GENERIC QUALITY ASSURANCE PROJECT PLAN (QAPP)

FOR THE

INDUSTRIAL STORMWATER INSPECTIONS

November 2011

Prepared by EPA Region 10 Quality Staff

QAPP APPROVAL:

Date: 11/15/2011

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Office of Compliance and Enforcement

Date: 11/15/2011

for **Kimberly A. Ogle, Unit Manager, USEPA Region 10**
NPDES Compliance Unit, Office of Compliance and Enforcement

Date: 11/15/11

Ginna Grepo-Grove, QA Manager, USEPA Region 10
Office of Environmental Assessment

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1.0 Project Management

1.1 Distribution List

Copies of the completed/signed project plan should be distributed to:

Name	Title	Mail Stop	Phone Number	e-Mail Address
Joe Roberto	NPDES Compliance Unit	OCE-133	(206) 553-1669	Roberto.Joseph@epa.gov
Kristine Karlson	NPDES Compliance Unit	OCE-133	(206) 553-0290	Karlson.Kristine@epa.gov
Jennifer Crawford	RSCC	OEA-095	(206) 553-6261	Crawford.Jennifer@epa.gov
Don Matheny	QA Officer	OEA-095	(206) 553-2599	Matheny.Don@epa.gov
Gerald Dodo	Supervisor (Chemistry)	LAB	(360) 871-8728	Dodo.Gerald@epa.gov
TBD	Lab Manager	Contract Lab	TBD	TBD

Summary of analytical results shall be sent to the EPA Inspector. Electronic copies of data are not required unless specifically requested. Contract labs may be given a copy of the Industrial Stormwater Site Specific Inspection Plan (ISSSIP) Analytical Table (Data Quality Objective Summary) for use in providing analytical support.

1.2 Project/ Task Organization

This section identifies the personnel involved in Industrial Stormwater Facility inspection sampling and analytical activities and defines their respective roles and responsibilities in the process.

1. Inspector

The inspector conducts the inspection under the authority provided by the Clean Water Act. The inspector's responsibility is to prepare a final inspection report based on the results of the inspection conducted and the sample analytical data obtained from the laboratory. In conjunction with the inspection, the inspector shall also be responsible for:

- Site inspection and the recording of observations (i.e., field log);
- Documenting the location of site using GPS;
- Conducting dye tracer tests as appropriate;
- Conducting direct readings such as pH, turbidity, etc..., as appropriate;
- Collecting runoff water, effluent samples, soils or sediments as appropriate;
- Coordinating with the Regional Sample Control Center (RSCC) for a regional project code and sample identification numbers
- Coordinating with the mobile EPA or commercial laboratory for sample analyses, as appropriate;
- Maintaining sample documentation, including chain of custody, photographs, and receiving sample analytical results.

All of these tasks shall be performed in accordance with the approved QA Project Plan (QAPP) for Industrial Stormwater Facility wet weather inspections. Changes in procedure should be documented in an appropriate addendum to the plan or sample alteration form (Attachments 1 and 2) and included with the ISSSIP in Appendix A.

2. Regional Sample Control Center (RSCC)

The EPA Region 10 RSCC is located within the Office of Environmental Assessment (OEA). Based on information provided in the ISSSIP, the role of the RSCC is to:

- coordinate support with the EPA Region 10 Manchester Environmental Laboratory (MEL)
- schedule sample deliveries and timeframes with MEL,
- provide Regional sample ID numbers, Project Codes and Account Numbers
- sign / concurrence on ISSSIP

3. *Quality Assurance Officer (QAO)*

The QAO is part of the Quality Staff and is located in the Environmental Services Unit in OEA. The QAO is authorized by the Regional QA Manager (RQAM) to act as his/her designee. The QAO reviews / approves the final Generic QAPP, acts as the alternate RSCC and signs/concurs on ISSSIP.

4. *Analytical Laboratory- Manchester Environmental Laboratory (MEL) or Contract Lab*

MEL is the USEPA Region 10 Environmental Laboratory. The Lab's physical address is:

7411 Beach Drive E,
Port Orchard, WA 98366

For these inspections, MEL (or a contract lab) is responsible for the following tasks:

- providing "certified clean" sample containers and preservatives,
- performing analysis of samples,
- data generation, reduction, review and verification
- submission of analytical results, data print-outs (if requested) and QC summary results

In the event that turbidity analysis cannot be performed in the field, a sample may be collected for analysis by MEL. In some cases, samples may need to be shipped to sub-contracted commercial or State labs due to sample holding time issues or laboratory availability.

1.3 Problem Definition/ Background

1.3.1 Background

The Federal and State National Pollutant Discharge Elimination System (NPDES) program monitor and regulate the discharge of pollutants from point sources to waters of the United States. Facilities regulated under the Industrial Stormwater General Permit are point sources, as defined by the CWA [Section 502(14)]. For the purposes of this plan, these regulated facilities will be referred to as: "Industrial Stormwater Facilities". A wet weather initiative for fiscal year 2012 will be implemented for EPA inspectors to conduct NPDES inspections at Industrial Stormwater Facilities. The main goal of this initiative is to conduct the inspections during rain events in order to locate and collect observable discharges running off the site.

