

**MASSACHUSETTS**

100 Fifth Avenue, 5th Floor  
Waltham, Massachusetts 02451  
p 781.419.7696

**RHODE ISLAND**

401 Wampanoag Trail, Suite 400  
East Providence, Rhode Island 02915  
p 401.434.5560

**VIRGINIA**

4410 E. Claiborne Square, Suite 334  
Hampton, Virginia 23666  
p 757.251.3790

October 10, 2012

Mr. Derrick Gregor  
Assistant Town Engineer  
Engineering Division  
PO Box 191  
494 Main Street  
Manchester, CT 06045

**Re: 2012 MS4 Stormwater Monitoring Results  
ESS Project No. M354-000**

Dear Mr. Gregor:

ESS Group, Inc. (ESS) is pleased to provide you with the 2012 Municipal Separate Storm Sewer System (MS4) stormwater monitoring results for the Town of Manchester (Town).

Stormwater from the Town's six (6) annual monitoring outfalls was collected on September 18, 2012. Two (2) outfalls representative of each of the three (3) required land use categories (residential, commercial, and industrial) were sampled. Additionally, a rainfall pH sample was collected and analyzed in the field. Samples were collected in accordance with the General Permit requirements.

Stormwater samples were sent to Premier Laboratory, Inc. of Dayville, Connecticut, a state-certified laboratory, for analysis. Sample pH, hardness, conductivity, oil and grease, chemical oxygen demand (COD), turbidity, total suspended solids, total phosphorus, ammonia, total Kjeldahl nitrogen (TKN), nitrate/nitrite, and *E. coli* were analyzed in accordance with 40 CFR 136, as required by the General Permit.

Results of the sampling at each outfall are presented in the attached Stormwater Monitoring Report forms. A copy of the laboratory report and chain-of-custody are also attached. These results are presented for you to review and sign. After signing, the results should be submitted to the Connecticut Department of Energy and Environmental Protection in accordance with the General Permit requirements.

Please do not hesitate to contact me at (401) 330-1204 with any questions.

Sincerely,

**ESS GROUP, INC.**

Matt Ladewig, CLM  
Project Scientist

Attachments





# General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

## Stormwater Monitoring Report Form

Please send completed form to: STORMWATER GROUP  
 BUREAU OF MATERIALS MANAGEMENT & COMPLIANCE ASSURANCE  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 79 ELM STREET  
 HARTFORD, CT 06106-5127

### PERMITTEE INFORMATION

Town: <u>Manchester</u>	
Mailing Address: <u>Engineering Division, PO Box 191, 494 Main Street, Manchester, CT 06045</u>	
Contact Person: <u>Derrick Gregor</u>	Title: <u>Assistant Town Engineer</u>
Phone: <u>860-647-3186</u>	Permit Registration #GSM: <u>000063</u>

### SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): <u>OF-1 (North of Commerce Road)</u>	
Please check the appropriate area description: <input checked="" type="checkbox"/> Industrial <input type="checkbox"/> Commercial <input type="checkbox"/> Residential	
Receiving Water (name, basin): <u>Podunk River, Connecticut River Basin (#4004)</u>	
Time of Start of Discharge: <u>12:00</u>	
Date/Time Collected: <u>9/18/12 15:30</u>	Water Temperature: <u>20.1 C</u>
Person Collecting Sample: <u>Collin Smythe (ESS Group, Inc.)</u>	
Storm Magnitude (inches): <u>1.11</u>	Storm Duration (hours): <u>15.5</u>
Date of Previous Storm Event: <u>10 days</u>	

### MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	SM 4500-H+B	7.5 (pH units)	Premier Laboratory - Dayville, CT
Rain pH	Field	5.6 (pH units)	NA
Hardness	SM-2340B	77 (mg/L)	Premier Laboratory - Dayville, CT
Conductivity	SM2510B	310 (umhos/cm)	Premier Laboratory - Dayville, CT
Oil & Grease	1664A	<2.0 (mg/L)	Premier Laboratory - Dayville, CT
COD	SM5220-D/Hach 8000	16 (mg/L)	Premier Laboratory - Dayville, CT
Turbidity	SM2130B	3.0 (NTU)	Premier Laboratory - Dayville, CT
TSS	SM2540D	5.0 (mg/L)	Premier Laboratory - Dayville, CT
TP	365.1	0.056 (mg/L)	Premier Laboratory - Dayville, CT
Ammonia	350.1	0.16 (mg/L)	Premier Laboratory - Dayville, CT
TKN	351.1	0.54 (mg/L)	Premier Laboratory - Dayville, CT
NO <sub>3</sub> +NO <sub>2</sub>	SM4500-NO3F	1.2 (mg/L)	Premier Laboratory - Dayville, CT
E. coli	EPA Mod 1603	970 (col/100 mL)	Premier Laboratory - Dayville, CT

### STATEMENT OF ACKNOWLEDGMENT

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the MS4 General Permit. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.	
Authorized Official: <u>Derrick Gregor</u>	
(Print Name)	
Signature: _____	Date: _____



# General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

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 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 79 ELM STREET  
 HARTFORD, CT 06106-5127

### PERMITTEE INFORMATION

Town: <u>Manchester</u>	
Mailing Address: <u>Engineering Division, PO Box 191, 494 Main Street, Manchester, CT 06045</u>	
Contact Person: <u>Derrick Gregor</u>	Title: <u>Assistant Town Engineer</u>
Phone: <u>860-647-3186</u>	Permit Registration #GSM: <u>000063</u>

### SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): <u>OF-2 (Western outfall west of 169 Progress Dr)</u>	
Please check the appropriate area description: <input checked="" type="checkbox"/> Industrial <input type="checkbox"/> Commercial <input type="checkbox"/> Residential	
Receiving Water (name, basin): <u>Hockanum River, Connecticut River Basin (#4500)</u>	
Time of Start of Discharge: <u>12:00</u>	
Date/Time Collected: <u>9/18/12 16:10</u>	Water Temperature: <u>21.7 C</u>
Person Collecting Sample: <u>Collin Smythe (ESS Group, Inc.)</u>	
Storm Magnitude (inches): <u>1.11</u>	Storm Duration (hours): <u>15.5</u>
Date of Previous Storm Event: <u>10 days</u>	

### MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	SM 4500-H+B	7.0 (pH units)	Premier Laboratory - Dayville, CT
Rain pH	Field	5.6 (pH units)	NA
Hardness	SM-2340B	18 (mg/L)	Premier Laboratory - Dayville, CT
Conductivity	SM2510B	85 (umhos/cm)	Premier Laboratory - Dayville, CT
Oil & Grease	1664A	<1.0 (mg/L)	Premier Laboratory - Dayville, CT
COD	SM5220-D/Hach 8000	97 (mg/L)	Premier Laboratory - Dayville, CT
Turbidity	SM2130B	15 (NTU)	Premier Laboratory - Dayville, CT
TSS	SM2540D	5.0 (mg/L)	Premier Laboratory - Dayville, CT
TP	365.1	0.10 (mg/L)	Premier Laboratory - Dayville, CT
Ammonia	350.1	1.9 (mg/L)	Premier Laboratory - Dayville, CT
TKN	351.1	2.7 (mg/L)	Premier Laboratory - Dayville, CT
NO <sub>3</sub> +NO <sub>2</sub>	SM4500-NO3F	1.14 (mg/L)	Premier Laboratory - Dayville, CT
E. coli	EPA Mod 1603	13,500 (col/100 mL)	Premier Laboratory - Dayville, CT

### STATEMENT OF ACKNOWLEDGMENT

I certify that the data reported on this document were prepared under my direction or supervision in accordance with the MS4 General Permit. The information submitted is, to the best of my knowledge and belief, true, accurate and complete.	
Authorized Official: <u>Derrick Gregor</u>	
(Print Name)	
Signature: _____	Date: _____



