December 31, 2003

The dry season inspection shall determine the presence of unpermitted non-stormwater discharges such as domestic wastewater, non-contact cooling water, or process wastewater (including *leachate*) to the *stormwater drainage system*. Such discharges, if illicit, must be eliminated within 30 days, or application submitted to Ecology for a NPDES Permit.

Tests may include: visual observations of flows, odors, and other abnormal conditions; dye tests, television line surveys; and/or analysis and validation of accurate piping schematics.

Date	Discharge Location (as indicated on the site map)	Method used to test or Evaluate Discharge	Describe Results from Test for Presence of Non-Stormwater Discharge	Identify Potential Significant Sources	Person who Conducted The Test
7/21/03	001	Visual Inspection	No discharge observed		R. Meyers and S. Goodhope
9/20/03	001	Visual Inspection	Significant flow; oil	Vehicle wash ongoing at time	R. Meyers and S. Goodhope
12/1/03	001	Visual Inspection	Small amount of clear discharge	Suspected to be delayed stormwater drainage from storm that occurred 8/30/98	R. Meyers and S. Goodhope

CERTIFICATION

A. Name and Title Cheryl Glenn, Plant Manager	**B. Phone: (101) 555-1239**
C. Signature Cheryl Glenn	**D. Date Signed 1/31/04**

Non-Stormwater Discharge Assessment and Failure To Certify Notification	Worksheet #7 Completed by: John Smith Title: Plant Manager Date: 3/28/03

If you cannot feasibly evaluate the entire stormwater drainage system, fill in the table below with the appropriate information and sign this form to certify the accuracy of the included information.

List all outfalls or storm drains tested or evaluated, describe any potential sources of non-stormwater pollution from listed outfalls or drains, and state the reason(s) why certification is not possible. Use the key from your site map to identify each outfall.

Identify Discharge Location Not Tested/Evaluated	Description of Why Certification is Infeasible	Description of Potential Sources of Non-Stormwater Pollution
Outfall #2	Outfall is currently submerged by stream	Sediment and dust from gravel loading area

CERTIFICATION

A. Name and Title John Smith	**B. Phone: (101) 555-8833**
C. Signature John Smith	**D. Date Signed 3/28/03**

Minimum BMP Identification	Worksheet #8 Completed by: John Smith Title: Plant Manager Date: 3/28/03

Describe the BMPs that are needed for the facility to address existing and potential pollutant sources identified in Worksheets #3, 4, and 5. The description shall include the following minimum requirements.

BMPs	Brief Description of Activities or Improvements
Good Housekeeping	Collect and recycle used oil; regular trash pickup; train staff in basic cleanup procedures (sweeping loading and unloading areas, etc.)
Preventive Maintenance	Daily inspection of outside oil tanks; replace faulty valve on oil tank #2; replace leaking oil tank #1.
Spill Prevention and Emergency Cleanup	Install curbing around outside oil storage tanks; fuel tank has curbing, install drip pads at fueling station.

BMPs	Brief Description of Activities or Improvements
Inspections	Quarterly inspections, both during rain events and dry periods.
Source Control BMPs	
Erosion and Sediment Control BMPs (if applicable)	Plant grass around new parking area.

Additional BMP Identification	Worksheet #8A Completed by: John Smith Title: Plant Manager Date: 3/28/03

Describe any treatment and innovative BMPs that are required to address existing and potential pollutant sources identified in Worksheet 3, 4, and 5. These are BMPs needed to prevent the discharge of significant amounts of pollutants despite implementation of operational and source control BMPs.

BMPs	Brief Description of Activities or Improvements
Treatment BMPs	Grassed swales along Wonka Drive, Oil/water separators (2) in storm drain system.
Emerging technologies **Flow Control BMPs (if applicable)**	

BMP Implementation	Worksheet #9 Completed by: John Smith Title: Plant Manager Date: 8/27/03

Develop a plan for implementing each BMP. Describe the steps necessary to implement the BMP (i.e., any construction or design), the schedule for completing those steps (list dates) and the person(s) responsible for implementation.

BMPs	Description of Action(s) Required for Implementation	Schedule Milestone and Completion Date(s)	Person Responsible for Action
Good Housekeeping	**1.** Develop training program	1/15/03	Glenn
	2. Conduct training	1/15/03	Glenn
	3		
Preventive Maintenance	1. Replace valve on oil tank #2	3/15/03	Feldman
	2. Install new oil tank #2	6/30/03	Feldman
	3.		
	4.		
Spill Prevention and Emergency Cleanup	1. Install curbing around oil storage tanks	6/30/03	Meyers
	2. Install drip pads	1/15/03	Feldman
	3. Develop/implement spill prevention/ response training	1/15/03 - 1/31/03	Feldman
Inspections	1. Develop inspections schedule	12/21/02	Glenn
	2.		
	3.		