The purpose of this Quality Assurance Project Plan (QAPP) is to provide EPA Credentialed Inspectors from the Office of Compliance and Enforcement (OCE), Region 10 State Operations Offices and the Office of Environmental Assessment (OEA) with a basic Plan that will address the Data Quality

Objectives (DQO) required for these Industrial Stormwater Facility site-specific project inspections and provide guidelines on sample collection, sample documentation, analytical methods, and data validation and interpretation of data deliverables. This document was prepared in compliance with the EPA Policy CIO 2106.0, October 20, 2008 and the Agency QA document QA-G5, *"Guidance for Quality Assurance Project Plans", Final Version: December, 2002*.

1.3.2 Objectives/Scope

Determine compliance of observable discharges from Industrial Stormwater Facilities during wet weather events with the Clean Water Act through the collection of samples of opportunity from the facilities inspected. For the purposes of defining the sampling and analytical of this wet weather initiative, facility types have been placed in the following 4 categories in accordance with the Industrial Stormwater General Permit. These are:

- **Food & Chemical** (*Chemical & Allied Products, Food & Kindred Products*)
- **Metals & Auto** (*Primary Metals, Metals Mining, Auto Salvage & Scrap Recycling, Metals Fabrication*)
- **Hazardous Waste** (*Hazardous Waste Treatment, Storage & Disposal Facilities and Dangerous Waste Recyclers subject to provisions of Resource Conservation & Recovery Act Subtitle C*)
- **Timber** (*Timber Product Industry, Paper & Allied Products*)

1.4 Project/ Task Description and Schedule

1.4.1 Project/Task Description

This Generic QAPP is developed for the purpose of supporting (announced or unannounced) Industrial Stormwater inspections that may be performed as part of the NPDES program. Analysis for pH and turbidity in addition to observations for flow, oil sheens and dye tests will be conducted on-site by the inspector. Samples for metals and PCB determinations will be analyzed by MEL or a sub-contracted commercial lab. The sub-contracted lab must be accredited and /or certified by a recognized accrediting authority such as NELAP or the Washington State Department of Ecology accrediting program. Samples for other parameters, if needed, will be analyzed by MEL or a sub-contracted commercial lab. All of the analyses will be performed in accordance with the analytical methodologies and QC requirements specified in Table 3 - Data Quality Objectives Summary of this Generic QAPP. See the sample collection section and specific analyses that will be performed.

1.4.2 Schedule of Tasks

Table 1 – Activity Schedule and Tentative Start and Completion Dates

Activity	Estimated Start Date	Estimated Completion Date
Submit ISSSIP to RSCC / Receive Sample IDs, etc.	2-4 weeks prior to field mobilization	
Mobilize to Sites	See IS-SSIP	
Sample Collection		
On-site Analysis of Samples		
Data Review/Verification/Reporting data to Inspector		8 Weeks after receipt of samples
Target Completion Date		TBD by Inspector / Program

1.4.3 Industrial Stormwater Site-Specific Inspection Plan (ISSSIP)

This Industrial Stormwater generic QAPP shall cover the QA requirements of all Wet Weather initiative Industrial Stormwater inspections performed by EPA inspectors within Region 10. After program and RQAM approval of this generic QAPP, the inspectors are only required to fill-out the summary of this generic QAPP called the "Industrial Stormwater Site-Specific Inspection Plan (ISSSIP)". The ISSSIP is a two-page summary of the sampling, analysis and QA requirements that may be performed during facility inspections. The ISSSIP lists the following required information:

- **Name of facilities inspected,**
- **Name of the inspector and contact information,**
- **Approximate number of samples that will be collected (Table 3),**
- **Chemical parameters identified for laboratory analysis (Table 3)**

The Data Quality Objectives Summary in Table 3 is also a part of the ISSSIP. The inspector(s) check mark the parameters listed in Table 3 applicable to the samples of opportunity collected from the types of facilities inspected. A completed ISSSIP is submitted to the RSCC 2-4 weeks prior to sample collection in order to allow for adequate time to reserve laboratory space and the assignment of a project code, sample IDs and filing. The first page of ISSSIP contains the project, the account code, EPA sample numbers assigned for inspection, list of facilities inspected, address, contact person and phone number, the names of inspectors conducting the inspection and their respective environmental organization affiliations, the total number of samples collected per facility, and the parameters that were determined. The second page of ISSSIP is the Table 3 – the Summary of Data Quality Objectives listing the number of samples collected, parameters for analysis, analytical procedures and methodologies and the precision, accuracy and other DQO requirements for analysis. If applicable, Attachment 1 and 2 (Sample Alteration and Corrective Action Forms), may also be included with the ISSSIP. The ISSSIP is submitted to the QA Office for review and approval before a scheduled sampling event or immediately after collecting samples of opportunity. A blank 2 page ISSSIP to be filled out and submitted by the inspectors is attached In Appendix A of this Generic QAPP.

