

Stormwater Management Program

Written description as required by NPDES Permit #IDS028576



**University
of Idaho**

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NPDES Permit #IDS028576

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ACRONYMS

BMP – Best Management Practice

CAD – Computer-Aided Design

CWA – Clean Water Act

EPA – United States Environmental Protection Agency, Region 10

GIS – Geographic Information System

ID – Idaho

IDEQ – Idaho Department of Environmental Quality

MCC – Moscow City Code

MS4 – municipal separate storm sewer system

NPDES – National Pollutant Discharge Elimination System

O&M – Operations and Maintenance

P3 – public-private partnership

PDF – Portable Document Format

QAPP – Quality Assurance Project Plan

SWMP – Storm Water Management Program

SWPPP – Storm Water Pollution and Prevention Plan

TMDLs – Total Maximum Daily Loads

WA – Washington

WLAs – Waste Load Allocation

WQS – Water Quality Standards

DEFINITIONS

BMP – Schedules and activities, prohibition practices, maintenance procedures, and other management practices to prevent or reduce the pollution of water of the United States. BMP broadly refers to any type of structural or non-structural practice or activity undertaken by the University of Idaho in the course of implementing this SWMP.

Clean Water Act, CWA – Formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972.

Control Measure – Any action, activity, BMP, or other method used to control the discharge of pollutant in the University of Idaho MS4 discharges.

Discharge – The “discharge of a pollutant” when used without qualification.

Illicit Discharge – Any discharge to a municipal storm sewer that is not composed entirely of stormwater except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the MS4) and discharges from firefighting activities.

Impaired Waters – Any water body that does not meet applicable water quality standards for one or more beneficial uses by one or more pollutants. Impaired waters includes any water IDEQ includes in its 2014, 2016, and 2020 Integrated Reports, as a “Category 4a” water of the state for which a TMDL has been completed and approved; as a “Category 4b” water of the state that have pollution control requirements in place other than a TMDL and are expected to meet standards; and/or as a “Category 5” water of the state where a TMDL is necessary. The term also includes any interstate surface water body that originates in Idaho and flows into Washington that the Washington Department of Ecology categorizes as Category 4a, 4b, or 5 in its latest Water Quality Assessment 305(b) Report and 303(d) List as approved by EPA on July 22, 2016.

Municipal Separate Storm Sewer, MS4 – Conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA that discharges to water of the United States’ (ii) Designed or used for collecting or conveying stormwater; (iii) Which is not a combined sewer; and (iv) Which is not part of a Publicly Owned Treatment Works (POTW).

National Pollutant Discharge Elimination System, NPDES – The national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under Section 307, 402, 318, and 405 of CWA.

Outfall – Point source at the point where a MS4 discharges to water of the United States, and does not include open conveyances connecting two municipal separate storm sewer or pipes, tunnels, or other conveyances which connect segments of the same stream or other water of the United States and are used to convey water of the United States.

Point Source – Any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete figure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. The term does not include return flows from irrigated agriculture or agricultural stormwater runoff.

Pollutant – Dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials, heat, wrecked or discarded equipment, rock, sand, silt, and industrial, municipal, and agricultural waste discharged into water.

Post-construction Stormwater Management Controls, or “permanent stormwater controls” – Controls designed to treat or control runoff on a permanent basis once construction is complete.

Stormwater and storm water runoff – Stormwater runoff, snow melt runoff, and surface runoff and drainage as used in the University of Idaho’s MS4 Permit. Stormwater means that portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, channels, or pipes into a defined surface water channel or a constructed infiltration facility.

Stormwater Pollution Prevention Plan, SWPPP – Site-specific plan designed to describe the control of soil, raw materials, or other substances to prevent pollutants in stormwater runoff; a SWPPP is generally developed for a construction site, or an industrial facility.

Total Maximum Daily Load, TMDL – Sum of the individual waste load allocations for point sources, load allocations (LAs) for non-point sources, and natural background.

1 BASIC SWMP INFORMATION

This Storm Water Management Program (SWMP) Document was developed by University of Idaho (UI) to describe the activities and control measures conducted to meet the terms and conditions of NPDES Permit #IDS028576.

1.1 Staff Organization

The University of Idaho’s stormwater staff are as follows:

Paul Wood – McKinstry Company, LLC Operations Director

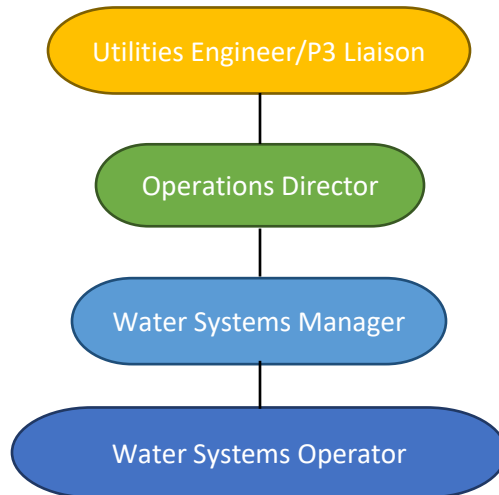
Elmer Johnson – McKinstry Company, LLC Water Systems Manager

Tyson Scoles – McKinstry Company, LLC Water Systems Operator

Brian Johnson – University of Idaho Utilities Engineer/P3 Liaison

The organization chart displays the levels associated with the McKinstry staff.

Figure 1. Stormwater Services Organization Chart



1.2 Receiving Waters

The waterbodies identified in **Table 2** receive storm water discharges from the University of Idaho MS4.

Table 1. Receiving Water Summary

Receiving Waterbody Segments	WQS Classification	Impairment/Pollutant of Concern	TMDLs? (Yes/No)	Applicable WLAs (Yes/No)	No. of Discharging Outfalls
Paradise Creek ID17060108CL005_02 Paradise Creek – Urban boundary to Idaho/Washington border	Cold water biota, secondary recreation, and agricultural supply	<i>E. coli</i> ; <i>Nutrient/Eutrophication Biological Indicators</i> ; <i>Sedimentation/Siltation</i> ; <i>Temperature</i>	Yes	No	21
Paradise Creek (WA portion) ID17060108000255 WDOE Listing ID: 10444		<i>Fecal coliform bacteria</i> ; <i>pH</i> ; <i>Dissolved oxygen</i> ; <i>Temperature</i>			N/A

University of Idaho’s MS4 is also interconnected with other MS4s as identified below.

Table 2. City of Moscow MS4 Receiving Water Summary

Receiving Waterbody Segments	WQS Classification	Impairment/Pollutant of Concern	TMDLs	Applicable WLAs	No. of Inter-connections
Paradise Creek ID17060108CL005_02 Paradise Creek – Urban boundary to Idaho/Washington border	Cold water biota, secondary recreation, and agricultural supply	<i>E. coli</i> ; <i>Nutrient/Eutrophication Biological Indicators</i> ; <i>Sedimentation/Siltation</i> ; <i>Temperature</i>	Yes	No	198
Paradise Creek (WA portion): Paradise Creek 10443; 10439; 10444		<i>Fecal coliform bacteria</i>			N/A
South Fork Palouse River ID17060108CL002_03 S. Fork Palouse River – Gnat Cr. To Idaho/Washington border		<i>Nutrient/Eutrophication Biological Indicators</i> ; <i>Sedimentation/Siltation</i> ; <i>Temperature</i>	Yes	No	9
S. Fork Palouse River (WA portion): SF Palouse River 6712; 6711; 6710; 6707		<i>Fecal coliform bacteria</i> ; <i>Chlorinate pesticides</i> ; <i>Polychlorinated Biphenyls</i>			N/A

1.3 SWMP Information and Statistics

As required in Part 2.5.4 of its NPDES MS4 Permit, the University of Idaho “must maintain a method of gathering, tracking, and using SWMP information to set priorities, and assess permit compliance.” Currently, the university tracks operator hours and equipment used to accomplish stormwater clean-up activities. The University of Idaho has conducted catch basin cleaning for the Spring of 2023. Education, Outreach and Public Involvement are tracked by staff. Details are found in Section 5.5 of this document.

1.4 Transfer of Ownership, Operational Authority, or Responsibility for SWMP Implementation

As required in Part 2.5.6, the University of Idaho “must implement the required SWMP control measures of this permit in all new areas added or transferred to the Permittee’s MS4 (or for which a Permittee becomes responsible for implementation of SWMP control measures) as expeditiously as practicable, but not later than one (1) year from addition of the new areas.” There have not been any additions into the University’s MS4 jurisdiction.

The University transferred operation of their stormwater system to Sacyr Plenary Utility Partners Idaho (SPUPI), which, in turn, hired Moscow ID ECO District I, LLC (“McKinstry”) as their sub-operator. **Attachment I** contains the relevant section of the contract between the University and SPUPI, which outlines operation and management responsibilities. A complete copy of the contract is available upon request.

2 MAP OF THE SEPARATE STORM SEWER SYSTEM

As of February 2023, the University of Idaho's stormwater infrastructure is composed of:

- 306 catch basins/stormwater inlets
- 120 storm drain manholes
- 9.87 miles of storm drain pipe
- 147 lineal feet of culverts
- 2 surface detention ponds
- 2.0 miles of receiving waters (Paradise Creek, South Fork Palouse River)
- 21 known outfalls to receiving waters

At this time, the MS4 map is managed by the University of Idaho in CAD. The Outfall Inventory is drawn over the CAD maps in PDF. There are unresolved discrepancies between the City of Moscow MS4 Maps and the University of Idaho MS4 maps. It is anticipated that there will be changes as the two entities work towards resolution.

According to the MS4 permit, no later than September 1, 2025, an electronic GIS version of the MS4 map, and the accompanying Outfall Inventory, must be submitted to IDEQ as part of the Permit Renewal Application. Refer to Part 6.2 for detailed information. A current map of the University of Idaho's stormwater system, receiving waters, and drainage basins is included in **Attachment II** of this document. On March 1, 2023, the UI submitted an Alternative Control Measure request to allow for the submittal of an electronic CAD map of the MS4 instead of a GIS map. (**Attachment III**)

3 TARGETING POLLUTANTS OF CONCERN

The MS4 discharges to Paradise Creek as illustrated in **Attachment II**. As stated in Part 4.2 of the University of Idaho’s MS4 permit, the university “must submit a Monitoring/Assessment Plan that is designed to quantify, at a minimum, pollutant loadings from the MS4 into Paradise Creek for E. coli...”. To comply with Part 4.3 of the Permit, the University of Idaho “must define and implement at least one (1) pollutant reduction activity designed to reduce E. coli, nutrients, sediment, and heat loadings from the MS4 into the Paradise Creek.” Through correspondence with the IDEQ, this was discovered to be an error in the permit, as it directly conflicts with Part 2.6.2 of the permit which requires “at least two (2) Pollutant Reduction Activities to address expectations...”. IDEQ has since confirmed that a minimum of two (2) Pollutant Reduction Activities are required.

The monitoring/assessment plan complies with Part 4.2 and Part 6.2.6 – Quality Assurance Requirements of its’ MS4 permit and was submitted to IDEQ March 1, 2023.

3.1 Monitoring/Assessment Activities

In compliance with Part 4 of the permit, a Monitoring/Assessment Plan was submitted March 1, 2023. (**Attachment IV**) In accordance with Part 3.2.5 of the permit, the University of Idaho is required to conduct a dry weather analytical and field screening monitoring program to identify non-stormwater flows for MS4 outfalls during dry weather. Since the University of Idaho’s permit area contains less than 50 outfalls, staff will inspect all 21 outfall locations that discharge to Paradise Creek annually (beginning in 2023) as required in Part 3.2.5.2 of their MS4 permit and detailed in the Monitoring/Assessment Plan. Members of the public may or may not be engaged in monitoring/assessment activities in the future. The University of Idaho submitted an Alternative Control Measure (ACM) request in March 2023 to combine outfall sampling locations within a box culvert to a single location at the culvert outlet. (**Attachment V**)

The dry weather monitoring program must emphasize screening activities to detect and identify illicit discharges and illegal connections, and to reinvestigate potential problematic MS4 outfalls throughout the permit area. This program was included as a part of the Monitoring/Assessment Plan and incorporated into the 2023 SWMP Document update. Records of the Dry Weather Outfall Screening Program will be maintained and reported in each Annual Report beginning in 2024.

A Quality Assurance Project Plan (QAPP) (**Attachment VI**) was developed for monitoring/assessment activities and is included with the 2023 Monitoring/Assessment Plan.

3.2 Pollutant Reduction Activities

In compliance with Part 4.3 of the permit, the University of Idaho submitted a written description of Pollutant Reduction Activities with the Monitoring/Assessment Plan on March 3, 2023 (**Attachment IV**). A minimum of two (2) Pollutant Reduction Activities are

required to address *E. coli*, nutrients, sediment, and heat loadings from the MS4 into Paradise Creek. Three (3) activities were selected. The UI stormwater staff will lead implementation beginning in 2023 upon or prior to approval of the Monitoring/Assessment Plan. It is unlikely that members of the public will provide assistance. Activities are described as follows:

1. Infiltration trench (BMP 17) to reduce sediment, bacteria, nutrients, and water temperature: UI will evaluate opportunities for implementation with future development projects and map the location of new structures. Mapping new structures will enable the UI to evaluate the level of implementation and progress.
2. Storm water system cleaning (BMP 76) to reduce sediment and nutrients: In addition to regular cleaning of the MS4, the UI will prioritize and target known problem areas and schedule/track cleanings. Scheduling and tracking cleanings will enable the UI to evaluate the level of implementation and progress.
3. Fertilizer management (BMP 78) to reduce nutrients: The UI will utilize appropriate form, application rate/timing/technique, and storage methods for fertilizer.

4 LEGAL AUTHORITY AND ENFORCEMENT

As stated in Part 2.5.2 of the MS4 permit, the University of Idaho “must maintain relevant regulatory mechanisms to control pollutant discharges into and from its MS4 and to comply with this permit.” The University of Idaho is within the City limits of Moscow, ID and complies with the Moscow City Code (MCC) to meet the requirements of this section as identified below.

The University of Idaho maintains its own Design Guidelines and Construction Standards which are prepared by Architectural and Engineering Services at the University of Idaho. The University may elect to adopt and maintain relevant regulatory mechanisms separate from the City of Moscow. The University will consider the best way to maintain adequate legal authority prior to September 1, 2025, when the University will be required to develop and/or update other relevant regulatory mechanisms.

<i>University of Idaho relies on the following legal authorities</i>	
1. To prohibit and eliminate illicit discharges to the MS4:	MCC Title 5, Chapter 3 – Sewers Sections 3-19 and 3-21
2. To control the discharge of spills, dumping or disposal of materials other than storm water to the MS4:	MCC Title 5, Chapter 3 – Sewers Sections 3-19 and 3-21
3. To control the discharge of storm water and pollutants from land disturbance and development, both during the construction phase and after site stabilization has been achieved	MCC Title 5, Chapter 15 – Stormwater Runoff Control MCC Title 5, Chapter 6 – Excavations Sections 6-14 MCC Title 7, Chapter 1 – International Building Code, Section 1-4.3316.3.2, A. & B.
4. To control the contribution of pollutants from one MS4 to another interconnected MS4;	MCC Title 5, Chapter 19 – Stormwater User Fees Section 19-7
5. To require local compliance with such requirements; and	MCC Title 5, Chapter 3 – Sewers Section 3-33 MCC Title 5, Chapter 15 – Stormwater Runoff Control Section 15-9 MCC Title 7, Chapter 1 – International Building Code Section 1-4.3316.3.5
6. To carry out all inspection, surveillance, and monitoring procedures necessary to determine compliance and noncompliance with the permit.	MCC Title 5, Chapter 3 – Sewers Section 3-27 MCC Title 5, Chapter 6 – Excavations Section 6-26 MCC Title 7, Chapter 1 – International Building Code Section 1-4.3316.3.5

5 STORM WATER CONTROL MEASURES TO REDUCE POLLUTANTS TO THE MAXIMUM EXTENT PRACTICABLE

The following sections describe University of Idaho's program to reduce pollutants in the MS4 discharges to the maximum extent practicable, as required by permit Part 3. Each section summarizes the mandatory program and describes how University of Idaho meets each program component.

5.1 Construction Site Runoff Control

To control the discharge of storm water and pollutants from land disturbance during the construction phase University of Idaho must:

- Require appropriate erosion, sediment, and waste management requirements for construction site activity that results in land disturbance of 5,000 square feet (ft²) or more.
- Establish installation and use guidelines for required erosion/sediment/waste management during all phases of construction site activity.
- At a minimum, review preconstruction site plans for construction sites that will result in land disturbance of one (1) or more acres, using a checklist or similar process to consider and address potential water quality impacts from the site activities.
- Inspect and enforce erosion, sediment, and waste management requirements on construction sites.
- Establish an inspection prioritization plan.
- Establish an enforcement response policy.
- Ensure that permittee staff is trained to conduct these activities.

As stated in the University of Idaho's Design and Construction Project Document Standards Division 31, all construction activities that disturb greater than one (1) acre or more of land implement Storm Water Pollution and Prevention Plan (SWPPP) to preclude any storm water from eroding beyond the site limits. Enforcement of the contractor's SWPPP is accomplished by the University of Idaho Facilities Utilities and Engineering Services department.

The University of Idaho has a process to inform construction projects to obtain the NPDES Construction General Permit coverage for sites with disturbed area greater than one (1) acre, and has implemented an Enforcement Response Policy. This information is provided to the project proponent as a form in a packet prior to construction activities.

5.2 Storm Water Management for Areas of New Development and Redevelopment

To control the discharge of storm water and pollutants from land disturbance and development, after construction is completed, University of Idaho must:

- Require the installation and long-term maintenance of permanent storm water controls at newdevelopment and redevelopment project sites that result from land disturbance of 1 acre or more.
 - Permanent storm water controls must be sufficient to retain onsite the runoff volume produced from a 24-hour, 95th percentile storm event; or sufficient to provide the level of pollutant removal greater than the pollutant removal expected by using onsite retention of runoff volume produced from a 24 hour, 95th percentile storm event.
 - Alternatively, storm water treatment requirements must be required that can attain anequal or greater level of water quality benefits as onsite retention of storm water discharges from new development and redevelopment sites.
 - Other alternatives may be allowed for projects to meet the onsite retention requirement at a particular project site based on technical infeasibility, and/or site constraints.
- Establish proper installation and use guidelines for permanent storm water controls – the permittee may establish different types of controls for different types and/or sizes of sitedevelopment activity.
- At a minimum, review and approve preconstruction plans for permanent storm water controlsat new development and redevelopment sites that result from land disturbance of one (1) or more acres.
- Periodically inspect “high priority” permanent storm water controls for proper installation andoperation, using an inspection prioritization system.
- Maintain an inspection prioritization plan and enforcement response policy.
- Maintain a database inventory to track and manage the operational condition of permanentstorm water controls.
- Ensure the appropriate Permittee staff is trained to conduct these activities.

No later than May 3, 2025, the University of Idaho will meet the requirements of their MS4 Permit by developing the following:

- Method(s) for project site operators to install permanent stormwater control facilities.
- Enforcement Response Plan.

- Inspection and maintenance program for permanent stormwater control facilities.
- Method(s) for a tracking management tool(s).
- Policy for managing O&M agreements with other responsible parties.

5.3 Pollution Prevention/Good Housekeeping for MS4 Operations

To properly operate and maintain the MS4, and its facilities using prudent pollution prevention and good housekeeping, University of Idaho must:

- Maintain a current Map of the MS4, including an inventory of all Outfalls and other features.
- Inspect catch basins and inlets at least once every five years using an inspection prioritization plan.
- Maintain or clean catch basins based on those inspections.
- If applicable, maintain Operation and Maintenance (O&M) Procedures for Streets, Roads, Highways and Parking Lots, including:
 - If applicable, inventory and manage Street/Road Maintenance Materials.
 - If applicable, implement a Street, Road, Highway and Parking Lot Sweeping Management Plan.
- Maintain O&M Procedures for Other Municipal Areas and Activities to protect water quality.
- Use best practices to reduce the discharge of pollutants to the MS4 associated with the permittee's application and storage of pesticides, herbicides and fertilizers.
- Develop site-specific Pollution Prevention Plans for Permittee-owned Facilities.
- Work cooperatively with other entities to control litter on a regular basis.
- Ensure the appropriate Permittee staff is trained to conduct these activities.

No later than May 3, 2025, the University of Idaho will meet the requirements of their MS4 permit by developing the following:

- Develop targeting procedure for catch basin/inlet inspection.
- Develop O&M procedures for streets, roads, highway, and parking lots, including an annual sweeping schedule.
- Create inventory and management plan for street/road maintenance materials.

- Develop O&M procedures for other municipal areas and activities.
- Requirements for pesticide, herbicide, and fertilizer applications.
- SWPPPs for University of Idaho facilities.
- Methods for litter control.
- Implement procedures for stormwater pollution prevention/good housekeeping training for relevant staff.

McKinstry performs the required maintenance per the agreement with the University of Idaho, see **Attachment I**.

5.4 Illicit Discharge Detection and Elimination

To prohibit and eliminate illicit discharges to the MS4, University of Idaho must:

- Enforce an ordinance that effectively prohibits illicit discharges into the MS4.
- Respond to Complaints or Reports of illicit Discharges from the Public.
- Keep Track of Complaints/Reports, and any Response Actions Taken.
- Conduct MS4 outfall screening inspections during dry weather.
- Follow-up to determine the source of a recurring illicit discharge identified as a result of complaints, or of the dry weather screening investigations within thirty (30) days.
- Take appropriate action to address the source of an ongoing illicit discharge.
- Prevent and Respond to Spills to the MS4, as appropriate.
- Coordinate with other entities for the proper disposal of used oil and toxic materials.
- Ensure the appropriate permittee staff is trained to conduct these activities.

MCC Title 5, Chapter 3, Sections 3-19 and 3-21 prohibits directly discharging any substance besides stormwater runoff or unpolluted water through the University of Idaho's stormwater infrastructure. Industrial cooling water or unpolluted industrial process water may be discharged to a storm drain or a natural outlet upon approval of the City Engineer. Dechlorinated drinking water associated with water production or distribution processes may also be discharged with the City Engineer's approval.

All 21 outfalls must be screened for dry weather flows once per year within the MS4 permit area. University of Idaho Facility staff will begin screening in the spring/summer of 2023.

5.5 Education, Outreach, and Public Involvement

To educate and involve members of the public about pollutants in storm water and similarly significant issues, the University of Idaho must conduct, or contract with other entities to conduct, an ongoing education, outreach and public involvement program. The University of Idaho must also comply with applicable State and local public notice requirements when implementing any public involvement activities.

Within one year of the permit effective date, the University of Idaho must, at a minimum:

- Select at least one audience and focus its efforts on conveying relevant messages.
 - Distribute and/or offer at least eight (8) educational messages or activities over the permit term to selected audience(s)
 - Begin to assess, and track, activities to gauge the audience's understanding of the relevant messages and adoption of appropriate behaviors.
- Target specific educational material to the construction/engineering/design community regarding construction site runoff control and permanent storm water controls.
- Maintain and advertise a publicly accessible website to provide all relevant SWMP materials.

In 2022, the University of Idaho Sustainability Center developed a media page to educate the public, university faculty and students on stormwater and management strategies. A brochure is kept at the Sustainability Center, and a link is provided for online access as well. The website contains contact information to collect stormwater complaints, report emergency spills into stormwater system, and University Streets and Buildings to record general questions/comments regarding stormwater management at the University of Idaho.

During the 2022-2023 reporting period, the UI continued to distribute educational messages to target audiences such as UI faculty and students. They maintained accessibility to online materials and handouts are available upon request. The UI also conducted a stormwater drain signage project that engaged students and faculty in marking UI storm drains with markers to help reduce occurrences of individuals dumping fluids/trash into the drains. Through the UI construction permitting process, training/education regarding construction site runoff control measures are offered to site operators working in the UI's jurisdiction.

6 UNIQUE PROVISIONS SPECIFIC TO THE UNIVERSITY OF IDAHO

6.1 Annual Compliance Evaluation

The University of Idaho must evaluate their compliance with the requirements of their MS4 permit at least once a year. Annual Reports, due every May 3rd, can be found on the University of Idaho's Sustainability Center Stormwater Management webpage. The university has met all requirements of its MS4 permit to date.

6.2 Alternative Control Measure Requests

The University of Idaho submitted two (2) Alternative Control Measure Requests in March 2023 as allowed for in Part 2.6 of the MS4 permit. These requests are related to the deliverable format of the MS4 map and dry weather outfall sampling locations. Detailed information is provided in **Attachments III and V**.

6.3 Adaptive Management Actions

The University of Idaho does not currently have an adaptive management action measures to consider.

ATTACHMENT I – UNIVERSITY OF IDAHO AND MCKINSTRY RELEVANT CONTRACT SECTION

Section 3.2. Utility System Operations.

(a) *Use.* Except as otherwise specifically provided herein, the Concessionaire shall, at all times during the Term,

(i) be responsible for all aspects of the Utility System Operations, including providing the Utilities from temporary sources for construction projects and special events as identified by the University and

(ii) maintain and operate the Utility System and cause the Utility System Operations to be performed in accordance with the provisions of this Agreement, including the Performance Standards, Prudent Industry Practices and applicable Law. Upon the University's request, the Concessionaire shall provide an estimate for the costs associated with providing Utilities from temporary sources for construction projects or special events identified by the University. In connection with such maintenance, the Concessionaire may contract with a third party for certain tasks, such as janitorial services. Except for such additional purposes permitted pursuant to Section 3.15(c), the Concessionaire shall, at all times during the Term, cause the Utility System to be used exclusively for the Utility System Purposes and continuously open and operational for the Utility System Purposes in accordance with the Performance Standards. Notwithstanding the foregoing, the Concessionaire may cease keeping the Utility System or a portion thereof continuously open and operational for the Utility System Purposes (A) as specifically permitted under this Agreement, (B) as required by applicable Law, (C) as necessary to comply with any other requirement of this Agreement (including closures related to the performance of Capital Improvements or maintenance or repair activities as required by the Performance Standards), (D) as necessary for a Delay Event or (E) as necessary for temporary closures required to address Emergencies or public safety; provided, however, that in the event of any temporary suspension of Utility System Operations pursuant to any of clauses (A) through (E) of this Section 3.2(a), such suspension shall be limited as much as practicable so as to allow all other Utility System Operations to continue.

Part IX - PERFORMANCE STANDARDS – STORM WATER SYSTEM

1) Regulatory Requirements

a) The Concessionaire shall ensure that the Storm Water System complies with all applicable Laws and the City of Moscow Storm Water Plan.

b) For any capital improvements or upgrades or additions to the Storm Water System made after the Closing Date, the Concessionaire shall ensure that those Capital Improvements or Material Changes to the Storm Water System meet the current applicable standards Idaho DEQ, Idaho Rules For Storm Water Systems 58.01.02, State of Idaho Stormwater Best Management Practices, all rules promulgated by the American Water Work Association and applicable Law.

2) Pressure Requirements

a) The Concessionaire shall ensure that the water being removed by the Storm Water System maintains pressure as required to maintain flow such that water

does not back up and pool at Storm Water System entry points as identified on Appendix K-6.

3) Water Quality

a) The Concessionaire shall ensure compliance by the Storm Water System with the Clean Water Act and operating under EPA region 10 permit requirements.

b) The Concessionaire shall ensure compliance by the Storm Water System with the Clean Water Act and operating under State of Idaho MS4 permit requirements.

c) The Concessionaire shall ensure storm water collection systems are properly maintained and tested for compliance including all retention ponds, storm water oil separator.

4) Line of Demarcation between Concessionaire and University

a) The Storm Water System shall include all piping, valves, manholes, access points and outfalls used to move storm water from the University Campus grounds to the appropriate discharge point as identified on Appendix L-6.

Appendix L-6 serves as a representative diagram of the Storm Water System. See also Appendix K-6 for a map of the Storm Water System.

b) Demarcation of all storm water systems discharging from any building is 5' from the building envelope. The Concessionaire is responsible for the Storm Water System starting at the point that is five feet from the structural barrier between the interior and exterior of each building on the University Campus.

5) Design Standards

a) The Concessionaire shall maintain and update on an annual basis an accurate Storm Water System asset condition report which will indicate any deficiencies in the capacity or design of the Storm Water System. This Storm Water System report will also be used to:

i. Inform new buildings being constructed adjacent to the Storm Water System; and

ii. Verify and maintain Storm Water System capacities according to Design Standards.

b) The Concessionaire shall cause the Storm Water System to adhere to the following storm water pipe velocity limits:

i. Storm Water System shall be capable of removing the water from a 75-year rain event without any failures or pooling.

c) Storm Water System distribution piping shall be direct buried.

6) Unplanned Outage

a) An Unplanned Outage for the Storm Water System shall mean the occurrence of one of the following:

i. Storm Water System fails to remove the storm water from any portion of the University Campus such that the water causes damage to any property or facility during a 75-year rain event (or less) (provided that the foregoing shall not constitute an Unplanned Outage to the extent that such damage results from damage resulting from a deficiency existing at the Closing

Date (which is proven by the Concessionaire to the University's reasonable satisfaction) to the extent that the Concessionaire has included the remediation of such deficiency in its initial Five-Year Plan and is diligently pursuing the remediation steps on the timetable set out in such initial Five-Year Plan).

ii. Storm water flow is interrupted and is not removed from the University Campus such that the water causes damage to any property or facility due to a closed or inoperable distribution valve, leakage, pipe failure, or other system failure on the Storm Water System; except in the case where the valve has been closed upon the request of the University.

b) The Concessionaire shall notify the University by calling the University Front Desk Number if there is a reasonable possibility that the Storm Water System capacity is not sufficient to meet these Performance Standards.

c) If an Unplanned Outage for the Storm Water System occurs which causes a loss of service to a portion of the Utility System, the Concessionaire shall promptly and diligently, including 24-hour a day service, commence active work, regardless of potential delay by others, to correct the Storm Water System Unplanned Outage and restore service; unless otherwise approved by the University in its sole discretion.