Employee Training	Worksheet #10 Completed by: John Smith Title: Plant Manager Date: 8/24/03		
Describe the annual training of employees on the SWPPP, addressing spill response, good housekeeping, and material management practices.			
Training Topics **1.) LINE WORKERS**	**Brief Description of Training Program/Materials (e.g., film, newsletter course)**	**Schedule for Training (list dates)**	**Attendees**
Spill Prevention and Response	Locate spill areas by signs; drill spill response procedures; show slides of past spills	December/June	Maintenance/shipping and receiving
Good Housekeeping	Demonstration; post signs at disposal sites.	December/June	Maintenance/shipping and receiving
Material Management Practices	Introduce hazardous materials labels; discuss recycling.	December/June	Line workers/shipping and receiving
2.) P2 TEAM:			
SWPPP Implementation	SWPPP Components	March	Meister
Monitoring Procedures	Demonstration with monitoring equipment	March	Meister

Record of Visual Inspections of Stormwater Discharges	**Worksheet #11** **Completed by *: Michael Hay** **Title: Water Quality Inspector** **Date: 9/25/04** * **Must be conducted by qualified person identified in the SWPPP.**

List observed pollutants in all discharges and carefully assess the pollutant sources and action steps needed to control the pollutants. Record pollutant sources/generating activities, BMP adequacy, site map, and other facility information on Worksheets 1-9, inclusive.

Date	Surface Discharge ID	Ground Discharge ID	List of observed pollutants and descriptions of intensities of each. Include floatables, oil sheen, discoloration, turbidity, odor, etc.	Recommended Action Steps
3/20/03	001	002	Oil sheen, high turbidity.	Increased sweeping

Blank SWPPP Worksheets

SWPPP Checklist

___ Generalized Description and Site Map

___ 1 - Pollution Prevention Team

___ 2 - Materials Inventory

___ 2A - Significant Materials Exposed

___ 3 - Potential Pollutants

___ 4 - Significant Spill and Leaks

___ 5 - Associated Areas

___ 6 - Non-Stormwater Discharge Assessment (Dry Weather)

___ 7 - Non-Stormwater Discharge Assessment and Failure to Certify

___ 8 - Minimum BMP Identification

___ 8A - Additional BMP Identification

___ 9 - Implementation

___ 10 - Employee Training

___ 11 - Visual Inspections

Pollution Prevention Team	**Worksheet #1** **Completed by: _____** **Title: _____** **Date: _____**
Responsible Official:_____	Title:_____
Team Leader:_____	Office Phone:_____
Responsibilities: _____ _____ _____	
(1)_____	Title:_____ Office Phone:_____
Responsibilities: _____ _____ _____	
(2)_____	Title:_____ Office Phone:_____
Responsibilities: _____ _____ _____	
(3)_____	Title:_____ Office Phone:_____
Responsibilities: _____ _____ _____	

Material Inventory	Worksheet #2_____ Completed by:_____ Title:_____ Date:_____

List materials handled, treated, stored, or disposed of at the site that may potentially be exposed to precipitation or runoff. Also indicate if any spills or leaks of pollutants have occurred during the three years prior to the effective date of the permit. (Including any pollutants no longer handled on-site.)

Material	Purpose/Location	Quantity (Units) (indicate per/wk. or yr.)			Exposed Since Nov. 89 (Yes/No)	Likelihood of contact With stormwater. If Yes, describe reason	Past Spill or Leak	
		Used	Produced	Stored			Yes	No.

Description of Exposed Significant Material	Worksheet #2A Completed by: Title: Date:

Based on your material inventory, list significant materials that have been exposed since November 18, 1989, and/or are currently exposed.

List of Exposed Significant Materials	Period of Exposure	Quantity Exposed (units)	Location (as indicated on the site map)	Method of storage, handling, treatment, or disposal (e.g., sealed drum standing outside, or covered pile, drum, tank)

Potential Pollutant Source Identification	Worksheet #3_____ Completed by:_____ Title:_____ Date:_____

List all potential stormwater pollutants from materials handled, treated, or stored on-site.

Potential Stormwater Pollutant	Stormwater Pollutant Source	Likelihood of pollutant being present in your stormwater discharge. If yes, explain

List of Significant Spills and Leaks	Worksheet #4 Completed by: Title: Date:

List all spills and leaks (as indicated on Worksheet #2) of toxic or hazardous pollutants that were significant after the date of three years prior to the effective date of this Permit. Significant spills and leaks include but are not limited to, release of oil or hazardous substances in excess of reportable quantities (see chapter 2 of text). Although not required, we suggest you list spills and leaks of non-hazardous materials.

Date (month/day/year)	Location (as indicated on site map)	Description				Response Procedure		Preventive Measure Taken
		Type of Material	Quantity	Source, If Known	Reason for Spill/Leak	Amount of Material Recovered	Material No longer exposed to Storm-water (Yes/No)	

Identify Areas Associated With Storage or Maintenance Activity	Worksheet #5 Completed by: Title: Date:

List areas and activities, not included on Worksheets 2, 2A, and 3, which may be sources of pollution. Discuss the potential of these areas and activities as potential pollutant sources and identify any pollutant that may be generated by that activity...