1.5 Data Quality Objectives and Criteria for Measurement Data

Data Quality Objectives (DQOs) are the quantitative and qualitative terms inspectors and project managers use to describe how good the data needs to be in order to meet the project's objectives. DQOs for measurement data (referred to here as data quality indicators) are precision, accuracy, representativeness, completeness, comparability, sensitivity and measurement range. The overall QA objective for analytical data is to ensure that data of known and acceptable quality are provided. To achieve this goal, data must be reviewed for 1) representativeness, 2) comparability, 3) precision, 4) accuracy (and bias), 5) completeness and 6) sensitivity. Precision, accuracy, sensitivity, completeness, sample representativeness and data comparability are necessary attributes to ensure that analytical data are reliable, scientifically sound, and legally defensible. Each analytical result or set of results generated should be fully defensible in any legal action, whether administrative, civil, or criminal.

Precision: The precision of each test depends on the number of tubes used for the analysis. Samples in duplicate will be analyzed on a 10 % frequency (1 per 10 samples collected). The precision is evaluated using the Relative Percent Difference (RPD) values between the duplicate sample results.

Accuracy: Accuracy and bias will be evaluated by the use percent recovery (%R) of the target analyte in spiked samples and also the recoveries of the surrogates in all samples and QC samples.

$$\% \text{ Recovery} = \frac{SQ - NQ}{S} \times 100$$

SQ = quantity of spike or surrogate found in sample
NQ = quantity found in native (un-spiked) sample
S = quantity of spike or surrogate added to native sample

Representativeness is the degree to which data from the project accurately represent a particular characteristic of the environmental matrix which is being tested. Representativeness of samples is ensured by adherence to standard field sampling protocols and to standard laboratory methods and protocols. The design of the sampling scheme and number of samples should provide a representativeness of each matrix or product of the chemical processes being sampled.

Comparability is the measurement of the confidence in comparing the results of one sampling event with the results of another achieved by using the same matrix, sample location, sampling techniques and analytical methodologies.

Completeness: Completeness is the percentage of valid results obtained compared to the total number of samples taken for a parameter. Since sampling from inspections are usually grab and limited in number of samples, the number of valid results obtained from the analyses are expected to be equal or better than 95%. Percent completeness may be calculated using the following formula:

$$\% \text{ Completeness} = \frac{\text{\# of valid results}}{\text{\# of samples taken}} \times 100$$

Sensitivity is the capability of a method or instrument to discriminate between measurement responses representing different levels of the variable of interest. Field and laboratory measurements need to have the required sensitivity to allow for an evaluation of the data against the applicable regulatory criteria.

The QA objectives outlined, above, will be evaluated in conjunction with the data validation process.

1.6 Special Training Requirements/Certification

Inspectors are required to complete the 24-hour Basic Health and Safety training. The inspectors will obtain a basic health and safety training certification from the 24-hour training which should be maintained current by attending an 8-hour safety training refresher course every year. The inspectors must also have a signed and current "credential" certifying the bearer as "Authorized to Conduct Investigations and Inspections Pursuant to All Federal Laws Administered by the United States Environmental Protection Agency". All of the training courses listed above are provided by EPA Region 10. Furthermore, sampling and sample documentation skills are also assured by the "mentoring" provided by the senior inspectors in the field.

The laboratories performing the sample analysis for this program are NELAP and/or State accredited. Chemists performing the analytical work for this project have extensive knowledge, skill and demonstrated experience in the execution of the analytical methods being requested.

1.7 Documentation and Records

Complete documentation for inspections may include but is not limited to the following forms, which have to be completed and collated by the EPA Inspector:

- Investigation Report
- Records Inspection Checklist
- Chain of Custody Logs
- Record of Sampling
- Laboratory Analysis Reports
- Photographs, Sketches, Paper Copies, Chemical Labels, MSDS, Application Records or other documentation.

Investigators will maintain field notes in a bound notebook and all documents, records, and data collected will be kept in a case file and submitted to the program office with the final inspection report.

The following documents will be archived at the Manchester Environmental Laboratory or the designated laboratory performing the analysis: (1) signed hard copies of sampling and chain-of-custody records (2) electronic and hard copy of analytical data including extraction and sample preparation bench sheets, raw data and reduced analytical data.

The laboratory will store the above records, data, and other analytical documentation as per their established SOP.