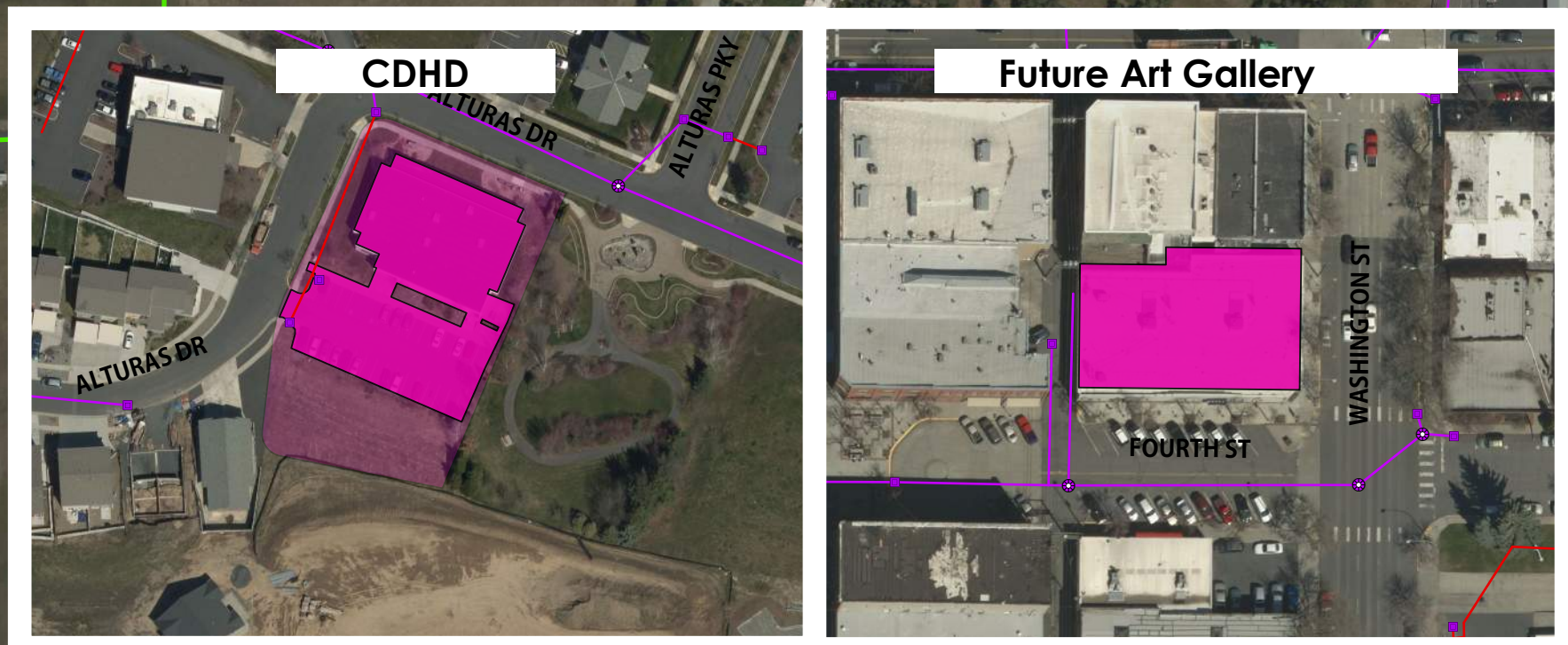
d) If operational issues occur that result in a reduced Storm Water System capacity event, the Concessionaire shall:

i. Notify the University by calling the University Front Desk Number if any portion of the University Campus is affected;

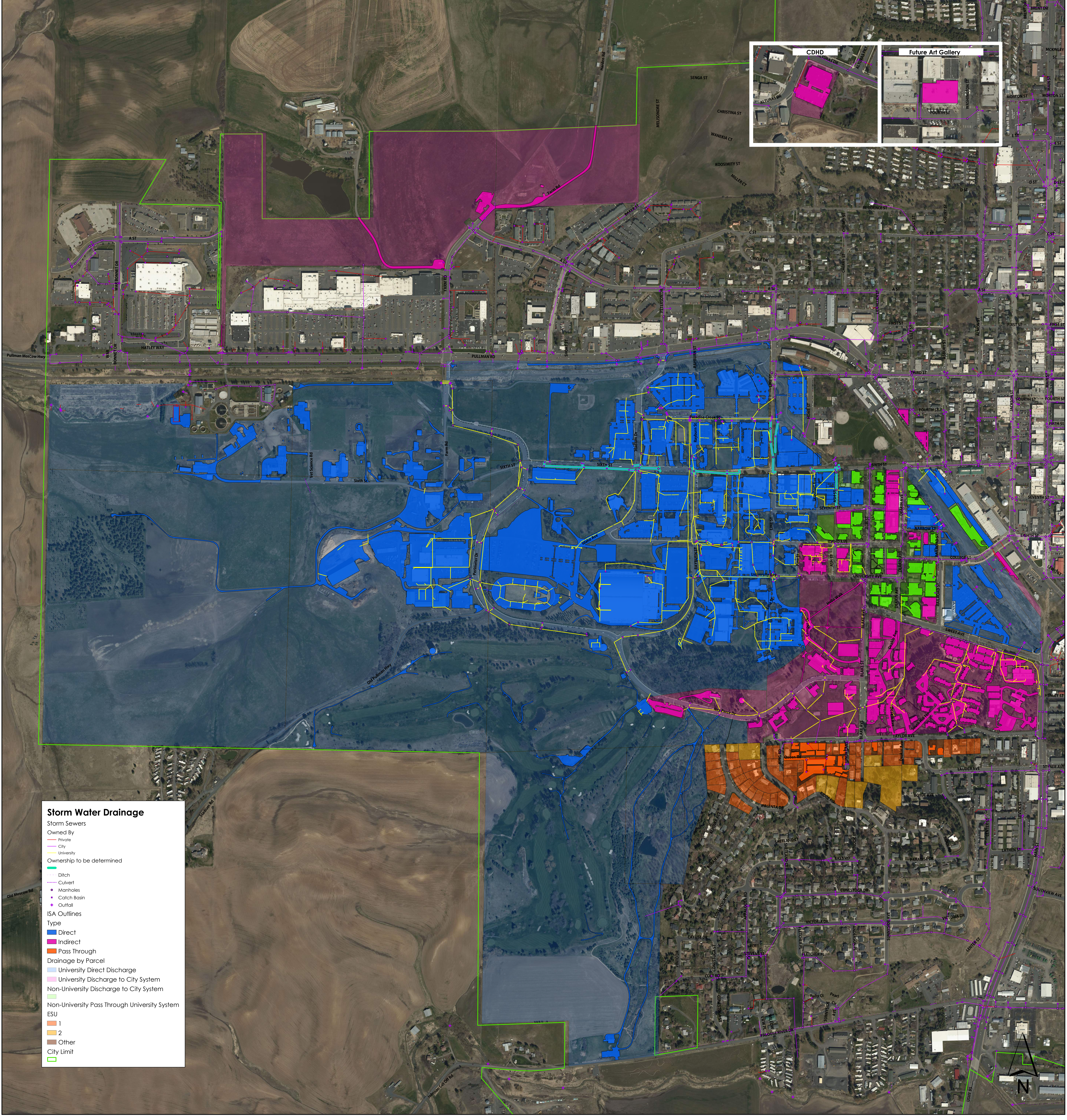
ii. Begin necessary corrective action; and

iii. Provide updates every 24 hours to UI Facilities Management by calling the University Front Desk Number if an incident exceeds 24 hours or more.

ATTACHMENT II – MS4 STORMWATER INFRASTRUCTURE MAP



- Storm Water Drainage**
- Storm Sewers
- Owned By
- Private
 - City
 - University
- Ownership to be determined
- Ditch
 - Culvert
 - Manholes
 - Catch Basin
 - Outfall
- ISA Outlines
- Type
- Direct
 - Indirect
 - Pass Through
- Drainage by Parcel
- University Direct Discharge
 - University Discharge to City System
 - Non-University Discharge to City System
 - Non-University Pass Through University System
- ESU
- 1
 - 2
 - Other
- City Limit



ATTACHMENT III – ALTERNATIVE CONTROL MEASURE REQUEST FOR ELECTRONIC MAPPING

UNIVERSITY OF IDAHO

ALTERNATIVE CONTROL MEASURE CAD MS4 SYSTEM MAP

February 2023



J·U·B ENGINEERS, INC.

201 S. Jackson Street
Moscow, ID 83843
p 208-746-9010

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1 PERMIT REQUIREMENT

The University of Idaho (UI) was issued a National Pollutant Discharge Elimination System (NPDES) Permit authorizing discharge from all municipal separate storm sewer system (MS4) outfalls to Paradise Creek. The permit became effective on March 1, 2021, and will expire at midnight, February 28, 2026. As of July 1, 2021, the United States Environmental Protection Agency (EPA) has transferred authority to administer and enforce the NPDES Permit to the Idaho Department of Environmental Quality (IDEQ).

Permit Section 3.2.2 requires UI to create and maintain a map of their MS4 and all associated outfall locations. This map is required so the UI may identify each outfall and interconnection discharging from the MS4 to provide a framework for tracking outfall inspections, dry weather discharge screenings, maintenance, and other activities required by the Permit. By September 1, 2025 an electronic GIS version of the MS4 map, and the accompanying Outfall Inventory, must be submitted to EPA and IDEQ as part of the Permit Renewal Application.

2 ALTERNATE CONTROL MEASURE GOAL

The goal of this alternate control measure (ACM) is to request a change in the required submittal of an electronic GIS MS4 map to allow for the submittal of an electronic CAD map of the MS4.

3 PROJECT SCHEDULE

The UI must submit the required MS4 map no later than September 1, 2025. UI already has a full-time member of their staff dedicated to managing UI CAD files and databases who will manage the MS4 map in CAD and ensure it is completed per the required timeframe established in 3.2.2.

4 ACM DESCRIPTION

UI currently creates and manages maps and databases for their systems utilizing CAD maps and has a full-time staff position dedicated to creating and maintaining such maps in CAD. CAD is a comparable software to GIS with similar capabilities that would allow for the creation of a map that meets the requirements in 3.2.2. Allowing UI to create the MS4 map in CAD would allow for a better allocation of their resources as they are already proficient in utilizing CAD for such tasks and would still meet the

Permit requirements and purpose. This would also likely result in a better product as the Staff is proficient and knowledgeable in CAD, allowing them to efficiently create the MS4 map.

5 PUBLIC AVAILABILITY

If the ACM is determined to meet the requirements of the permit, it will be incorporated into the UI's SWMP which is a publicly promoted and available document. UI maintains and promotes a publicly available website in accordance with Section 3.1.8 of their Permit where the SWMP can be accessed.

The SWMP can be accessed at:

<https://www.uidaho.edu/current-students/sustainability/campus/stormwater>

ATTACHMENT IV – MONITORING ASSESSMENT PLAN

UNIVERSITY OF IDAHO

MONITORING/ASSESSMENT PLAN

February 2023



201 S. Jackson Street
Moscow, ID 83843
p 208-746-9010

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APPENDIX

Appendix A – ICCU Arena Infiltration Trench

1 PROJECT INTRODUCTION

The University of Idaho (UI) was issued a National Pollutant Discharge Elimination System (NPDES) Permit authorizing discharge from all municipal separate storm sewer system (MS4) outfalls to Paradise Creek. The permit became effective on March 1, 2021, and will expire at midnight, February 28, 2026. As of July 1, 2021, the United States Environmental Protection Agency (EPA) has transferred authority to administer and enforce the NPDES Permit to the Idaho Department of Environmental Quality (IDEQ).

The UI MS4 outfalls into Paradise Creek which has TMDL's in place to monitor and manage water quality for the creek in both Idaho and Washington. In 1997 Paradise Creek was found to be in exceedance of both Washington and Idaho water quality standards (WQS) during the Paradise Creek Subbasin Assessment. This assessment, along with TMDL's for Paradise Creek, were approved by the EPA in 1997. TMDL's for Paradise Creek in Idaho were implemented to address pollutants of concern including pathogens, nutrients, ammonia, sediments, and stream temperature. Paradise Creek's designated beneficial uses include cold water aquatic life and secondary contact recreation (IDAPA 58.01.02.120.01).

The *Paradise Creek TMDL 2015 Bacteria Addendum* was created by IDEQ in 2015 to address concerns about E. coli bacteria impairments in the Paradise Creek Watershed. It was approved in 2016 by the EPA.

As a result of the UI MS4 discharge into Paradise Creek, Part 4.2 of the NPDES permit requires submittal of a Monitoring/Assessment Plan designed to quantify, at a minimum, pollutant loadings from the MS4 into Paradise Creek for E. coli. Part 4.3 also requires the UI to define and implement at least two (2) pollutant reduction activities designed to reduce E. coli, nutrients, sediment, and heat loadings from the MS4 into the Paradise Creek.

The following Monitoring/Assessment Plan has been created to follow the requirements set forth in Part 4.2 of the UI's NPDES Permit, along with the quality assurance (QA) requirements in Part 6.2.6.

1.1 PROJECT GOALS

The goal of the University's UI Monitoring/Assessment plan is to quantify the MS4's pollutant loadings of E. coli into Paradise creek and to design and implement pollutant reduction activities for their system. This written plan will outline how field screening analysis will be conducted on dry weather flows to identify priority discharges for implementation of pollutant reduction activities.

1.2 PROJECT SCHEDULE

The UI must submit the Monitoring/Assessment Plan, along with a description of the chosen Pollutant Reduction Activities by March 1, 2023. The UI must begin implementation of Monitoring/Assessment activities no later than 30 days following EPA's written notice that the Permit has been revised. No later than May 3, 2023, the UI must update the SWMP Document to describe intended means of accomplishing these requirements.

2 DRY WEATHER OUTFALL SCREENING

2.1 DRY WEATHER OUTFALL IDENTIFICATION AND SCREENING REQUIREMENTS

As a part of their NPDES Permit, the UI must conduct a dry weather analytical and field screening monitoring program to identify non-stormwater flows from MS4 outfalls during dry weather. The program must emphasize screening activities to detect and identify illicit discharges and illegal connections, as well as reinvestigating potentially problematic MS4 outfalls throughout the UI's Permit Area.

Section 3.2.5.2 of the NPDES Permit requires that the UI screen all outfalls annually during the dry weather season because the MS4 has less than 50 total outfalls. UI Staff will inspect all outfalls once annually. When Staff identify dry weather flows during their outfall inspections, they will collect grab samples to be analyzed for E. coli and attempt to identify the source of the dry weather flow.

The sampled outfalls will be used to help identify potential illicit discharges and illegal connections within the MS4. Analytical test results will identify outfalls with elevated levels of the pollutant of concern, which will help concentrate the UI's investigative efforts within the MS4. Illicit discharges detected by either complaints or dry weather screening will be investigated by the UI within 30 days of detection. Illicit discharges will be eliminated within 60 days of discovery as required by Section 3.2.6.

Detailed records must be kept of the dry weather screening program conducted throughout the permit including the following information for each location:

- Time since last rain event; estimated precipitation, measured in inches, of last rain event;
- Site description (e.g., conveyance type, adjacent land uses); flow estimation by area and velocity calculation (e.g., width of water surface in feet X approximate depth of water in feet X approximate flow velocity in feet/second = flow rate in cubic feet per second);
- Visual observations (e.g., odor, color, clarity, floatables, deposits/stains, vegetation condition, structural condition of outfall location, and biology);
- Potential source of flow and description of flow upstream of discharge.
- Persistence of flow downstream to note if flow evaporates or seeps below ground.
- Results and documentation of any in-field sampling; recommendation for follow-up actions to address identified problems to the extent allowable pursuant to authority granted under Idaho state law; and/or completed follow-up actions taken.

2.2 SAMPLING METHODS

When conducting outfall screening, grab samples for bacteriological pollutants will be collected directly from mid-stream flow (from the outfall pipe) into properly prepared sterile sample bottles. The requirements for outfall samples are displayed below in Table 2.1 based on minimum requirements in Section 4.2 of the MS4 Permit. Pursuant to Section 6.2.7 of the permit and 40 CFR §136, sample collection, preservation, and analysis must be conducted according to approved methods/test procedures. Where an approved 40 CFR §136 method does not exist, and other test procedure have not been specified, any available method may be used upon approval from EPA.

TABLE 2.1 – WATER QUALITY PARAMETERS

Constituent	Sample Size	Preservation	Holding Time	Method
Bacteria (E. coli)	100 ml	Sodium Thiosulfate	6 Hours	SM9223B

Samples will be marked with the appropriate outfall location, sample identification, date of collection, and the time of collection. Information will be marked using a waterproof marker on the appropriate sample label. After collection, all samples will be stored upright with the lid securely tightened.

Samples will be delivered to Anatek Labs in Moscow, ID on the same day that they are collected and Anatek Labs will analyze the samples for the appropriate constituents. The UI will ensure all personnel are trained in proper sample collection and handling procedures.

2.3 EVALUATION CRITERIA

If dry weather flow is identified during the dry weather outfall screening program, an E. Coli grab sample will be analyzed. The table below outlines the follow-up actions based on the analytical results of the E. Coli grab sample.

Constituent	Result	Follow-Up Action
Bacteria (E. coli)	< 126 MPN/100mL	<ul style="list-style-type: none"> Investigate Recurring illicit discharge per Section 3.2.6 "Follow-up"
Bacteria (E. coli)	> 126 MPN/100mL	<ul style="list-style-type: none"> Investigate Recurring illicit discharge per Section 3.2.6 "Follow-up". If discharge cannot be eliminated, execute the following steps: <ul style="list-style-type: none"> Clean applicable line, catch basins, and manholes and retest for E. Coli. If sample results are still above 126 MPN/100mL, collect sample per IDAPA 16.01.01.250.01.b to get a geometric mean. These sample results will be utilized to evaluate the impact to surface water quality.

3 QUALITY ASSURANCE AND QUALITY CONTROL

3.1 QA/QC OBJECTIVES AND PROCEDURES

A Quality Assurance Project Plan (QAPP) is required for any monitoring or quantitative assessment activities conducted in compliance with the MS4 Permit. The UI is required to update this Plan whenever there is a modification to their procedures in sample collection, sample analysis, or other areas covered within this Plan. A QAPP has been submitted concurrently with this Monitoring/Assessment Plan.

3.2 DATA HANDLING AND USE

Data from analytical testing will be handled by UI Staff to confirm all required information has been identified and recorded properly. All data will be electronically stored in the UI's database after it has been properly reviewed for all requirements and quality standards. UI Staff will investigate and attempt to resolve suspected errors in the data.

Analytical tests will identify elevated pollutant levels which will allow the UI to focus their investigative efforts on elevated pollutant areas so pollutant reduction activities can be implemented including attempting to eliminate illicit discharges. Data on occurrences of elevated pollutant levels will also be used to help identify violations, or potential violations of Idaho Water Quality Standards (IDAPA 58.01.02) by the MS4.

For each MS4 outfall where ongoing dry weather discharge is identified by UI staff to be associated with irrigation return flows and/or groundwater seepage, the UI will document the outfall location and the facts supporting the determination that the source is from either irrigation return flows or groundwater seepage.

4 POLLUTANT REDUCTION ACTIVITIES

According to Section 4.3 of the permit, UI must select at least two pollutant reduction activities designed to reduce E. coli, nutrients, sediment, and heat loadings from the MS4 into Paradise Creek. The following are three pollutant reduction activities selected by UI to reduce such pollutants. These pollutant reduction activities will be incorporated along the schedule outlined in this Plan and as required by the Permit.

These pollutant reduction activities will be prioritized and incorporated into UI's SWMP, a publicly available document. UI maintains and promotes a public website where the SWMP can be accessed in accordance with Section 3.1.8 of their Permit.

4.1 INFILTRATION TRENCH – BMP 17

Infiltration trenches are shallow trenches that utilize permeable soils and materials to retain, treat, and infiltrate stormwater for small areas. According to IDEQ's Catalog of Storm Water Best Management Practices (2020), infiltration trenches are very effective at controlling sediment and bacteria (removing >70%), two primary pollutants of concern for Paradise Creek. Infiltration trenches are subsurface systems which allow the area on the surface to be used for parking, landscaping, or other uses. Infiltration also facilitates temperature moderation and reduction because water is not susceptible to solar gains like surface water. Infiltration trenches are also useful for their relatively small footprint, allowing them to be incorporated in small areas where other BMPs are not practical due to their size or

where conditions are unsuitable for shading vegetation. UI has recently implemented infiltration trenches at the Idaho Central Credit Union Arena. See project pictures in **Appendix A**.

UI will evaluate opportunities for implementing more infiltration trenches on future new development projects for retention and infiltration of stormwater throughout their system which reduces pollutant discharge into Paradise Creek from stormwater. The benefits of infiltration trenches make them a great asset for accomplishing the pollutant reduction goals set forth in Section 4.3 of the permit.

4.2 STORM WATER SYSTEM CLEANING – BMP 76

Storm water systems are networks of infrastructure that transmit storm water to receiving water bodies. Over time, these systems collect unwanted pollutants such as sediment, litter, and waste. When these pollutants build up in stormwater systems, they prevent the system from properly conveying stormwater and can carry pollutants to receiving waters. Along with proper design, routine cleaning of storm water systems is very effective at removing sediment and litter (>70%).

UI will implement regular cleaning of their MS4 to reduce sediment and litter in Paradise Creek and facilitate proper function of the MS4. UI will incorporate IDEQ BMP guidelines, prioritizing/targeting known problem areas and scheduling/tracking cleanings.

4.3 FERTILIZER MANAGEMENT – BMP 78

Fertilizer management can greatly benefit surface and groundwater health by preventing contamination by nitrogen and phosphorus. Poor fertilizer management can result in increased pollutant discharge rates through over fertilization, poor fertilizer selection and application techniques, and improper storage. When fertilizer is over-applied, excess nitrogen and phosphorus can be carried to surface or groundwater by stormwater. Fertilizer management is deemed very effective (removing >70%) at targeting nitrogen and phosphorus pollutants.

The UI will follow the fertilizer management practices outlined in the IDEQ catalog – utilizing the appropriate form, application rate/timing/technique, and storage methods for fertilizer. By following these guidelines, UI can protect Paradise Creek from excess nutrient loading.

APPENDIX A – ICCU ARENA INFILTRATION TRENCH







ATTACHMENT V – ALTERNATIVE CONTROL MEASURE REQUEST FOR DRY WEATHER OUTFALL SAMPLING

UNIVERSITY OF IDAHO

ALTERNATIVE CONTROL MEASURE PARADISE CREEK ROAD OUTFALL SAMPLING

February 2023



J·U·B ENGINEERS, INC.

201 S. Jackson Street
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p 208-746-9010

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1 ALTERNATE CONTROL MEASURE INTRODUCTION

1.1 PERMIT AND MS4

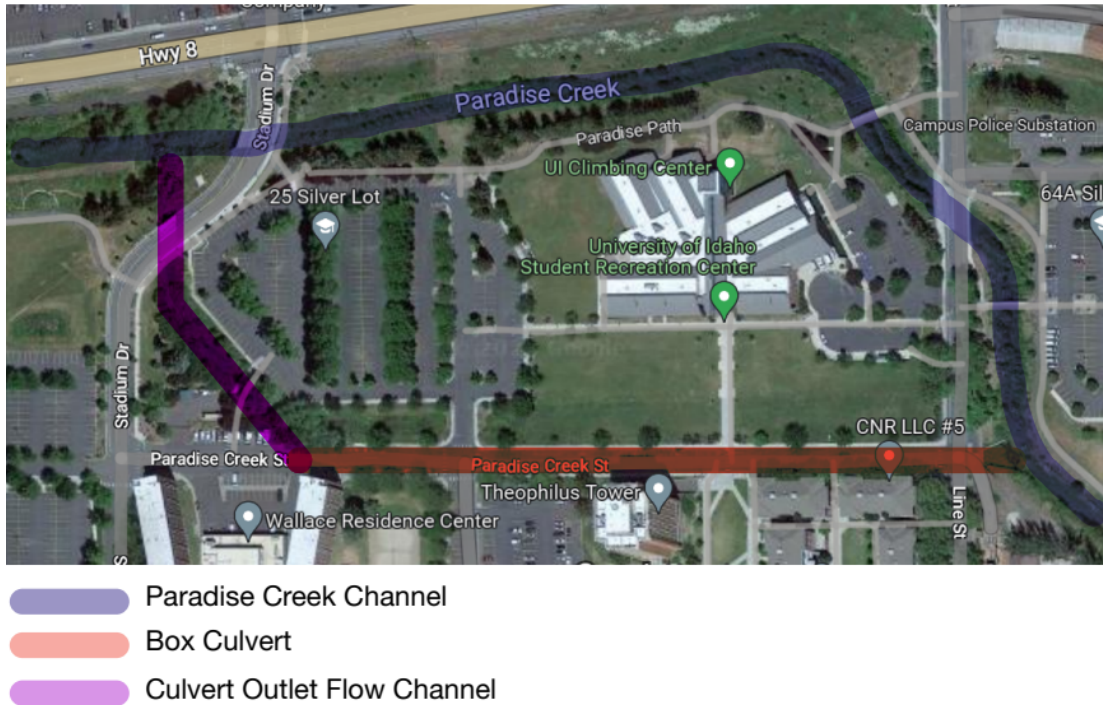
The University of Idaho (UI) was issued a National Pollutant Discharge Elimination System (NPDES) Permit authorizing discharge from all municipal separate storm sewer system (MS4) outfalls to Paradise Creek. The permit became effective on March 1, 2021, and will expire at midnight, February 28, 2026. As of July 1, 2021, the United States Environmental Protection Agency (EPA) has transferred authority to administer and enforce the NPDES Permit to the Idaho Department of Environmental Quality (IDEQ).

As a result of the UI MS4 discharge into Paradise Creek, Part 4.2 of the NPDES permit requires submittal of a Monitoring/Assessment Plan designed to quantify, at a minimum, pollutant loadings from the MS4 into Paradise Creek for E. coli. The Monitoring/Assessment Plan has been created to follow the requirements set forth in Part 4.2 of the UI's NPDES Permit, along with the quality assurance (QA) requirements in Part 6.2.6.

Section 3.2.5.2 of the NPDES Permit requires that the UI screen all outfalls annually during the dry weather season because the MS4 has less than 50 total outfalls. Several of the MS4's outfalls are inside of the box culvert that runs under Paradise Creek Street which would require Staff to regularly enter the box culvert to screen the outfalls. Accessing the channel underneath Paradise Creek Street poses a potential safety hazard for Staff. UI requests an ACM regarding the requirements to screen the outfalls in the overflow route of Paradise Creek individually. This ACM is submitted in accordance with the provision for ACMs in Section 2.6 of the Permit.

The area of interest for this Alternate Control Measure (ACM) is where Paradise Creek splits and flows around UI's Student Recreation Center (SRC) where the southern channel is mainly an overflow route where the East-West portion of the southern channel is within a box culvert. The channels and area of interest are shown below in Figure 1.1.

FIGURE 1.1 PARADISE CREEK CHANNEL PATH



The main branch of Paradise Creek flows North past the SRC and then turns West beyond the SRC. The overflow channel splits from the main Creek channel at a box culvert than runs West under Paradise Creek St. then northly in an open channel that discharges its flow into the main channel of Paradise Creek to the Northwest near Stadium Drive. The box culvert's inlet and outlet are displayed in Figure 1.2 and Figure 1.3 respectively. (Note: All photos of Paradise Creek used in this report were taken during wet weather conditions. Displayed flow levels of Paradise Creek are higher than what would occur during dry weather.) The overflow channel allows additional flow capacity for Paradise Creek through this area during wet weather and flood level conditions. Under dry weather flow conditions, the box culvert's inlet is at a higher elevation than the water surface elevation of Paradise Creek and does not carry flow from the Creek. As such, the box culvert should be dry during dry weather season.



FIGURE 1.2: BOX CULVERT INLET



FIGURE 1.3: BOX CULVERT OUTLET

1.2 ACM GOAL

The goal of the ACM is to coalesce the screening locations for the MS4 outfall locations upstream of the confluence back into Paradise Creek, including the outfall locations within the box culvert, into one screening location because there is no creek flow in the summer through the overflow channel.

Coalesced sampling would be representative of any dry weather flow without being diluted with creek flow. The sample point would be beyond the outlet of the box culvert but before the culvert flow joins Paradise Creek. The aim of this ACM is to simplify sampling and protect the health and wellbeing of UI staff while also meeting all Permit requirements for dry weather flow screening and identification of illicit MS4 discharges.

1.3 ACM IMPLEMENTATION SCHEDULE

UI must submit all ACMs for EPA and IDEQ review and consideration no later than March 1, 2023. This ACM works in conjunction with the UI Monitoring/Assessment Plan and will be implemented concurrently with the dry weather screening schedule outlined in the Monitoring/Assessment Plan.

1.4 PUBLIC AVAILABILITY

If the ACM is determined to meet the requirements of the permit, it will be incorporated into the UI's SWMP which is a publicly available document. UI maintains and promotes a publicly available website in accordance with Section 3.1.8 of their Permit where the SWMP can be accessed. The SWMP can be accessed at:

2 ALTERNATE BOX CULVERT OUTFALL SCREENING LOCATION

2.1 NEW SCREENING LOCATION

UI will screen all box culvert outfalls for dry weather flows at one location just prior to flow from the box culvert going under the bridge on Stadium Drive. During dry weather flow, this channel should be dry. Prior to performing the dry weather sampling at this location, Staff will confirm there is no flow entering the box culvert at the inlet upstream of the MS4 outfalls, shown in Figure 1.2 above. Screening at this location would allow Staff to identify dry weather flows from all outfalls in the box culvert without being exposed to risks associated with entering the box culvert. Screening this location would also account for four additional MS4 outfalls that discharge into the box culvert's flow path after it has emerged from the culvert. These additional outfalls occur before the box culvert's flow path has merged with Paradise Creek.



FIGURE 2.1: SAMPLING LOCATION PRIOR TO STADIUM DR. BRIDGE

This method of dry weather screening will still meet all Permit requirements for dry weather flow screening and illicit discharge detection while also protecting Staff safety.

2.2 DRY WEATHER SCREENING AND SAMPLING

Staff will follow all procedures and requirements outlined in Section 2 of the Monitoring/Assessment Plan for conducting dry weather screening and dry weather flow sampling. If Staff detect dry weather flow at this location, they will conduct the follow up actions outlined in Section 2.3 of the Monitoring/Assessment Plan to further investigate dry weather flow. Staff will adhere to the QAPP which is attached to the Monitoring/Assessment Plan.

ATTACHMENT VI – QUALITY ASSURANCE PROJECT PLAN

UNIVERSITY OF IDAHO

QUALITY ASSURANCE PROJECT PLAN

February 2023



201 S. Jackson Street
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APPENDIX

Appendix A – MS4 Permit

Appendix B – Anatek QA Plan

Appendix C – Chain of Custody and Field Sampling Forms

1 PLAN MANAGEMENT

This Quality Assurance Project Plan (QAPP) is managed by the University of Idaho (UI) and documents the environmental monitoring methods adopted by the permittee.

1.1 PERSONNEL/TASK ORGANIZATION

Key project personnel are listed in with their corresponding responsibilities in Table 1-1.

TABLE 1-1 - PERSONNEL, TITLES, AND RESPONSIBILITIES

Name and Title/Responsibility	Contact Information	Responsibility	Certification
Elmer Johnson Head Operator Responsible Charge	University of Idaho Facilities Services 875 Perimeter Dr. Moscow, ID 83844. ElmerJ@McKinstry.com (208) 370-2741	Responsible for all environmental monitoring, regulatory and operational activities.	Wastewater Treatment Operator I (WWT1- 15391) Wastewater Land Application Operator (WWTLA-15574)
Other Operators/ Sampling Staff	University of Idaho Facilities Services 875 Perimeter Dr. Moscow, ID 83844	Trained to take samples under the direction of the Head Operator. Reports to Head Operator.	Varies
Anatek Labs, Inc. / Primary Laboratory	1282 Alturas Drive Moscow, ID 83843 208-883-2839 justin@anateklabs.com	Responsible for conducting chemical and physical analyses of environmental samples. Responsible for maintaining and calibrating equipment, and for implementing all laboratory QA/QC requirements. Client is U of I to whom contract issues are addressed.	Idaho Department of Health & Welfare Organic and Inorganic Analysis

1.2 PROJECT BACKGROUND

The UI MS4 outfalls discharge into Paradise Creek which has TMDL's in place to monitor and manage water quality for the creek. IDEQ as a result, requires pollutant loadings for E. coli to be monitored and categorized to identify potential impacts to Paradise Creek as part of their MS4 Stormwater Permit. Sample collection, management and analysis must be done in accordance with an approved QAPP. The

UI must submit a Quality Assurance Project Plan (QAPP), for approval, by March 1, 2023. The UI must begin implementation of QAPP activities no later than 30 days following EPA’s written notice that the Permit has been revised to include Monitoring/Assessment Plan.

1.3 PURPOSE

The purpose of this QAPP is to describe the technical requirements and quality assurance activities of the environmental data collection/analyses operations to be performed under IDEQ MS4 Permit. A QAPP is required as part of the MS4 permit and is in the compliance schedule between the U of I and IDEQ. See Appendix A for a copy of the permit and schedule. This plan covers the scope of monitoring, organization and persons involved, data quality objectives, monitoring procedures, and specific quality control (QC) measures. All QAPP activities are implemented to determine whether the type, quantity, and quality of sampling/monitoring satisfies the requirements of the permit (Section 3).

This QAPP will be updated as necessary to reflect significant changes.

