

**AUTHORIZATION TO DISCHARGE UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

In compliance with the provisions of the Federal Clean Water Act as amended, (33 U.S.C. §§1251 et seq.; the "CWA"), and the Massachusetts Clean Waters Act, as amended, (M.G.L. Chap. 21, §§26-53),

Solutia, Inc.

is authorized to discharge from the facility located at

**Solutia, Inc.
Indian Orchard Plant
730 Worcester Street
Springfield, MA 01151-1089**

to the receiving waters named

Chicopee River and Bircham Bend Brook (MA36-24)

in accordance with effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on **February 1, 2009**.

This permit and the authorization to discharge expire at midnight, five (5) years from the last day of the month preceding the effective date.

This permit supersedes the permit modified on November 3, 1993.

This permit consists of 40 pages in Part I including effluent limitations, monitoring requirements, and state permit conditions, Attachment A, Freshwater Acute Toxicity Test Protocol and 25 pages in Part II including Standard Conditions.

Signed this 4th day of December, 2008

/S/ SIGNATURE ON FILE

Stephen S. Perkins, Director
Office of Ecosystem Protection
Environmental Protection Agency
Boston, MA

Glenn Haas, Director
Division of Watershed Management
Department of Environmental Protection
Commonwealth of Massachusetts
Boston, MA

PART I

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

1. **Dry weather monitoring.** During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge **once-through non-contact cooling water and residual untreated storm water** from **outfall 009** to the Chicopee River. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristic	Units	Discharge Limitation		Monitoring Requirement ^{1,7}	
		Average Monthly	Maximum Daily	Measurement Frequency	Sample Type
Flow	MGD	0.15	0.2	1 / Month	Estimate
pH ²	s.u.	6.5-8.3 range (See Part I.A.8.b Page 34)		1 / Month	Grab
Temperature	°F	*****	83	1 / Month	Grab
Total Residual Chlorine	mg/l	Report	Report	1 / Month	Grab
Copper	mg/l	****	Report	1 / Year ⁸	Grab
Cyanide	mg/l	****	Report	1 / Year ⁸	Grab
Zinc	mg/l	****	Report	1 / Year ⁸	Grab
Chloroform	µg/l	****	Report	1 / Year ⁸	Grab
Methanol	µg/l	****	Report	1 / Year ⁸	Grab
Dichlorobromomethane	µg/l	****	Report	1 / Year ⁸	Grab
Chlorobenzene	µg/l	****	Report	1 / Year ⁸	Grab

Part I.A.1, Continued

Polychlorinated Biphenyls (PCBs)					
1016	µg/l	****	Report	1 / Year ⁸	Grab
1221	µg/l	****	Report	1 / Year ⁸	Grab
1232	µg/l	****	Report	1 / Year ⁸	Grab
1242	µg/l	****	Report	1 / Year ⁸	Grab
1248	µg/l	****	Report	1 / Year ⁸	Grab
1254	µg/l	****	Report	1 / Year ⁸	Grab
1260	µg/l	****	Report	1 / Year ⁸	Grab
Whole Effluent Toxicity (WET)					
LC ₅₀ ^{3, 4, 5}	%	*****	Report	1 / Year	Composite ⁶
Hardness	mg/l	*****	Report	1 / Year	Composite ⁶
Alkalinity	mg/l	*****	Report	1 / Year	Composite ⁶
pH	s.u.	*****	Report	1 / Year	Composite ⁶
Specific Conductance	µmhos/cm	*****	Report	1 / Year	Composite ⁶
Total Solids	mg/l	*****	Report	1 / Year	Composite ⁶
Ammonia	mg/l	*****	Report	1 / Year	Composite ⁶
Total Organic Carbon	mg/l	*****	Report	1 / Year	Composite ⁶
Total Residual Chlorine	mg/l	*****	Report	1 / Year	Composite ⁶
Dissolved Oxygen	mg/l	*****	Report	1 / Year	Composite ⁶
Total Cadmium	mg/l	*****	Report	1 / Year	Composite ⁶
Total Chromium	mg/l	*****	Report	1 / Year	Composite ⁶
Total Lead	mg/l	*****	Report	1 / Year	Composite ⁶
Total Copper	mg/l	*****	Report	1 / Year	Composite ⁶
Total Zinc	mg/l	*****	Report	1 / Year	Composite ⁶
Total Nickel	mg/l	*****	Report	1 / Year	Composite ⁶
Total Aluminum	mg/l	*****	Report	1 / Year	Composite ⁶
Total Magnesium	mg/l	*****	Report	1 / Year	Composite ⁶
Total Calcium	mg/l	*****	Report	1 / Year	Composite ⁶

Footnotes:

1. Samples taken in compliance with the monitoring requirements specified above shall be taken during dry weather conditions from the discharge point to the Chicopee River and shall, to the extent practicable, be free from the influence of storm water. Monitoring is only required March – November, inclusive.
2. Required for State Certification
3. "LC₅₀" is defined as the concentration of effluent that caused mortality to 50% of the test organisms.
4. The permittee shall conduct acute toxicity tests once (1) a year using using the daphnid, Ceriodaphnia dubia, and the fathead minnow, Pimephales promelas. Toxicity test samples shall be collected during the month of August and the test results shall be submitted by the last day of the month following the completion of the test. The tests must be performed in accordance with test procedures and protocols specified in **Attachment A** of this permit.

Test Month	Submit Results By:	Test Species	Acute Limit LC ₅₀	Chronic Limit C-NOEC
August	September 30 th	Daphnid Fathead Minnow See Attachment A	Report	N/A

After at least two (2) WET tests showing no toxicity for Outfall 009, the permittee may submit to EPA and MassDEP a written request for a permit modification of its toxicity testing requirements. EPA and MassDEP will review the results of the toxicity tests and determine if further testing is required for this outfall. The permittee is required to continue testing as specified in the permit until the permit is either formally modified or until the permittee receives a certified letter from EPA indicating a change in the permit conditions.

5. If toxicity test(s) using receiving water as diluent show the receiving water to be toxic or unreliable, the permittee shall follow procedures outlined in **Attachment A**, Section IV., DILUTION WATER in order to obtain permission to use alternate dilution water.

In lieu of individual approvals for alternate dilution water required in **Attachment A**, EPA-New England has developed a Self-Implementing Alternative Dilution Water Guidance document (called “Guidance Document”) which may be used to obtain automatic approval of alternate dilution water, including the appropriate species for use with that water. If this Guidance document is revoked, the permittee shall revert to obtaining approval as outlined in **Attachment A**. The “Guidance Document” is included in Attachment G of the *NPDES Permit Program Instructions for the Discharge Monitoring (DMR) Forms* available at <http://www.epa.gov/region1/enforcementandassistance/dmr.html> and is not intended as a direct attachment to this permit.

6. A composite samples shall consist of at least eight (8) grab samples taken once per hour on a flow weighted basis throughout an 8 hour period.
7. See Part I.A.9.K
8. Sampling for zinc, copper, cyanide, chloroform, methanol, dichlorobromomethane, chlorobenzene, and PCBs shall occur once (1) per year concurrently with sampling for whole effluent toxicity. After five years and five (5) results, the permittee may submit to EPA and MassDEP a written request for a permit modification of its monitoring requirements for any pollutant proven to be absent or in significantly low concentrations in the discharge.

