Contractor Instructions
for
Preparing the Sampling and Analysis Plan (SAP)

1. This document was prepared as a generic guide and reference tool to assist in the development of a project specific Sampling & Analysis Plan (SAP). As such, the contractor shall consult with the appropriate qualified professionals to develop a project specific SAP and or edit the Model SAP. The contractor shall be responsible for the information contained in the SAP, and assure that it is true, accurate, complete, and complies with the State Water Resources Control Board's Resolution Number 2001-046, and the appropriate Regional Water Quality Control Board's Basin Plan.

2. Within the Model SAP, the blue italicized text indicates instruction for the preparer and further identifies text that may require editing. All instructions shall be deleted from the final SAP.

3. The person or persons responsible for developing the SAP should reference the following website http://endeavor.des.ucdavis.edu/wqsid/region.asp to aid in the development of the SAP. This website contains information regarding the RWQCB Basin Plan requirements, including but not limited to, the Hydrologic Unit, Beneficial Uses, and a listing of the Narrative Constituents and Numeric Criteria.

4. The SAP preparer shall not revise the analytes listed in Section-I, subsection E(1) to (8), or Section II, subsection E(1), (2) and (3). In addition, submittal dates and identified frequency of sampling and monitoring shall not be revised without written approval by the Resident Engineer.

5. Laboratory & field data must be entered and maintained in an electronic spread sheet format. Electronic data and hard copies of the laboratory data shall be submitted as described in the Model SAP. The following electronic formats will be accepted: (.xls. or .mdb). At a minimum, the following data must be entered into spreadsheet. Contract Number, date of sample event, Task Order Number-(if applicable), Analyte or constituent tested, reported value, name of Laboratory, Method Reference, Method Number, Method Detection Limit, RWQCB Basin plan Numeric Objective, and or comparative background reading.

6. All person or persons responsible for sample collection and related field-work shall read and sign the construction Health and Safety Plan.

7. Deliverables associated with the final SAP include, but may not be limited to the following:

   A. Site Map with Control & Sampling Locations
   B. A sample of the Custody Logs
   C. Sample Site Log
   D. Laboratory Certification
   E. Classroom & Field Instructions on sampling techniques
   F. Sample Collector Training Certificate
   G. Sample of the Data Management Spread Sheet

6. Once the Contract SAP is approve it shall be incorporated into the approved SWPPP with Resolution Number 2001-046 via the established SWPPP amendment process.

Model
Sampling &Analysis Plan
(SAP)

Contract: [*Enter EA*]

SWPPP MODIFICATION FOR
SAMPLING OF NON-VISIBLE POLLUTANTS AND/OR SILT, SEDIMENT, TURBITY
PURSUANT TO MODIFICATION OF WATER QUALITY ORDER 99-08-DWQ
STATE WATER RESOURCES CONTROL BOARD (SWRCB)
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES)
GENERAL PERMIT FOR STORM WATER DISCHARGES
ASSOCIATED WITH CONSTRUCTION ACTIVITY (GENERAL PERMIT)

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is true, accurate, and complete to the best of my knowledge and belief. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment of knowing violations.

Contractors Signature	Date
Preparer's Signature (If different that above)	Date
Resident Engineer's Approval	Date

Introduction:
On April 26, 2001, the State Water Resources Control Board approved Resolution Number 2001-046, (resolution) to modify the General Construction Activity NPDES Permit Order No-99-08-DWQ, (permit) to include a sampling and analysis strategy for construction projects. The resolution is hereby included in the contract SWPPP and the permit by reference and this Sampling & Analysis Plan (SAP) has been prepared to comply with the resolution.

The underlining goal of this SAP is to determine if the Best Management Practices (BMPs) employed on construction sites are effective in preventing potential pollutants from coming in contact with storm water and causing a exceedence of water quality objectives for the receiving water body.