1.4 MONITORING AND SAMPLE ANALYSES DESCRIPTION

The NPDES MS4 Permit requires all the stormwater outfalls into Paradise Creek to be monitored and identified with requisite frequencies and QA/QC standards. These requirements are summarized in Table 3. Specific parameters, equipment, and procedures are provided in Section 2 for media being monitored.

TABLE 1-2 – MEDIA MONITORED AND QA/QC ACTIVITIES

Monitored Media	Frequency	Location	QA/QC Needs*
Stormwater	Annually	All Outfall Locations identified in the Stormwater Management Program.	5% Field Duplicate Samples for Lab Analysis Samples

1.5 DATA QUALITY OBJECTIVES (DQOs)

This section presents several data quality objectives (DQOs) that constitute criteria to determine whether data meets acceptable standards of quality. Also discussed are the associated data quality indicators and how these are employed to analyze data to determine whether DQOs are achieved. DQOs

discussed include those for the quantitative indicators of precision and accuracy, data representativeness, and data comparability.

Sample results meeting DQOs are valid based on precision, accuracy, and completeness and can be used to assess compliance.

Precision for field samples using the relative percent difference (RPD). RPD is a measure of the percent difference between a sample result and the result of a corresponding duplicate and is calculated by dividing the difference between the two samples by the mean of the two results. The RPD is used in this QAPP as an indicator of precision. The RPD is calculated as shown in **Equation 1**.

$$RPD (\%) = \frac{[Sample (mg/L) - Duplicate (mg/L)]}{\left[\frac{(Sample (mg/L) + Duplicate (mg/L))}{2} \right]} * 100 \quad \text{Equation 1}$$

As noted in Table 1-3 (see footnote), RPD criteria are waived in cases when the analytical result is ± 1 MDL (minimum detection level). This is because RPDs typically increase dramatically as the result approaches the MDL.

For data that do not meet RPD data quality objectives, the Head Operator initiates an inquiry as to the cause of substandard data and makes recommendations for mitigating the cause(s).

Duplicate samples are taken by monitoring staff for media and analytes specified in. Field duplicate sampling is required on five percent (5%) of the outfalls for each analytical parameter. If the resultant 5% calculated number is less than one (1), then a minimum of one (1) duplicate sample must be taken for that medium. If the number has a decimal fraction, the number of duplicates needed is rounded to the next higher integer (e.g., a value of 1.3 is rounded up to 2).

For example, if 42 outfalls are sampled for E. coli, 5% of 42 would be 2.1. The value 2.1 is less than 3 but greater than 2, so the number of duplicate samples needed is 3. Analytes for which duplicates are required are listed in Table 1-3.

Measurements for analytes used for background indicators or to provide insight into the condition of the stormwater not required by the permit will not have additional samples taken for PRD. QC for such

measurements is completed by following the standard operating procedure and any lab recommendations.

TABLE 1-3- DATA QUALITY INDICATORS¹

Monitored Media	Parameter	Data Quality Indicator	Action Levels
Stormwater	E. coli	RPD	± 10%

1) The RPD criteria are waived when analytical results are within ± 1 MDL (minimum detection limit).

The Primary laboratory (Anatek Labs) has their respective laboratory QC/QA documents included in Appendix B. These procedures are done at frequencies recommended by the analytical method and instrumentation operating manuals.

1.6 TRAINING REQUIREMENTS AND CERTIFICATION

Training requirements for different staff positions are shown in Table 1-4.

TABLE 1-4 - PROJECT STAFF AND TRAINING

Position Title	Training and Training Requirements
Head Operator/ Responsible Charge	Trained by education and on-the-job in the design and implementation of environmental monitoring programs, quality control and quality assurance, project management, and environmental regulatory requirements and permit requirements.
Other Operators/ Sampling Staff	Trained in-house by previously trained staff on all monitoring and sampling protocols, use and calibration of sampling equipment, and regulatory and permit requirements.
Primary Laboratory	Primary laboratories used (Anatek Labs, Inc.) are certified water testing laboratories and are participants in National Proficiency Testing programs appropriate for types of analyses conducted by the laboratories.

1.7 DOCUMENTATION AND RECORDS

Documentation for all permit-required monitoring, sampling, and analyses conducted according to this QAPP is summarized in Table 1-5. The generated documentation consists of field notebooks and field data sheets, chain of custody records, laboratory analyses reports, vendor certifications, an annual report summarizing the sampling events and results, and this QAPP (which includes sampling procedures in Section 5). Documents listed in Table 1-5 shall be retained for a period of the length of the Reuse Permit, including any administrative extensions, plus two years. This documentation is available to and reviewed by the Head Operator officer for quality control. Current sampling forms, including chain of

custodies (COC) and field sampling forms, are provided in Appendix C and shall be replaced as they are updated.

The annual report required by DEQ is summarized in the MS4 Permit. The annual report uses the data generated by this QAPP to determine loading for the reuse sites. The annual report will reference the data quality objectives established in this QAPP and will include all laboratory analytical reports and chain of custody forms.

TABLE 1-5 - REQUIRED MONITORING AND SAMPLE ANALYSES

Monitoring and/or Sample Analyses / Other	Documentation	Disposition of Documentation
Stormwater at each Outfall	Chain of custody record (COC) for each sampling event. Laboratory analyses results sheets (lab sheets) from Primary laboratory. Sampling field sheets.	Hard copy filed at Office and scanned/printed into PDF format for electronic file on server. Results are entered into Excel and archived. A summary copy submitted to DEQ in Annual Report.
Staff Training	Documentation of necessary training	Licenses kept in Office.

2 DATA GENERATION AND AQUISION

2.1 SAMPLING LOCATIONS & METHODS

Sampling locations are included in a Draft MS4 Map that is included in the existing Stormwater Management Program (SMP). A MS4 Map and Outfall Inventory that meets the requirements of Section 3.2.2 of the MS4 permit is being developed over the term of this permit cycle and will be completed no later than September 1, 2025. The methods for sampling outfalls are listed in Table 2-1. Further details on specific equipment and procedures are included in section 2.3 & 2.4 respectively.

TABLE 2-1 - SAMPLING METHODS

Monitoring Point Serial # /Location	Sample Description	Sample Type / Frequency	Parameters
Outfall Locations per SMP	Stormwater	Grab/Annual	E. Coli

2.2 SAMPLE HANDELING AND CUSTODY PROCEDURES

Samples are collected by monitoring staff under the supervision of the Head Operator. Samples are properly labeled, preserved, and packed as specified in Section 2.

A field sample sheet (Appendix C) is used to document information pertaining to each sampling event for each constituent monitored. Transport time is minimized to ensure that samples reach the laboratory without exceeding holding times and to reduce the chances of being exposed to temperature variations. Samples are transported by vehicle to the primary laboratory on the same day as the sampling event.

All sample containers and labels are obtained through the primary laboratory for the analyses being conducted. Samples must be preserved and must not exceed holding times noted in Section 2.6 and must arrive at the lab at the proper temperature.

A chain of custody (COC) form (Appendix C) is completed when the sample is collected and will include all information requested on the form. The COC form will accompany the sample from the time it is collected throughout the duration of the shipping/transport process and will be checked for a signature at the receiving laboratory.

2.3 TYPICAL SAMPLING EQUIPMENT

The equipment and supplies used for sampling surface water typically include the following items:

- Disposable gloves
- Dipper
- Documentation (field sheets, chain of custody records, log books, O&M manuals, etc.)
- Indelible ink pen
- Decontaminated or new plastic (HDPE), or glass 1-liter (1L) sample bottles (from the Lab)
- Sample labels
- Packing tape
- Cooler with cold packs or ice
- Cleaning buckets and containers for decontamination
- Paper towels and hand soap
- Cleaning brushes
- Phosphate-free laboratory soap
- Distilled water and hand sprayers

Primary laboratory will provide sampling containers and preservatives. The laboratories will also supply chain of custody records.

2.4 STORMWATER SAMPLING PROCEDURES

1. Coordinate with the laboratory regarding sampling and delivery of samples prior to sampling. Follow all instructions provided by the analytical laboratory.
2. Collect the sample directly into the appropriate container (e.g. 1- liter cubitainers equipped with screw-on caps) and sealed as quickly as possible. Sample containers will be new, clean, and used only once during the sampling event.
3. Collect duplicate samples of stormwater at a minimum number of 5% of the samples taken on an annual basis as described in Section 1.5.
4. Collect the sample. See Section 5.1.5.
5. Follow laboratory instructions for preservation of the collected samples. Once collected, place the samples on ice in an ice chest, in which the temperature is approximately 4 oC +/- 2 oC, from the time of sampling until the analysis is complete, if this is required for sample preservation. For all samples, transport them in ice chests with ice packs and chain of custody records.
6. Label the samples with durable labels and water-resistant ink to provide proper identification. Provide the following information on each label:
 - a. Project identification (often a project name/sample type)
 - b. Sample identification number
 - c. Sampling point serial number
 - d. Date and time of collection
 - e. Name of sample collector
7. For all samples, complete field sampling sheet(s) (Appendix C) and chain of custody records (Appendix C) at the time of sample collection. Keep field sampling sheets with monitoring records. Put the chain of custody record in a sealable plastic bag and place it with the samples.
8. Transport samples to primary laboratories within holding time limitations. Deliver the samples directly to the facility laboratory manager or designee, who will sign the chain of custody form and receive samples into their custody.

2.5 DECONTAMINATION PROCEDURES

Each sampling location, before each use of a sampling dipper, decontaminate it by washing with a weak solution of Alcanox® detergent and rinsing it once with 10% bleach solution, then rinsing twice more with distilled water.

2.6 ANALYTICAL METHODS

This section discusses analytical methods used for stormwater and shown in (Table 2-2) including preservative requirements and holding time requirements.

TABLE 2-2 - STORMWATER ANALYTICAL METHODS

Parameter	Units ¹	Standard Methods ²	Minimum Reporting Level ³	Preservative	Holding Time
E. coli	CFU/ 100 mL	9223-B	--	Cool, <4° C (in presence of chlorine, add Na ₂ S ₂ O ₃)	6 hours

1. Unit abbreviations: mg/L – milligrams per liter

2. Greenberg, A.E. et al. (eds). 1992. Standard Methods for the Examination of Water and Wastewater - 18th Edition.

3. The minimum reporting levels are method-specific.

3 DATA VALIDATION AND USABILITY

3.1 REPORTS

Once all annual sample results have been received, the Head Operator or staff under their supervision prepares all data for annual report. The annual report will be prepared by summarizing the sampling results according to the permit, then the Head Operator will review finalize and submit the report to IDEQ.

3.2 DATA REVIEW, VERIFICATION, AND VALIDATION

The data is validated for quality by the Head Operator annually, who performs the tasks listed in Table 3-1.

TABLE 3-1 - DATA REVIEW, VERIFICATION, AND VALIDATION

Program Activity	Review Tasks
Sampling Protocol	Verify whether sampling strategy conforms to the reuse permit and QAPP. Verify whether selection of sampling locations matches the Reuse Permit.
Field Sampling	Verify whether prescribed procedures and equipment were used. Verify whether proper containers and preservatives were used. Verify whether all samples were properly stored and at appropriate temperatures.
Field Documentation	Verify whether proper data entry procedures were used for any field data sheets or notebooks. Chain-of-Custody forms: Verify whether forms are properly completed, signed, and dated during transfer. Verify whether all samples were assigned identification numbers and accounted for. Verify whether all samples were properly packaged.
Laboratory	Verify whether all requested data is reported and is in compliance with Primary lab analytical specifications and methods. Verify whether COC documentation from laboratory is correct. Verify sample temperatures at receipt by laboratory. Verify holding times were not exceeded from time of collection to time of analysis. Verify whether QC samples (e.g., duplicate samples) were analyzed. Verify internal laboratory QC standards were met.
Record Storage	Verify whether the operations office files contain all field and laboratory data, and other records, pertinent to this QAPP.

3.3 DATA VALIDATION AND VERIFICATION METHODS

The Head Operator reviews all data for completeness, errors and inconsistencies, which includes, check relative percent differences (RPDs) of duplicate samples taken and comparing them to criteria specified. The Head Operator also examines data in light of historic data for trends, and performs outlier checks as necessary. The data is considered valid if the QA checks on the data do not indicate any significant deviations from the data quality criteria.

3.4 RECONCILIATION WITH DATA QUALITY OBJECTIVES

The Head Operator is responsible for reconciling the results from the monitoring program described in this QAPP with the DQO’s and other requirements specified in both this QAPP and the MS4 Permit. Once the data has been validated, the Head Operator reviews the data to determine if there have been any permit or regulatory exceedances, and if there is need for any permit-required re-sampling, confirmatory sampling, or mandated reporting to DEQ, and resolves those needs.

APPENDIX A – MS4 PERMIT

United States Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, Washington 98101

**Authorization to Discharge Under The
National Pollutant Discharge Elimination System (NPDES)**

In compliance with the provisions of the Clean Water Act, 33 U.S.C. §1251 et seq., as amended by the Water Quality Act of 1987, Public Law 100-4 (hereafter CWA),

**University of Idaho
(hereinafter, "Permittee")**

is authorized to discharge from all municipal separate storm sewer system (MS4) outfalls in the Permit Area described in Part 1.1 to Paradise Creek, and other associated waters of the United States, in accordance with the conditions and requirements set forth herein.

A copy of this Permit must be kept as part of the Permittee's Stormwater Management Program (SWMP) documentation.

This Permit becomes effective **March 1, 2021**.

This Permit and the authorization to discharge expires at midnight, **February 28, 2026**.

The Permittee must reapply for authorization to discharge on or before **September 1, 2025**, (180 days before expiration of this Permit), pursuant to Part 8.2 (*Duty to Reapply*), if the Permittee intends to continue operation and discharges from the MS4 beyond the term of this Permit.

Daniel D. Opalski
Director
Water Division

SCHEDULE

1. Stormwater Management Program Document	
<i>Post SWMP Document(s) on at least one publicly accessible website - See Part 2.5.3 and Part 3.1.8</i>	May 3, 2022
<i>Update the SWMP Document to describe implementation of relevant requirements for discharges to impaired waters - See Part 4.</i>	May 3, 2023
2. Stormwater Management Program Control Measures	
<i>Begin Education & Outreach Activities - See Part 3.1</i>	March 1, 2022
<i>Implement all SWMP Control Measures in Part 3.</i>	September 1, 2025
3. Alternative Control Measure Requests	
<i>See Part 2.6 and Part 4.</i>	March 1, 2023
4. Monitoring/Assessment Plan	
<i>Submit a Monitoring/Assessment Plan</i>	March 1, 2023
<i>See Part 2.6, and Part 4.</i>	
<i>Conduct Monitoring/Assessment Activity</i>	September 1, 2025
5. Pollutant Reduction Activities for Discharges to Impaired Waters	
<i>Submit description of selected Pollutant Reduction Activities; See Part 2.6, and Part 4.</i>	March 1, 2023
<i>Implement least two (2) pollutant reduction activities.</i>	September 1, 2025
6. Annual Report	
<i>See Part 6.4, and Table 6.4.1</i>	May 3 of each year, beginning Calendar Year 2022
7. Twenty-Four Hour Notice of Noncompliance.	
<i>Permittee must report certain noncompliance by phone.</i>	Within 24 hours from when Permittee becomes aware of circumstances
<i>See Part 7.9.</i>	
8. NPDES Permit Renewal Application	
<i>See Part 8.2.</i>	September 1, 2025

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ACRONYMS

ACM	Alternative Control Measure
BMP	Best Management Practice
CFR	Code of Federal Regulations
CGP	Construction General Permit, i.e., the most current version of the <i>NPDES General Permit for Stormwater Discharges from Construction Activities in Idaho</i>
CWA	Clean Water Act
ERP	Enforcement Response Policy
EPA	United States Environmental Protection Agency, Region 10
FR	Federal Register
GIS	Geographic Information System
IDAPA	Idaho Administrative Procedures Act
IDEQ	Idaho Department of Environmental Quality
µg/L	Micrograms per Liter
mg/L	Milligrams per Liter
MEP	Maximum Extent Practicable
ML	Minimum Levels
MS4	Municipal Separate Storm Sewer System
MSGP	Multi-Sector General Permit, i.e., the most current version of the <i>NPDES Multi-Sector General Permit for Stormwater Discharges Associated with Industrial Activities in Idaho</i>
NPDES	National Pollutant Discharge Elimination System
O&M	Operation and Maintenance
pg/L	Picograms per Liter
PDF	Portable Document Format
POTW	Publicly Owned Treatment Works
QAPP	Quality Assurance Project Plan
QA/QC	Quality Assurance/Quality Control
SWMP	Stormwater Management Program
SWPPP	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load
TSS	Total Suspended Solids
US	United States
USC	United States Code
WA	Washington
WD	EPA Region 10 Water Division

1 APPLICABILITY

1.1 Permit Area

This Permit covers all areas served by the municipal separate storm sewer system (MS4) owned and/or operated by the University of Idaho (Permittee) and located in the corporate boundary of the City of Moscow, Idaho.

1.2 Discharges Authorized Under this Permit

During the effective dates of this Permit, the Permittee is authorized to discharge stormwater to waters of the United States from all portions of the MS4 identified in Part 1.1, subject to the conditions set forth herein.

Pursuant to Part 2.4. below, this Permit also conditionally authorizes the discharges from the Permittee's MS4 that are categorized as allowable non-stormwater discharges.

2 LIMITATIONS AND CONDITIONS

2.1 Compliance with Water Quality Standards

If the Permittee complies with all the terms and conditions of this Permit, it is presumed that the Permittee is not causing or contributing to an excursion above the applicable Idaho Water Quality Standards.

If monitoring or other information shows that a pollutant in the Permittee's MS4 discharge is causing or contributing to an excursion above the applicable Idaho Water Quality Standard, the Permittee must comply with the notification and other requirements outlined in Part 5 (*Required Response to Excursions of Idaho Water Quality Standards*), except where a pollutant of concern in the MS4 discharge is subject to the requirements of Part 4 (*Special Conditions for Discharges to Impaired Waters*) or is the result of an illicit discharge and subject to a Permittee response as outlined in Part 3.2.6 (*Follow-up*).

2.2 Snow Disposal to Receiving Waters

The Permittee is not authorized to dispose of snow plowed in the geographic area of permit coverage directly into waters of the United States, or directly into the MS4(s). Discharges from the Permittee's snow disposal and snow management practices are authorized under this Permit only when such practices and disposal sites are conducted, operated, designed, and maintained to reduce pollutants in the discharges pursuant to Part 3.5 (*Pollution Prevention/Good Housekeeping for MS4 Operations*) so as to avoid excursions above the Idaho Water Quality Standards.

2.3 Stormwater Discharges Associated with Industrial or Construction Activity

The Permittee is not authorized to discharge stormwater associated with industrial activity (as defined in 40 CFR §122.26(b)(14)), and/or stormwater associated with construction activity (as defined in 40 CFR §122.26(b)(14)(x) and (b)(15)), unless the discharges are otherwise authorized under the *NPDES General Permit for Stormwater Associated with Construction Activities in Idaho* (Idaho CGP), the *NPDES Multi-Sector General Permit for Stormwater Associated with Industrial Activities in Idaho* (MSGP), or another appropriate NPDES permit.

2.4 Non-Stormwater Discharges

The Permittee is not authorized to discharge non-stormwater from the MS4, except where such discharges satisfy one of the following conditions:

- 2.4.1 The non-stormwater discharge is in compliance with a separate NPDES permit; or
- 2.4.2 The discharge originates from emergency firefighting activities; or
- 2.4.3 The non-stormwater discharge results from a spill, and/or is the result of an unusual and severe weather event where reasonable and prudent measures have been taken to prevent and minimize the impact of such discharge; or
- 2.4.4 The non-stormwater discharge consists of emergency discharges required to prevent imminent threat to human health or severe property damage, provided that reasonable and prudent measures have been taken to prevent and minimize the impact of such discharges; or
- 2.4.5 The non-stormwater discharge falls under one of the allowable categories listed in Part 2.4.5.1 below, and the discharge is not a source of pollution to waters of the United States as defined in Part 2.4.5.2.

2.4.5.1 Categories of Allowable Non-Stormwater Discharges include:

- 2.4.5.1.1 Uncontaminated water line flushing;
- 2.4.5.1.2 Landscape irrigation (provided all pesticides, herbicides and fertilizer have been applied in accordance with manufacturer's instructions);
- 2.4.5.1.3 Diverted stream flows;
- 2.4.5.1.4 Uncontaminated ground water infiltration (as defined at 40 CFR § 35.2005(20)) to separate storm sewers;
- 2.4.5.1.5 Rising ground waters;
- 2.4.5.1.6 Uncontaminated pumped ground water;
- 2.4.5.1.7 Discharges from potable water sources;
- 2.4.5.1.8 Foundation drains and footing drains (where flows are not contaminated with process materials such as solvents);
- 2.4.5.1.9 Uncontaminated air conditioning or compressor condensate;
- 2.4.5.1.10 Irrigation water;
- 2.4.5.1.11 Springs;
- 2.4.5.1.12 Water from crawlspace pumps;
- 2.4.5.1.13 Lawn watering;
- 2.4.5.1.14 Individual residential car washing;
- 2.4.5.1.15 Flows from riparian habitats and wetlands;
- 2.4.5.1.16 Dechlorinated swimming pool discharges;
- 2.4.5.1.17 Routine external building washdown which does not use detergents;
- 2.4.5.1.18 Street and pavement washwaters where no detergents are used and no spills or leaks of toxic or hazardous materials have occurred (unless all spilled material has been removed); and
- 2.4.5.1.19 Fire hydrant flushing.

2.4.5.2 Sources of Pollution to Waters of the United States

A discharge is considered a source of pollution to waters of the United States if it contains:

- 2.4.5.2.1 Hazardous materials in concentrations found to be of public health significance or to impair beneficial uses in receiving waters. ("*Hazardous materials*" is defined in IDAPA 58.01.02.010.47 and Part 9 of this Permit); and/or
- 2.4.5.2.2 Toxic substances in concentrations that impair designated beneficial uses in receiving waters. ("*Toxic substances*" is defined at IDAPA 58.01.02.010.99 and Part 9 of this Permit); and/or
- 2.4.5.2.3 Deleterious materials in concentrations that impair designated beneficial uses in receiving waters. ("*Deleterious materials*" is defined at IDAPA 58.01.02.010.21 and Part 9 of this Permit); and/or
- 2.4.5.2.4 Radioactive materials or radioactivity at levels exceeding the values listed in 10 CFR § 20 in receiving waters; and/or
- 2.4.5.2.5 Floating, suspended, or submerged matter of any kind in concentrations causing nuisance or objectionable conditions or in concentrations that may impair designated beneficial uses in receiving waters; and/or
- 2.4.5.2.6 Excessive nutrients that can cause visible slime growths or other nuisance aquatic growths that impair designated beneficial uses in receiving waters; and/or
- 2.4.5.2.7 Oxygen-demanding materials in concentrations that would result in anaerobic water conditions in receiving waters; and/or
- 2.4.5.2.8 Sediment above quantities specified in IDAPA 58.01.02.250.02.e or in the absence of specific sediment criteria, above quantities that impair beneficial uses in receiving waters; and/or
- 2.4.5.2.9 Material in concentrations that exceed applicable natural background conditions in receiving waters (IDAPA 58.01.02.200.09). Temperature levels may be increased above natural background conditions when allowed under IDAPA 58.01.02.401.

2.5 Permittee Responsibilities

2.5.1 Shared Implementation with Outside Entities

The Permittee may share or delegate implementation of one or more of the stormwater management control measures required by this Permit to another entity. The Permittee may rely on another entity if:

- 2.5.1.1 The other entity, in fact, implements the stormwater management control measure, or component thereof;
- 2.5.1.2 The particular stormwater management control measure, or component thereof, is at least as stringent as the corresponding Permit requirement; and
- 2.5.1.3 The other entity agrees to implement the stormwater management control measure, or component thereof, on the Permittee's behalf.

The Permittee and the outside entity must maintain a written and binding agreement

between the parties. The written agreement must describe each organization's respective roles and responsibilities related to this Permit and identify all aspects of stormwater management where the entities will share or delegate implementation responsibility. Any previously signed agreement may be updated, as necessary, to comply with this requirement. Any such agreement must be described in the Permittee's SWMP Document required by Part 2.5.3, and a copy of the agreement between parties must be available to EPA and/or IDEQ upon request. The Permittee remains responsible for compliance with the permit obligations if the other entity fails to implement the SWMP control measure (or component thereof).

2.5.2 Maintain Adequate Legal Authority

The Permittee must maintain relevant regulatory mechanisms to control pollutant discharges into and from its MS4 and to comply with this Permit.

In the SWMP Document required by Part 2.5.3, the Permittee must summarize all of its legal authorities that address the six criteria listed below.

If existing regulatory mechanisms are insufficient to meet the criteria, the Permittee must adopt new regulatory mechanisms.

No later than **September 1, 2025**, and to the extent allowable pursuant to authority granted the Permittee under applicable Idaho state law, the Permittee must develop and/or update (as needed) other relevant regulatory mechanisms to:

- 2.5.2.1 Prohibit and eliminate, through statute, policy, permit, contract, court or administrative order, or other similar means, illicit discharges to the MS4;
- 2.5.2.2 Control, through statute, policy, permit, contract, court or administrative order, or other similar means, the discharge to the MS4 of spills, dumping or disposal of materials other than stormwater, pursuant to Part 3.2.3 (*Illicit Discharge Detection and Elimination –Regulatory Mechanism*);
- 2.5.2.3 Control the discharge of stormwater and pollutants from land disturbance and development, both during the construction phase and after site stabilization has been achieved, consistent with Parts 3.3 (*Construction Site Runoff Control Program*) and 3.4 (*Stormwater Management for Areas of New Development and Redevelopment*);
- 2.5.2.4 Control through interagency agreements as necessary or appropriate, the contribution of pollutants from one MS4 to another interconnected MS4;
- 2.5.2.5 Require compliance with conditions in permits, contracts, or orders; and
- 2.5.2.6 Carry out all inspection, surveillance, and monitoring procedures necessary to determine compliance and noncompliance with these Permit conditions, including the prohibition of illicit discharges to the MS4.

2.5.3 SWMP Document

The Permittee must maintain a written SWMP document, or documents, that describe in detail how the Permittee will comply with the required stormwater management (or SWMP) control measures in this Permit. As necessary the SWMP Document must be updated and must describe the Permittee's interim schedule(s) for implementation of any SWMP control measure components to be developed during the term of this Permit. The SWMP Document may be organized according to the outline provided in Appendix B.

No later than **May 3, 2022**, the Permittee's SWMP Document must be completed and made available through the website required in Part 3.1.8 (*Publicly Accessible Website*).

No later than **May 3, 2023**, the Permittee must update the SWMP Document to describe their intended implementation of relevant requirements specified in Part 4 including any associated interim implementation date(s). See Part 4 (*Special Conditions for Discharges to Impaired Waters*).

The Permittee must submit to EPA and IDEQ an updated SWMP Document with the Permit Renewal Application. See Part 8.2.1.

2.5.4 SWMP Information and Statistics

The Permittee must maintain a method of gathering, tracking, and using SWMP information to set priorities and assess Permit compliance. The Permittee must track activities and document program outcomes to illustrate progress on the respective SWMP control measure (e.g., the number of inspections, official enforcement actions, and/or types of public education actions, etc.), and cite relevant information and statistics, reflecting the specific reporting period, in each Annual Report.

2.5.5 SWMP Resources

The Permittee must provide adequate finances, staff, equipment and other support capabilities to implement the control measures and other requirements outlined in this Permit.

2.5.6 Transfer of Ownership, Operational Authority, or Responsibility for SWMP Implementation.

The Permittee must implement the required SWMP control measures of this Permit in all new areas added or transferred to the Permittee's MS4 (or for which a Permittee becomes responsible for implementation of SWMP control measures) as expeditiously as practicable, but not later than one (1) year from addition of the new areas. The Permittee must notify EPA and IDEQ in the next Annual Report of any additions or changes, and schedules for implementation in new areas, and must update their SWMP Document accordingly.

2.5.7 Best Management Practices (BMPs)¹

Best management practices (BMPs) must be designed, implemented, and maintained by the permittee to protect and maintain the existing beneficial uses and water quality necessary to protect the beneficial uses of waters of the United States (IDAPA 58.01.02.051; .052).

Idaho Department of Environmental Quality provides a catalog of stormwater best management practices, available at [www.idem.idaho.gov](#), which describes a variety of BMPs that can be used to control pollutant runoff into storm sewer systems. Other sources of information are also readily available and may be used for selecting appropriate BMPs.

2.6 Alternative Control Measure Requests

2.6.1 General Requirement

The Permittee may request that EPA and IDEQ consider any alternative documents, plans, or programs that the Permittee believes to be equivalent to a required SWMP control measure, or control measure component, specified in Part 3 or Part 4 of this Permit.

¹ This provision is a condition of the IDEQ's *Final §401 Water Quality Certification for the University of Idaho Municipal Separate Storm Sewer System; NPDES Permit # IDS028576*, dated January 25, 2021.

Alternative documents, plans, or programs must be submitted pursuant to Part 2.6.3 (*Content of ACM Request*) for EPA and IDEQ review and consideration no later than **March 1, 2023**.

2.6.2 Actions to Address Discharges to Impaired Waters

For the purposes of this Permit, an Alternative Control Measure (ACM) also includes the Permittee's specific actions to address discharges to impaired waters as specified in Part 4 (*Special Conditions for Discharges to Impaired Waters*).

The Permittee must submit at least one Monitoring/Assessment Plan to assess pollutant discharges from the MS4 into Paradise Creek as required by Part 4.2. The Permittee must submit a written description of at least two (2) Pollutant Reduction Activities to address expectations in the applicable Total Maximum Daily Load (TMDL) analyses identified in Part 4.3. These documents must be submitted pursuant to 2.6.3 for EPA review and consideration no later than **March 1, 2023**.

2.6.3 Content of Alternative Control Measure Request

In support of its ACM Request, the Permittee must submit a complete copy of the relevant alternative document, plan, or program, and include:

- 2.6.3.1 A detailed written discussion identifying the original required minimum SWMP control measure, or control measure component, that is addressed by the Permittee's submittal, and the reasons, rationale, citations, and/or references sufficient to demonstrate that the alternative document, plan, or program meets or exceeds the requirements of the original SWMP control measure, or control measure component, it is meant to replace;
- 2.6.3.2 A detailed schedule the Permittee intends to follow to enact the ACM in its jurisdiction prior to the expiration date of this Permit; and
- 2.6.3.3 A description of any local public notice or public engagement process, including relevant results of such public engagement, that the Permittee conducted regarding the ACM prior to submittal.

2.6.4 Recognition of Alternative Control Measures

Upon receipt of a Permittee's ACM Request and in consultation with IDEQ, EPA will assess if the document, plan, or program meets the requirements of this Permit to be deemed equivalent to the SWMP control measure or control measure component.

If EPA determines that the document, plan, or program meets the requirements of this Permit, EPA will modify this Permit to reference the ACM. When new, specific permit terms or conditions are warranted, EPA will notify the Permittee and the public of its intent to add such terms or conditions to this Permit. EPA will accept public comment for a minimum of 30 days on additional permit terms or conditions pursuant to 40 CFR §§ 122.62 and 124.

As specified in Part 8.1 (*Permit Actions*), a Permittee's ACM Request does not stay any permit condition and does not replace the required SWMP control measure or control measure component until EPA completes a permit revision procedure as outlined above. Upon completion of a permit revision, EPA will notify the Permittee, in writing, of its final decision to authorize the Permittee's ACM.

3 STORMWATER MANAGEMENT PROGRAM (SWMP) CONTROL MEASURES

3.1 Public Education and Outreach on Stormwater Impacts

The Permittee must conduct, or contract with other entities to conduct, an ongoing public education, outreach, and involvement program based on stormwater issues of significance in the Permittee's jurisdictions. When applicable, the Permittee must comply with State and local public notice requirements when conducting public involvement activities.