PART I.A. (continued)

2. **Wet weather monitoring.** During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge **once-through non-contact cooling water and untreated storm water** from **catch basins 561 and 573** through outfall 009 to the Chicopee River. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristic	Units	Discharge Limitation		Monitoring Requirement ^{1, 2, 3, 9}	
		Average Monthly	Maximum Daily	Measurement Frequency ⁵	Sample Type
Flow	MGD	Report	Report	1 / Quarter	Estimate
pH ⁴	s.u.	6.5-8.3 range (See Part I.A.8.b Page 34)		1 / Quarter	Grab
Total Recoverable Zinc	mg/l	*****	Report	1 / Quarter	Grab
TSS	mg/l	*****	Report	1 / Quarter	Grab
E. coli ¹⁰	colonies/ 100 ml	****	Report	1 / Year	Grab
Copper ¹⁰	mg/l	****	Report	1 / Year	Grab
Cyanide ¹⁰	mg/l	****	Report	1 / Year	Grab
Chloroform ¹⁰	µg/l	****	Report	1 / Year	Grab
Methanol ¹⁰	µg/l	****	Report	1 / Year	Grab
Dichlorobromomethane ¹⁰	µg/l	****	Report	1 / Year	Grab
Chlorobenzene ¹⁰	µg/l	****	Report	1 / Year	Grab

Part I.A.2, Continued

Polychlorinated Biphenyls (PCBs)¹⁰					
1016	µg/l	****	Report	1 / Year	Grab
1221	µg/l	****	Report	1 / Year	Grab
1232	µg/l	****	Report	1 / Year	Grab
1242	µg/l	****	Report	1 / Year	Grab
1248	µg/l	****	Report	1 / Year	Grab
1254	µg/l	****	Report	1 / Year	Grab
1260	µg/l	****	Report	1 / Year	Grab
Whole Effluent Toxicity (WET)					
LC ₅₀ ^{6,7,8}	%	*****	Report	1 / Year	Grab
Hardness	mg/l	*****	Report	1 / Year	Grab
Alkalinity	mg/l	*****	Report	1 / Year	Grab
pH	s.u.	*****	Report	1 / Year	Grab
Specific Conductance	µmhos/cm	*****	Report	1 / Year	Grab
Total Solids	mg/l	*****	Report	1 / Year	Grab
Ammonia	mg/l	*****	Report	1 / Year	Grab
Total Organic Carbon	mg/l	*****	Report	1 / Year	Grab
Total Residual Chlorine	mg/l	*****	Report	1 / Year	Grab
Dissolved Oxygen	mg/l	*****	Report	1 / Year	Grab
Total Cadmium	mg/l	*****	Report	1 / Year	Grab
Total Chromium	mg/l	*****	Report	1 / Year	Grab
Total Lead	mg/l	*****	Report	1 / Year	Grab
Total Copper	mg/l	*****	Report	1 / Year	Grab
Total Zinc	mg/l	*****	Report	1 / Year	Grab
Total Nickel	mg/l	*****	Report	1 / Year	Grab
Total Aluminum	mg/l	*****	Report	1 / Year	Grab
Total Magnesium	mg/l	*****	Report	1 / Year	Grab
Total Calcium	mg/l	*****	Report	1 / Year	Grab

Footnotes:

1. Each monitoring period, the permittee shall, in compliance with the monitoring requirements specified above, take one sample from catch basin 561 and one sample from catch basin 573 and report the results on separate DMRs.
2. All wet weather samples shall be collected from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (i.e., greater than 0.1 inch rainfall) storm event. All samples are to be grab samples taken within thirty (30) minutes of the initiation of the discharge from the outfall(s) where practicable, but in no case later than within the first hour of discharge from the outfall(s). When adverse climatic conditions preclude the ability to sample, the permittee shall submit a report citing the conditions which prevented sampling. For further guidance, see *NPDES Storm Water Sampling Guidance Document, EPA 833-B-92-001, July 1992*. A report stating that there was no discharge shall be submitted when there is no storm event, and subsequently no discharge, during the reporting period.
3. The permittee shall record the date and duration (in hours) of the storm event(s) sampled, rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff, the duration between the storm event samples and the end of the previous measurable (greater than 0.1 inch rainfall) storm event, and an estimate of the total volume (in liters) of the discharge samples.
4. Required for State Certification
5. Sampling frequency of quarterly is defined as the sampling of one (1) storm event (as defined above in Footnote 2) in each quarter. Quarters are defined as the interval of time between the months of: January through March, inclusive; April through June, inclusive; July through September, inclusive; and October through December, inclusive. **Yearly sampling shall be collected from the same storm event in August, as described below in footnote 7. During that quarter, quarterly sampling shall be performed concurrently with the yearly monitoring event.**
6. "LC₅₀" is defined as the concentration of effluent that caused mortality to 50% of the test organisms.
7. The permittee shall conduct acute toxicity tests once (1) a year using using the daphnid, *Ceriodaphnia dubia*, and the fathead minnow, *Pimephales promelas*. Toxicity test samples shall be collected during the month of August and the test results shall be submitted by the last day of the month following the completion of the test. The tests must be performed in accordance with test procedures and protocols specified in **Attachment A** of this permit.

Test Month	Submit Results By:	Test Species	Acute Limit LC ₅₀	Chronic Limit C-NOEC
August	September 30 th	Daphnid Fathead Minnow See Attachment A	Report	N/A

After at least two (2) WET tests showing no toxicity for Outfall 009, the permittee may submit to EPA and MassDEP a written request for a permit modification of its toxicity testing requirements. EPA and MassDEP will review the results of the toxicity tests and determine if further testing is required for this outfall. The permittee is required to continue testing as specified in the permit until the permit is either formally modified or until the permittee receives a certified letter from EPA indicating a change in the permit conditions.

8. If toxicity test(s) using receiving water as diluent show the receiving water to be toxic or unreliable, the permittee shall follow procedures outlined in **Attachment A**, Section IV., DILUTION WATER in order to obtain permission to use alternate dilution water.

In lieu of individual approvals for alternate dilution water required in **Attachment A**, EPA-New England has developed a Self-Implementing Alternative Dilution Water Guidance document (called “Guidance Document”) which may be used to obtain automatic approval of alternate dilution water, including the appropriate species for use with that water. If this Guidance document is revoked, the permittee shall revert to obtaining approval as outlined in **Attachment A**. The “Guidance Document” is included in Attachment G of the *NPDES Permit Program Instructions for the Discharge Monitoring (DMR) Forms* available at <http://www.epa.gov/region1/enforcementandassistance/dmr.html> and is not intended as a direct attachment to this permit.

9. See Part I.A.9.K.
10. Sampling for e. coli, copper, cyanide, chloroform, methanol, dichlorobromomethane, chlorobenzene, and PCBs shall occur once (1) per year concurrently with sampling for whole effluent toxicity. After five years and five (5) results, the permittee may submit to EPA and MassDEP a written request for a permit modification of its monitoring requirements for any pollutant proven to be absent or in significantly low concentrations in the discharge.

PART I.A. (continued)

3. **Dry weather monitoring.** During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge **once-through non-contact cooling water and residual storm water** from **outfall 017** to the Chicopee River. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristic	Units	Discharge Limitation		Monitoring Requirement ^{1, 8}	
		Average Monthly	Maximum Daily	Measurement Frequency	Sample Type
Flow	MGD	4.0	6.0	3 / Month ⁷	Estimate
pH ²	s.u.	6.5-8.3 range (See Part I.A.8.b Page 34)		1 / Month	Grab
Temperature	°F	*****	85	1 / Month	Grab
Total Residual Chlorine	mg/l	Report	Report	1 / Month	Grab
Copper	mg/l	****	Report	1 / Year ⁹	Grab
Cyanide	mg/l	****	Report	1 / Year ⁹	Grab
Zinc	mg/l	****	Report	1 / Year ⁹	Grab
Chloroform	µg/l	****	Report	1 / Year ⁹	Grab
Methanol	µg/l	****	Report	1 / Year ⁹	Grab
Dichlorobromomethane	µg/l	****	Report	1 / Year ⁹	Grab
Chlorobenzene	µg/l	****	Report	1 / Year ⁹	Grab

PART I.A.3. (continued)

Polychlorinated Biphenyls (PCBs)					
1016	µg/l	****	Report	1 / Year ⁹	Grab
1221	µg/l	****	Report	1 / Year ⁹	Grab
1232	µg/l	****	Report	1 / Year ⁹	Grab
1242	µg/l	****	Report	1 / Year ⁹	Grab
1248	µg/l	****	Report	1 / Year ⁹	Grab
1254	µg/l	****	Report	1 / Year ⁹	Grab
1260	µg/l	****	Report	1 / Year ⁹	Grab
Whole Effluent Toxicity (WET)					
LC ₅₀ ^{3, 4, 5}	%	*****	Report	1 / Year	Composite ⁶
Hardness	mg/l	*****	Report	1 / Year	Composite ⁶
Alkalinity	mg/l	*****	Report	1 / Year	Composite ⁶
pH	s.u.	*****	Report	1 / Year	Composite ⁶
Specific Conductance	µmhos/cm	*****	Report	1 / Year	Composite ⁶
Total Solids	mg/l	*****	Report	1 / Year	Composite ⁶
Ammonia	mg/l	*****	Report	1 / Year	Composite ⁶
Total Organic Carbon	mg/l	*****	Report	1 / Year	Composite ⁶
Total Residual Chlorine	mg/l	*****	Report	1 / Year	Composite ⁶
Dissolved Oxygen	mg/l	*****	Report	1 / Year	Composite ⁶
Total Cadmium	mg/l	*****	Report	1 / Year	Composite ⁶
Total Chromium	mg/l	*****	Report	1 / Year	Composite ⁶
Total Lead	mg/l	*****	Report	1 / Year	Composite ⁶
Total Copper	mg/l	*****	Report	1 / Year	Composite ⁶
Total Zinc	mg/l	*****	Report	1 / Year	Composite ⁶
Total Nickel	mg/l	*****	Report	1 / Year	Composite ⁶
Total Aluminum	mg/l	*****	Report	1 / Year	Composite ⁶
Total Magnesium	mg/l	*****	Report	1 / Year	Composite ⁶
Total Calcium	mg/l	*****	Report	1 / Year	Composite ⁶