I. NON-VISIBLE POLLUTANT MONITORING

A. Source Identification

Pursuant to sections A.5.b (2), (3) and (4) and section A.5.c. (1) & (2), [*Insert the Prime Contractors Name*] considered three general source classes of non-visible pollutants. The classes are: (1) construction projects with known site contamination, (2) construction sites that are known to have spilled or spread contaminants on the ground, and (3) construction material use and storage.

The following sections identify possible non-visible pollutants of concern for this construction project.

1. Sites with Known Contamination

During the project development phase, a Site Investigation Report (SIR) was prepared for this project to determine if any contaminants where present at the proposed construction site. The SIR was then used in the development the contract special provisions, which identifies the site contaminants associated with this construction project. The following is a list of known site contaminants:

Check the appropriate boxes & add other known contaminants if identified in the special provisions, the SIR or the SWPPP

- ❑ No Known Contamination ❑ *Insert contamination*
- ❑ Aerially Deposited Lead ❑ *Insert contamination*
- ❑ VOCs or SVOCs ❑ *Insert contamination*
- ❑ Asbestos

2. Sites that are known to spill/spread possible contaminants on the ground.

First paragraph below is a minimum requirement for all projects, check other applicable boxes.

- ❑ During the construction process, [*Insert Prime Contractor's Name*] and sub-contractors will use a mix of heavy equipment and vehicles, which is typical on highway construction projects. Fueling and general maintenance of this heavy equipment will occur on site, which would identify oil, grease and petroleum products as potential pollutants.

- ❑ This construction project applies soil amendments such as gypsum, soil additives, palliatives, or stabilizing emulsions (solids) that contain gypsum or other materials that could potentially pollute storm water run-off. *(Attention is directed to Temporary Soil Stabilization SSPs)*

- ❑ This construction project includes: Grooving, Grinding, Sawcutting, or Hydro-demolition of PCC pavement or structures.

3. Construction Material Use & Storage

Included in Section 500.2.2.4 for Storm Water Pollution Prevention Plans (SWPPPs) prepared under the 1997 Storm Water Quality Handbook or Section 500.3 for the 2000 Handbook is a list of construction materials associated with this project.

The following sampling and monitoring protocols shall apply to construction material use and storage:

(a) Sampling and monitoring will be preformed for the applicable analytes if any breach, malfunction, leakage or spill is not immediately cleaned as per the contract's referenced Storm Water Quality Handbook BMPs, and or as directed by the Engineer.

(b) Sampling and monitoring will be preformed upon the discovery that materials and/or compounds are not (a) stored in water-tight containers under a water tight roof, or (b) stored inside a building or covered storage unit or (c) covered during all storm events that cause runoff.

(c) When scenario (a) and or (b) above apply, sampling and monitoring will continue until laboratory analysis for three consecutive rain events indicates that Storm Water Discharges for stored materials are below the numeric objectives listed in the Regional Water Quality Control Board's basin plan. However, whenever the procedures for the stored materials are observed to have been significantly changed or the application or

implementation of the control measures has changed, [*Insert Prime Contractors Name*] will re-institute testing for the full suite of anlaytes.

B. Receiving Waters

The project's storm water discharges to [Identify & *insert name of water body*], hydrologic unit basin number [insert basin number from basin plan]. *Refer to the following website:* http://endeavor.des.ucdavis.edu/wqsid/region.asp

C. Beneficial Uses

Table-1 below, identifies the surface water beneficial uses from the Region-2 Basin Plan. *[Preparer must verify the information provided in Table-1 below. Reference the website listed above or the RWQCB Basin Plan.*

Table-1	**Beneficial Uses**
Inland Surface Waters	**SF Bay Estuary**
Municipal	*Estuarine habitat*
Agricultural	*Industrial Service Supply*
Industrial Service Supply	*Navigation*
Industrial Process Supply	*All uses Listed Under Inland Surface Waters*
Groundwater Recharge	**Coastal Waters**
Recreational 1	*Recreational 1*
Recreational 2	*Recreational 2*
Wild Habitat	*Industrial Service Supply*
Cold Freshwater Habitat	*Navigation*
Warm Freshwater Habitat	*Marine Habitat*
Fish Migration	*Shellfish Harvesting*
Fish Spawning	*Ocean, Commercial & Sport Fishing*
	Preservation of Rare & Endangered Species