2.0 Measurement/ Data Acquisition

2.1 Sampling Process Design (Experimental Design)

Prior to compliance inspections, the EPA Inspector will review and evaluate facility files, if available, which may include facility background information, historical ownership, facility maps depicting general geographic location, property lines, surrounding land uses, a summary of all possible source areas of contamination, a summary of past permits requested and/or received, any enforcement actions and their subsequent responses and a list of documents and studies prepared for the facility, records and inspection reports from previous compliance site visits.

Based on the data and visual inspection of the facility, samples of opportunity on an “as needed” basis will be collected for analysis to characterize the pollutants and determine if they are in compliance with the Clean Water Act.

2.2 Inspection and Sample Collection Procedures

2.2.1 Health and Safety

Inspectors visiting Industrial Stormwater facilities need to be aware of the physical hazards of these facilities. Sharp objects imbedded in walking areas, heavy auto parts, precarious stacks of material and heavy moving equipment all present physical hazards which inspectors need to consider upon entry. Boots with steel toes and shanks are highly recommended. Other considerations such as the use of nitrile gloves, hard hats, ear protection, orange vests and safety glasses are also recommended.

2.2.2 Location

Inspectors should use the Global Positioning System receiver (GPS) for documenting locations of facilities inspected. A calibrated GPS instrument can be checked out through Mr. Matt Gubitosa of the Environmental Characterization Unit, OEA, phone number: (206) 553-4059.

2.2.3 Sample Collection

Sample collection methods can vary between standard operating procedures used by samplers and different conditions encountered in the field. The following is provided as general guidance for samplers. Samplers should document in their field records the actual method used during sample collection.

If samples are collected manually, nitrile gloves should be worn to protect the sampler. Also, the use of safety glasses should be considered. Additional safety information should be covered in a site safety plan or pre-inspection safety briefing.

When a discharge point is identified, the sampler should consider collecting, when possible, samples at a minimum of one collection point. This collection point should be obtained at the discharge point. More sample collection points may be collected by the inspectors if necessary.

To the extent possible, take the sample by holding the bottle near its base in the hand and plunging it, neck downward, below the surface. Use an extension pole if needed to keep from walking into the effluent stream and stirring up the sampling area. Turn bottle until neck points slightly upward and mouth is directed towards the current. If there is no current, create a current by pushing bottle forward horizontally in a direction away from the hand. After collection, carefully recap the sample bottle securely. Sample bottles do not need to be filled to the rim. DO NOT RINSE any sample bottles for collection of waters.

Soil and/or sediment samples should be collected using a dedicated stainless steel spoon and mixing bowl. These samples are carefully placed in wide mouth glass container and capped.

The sample containers should be labeled with:

- Regional Sample Identification Number
- Date & Time of Sample Collection
- Sampler's name
- Project Code
- Preservative used
- Type of analysis

This information should be written on the label using an indelible, waterproof ink. Sample containers should be placed individually in sealed plastic bags and stored on ice immediately following collection until lab receipt and custody relinquishment is complete. Proper chain of custody procedures must be followed at all times.

If analysis of additional parameters is needed in a specific case, additional sample containers may be needed. Required sample volume, container type, preservation techniques, and holding times for parameters likely to be sampled are included in (Table 3). Inspectors should use their discretion and the

Facility Types (Table 3) to determine which parameters should be used to document violations at a particular facility and are encouraged to discuss this with the NPDES Compliance Program representatives and laboratory/RSCC in order to ensure proper collection and preservation.

2.2.4 Sample Collection Equipment

Equipment needs will vary from inspection to inspection. The list in Table 2 (below) provides suggestions to be considered prior to leaving for the field.

Table 2 – Suggested Sample Equipment for Industrial Stormwater Field Inspections

General	Safety	Emergency
Inspector Credentials Field Notebook Camera Global Positioning System Receiver (GPS) Waterproof Pens & Markers Clipboard flashlight Extension Sampling Pole Sample containers Bubble wrap Ice Chest Extra Set of Coveralls	Water Proof Boots (steel toe/shank) Rain gear Rubber, Latex or Nitrile gloves Soap, towels, and water for washing hands Ear protection Eye protection Hard hat	First Aid Kit Phone numbers Cell Phone

2.2.5 Shipping Requirements

All of the samples are hand-delivered to the laboratory analyzing the samples. Samples for laboratory analysis will be hand-delivered to the MEL within the prescribed holding times. Sufficient ice must be provided to ensure that samples remain cold until received and processed by the laboratory.

2.2.6 Decontamination Procedures

Samples will be collected using dedicated clean sampling devices and sample collection gear. Sampling devices and sample collection gear such as rain gear, rubber boots and gloves will be cleaned and decontaminated as appropriate using a phosphate-free detergent. Inspectors will follow the proper health and safety procedures when collecting and handling samples to minimize or avoid contamination.

2.3 Analytical Methods Requirements

Measurement parameters for the Industrial Stormwater facility inspections may be conducted in the field and/or by the laboratory. Analytical methods have been selected that meet the applicable NPDES regulatory requirements (40 CFR 136). Table 3 -Data Quality Objective Summary lists the parameters that can be measured under this plan, the accuracy, precision, sensitivity, preservation, and holding time requirements.