Footnotes:

1. Samples taken in compliance with the monitoring requirements specified above shall be taken during dry weather conditions from the discharge point to the Chicopee River and shall, to the extent practicable, be free from the influence of storm water.
2. Required for State Certification
3. "LC₅₀" is defined as the concentration of effluent that caused mortality to 50% of the test organisms.
4. The permittee shall conduct acute toxicity tests once (1) a year using using the daphnid, Ceriodaphnia dubia, and the fathead minnow, Pimephales promelas. Toxicity test samples shall be collected during the month of August and the test results shall be submitted by the last day of the month following the completion of the test. The tests must be performed in accordance with test procedures and protocols specified in **Attachment A** of this permit.

Test Month	Submit Results By:	Test Species	Acute Limit LC ₅₀	Chronic Limit C-NOEC
August	September 30 th	Daphnid Fathead Minnow See Attachment A	Report	N/A

After at least two (2) WET tests showing no toxicity for Outfall 017, the permittee may submit to EPA and MassDEP a written request for a permit modification of its toxicity testing requirements. EPA and MassDEP will review the results of the toxicity tests and determine if further testing is required for this outfall. The permittee is required to continue testing as specified in the permit until the permit is either formally modified or until the permittee receives a certified letter from EPA indicating a change in the permit conditions.

5. If toxicity test(s) using receiving water as diluent show the receiving water to be toxic or unreliable, the permittee shall follow procedures outlined in **Attachment A**, Section IV., DILUTION WATER in order to obtain permission to use alternate dilution water.

In lieu of individual approvals for alternate dilution water required in **Attachment A**, EPA-New England has developed a Self-Implementing Alternative Dilution Water Guidance document (called "Guidance Document") which may be used to obtain automatic approval of alternate dilution water, including the appropriate species for use with that water. If this Guidance

document is revoked, the permittee shall revert to obtaining approval as outlined in **Attachment A**. The “Guidance Document” is included in Attachment G of the *NPDES Permit Program Instructions for the Discharge Monitoring (DMR) Forms* available at <http://www.epa.gov/region1/enforcementandassistance/dmr.html> and is not intended as a direct attachment to this permit.

6. A composite samples shall consist of at least eight (8) grab samples taken once per hour on a flow weighted basis throughout an eight (8) hour period.
7. Monitoring frequency shall be 1 / Month for December – February, inclusive.
8. See Part I.A.9.K.
9. Sampling for zinc, copper, cyanide, chloroform, methanol, dichlorobromomethane, chlorobenzene, and PCBs shall occur once (1) per year concurrently with sampling for whole effluent toxicity. After five years and five (5) results, the permittee may submit to EPA and MassDEP a written request for a permit modification of its monitoring requirements for any pollutant proven to be absent or in significantly low concentrations in the discharge.

PART I.A. (continued)

4. **Wet weather monitoring.** During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge **once-through non-contact cooling water and untreated storm water** from **outfall 017** to the Chicopee River. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristic	Units	Discharge Limitation		Monitoring Requirement ^{1, 2, 3, 9}	
		Average Monthly	Maximum Daily	Measurement Frequency ⁵	Sample Type
Flow	MGD	Report	Report	1 / Quarter	Estimate
pH ⁴	s.u.	6.5-8.3 range (See Part I.A.8.b Page 34)		1 / Quarter	Grab
Total Recoverable Zinc	mg/l	*****	Report	1 / Quarter	Grab
TSS	mg/l	*****	Report	1 / Quarter	Grab
E. coli ¹⁰	colonies/ 100 ml	****	Report	1 / Year	Grab
Copper ¹⁰	mg/l	****	Report	1 / Year	Grab
Cyanide ¹⁰	mg/l	****	Report	1 / Year	Grab
Chloroform ¹⁰	µg/l	****	Report	1 / Year	Grab
Methanol ¹⁰	µg/l	****	Report	1 / Year	Grab
Dichlorobromomethane ¹⁰	µg/l	****	Report	1 / Year	Grab
Chlorobenzene ¹⁰	µg/l	****	Report	1 / Year	Grab

PART I.A.4. (continued)

Polychlorinated Biphenyls (PCBs) ¹⁰					
1016	µg/l	****	Report	1 / Year	Grab
1221	µg/l	****	Report	1 / Year	Grab
1232	µg/l	****	Report	1 / Year	Grab
1242	µg/l	****	Report	1 / Year	Grab
1248	µg/l	****	Report	1 / Year	Grab
1254	µg/l	****	Report	1 / Year	Grab
1260	µg/l	****	Report	1 / Year	Grab
Whole Effluent Toxicity (WET)					
LC ₅₀ ^{6,7,8}	%	*****	Report	1 / Year	Grab
Hardness	mg/l	*****	Report	1 / Year	Grab
Alkalinity	mg/l	*****	Report	1 / Year	Grab
pH	s.u.	*****	Report	1 / Year	Grab
Specific Conductance	µmhos/cm	*****	Report	1 / Year	Grab
Total Solids	mg/l	*****	Report	1 / Year	Grab
Ammonia	mg/l	*****	Report	1 / Year	Grab
Total Organic Carbon	mg/l	*****	Report	1 / Year	Grab
Total Residual Chlorine	mg/l	*****	Report	1 / Year	Grab
Dissolved Oxygen	mg/l	*****	Report	1 / Year	Grab
Total Cadmium	mg/l	*****	Report	1 / Year	Grab
Total Chromium	mg/l	*****	Report	1 / Year	Grab
Total Lead	mg/l	*****	Report	1 / Year	Grab
Total Copper	mg/l	*****	Report	1 / Year	Grab
Total Zinc	mg/l	*****	Report	1 / Year	Grab
Total Nickel	mg/l	*****	Report	1 / Year	Grab
Total Aluminum	mg/l	*****	Report	1 / Year	Grab
Total Magnesium	mg/l	*****	Report	1 / Year	Grab
Total Calcium	mg/l	*****	Report	1 / Year	Grab

Footnotes:

1. Samples taken in compliance with the monitoring requirements specified above shall be taken from the discharge point to the Chicopee River.
2. All wet weather samples shall be collected from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (i.e., greater than 0.1 inch rainfall) storm event. All samples are to be grab samples taken within thirty (30) minutes of the initiation of the discharge from the outfall(s) where practicable, but in no case later than within the first hour of discharge from the outfall(s). When adverse climatic conditions preclude the ability to sample, the permittee shall submit a report citing the conditions which prevented sampling. For further guidance, see *NPDES Storm Water Sampling Guidance Document, EPA 833-B-92-001, July 1992*. A report stating that there was no discharge shall be submitted when there is no storm event, and subsequently no discharge, during the reporting period.
3. The permittee shall record the date and duration (in hours) of the storm event(s) sampled, rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff, the duration between the storm event samples and the end of the previous measurable (greater than 0.1 inch rainfall) storm event, and an estimate of the total volume (in liters) of the discharge samples.
4. Required for State Certification
5. Sampling frequency of quarterly is defined as the sampling of one (1) storm event (as defined above in Footnote 2) in each quarter. Quarters are defined as the interval of time between the months of: January through March, inclusive; April through June, inclusive; July through September, inclusive; and October through December, inclusive. **Yearly sampling shall be collected from the same storm event in August, as described below in footnote 7. During that quarter, quarterly sampling shall be performed concurrently with the yearly monitoring event.**
6. "LC₅₀" is defined as the concentration of effluent that caused mortality to 50% of the test organisms.
7. The permittee shall conduct acute toxicity tests once (1) a year using using the daphnid, Ceriodaphnia dubia, and the fathead minnow, Pimephales promelas. Toxicity test samples shall be collected during the month of August and the test results shall be submitted by the last day of the month following the completion of the test. The tests must be performed in accordance with test procedures and protocols specified in **Attachment A** of this permit.