3.1.1 Compliance Dates

No later than **March 1, 2022**, the Permittee must begin implementation of the required SWMP control measure components described in Parts 3.1.2 through 3.1.8 below.

No later than **September 1, 2025**, the Permittee must fully implement all required components described in Parts 3.1.2 through 3.1.8 below.

- 3.1.1.1 If the Permittee seeks to comply with any SWMP control measure component, or combination of components, in this Part using one or more ACMs, the Permittee must submit a request in accordance with Part 2.6 (*Alternative Control Measure Requests*) no later than **March 1, 2023**.

3.1.2 Conduct a Public Education, Outreach and Involvement Program

The Permittee's public education and outreach program must include coordination and educational efforts targeting at least one of the four audiences listed in Part 3.1.4 below. The goal of the education and outreach program is to reduce the behaviors and practices that cause or contribute to adverse stormwater impacts on receiving waters by increasing audience understanding of actions they can take to prevent pollutants in stormwater runoff entering the MS4 and into local receiving waters.

The public involvement program must inform and engage interested stakeholders in the Permittee's development and implementation of the SWMP control measures, to the extent allowable pursuant to authority granted the individual Permittee under Idaho state law.

To be considered adequate, the Permittee's implementation of the public education, outreach and involvement program must include the activities in Parts 3.1.3 through 3.1.8 below.

3.1.3 Stormwater Education Activities

The Permittee must distribute and/or offer at least eight (8) educational messages or activities over the permit term to the selected audience(s) identified in Part 3.1.4 below.

Educational messages or activities may include printed materials such as brochures or newsletters; electronic materials such as websites; mass media such as newspaper articles or public service announcements; targeted workshops or other educational events; or other viable format. The Permittee may use existing materials if the materials convey the message the Permittee chooses to deliver. The Permittee may develop its own educational materials and means of delivering its message(s). Based on the target audience's demographic, the Permittee must consider delivering its selected messages and/or activities in an appropriate manner in language(s) other than English.

3.1.4 Target Audience(s) and Topics

The Permittee must, at a minimum, select at least one audience and focus its efforts on conveying relevant messages using one or more of the topics listed below for the selected

target audience. Topics listed are not exclusive, and the Permittee may focus its efforts on one or more audience(s) and topics most relevant to the community.

If the Permittee does not have legal authority over private property (i.e., a college, university, highway district, state department of transportation, school district, drainage district, and/or other public entity), the term “target audience” is clarified to mean any employees, consultants, students, clients, or members of the public for whom the Permittee provides its services.

3.1.4.1 General Public (including homeowners, homeowner’s associations, landscapers, and property managers)

- General impacts of stormwater flow into surface water, and appropriate actions to prevent adverse impacts;
- Impacts from impervious surfaces and appropriate techniques to avoid adverse impacts;
- Yard care techniques protective of water quality, such as composting;
- BMPs for proper use, application and storage of pesticides, herbicides, and fertilizers;
- Litter and trash control and recycling programs;
- BMPs for power washing, carpet cleaning and auto repair and maintenance;
- Low Impact Development/green infrastructure techniques, including site design, pervious paving, retention of mature trees/vegetation, landscaping and vegetative buffers;
- Appropriate maintenance of landscape features providing water quality benefits;
- Source control BMPs and environmental stewardship;
- Impacts of illicit discharges and how to report them;
- Actions and opportunities for pet waste control/disposal,
- Water wise landscaping, water conservation, water efficiency.

3.1.4.2 Business/Industrial/Commercial/Institutions (including home based and mobile businesses)

- General impacts of stormwater flow into surface water, and appropriate actions to prevent adverse impacts;
- Impacts from impervious surfaces and appropriate techniques to avoid adverse impacts;
- BMPs for use and storage of automotive chemicals, hazardous cleaning supplies, vehicle wash soaps and other hazardous materials;
- BMPs for power washing, carpet cleaning and auto repair and maintenance;
- BMPs for proper use, application and storage of pesticides, herbicides, and fertilizers;
- Low Impact Development/green infrastructure techniques, including site design, pervious paving, retention of mature trees/vegetation, landscaping and vegetative buffers;
- Appropriate maintenance of landscape features providing water quality benefits;
- Impacts of illicit discharges and how to report them;
- Litter and trash control and recycling programs

- Water wise landscaping, water conservation, water efficiency.

3.1.4.3 Construction/Development (e.g., Engineers, Contractors, Developers, Landscape Architects, Site Design Professionals)

- General impacts of stormwater flow into surface water, and appropriate actions to prevent adverse impacts;
- Impacts from impervious surfaces and appropriate techniques to avoid adverse impacts;
- Stormwater treatment and volume control practices;
- Technical standards for stormwater site plans; including appropriate selection, installation, and use of required construction site control measures
- Low Impact Development/green infrastructure techniques, including site design, pervious paving, retention of mature trees/vegetation, landscaping and vegetative buffers;
- Appropriate maintenance of landscape features providing water quality benefits;
- Water wise landscaping, water conservation, water efficiency.

3.1.4.4 Elected Officials, Land Use Policy and Planning Staff

- General impacts of stormwater flow into surface water, and appropriate actions to prevent adverse impacts;
- Impacts from impervious surfaces and appropriate techniques to avoid adverse impacts;
- Low Impact Development/green infrastructure techniques, including site design, pervious paving, retention of mature trees/vegetation, landscaping and vegetative buffers.

3.1.5 Assessment

The Permittee must begin to assess, or participate in one or more efforts to assess, the understanding of the relevant messages and adoption of appropriate behaviors by their target audience(s). The resulting assessments must be used to direct future stormwater education and outreach resources most effectively. Information summarizing the Permittee's incremental assessment of any specific education, outreach and/or public involvement activities conducted over the relevant reporting period must be included in each Annual Report.

3.1.6 Tracking

The Permittee must track and maintain records of their public education, outreach and involvement activities and include descriptive summary of their activities in the corresponding Annual Report.

3.1.7 Education on SWMP Control Measures

For each SWMP control measure listed below, the Permittee must provide educational opportunities and materials for appropriate audiences in their jurisdiction.

- #### 3.1.7.1 Outreach/Training on Construction Site Control Measures:
- At least twice during the Permit term, the Permittee must provide educational materials for construction operators working in their jurisdiction pertaining to the Permittee's requirements for appropriate selection, design, installation, use, and

maintenance of required construction site controls imposed by the Permittee as described in Part 3.3.3.

- 3.1.7.2 **Outreach/Training on Permanent Stormwater Controls:** At least twice during the Permit term, the Permittee must provide opportunity and/or conduct training sufficient to educate and ensure that engineers, site designers, and/or other locally appropriate audiences working in their jurisdiction are aware and informed of appropriate selection, design, installation, use, and maintenance of permanent stormwater controls imposed by the Permittee as described in Part 3.4.3.

3.1.8 Publicly Accessible Website

The Permittee must maintain and promote at least one publicly-accessible website with information on the Permittee's SWMP implementation, points of contact, and educational materials for audience(s) listed in Part 3.1.4. The website must be updated at least annually prior to the submittal of Annual Reports to EPA, and/or as new material is available. The Permittee's website must incorporate the following minimum features:

- 3.1.8.1 **Phone numbers, and/or other direction** to assist the public to report illicit discharges, illicit connections, and illegal dumping activity;
- 3.1.8.2 **Reports, plans, strategies, or documents** generated by the Permittee in compliance with this Permit, in draft form when the Permittee is soliciting input from the public, and in final form when the document is completed;
- 3.1.8.3 **Information regarding policies and/or guidance** documents related to the Permittee's requirements for construction and permanent stormwater management control, including education opportunities, training, licensing, and/or permitting process for the Permittee's jurisdiction; and
- 3.1.8.4 **Permittee contact information**, including phone numbers for relevant staff, mailing addresses, and electronic mail addresses.

3.2 Illicit Discharge Detection and Elimination

The Permittee must implement and enforce a program to detect and eliminate illicit discharges into the MS4, to the extent allowable pursuant to authority granted the individual Permittee under Idaho state law.

An illicit discharge is any discharge to an MS4 that is not composed entirely of stormwater. Any exceptions are conditional as identified in Part 2.4 (*Non-stormwater Discharges*).

3.2.1 Compliance Dates

No later than **September 1, 2025**, the Permittee must revise and update their existing illicit discharge management program as necessary to include the required components described in Parts 3.2.2 through 3.2.9 below.

- 3.2.1.1 If the Permittee seeks to comply with any SWMP control measure components, or combination of components, in this Part using one or more ACMs, the Permittee must submit a request in accordance with Part 2.6 (*Alternative Control Measure Requests*) no later than **March 1, 2023**.

3.2.2 MS4 Map and Outfall Inventory

The Permittee must update, or develop if not already completed, a map of their MS4 and all associated outfall locations under its operational control within the Permit Area.

The Permittee must maintain an outfall and interconnection inventory to accompany the MS4 map(s). The purpose of the inventory is to identify each outfall and interconnection discharging from the Permittee's MS4; record its location (by latitude and longitude) and overall physical condition; and provide a framework for the Permittee to track its outfall inspections, dry weather discharge screenings, maintenance, and other activities required by this Permit.

The Permittee may integrate these efforts into any existing asset management program, provided the Permittee explains its management approach in the SWMP Document required by Part 2.5.3.

No later than **September 1, 2025**, an electronic GIS version of the MS4 map, and the accompanying Outfall Inventory, must be submitted to EPA and IDEQ as part of the Permit Renewal Application required by Part 8.2. Prior to this date, all available GIS data layers must be shared with EPA and/or IDEQ upon request.

To be considered adequate, the MS4 Map and Outfall Inventory must depict and/or contain the following information:

- 3.2.2.1 Location of all inlets, catch basins, and outfalls owned/operated by the Permittee, including a unique identifier for each outfall, spatial location (latitude

and longitude, with a minimum accuracy of +/-30 feet), and general information regarding dimensions, shape, material (concrete, polyvinyl chloride, etc.);

- 3.2.2.2 Location of all MS4 collection system pipes, open channel conveyances, (laterals, mains, etc.) owned/operated by the Permittee, including locations where the MS4 is physically interconnected to the MS4 of another operator;
- 3.2.2.3 Location of structural flood control devices, if different from the characteristics listed above;
- 3.2.2.4 Waterbody Assessment Unit names and locations of waters of the U.S. that receive discharges from the inventoried MS4 outfalls, including an indication of all use impairments as identified by IDEQ in the most recent Integrated Report;
- 3.2.2.5 Location of all existing permanent stormwater controls which are part of the MS4 owned and/or operated by the Permittee, including structural or treatment controls (e.g., detention and retention basins, infiltration systems, bioretention areas, swales, oil/water separators and/or other proprietary systems);
- 3.2.2.6 Location and characteristics of any MS4 outfalls with ongoing dry weather flows identified by the Permittee as being caused by irrigation return flows and/or groundwater seepage; and
- 3.2.2.7 Location of Permittee-owned vehicle maintenance facilities, material storage facilities, heavy equipment storage areas, maintenance yards, and snow disposal sites; Permittee-owned or operated parking lots and roads in areas served by the MS4.

3.2.3 Regulatory Mechanism

The Permittee must prohibit non-stormwater discharges into the MS4 (except those conditionally allowed by Part 2.4) through enforcement of a regulatory mechanism to the extent allowable under Idaho state law. The Permittee must implement appropriate enforcement procedures and actions, including a written policy of enforcement escalation procedures for recalcitrant or repeat offenders, to ensure compliance.

To be considered adequate, the regulatory mechanism must:

- 3.2.3.1 Authorize the Permittee to control and respond to the discharge of spills into the MS4 to the extent allowable pursuant to authority granted the individual Permittee under Idaho state law;
- 3.2.3.2 Authorize the Permittee to prohibit illicit connections, and the dumping or disposal of materials other than stormwater, into the MS4; and
- 3.2.3.3 Authorize the Permittee to prohibit, and eliminate, at a minimum, the following discharges to the MS4 to the extent allowable pursuant to authority granted the individual Permittee under Idaho state law:
 - Sewage;
 - Discharges of wash water resulting from the hosing or cleaning of gas stations, auto repair garages, or other types of automotive services facilities;
 - Discharges resulting from the cleaning, repair, or maintenance of any type of equipment, machinery, or facility, including motor vehicles, cement-related equipment, and port-a-potty servicing, etc.;
 - Discharges of wash water from mobile operations, such as mobile automobile or truck washing, steam cleaning, power washing, and carpet cleaning, etc.;

- Discharges of wash water from the cleaning or hosing of impervious surfaces in municipal, industrial, commercial, and residential areas - including parking lots, streets, sidewalks, driveways, patios, plazas, work yards and outdoor eating or drinking areas, etc., where detergents are used and spills or leaks of toxic or hazardous materials have occurred (unless all spilled material has been removed);
- Discharges of runoff from material storage areas containing chemicals, fuels, grease, oil, or other hazardous materials;
- Discharges of pool or fountain water containing chlorine, biocides, or other chemicals; discharges of pool or fountain filter backwash water;
- Discharges of sediment, pet waste, vegetation clippings, or other landscape or construction-related wastes; and
- Discharges of food-related wastes (grease, fish processing, and restaurant kitchen mat and trash bin wash water, etc.).

3.2.4 Illicit Discharge Complaint Report and Response Program

At a minimum, the Permittee must respond in the following manner to reports of illicit discharges from the public:

- 3.2.4.1 **Receipt of Complaints or Reports from the Public:** The Permittee must maintain a dedicated telephone number, email address, and/or other publicly available and accessible means (in addition to the website required in Part 3.1.8) for the public to report illicit discharges. This complaint/reporting function must be answered by trained staff during normal business hours. During non-business hours, a system must be in place to record incoming calls or reports, and to guarantee timely response by the Permittee. The Permittee's means of receiving complaints/reports from the public must be printed and/or advertised through the appropriate education, training, and public participation materials produced under Part 3.1 (*Public Education, Outreach and Involvement*).
- 3.2.4.2 **Response to Complaints or Reports from the Public:** The Permittee must respond to and investigate all complaints or reports of illicit discharges as soon as possible, but no later than within two (2) working days.
- 3.2.4.3 **Tracking of Complaints or Reports and Actions Taken:** The Permittee must maintain a log or other means of documenting all complaints or reports of illicit discharges into the MS4, and the response or action taken by the Permittee to address the complaint or report. Such program information must be summarized for the relevant reporting period and included in each Annual Report.

3.2.5 Dry Weather Outfall Screening Program

The Permittee must conduct a dry weather analytical and field screening monitoring program to identify non-stormwater flows from MS4 outfalls during dry weather. This program must emphasize screening activities to detect and identify illicit discharges and illegal connections, and to reinvestigate potentially problematic MS4 outfalls throughout the Permit Area defined in Part 1.1. At a minimum, this program must include the following SWMP control measure components:

- 3.2.5.1 **Outfall Identification and Screening Protocols:** The Permittee must use reconnaissance activities, information recorded through the complaint reporting program, and (if available) existing watershed assessment or Total Maximum

Daily Load (TMDL) analyses, to prioritize and target outfalls for screening throughout their Permit Area defined in Part 1.1.

The Permittee must develop a written plan that outlines how chemical and microbiological field screening analysis will be conducted on the dry weather flows identified during the reconnaissance and screening efforts, including field screening methodologies and associated trigger thresholds used by the Permittee for determining follow-up action(s).

- 3.2.5.2 **Number of Outfalls to be Screened:** The Permittee must conduct visual dry weather screening of their MS4 outfalls, emphasizing those outfalls or portions of the MS4 that have not yet been inventoried or screened during the previous permit term.

Photos may be used to document and record the physical conditions associated with selected MS4 outfalls. If the individual MS4 outfall is dry (no flows or ponded runoff), the Permittee must also document and record such observations.

If the total number of MS4 outfalls in the Permit Area defined in Part 1.1 is less than 50, the Permittee must screen all outfalls at least annually.

If the total number of MS4 outfalls in the Permit Area defined in Part 1.1 is more than 50, the Permittee must screen a minimum of 50 outfalls annually.

- 3.2.5.3 **Monitoring of Illicit Discharges:** Where dry weather flows from the MS4 are identified by the Permittee, the Permittee must identify the source of such flows, and take appropriate action to eliminate the flows to the extent allowable pursuant to authority granted the Permittee under Idaho state law. At a minimum, the Permittee must conduct sampling of dry weather flows via grab samples of the discharge for in-field analysis and identification and may elect to use the following as indicator constituents: pH; total chlorine; detergents as surfactants; total phenols; *E. coli*; total phosphorus; turbidity; temperature; and suspended solids concentrations. Results of any field sampling must be compared to established trigger threshold levels and/or existing state water quality standards to direct appropriate follow-up actions by the Permittee in accordance with existing protocols and the regulatory mechanism established by the Permittee.

- 3.2.5.4 **Maintain Records of Dry Weather Outfall Screening Program:** In each Annual Report, the Permittee must include a general summary of the results of dry weather screening program activities conducted over the preceding reporting period.

The Permittee must keep detailed records of its dry weather screening program activities conducted throughout the permit term, including the following information for each location:

- Time since last rain event; estimated quantity of last rain event;
- Site description (e.g., conveyance type, adjacent land uses); flow estimation (e.g., width of water surface, approximate depth of water, approximate flow velocity, flow rate);
- Visual observations (e.g., odor, color, clarity, floatables, deposits/stains, vegetation condition, structural condition, and biology);

- Results and documentation of any in-field sampling; recommendations for follow-up actions to address identified problems to the extent allowable pursuant to authority granted the individual Permittee under Idaho state law; and/or completed follow-up actions taken by the Permittee.

3.2.6 Follow-up

Within thirty (30) days of its detection, the Permittee must investigate recurring illicit discharges identified as a result of complaints or identified as a result of the dry weather screening investigations and sampling, to determine the source of such discharge.

The Permittee must take appropriate action to address and eliminate the source of an ongoing illicit discharge within sixty (60) days of its detection, to the extent allowable to the Permittee under Idaho state law.

3.2.6.1 For each MS4 outfall where the ongoing dry weather discharge is identified by the Permittee as being associated with irrigation return flows and/or groundwater seepage, “*appropriate action*” means, at a minimum, the Permittee must document in the next Annual Report the MS4 outfall location, and the facts supporting the Permittee’s determination that the source is from either irrigation return flows or groundwater seepage. See also Permit Part 3.2.2.6.

3.2.6.2 As part of the Permit Renewal Application required by Part 8.2, the Permittee must include the complete list of all Permittee-identified MS4 outfall locations with ongoing dry weather flows associated with irrigation return flows and/or groundwater seepage.

3.2.7 Prevention and Response to Spills to the MS4

The Permittee must maintain written spill response procedures, and must coordinate their own spill prevention, containment, and response activities with the appropriate departments, programs, and agencies in the Permit Area to prevent spill related discharges from the MS4 to waters of the U.S. The Permittee must respond to, contain, and clean up any spill of sewage and other material that may discharge into the MS4 from any source (including private laterals and/or failing septic systems) in the Permit Area to the extent allowable pursuant to authority granted the individual Permittee under Idaho state law.

3.2.7.1 The Permittee must immediately report all spills of hazardous material, deleterious material, or petroleum products which may impact waters (ground and surface) of the State, as directed in Part 7.9 (*Twenty-Four Hour Notice of Noncompliance Reporting*) and Appendix A.2 (*Reporting of Discharges Containing Hazardous Materials or Deleterious Material*).²

3.2.8 Proper Disposal of Used Oil and Toxic Materials

The Permittee must coordinate with appropriate local entities to educate the Permittee’s employees and members of the public of the proper management, disposal, or recycling of used oil, vehicle fluids, toxic materials, and other household hazardous wastes in the Permittee’s jurisdiction.

² Part 3.2.7.1 is related to a condition of the IDEQ’s *Final §401 Water Quality Certification for the University of Idaho Municipal Separate Storm Sewer System; NPDES Permit # IDS028576*, dated January 25, 2021. See also Appendix A.2.

3.2.9 Illicit Discharge Detection and Elimination Training for Staff

The Permittee must ensure that all persons responsible for investigating, identifying and eliminating illicit discharges and illicit connections into the MS4 are appropriately trained to conduct such activities. At a minimum, the Permittee's construction inspectors, maintenance field staff, and code compliance officers must be sufficiently trained to conduct dry weather screening activities and to respond to reports of illicit discharges and spills into the MS4.

The Permittee must provide orientation and training for new staff working on illicit discharge detection and elimination issues in the first six (6) months of employment.

If the Permittee utilizes outside parties to perform illicit discharge detection and elimination actions, outside staff must be appropriately trained to conduct such activities.

This training may be coordinated/combined with other Permittee staff education and training requirements in Parts 3.3.7 (*Construction Runoff Control Training for Staff*), 3.4.7 (*Permanent Stormwater Control Training for Staff*); and 3.5.10 (*Stormwater Pollution Prevention/Good Housekeeping Training for Staff*).

3.3 Construction Site Stormwater Runoff Control

3.3.1 Compliance Dates

No later than **September 1, 2025**, the Permittee must update its existing construction site stormwater runoff control requirements to enact SWMP control measure components in Parts 3.3.2 through 3.3.7 below.

- 3.3.1.1 If the Permittee seeks to comply with any SWMP control measure component, or combination of components, in this Part using one or more ACMS, the Permittee must submit a request in accordance with Part 2.6 (*Alternative Control Measure Requests*) no later than **March 1, 2023**.

3.3.2 Regulatory Mechanism

Through a regulatory mechanism to the extent allowable under Idaho state law, the Permittee must require erosion controls, sediment controls, and waste materials management controls to be used and maintained at construction projects from initial clearing through final stabilization.

To be considered adequate, the Permittee's regulatory mechanism must require construction site operators to maintain effective controls to reduce pollutants in stormwater discharges to the MS4 from sites in the Permittee's jurisdiction, as described in Part 3.3.3. The Permittee must require construction site operators to submit construction site plans for projects disturbing one or more acres for Permittee review, as described in Part 3.3.4. The Permittee must use inspections and enforcement actions (for example, written warnings, stop work orders and/or fines) to ensure compliance, as described in Part 3.3.5 below, and must maintain a written enforcement response policy, as described in Part 3.3.6.

- 3.3.2.1 **Compliance with Other NPDES Permit Requirements:** For construction projects in the Permittee's jurisdiction that disturb one or more acres (including projects that disturb less than one acre but are part of a common plan of development or sale that disturb one or more acres), the Permittee must refer project site operators to obtain NPDES permit coverage under the current version of the Idaho CGP. See also Part 2.3 (*Stormwater Discharges Associated with Industrial or Construction Activity*).

3.3.3 Construction Site Runoff Control Specifications

The Permittee must require construction site operators to use erosion, sediment, and waste material management controls at construction project sites that result in land disturbance of greater than or equal to one (1) acre, including construction project sites less than one acre that are part of a larger common plan of development or sale that would disturb one acre or more. The Permittee may define appropriate controls for different types and/or sizes of construction activity occurring in their jurisdiction.

The Permittee must maintain written specifications that address the proper installation and maintenance of such controls during all phases of construction activity occurring in their jurisdiction. The Permittee may adopt specifications created by another entity which complies with this Part. Construction site runoff control specifications must consist of:

- 3.3.3.1 Requirements for use of erosion control, sediment control, and waste materials management/pollution prevention practices that complement, and do not conflict with, the current version of the Idaho CGP;
- 3.3.3.2 Sizing criteria, performance criteria, illustrations, and design examples, as well as recommended operation and maintenance of each practice and guidance on selection and location of construction site runoff control practices; and
- 3.3.3.3 Specifications for long term operation and maintenance of such construction site runoff control practices to ensure that the control practices continue to perform as designed, including appropriate inspection interval and self-inspection checklists for use by the responsible party/construction site operator.

3.3.4 Preconstruction Site Plan Review

At a minimum, the Permittee must review preconstruction site plans from construction project site activity that will result in land disturbance of one (1) or more acres, including construction project site activity less than one acre that is part of a larger common plan of development or sale that would disturb one acre or more, using a checklist or similar process to determine compliance with the regulatory mechanism required by Part 3.3.2.

The Permittee must use individuals knowledgeable in the technical understanding of erosion, sediment, and waste material management controls to conduct such preconstruction site plan reviews.

Site plan review procedures must include consideration of the site's potential water quality impacts and must demonstrate compliance with the regulatory mechanism required by Part 3.3.2.

The Permittee must ensure that any preconstruction site plan contains site-specific measures that meet the Permittee's runoff control specifications as outlined in Part 3.3.3 above and includes any permanent stormwater management controls as outlined in Part 3.4.3 (*Permanent Stormwater Control Specifications*).

3.3.5 Construction Site Inspection and Enforcement

At a minimum, the Permittee must inspect construction sites in their jurisdiction that disturb one (1) or more acres, including construction project site activity less than one (1) acre that is part of a larger common plan of development or sale that disturbs one (1) or more acres, to ensure compliance with the Permittee's applicable requirements identified in this Part.

The Permittee must establish an inspection prioritization system to identify the minimum frequency and type of inspections, using such factors as project type, total area of disturbance, location, and potential threat to water quality. The Permittee must describe its construction site inspection prioritization system in the SWMP Document required by Part 2.5.3. In each Annual Report, the Permittee must summarize the nature and number of site inspections, follow-up actions, and any subsequent enforcement actions conducted during the relevant reporting period.

The Permittee must implement procedures for receipt and consideration of information submitted by the public.

Based on the findings of individual site inspections, the Permittee must take follow-up actions (i.e., re-inspection, enforcement) to ensure compliance with its applicable requirements.

Construction site inspections conducted by the Permittee, or its designated representative, must include, but not be limited to:

- 3.3.5.1 A review of the site plan to determine if the intended control measures were installed, implemented, and maintained;
- 3.3.5.2 An assessment of the site's compliance with the Permittee's requirements, including the implementation and maintenance of required control measures;
- 3.3.5.3 Visual observation of any existing or potential non-stormwater discharges, illicit connections, and/or discharge of pollutants from the site, and recommendations to the site operator for follow-up if needed;
- 3.3.5.4 Education or instruction to the construction site operator related to additional stormwater pollution prevention practices, if needed; and
- 3.3.5.5 A written or electronic inspection report.

3.3.6 **Enforcement Response Policy for Construction Site Runoff Control**

The Permittee must develop, implement and maintain a written escalating enforcement response policy (ERP) or plan appropriate to its organization. The Permittee must submit the ERP for construction site runoff control to EPA and IDEQ with the Permit Renewal Application no later than **September 1, 2025**.

- 3.3.6.1 The ERP must address enforcement of construction site runoff controls for all construction projects in their jurisdiction, to the extent allowable under Idaho state law.
- 3.3.6.2 The ERP must describe the Permittee's potential response to violations with appropriate educational or enforcement responses. The ERP must address repeat violations through progressively stricter responses, as needed, to achieve compliance. The ERP must describe how the Permittee will use their available techniques to ensure compliance, such as: verbal warnings; written notices; escalated enforcement measures such as stop work orders, monetary penalties; and/or other escalating measures to the extent allowable under Idaho state law.

3.3.7 **Construction Runoff Control Training for Staff**

The Permittee must ensure that all persons responsible for preconstruction site plan review, site inspections, and enforcement of the Permittee's requirements are trained or otherwise qualified to conduct such activities.

The Permittee must provide training for new staff working on construction runoff control issues in the first six (6) months of employment.

If the Permittee utilizes outside parties to review plans and/or conduct inspections, outside staff must be trained or otherwise qualified to conduct such activities.

This training may be coordinated/combined with other Permittee staff education and training requirements in Parts 3.2.9 (*Illicit Discharge Detection and Elimination Training for Staff*); 3.4.7 (*Permanent Stormwater Control Training for Staff*); and 3.5.10 (*Stormwater Pollution Prevention/Good Housekeeping Training for Staff*).

3.4 Post-Construction Stormwater Management for New Development and Redevelopment

3.4.1 Compliance Dates

No later than **September 1, 2025**, the Permittee must update their existing controls to impose the required SWMP control measure components in Parts 3.4.2 through 3.4.7 below.

- 3.4.1.1 If the Permittee seeks to comply with any SWMP control measure component, or combination of components, in this Part using one or more ACMs, the Permittee must submit a request in accordance with Part 2.6 (*Alternative Control Measure Requests*) no later than **March 1, 2023**.

3.4.2 Regulatory Mechanism

Through a regulatory mechanism allowable under Idaho state law, the Permittee must require the installation and long-term maintenance of permanent stormwater controls at new development and redevelopment project sites in its jurisdiction that result in land disturbance of greater than or equal to one (1) acre (including construction project sites less than one acre that are part of a larger common plan of development or sale that would disturb one acre or more) and that discharge into the MS4.

Required permanent stormwater controls must be sufficient to retain onsite the runoff volume produced from a 24-hour, 95th percentile storm event; or sufficient to provide the level of pollutant removal greater than pollutant removal expected by using onsite retention of runoff volume produced from a 24-hour, 95th percentile storm event.

- 3.4.2.1 **Treatment equivalent to the onsite stormwater design standard:** Using a continuous simulation hydrologic model or other comparable evaluation tool, the Permittee may establish stormwater treatment requirements which attain an equal or greater level of water quality benefits as onsite retention of stormwater discharges from new development and redevelopment sites. Such equivalent expressions of the onsite retention of the 95th percentile storm volume must be submitted to EPA as an ACM Request pursuant to Part 2.6.
- 3.4.2.2 **Alternatives for Local Compliance.** The Permittee's regulatory mechanism may allow alternatives for project operators to comply with the Permittee's onsite retention requirement at a particular site based on factors of technical infeasibility, and/or site constraints. Such feasibility or constraint factors may include but are not limited to: shallow bedrock; high groundwater; groundwater contamination; soil instability as documented by a thorough geotechnical analysis; site/engineering-based conditions such as soils that do not allow for infiltration of the required volume of storm water runoff; and/or a land use that is inconsistent with capture, reuse and/or infiltration of stormwater.
- 3.4.2.3 **Plan Review and Approval:** The regulatory mechanism must include procedures for the Permittee's review and approval of permanent stormwater control plans for new development and redevelopment projects, consistent with Parts 3.3.4 (*Preconstruction Site Plan Review and Approval*) and 3.4.4 (*Permanent Controls Plan Review and Approval*).

3.4.3 Permanent Stormwater Controls Specifications

The Permittee must specify permanent stormwater controls for project sites in their jurisdiction to install for sites that result in land disturbance of greater than or equal to one (1) acre (including construction project sites less than one acre that are part of a larger

common plan of development or sale that would disturb one acre or more) and that discharge into the MS4. The Permittee may define appropriate controls for different types and/or sizes of site development activity occurring in their jurisdiction.

The Permittee must develop, or update as necessary, any written specifications to address proper design, installation, and maintenance of required permanent stormwater controls. A Permittee may adopt specifications created by another entity that complies with this Part.

The written specifications must include:

- 3.4.3.1 **Specifications** for the use of site-based practices suitable to local soils and hydrologic conditions;
- 3.4.3.2 **Acceptable control practices**, including sizing criteria, performance criteria, illustrations, design examples, and guidance on selection and location of practices; and
- 3.4.3.3 **Specifications for proper long-term operation and maintenance**, including appropriate inspection interval and self-inspection checklists for responsible parties.

3.4.4 **Permanent Stormwater Controls Plan Review and Approval**

At a minimum, the Permittee must review and approve preconstruction plans for permanent stormwater controls at new development and redevelopment sites that result in land disturbance of greater than or equal to one (1) acre (including construction project sites less than one acre that are part of a larger common plan of development or sale that would disturb one acre or more) and that discharge into the MS4. The Permittee must review plans for consistency with the regulatory mechanism and specifications required by this Part. The Permittee must not approve or recommend for approval any plans for permanent controls that do not meet minimum requirements specified in their written specifications.