2.4 Quality Control Requirements

Quality Control procedures for analyte measurements will be according to the requirements specified in the method that will be used in the analysis.

2.5 Instrument/Equipment Testing, Inspection and Maintenance Requirements

Field and laboratory personnel will follow their standard operating procedures for any preventative maintenance required on laboratory instruments or systems used for this project. For field instrumentation, a citation of the SOP should be noted in the field logs.

2.6 Instrument Calibration and Frequency

Field maintenance and calibration will be performed where appropriate prior to use of the instruments and in accordance with the applicable Region 10 Standard Operating Procedure. The laboratory will follow the calibration procedures found in the methods listed in Table 3 or in the laboratory's SOPs. For field pH, a second source standard will be used to verify instrument calibration prior to use and at the end of the day.

2.7 Inspection/Acceptance Requirements for Supplies and Consumables

Sample bottles will be appropriately cleaned as per MEL SOP MIG001A or certified clean from the supplier. Inspectors will make note of the information on the certificate of analysis that accompanies sample jars to ensure that they meet the specifications and guidance for contaminant free sample containers.

2.8 Data Acquisition Requirements (non-Direct Measurements)

All monitoring data collected under this Generic QAPP will be primary data (collected by EPA). No secondary (existing) monitoring data must be acquired for these inspections.

2.9 Data Management

A field log notebook, photos, GPS location data and the Field Sample and Chain of Custody Data Sheets will be used to document the sampling and inspection activities. For each sample location, the following will be recorded in the notebook:

- Facility Name & Address
- Regional Sample Identification Number
- Date & Time of Sample Collection
- Physical Description of each Sample Collection Point
- Weather Conditions
- Color of Sample (water)
- Sample Matrix (water, soil, sediment)
- Sample Appearance
- Applicable Field Measurements

The Field Sample and Chain of Custody Data Sheets will have the following information:

- Facility Name
- Project Code
- Regional Sample Identification Number
- Date & Time of Sample Collection
- Sampler's name & initials

- Sample Location

If applicable, a suffix l -FD will be appended to the sample identified as the field duplicate. For fixed laboratory analyses, field duplicates will be assigned a separate unique sample identifier and will be submitted 'blind' to the analytical laboratory. Analytical duplicate results will be reported with a trailing -DU (analytical duplicate) or D.

All inspection reports including those for potential enforcement cases will be completed within a timeframe agreed to between the Inspector and Program. Validated laboratory results and interpretation (if necessary) will be appended. Reports will be maintained as enforcement confidential documents until release is approved by the USEPA Office of Regional Counsel (ORC). Photographs and other supporting data along with the inspection report will be used to determine NPDES compliance.

All laboratory analytical data generated in support of these inspections will be processed, stored, and distributed according to laboratory's SOPs.

3.0 Assessment/Oversight

3.1 Assessments and Response Actions

The inspector will be responsible for reviewing field log notebooks for accuracy and completeness within 48 hours of each inspection. Sample results provided to the inspector by the laboratory will be appended to the inspection reports. The inspector will compare the sample information in the field log notebooks with the analytical results appended to the inspection report to ensure that no transcriptions errors have occurred.

RPDs between field duplicate and analytical duplicate measurements will be calculated by the laboratory. RPD's greater than the project requirements will be noted in the inspection report.

Laboratories routinely perform performance checks using different program specific quarterly blind and check standards. Each method of analysis requires specific QA/QC runs that must be complied with by the laboratory performing the analysis. An internal review and verification of the data and results are also routinely conducted by the appropriate supervisors and the Laboratory QA Coordinator. No additional audits will be performed on the laboratory for this project.

Corrective action procedures that might be implemented from QA results or detection of unacceptable data will be developed if required and documented in Attachment 2.

3.2 Reports to Management

Only the data review & verification reports with the properly qualified data shall be provided by the laboratory to the inspectors. If, for any reason, the schedules or procedures above cannot be followed, the EPA Inspector must complete the Attachment 1- Sample Alteration Form (SAF). The SAF should be reviewed and approved by the QAO. The laboratory should be given a copy of the QAO approved SAF for reference and project file.

4.0 Data Validation and Usability

4.1 Data Review, Validation, and Verification Requirements

The criteria for the validation will follow those specified in this QA plan and the criteria specified in the methods.

4.2 Validation and Verification Methods

All data generated shall be reviewed and verified in accordance with the QA/QC requirements specified in the methods, and the technical specifications outlined in the QAPP. The summary of all analytical results will be reported to the EPA Inspector. The raw data for this project shall be maintained by the laboratory. Data review will be performed by the laboratory for all the analyses prior to the release of data (which will occur approximately 8 weeks after receipt of samples). The laboratory will also archive the analytical data into their laboratory data management system.