Test Month	Submit Results By:	Test Species	Acute Limit LC ₅₀	Chronic Limit C-NOEC
August	September 30 th	Daphnid Fathead Minnow See Attachment A	Report	N/A

After at least two (2) WET tests showing no toxicity for Outfall 017, the permittee may submit to EPA and MassDEP a written request for a permit modification of its toxicity testing requirements. EPA and MassDEP will review the results of the toxicity tests and determine if further testing is required for this outfall. The permittee is required to continue testing as specified in the permit until the permit is either formally modified or until the permittee receives a certified letter from EPA indicating a change in the permit conditions.

8. If toxicity test(s) using receiving water as diluent show the receiving water to be toxic or unreliable, the permittee shall follow procedures outlined in **Attachment A**, Section IV., DILUTION WATER in order to obtain permission to use alternate dilution water.

In lieu of individual approvals for alternate dilution water required in **Attachment A**, EPA-New England has developed a Self-Implementing Alternative Dilution Water Guidance document (called “Guidance Document”) which may be used to obtain automatic approval of alternate dilution water, including the appropriate species for use with that water. If this Guidance document is revoked, the permittee shall revert to obtaining approval as outlined in **Attachment A**. The “Guidance Document” is included in Attachment G of the *NPDES Permit Program Instructions for the Discharge Monitoring (DMR) Forms* available at <http://www.epa.gov/region1/enforcementandassistance/dmr.html> and is not intended as a direct attachment to this permit.

9. See Part I.A.9.K.
10. Sampling for e.coli, copper, cyanide, chloroform, methanol, dichlorobromomethane, chlorobenzene, and PCBs shall occur once (1) per year concurrently with sampling for whole effluent toxicity. After five years and five (5) results, the permittee may submit to EPA and MassDEP a written request for a permit modification of its monitoring requirements for any pollutant proven to be absent or in significantly low concentrations in the discharge.

PART I.A. (continued)

5. **Wet weather monitoring.** During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge **untreated storm water** from **outfalls 10S, 51S, 14S, 61S, 15S, and 19S** to the Chicopee River. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristic	Units	Discharge Limitation		Monitoring Requirement ^{1, 2, 3, 9}	
		Average Monthly	Maximum Daily	Measurement Frequency ⁵	Sample Type
Flow	MGD	Report	Report	1 / Quarter	Estimate
pH ⁴	s.u.	6.5-8.3 range (See Part I.A.8.b Page 34)		1 / Quarter	Grab
Total Recoverable Zinc	mg/l	*****	Report	1 / Quarter	Grab
TSS	mg/l	*****	Report	1 / Quarter	Grab
E. coli ¹⁰	colonies/ 100 ml	****	Report	1 / Year	Grab
Copper ¹⁰	mg/l	****	Report	1 / Year	Grab
Cyanide ¹⁰	mg/l	****	Report	1 / Year	Grab
Chloroform ¹⁰	µg/l	****	Report	1 / Year	Grab
Methanol ¹⁰	µg/l	****	Report	1 / Year	Grab
Dichlorobromomethane ¹⁰	µg/l	****	Report	1 / Year	Grab
Chlorobenzene ¹⁰	µg/l	****	Report	1 / Year	Grab

PART I.A.5. (continued)

Polychlorinated Biphenyls (PCBs)¹⁰					
1016	µg/l	****	Report	1 / Year	Grab
1221	µg/l	****	Report	1 / Year	Grab
1232	µg/l	****	Report	1 / Year	Grab
1242	µg/l	****	Report	1 / Year	Grab
1248	µg/l	****	Report	1 / Year	Grab
1254	µg/l	****	Report	1 / Year	Grab
1260	µg/l	****	Report	1 / Year	Grab
Whole Effluent Toxicity (WET)					
LC ₅₀ ^{6,7,8}	%	*****	Report	1 / Year	Grab
Hardness	mg/l	*****	Report	1 / Year	Grab
Alkalinity	mg/l	*****	Report	1 / Year	Grab
pH	s.u.	*****	Report	1 / Year	Grab
Specific Conductance	µmhos/cm	*****	Report	1 / Year	Grab
Total Solids	mg/l	*****	Report	1 / Year	Grab
Ammonia	mg/l	*****	Report	1 / Year	Grab
Total Organic Carbon	mg/l	*****	Report	1 / Year	Grab
Total Residual Chlorine	mg/l	*****	Report	1 / Year	Grab
Dissolved Oxygen	mg/l	*****	Report	1 / Year	Grab
Total Cadmium	mg/l	*****	Report	1 / Year	Grab
Total Chromium	mg/l	*****	Report	1 / Year	Grab
Total Lead	mg/l	*****	Report	1 / Year	Grab
Total Copper	mg/l	*****	Report	1 / Year	Grab
Total Zinc	mg/l	*****	Report	1 / Year	Grab
Total Nickel	mg/l	*****	Report	1 / Year	Grab
Total Aluminum	mg/l	*****	Report	1 / Year	Grab
Total Magnesium	mg/l	*****	Report	1 / Year	Grab
Total Calcium	mg/l	*****	Report	1 / Year	Grab

Footnotes:

1. Samples taken in compliance with the above monitoring requirements may be taken using a representative outfall (See Part I.B.9.). If the permittee chooses to sample using a representative outfall, the permittee shall develop a rotating sampling schedule for outfalls 10S, 51S, 14S, 61S, 15S, and 19S such that at least one outfall is sampled for each reporting period, each WET test is sampled from a different outfall each year, and each outfall is sampled at least twice within the five year permit cycle, with the rotation repeating thereafter. In addition, the schedule shall state, for each outfall, whether the sample is taken at the discharge point to the Chicopee River or at a specified catch basin. **This schedule shall be submitted to EPA within thirty (30) days of the date of issuance of the permit in accordance with Part I.E. of this permit.** If a schedule is not submitted, the permittee shall collect at least one (1) sample from each outfall for every monitoring period.
2. All wet weather samples shall be collected from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (i.e., greater than 0.1 inch rainfall) storm event. All samples are to be grab samples taken within thirty (30) minutes of the initiation of the discharge from the outfall(s) where practicable, but in no case later than within the first hour of discharge from the outfall(s). When adverse climatic conditions preclude the ability to sample, the permittee shall submit a report citing the conditions which prevented sampling. For further guidance, see *NPDES Storm Water Sampling Guidance Document, EPA 833-B-92-001, July 1992*. A report stating that there was no discharge shall be submitted when there is no storm event, and subsequently no discharge, during the reporting period.
3. The permittee shall record the date and duration (in hours) of the storm event(s) sampled, rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff, the duration between the storm event samples and the end of the previous measurable (greater than 0.1 inch rainfall) storm event, and an estimate of the total volume (in liters) of the discharging samples.
4. Required for State Certification
5. Sampling frequency of quarterly is defined as the sampling of one (1) storm event (as defined above in Footnote 2) in each quarter. Quarters are defined as the interval of time between the months of: January through March, inclusive; April through June, inclusive; July through September, inclusive; and October through December, inclusive. **Yearly sampling shall be collected from the same storm event in August, as described below in footnote 7. During that quarter, quarterly sampling shall be performed concurrently with the yearly monitoring event.**
6. "LC₅₀" is defined as the concentration of effluent that caused mortality to 50% of the test organisms.

7. The permittee shall conduct acute toxicity tests once (1) a year using using the daphnid, Ceriodaphnia dubia, and the fathead minnow, Pimephales promelas. Toxicity test samples shall be collected during the month of August and the test results shall be submitted by the last day of the month following the completion of the test. The tests must be performed in accordance with test procedures and protocols specified in **Attachment A** of this permit.

Test Month	Submit Results By:	Test Species	Acute Limit LC ₅₀	Chronic Limit C-NOEC
August	September 30 th	Daphnid Fathead Minnow See Attachment A	Report	N/A

After at least two (2) WET tests showing no toxicity for any individual outfall listed in Part I.A.5, the permittee may submit to EPA and MassDEP a written request for a permit modification of its toxicity testing requirements. EPA and MassDEP will review the results of the toxicity tests and determine if further testing is required for this series of outfalls. The permittee is required to continue testing as specified in the permit until the permit is either formally modified or until the permittee receives a certified letter from EPA indicating a change in the permit conditions.