The Permittee must use individuals knowledgeable in the technical understanding of permanent stormwater controls to conduct such plan reviews.

3.4.5 **Permanent Stormwater Controls Inspection and Enforcement**

The Permittee must inspect high priority permanent stormwater controls at new development and redevelopment sites that result in land disturbance of greater than or equal to one (1) acre (including construction project sites less than one acre that are part of a larger common plan of development or sale that would disturb one acre or more) and that discharge into the MS4. The purpose of such inspections is to ensure proper installation, and long-term operation and maintenance, of such controls.

The Permittee must establish an inspection prioritization system to identify sites for inspections of permanent control installation and operation. Factors to consider when establishing priority regarding where, and when, inspections occur must include, but are not limited to: size of new development or redevelopment drainage area; potential to discharge to portions of the MS4 discharging to impaired waters; sensitivity, and/or impairment status of receiving water(s); and history of non-compliance at the site during the construction phase.

- 3.4.5.1 **Inspect High Priority Locations:** At a minimum, the Permittee must identify permanent stormwater controls at new development and redevelopment sites that result from land disturbance of at least one (1) or more acres as “high priority”, and schedule associated inspections to occur at least once annually. The inspections must determine whether permanent stormwater management

or treatment practices have been properly installed (i.e., an “as built” verification). At appropriate intervals determined by the Permittee and established in compliance with Part 3.4.6 below, scheduled inspections must evaluate the ongoing operation and maintenance of such practices, identify deficiencies, and identify potential solutions to reduce negative water quality impacts to receiving waters. The Permittee must use inspection checklists and maintain records of actions taken in response to inspections of permanent stormwater controls at high priority new development and redevelopment sites.

- 3.4.5.2 **Enforce Requirements:** The Permittee must develop and implement an enforcement response policy similar to that required in Part 3.3.6 (*Enforcement Response Policy for Construction Site Runoff Control*) sufficient to ensure and maintain the functional integrity of permanent stormwater controls in their jurisdiction. The Permittee must submit the ERP for permanent stormwater controls to EPA and IDEQ with the Permit Renewal Application no later than **September 1, 2025**.

3.4.6 Operation and Maintenance (O&M) of Permanent Stormwater Controls

The Permittee must maintain a database inventory to track and manage the operational condition of permanent stormwater controls in its jurisdiction. All available data on existing permanent controls known to the Permittee must be included in the database inventory. At a minimum, the Permittee must begin tracking at the time the Permittee takes ownership, using a database that incorporates geographic information system (GIS) information and/or developed in conjunction with the MS4 Map required in Part 3.2.2 (*MS4 Map and Outfall Inventory*). The tracking system must also include reference to the type and number of permanent stormwater controls; O&M requirements; activity and schedule; responsible party; and any applicable self-inspection schedule.

- 3.4.6.1 **O&M Agreements:** Where parties other than the Permittee are responsible for the O&M of permanent stormwater controls, the Permittee should require a legally enforceable and transferable O&M agreement with the responsible party, or other mechanism, that assigns permanent responsibility for maintenance of such permanent stormwater control practices.

3.4.7 Permanent Stormwater Controls Training for Staff

The Permittee must ensure that all persons responsible for reviewing site plans for permanent stormwater controls, and/or for inspecting the installation and operation of permanent stormwater controls, are trained or otherwise qualified to conduct such activities.

The Permittee must provide training for new staff working on permanent stormwater control issues in the first six (6) months of employment.

If the Permittee utilizes outside parties to review plans and/or conduct inspections, outside staff must be trained or otherwise qualified to conduct such activities.

This training may be coordinated/combined with other Permittee staff education and training requirements in Parts 3.2.9 (*Illicit Discharge Detection and Elimination Training for Staff*); 3.3.7 (*Construction Runoff Control Training for Staff*); and 3.5.10 (*Stormwater Pollution Prevention/Good Housekeeping Training for Staff*).

3.5 Pollution Prevention/Good Housekeeping for MS4 Operations

The Permittee must properly operate and maintain the MS4 and its facilities, using prudent pollution prevention and good housekeeping as required by this Part, to reduce the discharge of pollutants through the MS4.

3.5.1 Compliance Dates

No later than **September 1, 2025**, the Permittee must ensure that their stormwater infrastructure and management program includes the required SWMP control measure components described in Parts 3.5.2 through 3.5.10 below.

- 3.5.1.1 If the Permittee seeks to comply with any SWMP control measure component, or combination of components, in this Part using one or more ACMs, the Permittee must submit a request in accordance with Part 2.6 (*Alternative Control Measure Requests*) no later than **March 1, 2023**.

3.5.2 Inspection and Cleaning of Catch Basins and Inlets

The Permittee must inspect all Permittee-owned or operated catch basins and inlets in the MS4 at least once every five years and take all appropriate maintenance or cleaning action based on those inspections to ensure the catch basins and inlets continue to function as designed.

The Permittee may establish a catch basin inspection prioritization system, and establish alternate inspection frequency, provided the Permittee describes all relevant factors used to target such inspections to specific areas of the MS4 in the SWMP Document required by Part 2.5.3. Material removed from MS4 catch basins and inlets must be managed in accordance with Part 7.13 (*Removed Substances*). Records reflecting catch basin and inlet inspection, and material removal/cleaning, must be maintained by the Permittee, and the actions taken during the latest reporting period must be summarized in each Annual Report.

3.5.3 Operation and Maintenance Procedures for Streets, Roads, Highways and Parking Lots

Where the Permittee is responsible for the O&M of streets, roads, highways, and/or parking lots, the Permittee must ensure those procedures are conducted in a manner to protect water quality and reduce the discharge of pollutants through the MS4.

- 3.5.3.1 At a minimum, O&M procedures must include: practices to reduce road and parking lot debris/pollutants from entering the MS4; practices related to road deicing, anti-icing, and snow removal; operation of snow disposal areas; storage areas for street/road traction material (e.g. salt, sand, or other chemicals); and the long-term O&M of permanent stormwater control measures associated with the Permittee's streets, roads, highways, and parking lots.
- 3.5.3.2 For each type of maintenance activity, practice, or facility, the Permittee must establish specific schedules for inspection and maintenance, and appropriate pollution prevention/good housekeeping actions.
- 3.5.3.3 Where site conditions allow, the Permittee must consider and utilize water conservation measures for all landscaped areas as part of these updated O&M procedures to prevent landscape irrigation water from discharging through the MS4.

3.5.4 Inventory and Management of Street/Road Maintenance Materials

Where the Permittee is responsible for the O&M of streets, roads, highways, and/or parking

lots, the Permittee must reduce pollutants in discharges to the MS4 and waters of the U.S. from street/road maintenance material storage stockpiles (such as sand, salt, and/or sand with salt stockpiles).

The Permittee must maintain an inventory of street /road maintenance materials stored at locations within the Permit Area that drain to the MS4. The Permittee must assess the physical adequacy of each Material Storage Location to prevent potential adverse water quality impacts and must make any structural or nonstructural improvements as necessary to eliminate any such impacts.

No later than **September 1, 2025**, the Permittee must include in the SWMP Document a complete description of all Material Storage Locations in the Permit Area that drain to the MS4. The description of each Material Storage Location must, at a minimum, include a narrative of the individual location, an estimated average annual quantity of materials stored at the location; a short description of how/where the Permittee typically uses the material(s) in its jurisdiction; and a summary description of any structural or non-structural controls used by the Permittee to prevent pollutants at material storage locations from discharging to the MS4 and to waters of the U.S.

3.5.5 Street, Road, Highway, and Parking Lot Sweeping

Where the Permittee is responsible for the O&M of streets, roads, highways, and/or parking lots, the Permittee must sweep those areas that discharge to the MS4 at least once annually.

No later than **September 1, 2025**, the Permittee must include in the SWMP Document a written description of its sweeping management plan. The sweeping management plan must include:

- 3.5.5.1 An inventory and/or map of all streets, roads, highways and public parking lots owned, operated, or maintained by the Permittee in the Permit Area that discharge to the MS4 or directly to waters of the U.S., and identify their selected sweeping frequency;
- 3.5.5.2 A discussion of any areas where sweeping is technically infeasible; for such areas, the Permittee must document the reasons why sweeping in the particular area of their jurisdiction served by the MS4 is infeasible, and describe any alternative means the Permittee uses to minimize pollutant discharges from these areas into the MS4 and into any adjacent waters of the U.S.;
- 3.5.5.3 An overall description of their street sweeping activities to minimize pollutant discharges into the MS4 and receiving water; including the types of sweepers used, number of swept curb and/or lane miles; general schedule or dates of sweeping by location and frequency category; volume or weight of materials removed; and any public outreach efforts or other means to address areas that are infeasible to sweep.

3.5.6 O&M Procedures for Other Municipal Areas and Activities

The Permittee must conduct its municipal O&M activities in a manner that reduces the discharge of pollutants through the MS4 to protect water quality. The Permittee must review, and update as necessary, existing procedures for inspection and maintenance schedules to ensure pollution prevention and good housekeeping practices are conducted for the following activities:

- grounds/park and open space maintenance;
- fleet maintenance and vehicle washing operations;

- building maintenance;
- snow management and snow disposal site O&M;
- solid waste transfer activities;
- municipal golf course maintenance;
- materials storage;
- heavy equipment storage areas;
- hazardous materials storage;
- used oil recycling; and
- spill control and prevention measures for municipal refueling facilities.

3.5.7 Requirements for Pesticide, Herbicide, and Fertilizer Applications

The Permittee must implement practices to reduce the discharge of pollutants to the MS4 associated with the Permittee's application and storage of pesticides, herbicides and fertilizers in the Permit Area. At a minimum, such areas include the Permittee's public rights-of-way, parks, recreational facilities, golf courses, and/or landscaped areas. All employees or contractors of the Permittee applying pesticides must follow all label requirements, including those regarding application methods, rates, number of applications allowed, and disposal of the pesticide/herbicide/fertilizer and rinsate.

3.5.8 Stormwater Pollution Prevention Plans (SWPPPs) for Permittee Facilities

The Permittee must develop and implement site-specific SWPPPs to manage stormwater discharges from all Permittee-owned material storage facilities, heavy equipment storage areas, and maintenance yards identified in the inventory required by Part 3.2.2 (*MS4 Map and Outfall Inventory*). Permittee-owned facilities discharging stormwater associated with industrial activity, as defined in 40 CFR §122.26(b)(14), must obtain separate NPDES permit coverage pursuant to Part 1.3.3 (*Stormwater Discharges Associated with Industrial or Construction Activity*).

3.5.9 Litter Control

Throughout the Permit term, the Permittee must implement methods to reduce litter in its jurisdiction. The Permittee must work cooperatively with others to control litter on a regular basis, and after major public events, in order to reduce the discharge of pollutants to the MS4.

3.5.10 Stormwater Pollution Prevention/Good Housekeeping Training for Staff

The Permittee must ensure that all persons responsible for the stormwater infrastructure management and O&M activities as required by this Part are trained or otherwise qualified to conduct such activities.

The Permittee must provide training for new staff working on infrastructure management and O&M activities as required by this Part in the first six (6) months of employment.

If the Permittee utilizes outside parties to perform infrastructure management and O&M activities as required by this Part, outside staff must be trained or otherwise qualified to conduct such activities.

This training may be coordinated/combined with other Permittee staff education and training requirements in Parts 3.2.9 (*Illicit Discharge Detection and Elimination Training for Staff*); 3.3.7 (*Construction Runoff Control Training for Staff*); and 3.4.7 (*Permanent Stormwater Control Training for Staff*).

4 SPECIAL CONDITIONS FOR DISCHARGES TO IMPAIRED WATERS

4.1 General Requirements

The Permittee must conduct quantitative monitoring/assessment and pollutant reduction activities designed to assess and control impairment pollutants in their MS4 discharges to Paradise Creek.

4.1.1 Submit Documents

No later than **March 1, 2023**, and pursuant to Part 2.6 (*Alternative Control Measure Requests*) the Permittee must submit the Monitoring/Assessment Plan and the description of Pollutant Reduction Activities specified in Parts 4.2 and 4.3 below.

EPA will review the materials submitted and, as necessary, propose to modify this Permit to incorporate by reference the specific monitoring/assessment and pollutant reduction activities. See Part 2.6.4 (*Recognition of ACMs*).

4.1.2 SWMP Document

No later than **May 3, 2023**, the Permittee must update their SWMP Document required in Part 2.5.3 to describe their intended means of accomplishing these requirements, including any associated implementation date(s).

4.1.3 Reporting Requirements

Upon EPA’s written notification pursuant to Part 2.6.4 (*Recognition of ACMs*) the Permittee must thereafter document in each Annual Report their progress on conducting the specified monitoring/assessment and pollutant reduction activities. See also Part 6.4 (*Reporting Requirements*).

No later than **September 1, 2025**, the Permittee must submit final reports summarizing the Monitoring/Assessment information and Pollutant Reduction Activities conducted to date. Such final reports must be submitted with its Permit Renewal Application required by Part 8.2 (*Duty to Reapply*).

4.2 Monitoring/Assessment Activities

The Permittee must submit a Monitoring/Assessment Plan that is designed to quantify, at a minimum, pollutant loadings from the MS4 into Paradise Creek for *E. coli* as listed in Table 4.2 below. The Monitoring/Assessment Plan must address all required plan elements outlined in Part 6.2 (*General Requirements for Monitoring/Assessment Activities*).

Table 4.2: Minimum Monitoring/Assessment Expectations

Location(s)	Pollutant Parameter
University of Idaho MS4 Discharges into Paradise Creek	<i>E. coli</i>

4.3 Pollutant Reduction Activities

Pursuant to IDAPA 58.01.02.055.05, in carrying out the requirements of this subpart, the Permittee must define and implement at least one (1) pollutant reduction activity designed to

each addressed ?

reduce *E. coli*, nutrients, sediment, and heat loadings from the MS4 into the Paradise Creek.³

The Permittee must prioritize the implementation of its selected activities in MS4 areas/locations that discharge into Paradise Creek based on consideration of relevant and available information, such as: previously collected monitoring data; cleanup activities at sites with the target pollutants identified as a contaminant; and/or relevant local inspections and other compliance records.

In the final report required by Part 4.1.3 above, the Permittee must quantify the estimated pollutant reduction accomplished as a result of such activities.

Table 4.3 Receiving Water Impairments

Waterbody/Assessment Unit/Description	Impairment Pollutants
Paradise Creek <i>ID17060108CL005_02</i> <i>Paradise Creek - Urban boundary to Idaho/Washington border</i>	<i>E. coli; Nutrient/Eutrophication Biological Indicators; Sedimentation/Siltation; Temperature</i>
Paradise Creek (WA portion) <i>17060108000255</i> <i>WDOE Listing ID: 10444</i>	<i>Fecal coliform bacteria; pH; Dissolved oxygen; Temperature</i>

³ This provision is a condition of the IDEQ's *Final §401 Water Quality Certification for the University of Idaho Municipal Separate Storm Sewer System; NPDES Permit # IDS028576*, dated January 25, 2021.

5 REQUIRED RESPONSE TO EXCURSIONS ABOVE IDAHO WATER QUALITY STANDARDS

The Permittee will be presumed to be in compliance with applicable Idaho Water Quality Standards if the Permittee is in compliance with the terms and conditions of this Permit. If the Permittee, EPA, and/or IDEQ determines that the discharge from the MS4 causes or contributes to an excursion above the Idaho Water Quality Standards, then the Permittee remains in compliance with this Permit as long as the Permittee implements all applicable SWMP control measures required by this Permit and undertakes the following actions:

5.1 Notification

The Permittee must notify EPA and IDEQ in writing at the addresses listed in Appendix A.1 within 30 days of becoming aware that, based on credible site-specific information, a discharge from the Permittee's MS4 is causing or contributing to a known or likely excursion above the Idaho Water Quality Standards.

Written notification under this Part must, at a minimum, identify the source of the site-specific information; describe the location, nature, and extent of the known or likely water quality standard excursion in the receiving water; and explain the reasons why the MS4 discharge is believed to be causing or contributing to the problem. For on-going or continuing excursions, a single written notification provided to both EPA and IDEQ will fulfill this requirement.

Nothing in this Part precludes any notification required by Part 7.9 (*24-hour Notice of Non-Compliance Reporting*), the institution of any legal action, or relieves the Permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state/Tribal law or regulation under authority preserved by Section 510 of the CWA. No condition of the Permit releases the Permittee from any responsibility or requirements under other environmental statutes or regulations.

5.1.1 EPA Response

Based on a notification provided under this Part or through any other means, EPA may notify the Permittee, in writing, that an adaptive management response is required if EPA and IDEQ determine that a discharge from the Permittee's MS4 is causing or contributing to an excursion above the Idaho Water Quality Standards in a receiving water.

- 5.1.1.1 EPA and IDEQ may elect not to require an adaptive management response from the Permittee if EPA and IDEQ determine that the excursion of Idaho Water Quality Standards is already being addressed by a TMDL implementation plan or other enforceable water quality cleanup plan; or if EPA and IDEQ conclude the Permittee's contribution to the excursion will be eliminated through implementation of other permit requirements, regulatory requirements, or Permittee actions.

5.2 Adaptive Management Report

Within 60 days of receiving a response from EPA and IDEQ under Part 5.1.1, or by an alternative date established by EPA, the Permittee must review its Stormwater Management Program and submit a report to EPA and IDEQ. The Adaptive Management Report must include:

5.2.1 Existing BMPs

A description of the operational and/or structural BMPs that are currently being implemented at the location to prevent or reduce any pollutants that are causing or contributing to the violation of water quality standards, including a qualitative assessment of

the effectiveness of each BMP.

5.2.2 Potential BMPs

A description of potential additional operational and/or structural BMPs that will or may be implemented in order to prevent or reduce any pollutants that are causing or contributing to the violation of water quality standards.

5.2.3 Monitoring/Assessment

A description of the potential monitoring or other assessment and evaluation efforts that will or may be implemented to monitor, assess, or evaluate the effectiveness of the additional BMPs.

5.2.4 Schedule

A schedule for implementing the additional BMPs including, as appropriate: funding, training, purchasing, construction, monitoring, and other assessment and evaluation components of implementation.

5.3 Review and Approval of Adaptive Management Report

EPA and IDEQ will, in writing, acknowledge receipt of the Adaptive Management Response Report within a reasonable time and will notify the Permittee when it expects to complete its review of the report. EPA, in consultation with IDEQ, will either approve the additional BMPs and implementation schedule, or require the Permittee to modify the report as needed. If modifications to the Adaptive Management Report are required, EPA and IDEQ will specify a time frame in which the Permittee must submit the revised Report for EPA and IDEQ review.

5.4 Implementation

The Permittee must begin implementation of any additional BMPs pursuant to the schedule approved by EPA and IDEQ immediately upon receipt of EPA's written notification of approval.

5.5 Reporting

The Permittee must include with each subsequent Annual Report a summary of the status of implementation and the results of any monitoring, assessment, or evaluation efforts conducted during the reporting period to assess progress towards addressing the original water quality excursion. A final summary of such adaptive management efforts must be included with the Permit Renewal Application required by Part 8.2.

5.6 Permit Revision

EPA will determine, based on the Adaptive Management Report, whether additional permit terms and conditions specific to the Permittee must be added to this Permit. If new or specific permit conditions are warranted, EPA will notify the Permittee and the public of its intent to propose additional requirements affecting the Permittee and will accept public comment for a minimum of 30 days on any proposed revisions, pursuant to 40 CFR §§ 122.62 and 124.

6 MONITORING, RECORDKEEPING, AND REPORTING REQUIREMENTS

6.1 Compliance Evaluation

At least once per year, the Permittee must evaluate their compliance with the requirements of this Permit. This self-evaluation includes assessment of progress toward implementing the SWMP control measures in Part 3, and implementation of individual or collective actions to comply with any additional requirements identified pursuant to Part 4 (*Special Conditions For Discharges To Impaired Waters*). The Permittee may document this self-evaluation using the optional Annual Report format provided in Appendix B.

6.2 General Requirements for Monitoring/Assessment Activities

The Permittee must conduct any monitoring and/or assessment actions described in Part 4 consistent with this Part.

6.2.1 Optional Cooperative Monitoring/Assessment

The Permittee may cooperate or contract with others to conduct any of the required monitoring/assessment activities specified herein.

If the Permittee chooses to participate in cooperative monitoring/assessment efforts, the Permittee must notify EPA and IDEQ of the intended arrangement in the Alternative Control Measure Request required by Part 2.6.2 (*Actions to Address Discharges to Impaired Waters*) and submit a joint Monitoring/Assessment Plan as specified in Part 6.2.2 below.

6.2.2 Monitoring/Assessment Plan and Objectives

No later than **March 1, 2023**, the Permittee must develop and submit a Monitoring/Assessment Plan designed to address the monitoring/assessment activity specified in Part 4.2 and the quality assurance (QA) objectives defined in Part 6.2.7 below. Any existing Monitoring/Assessment Plan(s) may be modified to comply with this Part. The Permittee must submit the complete Monitoring/Assessment Plan as an ACM Request. See Part 2.6.2 (*Actions to Address Discharges to Impaired Waters*).

- 6.2.2.1 EPA will review the Permittee's ACM Request and, as necessary, propose to revise this Permit to incorporate by reference the Permittee's specific monitoring/assessment and pollutant reduction activities.

The Permittee must begin implementation of their identified monitoring/assessment activities no later than 30 days following EPA's written notice that the Permit has been revised to incorporate their activities, pursuant to Part 2.6.4 (*Recognition of Alternative Control Measures*).

6.2.3 Representative Sampling

Samples, measurements and/or assessments conducted in compliance with this Permit must be representative of the nature of the monitored discharge or activity.

6.2.4 Additional Monitoring

If the Permittee quantitatively monitors and/or assesses pollutants in their MS4 discharges more frequently, or in more locations, than specified in the Monitoring/Assessment Plan named in this Permit, the results of any additional monitoring must be included with other data submitted to EPA and IDEQ as required in Part 6.4.3 (*Monitoring/Assessment Report*).

6.2.5 Wet Weather Discharge Monitoring

If the Permittee monitors wet weather discharges from MS4 outfalls:

- 6.2.5.1 **Location** - the locations of such monitoring must be identified in the Monitoring/Assessment Plan required by Part 4 (*Special Conditions for Discharges to Impaired Waters*).
- 6.2.5.2 **Sample Type**. The sample collection must be identified in the Monitoring/Assessment Plan required by Part 4 (*Special Conditions for Discharges to Impaired Waters*.)
- 6.2.5.3 **Parameters**. The pollutants to be sampled must be identified in the Monitoring/Assessment Plan required by Part 4 (*Special Conditions for Discharges to Impaired Waters*.)
- 6.2.5.4 **Frequency**. The samples must be collected at a frequency identified in the Monitoring/Assessment Plan required by Part 4 (*Special Conditions for Discharges to Impaired Waters*). At least one sample each calendar year must be collected in the September - October period.
- 6.2.5.5 **QA Requirements**. The Permittee must develop a Quality Assurance Project Plan (QAPP), or revise an existing QAPP, as required by Part 6.2.6 (*Quality Assurance Requirements*) to clearly identify all methods and protocols to be used in the wet weather sampling effort.
- 6.2.5.6 **Reporting**. The Permittee must submit all data collected to EPA as required in Part 6.4.2 (*Annual Report*).

6.2.6 Quality Assurance Requirements

The Permittee must develop a Quality Assurance Project Plan (QAPP) for any monitoring or quantitative assessment activities conducted in compliance with this Permit. Any existing QAPP may be modified to meet the requirements of this Part.

- 6.2.6.1 **QAPP Content**: The QAPP must be designed to assist the Permittee in planning for the collection and analysis of any stormwater discharge, receiving water quality, catch basin sediments, and/or other types of information collected in compliance with this Permit, and in explaining data anomalies when they occur.

At a minimum, the QAPP must reflect the content specified in EPA documents listed in Part 6.2.7.1.6 below, including:

- 6.2.6.1.1 Details on the number of samples, identified sampling locations, type of sample containers, preservation of samples, holding times, analytical detection and quantitation limits for each target compound, analytical methods, type and number of quality assurance field samples, precision and accuracy requirements, sample preparation requirements, sample shipping methods, and laboratory data delivery requirements;
- 6.2.6.1.2 A map with GPS coordinates indicating the location of each monitoring point;
- 6.2.6.1.3 Qualifications and training of all personnel involved with water quality and discharge sampling;

- 6.2.6.1.4 Specifications for the collection and analysis of quality assurance samples for each sampling event, including matrix spiked and duplicate samples and analysis of field transfer blanks (sample blanks); and,
- 6.2.6.1.5 Name(s), address(es), and telephone number(s) of the laboratories used by, or proposed to be used by, the Permittee.
- 6.2.6.1.6 **QAPP Procedures:** Throughout all sample collection and analysis activities, the Permittee must use EPA-approved and chain-of-custody procedures described in *Requirements for Quality Assurance Project Plans* (EPA/QA/R-5) and *Guidance for Quality Assurance Project Plans* (EPA/QA/G-5). Copies of these documents can be found at <http://www.epa.gov/quality/qs-docs/q5-final.pdf>

6.2.6.2 QAPP Updates and Availability

- 6.2.6.2.1 The Permittee must amend and update the QAPP whenever there is a modification in sample collection, sample analysis, or other procedure addressed by the QAPP.
- 6.2.6.2.2 Copies of the QAPP must be maintained by the Permittee as part the Monitoring/Assessment Plan, updated as necessary, and made available to EPA and/or IDEQ upon request.

6.2.7 Analytical Methods

Sample collection, preservation, and analysis must be conducted according to sufficiently sensitive methods/test procedures approved under 40 CFR §136, unless otherwise approved by EPA, unless another method is required under 40 CFR subchapters N or O, or other test procedures have been specified in this Permit and/or approved by EPA as an alternative test procedure under 40 CFR §136.5. Where an approved 40 CFR § 136 method does not exist, and other test procedures have not been specified, any available method may be used after approval from EPA.

The Permittee must use sufficiently sensitive analytical methods as follows:

- 6.2.7.1 Permittee must use a method that detects and quantifies the level of the pollutant, or
- 6.2.7.2 Permittee must use a method that can achieve a maximum Minimum Level (ML) less than or equal to those specified in Table 6.2.8 below;
- 6.2.7.3 Permittee may request different MLs. The request must be in writing and must be approved by EPA.

Table 6.2.8: Minimum Levels

Pollutant & CAS No. (if available)	Minimum Level in µg/L, unless otherwise specified
Total Ammonia (as N)	50
Cadmium, Total (7440-43-9)	0.1
Copper, Total (7440-50-8)	2.0
Dissolved oxygen	0.2 mg/L

Pollutant & CAS No. (if available)	Minimum Level in µg/L, unless otherwise specified
Total Hardness	200 as CaCO ₃
Lead, Total (7439-92-1)	0.16
Nitrate + Nitrite Nitrogen (as N)	100
Oil and Grease (HEM) (Hexane Extractable Material)	5,000
Soluble Reactive Phosphorus (as P)	10
Phosphorus, Total (as P)	10
Temperature	0.2° C
Total Suspended Solids	5 mg/L
Zinc, Total (7440-66-6)	2.5

6.3 Recordkeeping

6.3.1 Retention of Records

The Permittee must retain records and information documenting implementation of all control measures required by this Permit (including a copy of this Permit and all Annual Reports) for a period of at least five years from the date of the report, sample, or measurement, or for the term of this Permit, whichever is longer. This period may be extended at the request of EPA or IDEQ at any time.

Information and records includes, but is not limited to, records of all data or information used to develop and implement the SWMP control measures and/or used to complete the application for this Permit; such material may include inspection and maintenance records; all monitoring, calibration, and monitoring equipment maintenance records; all original strip chart recordings for any continuous monitoring instrumentation; and copies of reports required by this Permit.

6.3.2 Availability of Records

At a minimum, the Permittee must retain all records associated with this Permit in a location and format that are accessible to EPA and IDEQ. The Permittee must make all records described above available to the public if requested to do so in writing. The public must be able to view the records during normal business hours. The Permittee may charge the public a reasonable fee for copying requests.

The Permittee must submit the records referred to in Part 6.3.1 above to EPA and IDEQ when such information is requested.

6.4 Reporting Requirements

At a minimum, the Permittee must submit reports and/or documents required by this Permit to EPA and IDEQ in an electronic portable document format (PDF) that is saved and stored on a compact disc or other portable electronic storage device.

All submittals must be sent to the Addresses in Appendix A.

6.4.1 Electronic Copy Submissions using NetDMR

Prior to the Permit expiration date, EPA may provide the Permittee with instructions for submitting required Annual Reports and/or other documents electronically using NetDMR. The Permittee may then use NetDMR for this Permit only after requesting and receiving permission from EPA Region 10. After a Permittee begins using NetDMR, the Permittee is no longer required to submit such materials to EPA and IDEQ via U.S. Postal Mail.

6.4.2 Annual Report

No later than **May 3** of each year beginning in **Calendar Year 2022** the Permittee must submit an Annual Report to EPA and IDEQ. EPA recommends the Permittee use the Annual Report Format provided in Appendix B.

6.4.2.1 The reporting period for the Year 1 Annual Report will be from **March 1, 2021 – February 28, 2022**. Reporting periods for subsequent Annual Reports are specified in Table 6.4.2 below.

Table 6.4.2 Annual Report Deadlines		
	Reporting Period	Due Date
Year 1 Annual Report	March 1, 2021 – February 28, 2022	May 3, 2022
Year 2 Annual Report	March 1, 2022 – February 28, 2023	May 3, 2023
Year 3 Annual Report	March 1, 2023 – February 29, 2024	May 3, 2024
Year 4 Annual Report	March 1, 2024 – February 28, 2025	May 3, 2025
Year 5 Annual Report	March 1, 2025 – February 28, 2026	February 28, 2026

- 6.4.2.2 EPA recommends the Permittee use the Annual Report Format provided in Appendix B. The Annual Report must reflect the status of the Permittee's implementation of the Permit requirements during the relevant reporting period, and must include:
- 6.4.2.2.1 Any summaries, descriptions, and/or other information the Permittee uses to demonstrate compliance with the Permit during the relevant reporting period.
 - 6.4.2.2.2 A current website address where the Permittee's SWMP Document is available as an electronic portable data format (PDF) document;
 - 6.4.2.2.3 If applicable, notification to EPA and IDEQ that the Permittee is relying on another Permittee or outside entity to satisfy any obligations under this Permit;
 - 6.4.2.2.4 Notification of any annexations, incorporations, or jurisdictional boundary changes resulting in an increase or decrease in the Permittee's area of responsibility during the reporting period; and
 - 6.4.2.2.5 Point(s) of contact responsible SWMP implementation for the Permittee, and for authorization, certification, and signature pursuant to Part 8.5 (*Signatory Requirements*).
- 6.4.2.3 The Permittee must make a copy of each Annual Report (including any required attachments) available to the public through the Permittee-maintained website required by Part 3.1.8 (*Publicly Accessible Website*).

6.4.3 Monitoring/Assessment Report

The Permittee must submit a final report summarizing any/all monitoring/assessment data collected during the permit term as an attachment to the Permit Renewal Application required by Part 8.2 no later than **September 1, 2025**. All Final Monitoring/Assessment Reports must summarize and evaluate the information collected, and include reference to:

- 6.4.3.1 the date, exact place, and time of sampling or measurements;
- 6.4.3.2 the name(s) of the individual(s) who performed the sampling or measurements;
- 6.4.3.3 the date(s) analyses were performed;
- 6.4.3.4 the names of the individual(s) who performed the analyses; the analytical techniques or methods used; and
- 6.4.3.5 the results of such analyses, including both visual and narrative summary interpretation of the data collected, a discussion of any quality assurance issues, and a narrative discussion comparing data collected to any previously collected or historical information, as appropriate. Raw monitoring data must be submitted in a spreadsheet or text-format electronic file.