# General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

## Stormwater Monitoring Report Form

Please send completed form to: STORMWATER GROUP  
 BUREAU OF MATERIALS MANAGEMENT & COMPLIANCE ASSURANCE  
 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 79 ELM STREET  
 HARTFORD, CT 06106-5127

### PERMITTEE INFORMATION

Town: Manchester

Mailing Address: Engineering Division, PO Box 191, 494 Main Street, Manchester, CT 06045

Contact Person: Derrick Gregor Title: Assistant Town Engineer

Phone: 860-647-3186 Permit Registration #GSM: 000063

### SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): OF-3 (Northernmost outfall South of Hale Rd Extn)

Please check the appropriate area description:  Industrial  Commercial  Residential

Receiving Water (name, basin): Podunk River, Connecticut River Basin (#4004)

Time of Start of Discharge: 12:00

Date/Time Collected: 9/18/12 13:15 Water Temperature: 19.3 C

Person Collecting Sample: Collin Smythe (ESS Group, Inc.)

Storm Magnitude (inches): 1.11 Storm Duration (hours): 15.5

Date of Previous Storm Event: 10 days

### MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	SM 4500-H+B	6.8 (pH units)	Premier Laboratory - Dayville, CT
Rain pH	Field	5.6 (pH units)	NA
Hardness	SM-2340B	88 (mg/L)	Premier Laboratory - Dayville, CT
Conductivity	SM2510B	320 (umhos/cm)	Premier Laboratory - Dayville, CT
Oil & Grease	1664A	<1.0 (mg/L)	Premier Laboratory - Dayville, CT
COD	SM5220-D/Hach 8000	25 (mg/L)	Premier Laboratory - Dayville, CT
Turbidity	SM2130B	1.5 (NTU)	Premier Laboratory - Dayville, CT
TSS	SM2540D	2.0 (mg/L)	Premier Laboratory - Dayville, CT
TP	365.1	0.079 (mg/L)	Premier Laboratory - Dayville, CT
Ammonia	350.1	1.1 (mg/L)	Premier Laboratory - Dayville, CT
TKN	351.1	1.4 (mg/L)	Premier Laboratory - Dayville, CT
NO <sub>3</sub> +NO <sub>2</sub>	SM4500-NO3F	3.5 (mg/L)	Premier Laboratory - Dayville, CT
E. coli	EPA Mod 1603	80 (col/100 mL)	Premier Laboratory - Dayville, CT

### STATEMENT OF ACKNOWLEDGMENT

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Authorized Official: Derrick Gregor  
 (Print Name)

Signature: \_\_\_\_\_ Date: \_\_\_\_\_



# General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

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 79 ELM STREET  
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### PERMITTEE INFORMATION

Town: <u>Manchester</u>	
Mailing Address: <u>Engineering Division, PO Box 191, 494 Main Street, Manchester, CT 06045</u>	
Contact Person: <u>Derrick Gregor</u>	Title: <u>Assistant Town Engineer</u>
Phone: <u>860-647-3186</u>	Permit Registration #GSM: <u>000063</u>

### SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): <u>OF-4 (Outlet to pond at 420 Buckland Hills Dr)</u>	
Please check the appropriate area description: <input type="checkbox"/> Industrial <input checked="" type="checkbox"/> Commercial <input type="checkbox"/> Residential	
Receiving Water (name, basin): <u>Hockanum River, Connecticut River Basin (#4500)</u>	
Time of Start of Discharge: <u>12:00</u>	
Date/Time Collected: <u>9/18/12 14:04</u>	Water Temperature: <u>18.4 C</u>
Person Collecting Sample: <u>Collin Smythe (ESS Group, Inc.)</u>	
Storm Magnitude (inches): <u>1.11</u>	Storm Duration (hours): <u>15.5</u>
Date of Previous Storm Event: <u>10 days</u>	

### MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	SM 4500-H+B	7.1 (pH units)	Premier Laboratory - Dayville, CT
Rain pH	Field	5.6 (pH units)	NA
Hardness	SM-2340B	140 (mg/L)	Premier Laboratory - Dayville, CT
Conductivity	SM2510B	1,000 (umhos/cm)	Premier Laboratory - Dayville, CT
Oil & Grease	1664A	<1.0 (mg/L)	Premier Laboratory - Dayville, CT
COD	SM5220-D/Hach 8000	26 (mg/L)	Premier Laboratory - Dayville, CT
Turbidity	SM2130B	2.3 (NTU)	Premier Laboratory - Dayville, CT
TSS	SM2540D	3.0 (mg/L)	Premier Laboratory - Dayville, CT
TP	365.1	0.071 (mg/L)	Premier Laboratory - Dayville, CT
Ammonia	350.1	0.12 (mg/L)	Premier Laboratory - Dayville, CT
TKN	351.1	0.55 (mg/L)	Premier Laboratory - Dayville, CT
NO <sub>3</sub> +NO <sub>2</sub>	SM4500-NO3F	1.4 (mg/L)	Premier Laboratory - Dayville, CT
E. coli	EPA Mod 1603	50 (col/100 mL)	Premier Laboratory - Dayville, CT

### STATEMENT OF ACKNOWLEDGMENT

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Authorized Official: <u>Derrick Gregor</u>	
(Print Name)	
Signature: _____	Date: _____



# General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

## Stormwater Monitoring Report Form

Please send completed form to: STORMWATER GROUP  
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 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 79 ELM STREET  
 HARTFORD, CT 06106-5127

### PERMITTEE INFORMATION

Town: <u>Manchester</u>	
Mailing Address: <u>Engineering Division, PO Box 191, 494 Main Street, Manchester, CT 06045</u>	
Contact Person: <u>Derrick Gregor</u>	Title: <u>Assistant Town Engineer</u>
Phone: <u>860-647-3186</u>	Permit Registration #GSM: <u>000063</u>

### SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): <u>OF-5 (Northernmost outfall north of 334 Gardner St)</u>	
Please check the appropriate area description: <input type="checkbox"/> Industrial <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Residential	
Receiving Water (name, basin): <u>S. Fork Hockanum River, Connecticut River Basin (#4504)</u>	
Time of Start of Discharge: <u>12:00</u>	
Date/Time Collected: <u>9/18/12 17:05</u>	Water Temperature: <u>21.3 C</u>
Person Collecting Sample: <u>Collin Smythe (ESS Group, Inc.)</u>	
Storm Magnitude (inches): <u>1.11</u>	Storm Duration (hours): <u>15.5</u>
Date of Previous Storm Event: <u>10 days</u>	

### MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	SM 4500-H+B	6.6 (pH units)	Premier Laboratory - Dayville, CT
Rain pH	Field	5.6 (pH units)	NA
Hardness	SM-2340B	35 (mg/L)	Premier Laboratory - Dayville, CT
Conductivity	SM2510B	190 (umhos/cm)	Premier Laboratory - Dayville, CT
Oil & Grease	1664A	<1.0 (mg/L)	Premier Laboratory - Dayville, CT
COD	SM5220-D/Hach 8000	72 (mg/L)	Premier Laboratory - Dayville, CT
Turbidity	SM2130B	13 (NTU)	Premier Laboratory - Dayville, CT
TSS	SM2540D	3.0 (mg/L)	Premier Laboratory - Dayville, CT
TP	365.1	0.21 (mg/L)	Premier Laboratory - Dayville, CT
Ammonia	350.1	0.64 (mg/L)	Premier Laboratory - Dayville, CT
TKN	351.1	2.2 (mg/L)	Premier Laboratory - Dayville, CT
NO <sub>3</sub> +NO <sub>2</sub>	SM4500-NO3F	1.2 (mg/L)	Premier Laboratory - Dayville, CT
E. coli	EPA Mod 1603	80 (col/100 mL)	Premier Laboratory - Dayville, CT