8. If toxicity test(s) using receiving water as diluent show the receiving water to be toxic or unreliable, the permittee shall follow procedures outlined in **Attachment A**, Section IV., DILUTION WATER in order to obtain permission to use alternate dilution water. In lieu of individual approvals for alternate dilution water required in **Attachment A**, EPA-New England has developed a Self-Implementing Alternative Dilution Water Guidance document (called “Guidance Document”) which may be used to obtain automatic approval of alternate dilution water, including the appropriate species for use with that water. If this Guidance document is revoked, the permittee shall revert to obtaining approval as outlined in **Attachment A**. The “Guidance Document” is included in Attachment G of the *NPDES Permit Program Instructions for the Discharge Monitoring (DMR) Forms* available at <http://www.epa.gov/region1/enforcementandassistance/dmr.html> and is not intended as a direct attachment to this permit.
9. See Part I.A.9.K.
10. Sampling for e.coli, copper, cyanide, chloroform, methanol, dichlorobromomethane, chlorobenzene, and PCBs shall occur once (1) per year concurrently with sampling for whole effluent toxicity. After five years and five (5) results, the permittee may submit to EPA and MassDEP a written request for a permit modification of its monitoring requirements for any pollutant proven to be absent or in significantly low concentrations in the discharge.

PART I.A. (continued)

6. **Wet weather monitoring.** During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge **untreated storm water** from **outfall 20S** to Bircham Bend Brook. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristic	Units	Discharge Limitation		Monitoring Requirement ^{1, 2, 3, 9}	
		Average Monthly	Maximum Daily	Measurement Frequency ⁵	Sample Type
Flow	MGD	Report	Report	1 / Quarter	Estimate
pH ⁴	s.u.	6.5-8.3 range (See Part I.A.8.b Page 34)		1 / Quarter	Grab
Total Recoverable Zinc	mg/l	*****	Report	1 / Quarter	Grab
TSS	mg/l	*****	Report	1 / Quarter	Grab
E. coli ¹⁰	colonies/ 100 ml	****	Report	1 / Year	Grab
Copper ¹⁰	mg/l	****	Report	1 / Year	Grab
Cyanide ¹⁰	mg/l	****	Report	1 / Year	Grab
Chloroform ¹⁰	µg/l	****	Report	1 / Year	Grab
Methanol ¹⁰	µg/l	****	Report	1 / Year	Grab
Dichlorobromomethane ¹⁰	µg/l	****	Report	1 / Year	Grab
Chlorobenzene ¹⁰	µg/l	****	Report	1 / Year	Grab

PART I.A.6. (continued)

Polychlorinated Biphenyls (PCBs)¹⁰					
1016	µg/l	****	Report	1 / Year	Grab
1221	µg/l	****	Report	1 / Year	Grab
1232	µg/l	****	Report	1 / Year	Grab
1242	µg/l	****	Report	1 / Year	Grab
1248	µg/l	****	Report	1 / Year	Grab
1254	µg/l	****	Report	1 / Year	Grab
1260	µg/l	****	Report	1 / Year	Grab
Whole Effluent Toxicity (WET)					
LC ₅₀ ^{6,7,8}	%	*****	Report	1 / Year	Grab
Hardness	mg/l	*****	Report	1 / Year	Grab
Alkalinity	mg/l	*****	Report	1 / Year	Grab
pH	s.u.	*****	Report	1 / Year	Grab
Specific Conductance	µmhos/cm	*****	Report	1 / Year	Grab
Total Solids	mg/l	*****	Report	1 / Year	Grab
Ammonia	mg/l	*****	Report	1 / Year	Grab
Total Organic Carbon	mg/l	*****	Report	1 / Year	Grab
Total Residual Chlorine	mg/l	*****	Report	1 / Year	Grab
Dissolved Oxygen	mg/l	*****	Report	1 / Year	Grab
Total Cadmium	mg/l	*****	Report	1 / Year	Grab
Total Chromium	mg/l	*****	Report	1 / Year	Grab
Total Lead	mg/l	*****	Report	1 / Year	Grab
Total Copper	mg/l	*****	Report	1 / Year	Grab
Total Zinc	mg/l	*****	Report	1 / Year	Grab
Total Nickel	mg/l	*****	Report	1 / Year	Grab
Total Aluminum	mg/l	*****	Report	1 / Year	Grab
Total Magnesium	mg/l	*****	Report	1 / Year	Grab
Total Calcium	mg/l	*****	Report	1 / Year	Grab

Footnotes:

1. Samples taken in compliance with the monitoring requirements specified above shall be taken at catch basin C 2080 prior to discharge to Bircham Bend Brook.
2. All wet weather samples shall be collected from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (i.e., greater than 0.1 inch rainfall) storm event. All samples are to be grab samples taken within thirty (30) minutes of the initiation of the discharge from the outfall(s) where practicable, but in no case later than within the first hour of discharge from the outfall(s). When adverse climatic conditions preclude the ability to sample, the permittee shall submit a report citing the conditions which prevented sampling. For further guidance, see *NPDES Storm Water Sampling Guidance Document, EPA 833-B-92-001, July 1992*. A report stating that there was no discharge shall be submitted when there is no storm event, and subsequently no discharge, during the reporting period.
3. The permittee shall record the date and duration (in hours) of the storm event(s) sampled, rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff, the duration between the storm event samples and the end of the previous measurable (greater than 0.1 inch rainfall) storm event, and an estimate of the total volume (in liters) of the discharge samples.
4. Required for State Certification
5. Sampling frequency of quarterly is defined as the sampling of one (1) storm event (as defined above in Footnote 2) in each quarter. Quarters are defined as the interval of time between the months of: January through March, inclusive; April through June, inclusive; July through September, inclusive; and October through December, inclusive. **Yearly sampling shall be collected from the same storm event in August, as described below in footnote 7. During that quarter, quarterly sampling shall be performed concurrently with the yearly monitoring event.**
6. "LC₅₀" is defined as the concentration of effluent that caused mortality to 50% of the test organisms.
7. The permittee shall conduct acute toxicity tests once (1) a year using using the daphnid, *Ceriodaphnia dubia*, and the fathead minnow, *Pimephales promelas*. Toxicity test samples shall be collected during the month of August and the test results shall be submitted by the last day of the month following the completion of the test. The tests must be performed in accordance with test procedures and protocols specified in **Attachment A** of this permit.

Test Month	Submit Results By:	Test Species	Acute Limit LC ₅₀	Chronic Limit C-NOEC
August	September 30 th	Daphnid Fathead Minnow See Attachment A	Report	N/A

After at least two (2) WET tests showing no toxicity for Outfall 20S, the permittee may submit to EPA and MassDEP a written request for a permit modification of its toxicity testing requirements. EPA and MassDEP will review the results of the toxicity tests and determine if further testing is required for this outfall. The permittee is required to continue testing as specified in the permit until the permit is either formally modified or until the permittee receives a certified letter from EPA indicating a change in the permit conditions.

8. If toxicity test(s) using receiving water as diluent show the receiving water to be toxic or unreliable, the permittee shall follow procedures outlined in **Attachment A**, Section IV., DILUTION WATER in order to obtain permission to use alternate dilution water.

In lieu of individual approvals for alternate dilution water required in **Attachment A**, EPA-New England has developed a Self-Implementing Alternative Dilution Water Guidance document (called “Guidance Document”) which may be used to obtain automatic approval of alternate dilution water, including the appropriate species for use with that water. If this Guidance document is revoked, the permittee shall revert to obtaining approval as outlined in **Attachment A**. The “Guidance Document” is included in Attachment G of the *NPDES Permit Program Instructions for the Discharge Monitoring (DMR) Forms* available at <http://www.epa.gov/region1/enforcementandassistance/dmr.html> and is not intended as a direct attachment to this permit.

9. See Part I.A.9.K.
10. Sampling for e.coli, copper, cyanide, chloroform, methanol, dichlorobromomethane, chlorobenzene, and PCBs shall occur once (1) per year concurrently with sampling for whole effluent toxicity. After five years and five (5) results, the permittee may submit to EPA and MassDEP a written request for a permit modification of its monitoring requirements for any pollutant proven to be absent or in significantly low concentrations in the discharge.