6.4.4 **Pollutant Reduction Activity Report**

The Permittee must submit a Pollutant Reduction Activity Report summarizing actions conducted during the Permit term to reduce pollutant loadings from the Permittee's MS4. The Pollutant Reduction Activity Report must be submitted as an attachment to the Permit Renewal Application required by Part 8.2 no later than **September 1, 2025**. The final Pollutant Reduction Activity Report must summarize the actions identified in Part 4 and must quantify any load reductions accomplished to date.

6.5 **Addresses**

Any reports or submittals required by this Permit must be sent to the Addresses listed in Appendix A.

7 COMPLIANCE RESPONSIBILITIES

7.1 Duty to Comply

The Permittee must comply with all conditions of this Permit. Any permit noncompliance constitutes a violation of the CWA and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

7.2 Penalties for Violations of Permit Conditions

7.2.1 Civil and Administrative Penalties

Pursuant to 40 CFR §19 and the CWA, any person who violates sections 301, 302, 306, 307, 308, 318 or 405 of the CWA, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the CWA, is subject to a civil penalty not to exceed the maximum amounts authorized in the United States Code (USC) by section 309(d) of the CWA and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) (currently \$55,800 per day for each violation).

7.2.1.1 **Administrative Penalties:** Any person may be assessed an administrative penalty by the Administrator for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Pursuant to 40 CFR §19 and the Act, administrative penalties for Class I violations are not to exceed the maximum amounts authorized by section 309(g)(2)(A) of the CWA and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) [currently \$22,320 per day for each violation, with the maximum amount of any Class I penalty assessed not to exceed \$55,800]. Pursuant to 40 CFR §19 and the Act, penalties for Class II violations are not to exceed the maximum amounts authorized by section 309(g)(2)(B) of the CWA and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) [currently \$22,320 per day for each violation, with the maximum amount of any Class II penalty not to exceed \$278,995].

7.2.1.2 Criminal Penalties:

7.2.1.2.1 Negligent Violations:

The CWA provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than 1 year, or both. In the case of a second or subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or by imprisonment of not more than 2 years, or both.

7.2.1.2.2 Knowing Violations

Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than 6 years, or both.

7.2.1.2.3 Knowing Endangerment

Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the Act, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions.

7.2.1.2.4 False Statements.

The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this Permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than four years, or both. The CWA further provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this Permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both.

7.3 Need to Halt or Reduce Activity Not a Defense

It shall not be a defense for the Permittee in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this Permit.

7.4 Duty to Mitigate

The Permittee must take all reasonable steps to minimize or prevent any discharge or disposal in violation of this Permit that has a reasonable likelihood of adversely affecting human health or the environment.

7.5 Proper Operation and Maintenance

The Permittee must at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Permittee to achieve compliance with the conditions of this Permit. Proper operation and maintenance also include BMPs, adequate laboratory controls, and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems only when the operation is necessary to achieve compliance with the conditions of this Permit.

7.6 Toxic Pollutants

The Permittee must comply with effluent standards or prohibitions established under section 307(a) of the CWA for toxic pollutants within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

7.7 Planned Changes

The Permittee must give notice to the Director and the responsible IDEQ office as soon as possible of any planned physical alterations or additions to the permitted facility whenever:

- The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source as determined in 40 CFR §122.29(b); or
- The alteration or addition could significantly change the nature or increase the quantity of the pollutants discharged. This notification applies to pollutants that are not subject to effluent limitations in the permit.

7.8 Anticipated Noncompliance

The Permittee must give advance notice to the Director and IDEQ, using the addresses provided in Appendix A, of any planned changes in the permitted facility or activity which may result in noncompliance with this Permit.

7.9 Twenty-Four Hour Notice of Noncompliance Reporting

The Permittee must report to EPA the following occurrences of noncompliance by telephone at (206) 553-1846, within 24 hours from the time the Permittee becomes aware of the following circumstances; see also Appendix A.2:

- Any discharge to or from the MS4 which could result in noncompliance that may endanger human health or the environment;
- Any unanticipated bypass that results in or contributes to an exceedance of any effluent limitation in this Permit. See Part 7.106.10 (*Bypass of Treatment Facilities*);
- Any upset that results in or contributes to an exceedance of any effluent limitation in this Permit. See Part 6.11 (*Upset Conditions*).

7.9.1 Written Report

The Permittee must also provide a written submission within five (5) business days of the time that the Permittee becomes aware of any event required to be reported under subpart 1 above. The written submission must contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times; the estimated time noncompliance is expected to continue if it has not been corrected; and all steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance. The Permittee must submit its written report to EPA and IDEQ as specified in Appendix A.

7.9.2 Written Report Waiver

EPA may waive the written report on a case-by-case basis if the oral report has been received within 24 hours by the NPDES Compliance Hotline in Seattle, Washington, by telephone, (206) 553-1846.

7.10 Bypass of Treatment Facilities

7.10.1 Bypass not exceeding limitations

The Permittee may allow any bypass to occur that does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 7.10.2 and 7.10.3 of this Part.

7.10.2 Notice

7.10.2.1 Anticipated bypass: If the Permittee knows in advance of the need for a bypass, it must submit prior notice, to the Director, if possible at least 10 days before the date of the bypass.

7.10.2.2 Unanticipated bypass: The Permittee must submit notice of an unanticipated bypass as required under Part 7.9 (*Twenty-four Hour Notice of Noncompliance Reporting*).

7.10.3 Prohibition of Bypass

Bypass is prohibited, and the Director may take enforcement action against the Permittee for a bypass, unless:

- The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;
- There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance; and
- The Permittee submitted notices as required under Part 7.10.2 above.

7.10.4 Optional Approval

The Director may approve an anticipated bypass, after considering its adverse effects, if the Director determines that it will meet the three conditions listed above in Part 7.10.3.

7.11 Upset Conditions

7.11.1 Effect of an Upset

An upset constitutes an affirmative defense to an action brought for noncompliance with a technology-based permit effluent limitation if the Permittee meets the requirements of Part 7.11.2 of this section. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.

7.11.2 Conditions Necessary for a Demonstration of Upset

To establish the affirmative defense of upset, the Permittee must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:

- An upset occurred and that the Permittee can identify the cause(s) of the upset;
- The permitted facility was at the time being properly operated;
- The Permittee submitted notice of the upset as required under Part 7.9 (*Twenty-four Hour Notice of Noncompliance Reporting*) and,
- The Permittee complied with any remedial measures required under Part 7.4 (*Duty to Mitigate*).

7.11.3 Burden of proof

In any enforcement proceeding, the Permittee seeking to establish the occurrence of an upset has the burden of proof.

7.12 Other Noncompliance

The Permittee must report all instances of noncompliance, not required to be reported within 24 hours, as part of each Annual Report. Such noncompliance reports must contain all the information listed above in Part 7.9.1.

7.13 Removed Substances

All collected screenings, grit, solids, sludges, filter backwash water, decant water, and/or other pollutants removed in the course of maintenance, and/or treatment or control of stormwater and other wastewaters must be managed and disposed of in a manner such as to prevent such pollutants from entering the waters of the U.S.

8 GENERAL REQUIREMENTS

8.1 Permit Actions

This Permit or coverage under this Permit may be modified, revoked and reissued, or terminated for cause by EPA as specified in 40 CFR §§122.62, 122.64, or 124.5. The filing of a request by the Permittee for a permit modification, revocation and reissuance, termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

8.2 Duty to Reapply

If the Permittee intends to continue its operational control and management of discharges from the MS4 as regulated by this Permit after the Permit expiration date, the Permittee must apply for and obtain a new permit. In accordance with 40 CFR §122.21(d), and unless permission for the application to be submitted at a later date has been granted by the Director, the Permittee must submit an application at least 180 days before the Permit expiration date, or no later than **September 1, 2025**.

8.2.1 Contents of a Permit Renewal Application

The Permit Renewal Application must contain the information required by 40 CFR 122.21(f) which includes: name and mailing addresses of the Permittee that operate the MS4(s), and the names and titles of the primary administrative and technical contacts for the Permittee. In addition, the Permittee must identify the identification number of the existing NPDES MS4 permit; and any previously unidentified water bodies that receive discharges from the MS4. The following attachments must be submitted as part of a complete Permit Renewal Application:

- 8.2.1.1 Updated SWMP Document, as required by Part 2.5.3 and described in Appendix B;
- 8.2.1.2 MS4 Map, and the accompanying Outfall Inventory, as required by Part 3.2.2;
- 8.2.1.3 List of MS4 outfall locations with dry weather flows identified by the Permittee as being associated with irrigation return flows and/or groundwater seepage, including latitude/longitude and physical description/characteristics, as required by Part 3.2.6.2;
- 8.2.1.4 Enforcement Response Policy for Construction Site Runoff Control, as required by Part 3.3.6;
- 8.2.1.5 Enforcement Response Policy for Permanent SW Management Controls, as required by Part 3.4.5.2;
- 8.2.1.6 If applicable, a written summary of the Permittee's adaptive management actions to date, as required by Part 5.5;
- 8.2.1.7 If applicable, a Final Report summarizing any required Monitoring/Assessment activities; see Part 4 and Part 6.4.3; and
- 8.2.1.8 If applicable, a Final Report summarizing implementation and effectiveness of Pollutant Reduction Activities to date; see Part 4 and Part 6.4.4.

8.3 Duty to Provide Information

The Permittee must furnish to EPA and IDEQ, within the time specified in the request, any information that the Director may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this Permit, or to determine compliance with this Permit.

The Permittee must also furnish to EPA or IDEQ, upon request, copies of the records required to be kept by this Permit.

8.4 Other Information

When the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or any report or document to EPA or IDEQ, it must promptly submit the omitted facts or corrected information in writing.

8.5 Signatory Requirements

All permit applications, reports, or information submitted to EPA and IDEQ must be signed and certified as follows:

8.5.1 All applications must be signed and certified:

- For a corporation: by a principal corporate officer.
- For a partnership or sole proprietorship: by a general partner or the proprietor, respectively.
- For a municipality, state, federal, or other public agency: by either a principal executive officer or ranking elected official.

8.5.2 Duly Authorized Representative.

All Annual Reports required by this Permit and other information requested by EPA or IDEQ must be signed by a person described in Part 8.5.1 above or by a duly authorized representative of that person. A person is a duly authorized representative only if:

8.5.2.1 The authorization is made in writing by a person described above and submitted to the Director;

8.5.2.2 The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity,

Such as the position of plant manager, owner or operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and

8.5.2.3 Written authorization is submitted to the Director and IDEQ.

8.5.3 Changes to Authorization.

If an authorization under Part 8.5.2 above is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of Part 8.5.2 must be submitted to EPA and IDEQ prior to or together with any reports, information, or applications to be signed by an authorized representative.

8.5.4 Certification

Any person signing a document under this Part must make the following certification:

"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, to the best of my knowledge and

belief, true, accurate, and complete. I have no personal knowledge that the information submitted is other than true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

8.6 Availability of Reports

In accordance with 40 CFR §2, information submitted to EPA pursuant to this Permit may be claimed as confidential by the Permittee. In accordance with the CWA, permit applications, permits, and effluent data are not considered confidential. Any confidential claim must be asserted at the time of submission by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, EPA may make the information available to the public without further notice to the Permittee. If a claim is asserted, the information will be treated in accordance with the procedures in 40 CFR §2, Subpart B (Public Information) and 41 Federal Register 36924 (September 1, 1976), as amended.

8.7 Inspection and Entry

The Permittee must allow the Director; IDEQ; or an authorized representative (including an authorized contractor acting as a representative of the Director), upon the presentation of credentials and other documents as may be required by law, to:

8.7.1 Enter

Upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this Permit;

8.7.2 Access

Have access to and copy, at reasonable times, any records that must be kept under the conditions of this Permit;

8.7.3 Inspect

Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this Permit; and

8.7.4 Sample, monitor, evaluate or audit

At reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the CWA, any discharges, substances or parameters at any location.

8.8 Property Rights

The issuance of this Permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.

8.9 Transfers

Coverage under this Permit is not transferable to any person except after written notice to the Director of EPA Region 10 Water Division. The Director may require modification or revocation and reissuance of the permit to change the name of the Permittee and incorporate such other requirements as may be necessary under the CWA.

8.10 State/Tribal Laws

Nothing in this Permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties established pursuant to any

applicable state/Tribal law or regulation under authority preserved by Section 510 of the CWA. No condition of the Permit releases the Permittee from any responsibility or requirements under other environmental statutes or regulations.

8.11 Oil and Hazardous Substance Liability

Nothing in this Permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties to which the Permittee is or may be subject under Section 311 of the Clean Water Act or Section 106 of the Comprehensive Environmental Response Compensation and Liability Act (CERCLA).

8.12 Severability

The provisions of this Permit are severable, and if any provision of this Permit, or the application of any provision of this Permit to any circumstance, is held invalid, the application of such provision to other circumstances, and the remainder of this Permit, shall not be affected thereby.

8.13 Re-opener Clause

This Permit is subject to modification, revocation and reissuance, or termination at the request of any interested person (including the Permittee) or upon EPA initiative. However, permits may only be modified, revoked or reissued, or terminated for the reasons specified in 40 CFR §§122.62 or 122.64, and 40 CFR §124.5. This includes new information which was not available at the time of permit issuance and would have justified the application of different permit conditions at the time of issuance, including but not limited to future monitoring results. All requests for Permit modification must be addressed to EPA in writing and shall contain facts or reasons supporting the request.

9 DEFINITIONS

Administrator, as used in this Permit without qualifier, means the Administrator of the United States Environmental Protection Agency, or an authorized representative [40 CFR §122.2].

Appropriate means reasonable in intensity, duration, and magnitude.

Appropriate Action, as used in Part 3.2.6 of this Permit, means documentation in the Permittee's Annual Reports and SWMP Document of the MS4 outfall location(s) where the Permittee determines that the source of the ongoing dry weather flow is from either irrigation or groundwater seepage.

Best Management Practice, or *BMP*, means schedules of activities, prohibition of practices, maintenance procedures, and other management practices to prevent or reduce the pollution of waters of the United States. BMPs also include treatment requirements operating procedures, and practices to control runoff, spillage, or leaks, sludge, or waste disposal, or drainage from raw material storage. See 40 CFR §§ 122.2 and 122.44(k). For the purposes of this Permit, *BMP* broadly refers to any type of structural or non-structural practice or activity undertaken by the Permittee in the course of implementing its SWMP.

Bioretention means the water quality and water quantity stormwater management practice using the chemical, biological and physical properties of plants, microbes and soils for the removal of pollution from stormwater runoff.

Bypass means the intentional diversion of waste streams from any portion of a treatment facility.

CFR means the Code of Federal Regulations, which is the official annual compilation of all regulations and rules promulgated during the previous year by the agencies of the United States government, combined with all the previously issued regulations and rules of those agencies that are still in effect.

CGP and/or Construction General Permit means the current available version of EPA's NPDES *General Permit for Stormwater Discharges for Construction Activities in Idaho*, Permit No. IDR12- 0000. EPA's CGP is posted on EPA's website at www.epa.gov/npdes/stormwater/cgp.

Common Plan of Development means a contiguous construction project or projects where multiple separate and distinct construction activities may be taking place at different times on different schedules but under one plan. The "plan" is broadly defined as any announcement or piece of documentation or physical demarcation indicating construction activities may occur on a specific plot; included in this definition are most subdivisions and industrial parks

Construction activity includes, but is not limited to, clearing, grading, excavation, and other site preparation work related to the construction of residential buildings and non-residential buildings, and heavy construction (e.g., highways, streets, bridges, tunnels, pipelines, transmission lines and industrial non-building structures).

Control Measure, as used in this Permit, refers to any action, activity, Best Management Practice or other method used to control the discharge of pollutants in MS4 discharges.

CWA means the Clean Water Act (formerly referred to as the Federal Water Pollution Control Act or Federal Water Pollution Control Act Amendments of 1972) Public Law 92-500, as amended by Public Law 95-217, Public Law 95-576, Public Law 96-483, and Public Law 97-117, 33 U.S.C. § 1251 et seq. [40 CFR §122.2].

Deleterious Materials is defined at IDAPA 58.01.02.010.21, and means any nontoxic substance which may cause the tainting of edible species of fish, taste and odors in drinking water supplies, or the reduction of the usability of water without causing physical injury to water users

or aquatic and terrestrial organisms

Director means the Regional Administrator of EPA Region 10, or the Director of EPA Region 10 Office of Water and Watersheds. After July 1, 2021, "Director" may also refer to an authorized representative of the Idaho Department of Environmental Quality.

Discharge when used without qualification means the "discharge of a pollutant."

Discharge of a pollutant means any addition of any "pollutant" or combination of pollutants to "waters of the United States" from any "point source," or any addition of any pollutant or combination of pollutants to the waters of the "contiguous zone" or the ocean from any point source other than a vessel or other floating craft which is being used as a means of transportation. This definition includes additions of pollutants into waters of the United States from: surface runoff which is collected or channeled by man; discharges through pipes, sewers, or other conveyances owned by a State, municipality, or other person which do not lead to a treatment works; and discharges through pipes, sewers, or other conveyances, leading into privately owned treatment works. This term does not include an addition of pollutants by any "indirect discharger" [40 CFR §122.2].

Erosion means the process of carrying away soil particles by the action of water.

Effluent limitation means any restriction imposed by the Director on quantities, discharge rates, and concentrations of "pollutants" which are "discharged" from "point sources" into "waters of the United States," [40 CFR §122.2]. The terms and conditions of this Permit are a type of effluent limitations and refers to actions designed to reduce pollutant discharges. See also 40 CFR §122.34 and 81 FR 89337 (Dec. 9, 2016).

Existing Permanent Controls, in the context of this Permit, means post- construction or permanent stormwater management controls designed to treat or control runoff on a permanent basis and that were installed prior to the effective date of this Permit.

Facility means any NPDES point source or any other facility or activity (including land or appurtenances thereto) that is subject to regulation under the NPDES program.

Grab sample means a single water sample or measurement of water quality taken at a specific time.

Green infrastructure is defined in Section 502 of the Clean Water Act and means the range of measures that use plant or soil systems, permeable pavement or other permeable surfaces or substrates, stormwater harvest and reuse, or landscaping to store, infiltrate, or evapotranspire stormwater and reduce flows to sewer systems or to surface waters.

Hazardous materials is defined at IDAPA 58.01.02.010.47 and means a material or combination of materials which, when discharged in any quantity into state waters, presents a substantial present or potential hazard to human health, the public health, or the environment. Unless otherwise specified, published guides such as Quality Criteria for Water (1976) by EPA, Water Quality Criteria (Second Edition, 1963) by the state of California Water Quality Control Board, their subsequent revisions, and more recent research papers, regulations and guidelines will be used in identifying individual and specific materials and in evaluating the tolerances of the identified materials for the beneficial uses indicated.

Impaired waters means any water body that does not meet applicable water quality standards for one or more beneficial uses by one or more pollutants. For the purposes of this Permit, *impaired water* includes any water body that IDEQ includes in its 2014, 2016, and 2020 Integrated Reports, as a "Category 4a" water of the state for which a total maximum daily load has been completed and approved; as a "Category 4b" water of the state that have pollution control requirements in place other than a TMDL and are expected to meet standards; and/or as

a "Category 5" water of the state where a TMDL is necessary. The term impaired water also includes any interstate surface water body that originates in Idaho and flows into Washington that the Washington Department of Ecology categorizes as Category 4a, 4b, or 5 in its latest Water Quality Assessment 305(b) Report and 303(d) List as approved by EPA on July 22, 2016.

Impairment pollutants, for the purposes of this Permit, means any pollutant identified by IDEQ or WDOE as a cause of impairment of any water body that receives MS4 discharges authorized under this Permit. See also "impaired water."

Indian Tribe means any Indian Tribe, band, group, or community recognized by the Secretary of the Interior and exercising governmental authority over a Federal Indian Reservation [40 CFR §122.2].

Infiltration is the process by which stormwater penetrates into soil.

Illicit connections include, but are not limited to, pipes, drains, open channels, or other conveyances that have the potential to allow an illicit discharge to enter the MS4.

Illicit discharge means any discharge to a municipal storm sewer that is not composed entirely of stormwater except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges from firefighting activities. See 40 CFR 122.26(b)(2).

Interconnection means the point (excluding sheet flow over impervious surfaces) where the Permittee's MS4 discharges to another MS4 or other storm sewer system, through which the discharge is eventually conveyed to a water of the United States. Interconnections shall be treated similarly to outfalls throughout the Permit.

Low Impact Development or LID means stormwater management and land development techniques, controls and strategies applied at the parcel and subdivision scale that emphasize conservation and use of on-site natural features integrated with engineered, small scale hydrologic controls to more closely mimic pre-development hydrologic functions.

Method Detection Limit (MDL) means the minimum concentration of a substance (analyte) that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given matrix containing the analyte.

Minimum Level (ML) means either the sample concentration equivalent to the lowest calibration point in a method or a multiple of the method detection limit (MDL). Minimum levels may be obtained in several ways: They may be published in a method; they may be sample concentrations equivalent to the lowest acceptable calibration point used by a laboratory; or they may be calculated by multiplying the MDL in a method, or the MDL determined by a lab, by a factor.

MEP or maximum extent practicable, means the technology-based discharge standard for municipal separate storm sewer systems to reduce pollutants in stormwater discharges that was established by Section 402(p) of the Clean Water Act, 33 U.S.C §1342(p).

Minimize means to reduce and/or eliminate to the extent achievable using control measures (including BMPs) that are technologically available, economically practicable, and achievable in light of best industry or municipal practices.

MS4 means "municipal separate storm sewer system," and is used in this document to refer to 'Small Municipal Separate Storm Sewer System' as defined in 40 CFR 122.26(b)(16). The term, as used in the context of this Permit, refers to those portions of the municipal separate storm sewer systems owned and/or operated by the entities named herein. See also *Municipal*

Separate Storm Sewer, and Small MS4.

Municipality means a city, town, borough, county, parish, district, association, or other public body created by or under State law and having jurisdiction over disposal of sewage, industrial wastes, or other wastes, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA.

Municipal Separate Storm Sewer is defined in 40 CFR §122.26(b)(8) and means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains): (i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under Section 208 of the CWA that discharges to waters of the United States; (ii) Designed or used for collecting or conveying stormwater; (iii) Which is not a combined sewer; and (iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR §122.2.

National Pollutant Discharge Elimination System (NPDES) means the national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of CWA [40 CFR §122.2].

Nuisance means anything which is injurious to the public health or an obstruction to the free use, in the customary manner, of any waters of the State [IDAPA 58.01.02.010.67].

Outfall is defined at 40 CFR §122.26(b)(9) means a point source (see definition below) at the point where a municipal separate storm sewer discharges to waters of the United States, and does not include open conveyances connecting two municipal separate storm sewers or pipes, tunnels, or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States.

Owner or operator means the owner or operator of any “facility or activity” subject to regulation under the NPDES program.

Permanent Stormwater Controls, or practices, permanent controls, and/or Post-construction stormwater management controls means those structural and non-structural controls that are designed to treat or control pollutants in stormwater runoff on a permanent basis.

Point Source is defined at 40 CFR §122.2 and means any discernible, confined, and discrete conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operation, landfill leachate collection system, vessel or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.

Pollutant means dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials [except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. § 2011 et seq.)], heat, wrecked or discarded equipment, rock, sand, cellar dirt and industrial, municipal, and agricultural waste discharged into water [40 CFR §122.2].

Pollutant(s) of concern, for the purposes of this Permit, means any pollutant identified by IDEQ or WDOE as a cause of impairment of any water body that receives MS4 discharges authorized under this Permit. See also “impaired water.”

Post- construction stormwater management controls or “permanent stormwater controls” means those controls designed to treat or control runoff on a permanent basis once construction is complete. See also “new permanent controls” and “existing permanent controls.”

Redevelopment, for the purposes of this Permit, means the alteration, renewal or restoration of any developed land or property that results in land disturbance of one acre or more, or less than one acre that is part of a common plan of development or sale that exceeds one acre, and that has one of the following characteristics: land that currently has an existing structure, such as buildings or houses; or land that is currently covered with an impervious surface, such as a parking lot or roof; or land that is currently degraded and is covered with sand, gravel, stones, or other non-vegetative covering.

Source control means practices that control stormwater before pollutants have been introduced into stormwater.

Stormwater and *storm water runoff* as used in this Permit means stormwater runoff, snow melt runoff, and surface runoff and drainage, and is defined at 40 CFR §122.26(b)(13). “Stormwater” means that portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, channels, or pipes into a defined surface water channel or a constructed infiltration facility.

Stormwater Control Measure or *Stormwater Management Program Control Measure*, means the physical, structural, and/or managerial measures that, when used singly or in combination, reduce the downstream quality and quantity impacts of storm water runoff. Also, stormwater control measure means a permit term or condition used to prevent or control the discharge of pollutants. This may include a schedule of activities, prohibition of practices, maintenance procedures, or other management practices. Stormwater control measures may include, but are not limited to, treatment requirements; operating procedures; practices to control plant site runoff, spillage, leaks, sludge, or waste disposal; or drainage from raw material storage. See *best management practices* (BMPs). Minimum stormwater control measures are defined 40 CFR §122.34(b).

Stormwater Management Practice or *Stormwater Management Control* means practices that manage stormwater, including structural and vegetative components of a storm water system.

Stormwater Management Program (SWMP) refers to a comprehensive program to manage the quality of storm water discharged from the municipal separate storm sewer system. For the purposes of this Permit, the SWMP consists of the actions and activities conducted by the Permittee as required by this Permit and described in the Permittee’s SWMP Document. A “SWMP Document” is the written summary describing the unique and/or cooperative means by which an individual Permittee or entity implements the specific stormwater management control measures required by this Permit within their jurisdiction.

Stormwater Pollution Prevention Plan (SWPPP) means a site-specific plan designed to describe the control of soil, raw materials, or other substances to prevent pollutants in stormwater runoff; a SWPPP is generally developed for a construction site, or an industrial facility. For the purposes of this Permit, a SWPPP means a written document that identifies potential sources of pollution, describes practices to reduce pollutants in stormwater discharges from the site, and identifies procedures or controls that the site operator will implement to reduce impacts to water quality and comply with applicable Permit requirements.

Small municipal separate storm sewer system, or Small MS4, is defined at 40 CFR 122.26(b)(16) and (17), respectively, and means all separate storm sewers that are: (i) owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over

disposal of sewage, industrial wastes, stormwater, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States; (ii) not defined as "large" or "medium" municipal separate storm sewer systems pursuant to 40 CFR 122.26(b)(4) and (b)(7), or designated under paragraph 40 CFR 122.26(a)(1)(v); and (iii) includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.

Snow management means the plowing, relocation, and collection of snow.

Total Maximum Daily Load, or TMDL means the sum of the individual wasteload allocations for point sources, load allocations (LAs) for non-point sources, and natural background. Such load shall be established at a level necessary to implement the applicable water quality standards with seasonal variations and a margin of safety which takes into account any lack of knowledge concerning the relationship between effluent limitations and water quality [IDAPA 58.012.02.010.100].

Toxic Substance is defined at IDAPA 58.01.02.010.99, and means any substance, material or disease-causing agent, or a combination thereof, which after discharge to waters of the State and upon exposure, ingestion, inhalation or assimilation into any organism (including humans), either directly from the environment or indirectly by ingestion through food chains, will cause death, disease, behavioral abnormalities, malignancy, genetic mutation, physiological abnormalities (including malfunctions in reproduction) or physical deformations in affected organisms or their offspring. Toxic substances include, but are not limited to, the one hundred twenty-six (126) priority pollutants identified by EPA pursuant to Section 307(a) of the federal Clean Water Act.

Treatment means the reduction and removal of pollutants from stormwater.

Uncontaminated, for the purposes of this Permit, means that the MS4 discharge does not:

- result in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 117.21 or 40 CFR 302.6 at any time since November 16, 1987; or
- result in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 110.6 at any time since November 16, 1987; or
- Contribute to a violation or exceedance of an applicable Idaho Water Quality Standard.

Upset means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the Permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation [40 CFR §122.41(n)].

Waters of the United States or waters of the U.S. means those waters defined in 40 CFR §120.2.

APPENDIX A - ADDRESSES & CONTACT INFORMATION

1. Alternative Control Measure Requests, Notifications, and Permit Renewal Applications:

Such documents must be signed as required by Part 7.5, and submitted by U.S. Postal Mail to both EPA and IDEQ addresses below:

*Director, Water Division
Attn: ID MS4 Permit Coordinator
U.S. EPA, Region 10
1200 6th Avenue, Suite 155
Mail Code 19-C04
Seattle, Washington 98101*

*Regional Administrator
Lewiston Regional Office
Idaho Department of Environmental Quality
1118 F Street
Lewiston, Idaho 83501*

2. Reporting of Discharges Containing Hazardous Materials or Deleterious Material:⁴

Pursuant to IDAPA 58.01.02.850, all spills of hazardous material, deleterious material or petroleum products which may impact waters (ground and surface) of the state shall be immediately reported.

Call 911 if immediate assistance is required to control, contain or clean up the spill.

If no assistance is needed in cleaning up the spill, contact the Lewiston Region DEQ office during normal working hours at 208-799-4370 or Idaho State Communications Center after normal working hours.

If the spilled volume is above federal reportable quantities, contact the National Response Center.

For immediate assistance: Call 911

National Response Center: (800) 424-8802

Idaho State Communications Center: (800) 632-8000

See also Part 7.9 (*Twenty-Four Hour Notice of Noncompliance Reporting*).

3. Annual Reports, including any necessary attachments as required by this Permit:

Such documents must be signed as required by Part 5, and submitted by U.S. Postal Mail to both EPA and IDEQ addresses below:

*U.S. EPA, Region 10
Enforcement & Compliance Assurance
Division
1200 6th Avenue, Suite 155
Mail Code 20-CO4
Seattle, Washington 98101*

*Regional Administrator
Lewiston Regional Office
Idaho Department of Environmental Quality
1118 F Street
Lewiston, Idaho 83501*

⁴ This provision is a condition of the IDEQ's *Final §401 Water Quality Certification for the University of Idaho Municipal Separate Storm Sewer System; NPDES Permit # IDS028576*, dated January 25, 2021.

4. General Contact Information for EPA and IDEQ

<i>EPA Region 10</i>	<i>Toll Free Phone Number</i>	<i>Phone Number</i>
Water Division, 1200 6th Avenue, Suite 155 Mail Code 19-C04 Seattle, Washington 98101	(800) 424-4372, extension 6650.	(206) 553-6650
<i>IDEQ State Office</i>	<i>Toll Free Phone Number</i>	<i>Phone Number</i>
Surface Water Program 1410 North Hilton Street Boise, ID. 83706		208-373-0502
<i>IDEQ Regional Office</i>	<i>Toll Free Phone Number</i>	<i>Phone Number</i>
Lewiston Regional Office 1118 F Street Lewiston, Idaho 83501	877-541-3304	208-799-4370

APPENDIX B – SWMP DOCUMENT & ANNUAL REPORT TEMPLATES

This Appendix outlines the content of the SWMP Document and Annual Reports and provides an example template for each required document.