4.3 Reconciliation with User Requirements

All data and related information obtained during the course of this project will be included in a data report package.

Table 3 – Industrial Stormwater Generic QAPP Analytical Data Quality Objectives Summary

Analytical Group	Number of Samples[1]	# of Field QA Samples: Dups / Blanks (10% dup or 1 per day)	MS / MSD Samples (5% or 1/20 samples)	Matrix	Method	Method Reporting Limits (Sensitivity)	Accuracy	Precision (RPD)	Complete-ness	Preservation	Volume, Container	Holding Time (days)
ALL INDUSTRIAL STORMWATER GENERAL PERMIT FACILITIES – Laboratory Measurements												
Total & Dissolved Metals[2]- No Hg		Y	Y	water	200.8	see footnote[2]	75-125%	± 20RPD	95%	HNO_3 to pH<2, Cool on Ice ≤ 6°C	1 Liter (P)[3]	180 days
Total Hardness as CaCO3 (Calc.)		Y	Y	water	SM 2340B	0.30 mg/L	75-125%	± 20RPD	95%	HNO_3 to pH<2, Cool on Ice ≤ 6°C	1 Liter (P)[3]	180 days
FOOD & CHEMICAL FACILITIES – Laboratory Measurements												
Biological Oxygen Demand		Y	NA	water	SM 5210B	4 mg/L	75-125%	± 20RPD	95%	Cool on Ice ≤ 6°C	1 Liter (P, G) - FULL	48 Hours
Nitrate/Nitrite as Nitrogen		Y	Y	water	353.2	0.1 mg/L	75-125%	± 20RPD	95%	H_2SO_4 to pH<2, Cool on Ice ≤ 6°C	1 Liter (P) - combine in 1 bottle	28 days
Total Phosphorus		Y	Y	water	365.1	0.1 mg/L	75-125%	± 20RPD	95%	H_2SO_4 to pH<2, Cool on Ice ≤ 6°C		28 days
METALS & AUTO FACILITIES – Laboratory Measurements												
Total & Dissolved Hg[2]		Y	Y	water	245.1	0.2 µg/L	75-125%	± 20RPD	95%	HNO_3 to pH<2, Cool on Ice ≤ 6°C	NONE: Included in TM/DM 1L(P)	28 days
Metals[2] (including Hg)		Y	Y	sediment	200.7 / 7471B	0.2-10 mg/kg	75-125%	± 20RPD	95%	Cool on Ice ≤ 6°C	4 oz. wide mouth (G)	180 days / Hg 28 days
TPH-Diesel Range (plus motor oil)		Y	Y	water	NWTPH-Dx	0.25 mg/L	50-150%	± 35RPD	95%	Cool on Ice ≤ 6°C	2x500mL amber (G) Teflon lined cap, 5x500mL for samples with QC	7 days
PCBs		Y	Y	water	8082	30 µg/ L	50-150%	± 35RPD	95%	Cool on Ice ≤ 6°C	2x40mL clear vials Teflon lined cap, 5x40mL for samples with QC	14 days to extract / 40 days to analysis
				sediment		0.1 mg/kg					8 oz. wide mouth (G))	
HAZARDOUS WASTE FACILITIES – Laboratory Measurements												
TSS		Y	NA	water	I-3765-85	2 mg/L	NA	± 20RPD	95%	Cool on Ice ≤ 6°C	1 Liter (P) - FULL	7 days
Total & Dissolved Hg[2]		Y	Y	water	245.1	0.2 µg/L	75-125%	± 20RPD	95%	HNO_3 to pH<2, Cool on Ice ≤ 6°C	NONE: Included in TM/DM 1L(P)	28 days
Metals[2] (including Hg)		Y	Y	sediment	200.7 / 7471B	0.2-10 mg/kg	75-125%	± 20RPD	95%	Cool on Ice ≤ 6°C	4 oz. wide mouth (G)	180 days / Hg 28 days
TPH-Diesel Range (plus motor oil)		Y	Y	water	NWTPH-Dx	0.25 mg/L	50-150%	± 35RPD	95%	Cool on Ice ≤ 6°C	2x500mL amber (G) Teflon lined cap, 5x500mL for samples with QC	7 days
TIMBER FACILITIES – Laboratory Measurements												
TSS		Y	NA	water	I-3765-85	2 mg/L	NA	± 20RPD	95%	Cool on Ice ≤ 6°C	1Liter (P) - FULL	7 days
ALL INDUSTRIAL STORMWATER GENERAL PERMIT FACILITIES – Field Measurements												
Turbidity		Y	NA	water	180.1	0.1 NTU	NA	± 20RPD	100%	Cool on Ice ≤ 6°C	100 ml P, G	48 hours
pH		Y	NA	water	4500-H+ B	0.1 pH units	NA	± 0.5 pH Units	100%	Not Required	100 ml P, G	Analyze Immediately
Oil Sheen		NA	NA	water	NA	Visible	NA	NA	NA	NA	NA	Onsite observation

*All samples must be collected as grabs. Sample containers for water cannot be rinsed with sample water (fill once to the top of the neck, then cap immediately).