D. Monitoring Program for Pollutants Not Visibly Detectable in Storm Water

[*Insert Consultant's Name*] has developed this SAPs for pollutants not visibly detectable in storm water discharges, which are or should be known to occur on the construction site and which could cause or contribute to the exceedance of a water quality objective. The following items are identified as potential the pollutants of concern: *[identify the project's non-visible pollutants of concern, which are typically related to cement products, petroleum, oil and grease, and other known site contaminants including Aerially Deposited Lead Soils.*

E. Analytes for Analysis

Based on the April 26, 2001, State Water Resources Control Board resolution and the non-visible pollutants of concern identified above, [*Insert Prime Contractor's Name*] will collect samples from primary outfalls and submit said samples including a control sample to a laboratory for the following analysis:

1. pH*
2. Specific Conductance*
3. Dissolved Oxygen*(DO)
4. Conductivity*
5. Salinity
6. Biological Oxygen Demand (BOD)
7. Total Dissolved Solids (TDS)
8. Oil and Grease
9. *Identify Known Site contamination (If any)*

*-Indicates analyte may be field tested

F. Basin Plan Objectives /Receiving Water Benchmark Comparison

Chapter 3 of the Region-2 Regional Water Quality Control Board's Water Quality Control Plan, hereafter referred to as the Basin Plan identifies the water quality objectives for the analytes listed above. When numeric objectives are identified in the Basin Plan, the sample data will be compared against the plans numeric objectives. When numeric objectives are not identified the basin plan, the sample data will be compared against the upstream gradient samples, and if applicable against the base-line receiving water samples. While we do not believe that the basin plan's objectives constitute a discharge standard or limit, we will apply these concentrations as a decision-making benchmark and for comparison.

Exceedances of the objectives, or of the comparative samples, do not in and of itself, constitute a violation of the permit. In addition, exceedances of the basin plan objectives does not automatically indicate that a violation of a water quality standard has occurred, it does however, signal that modifications to the SWPPP may be necessary. Table-2 below identifies the numeric objectives for the required Analytes associated with Sampling Non-visible pollutants.

Contractor must confirm Basin Plan data below. Information provided is only applicable to Projects in RWQCB Region-2.

Table-2 Analytes for Sampling Non-Visible Pollutants

Analyte	Basin Plan Numeric Concentration	Reference
pH	6.5-8.5 -No greater than 0.5 increase of background	Basin Plan at 3-3
BOD5 30 day avg 7 day ave	 30 mg/l 45 mg/l	 Basin Plan Table 4-2 Basin Plan Table 4-2
TDS	N/A- Benchmark comparison	N/A
Conductivity	N/A- Benchmark comparison	N/A
Salinity	N/A- Benchmark comparison	N/A
Oil and Grease 30 day ave daily max	 10.0 mg/l 20 mg/l	 Basin Plan Table 4-2 Basin Plan Table 4-2
DO- (Bay) Downstream of Carquinez Br	5.0 mg/l (Minimum)	Basin Plan at 3-3
DO- (Bay) Upstream of Carquinez Br	7.0 mg/l (Minimum)	Basin Plan at 3-3
DO-(Non-tidal cold water)	7.0 mg/l (Minimum)	Basin Plan at 3-3
DO-(Non-tidal warm water)	5.0 mg/l (Minimum)	Basin Plan at 3-3
Insert known site pollutants if applicable		

II. SEDIMENTATION/ SILTATION MONITORING

Include one of the following (2) paragraphs below. If par-1 applies delete par –2 and subsections a-f. To obtain a list of 303(d) listed water bodies (Impaired Sediment/Siltation only) visit

the State Water Resources Control Board's Web site at-
http://www.swrcb.ca.gov/stormwtr/docs/constpermit.doc

This construction project does not discharge directly into a water body listed in attachment 3 of the General permit. (Clean Water Act § 303.d Water Bodies Listed for Sedimentation). Therefore, this SAP does not include procedures addressing section B.7 of the General Permit.