### STATEMENT OF ACKNOWLEDGMENT

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Authorized Official: <u>Derrick Gregor</u>	
(Print Name)	
Signature: _____	Date: _____



# General Permit for the Discharge of Stormwater from Small Municipal Separate Storm Sewer Systems

## Stormwater Monitoring Report Form

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 DEPARTMENT OF ENVIRONMENTAL PROTECTION  
 79 ELM STREET  
 HARTFORD, CT 06106-5127

### PERMITTEE INFORMATION

Town: <u>Manchester</u>	
Mailing Address: <u>Engineering Division, PO Box 191, 494 Main Street, Manchester, CT 06045</u>	
Contact Person: <u>Derrick Gregor</u>	Title: <u>Assistant Town Engineer</u>
Phone: <u>860-647-3186</u>	Permit Registration #GSM: <u>000063</u>

### SAMPLING INFORMATION

Discharge Location (Lat/Long or other description): <u>OF-6 (Outlet to Pewterpot Brook northwest of intersection of Star Farms Dr and Hillstown Rd)</u>	
Please check the appropriate area description: <input type="checkbox"/> Industrial <input type="checkbox"/> Commercial <input checked="" type="checkbox"/> Residential	
Receiving Water (name, basin): <u>Salmon Brook, Connecticut River Basin (#4006)</u>	
Time of Start of Discharge: <u>12:00</u>	
Date/Time Collected: <u>9/18/12 17:45</u>	Water Temperature: <u>20.4 c</u>
Person Collecting Sample: <u>Collin Smythe (ESS Group, Inc.)</u>	
Storm Magnitude (inches): <u>1.11</u>	Storm Duration (hours): <u>15.5</u>
Date of Previous Storm Event: <u>10 days</u>	

### MONITORING RESULTS

Parameter	Method	Results (units)	Laboratory
Sample pH	SM 4500-H+B	6.6 (pH units)	Premier Laboratory - Dayville, CT
Rain pH	Field	5.6 (pH units)	NA
Hardness	SM-2340B	19 (mg/L)	Premier Laboratory - Dayville, CT
Conductivity	SM2510B	140 (umhos/cm)	Premier Laboratory - Dayville, CT
Oil & Grease	1664A	1.5 (mg/L)	Premier Laboratory - Dayville, CT
COD	SM5220-D/Hach 8000	210 (mg/L)	Premier Laboratory - Dayville, CT
Turbidity	SM2130B	60 (NTU)	Premier Laboratory - Dayville, CT
TSS	SM2540D	32 (mg/L)	Premier Laboratory - Dayville, CT
TP	365.1	0.53 (mg/L)	Premier Laboratory - Dayville, CT
Ammonia	350.1	2.9 (mg/L)	Premier Laboratory - Dayville, CT
TKN	351.1	5.4 (mg/L)	Premier Laboratory - Dayville, CT
NO <sub>3</sub> +NO <sub>2</sub>	SM4500-NO3F	1.6 (mg/L)	Premier Laboratory - Dayville, CT
E. coli	EPA Mod 1603	6300(col/100 mL)	Premier Laboratory - Dayville, CT

### STATEMENT OF ACKNOWLEDGMENT

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Authorized Official: <u>Derrick Gregor</u>	
(Print Name)	
Signature: _____	Date: _____

61 Louisa Viens Drive  
Dayville, CT 06241  
Fax: 860-774-2689  
Phone: 860-774-6814  
Toll-Free: 800-334-0103

## ANALYTICAL DATA REPORT

prepared for:

ESS Group, Inc.  
401 Wampanoag Trail, Suite 400  
East Providence, RI 02915-2228  
Carl Nielsen

Report Number: E209B61  
Project: Stormwater

Received Date: 09/18/2012

Report Date: 09/25/2012



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Premier Laboratory, Inc  
Authorized Signature