PART I.A. (continued)

7. **Wet weather monitoring.** During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge **untreated storm water with uncontaminated groundwater infiltration** from **outfall 21S** to Bircham Bend Brook. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristic	Units	Discharge Limitation		Monitoring Requirement ^{1, 2, 3, 9}	
		Average Monthly	Maximum Daily	Measurement Frequency ⁵	Sample Type
Flow	MGD	Report	Report	1 / Quarter	Estimate
pH ⁴	s.u.	6.5-8.3 range (See Part I.A.8.b Page 34)		1 / Quarter	Grab
Total Recoverable Zinc	mg/l	*****	Report	1 / Quarter	Grab
TSS	mg/l	*****	Report	1 / Quarter	Grab
E. coli ¹⁰	colonies/ 100 ml	****	Report	1 / Year	Grab
Copper ¹⁰	mg/l	*****	Report	1 / Year	Grab
Cyanide ¹⁰	mg/l	*****	Report	1 / Year	Grab
Chloroform ¹⁰	µg/l	****	Report	1 / Year	Grab
Methanol ¹⁰	µg/l	****	Report	1 / Year	Grab
Dichlorobromomethane ¹⁰	µg/l	****	Report	1 / Year	Grab
Chlorobenzene ¹⁰	µg/l	****	Report	1 / Year	Grab

PART I.A.7. (continued)

Polychlorinated Biphenyls (PCBs)¹⁰					
1016	µg/l	****	Report	1 / Year	Grab
1221	µg/l	****	Report	1 / Year	Grab
1232	µg/l	****	Report	1 / Year	Grab
1242	µg/l	****	Report	1 / Year	Grab
1248	µg/l	****	Report	1 / Year	Grab
1254	µg/l	****	Report	1 / Year	Grab
1260	µg/l	****	Report	1 / Year	Grab
Whole Effluent Toxicity (WET)					
LC ₅₀ ^{6,7,8}	%	*****	Report	1 / Year	Grab
Hardness	mg/l	*****	Report	1 / Year	Grab
Alkalinity	mg/l	*****	Report	1 / Year	Grab
pH	s.u.	*****	Report	1 / Year	Grab
Specific Conductance	µmhos/cm	*****	Report	1 / Year	Grab
Total Solids	mg/l	*****	Report	1 / Year	Grab
Ammonia	mg/l	*****	Report	1 / Year	Grab
Total Organic Carbon	mg/l	*****	Report	1 / Year	Grab
Total Residual Chlorine	mg/l	*****	Report	1 / Year	Grab
Dissolved Oxygen	mg/l	*****	Report	1 / Year	Grab
Total Cadmium	mg/l	*****	Report	1 / Year	Grab
Total Chromium	mg/l	*****	Report	1 / Year	Grab
Total Lead	mg/l	*****	Report	1 / Year	Grab
Total Copper	mg/l	*****	Report	1 / Year	Grab
Total Zinc	mg/l	*****	Report	1 / Year	Grab
Total Nickel	mg/l	*****	Report	1 / Year	Grab
Total Aluminum	mg/l	*****	Report	1 / Year	Grab
Total Magnesium	mg/l	*****	Report	1 / Year	Grab
Total Calcium	mg/l	*****	Report	1 / Year	Grab

Footnotes:

1. Samples taken in compliance with the monitoring requirements specified above shall be taken at catch basin C 200 prior to discharge to Bircham Bend Brook.
2. All wet weather samples shall be collected from a storm event that is greater than 0.1 inches in magnitude and that occurs at least 72 hours from the previously measurable (i.e., greater than 0.1 inch rainfall) storm event. All samples are to be grab samples taken within thirty (30) minutes of the initiation of the discharge from the outfall(s) where practicable, but in no case later than within the first hour of discharge from the outfall(s). When adverse climatic conditions preclude the ability to sample, the permittee shall submit a report citing the conditions which prevented sampling. For further guidance, see *NPDES Storm Water Sampling Guidance Document, EPA 833-B-92-001, July 1992*. A report stating that there was no discharge shall be submitted when there is no storm event, and subsequently no discharge, during the reporting period.
3. The permittee shall record the date and duration (in hours) of the storm event(s) sampled, rainfall measurements or estimates (in inches) of the storm event that generated the sampled runoff, the duration between the storm event samples and the end of the previous measurable (greater than 0.1 inch rainfall) storm event, and an estimate of the total volume (in liters) of the discharge samples.
4. Required for State Certification
5. Sampling frequency of quarterly is defined as the sampling of one (1) storm event (as defined above in Footnote 2) in each quarter. Quarters are defined as the interval of time between the months of: January through March, inclusive; April through June, inclusive; July through September, inclusive; and October through December, inclusive. **Yearly sampling shall be collected from the same storm event in August, as described below in footnote 7. During that quarter, quarterly sampling shall be performed concurrently with the yearly monitoring event.**
6. "LC₅₀" is defined as the concentration of effluent that caused mortality to 50% of the test organisms.
7. The permittee shall conduct acute toxicity tests once (1) a year using the daphnid, Ceriodaphnia dubia, and the fathead minnow, Pimephales promelas. Toxicity test samples shall be collected during the month of August and the test results shall be submitted by the last day of the month following the completion of the test. The tests must be performed in accordance with test procedures and protocols specified in **Attachment A** of this permit.

Test Month	Submit Results By:	Test Species	Acute Limit LC ₅₀	Chronic Limit C-NOEC
August	September 30 th	Daphnid Fathead Minnow See Attachment A	Report	N/A

After at least two (2) WET tests showing no toxicity for Outfall 21S, the permittee may submit to EPA and MassDEP a written request for a permit modification of its toxicity testing requirements. EPA and MassDEP will review the results of the toxicity tests and determine if further testing is required for this outfall. The permittee is required to continue testing as specified in the permit until the permit is either formally modified or until the permittee receives a certified letter from EPA indicating a change in the permit conditions.

8. If toxicity test(s) using receiving water as diluent show the receiving water to be toxic or unreliable, the permittee shall follow procedures outlined in **Attachment A**, Section IV., DILUTION WATER in order to obtain permission to use alternate dilution water.

In lieu of individual approvals for alternate dilution water required in **Attachment A**, EPA-New England has developed a Self-Implementing Alternative Dilution Water Guidance document (called “Guidance Document”) which may be used to obtain automatic approval of alternate dilution water, including the appropriate species for use with that water. If this Guidance document is revoked, the permittee shall revert to obtaining approval as outlined in **Attachment A**. The “Guidance Document” is included in Attachment G of the *NPDES Permit Program Instructions for the Discharge Monitoring (DMR) Forms* available at <http://www.epa.gov/region1/enforcementandassistance/dmr.html> and is not intended as a direct attachment to this permit.

9. See Part I.A.9.K.
10. Sampling for e.coli, copper, cyanide, chloroform, methanol, dichlorobromomethane, chlorobenzene, and PCBs shall occur once (1) per year concurrently with sampling for whole effluent toxicity. After five years and five (5) results, the permittee may submit to EPA and MassDEP a written request for a permit modification of its monitoring requirements for any pollutant proven to be absent or in significantly low concentrations in the discharge.

PART I.A. (continued)

8. **Dry weather monitoring.** During the period beginning the effective date and lasting through expiration, the permittee is authorized to discharge **residual storm water with uncontaminated groundwater infiltration** from **outfall 21S** to Bircham Bend Brook. Such discharges shall be limited and monitored by the permittee as specified below.

Effluent Characteristic	Units	Discharge Limitation		Monitoring Requirement ^{1, 2, 7}	
		Average Monthly	Maximum Daily	Measurement Frequency	Sample Type
Flow	MGD	Report	Report	2 / Year	Estimate
pH ³	s.u.	6.5-8.3 range (See Part I.A.8.b Page 34)		2 / Year	Grab
Copper	mg/l	****	Report	2 / Year	Grab
Cyanide	mg/l	****	Report	2 / Year	Grab
Zinc	mg/l	****	Report	2 / Year	Grab
Chloroform	µg/l	****	Report	2 / Year	Grab
Methanol	µg/l	****	Report	2 / Year	Grab
Dichlorobromomethane	µg/l	****	Report	2 / Year	Grab
Chlorobenzene	µg/l	****	Report	2 / Year	Grab

PART I.A.8. (continued)