This construction project discharges directly into: *[Insert Name of 303D listed Water Body from Attachment-3 of the General Permit]*, which is identified in the General Construction Activity NPDES Permit for sediment/siltation. Therefore, this SAP includes procedures to address section B.7 of the General Permit.

A. Source Identification

[*Insert Contractors Name*] has identified the possible sources of storm water that discharge directly into *[Insert Name of 303D listed Water Body*]. These are: [*Insert source locations, outfall location or drainage system numbers]*

B. Receiving Waters

Refer to water body listed above.

C. Beneficial Uses

Refer to SAP Section I, subsection C

D. Monitoring Program for Sediment/Siltation

[*Insert Sub-Contractors Name*] has developed a sampling and analysis program for sediment/siltation for storm water discharges into the 303D listed water body.

E. Analytes for Analysis

1. Settable Solids (SS) mg/l using EPA Test Method 2540 (f) **and**
2. Total Suspended Solids (TSS) using EPA Test Method 2540 **or**

   Suspended Sediment Concentrations using ASTM D3977-97
3. Turbidity* using EPA Test Method 2130 (b)

F. Basin Plan Objectives –Benchmark Comparison

The Basin Plan does not identify numeric objectives for all analytes listed below. [*Insert Prime Contractors Name*] will use the upstream gradient samples and the

receiving water body samples as a benchmark comparison for those analytes that do not have numeric objectives. While we do not believe that these benchmark samples represent a discharge standard or limit, we will apply this methodology until numeric concentrations for the analytes listed below are identified in the basin plan. Refer to Section IV (b1 & b2) of the SAP for exceedance or compliance with Basin Plan objectives or benchmark comparisons.

Contractor must confirm Basin Plan data below. Information provided is only applicable to Projects in RWQCB Region-2.

Table-3

Analytes for Direct Discharges into 303d Listed Water Bodies

Analyte	Basin Plan Numeric Concentration	Reference
SS 30-day avg 7-day avg	 **30 mg/l** **45 mg/l**	 Basin Plan Table 4-2 Basin Plan Table 4-2
TSS	N/A- Benchmark comparison	N/A
SSC	N/A- Benchmark comparison	N/A
Turbidity Bckgrd ≥50NTU Bckgrd <50 NTU	 Not greater than 110% of receiving wtr body Not greater than 50NTU	Basin Plan at Page 3-4

III. SAMPLING & MONOTORING STANDARDS- (NON-VISIBLE POLLUTANTS & DIRECT STORM WATER DISCHARGES INTO 303D WATER BODIES)

A. Sample locations

[*Insert Consultant's Name*] has identified [*Insert number*] sampling points that in their opinion fairly represent the discharge contributions of the construction project to the greater watershed or receiving water body. Sampling locations for non-visible pollutants will occur either at suitable outfall locations or immediately downstream from suspect areas. Sampling locations for non-visible pollutants is indicated on the site maps contained in Attachment-B. Refer to the callout for **(T1- sequential #).**

Delete the para below if the project does not discharge into a 303D listed wtr body

Sampling locations for Sediment/Siltation into 303D listed waterbodies pollutants will occur at suitable outfall locations or immediately downstream from the

outfall locations. The sampling locations for Sediment/Siltation/Turbidity is indicated on the site maps contained in Attachment-B. Refer to the callout for **(T2- sequential #)**.

B. Control samples

In addition to the locations identified and discussed above, [*Insert Consultant's Name*] has identified one up-gradient run-on sample location and one ambient rain sample location as shown in Attachment-B. Control samples shall be analyzed for all analytes listed in Tables 3 and 4 included in this SAP. The control sample locations are indicated by the following symbol:**(T3-sequential #).**

The run-on and or up-gradient control samples will be used to determine the relative contribution, if any, of the identified analytes if numeric objectives are not included in the basin plan.