Certified and Compliant with:

CT DPH (PH-0465), EPA (CT00008), MA DEP (M-CT008), ME DHHS (CT0050), NH ELAP (2020), NJ DEP (CT007), NY ELAP (11549),  
PA DEP (68-04413), RI DOH (LAO00300), VT DOH (VT11549)



101-000000350031



61 Louisa Viens Drive  
Dayville, CT 06241  
Fax: 860-774-2689  
Phone: 860-774-6814  
Toll-Free: 800-334-0103

Report No: E209B61  
Client: ESS Group, Inc.  
Project: Stormwater

**CASE NARRATIVE / METHOD CONFORMANCE SUMMARY**

Premier Laboratory, Inc received six samples from ESS Group, Inc. on 09/18/2012. The samples were analyzed for the following list of analyses:

MS4 Stormwater

1603[1603], 1664[1664], 350.1[350.2], 350.1[351.1],  
365.1[365.1], SM 4500-H+B, SM2130B, SM2340B[3000],  
SM2510B, SM2540D, SM4500-NO3-F, SM5220-D

**Non-Conformances:**

**Work Order:**

None

**Sample:**

None

**Analysis:**

None

# Premier Laboratory, Inc

## Analytical Data Report

Report No: E209B61  
 Date Received: 09/18/2012 19:10

Customer: ESS Group, Inc.  
 Project: Stormwater

Parameter	Result	DL	Units	Completed	By	Dilution
<b>(1) Loc 003</b>						
<b>Date Collected: 09/18/2012 13:30</b>		<b>Matrix: Aqueous</b>				
Ammonia as N by 350.1	1.1	0.050	mg/L	09/24/2012 18:31	MTR	
COD by SM5220-D/Hach 8000	25	1.0	mg/L	09/20/2012 15:15	KWA	
Kjeldahl Nitrogen, Total (TKN) by 351.1	1.4	0.50	mg/L	09/21/2012 16:24	MTR	
Nitrate as N by SM4500-NO3 F	3.4	0.050	mg/L	09/18/2012 20:19	KMD	
Nitrite as N by SM4500-NO3 F.	0.054	0.010	mg/L	09/18/2012 20:19	KMD	
Oil & Grease by 1664A	ND	1.0	mg/L	09/21/2012 12:15	JHF	
Phosphorus as P by 365.1	0.079	0.010	mg/L	09/24/2012 11:42	MTR	
Solids, Suspended (TSS) by SM2540D	2.0	1.0	mg/L	09/20/2012 14:28	NKB	
Specific Conductance by SM2510B	320	1.0	Micromhos/cm	09/19/2012 14:00	AMW	
Turbidity by SM2130B	1.5	0.10	NTU	09/18/2012 20:57	AMW	
pH by SM 4500-H+B	6.8		pH Units	09/18/2012 20:55	AMW	
E. coli by EPA Modified 1603 (mTEC)	80		col/100ml	09/18/2012 20:00	LEA	10
Total Hardness by SM-2340B (Calculation) by ICP	88	0.34	mg/L	09/21/2012 08:46	AJR	

<b>(2) Loc 004</b>						
<b>Date Collected: 09/18/2012 14:04</b>		<b>Matrix: Aqueous</b>				
Ammonia as N by 350.1	0.12	0.050	mg/L	09/24/2012 18:32	MTR	
COD by SM5220-D/Hach 8000	26	1.0	mg/L	09/20/2012 15:15	KWA	
Kjeldahl Nitrogen, Total (TKN) by 351.1	0.55	0.50	mg/L	09/21/2012 16:25	MTR	
Nitrate as N by SM4500-NO3 F	1.4	0.050	mg/L	09/18/2012 20:23	KMD	
Nitrite as N by SM4500-NO3 F.	0.014	0.010	mg/L	09/18/2012 20:23	KMD	
Oil & Grease by 1664A	ND	1.0	mg/L	09/21/2012 12:15	JHF	
Phosphorus as P by 365.1	0.071	0.010	mg/L	09/24/2012 11:42	MTR	
Solids, Suspended (TSS) by SM2540D	3.0	1.0	mg/L	09/20/2012 14:28	NKB	
Specific Conductance by SM2510B	1000	1.0	Micromhos/cm	09/19/2012 14:00	AMW	
Turbidity by SM2130B	2.3	0.10	NTU	09/18/2012 20:57	AMW	
pH by SM 4500-H+B	7.1		pH Units	09/18/2012 20:55	AMW	
E. coli by EPA Modified 1603 (mTEC)	50		col/100ml	09/18/2012 20:00	LEA	10
Total Hardness by SM-2340B (Calculation) by ICP	140	0.34	mg/L	09/21/2012 08:16	AJR	