Polychlorinated Biphenyls (PCBs)					
1016	µg/l	****	Report	2 / Year	Grab
1221	µg/l	****	Report	2 / Year	Grab
1232	µg/l	****	Report	2 / Year	Grab
1242	µg/l	****	Report	2 / Year	Grab
1248	µg/l	****	Report	2 / Year	Grab
1254	µg/l	****	Report	2 / Year	Grab
1260	µg/l	****	Report	2 / Year	Grab
Whole Effluent Toxicity (WET)					
LC ₅₀ ^{4,5,6}	%	*****	Report	2 / Year	Grab
Hardness	mg/l	*****	Report	2 / Year	Grab
Alkalinity	mg/l	*****	Report	2 / Year	Grab
pH	s.u.	*****	Report	2 / Year	Grab
Specific Conductance	µmhos/cm	*****	Report	2 / Year	Grab
Total Solids	mg/l	*****	Report	2 / Year	Grab
Ammonia	mg/l	*****	Report	2 / Year	Grab
Total Organic Carbon	mg/l	*****	Report	2 / Year	Grab
Total Residual Chlorine	mg/l	*****	Report	2 / Year	Grab
Dissolved Oxygen	mg/l	*****	Report	2 / Year	Grab
Total Cadmium	mg/l	*****	Report	2 / Year	Grab
Total Chromium	mg/l	*****	Report	2 / Year	Grab
Total Lead	mg/l	*****	Report	2 / Year	Grab
Total Copper	mg/l	*****	Report	2 / Year	Grab
Total Zinc	mg/l	*****	Report	2 / Year	Grab
Total Nickel	mg/l	*****	Report	2 / Year	Grab
Total Aluminum	mg/l	*****	Report	2 / Year	Grab
Total Magnesium	mg/l	*****	Report	2 / Year	Grab
Total Calcium	mg/l	*****	Report	2 / Year	Grab

Footnotes:

1. Samples taken in compliance with the monitoring requirements specified above shall be taken prior to discharge to Bircham Bend Brook.
2. The permittee shall test Outfall 021S for priority pollutants within the first six months of the effective date of the permit and submit those results with the monthly DMR. Priority pollutants are the 113 Organic Toxic Pollutant and the 15 Other Toxic Pollutants, plus dioxin, listed in Tables II and III of Appendix D to 40 CFR 122. After completing this test, the permittee is then required to test Outfall 021S twice (2) per year for the PCBs Aroclor 1016, 1221, 1232, 1242, 1248, 1254, and 1260 and the 43 volatile and inorganic compounds listed in Table II (*Volatiles*) and III of Appendix D at 40 CFR Part 122. Samples shall be collected during the months of May and August concurrently with sampling for whole effluent toxicity (see footnote 5 below). Monitoring results shall be submitted with the monthly DMR. As indicated above, the permittee is only required to record on the DMR the results for zinc, copper, cyanide, chloroform, methanol, dichlorobromomethane, chlorobenzene, the PCBs Aroclor 1016, 1221, 1232, 1242, 1248, 1254, and 1260, and whole effluent toxicity. After five years and ten (10) results, the permittee may submit to EPA and MassDEP a written request for a permit modification of its monitoring requirements for any pollutant proven to be absent or in significantly low concentrations in the discharge.
3. Required for State Certification
4. "LC₅₀" is defined as the concentration of effluent that caused mortality to 50% of the test organisms.
5. The permittee shall conduct acute toxicity tests twice (2) a year using the daphnid, Ceriodaphnia dubia, and the fathead minnow, Pimephales promelas. Toxicity test samples shall be collected during the months of May and August and the test results shall be submitted by the last day of the month following the completion of the test. The tests must be performed in accordance with test procedures and protocols specified in **Attachment A** of this permit.

Test Month	Submit Results By:	Test Species	Acute Limit LC ₅₀	Chronic Limit C-NOEC
May August	June 30 th September 30 th	Daphnid Fathead Minnow See Attachment A	Report	N/A

After at least two (2) WET tests showing no toxicity for Outfall 21S, the permittee may submit to EPA and MassDEP a written request for a permit modification of its toxicity testing requirements. EPA and MassDEP will review the results of the toxicity tests and determine if further testing is required for this outfall. The permittee is required to continue testing as specified in the permit until the permit is either formally modified or until the permittee receives a certified letter from EPA indicating a change in the permit conditions.

6. If toxicity test(s) using receiving water as diluent show the receiving water to be toxic or unreliable, the permittee shall follow procedures outlined in **Attachment A**, Section IV., DILUTION WATER in order to obtain permission to use alternate dilution water.

In lieu of individual approvals for alternate dilution water required in **Attachment A**, EPA-New England has developed a Self-Implementing Alternative Dilution Water Guidance document (called “Guidance Document”) which may be used to obtain automatic approval of alternate dilution water, including the appropriate species for use with that water. If this Guidance document is revoked, the permittee shall revert to obtaining approval as outlined in **Attachment A**. The “Guidance Document” is included in Attachment G of the *NPDES Permit Program Instructions for the Discharge Monitoring (DMR) Forms* available at <http://www.epa.gov/region1/enforcementandassistance/dmr.html> and is not intended as a direct attachment to this permit.

7. See Part I.A.9.K.

Part I.A (continued)

9.
 - a. The discharge shall not cause a violation of the water quality standards of the receiving waters which have been or may be promulgated.
 - b. The pH of the effluent shall be neither less than 6.5 nor greater than 8.3 at any time, unless these values are exceeded due to natural causes.
 - c. The discharge shall not cause an objectionable discoloration of the receiving waters.
 - d. There effluent shall contain neither visible oil sheen, foam, nor floating solids at any time.
 - e. The use of biocides or other chemical additives is prohibited.
 - f. The discharges shall not contain materials in concentrations or combinations which are hazardous or toxic to human health, aquatic life of the receiving water or which would impair the uses designated by its classification.
 - g. The discharges shall not impart color, taste, turbidity, toxicity, radioactivity or other properties which cause those waters to be unsuitable for the designated uses and characteristics ascribed to their use.
 - h. Notwithstanding specific conditions of this permit, the effluent must not lower the quality of any classified body of water below such classification, or lower the existing quality of any body of water if the existing quality is higher than the classification.
 - i. The results of sampling for any parameter above its required frequency must also be reported, in accordance with 40 C.F.R. § 122.41(1)(4)(ii).
 - j. EPA may modify this permit in accordance with EPA regulations in 40 C.F.R. §122.62 and §122.63 to incorporate more stringent effluent limitations, increase the frequency of analyses, or impose additional sampling and analytical requirements.
 - k. When applicable, samples shall be analyzed using the applicable minimum levels and test methods from Appendix VI of EPA's Remediation General Permit (RGP). The RGP and related appendices is available at <http://www.epa.gov/region1/npdes/rgp.html>. The permittee shall attach a copy of the laboratory case narrative to the respective Discharge Monitoring Report (DMR) Form submitted to EPA and MassDEP for each sampling event reported. The laboratory case narrative shall include a copy of the laboratory data sheets for each analysis (identifying the test method, the analytical results, and the detection limits for each analyte) and provide a brief discussion of whether all appropriate QA/QC procedures were met and were within acceptable limits.

1. The permittee is prohibited from discharging contaminated groundwater from any NPDES outfall.
10. This permit shall be modified, or revoked and reissued to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
 - a. contains different conditions or is otherwise more stringent than any effluent limitation in this permit; or
 - b. controls any pollutant not limited by this permit.

If the permit is modified or reissued, it shall be revised to reflect all currently applicable requirements of the Act.

11. All existing manufacturing, commercial, mining, and silvicultural dischargers must notify the Director as soon as they know or have reason to believe (40 C.F.R. §122.42):
 - a. That any activity has occurred or will occur which would result in the discharge, on a routine or frequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - (i) One hundred micrograms per liter (100 µg/l);
 - (ii) Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. §122.21(g)(7); or
 - (iii) Any other notification level established by the Director in accordance with 40 C.F.R. §122.44(f) and Massachusetts regulations.
 - b. That any activity has occurred or will occur which would result in the discharge, on a non-routine or infrequent basis, of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels":
 - (i) Five hundred micrograms per liter (500 µg/l);
 - (ii) One milligram per liter (1 mg/l) for antimony;
 - (iii) Ten (10) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 C.F.R. §122.21(g)(7); or
 - (iv) Any other notification level established by the Director in accordance with 40 CFR §122.44(f) and Massachusetts regulations.

- c. That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant which was not reported in the permit application and which may contribute to a discharge of pollutants to waters of the United States.

12. Toxics Control

- a. The permittee shall not discharge any pollutant or combination of pollutants in toxic amounts.
- b. Any toxic components of the effluent shall not result in any demonstrable harm to aquatic life or violate any state or federal water quality standard which has been or may be promulgated. Upon promulgation of any such standard, this permit may be revised or amended in accordance with such standards.

13. Numerical Effluent Limitations for Toxicants

EPA or MassDEP may use the results of the toxicity tests and chemical analyses conducted pursuant to this permit, as well as national water quality criteria developed pursuant to Section 304(a)(1) of the Clean Water Act (CWA), state water quality criteria, and any other appropriate information or data, to develop numerical effluent limitations for any pollutants, including but not limited to those pollutants listed in Appendix D of 40 C.F.R. Part 122.