C. Sample Collection

Grab-samples will be collected and preserved in accordance with 40 CFR-Part 136. However, no sample(s) shall be required if sample locations cannot be safely accessed due to site or operational conditions. Samples shall be taken only during the operational daylight hours, and during the first two hours of discharge that generate site runoff. No more than 4 samples shall be required in a month for projects that discharge into 303D listed water bodies. Chain-of-custody logs will be completed before leaving the site.

D. Training Personnel for Sampling

[*Insert Prime-Contractors Name*] has engaged the services of [*Insert Consultants or Laboratory Name*] to provide the following training program. Training will be completed prior to the first sampling event during the defined rainy season.

1. One two-hour classroom training session for site superintendents, the Resident Engineer, and the SWPPP inspectors for the Contractor and the Department. The Contractor and the Resident Engineer should each provide one (1) back up person to attend the training in the event inspectors are transferred to other assignments.

2. One two-hour training class shall also be provided on-site at the determined sampling locations on proper sampling techniques. The designated sample collector shall be the Contractor's SWPPP inspector and Department's SWPPP inspector shall be the sample witness.

E. Sampling Procedure

1. Monitor weather forecasts, and alert sampling crews when the probability of rain exceeds 70% during the next 24 hours and is likely to create a sampling event as defined by item F ('Sampling Event").

2. At the commencement of a Sampling Event, mobilize the sampling personnel & the sampling witness to designated outfalls with sample equipment provided by the analytical laboratory.

3. The contractor's SWPPP inspector will collect all required manual grab samples. The Department's SWPPP inspector will witness the sampling protocol. To collect the sample, place the sample container with open-end facing upstream directly into the stream of water. Be sure not to make contact with the inside of the container, or the lid.

4. For each sampling location the Contractor's designated sampling person will complete a sampling log that includes the contract number, date, time, sample location, and pollutant category. For example: Type-1 (T1) for Non-visible pollutants, Type-2 (T2) for Sediment/Siltation discharges into 303D water bodies and Type-3 (T3) for control samples). The Department's witness will verify the handling, and sampling protocols by observing each sample collection and initialing each sample log.

5. For each sample taken the sample container will be labeled prior to conducting the subsequent sample. The sampling numbering system will be as follows: 04-contract number_date of sample_sample type-location number from the sampling plans.

   Sample Numbering System: 04-123456_081801_T2-4

6. The Contractor's sampling personnel will then deliver the samples to the certified laboratory within 24 hours of the first sample collection. The Contractor shall confirm receipt of the samples by submitting a copy of the chain-of-custody log to the Engineer.

7. *Identify if direct field sampling and analysis will be preformed. If field analysis is preformed state "the collection, and equipment calibration will be in accordance with manufactures recommendations." Identify make and model of equipment used & what analytes will be tested.*

F. Sampling Events

Samples will be taken, as follows:

1. During the first two hours of rain events which result in a discharge

2. From storm discharges that occur during normal operating daylight hours during working days.

3. From events that are preceded by at least (3) three working days without a storm water discharge. (ie -72 hrs between events)

4. For Non-Visible Pollutant monitoring:
   Refer to SAP Section IV, B 2 (a)

5. For Sedimentation/Siltation monitoring of 303D sites:
   Refer to SAP Section IV, B (2) (b)

G. Sample Analysis

[*Insert Prime Contractors Name*] has contracted with [*Insert Laboratory Name*] to provide necessary sampling equipment and to perform the required analysis. Sampling, preservation and analysis will conform to 40 CFR Part 136.