Appendix B.1 - SWMP Document Template (see Separate Document)

Appendix B.2 - Annual Report Form (See Separate Document)

APPENDIX B – ANATEK QA PLAN



Quality Assurance Plan

1282 Alturas Drive
Moscow, ID 83843
(208) 883-2839


504 E Sprague Ave. #D
Spokane, WA 99202
(509) 838-3999

Revision No. 17

Effective Date: 1 November 2022

Approvals:

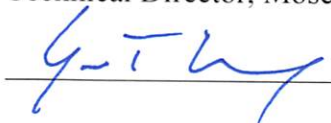
Mike Pearson
Lab Director


Date: 10/19/22

Todd Taruscio
Lab Manager, Moscow


Date: 10/18/22

Erin Linskey
Technical Director, Moscow


Date: 10-18-22

Kathy Sattler
Lab Manager, Spokane


Date: 10-20-2022

Gene Solomon
QA Officer, Moscow


Date: 10/18/22

Leah Clappes
QA Officer, Spokane


Date: 10/20/22



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In lieu of page numbers, click the links in the PDF document

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Introduction

Anatek Labs is a private, full service, multi-state certified analytical laboratory. We are committed to providing the highest quality environmental, agricultural, residential, and industrial testing services in a timely and cost-effective manner. We have established quality systems to ensure the quality and integrity of our work, and we are committed to enacting these quality measures and ensuring compliance with applicable *National Environmental Laboratory Accreditation Program* (NELAP) / *The NELAC Institute* (TNI), including the 2016 TNI Standard, and ISO 17025:2017 standards

Anatek Labs has integrated many *Quality Assurance* (QA) practices into its measurement activities. These QA practices are designed to generate high quality data in an efficient and cost effective manner. Anatek Labs employs a laboratory-wide Quality Assurance Program designed to assess and monitor the ongoing quality of the testing performed in its facilities. Its purpose is to identify and correct problems as they occur and, if possible, to determine in advance potential problem areas and institute measures for their resolution. The Quality Assurance Committee will oversee all QA activities to assure the accurate, reliable, and prompt reporting of testing results. This document describes Anatek Labs' Quality Assurance Plan as it relates to operations within the laboratory. While this document strives to be inclusive, much of the Anatek Labs quality plan is incorporated in the laboratory and method *Standard Operating Procedures* (SOPs) referenced in the Appendix.

This QA Plan addresses all the minimum required elements described in the Guidelines and Specifications for Preparing Quality Assurance Program Plans (QAMS-004 / 80), Interim Guidelines and Specifications for Preparing Quality Assurance Project Plans (QAMS-005 / 80), Guidance on Preparation of Laboratory Quality Assurance Plans (EPA 910 / 9-92-0332), and ISO 17025:2017.

Quality Assurance Policy Statement

It is the policy of Anatek Labs that there shall be sufficient quality assurance activities conducted to ensure that all data generated, processed, and reported will be scientifically valid and of known and documented quality. In addition, the use of all aspects of this quality system will continually improve the effectiveness of the laboratory and the quality system. All data generated by Anatek Labs, unless acknowledged and authorized by the submitting party, will be of known precision and accuracy and legally defensible. Quality assurance activities are designed in the most cost-effective fashion possible without compromising data quality objectives. The laboratory staff adheres to the requirements and specifications stated in this Quality Assurance Plan. All data reported meets the applicable requirements for TNI, *Environmental Protection Agency* (EPA) and/or any State specific methods used. For specific method requirements refer to SOPs, current EPA methods, the most current edition of Standard Methods, and/or state specific methods.

All employees must read, understand, and follow the provisions of this Quality Assurance Plan.

Confidentiality Policy Statement

All client information at Anatek Labs is considered confidential. No information will be given out without the express verbal or written permission of the client. Information about the customer obtained from sources other than the customer (e.g., complainant, regulators) shall be confidential between the customer and the laboratory. The source of this information shall be confidential to the laboratory and shall not be shared with the customer, unless agreed by the source. All reports generated will be held in the strictest of confidence and issued only to the client. The exceptions to this policy would be those mandated by law (e.g., positive *E. coli* in public water systems that are required to be reported to State Regulatory Agencies, MCL violations, etc.). When the laboratory is required by law or authorized by contractual arrangements to release confidential information, the customer or individual concerned shall, unless prohibited by law, be notified of the information provided. All employees of Anatek Labs will at all times adhere to this policy.

Code of Ethics/Conduct



The Anatek Organization is a team and each team member is expected to maintain a high level of professionalism. Each employee is responsible for their work, and that work must be conducted ethically, legally, and in accordance with standard operating procedures and applicable methods and regulations. Employees are expected to perform their duties with excellence, and to contribute to an environment where their co-workers can efficiently perform their duties and maintain focus on the overall benefit of the Anatek team, our customers, public health, and the environment. The penalties for violating the Code of Ethics can range from verbal reprimands to loss of position. No person at Anatek Labs will in any way be put under undue pressure, financial or other, to complete their assigned tasks in violation of this code.

Data Integrity, Fraud Prevention & Detection

Anatek Labs actively works to insure that the data produced is of the highest quality and legally defensible. The data integrity system includes data integrity training for all new employees and annual refresher training for all employees, signed data integrity documentation, in-depth monitoring and review of data, and proficiency testing samples. At a minimum, 10% of all data packets generated are reviewed by the QAU or laboratory supervisors (current practice is close to 100% review). If discrepancies are found management is notified. Blind samples are prepared as needed to check for fraud. If an employee is found to have committed a fraudulent act they will be dismissed.

Investigations resulting from data integrity issues will be conducted in a confidential manner until they are completed.

Policy on Waste, Fraud and Abuse

Under no circumstances is the willful change or fraudulent manipulation of analytical data condoned. Such acts are to be reported immediately to management for appropriate corrective action. Reported acts will be assessed on an individual basis, and resulting actions will be consistent with Anatek policies and could result in dismissal.

Falsification of data in any form will not be tolerated. While much analytical data is subject to professional judgment and interpretation, outright falsification, whenever observed or discovered, will be documented and appropriate remedies and punitive measures will be taken toward those individuals responsible.

Electronic Signatures

Much laboratory data is generated or reviewed electronically. Certain systems allow or require electronic signatures. When an electronic signature is executed, that electronic signature has the same legal standing as a regular hand-written signature.

In general, software that allows electronic signatures will be configured so that the electronic signature records the user ID and/or name of the person executing the signature, and requires a password to verify identity. Accordingly, passwords should be secure, and not shared.

Often, Anatek Labs reports will have the signature of the Lab Manager or other certifying authority displayed as an image file. These signatures have the same legal standing as a regular hand-written signature, and should be included on the laboratory's signature log.

Customer Service

Anatek's reputation has been built upon service to the customer. The laboratory is always willing to communicate and cooperate with customers to ensure their requirements are met, provided confidentiality to other customers can be ensured. Feedback from customers, including complaints, is used to improve laboratory operations and services.

New Work Requests and Contracts



It is the policy of Anatek Labs to consider new projects and customer testing requests that fall within the scope of our services and expertise. The lab is constantly expanding its abilities by seeking new certifications, purchasing new equipment, and hiring quality personnel. New work requests are reviewed to ensure that the lab has the appropriate facilities, resources, and expertise to perform the analyses required.

Most of the work contracted to Anatek Labs is for regulated projects analyzed by accredited methods. Specialty projects are reviewed and established by the Lab Director, Lab Manager, and/or Technical Directors, and the technical, legal, and financial considerations are established via correspondence and contracts, and reviewed as necessary. Project-related documentation (e-mail, contracts, quotes, etc.) is maintained (and reviewed as necessary) by the Lab Manager and/or Lab Director.

If Anatek Labs is unable to perform a particular analysis we will find a certified lab to subcontract the work. The above policy is at the discretion of the Lab Director and is subject to change.

Quality Assurance Program Management and Implementation

Overall responsibility for quality assurance lies with the Laboratory Director. The primary QA management of the laboratory rests with the Laboratory Manager. To provide quality assurance oversight and assistance to the Laboratory Manager, a QA Officer is appointed by and reports to the Laboratory Director. The QA Officer is granted sufficient resources to ensure the proper execution of the QA Plan and to recommend and implement specific QA policies and procedures.

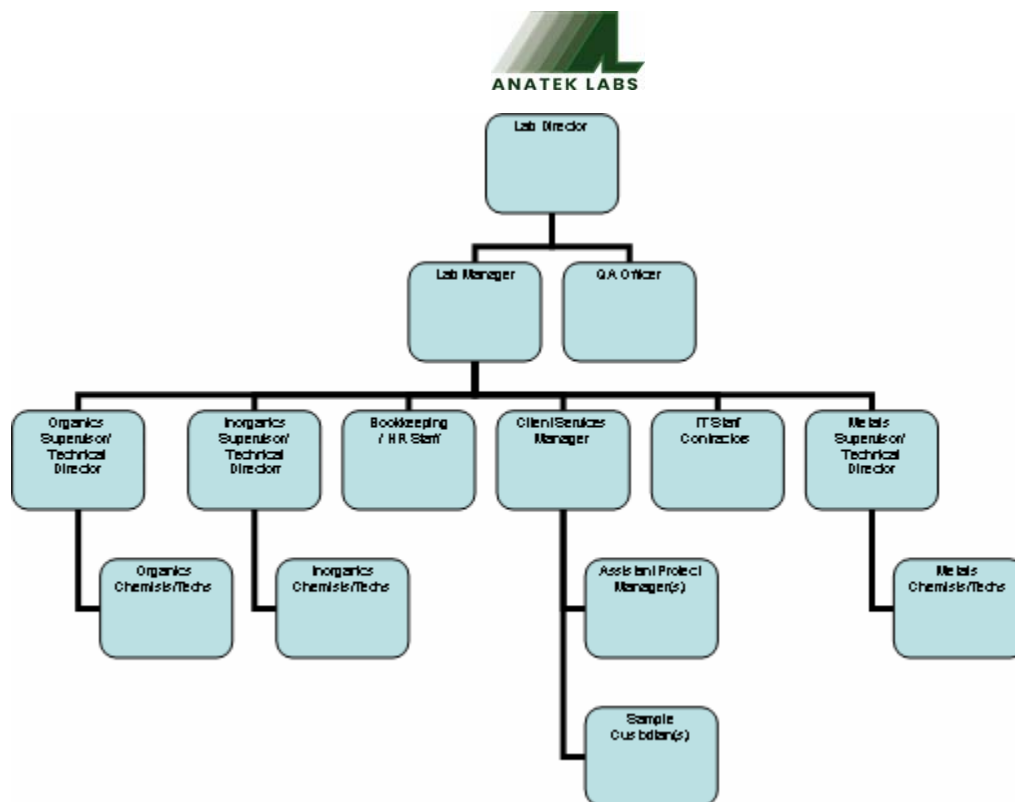
QA Officer

The QA Officer is appointed by the Laboratory Director to oversee specific QA policy and procedure development, implementation, and adherence at Anatek Labs. The QA Officer is responsible for auditing internal operations and ensuring compliance with QA criteria established by this QA Plan and other documented policies and procedures. The QA Officer assesses all QA systems on an annual basis. Results of all findings are documented and corrective action recommendations, if any, are submitted to the QA Committee, Laboratory Manager and affected staff members.

The QA Officer is responsible for documentation and evaluation of specific policies and procedures. Standard Operating Procedures are kept on file documenting specific procedures employed to ensure the validity and acceptability of data generated at Anatek Labs. Materials purchased for quality control purposes are received with a Certificate of Analysis from the manufacturer. Certificates are kept on file for review if necessary. The QA Officer is responsible for coordinating and reporting for all performance evaluation samples, maintaining and updating certifications and accreditations, and monitoring corrective actions.

Laboratory Organization, Position Responsibilities and Personnel Qualifications

Training records and demonstrations of capability are maintained in employee training folders, as are job descriptions. A general organizational chart showing relationships and chains of command is shown below. A more detailed organizational chart, with updated individual names, is shown in the Appendices.



Laboratory Director

The Laboratory Director is responsible for overall technical direction and business leadership of Anatek Labs. The Laboratory Director oversees laboratory operations, and appoints a Laboratory Manager and Quality Assurance Manager to implement laboratory procedures, based on the current market, technological advances in equipment, and methods.

The Laboratory Director is responsible for assuring that the provisions of this QA Plan are met, and that adequate resources are available for technical operations and quality systems oversight.

The Laboratory Director is a direct liaison to the Corporation's Board of Directors (BOD) and must attend a BOD meeting at least once a year, or as necessary to discuss equipment purchases, managerial changes, contracts, and major SOP and QA changes.

All Laboratory Managers and QA Officers report directly to the Laboratory Director.

The Laboratory Director may serve as Laboratory Manager, Technical Director, Systems Manager, and/or Analyst if these positions are not filled for any reason.

The Laboratory Director must have a minimum BS in a science or engineering field and 5 years of managerial experience in an environmental laboratory or an equivalent combination of education and experience.

Laboratory Manager

The Laboratory Manager is responsible for overseeing the daily operations of Anatek Labs. The Laboratory Manager, in conjunction with the Technical Directors, is responsible for coordinating laboratory activities with the overall goal of efficiently producing high quality data in a reasonable time. The Laboratory Manager is responsible for monitoring the validity of the analyses performed and data generated and for monitoring standards of performance in quality control and quality assurance.

The Laboratory Manager reports directly to the Laboratory Director and may act as Interim Director during extended absence of the Laboratory Director.

Additionally, the Laboratory Manager will provide technical support to customers and coordinate projects to meet specific customer needs.



The Laboratory Manager is responsible for the maintenance of standards and materials in accordance with the QA Plan, to ensure uninterrupted operation of the laboratory.

All Section Managers and Analysts not reporting to the Technical Directors report directly to the Laboratory Manager.

In events where employee scheduling or current workload is such that new work cannot be incorporated without missing holding times or data quality objectives, the Laboratory Manager has authority to refuse samples, modify employee scheduling, or re-schedule projects.

The Laboratory Manager, in coordination with the area Supervisors, QA personnel, and Technical Directors, is responsible for determining in which QA proficiency testing programs the laboratory will participate, and which accreditations the laboratory will pursue. It is the responsibility of the Laboratory Manager to ensure that the laboratory sections perform the tasks necessary to complete the proficiency testing required to maintain certification and accreditation.

The Laboratory Manager will attend managerial and/or staff meetings at which the topic of QA is discussed.

The Laboratory Manager can act as Analyst, Supervisor, or Technical Director if, for any reason, the positions are not filled.

The Laboratory Manager is responsible for all human resource decisions within the laboratory except for employees reporting directly to the Laboratory Director.

If the Laboratory Manager is to be absent for more than 15 days, a Technical Director (or other supervisor) will be named to serve as the temporary Laboratory Manager.

The Laboratory Manager must have a minimum BS in a science or engineering field and 5 years of managerial experience in an accredited environmental laboratory, or an equivalent combination of education and experience.

QA Officer

The QA Officer is designated by the Laboratory Director. The QA Officer serves as the focal point for QA/QC and is responsible for the oversight and/or review of quality control data. The QA Officer functions independently from laboratory operations (answering directly to the Lab Director), and is able to evaluate data objectively without managerial influence. The QA Officer is responsible for conducting internal audits, and for notifying management of any deficiencies in the quality system, and for monitoring corrective actions. The QA Officer is responsible for maintaining the currency of this QA Plan, and will help develop, implement, and maintain Standard Operating Procedures appropriate to the procedures employed within Anatek Labs. The QA Officer is responsible for ensuring all applicable regulatory agency requirements are met.

The QA Officer must have a minimum BS in a science or engineering field and two years experience in QA/QC or an equivalent combination of education and experience.

Inorganic Supervisor

The Inorganic Supervisor is responsible for training, overseeing and assisting inorganic technical staff and operations. The Inorganic Supervisor assures adherence to Standard Operating Procedures and Quality Assurance activities. The Inorganic Supervisor should be a Chemist II or III.

The Inorganic Supervisor must have a minimum BS in a science or engineering field and 2 years of laboratory experience, or an equivalent combination of education and experience.

Microbiology Supervisor

The Microbiology Supervisor is responsible for quality microbiological results by maintaining the laboratory microbiology program and services within the framework of the lab QA guidelines. The Microbiology Supervisor is responsible for department oversight and training/supervising the microbiology technicians.



Microbiology Supervisor must have at least two years experience performing microbiological analysis in an environmental laboratory.

Organic Supervisor

The Organic Supervisor is responsible for overseeing and assisting organic chemistry technical staff in their daily duties. The Organic Supervisor assures adherence to Standard Operating Procedures and Quality Assurance activities. The Organic Supervisor should be a Chemist III.

The Organic Supervisor must have a minimum BS in a science or engineering field and 2 years of laboratory experience, or an equivalent combination of education and experience.

Radiation Safety Officer

The *Radiation Safety Officer* (RSO) is responsible for overseeing and assisting radiochemistry technical staff in their daily duties, and for radiation safety training for employees. The Radiation Safety Officer assures adherence to NRC, EPA, and NELAC regulations relating to radionuclides, as well as to the Anatek Radiation Safety Plan and applicable SOPs.

The Radiation Safety Officer must have a minimum BS in a science or engineering field, 2 years of radionuclide experience, and/or an equivalent combination of education and experience. In addition, the RSO must have completed Radiation Safety Officer training.

Technical Staff (Chemists, Lab Technicians, etc.)

Technical Director

Technical Directors are responsible for providing scientific leadership and vision. One or more Technical Directors will manage and coordinate activities of laboratory departments as designated by the Laboratory Manager. The Technical Directors will work with the Laboratory Manager to ensure that all lab QA/QC practices are met, to produce data that meets or exceeds the quality objectives of the QA Plan, specific customers or projects, and regulatory requirements.

The Technical Directors will provide technical support to laboratory staff and investigate new areas of interest to the company by utilizing methods development and technical advancements. The Technical Directors will be available as needed to fill in for Chemist(s) in the event of an absence or job opening. Technical Directors may serve as area Supervisors, and vice versa.

The Technical Directors will be the primary contact for specified customers and provide project management and advice to those customers. Additionally, the Technical Directors will prepare final customer reports as needed.

The Technical Directors will be responsible for non-routine instrument maintenance and troubleshooting and, if needed, obtain outside technical assistance for equipment maintenance or repairs as necessary.

The Technical Directors must have at least 5 years of applicable laboratory experience and a minimum of a BS in a science or engineering field.

Chemist (I, II, III)

The Chemist is responsible for the analysis of samples and the generation of high quality data in accordance with the laboratory SOPs and QA/QC.

The Chemist is responsible for making sure all data generated by them is entered into the appropriate database in the correct manner and that raw data packets are signed and archived properly.

The Chemist reports daily to an area Supervisor.



Additional duties of the Chemist may include, but not be limited to, preparation of samples for analysis, maintenance of lab equipment, and providing technical assistance to lower-level laboratory staff. The Senior Chemist in the laboratory may be asked to perform supervisory duties as related to operational aspects of the laboratory. In the event that this is required for any reason, these supervisory duties will be assigned by the Lab Manager and/or Lab Director. The Chemist may perform all of the duties of Laboratory Technician.

The position of Chemist is a full time or part time hourly position and may be divided into three levels, Chemist I, II, and III. Chemist I must have the equivalent of a Bachelors degree in Chemistry or a closely related science. Additionally, Chemist II must have at least 2 years of environmental or closely related lab experience. Chemist III must have a Bachelors degree plus 5 years of environmental or closely related lab experience.

Laboratory Technician/Microbiology Technician

The Laboratory Technician (chemistry or microbiology) is responsible for providing support in the form of sample analyses, sample preparation, and general lab maintenance. This may include tasks such as filling out daily maintenance logs, chemical inventories, and laboratory cleaning (glassware, etc).

The Laboratory Technician reports to an area Supervisor or the Laboratory Manager.

The Laboratory Technician may be divided into three levels, Technician I, II and III. Lab Technician I must have a high school diploma or GED. Lab Technician II must have at least 1 year of experience in an environmental lab or equivalent secondary education. Lab Technician III must have a bachelor's degree in chemistry or closely related science or equivalent work experience.

Staff

Systems Administrator

The Systems Administrator is responsible for overseeing all information systems infrastructure. Infrastructure is defined as all hardware including computer workstations, servers and IT support equipment plus all laboratory equipment that interfaces with the network or database as well as all software and applications resident on the system.

The Systems Administrator reports directly to the Laboratory Director. The Systems Administrator must have a minimum BS in a computer science or information technology field or an equivalent combination of education and experience.

Systems administration may be outsourced to contractors, depending upon staffing needs.

Client Services/Project Manager

The Client Services/Project Manager is responsible for all phases of customer service including but not limited to project management, client interaction, reporting, invoicing, office management, sample distribution, and purchasing. The Client Service/Project Manager works with laboratory management and staff to address client needs and requests.

The Client Service/Project Manager must have a minimum AA in Business Administration, Accounting or other relevant field and 5 years experience in office administration/supervision or an equivalent amount of education and experience.

Bookkeeper

The Bookkeeper is responsible for: invoicing customers, processing payments, invoices and packing slips, paying A/P invoices, payroll, payroll taxes, federal and state taxes, issuance of purchase orders, and deposits.

The Bookkeeper is responsible for all Human Resource management including insurance and 401K.

The Bookkeeper must have a minimum AA in Business Administration, Accounting or other relevant field and 1 year experience in business accounting or an equivalent amount of education and experience.



Sample Custodian, Shipping/Receiving

The Sample Custodian is responsible for the log-in and tracking of all samples throughout the laboratory. The Sample Custodian is additionally responsible for tracking of all samples sent to subcontract labs. All shipping and receiving is performed and/or monitored by the sample custodian, including sampling kits, trip blanks and pre-preserved sample bottles. The Sample Custodian takes customer orders and insures that incoming samples are correct. The Sample Custodian is an integral part of the customer service team.

The Sample Custodian must have a high school diploma or equivalent.

Sample Procedures (Sample Collection, Storage, Handling and Acceptability)

All samples sent to Anatek Labs are received, logged in and distributed by the Sample Custodian or designees. Samples that are unsatisfactory will not be analyzed unless authorized by the customer. Any such sample will be noted on the Chain of Custody form and with a qualifying statement on the final report noting unsatisfactory sample submission. Corrective measures to ensure proper sample collection and/or handling on future sample sets will be supplied to the customers.

Collection

Samples must adhere to requirements for container, preservation and holding times described on the Anatek Labs website (www.anateklabs.com). Consult the Standard Operating Procedure, EPA SW-846 Manual on Test Methods for Evaluating Solid Waste, the Federal Register on EPA Test Methods Determining Contaminants in municipal and industrial wastes, *Standard Methods for the Analysis of Water and Wastewater* (Standard Methods), or other appropriate documentation for specific instructions on sample collection.

Sample Containers

Most sampling containers are supplied to the customer by the laboratory. Containers are generally used only once and discarded. Some analytical methods utilize containers of a type that is conducive to recycling. In these cases, containers are cleaned according to Standard Operating Procedures to ensure cleanliness. Samples must not be exposed to interfering materials. Consult the laboratory for the proper container material and size for a specific analysis or project. If the samples are collected and stored for transport in inappropriate types of containers, the laboratory may not be able to accurately quantify the amount of the desired components. In this case resampling may be required.

Preservation Methods

All samples should be preserved according to the type of matrix, analysis required, and data objectives. If the samples are not properly preserved the analytical results may be inaccurate due to loss by volatilization and/or degradation. Anatek Labs provides sample containers with appropriate preservatives already in the container, when possible. Table 2 in the Appendices contains information on appropriate preservation methods.

Transportation

Samples should be transported to the laboratory by the fastest means possible. In general, samples should be chilled from time of collection to delivery at the laboratory.

Hand Delivery

Personal delivery of samples is ideal, as it is the most secure method. A Chain-of-Custody record must accompany the transfer of the sample if results will potentially be used as evidentiary. The field sampler is responsible for the proper packaging and dispatch of their samples. This responsibility includes sample preservation and the completion of all necessary documents concerning custody.



Shipped Samples

A sealed container should be used to ship samples via a common carrier. Samples within these containers should also be properly sealed, identified and accompanied by appropriate paperwork such as a Chain-of-Custody record or a test request form. Particular care must be taken with shipped samples to ensure that temperature requirements are met. Best results occur when the samples are pre-chilled prior to packing, and are packed with wet ice or a mixture of wet and blue ice packs. Particularly in the summer, expedited shipping helps to prevent samples being received over temperature, as does shipping samples Monday, Tuesday, or Wednesday, to reduce the possibility of samples sitting in a warehouse or truck over the weekend.

Sample Acceptability

Samples received after holding times have expired, in inappropriate containers, or lacking appropriate preservative measures are generally not accepted for testing. Occasionally, a customer will request that a sample be processed even if it is received in an unacceptable condition. In such a case, testing will only proceed after the customer has provided written or verbal acknowledgement of the unacceptable status of the sample and authorized continued testing. Further, a comment, narrative, or explanation of possible negative effects of unacceptable sample submission is placed on the report or attached as a more detailed description.

Sample Logging and Tracking

Standard Operating Procedures have been established for the receiving of samples into the laboratory (SOPs ALI-02 & ALI-18). These procedures ensure that samples are received and properly logged into the laboratory, and that all associated documentation, including chain of custody forms, is complete and consistent with the samples received. Documentation of all sample storage is maintained in order to preserve the integrity of the samples.

Samples delivered to the lab are received by a designated Sample Custodian(s). Verification of sample integrity by the Sample Custodian includes the following activities:

- Assessment of custody seal presence/absence, location and signature
- Temperature of sample containers upon receipt
- Chain-of-Custody documents properly completed (entries in ink, signature present, etc.)
- Sample containers checked for integrity (broken, leaking, etc.)
- Sample is clearly marked and dated (bottle labels complete with required information)
- Appropriate containers (size, type) are received for the requested analyses
- Sample container labels and/or tags agree with chain of custody entries (identification, required analyses, etc.)
- Assessment of proper sample preservation (if inadequate, corrective action is employed)
- *Volatile Organic Compounds* (VOC) containers are inspected for the presence/absence of headspace bubbles (No assessment of proper preservation is performed for VOC containers at time of receipt; preservation is checked after analysis to avoid loss of sample)

Any anomalies or discrepancies observed during the initial assessment are recorded on the chain of custody documents and/or in the *Laboratory Information Management System* (LIMS) sample tracking software. Potential problems with a sample shipment are addressed by contacting the client and discussing the pertinent issues. When a satisfactory resolution has been reached by coordination with the client, the log-in process may commence and analysis may begin. Any changes in documentation resulting from these discussions are documented and authorized directly by the customer. During the log-in process, each sample is given a unique laboratory code and a login report is generated. The login report contains client information, sample descriptions, sample matrix information, required analyses, sample collection dates and analysis due dates and other pertinent information.

Facility security and access is important in maintaining the integrity of samples received at Anatek Labs. Access to the laboratory is limited to authorized personnel except for the sample receipt areas, which are manned during business hours.

Samples are stored appropriate to the analysis requested until they undergo analysis. Anatek Labs stores samples in one of many refrigerators, freezers or other storage locations, depending on the type of analysis and the matrix of the



sample. Anatek Labs has several refrigerators for storage of samples. These refrigerators are segregated by matrix type (soil or water) and method of analysis. Drinking water, wastewater and soil samples are segregated and placed in separate refrigerators. The samples are further separated into dedicated refrigerated storage of VOC samples. A walk-in refrigerator is used for sample archival. The temperature of each sample storage unit used at Anatek Labs is monitored daily during operations and the data recorded in a file for future reference.

Samples and sample extracts are retained for up to six weeks then disposed of unless other arrangements have been made in advance. All samples are either returned to the client or disposed of according to approved disposal practices.

Logging

Samples are assigned a unique laboratory identification number. All samples are assigned a number with the following format: MCAZZZZ-XX

Where:

M = Lab identification – M=Moscow, W=Spokane

B = year (C=2022, D=2023, etc.)

A = month (A=January, B=February, etc.)

ZZZZ = work order number (for that month)

XX = sample number

For example, MDI0222-02 would be the second sample of MDI0222, the 222nd work order in Moscow in September 2023. WCA0007-01 would be the first sample of WCA0007, the 7th work order received in Spokane in January 2022.

Tracking

Samples are tracked by their individual log-in numbers. As testing is completed the LIMS is updated and the data archived.

Sample Custody and Legal Defensibility

Anatek Labs routinely tests samples used as legal evidence. A primary consideration for the legal credibility of analytical data is the ability to demonstrate that samples were obtained, reached the laboratory and analyzed without improper alteration or contamination. In most instances, Chain-of-Custody forms function only as a sample receipt form and initiate normal, standard sample handling procedures. Samples whose testing results may become evidentiary utilize a formal Chain-of-Custody protocol where evidence of sample collection, shipment, laboratory receipt and laboratory custody until disposal are documented. Chain-of-Custody forms document how physical custody of a particular sample is maintained, how custody is transferred and the identity of individuals responsible for sample collection, shipping, receipt, analysis, storage and disposal. Formal (evidentiary) Chain-of-Custody protocol must be specifically requested by the sample submitter.

The Sample Custodian is responsible for receiving Chain-of-Custody linked samples. Upon receipt of these samples, the Sample Custodian immediately inspects the documentation and the samples to ensure the integrity of the sample shipping container, sample bottles, custody seals and sample temperature upon receipt. Samples received in broken or leaking containers are noted on the Chain-of-Custody form and specific instructions for the lab are then requested of the submitter. If discrepancies between accompanying documentation and information on labels or sample containers exist, clarification is requested from the submitting party and a notation is placed on the Chain-of-Custody form explaining the discrepancy.

After receipt in the laboratory, samples are logged into the internal tracking system. Samples are stored in appropriate refrigerators according to matrix until analyzed. After analysis samples are stored for up to six weeks in designated areas in the walk-in refrigerator.

Collection

All samples should be collected using standard field sampling techniques. The sample container should be labeled with the following information:



1. Date and time of collection
2. Source of sample
3. Preservative used (if any)
4. Name of person collecting sample
5. Sample ID and project name

When appropriate, the container should be sealed so that it cannot be opened without disrupting the seal. Gummed tape or another type of sealant is recommended. The person collecting the sample should date and initial the seal, particularly across the junction of the tape to ensure a tamper-proof seal.

Pertinent data concerning each sample should be entered into a field log book or on the chain of custody. This information may be used to refresh the memory in the event that the collector is summoned as a witness.

The sample should be kept in the custody of the collector or a designated custodian. A sample is in a person's custody if:

1. It is in one's physical possession, or
2. It is in one's view after being in one's physical possession, or
3. It has been placed into a locked area to which the custodian retains the key.

Analytical Procedures

Analytical Standard Operating Procedures are based upon methods appearing in a variety of publications. Most commonly, procedures are adopted from EPA publications, "Methods and Guidance for Analysis of Water," "Test Methods for Evaluating Solid Waste: SW-846," or "Standard Methods for the Examination of Water and Wastewater" online edition. Refer to the Appendices for a listing of the test procedures utilized at Anatek Labs

Data Generation – Data Reduction, Validation and Reporting

Data Reduction

Test results are calculated manually and electronically as specified in the method-specific SOP and SOP ALI-05. Formulae are contained in the manual testing procedures and algorithms are contained in software controlled procedures. All data and calculations are verified by the analyst and posted or uploaded to the LIMS for review by Supervisors or the Laboratory Manager.

Verification / Validation

Some procedures utilize additional visual confirmation and validation of values obtained electronically in the form of strip charts or other printouts. Where possible verification is made using interrelated analytes, (e.g., the concentration of one analyte theoretically cannot exceed the concentration of another). Validation in gas chromatography is accomplished through the use of two dissimilar columns or the use of one or more compound-specific detectors.

Data quality indicators such as blank results, duplicate reproducibility (precision), matrix spike, and quality control sample recoveries (accuracy), and known sample or project histories are checked to verify result validity. Refer to the individual method SOPs for acceptability criteria.

Timely Reporting

Samples are typically tested consecutively as received unless holding times or special arrangements require expedited testing schedules. All testing is scheduled so that accepted holding times can be met.

Reporting Results



After sample analysis, analysts post or upload test results to the LIMS. Prior to reporting, entered data are validated by a Supervisor or the Lab Manager. A final report is generated after all testing for a particular sample is completed, and reports are distributed to the client and any regulatory agency requiring copies.