# Premier Laboratory, Inc

## Analytical Data Report

Report No: E209B61  
 Date Received: 09/18/2012 19:10

Customer: ESS Group, Inc.  
 Project: Stormwater

Parameter	Result	DL	Units	Completed	By	Dilution
<b>(3) Loc 001</b>						
<b>Date Collected: 09/18/2012 15:35</b>		<b>Matrix: Aqueous</b>				
Ammonia as N by 350.1	0.16	0.050	mg/L	09/24/2012 18:33	MTR	
COD by SM5220-D/Hach 8000	16	1.0	mg/L	09/20/2012 15:15	KWA	
Kjeldahl Nitrogen, Total (TKN) by 351.1	0.54	0.50	mg/L	09/21/2012 16:25	MTR	
Nitrate as N by SM4500-NO3 F	1.2	0.050	mg/L	09/18/2012 20:25	KMD	
Nitrite as N by SM4500-NO3 F.	0.023	0.010	mg/L	09/18/2012 20:25	KMD	
Oil & Grease by 1664A	ND	2.0	mg/L	09/21/2012 12:15	JHF	
Phosphorus as P by 365.1	0.056	0.010	mg/L	09/24/2012 10:38	MTR	
Solids, Suspended (TSS) by SM2540D	5.0	1.0	mg/L	09/20/2012 14:28	NKB	
Specific Conductance by SM2510B	310	1.0	Micromhos/cm	09/19/2012 14:00	AMW	
Turbidity by SM2130B	3.0	0.10	NTU	09/18/2012 20:57	AMW	
pH by SM 4500-H+B	7.5		pH Units	09/18/2012 21:08	AMW	
E. coli by EPA Modified 1603 (mTEC)	970		col/100ml	09/18/2012 20:00	LEA	10
Total Hardness by SM-2340B (Calculation) by ICP	77	0.34	mg/L	09/21/2012 08:49	AJR	

<b>(4) Loc 002</b>						
<b>Date Collected: 09/18/2012 16:10</b>		<b>Matrix: Aqueous</b>				
Ammonia as N by 350.1	1.9	0.050	mg/L	09/24/2012 18:34	MTR	
COD by SM5220-D/Hach 8000	97	1.0	mg/L	09/20/2012 15:15	KWA	
Kjeldahl Nitrogen, Total (TKN) by 351.1	2.7	0.50	mg/L	09/21/2012 16:28	MTR	
Nitrate as N by SM4500-NO3 F	1.1	0.050	mg/L	09/18/2012 20:26	KMD	
Nitrite as N by SM4500-NO3 F.	0.040	0.010	mg/L	09/18/2012 20:26	KMD	
Oil & Grease by 1664A	ND	1.0	mg/L	09/21/2012 12:15	JHF	
Phosphorus as P by 365.1	0.10	0.010	mg/L	09/24/2012 10:39	MTR	
Solids, Suspended (TSS) by SM2540D	5.0	1.0	mg/L	09/20/2012 14:28	NKB	
Specific Conductance by SM2510B	85	1.0	Micromhos/cm	09/19/2012 14:00	AMW	
Turbidity by SM2130B	15	0.10	NTU	09/18/2012 20:57	AMW	
pH by SM 4500-H+B	7.0		pH Units	09/18/2012 21:08	AMW	
E. coli by EPA Modified 1603 (mTEC)	13500		col/100ml	09/18/2012 20:00	LEA	1
Total Hardness by SM-2340B (Calculation) by ICP	18	0.34	mg/L	09/21/2012 08:52	AJR	