H. Records and Records Maintenance

1. <u>Test Sample Log & Results</u>

All field and or laboratory analytical data including chain-of-custody documentation and training logs shall be kept in the SWPPP project files. Upon the filing of the Notice of Construction Completion or Notice of Termination the information shall be retained for a period of three years. All laboratory data shall be submitted to the resident engineer as follows:

-Data obtained from direct field analysis (if applicable) shall be submitted to the resident engineer within 3 days of sampling event.

-Data (hard copies) obtained from laboratory analysis shall be submitted to the resident engineer within 15 days of the sampling event.

-Data (electronic files) obtained from laboratory or prepared by the contractor shall be submitted to the resident engineer within 15 days of submitting the hard copies.

- All Laboratory & field data must be entered into and maintained in an electronic spreadsheet. The following formats will be accepted: (.xls. or .mdb). At a minimum, the following data must be entered into spreadsheet. Contract Number, laboratory name, date of sample event, Task Order Number-(if applicable), analyte or constituent tested, reported value, method reference, method number, method detection limit, Basin

plan Numeric Objective, and/or comparative background reading, data entry person's name.

2. Site Map with Test Locations

[*Insert Prime Contractors Name*] has contracted with [*Insert Environmental Consultant's Name*] to provide the Site Sampling Map. Attachment-B contains the Site Map identifying the actual and control sample locations.

3. Chain of Custody Log

Attached hereto as Attachment-C is a sample Chain of Custody Log. *[To be provided by the Environmental Consultant]*

4. Sample Site Log

Attached hereto as Attachment-D is a Sampling Log. *[To be provided by the Environmental Consultant]*

5. Sample Collector Training Log

Attached hereto as Attachment-E is the Sample Collector Training Certificate. *[To be provided by the Environmental Consultant]*

6. Laboratory Certification

Attached hereto as Attachment-F is evidence of laboratory certifications for the required analysis.

I. LABORATORY REQUIREMENTS

Refer to Attachment-A, Tables 4 & 5 for general information.

IV. MODIFICATIONS TO MONITORING & SAMPLING PROCEDURES

A. Factors Contributing to Change or Modification

[*Insert Prime Contractors Name*] and the Resident Engineer will review the SAP when construction staging or activities change and will revise the procedures as necessary. Other factors that may result in change to the SAP include, but are not limited to the following:

1. Comparison of analytical results exceed basin plan objectives or applicable benchmarks.

2. Visual observations of the site that indicate changes in the pollutants of concern.

3. Contract change orders

4. Safety requirements.

5. Adoption of new basin plan objectives, or effluent limitations

6. Documented compliance for non-visible pollutants.

B. Benchmark Comparisons

1. Exceedances of Benchmark Criteria

When laboratory analysis shows that a tested analyte exceeds the basin plan objectives, [*Insert Prime Contractors Name*], in conjunction with [*Insert consultants name*], will complete and submit a root cause analysis and a Corrective Action Report (CAR) to the Resident Engineer within14 days after discovery of the exceedance. [*Insert Prime Contractors Name*], will submit copies of the analytical data, root cause analysis and CAR to Engineer within 2 days after completing the report.

The root cause analysis will identify the probable causes of the exceedance and CAR will describe the actions to attempt to reduce the exceedance according to the basin plan objectives. The Resident Engineer will then submit a notice of exceedance to the RWQCB, with a copy of the root cause analysis and CAR.

The implementation of the CAR will be completed not later that 30 days after discovery of the exceedance or as otherwise ordered by the Engineer.

2. Compliance with Benchmark Data or Basin Plan Objectives

(a) Non-Visible Pollutant Monitoring: When laboratory data for three consecutive rain events (for any specific outfall) indicates that Storm Water Discharges for Non-Visible pollutants are below the basin plan objectives or comparable to the applied benchmark standard for any analyte, [*Insert Prime Contractors Name*] may cease to test for that analyte, at that outfall if approved by the Engineer. However, whenever the construction activities serviced by the outfall are observed to have significantly changed or the application or implementation of the control measures has changed [*Insert Prime Contractors Name*] will re-institute testing for the full suite of anlaytes listed in Section I (F) of this SAP.