B. STORM WATER POLLUTION PREVENTION PLAN

1. The permittee shall develop, implement, and maintain a Storm Water Pollution Prevention Plan (SWPPP) designed to reduce, or prevent, the discharge of pollutants in storm water to the receiving waters identified in this permit. The SWPPP shall be a written document and consistent with the terms of this permit. The permittee shall comply with the terms of its SWPPP.
2. The SWPPP shall be completed or updated and signed by the permittee **within 90 days after the effective date of this permit**. The permittee shall certify that the SWPPP has been completed or updated, that it meets the requirements of the permit, and that it reduces the pollutants discharged in storm water to the maximum extent practicable. The certification shall be signed in accordance with the requirements identified in 40 CFR §122.22. A copy of this initial certification shall be sent to EPA and MassDEP **within one hundred and twenty (120) days of the effective date of the permit**.
3. The SWPPP shall be consistent, to the maximum extent practicable, with the general provisions for SWPPPs included in the most current version of the Multi-Sector General Permits for Storm Water Discharges Associated with Industrial Activities. (The current MSGP was issued September 29, 2008.) The SWPPP shall include best management practices (BMPs) for on-site activities that will minimize the discharge of pollutants in storm water to waters of the United States.

4. The SWPPP shall be prepared in accordance with good engineering practices, identify potential sources of pollution that may reasonably be expected to affect the quality of the storm water discharges, and describe and ensure implementation of practices which will be used to reduce the pollutants and assure compliance with this permit. Specifically, the SWPPP shall contain the elements listed below:
 - a. A pollution prevention team responsible for developing, implementing, maintaining, revising and ensuring compliance with the SWPPP.
 - b. A site description which includes a list of activities at the facility; a site map showing drainage areas and direction of storm water flows; receiving waters and outfall location; the location of industrial activities, storage, disposal, material handling; and all structural controls.
 - c. A summary of all pollutant sources which includes all areas where spills have occurred or could occur. For each source, identify the expected drainage and the corresponding pollutant.
 - d. A summary of any existing storm water discharge sampling data.
 - e. A description of all storm water controls, both structural and non-structural. BMPs must include good housekeeping measures, preventative maintenance programs, spill prevention and response procedures, runoff management practices, and proper handling of salt or materials containing salt that are used for deicing activities. The SWPPP shall describe how the BMPs are appropriate for the facility. All BMPs shall be properly maintained and be in effective operating conditions.
5. All areas identified in the SWPPP shall be inspected, at least on a quarterly basis. Inspections shall occur beginning the 1st quarter after the effective date of the permit. EPA considers quarters as follows: January to March; April to June; July to September; and October to December.
6. The permittee shall amend and update the SWPPP **within 14 days** for any changes at the facility affecting the SWPPP. Changes which may affect the SWPPP include, but are not limited to, the following activities: a change in design, construction, operation, or maintenance, which has a significant effect on the potential for the discharge of pollutants to the waters of the United States; a release of a reportable quantity of pollutants as described in 40 CFR §302; or a determination by the permittee or EPA that the SWPPP appears to be ineffective in achieving the general objectives of controlling pollutants in storm water discharges associated with industrial activity. Any amended or new versions of the SWPPP shall be re-certified by the permittee. Such re-certifications also shall be signed in accordance with the requirements identified in 40 CFR §122.22
7. The permittee shall certify at least annually that the previous year's inspections and maintenance activities were conducted, results were recorded, records were maintained, and that the facility is in compliance with the SWPPP. If the facility is not in compliance with any aspect of the SWPPP, the annual certification shall state the non-compliance and the remedies which are being undertaken. Such annual certifications also shall be signed in accordance with the requirements identified in 40 CFR §122.22. The permittee shall

keep a copy of the current SWPPP and all SWPPP certifications (the initial certification, re-certifications, and annual certifications) signed during the effective period of this permit at the facility and shall make it available for inspection by EPA, MassDEP, USFWS and NMFS.

8. The SWPPP shall meet, to the maximum extent practicable, the general and specific requirements in Sector C - Chemical and Allied Products Manufacturing, and Sector Y- Rubber, Miscellaneous Plastic Products and Miscellaneous Manufacturing Industries of the most current version of the NPDES Storm Water Multi-Sector General Permit for Industrial Activities. In the 2008 MSGP, these requirements are located at Part 8 Subpart C and Y, respectively. The SWPPP shall also meet, to the maximum extent practicable, the general SWPPP requirements of the most current version of the MSGP. These are located at Part 5 of the 2008 MSGP.
9. If a representative outfall is chosen for sampling the discharge at outfalls 10S, 51S, 14S, 61S, 15S, and 19S, the SWPPP must include a description of: the locations of the outfalls, the general industrial activities conducted in the drainage area of the outfalls, the control measures implemented in the drainage areas of the outfalls, the exposed materials that are likely to be significant contributors of pollutants to stormwater discharges in the drainage area of the outfalls, why the outfalls are expected to discharge substantially identical effluents, and the approximate runoff coefficient of each drainage area (low: under 40 percent; medium: 40 to 65 percent; high: above 65 percent) [Part 5.1.5.2 of the 2008 MSGP].

C. SPECIAL CONDITIONS - pH Limit Adjustment

The permittee may submit a written request to the EPA-New England requesting a change in the permitted pH limit range. The permittee's written request must include the State's approval letter. MassDEP's letter shall state that the permittee has demonstrated to the State's satisfaction that as long as discharges to the receiving water from a specific outfall are within a specific numeric pH range the naturally occurring receiving water pH will be unaltered. That letter must specify for each outfall the associated numeric pH limit range. Until written notice is received by certified mail from the EPA-New England indicating the pH limit range has been changed, the permittee is required to meet the permitted pH limit range in the respective permit.

D. UNAUTHORIZED DISCHARGES

This permit authorizes the permittee to discharge only in accordance with the terms and conditions of this permit and only from the outfalls listed in Part I.A. of this permit. Discharges of wastewater from any other point sources which are not authorized by this permit or other NPDES permits shall be reported in accordance with Section D.1.e. (1) of the General Requirements of this permit (Twenty-four hour reporting).

E. MONITORING AND REPORTING

Monitoring results obtained during each calendar month shall be summarized and reported on Discharge Monitoring Report Form(s) postmarked no later than the 15th day of the following month. Other monitoring results shall be submitted as required by this permit.

Signed and dated originals of these, and all other reports required herein, shall be submitted to the EPA at the following address:

Environmental Protection Agency
Water Technical Unit (SEW)
P.O. Box 8127
Boston, Massachusetts 02114

In addition, a copy of the Representative Outfall Sampling Schedule describing in Footnote 1 on Page 20 submitted in accordance with this permit shall be sent to EPA at the following address:

Environmental Protection Agency
OEP/Industrial Permits Branch
1 Congress Street, Suite 1100 (CIP)
Boston, Massachusetts 02114

Signed and dated Discharge Monitoring Reports, toxicity test reports, and other reports required by this permit shall also be submitted to the State at following addresses:

Massachusetts Department of Environmental Protection
Bureau of Waste Prevention
Western Regional Office
436 Dwight Street
Springfield, MA 01608

Massachusetts Department of Environmental Protection
Division of Watershed Management
Surface Water Discharge Permit Program
627 Main Street, 2nd Floor
Worcester, MA 01608

F. STATE PERMIT CONDITIONS

This Discharge Permit is issued jointly by the U. S. Environmental Protection Agency (EPA) and the Massachusetts Department of Environmental Protection (DEP) under Federal and State law, respectively. As such, all the terms and conditions of this permit are hereby incorporated into and constitute a discharge permit issued by the Commissioner of the MassDEP pursuant to M.G.L. Chap. 21, §43.

Each Agency shall have the independent right to enforce the terms and conditions of this permit. Any modification, suspension or revocation of this permit shall be effective only with respect to the Agency taking such action, and shall not affect the validity or status of this permit as issued by the other Agency, unless and until each Agency has concurred in writing with such modification, suspension or revocation. In the event any portion of this permit is declared invalid, illegal or otherwise issued in violation of State law, such permit shall remain in full force and effect under Federal law as an NPDES Permit issued by the U.S. Environmental Protection Agency. In the event this permit is declared invalid, illegal or otherwise issued in violation of Federal law, this permit shall remain in full force and effect under State law as a permit issued by the Commonwealth of Massachusetts.