# Premier Laboratory, Inc

## Analytical Data Report

Report No: E209B61  
 Date Received: 09/18/2012 19:10

Customer: ESS Group, Inc.  
 Project: Stormwater

Parameter	Result	DL	Units	Completed	By	Dilution
<b>(5) Loc 005</b>						
<b>Date Collected: 09/18/2012 17:05</b>		<b>Matrix: Aqueous</b>				
Ammonia as N by 350.1	0.64	0.050	mg/L	09/24/2012 18:35	MTR	
COD by SM5220-D/Hach 8000	72	1.0	mg/L	09/20/2012 15:15	KWA	
Kjeldahl Nitrogen, Total (TKN) by 351.1	2.2	0.50	mg/L	09/21/2012 16:29	MTR	
Nitrate as N by SM4500-NO3 F	1.1	0.050	mg/L	09/18/2012 20:27	KMD	
Nitrite as N by SM4500-NO3 F.	0.053	0.010	mg/L	09/18/2012 20:27	KMD	
Oil & Grease by 1664A	ND	1.0	mg/L	09/21/2012 12:15	JHF	
Phosphorus as P by 365.1	0.21	0.010	mg/L	09/24/2012 10:40	MTR	
Solids, Suspended (TSS) by SM2540D	3.0	1.0	mg/L	09/20/2012 14:28	NKB	
Specific Conductance by SM2510B	190	1.0	Micromhos/cm	09/19/2012 14:00	AMW	
Turbidity by SM2130B	13	0.10	NTU	09/18/2012 20:57	AMW	
pH by SM 4500-H+B	6.6		pH Units	09/18/2012 21:08	AMW	
E. coli by EPA Modified 1603 (mTEC)	80		col/100ml	09/18/2012 20:00	LEA	10
Total Hardness by SM-2340B (Calculation) by ICP	35	0.34	mg/L	09/21/2012 08:55	AJR	

<b>(6) Loc 006</b>						
<b>Date Collected: 09/18/2012 17:45</b>		<b>Matrix: Aqueous</b>				
Ammonia as N by 350.1	2.9	0.050	mg/L	09/24/2012 18:38	MTR	
COD by SM5220-D/Hach 8000	210	1.0	mg/L	09/20/2012 15:15	KWA	
Kjeldahl Nitrogen, Total (TKN) by 351.1	5.4	0.50	mg/L	09/21/2012 16:30	MTR	
Nitrate as N by SM4500-NO3 F	1.3	0.050	mg/L	09/18/2012 20:28	KMD	
Nitrite as N by SM4500-NO3 F.	0.26	0.010	mg/L	09/18/2012 20:28	KMD	
Oil & Grease by 1664A	1.5	1.0	mg/L	09/21/2012 12:15	JHF	
Phosphorus as P by 365.1	0.53	0.010	mg/L	09/24/2012 10:40	MTR	
Solids, Suspended (TSS) by SM2540D	32	1.0	mg/L	09/20/2012 14:28	NKB	
Specific Conductance by SM2510B	140	1.0	Micromhos/cm	09/19/2012 14:00	AMW	
Turbidity by SM2130B	60	0.10	NTU	09/18/2012 20:57	AMW	
pH by SM 4500-H+B	6.6		pH Units	09/18/2012 21:08	AMW	
E. coli by EPA Modified 1603 (mTEC)	6300		col/100ml	09/18/2012 20:00	LEA	1
Total Hardness by SM-2340B (Calculation) by ICP	19	0.34	mg/L	09/21/2012 08:58	AJR	