(b) Sedimentation/Siltation/Turbidity Monitoring: No more that 4 samples need to be collected per month.

When laboratory data for three consecutive rain events (for any specific outfall) indicates that Storm Water Discharges are below the basin plan objectives or comparable to the applied benchmark standard for any analyte, [*Insert Prime Contractors Name*] may reduce the sampling

frequency, at that outfall, if approved by the Engineer. The revised sampling frequency shall be 4 samples for each defined rainy season.

List of Attachments

Attachment-A	Laboratory Requirements (Tables 4 & 5)
Attachment-B	Sampling Locations/Site Map
Attachment-C	Sample Chain of Custody Log
Attachment-D	Sampling Log
Attachment-E	Sampling Training Certificate
Attachment-F	Laboratory Certificates
Attachment –G	Sample Data Management Spread Sheet

Table –4

Confirm information contained below with Contracted Laboratory

LABORATORY REQUIREMENTS FOR STORMWATER MONITORING OF NON-VISIBLE CONTAMINANTS

Analytical Constituents, Volumes, and Holding Time Requirements

Parameters	Analytical Method	Target Reporting Limit	Minimum Sample Volume [1]	Container	Preservative [2]	Holding Time
Oil and Grease	EPA 1664	1 mg/L	1 liter	4 x 1 liter wide mouth Glass Amber	HCl or H_2SO_4 to pH < 2, 4°C	28 days
pH/Temperature	EPA 150.1	0.01 pH units	100 ml	500 mL polypropylene or Glass	None	Immediately upon receipt by laboratory
Specific Conductance	EPA 120.1	5 µmhos/cm	125 ml	500 mL polypropylene or Glass	None	28 days
Biological Oxygen Demand (BOD)	405.1 or 405.2	3 mg/L	500 ml	500 mL Amber Boston round with septa top	Store in ice or refrigerator at 4°C (39.2°F)	24 hours

1 Minimum sample volume recommended. Specific volume requirements will vary by laboratory; **please check with your laboratory when setting up bottle orders.**

2 Rinse container in water being sampled prior to sample collection. If sample containers contain preservative (i.e., acid), do not pre-rinse and do not overfill container.

ATTACHMENT-A

Confirm information contained below with Contracted Laboratory

Table 5

LABORATORY REQUIREMENTS FOR STORMWATER MONITORING OF SEDIMENT, SILTATION AND TURBIDITY

Analytical Constituents, Volumes, and Holding Time Requirements

Parameters	Analytical Method	Target Reporting Limit	Minimum Sample Volume [1]	Container	Preservative [3]	Holding Time
Total Dissolved Solids (TDS)	EPA 160.1	1 mg/L	100 ml	500 mL polypropylene	Store in ice or refrigerator at 4°C (39.2°F)	7 days
Total Suspended Solids (TSS) [2]	EPA 160.2	1 mg/L	100 ml	500 mL polypropylene	Store in ice or refrigerator at 4°C (39.2°F)	7 days
Settleable Solids (SS)	EPA 160.5	0.1 ml/L/hour	1 liter	500 mL polypropylene	Store in ice or refrigerator at 4°C (39.2°F)	48 hours
Suspended Sediment Concentration (SSC) [2]	ASTM D 3977-97	??	??	??	Store in ice or refrigerator at 4°C (39.2°F)	??
Turbidity	EPA 180.1	1 NTU	100 ml	500 mL polypropylene or Glass	Store in ice or refrigerator at 4°C (39.2°F), Dark	48 hours

1 Minimum sample volume recommended. Specific volume requirements will vary by laboratory; please check with your laboratory when setting up bottle orders.

2 Use either TSS or SSC, but not both, for suspended solids analysis. Up-gradient and down-gradient samples should be analyzed by the same method.

3 Rinse container in water being sampled prior to sample collection. If sample containers contain preservative (i.e., acid), do not pre-rinse and do not overfill container.