[1] - Sample number includes QA samples and Matrix Spike / Matrix Spike Duplicate (MS/MSD) samples listed in the next two columns. P,G - Plastic, Glass.

[2] – Priority Pollutant metals (water reporting limits in µg/ L): antimony (1.0), arsenic (1.0), beryllium (0.1), cadmium (0.2), chromium (2.0), copper (2.0), lead (0.5), mercury (0.2), nickel (0.5), selenium (2.0), silver (1.0), thallium (1.0), zinc (3.0). Samples for Dissolved Metals analysis must be filtered (0.45 micron) within 15 minutes of collection.

[3] – Samples for Total Hardness and Total Metals /Mercury analysis may be combined into one 1L (P). This does not include Dissolved Metals samples.

Industrial Stormwater Inspection Generic QAPP
Appendix A: Site Specific Inspection Plan (IS-SSIP)

This IS-SSIP will be prepared and used in conjunction with the Generic Industrial Stormwater Inspection QAPP for collecting samples of opportunity during announced and unannounced inspections. Please refer to the Generic QAPP for specific details regarding IS-SSIP.

Project Account Code*	**Sample Numbers***	**EPA Inspectors/Phone Numbers/Mail Stop**

*As assigned by RSCC, one per facility inspected. Sample numbers are assigned according to the week number of collection.

COOPERATING AGENCIES/PARTIES INVOLVED:

Contact Person	Agency	Phone Number

FACILITY INFORMATION

Facility Name	Address	Contact person	E-mail/phone Number

TENTATIVE PROJECT SCHEDULE

Activity	Est. Start Date	Est. Completion Date	Comments
Mobilize to Site			
Sample Collection			
Laboratory Receipt of Samples			
Target Completion Date			Final data delivery normal TAT is 8wks from sample receipt.

DATA DISTRIBUTION

Name and Mail Stop	Electronic	Hard Copy

Concurrence with the IS-SSIP:

RSCC/QA Reviewer: _____ Date: _____
Printed Name and Signature

Inspector: _____ Date: _____
Printed Name and Signature

Instructions

Submit both pages of the IS-SSIP to the RSCC for laboratory coordination/sample numbers/project information and to the QAO for review and concurrence. Complete, sign, and Email the IS-SSIP to the EPA R10 RSCC, Crawford.Jennifer@epa.gov (206-553-6261) or to the back-up RSCC Matheny.Don@epa.gov when needed (206-553-2599).
Note RE Page 2 of the IS-SSIP - Table of DQOs: Do not remove analytes from this table. Fill in the number of samples (column 2) for each applicable analysis/matrix. If the number of samples (column 2) is left blank for a particular analysis, the RSCC/QAO and lab will presume that the analysis is not required for the inspection.

Industrial Stormwater Inspection Generic QAPP: Site Specific Inspection Plan (IS-SSIP)