Storage or Maintenance Area/Activity	Potential Stormwater Pollutant from Area or Activity	Likelihood of being present in your stormwater discharge. If yes, describe reason.

Non-Stormwater Discharge Dry Weather (July, August, September) Assessment and Certification	Worksheet #_____ Completed by:_____ Title:_____ Date:_____

The dry season inspection shall determine the presence of unpermitted non-stormwater discharges such as domestic wastewater, non-contact cooling water, or process wastewater (including *leachate*) to the *stormwater drainage system*. Such discharges, if illicit, must be eliminated within 30 days, or application submitted to Ecology for a NPDES Permit.

Tests may include: visual observations of flows, odors, and other abnormal conditions; dye tests, television line surveys; and/or analysis and validation of accurate piping schematics.

Date	Discharge Location (as indicated on the site map)	Method used to test or Evaluate Discharge	Describe Results from Test for Presence of Non-Stormwater Discharge	Identify Potential Significant Sources	Person who Conducted The Test

CERTIFICATION

A. Name and Title	B. Phone:
C. Signature	D. Date Signed

Non-Stormwater Discharge Assessment and Failure To Certify Notification	Worksheet #7_____ Completed by:_____ Title:_____ Date:_____

If you cannot feasibly evaluate the entire stormwater drainage system, fill in the table below with the appropriate information and sign this form to certify the accuracy of the included information.

List all outfalls or storm drains tested or evaluated, describe any potential sources of non-stormwater pollution from listed outfalls or drains, and state the reason(s) why certification is not possible. Use the key from your site map to identify each outfall.

Identify Discharge Location Not Tested/Evaluated	Description of Why Certification is Infeasible	Description of Potential Sources of Non-Stormwater Pollution

CERTIFICATION

A. Name and Title	B. Phone:
C. Signature	D. Date Signed

Minimum BMP Identification	Worksheet #8 Completed by: Title: Date:

Describe the BMPs that are needed for the facility to address existing and potential pollutant sources identified in Worksheets #3, 4, and 5. The description shall include the following minimum requirements.

BMPs	Brief Description of Activities or Improvements
Good Housekeeping	
Preventive Maintenance	
Spill Prevention and Emergency Cleanup	

BMPs	Brief Description of Activities or Improvements
Inspections	
Source Control BMPs	
Erosion and Sediment Control BMPs (if applicable)	

Additional BMP Identification	Worksheet #8A Completed by: Title: Date:

Describe any treatment and innovative BMPs that are required to address existing and potential pollutant sources identified in Worksheet 3, 4, and 5. These are BMPs needed to prevent the discharge of significant amounts of pollutants despite implementation of operational and source control BMPs.

BMPs	Brief Description of Activities or Improvements
Treatment BMPs	
Emerging technologies **Flow Control BMPs (if applicable)**	

BMP Implementation	Worksheet #9_____ Completed by:_____ Title:_____ Date:_____

Develop a plan for implementing each BMP. Describe the steps necessary to implement the BMP (i.e., any construction or design), the schedule for completing those steps (list dates) and the person(s) responsible for implementation.

BMPs	Description of Action(s) Required for Implementation	Schedule Milestone and Completion Date(s)	Person Responsible for Action
Good Housekeeping	1.		
	2.		
	3		
Preventive Maintenance	1.		
	2.		
	3.		
	4.		
Spill Prevention and Emergency Cleanup	1.		
	2.		
	3.		
Inspections	1.		
	2.		
	3.		

BMPs	Description of Action(s) Required for Implementation	Schedule Milestone and Completion Date(s)	Person Responsible for Action
Source Control BMPs	1.		
	2.		
	3		
	4.		
	5.		
	6.		
	7.		
	8.		
Erosion and Sediment Control	1.		
	2.		
	3.		
	4.		
Treatment BMPs	1.		
	2.		
	3.		
	4.		
Emerging technologies	1.		
	2.		
Flow Control BMPs	3.		
	4.		

Employee Training	Worksheet #10_____ Completed by:_____ Title:_____ Date:_____		
Describe the annual training of employees on the SWPPP, addressing spill response, good housekeeping, and material management practices.			
Training Topics **1.) LINE WORKERS**	**Brief Description of Training Program/Materials (e.g., film, newsletter course)**	**Schedule for Training (list dates)**	**Attendees**
Spill Prevention and Response			
Good Housekeeping			
Material Management Practices			
2.) P2 TEAM:			
SWPPP Implementation			
Monitoring Procedures			

Record of Visual Inspections of Stormwater Discharges	**Worksheet #11** **Completed by *:** **Title:** **Date:** * **Must be conducted by qualified person identified in the SWPPP.**

List observed pollutants in all discharges and carefully assess the pollutant sources and action steps needed to control the pollutants. Record pollutant sources/generating activities, BMP adequacy, site map, and other facility information on Worksheets 1-9, inclusive.

Date	Surface Discharge ID	Ground Discharge ID	List of observed pollutants and descriptions of intensities of each. Include floatables, oil sheen, discoloration, turbidity, odor, etc.	Recommended Action Steps