IS-SSIP Analytical Data Quality Objectives Summary Table*

Analytical Group	Number of Samples[1]	# of Field QA Samples: Dups / Blanks (10% dup or 1 per day)	MS / MSD Samples (5% or 1/20 samples)	Matrix	Method	Method Reporting Limits (Sensitivity)	Accuracy	Precision (RPD)	Complete-ness	Preservation	Volume, Container	Holding Time (days)
ALL INDUSTRIAL STORMWATER GENERAL PERMIT FACILITIES – Laboratory Measurements												
Total & Dissolved Metals[2]- No Hg		Y	Y	water	200.8	see footnote[2]	75-125%	± 20RPD	95%	HNO_3 to pH<2, Cool on Ice ≤ 6°C	1 Liter (P)[3]	180 days
Total Hardness as CaCO3 (Calc.)		Y	Y	water	SM 2340B	0.30 mg/L	75-125%	± 20RPD	95%	HNO_3 to pH<2, Cool on Ice ≤ 6°C	1 Liter (P)[3]	180 days
FOOD & CHEMICAL FACILITIES – Laboratory Measurements												
Biological Oxygen Demand		Y	NA	water	SM 5210B	4 mg/L	75-125%	± 20RPD	95%	Cool on Ice ≤ 6°C	1 Liter (P, G) - FULL	48 Hours
Nitrate/Nitrite as Nitrogen		Y	Y	water	353.2	0.1 mg/L	75-125%	± 20RPD	95%	H_2SO_4 to pH<2, Cool on Ice ≤ 6°C	1 Liter (P) - combine in 1 bottle	28 days
Total Phosphorus		Y	Y	water	365.1	0.1 mg/L	75-125%	± 20RPD	95%	H_2SO_4 to pH<2, Cool on Ice ≤ 6°C		28 days
METALS & AUTO FACILITIES – Laboratory Measurements												
Total & Dissolved Hg[2]		Y	Y	water	245.1	0.2 µg/L	75-125%	± 20RPD	95%	HNO_3 to pH<2, Cool on Ice ≤ 6°C	NONE: Included in TM/DM 1L(P)	28 days
Metals[2] (including Hg)		Y	Y	sediment	200.7 / 7471B	0.2-10 mg/kg	75-125%	± 20RPD	95%	Cool on Ice ≤ 6°C	4 oz. wide mouth (G)	180 days / Hg 28 days
TPH-Diesel Range (plus motor oil)		Y	Y	water	NWTPH-Dx	0.25 mg/L	50-150%	± 35RPD	95%	Cool on Ice ≤ 6°C	2x500mL amber (G) Teflon lined cap, 5x500mL for samples with QC	7 days
PCBs		Y	Y	water	8082	30 µg/ L	50-150%	± 35RPD	95%	Cool on Ice ≤ 6°C	2x40mL clear vials Teflon lined cap, 5x40mL for samples with QC	14 days to extract / 40 days to analysis
				sediment		0.1 mg/kg					8 oz. wide mouth (G))	
HAZARDOUS WASTE FACILITIES – Laboratory Measurements												
TSS		Y	NA	water	I-3765-85	2 mg/L	NA	± 20RPD	95%	Cool on Ice ≤ 6°C	1 Liter (P) - FULL	7 days
Total & Dissolved Hg[2]		Y	Y	water	245.1	0.2 µg/L	75-125%	± 20RPD	95%	HNO_3 to pH<2, Cool on Ice ≤ 6°C	NONE: Included in TM/DM 1L(P)	28 days
Metals[2] (including Hg)		Y	Y	sediment	200.7 / 7471B	0.2-10 mg/kg	75-125%	± 20RPD	95%	Cool on Ice ≤ 6°C	4 oz. wide mouth (G)	180 days / Hg 28 days
TPH-Diesel Range (plus motor oil)		Y	Y	water	NWTPH-Dx	0.25 mg/L	50-150%	± 35RPD	95%	Cool on Ice ≤ 6°C	2x500mL amber (G) Teflon lined cap, 5x500mL for samples with QC	7 days
TIMBER FACILITIES – Laboratory Measurements												
TSS		Y	NA	water	I-3765-85	2 mg/L	NA	± 20RPD	95%	Cool on Ice ≤ 6°C	1Liter (P) - FULL	7 days
ALL INDUSTRIAL STORMWATER GENERAL PERMIT FACILITIES – Field Measurements												
Turbidity		Y	NA	water	180.1	0.1 NTU	NA	± 20RPD	100%	Cool on Ice ≤ 6°C	100 ml P, G	48 hours
pH		Y	NA	water	4500-H+ B	0.1 pH units	NA	± 0.5 pH Units	100%	Not Required	100 ml P, G	Analyze Immediately
Oil Sheen		NA	NA	water	NA	Visible	NA	NA	NA	NA	NA	Onsite observation

*All samples must be collected as grabs. Sample containers for water cannot be rinsed with sample water (fill once to the top of the neck, then cap immediately).

[1] - Sample number includes QA samples and Matrix Spike / Matrix Spike Duplicate (MS/MSD) samples listed in the next two columns. P,G - Plastic, Glass.

[2] – Priority Pollutant metals (water reporting limits in µg/ L): antimony (1.0), arsenic (1.0), beryllium (0.1), cadmium (0.2), chromium (2.0), copper (2.0), lead (0.5), mercury (0.2), nickel (0.5), selenium (2.0), silver (1.0), thallium (1.0), zinc (3.0). For dissolved metals, water samples must be filtered (0.45 micron) within 15 minutes of collection.

Industrial Stormwater Inspection Generic QAPP
Attachment 1 - Sample Alteration Form

Project Name and Number: _____
Sample Matrix: _____
Measurement Parameter: _____

Standard Procedure for Field Collection & Laboratory Analysis (cite reference):

_____
_____

Reason for Change in Field Procedure or Analysis Variation:

_____
_____

Variation from Field or Analytical Procedure:

_____
_____

Special Equipment, Materials or Personnel Required:

_____
_____
_____
_____

Initiators Name: _____ Date: _____

Inspector: _____ Date: _____

Quality Staff: _____ Date: _____

Industrial Stormwater Inspection Generic QAPP
Attachment 2 - Corrective Action Form

Project Name and Number: _____

Sample Dates Involved: _____

Measurement Parameter: _____

Acceptable Data Range: _____

Problem Areas Requiring Corrective Action: _____
_____
_____
_____

Measures Required to Correct Problem(s): _____
_____
_____
_____

Means of Detecting Problems and Verifying Correction: _____
_____
_____
_____

Initiators Name: _____ Date: _____

Inspector: _____ Date: _____

Quality Staff: _____ Date: _____