To the extent possible, samples shall be reported only if all quality control measures are acceptable. If a quality control measure is found to be out of control, and the data are to be reported, all samples associated with the failed quality control measure shall be reported with an appropriate data qualifier. Failure to meet established analytical controls prompts corrective action. Corrective action may involve a review of the calculations, a check of the instrument maintenance and operation, a review of analytical technique and methodology, and/or reanalysis of quality control and field samples. If a potential problem develops that cannot be solved directly by the responsible analyst, the Laboratory Manager, area supervisors, or the QA Officer may examine and pursue alternative solutions. Resumption of work subsequent to extensive corrective action (i.e., outside the scope of the method or SOP) shall be determined by the Lab Manager or area supervisor. In addition, an assessment will be made in order to ascertain if contact with the client is necessary.

Most solid or soil samples are reported on a dry-weight basis (i.e., corrected for percent-moisture of the sample) and noted as such on the final report, unless the client requests otherwise.

Reporting Levels

Different reporting levels are available, depending upon client and regulatory requests and requirements. Most drinking water projects are reported at Level I; most wastewater projects at Level II. Levels III and IV entail additional reporting costs.

Level I: The report includes results and reporting limits, analysis methods and dates, sample collection and receipt information, and chain of custody documents.

Level II: The report includes all of the information from Level I, as well as batch quality control (QC) information, including blank results, lab control sample results, surrogate recovery information, and matrix spike data.

Level III: The report includes all of the information from Level II, as well as raw analytical data (instrument and/or bench sheet data).

Level IV: The report includes all of the information from Level III, as well as a case narrative and CLP-style documentation if needed.

Uncertainty of Measurement

Anatek Labs attempts, when possible, to identify all the components of measurement uncertainty, and estimate uncertainty of measurements. For most analyses, this is accomplished by following well-recognized and established test methods, and meeting method and SOP-specified quality control measures (blanks, CCVs, matrix spikes, etc.) Successful analysis of quality control samples helps to establish the certainty of an analytical measurement. To reduce the uncertainty of measurement, results are generally not reported below the lower limit of quantitation or above the upper limit of quantitation. If results outside these ranges must be reported, qualifiers, flags, or explanations are used to identify the increased quantitative uncertainty.

A method accuracy assessment may be generated from the results of spiked field samples (*matrix spike* or MS). Taking at least the five most recent spiked samples, calculate the mean and standard deviation of the recoveries. The accuracy assessment is expressed as the mean \pm 2*standard deviation. For example, if the mean recovery is 90% and the SD is 10%, accuracy would be expressed as 70-110%. A similar statement may also be generated using *Laboratory Control Samples* (LCS).

Radionuclide analysis incorporates a measure of uncertainty into reported results. The uncertainty of a measurement is a factor of background, counting times, and instrument considerations, and is calculated according to equations in the analytical method, and reported alongside the analytical results.

Notification of MCL Violations



If analysis of a drinking water sample indicates nitrate, coliform or E. coli results in excess of EPA-established *Maximum Contaminant Levels* (MCLs) (or if other contaminants are identified at 4 x MCL), the client and the appropriate regulatory agency or agencies shall be notified within 24 hours of the validation of the project. For other results exceeding the MCL, notification shall take place within 48 hours or two business days after validation of the sample result. This notification may be by phone, fax, or e-mail, depending upon the requirements of the regulatory agency.

Internal Quality Control

An Internal Quality Control program has been designed to ensure systematic in-house production of high quality analytical data. The objectives of this program are:

1. To provide a measure of the precision of analytical methods;
2. To maintain a continuing assessment of the accuracy, precision and completeness of individual analyses performed in the laboratory;
3. To identify methods that can be strengthened and provide a source of data to overcome these deficiencies and weaknesses;
4. To detect training needs within the analytical group;
5. To provide a permanent record of instrument performance as a basis for validating data and projecting repair and replacement needs;
6. To upgrade the overall quality of laboratory performance.

Precision

Precision is the ability of an analytical method or instrument to reproduce its own measurement. It is a measure of the variability or random error in sampling, sample handling and in laboratory analysis. The *American Society of Testing and Materials* (ASTM) recognizes two levels of precision: 1) **repeatability** – the random error associated with measurements made by a single test operator on identical aliquots of test material in a given laboratory, with the same apparatus, under constant operating conditions, and 2) **reproducibility** - the random error associated with measurements made by different test operators in different laboratories, using the same method but different equipment to analyze identical samples of test material. At Anatek Labs our “within batch” precision is measured through the use of replicate samples of QC analyses and is expressed as the *Relative Percent Difference* (RPD) between replicate measurements. The “Batch to Batch” precision is calculated from the variance observed in results from analysis of standard solutions of laboratory control samples from multiple analytical batches.

Accuracy

Accuracy is a measure of the closeness of an individual measurement (or an average of multiple measurements) to the true or expected value. Accuracy is determined by calculating the mean value of results from ongoing analyses of standard reference materials, standard solutions, and laboratory-fortified blanks. In addition, laboratory-fortified (matrix spike) samples are also measured; this indicates the accuracy or bias in the actual sample matrix. Accuracy is expressed as *Percent Recovery* (%Rec.) of the measured value, relative to the true or expected value. If a measurement process produces results whose mean is not the true or expected value, the process is said to be biased. Bias is the systematic error either inherent in a method of analysis (e.g., extraction inefficiencies) or caused by an artifact of the measurement system (e.g., contamination). Anatek Labs utilizes several quality control samples and independent calibration verification standards. Bias can be positive or negative, and several types of bias can occur simultaneously – accordingly, only the net, or total, bias can be evaluated in a measurement.

Completeness

Completeness is a measure of the amount of valid data that is obtained, compared to the amount that is expected. For the purposes of this plan, completeness is calculated by dividing the number of samples having valid data by the total number of samples in the project, expressed as a percentage. Anatek’s objective for completeness is 100%.

The specific types, frequencies and processes for quality control sample analysis are described in detail in method-specific standard operating procedures. These sample types and frequencies are described below. In addition, a number of other quality control processes that may impact analytical results are also described below.



Preparation Batch

The basic unit for analytical quality control is the preparation batch. The overriding principle for describing a preparation batch is that all the samples in a batch, both field samples and quality control samples, are to be handled exactly the same way, with the same reagents and standards and instrumentation, and all of the data from each analysis is manipulated in exactly the same manner. For most methods, if a maximum number of samples is specified for a batch, that number is based upon the number of field (client) samples, and does not include quality control samples such as blanks, blank spikes, and MS samples.

The minimum requirements of a preparation batch are:

1. The number of (field) samples in a batch is not to exceed that specified in the Standard Operating Procedure for the procedure being employed (typically 20).
2. All (field) samples in a batch are typically of the same matrix.
3. The QC samples to be processed with the (field) samples typically include:
 - a. *Method Blank* (aka Laboratory Reagent Blank)
Function: Determination of laboratory contamination
 - b. *Laboratory Control Sample* (LCS) (aka *Laboratory Fortified Blank* – LFB or *Blank Spike* - BS)
Function: Assessment of method performance
 - c. *Matrix Spiked (field) Sample* (MS) - when sufficient sample is supplied (aka *Laboratory Fortified Sample Matrix* - LFSM)
Function: Assessment of matrix problems
 - d. Duplicate – either second Matrix Spiked (field) Sample or Duplicate (field) Sample when sufficient sample is supplied (aka Laboratory Duplicate) or LFB Duplicate
Function: Assessment of batch precision
4. A single lot of any particular reagent is used to process the batch of samples.
5. Each operation within the analysis is performed by a single analyst/technician/chemist or by a team of analysts/technicians/chemists.
6. (Field) samples are assigned to batches commencing at the time that sample processing begins. For example: for analysis of metals, sample processing begins when the samples are digested. For analysis of organic compounds, it begins when the samples are extracted.
7. The QC samples are to be analyzed in conjunction with the associated field samples prepared with them.
8. Batch QC refers to the QC samples that are analyzed in a batch of (field) samples.
9. Specific project, program or method SOP requirements may be exceptions to these definitions. If project, program or method SOP requirements are more stringent than these laboratory minimum requirements, then the project, program or method SOP requirements will take precedence.

Analytical Batch

An analytical batch is composed of prepared samples that are analyzed together as a group. An analytical batch usually includes one preparation batch, but it may include multiple preparation batches, including batches prepared on different days or in different matrices. An analytical batch may exceed 20 field samples.

Method Blank (a.k.a. Laboratory Reagent Blank)

The method blank is either analyte-free water or analyte-free soil (when available), subjected to the entire analytical process. When analyte-free soil is not available, anhydrous sodium sulfate, organic-free sand or an acceptable substitute may be used instead. The method blank is analyzed to demonstrate that the analytical system itself is not contaminated with the analyte(s) being measured. The method blank results should be below the levels specified in the method – often less than the *Method Reporting Limit* (MRL) or ½ MRL or less than the *Method Detection Limit* (MDL) or some factor of the MDL for the analyte(s) being tested; otherwise, corrective action must be taken. At least one method blank is included with the analysis of every preparation batch as stated in the method Standard Operating Procedure.

Calibration Blanks



For some methods, *calibration blanks* are prepared along with calibration standards in order to create a calibration curve. Calibration blanks are free of the analyte of interest and, where applicable, provide the zero point of the calibration curve.

Continuing Calibration Blanks

Continuing calibration blank (CCB) samples are solutions of analyte-free water, reagent, or solvents that are analyzed in order to verify the system is contamination-free when continuing calibration standards are analyzed. Not every method requires CCBs. The frequency of CCB analysis is either once every ten (10) samples or as indicated by the method, whichever is greater.

Calibration Standards

Calibration standards are solutions of known concentration prepared from primary standard solutions that are, in turn, prepared from stock standard materials. Calibration standards are used to calibrate the instrument response with respect to analyte concentration. Standards are analyzed in accordance with the requirements stated in the particular method being used. Per TNI guidelines, linear calibration curves should have at least 5 non-zero points; quadratic fit curves should have a minimum of 6 non-zero points. Once a calibration curve has been verified and used for analysis, if CCV standards begin to fail, a new curve must be generated – do not change the curve fit to for acceptable CCVs. Refer to SOP ALI-08 for policies regarding standards.

Initial (or Independent) Calibration Verification Standards

Initial (or independent) calibration verification standards (ICVs) are second-source standards that are analyzed after a calibration and prior to sample analysis to verify the calibration curve. ICVs should be run every time a new calibration is prepared. The ICV standards are prepared from materials obtained from a source independent of that used for preparing the calibration standards. ICVs are also analyzed in accordance with method-specific requirements. ICVs often serve as Quality Control Samples (QCS – see below).

Continuing Calibration Verification Standards (CCV)

Continuing Calibration Verification standards (CCVs) are midrange standards that are analyzed in order to verify that the calibration of the analytical system is still acceptable. Many modern method revisions require low-level (minimum reporting level or MRL) CCVs to verify method performance at the reporting limit. The frequency of CCV analyses and acceptance criteria for accuracy are indicated in the reference method and the Standard Operating Procedure.

Internal Standards

Internal Standards (IS) consist of known amounts of specific compounds that are added to each sample following sample preparation or extraction. Internal standards are generally used in procedures that may be affected by changes in instrument conditions or changes caused by certain matrix effects. Calibration curves and sample results are calculated based upon the ratio of the instrument response to the internal standard response. The integrated area of each sample's internal standard response compared to the initial calibration average or most recent CCV should vary by no more than the limits specified in each method.

Surrogates

Surrogates are organic compounds that are similar in chemical composition and chromatographic behavior to the analytes of interest, but which are not normally found in environmental samples. Depending on the analytical method, one or more surrogates is added to method blanks, calibration and check standards and samples (including duplicate, matrix spike samples, duplicate matrix spike samples and laboratory control samples) prior to extraction and analysis in order to monitor the method performance on each sample. The percent recovery is calculated for each surrogate and recovery is a measurement of the overall method performance. The percent recovery must meet the limits set forth in the SOP or determined from control charting.

Matrix Spikes (a.k.a. Laboratory Fortified Sample Matrix)



Matrix spiked samples (also referred to as Laboratory Fortified Sample Matrix [LFSM] samples) are field samples to which a known amount of the target analyte (or analytes) has been added. The samples are then prepared and analyzed in the same analytical batch in exactly the same manner as routine samples. The spike recovery measures the effects of interferences caused by the sample matrix and reflects the accuracy of the method for the particular matrix in question. Spike recoveries are calculated as follows:

$$\text{Percent Recovery} = ((S - A) \times 100) / T$$

Where:

- S = The observed concentration of analyte in the spiked sample,
- A = The analyte concentration in the original sample, and
- T = The theoretical concentration of analyte added to the spiked sample.

Matrix spiked samples are prepared and analyzed at the levels and frequency noted in the Standard Operating Procedure for the particular analysis. When matrix spike recoveries fall outside of method or control-chart acceptance limits, the analytical results should be qualified as potentially affected by the matrix.

Laboratory Duplicates and Matrix Spike Duplicates

Duplicates are additional replicates of samples that are subjected to the same preparation and analytical scheme as the original sample. Depending on the method of analysis, either a duplicate sample aliquot or a matrix spiked sample and duplicate matrix spiked sample (MS/MSD) are analyzed. The relative percent difference between duplicate analyses or between an MS and MSD is a measure of the reproducibility of a given method and analytical batch. The relative percent difference (RPD) for these analyses is calculated as follows:

$$\text{Relative Percent Difference} = (S1 - S2) \times 100 / S_{\text{avg}}$$

Where S1 and S2 = the observed concentrations of analyte in the sample and its duplicate, or in the matrix spike and its duplicate matrix spike, and S_{avg} = the average of observed analyte concentrations in the sample and its duplicate, or in the matrix spike and its duplicate matrix spike.

Duplicates or MS/MSD analyses are performed at the level and frequency outlined in the Standard Operating Procedure for the analysis being performed.

Duplicates or MS/MSD's are selected on the basis of volume or matrix. Samples with enough volume are selected unless a matrix problem is suspected in which case a sample with enough volume and an appropriate matrix is selected.

Laboratory Control Samples (a.k.a. Laboratory Fortified Blanks or Quality Control Samples or Blank Spikes)

The laboratory control sample (LCS) is an aliquot of analyte-free matrix to which known amounts of the target analyte(s) is (are) added. A standard reference material of known matrix type, containing certified amounts of target analytes, may also be used as a LCS. The LCS sample is prepared and analyzed in the same preparation and analytical batch and in exactly the same manner as the other routine (field) samples. Stock solutions used for LCS's are purchased or prepared independently of calibration standards. The percent recovery (%Rec) of the target analytes in the LCS assists in determining whether the methodology is in control and whether the laboratory is capable of making accurate and precise measurements at the required reporting limit. Comparison of batch-to-batch LCS analyses enables the laboratory to evaluate batch-to-batch precision and accuracy. Acceptance criteria for LCS analyses are either specified in the analytical method or obtained through the use of control charts. A LCS is prepared and analyzed at a minimum frequency specified in the Standard Operating Procedure for the specific method being employed. If an insufficient quantity of sample is available to perform a laboratory duplicate or duplicate matrix spikes, occasionally a duplicate LCS (LCSD) will be prepared and analyzed. Laboratory Control Samples are also referred to as *Laboratory Fortified Blanks* (LFB) or *Quality Control Samples* (QCS), depending upon the method, and are designated as **Blank Spikes** (BS) in Element LIMS.

Interference Check Samples



An *interference check sample* (ICS) is a solution containing interfering elements of known concentration that can be analyzed to verify background and inter-element correction factors in metals analyses.

Post-Digestion Spikes

Post-digestion spikes are samples prepared for metals analyses that have an analyte spike added to determine if matrix effects may be a factor in the results. The spike addition should produce a method-specified minimum concentration above the instrument detection limit. A post-digestion spike is analyzed with each batch of samples, and recovery criteria are specified for each method.

Source and Preparation of Standard Reference Materials

All analytical measurements generated at Anatek Labs are performed using materials and/or processes that are traceable to a Standard Reference Material. Standard Operating Procedures are utilized to trace all quantitative and qualitative determinations to certified reference materials. All metrology equipment (analytical balances, thermometers, etc.) is calibrated using materials traceable to the National Institute of Standards and Technology (NIST) and maintained on a schedule to ensure accuracy.

All sampling containers provided to the client by the laboratory are assured to be free of interfering contaminants by:

1. The container is purchased as pre-cleaned with certificates of analysis available for each bottle type; or
2. The container is cleaned by the laboratory using Standard Operating Procedures; or
3. The specific bottle type and manufacturer has been proven through study to be free of interfering materials; and/or
4. A blank is prepared with a surrogate bottle using laboratory reagent water at the time of sample collection to provide information on possible interferences or contamination resulting from the sample container.

Consumable materials routinely purchased by the laboratory (e.g., analytical standards) are purchased from nationally recognized, reputable vendors. Consumable primary stock standards are obtained from certified commercial sources or from sources referenced in a specific method. Supelco, Ultra Scientific, AccuStandard, Chem Services, Inc., Absolute Standards, Aldrich Chemical Co., J.T. Baker, Spex, E.M. Science, Fisher Scientific, etc. are examples of the vendors used by Anatek Labs. All reference materials that are received are recorded by the technical staff in the appropriate logbook(s) and/or LIMS and are stored under conditions that provide maximum protection against deterioration and contamination. The logbook/LIMS entry includes such information as an assigned logbook identification code, the source of the material (i.e., vendor identification), solvent (if applicable) and concentration of analyte(s), reference to the certificate of analysis and an assigned expiration date. In addition, the date that the standard is received in the laboratory is marked on the container. When the material container is opened for use the first time, the date of opening is recorded on the container. Stock solutions and/or calibration standard solutions are prepared fresh as often as necessary according to Standard Operating Procedures. After preparation, all standard solutions are properly labeled listing analyte concentration, solvent, date, preparatory analyst and expiration date; these entries are also recorded in Element LIMS and/or the appropriate logbook(s). Prior to introduction into the analytical system / process, all in-house prepared reference materials are verified with a second, independent source of the material. Once the reference material has been verified to be accurate, it may then be used for instrument calibration and subsequent quantitative purposes. In addition, an independent source of reference material (QC sample, old PT, etc.) is also used to check the calibration standards for signs of deterioration.

Practical Quantitation Limits (PQL)

The *Practical Quantitation Limit* (PQL) is defined as minimum concentration of a substance that can be definitively quantified by a method. In general, the practical quantitation limit is the lowest calibration standard concentration. Results reported below the PQL (and above the MDL – see below) are qualified on the final report as estimated concentrations.

Practical quantitation limit is also referred to in some methods or regulations as the *Limit of Quantitation* (LOQ), *Minimum or Method Reporting Limit* (MRL), or *Reporting Limit* (RL).

Method Detection Limits (MDL)



The *Method Detection Limit* (MDL) is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and/or is distinguishable from a blank sample. Method detection limits are determined for most analyses performed at Anatek Labs. Refer to Appendix H for specific information on the development of MDLs.

The MDL is also referred to in some methods or regulations as *Minimum Detection Limit*, *Limit of Detection* (LOD) or *Detection Limit* (DL).

In general, Anatek Labs reports results to the lowest calibration point (PQL). Some clients or projects will request reporting to the MDL. Results between the MDL and the PQL are qualified on the final report as estimated concentrations, or 'J-flagged.'

Control Charting

Control charts are used to establish laboratory-specific, performance-generated acceptance limits for many analytical methods. The generation of control charts is routinely performed at Anatek Labs. Refer to Appendix G for specific information on the generation and use of control charts.

Quality Document Control

All Standard Operating Procedures and Quality Assurance Plans are maintained under the control of the QA Officer. The QA Officer is responsible for maintaining all official/authorized versions of all Standard Operating Procedures and Quality Assurance Plans. The master version of each Standard Operating Procedure is maintained by the QA Officer. Copies of SOPs are available to analysts and other personnel via PDF links on each computer workstation. This QA Plan is maintained in the possession of the QA Officer and a copy is distributed to the Laboratory Manager. All original signatures are maintained on the QA Officer's master copy. Any copies or versions of these documents that are distributed outside the laboratory are not controlled or updated.

Additional quality systems documents (bench sheets, facilities maintenance forms, etc.) are tracked in the Master List of Quality Systems Documents, which records the revision number and effective date of approved forms.

All Instrument Activity Logbooks (IALs) and manuals are maintained by the analysts using the equipment. IALs are periodically inspected by the QA Officer to ensure compliance with standard operating procedures (refer to ALI-15). When full, IALs are archived and retired with the piece of equipment.

Analytical and support records, both electronic and hard-copy, are retained in accordance with Anatek Labs data archiving SOPs.

Standard Operating Procedures (SOPs) and Laboratory Notebooks

Anatek Labs maintains a database of SOPs for use in both technical and administrative functions. SOPs are written following the format and content requirements described in the SOP for preparation of SOPs (ALI-01). Each SOP has been reviewed and approved by a minimum of two authorities, the Laboratory Manager and the QA Officer. All SOPs undergo a documented annual review to make sure current practices are described. The QA Officer maintains a comprehensive list of current SOPs. The document control process ensures that only the most currently prepared version of SOP is being used for guidance and instruction. The QA Manual, SOPs, standards preparation logbooks, run logbooks, etc., are all considered crucial to consistent operations at Anatek Labs and all analysts are instructed on the proper usage of each. Anatek Labs maintains a current file, accessible to all laboratory staff, of the promulgated methodology (EPA, Standard Methods, etc.) used to perform analyses as well as this QA Plan and applicable Standard Operating Procedures. (For specific IAL procedures refer to SOP ALI-15.)

Deviation from Standard Operating Procedures

Anatek Labs recognizes that occasionally a deviation from a Standard Operating Procedure may be necessary. In such cases, a written record of the deviation is retained with the sample data and if the deviation affects the data integrity an appropriate data qualifier comment is noted on the analytical report. An example of this would include a special preparative step or procedure not normally performed but perhaps mandated by special matrix concerns.



Modified Procedures

Anatek Labs strives to perform published methods as described in the referenced documents. If there is a material deviation from the published method, the method is cited as a “Modified” method in the analytical report. Modifications to the published methods are listed in the standard operating procedure. Standard operating procedures are available to analysts and are also available to our clients for review, especially those for “Modified” methods. Client approval is obtained for the use of “Modified” methods prior to analysis.

Policy on Manual Integration

Automated integration data reduction software is generally accurate when performing peak integration for chromatographic analyses. However, instances occur where the instrument software does not yield the proper integration and the analytical data is inaccurate. Some examples include, but are not limited to, peak splitting, co-eluting interferences, peak detection failure, peak tailing, and failure to separate peaks. Accurate measurements require an analyst to review peak integration and evaluate if adjustments need to be made.

Manual integration is never appropriate when performed for the purpose of meeting method QC criteria or compliance requirements, avoiding rework or instrument maintenance. Inappropriate manual integrations include peak shaving, peak enhancement, and baseline manipulation.

Violation of this policy is subject to disciplinary action up to and including termination of employment.

Integration Procedure and Review

All data are generated and reduced following the procedures specified in the methods and/or SOPs. Chromatograms are evaluated for chromatography performance criteria, including:

- Baseline noise (3 to 1 signal to noise ratio)
- Peak resolution
- Peak tailing (good column performance should produce symmetrical peaks with minimum tailing for most compounds)
- Peak splitting
- Co-elutions
- Negative spikes in baselines

Corrective action must be taken when the chromatography has deteriorated. Corrective actions include:

- Trimming head of column
- Guard column replacement
- Cleaning detectors and/or ion source
- Cleaning injector ports, replacing ferrule, liner, gold seal or washer
- Identifying leaks
- Replacing the column
- Changing trap
- Change suppressor
- Change eluent
- Change regenerant for IC systems

The analyst must review all automatic integrations for all parameters in the method. This review must include:

- Relative retention time/retention time shifts
- Identification of peaks
- Mass spectrum primary ion abundance – secondary ions maximize within one scan of primary ion (for GC/MS analyses)
- Peak shape



- Interference
- Consistency
- Verification that baseline is clearly visible
- Inspection of auto and manual integration for proper technique and necessity of manual integration

When auto integration is determined to be incorrect (e.g., peak splitting, co-eluting interferences, peak detection failure, peak tailing, and failure to separate peaks), the peak(s) must be manually integrated to correct the area response. Integration must be consistent throughout the analytical run for samples, QC samples, blanks, and calibration standards.

Quality control will include reviewing chromatograms and verifying that manual integrations, when performed, are appropriate and analytically sound.

System and Performance Audits

Laboratory Evaluations and Audits are conducted under the authorization of the QA Committee and all findings and recommendations are submitted to the QA Committee for decisive action. System Audit requests are generated internally and externally. Internal audits are generally scheduled at the frequency noted under the type of review, however, concerns brought to the attention of the QA Committee may necessitate an unscheduled systemic review at the discretion of the QA Committee. External audit requests are referred to the QA Committee for authorization and scheduling of external auditors to review systems.

The following evaluations are performed at Anatek Labs:

Management System Reviews (MSRs)

Management System Reviews (MSRs) are external audits conducted at Anatek Labs. Idaho Department of Health Bureau of Laboratories audits Anatek Labs to assess the adequacy of the overall QA Plan. FL DOH (for NELAP) and ID Bureau of Laboratories perform rigorous on-site inspections of Anatek's QA Plan, adequacy of facilities, Quality Control Records, Performance Evaluations, Standard Operating Procedures and Analyst abilities, and submit audit reports to Anatek Labs. These reports and any corrective actions plans are maintained at Anatek Labs. Washington Department of Ecology also completes an inspection for WA wastewater and soil/solid certification. Anatek Labs facilities are available for customer or regulatory agency inspection of Management Systems as well. Anatek's QA Committee reviews all MSR reports and recommendations. If reports indicate the necessity for corrective action, the QA Committee or its designee will prepare and implement a Corrective Action Plan. The Corrective Action Plan will itemize the specific action necessary to correct the deficiency and define the time-frames and responsible parties for implementation and follow-up.

Technical System Audits (TSAs)

Technical System Audits (TSAs) are both internal and external audits conducted at Anatek Labs. Florida Dept. of Health (NELAP), Idaho Dept. of Health, WA Dept. of Ecology, and Arizona Department of Health Services evaluate Anatek Labs's technical systems. These agencies review calibration records, sampling and measurement procedures, general lab cleanliness, support systems, equipment and facilities, maintenance and repair records, control charts and general operation of the lab. The inspecting agencies prepare audit reports for Anatek Labs and these reports and all responses and corrective action plans are maintained at Anatek Labs. Additionally, Anatek Labs staff performs internal TSAs annually. The QA Officer performs an annual inspection of Standard Operating Procedures, quality systems, calibration and maintenance records, and employee training records. The RSO conducts an annual review of the Radiation Safety Plan. TSA audit reports are prepared by the external auditor or QA and given to the QA Committee or the analyst as appropriate (reference SOP ALI-16). If a report indicates the necessity for corrective action a Corrective Action Plan will be prepared and implemented according to SOP ALI-07. The Corrective Action Plan will itemize the specific action necessary to correct the deficiency and define the time frames and responsible parties for implementation and follow-up. The results from all corrective action plans will be compiled and forwarded to management and/or the QA Committee as necessary.

Proficiency Testing / Performance Evaluation



Proficiency Testing (PT) studies (also referred to as *Performance Evaluation – PE*) are performed according to regulatory requirements for NELAP and the various testing regimens employed at Anatek Labs. Anatek Labs participates in at least two *Water Supply (WS)*, two *Water Pollution (WP)* and two solids/soils (*RCRA – Resource Conservation and Recovery Act*) Performance Evaluations annually. All PE Sample materials are procured from a NIST/NVLAP-approved provider. Acceptable results for each analyte and method used to perform regulatory testing are demonstrated semi-annually. In the event that an unacceptable result is received for a particular analyte, corrective actions are employed. Blind studies may be initiated by the lab to verify performance. Additionally double-blind studies may be conducted when initiated by customers.

Data Quality Audits (DQAs)

Peer review of acceptable blank results, QA/QC sample recovery, matrix spike and matrix spike duplicate recoveries, reproducibility of duplicate samples, and verification of sample calculations is performed on a minimum of 10% of analytical batches (in practice, almost all data packets are reviewed). Errors or deviations from acceptable criteria are noted and data is returned to the generating analyst for correction. In the event that QA/QC criteria for a particular sample or batch of samples cannot be met, all associated sample reports are noted accordingly and may include other relevant discussions. If numerous problems are found with a particular method or analyst, more data packets will be reviewed.

IT Systems Auditing

Information Technology (IT) systems auditing of Anatek Labs is conducted both internally and externally. The external auditing is conducted by IDOH, WA DOE and FL DOH. The agencies review Anatek’s IT SOPs, IT documentation, access security and backup/restore plans during the inspections. Internal audits are performed at least once a year by Anatek QAU with assistance from IT personnel. The internal audits will inspect the network security, network throughput performance, server storage available, backup/restore plan testing and general documentation of the IT systems. An IT systems auditing report is prepared by the external auditor or QAU and given to the QA Committee. If a report indicates that corrective actions are necessary, a Corrective Action Plan will be prepared and implemented by IT personnel. The Corrective Action Plan will specifically address the areas of deficiency and the actions to be taken.

Corrective Action

Corrective action is initiated when deviations or non-conformances with laboratory or regulatory practices are identified. Some examples include unacceptable PT results, internal or external audit findings, data or record review findings, and customer complaints.

Corrective action may take several forms. Some findings (for example, matrix spike recoveries that fail recovery limits) may only require an explanation on the data or the final report, while other findings will initiate a documented Corrective Action Report. Corrective action reports identify the problem noted, an investigation, a root cause analysis of the problem, any actions taken to correct or prevent the problem, and follow-up activities.

Customer complaints will be directed to the Laboratory Manager, QA Manager, and/or section supervisors. Every reasonable effort should be made to address (and correct, if necessary) customer complaints. If the lab is found to be at fault, a corrective action form should be initiated and completed.

Preventative Action

Anatek Labs and its personnel strive to improve the laboratory procedures, including analysis, record-keeping, and customer service. Preventative action is a proactive process to identify opportunities for improvement rather than a reaction to the identification of problems or complaints. When improvement opportunities or preventative actions are identified, action plans will be developed, implemented, and evaluated for effectiveness. All Anatek employees are encouraged to look for and identify potential improvements to lab safety, efficiency, and customer service.



Training & Personnel Qualifications

All personnel involved in any function affecting data quality will have sufficient training and technical expertise to effectively execute their job requirements. The laboratory evaluates all prospective job applicants for scientific knowledge and experience as noted in the job descriptions for the position considered.

New employees receive documented training on the Quality Assurance Plan, laboratory safety, standard operating procedures, and data integrity, as well as method-specific training. A record of specialized training received by or given by the staff is kept in the Personnel Training folders.

In addition to prior work and educational experience, Anatek Labs actively encourages its employees to expand and refine their job skills and knowledge through participation in educational programs. Time off is granted to attend seminars and training sessions put on by instrument manufacturers, regulatory agencies, professional business and scientific organizations, etc. Additionally Anatek Labs conducts in-house training on related topics. Anatek Labs also encourages continuing education through a tuition reimbursement program.

Demonstration of Capability (DOC)

Analysts perform an *Initial Demonstration of Capability* (IDOC) when performing a new method or a method they have not performed in a 12-month period. IDOCs must also be generated for new instruments or if a method undergoes significant changes (e.g., new internal standard or surrogate). For most methods, mean recovery and standard deviation from four replicates of a quality control sample are compared to method or SOP acceptance criteria for the IDOC. Demonstrations of capability are verified annually, either by an *On-going Demonstration of Capability* (ODOC), performed similarly to the IDOC, or by successful performance of a blind proficiency testing sample.

Facilities, Equipment, and Services

Anatek Labs was founded in 1992. Anatek Labs is a full service environmental testing laboratory serving the Inland Empire and the Pacific Northwest. Anatek Labs operates facilities in Moscow, Idaho and Spokane, Washington.

A listing of major analytical equipment used at Anatek Labs can be found in Tables 1a & 1b of the Appendices this document.

Calibration Procedures and Frequency

All equipment and instruments used at Anatek Labs are operated, maintained, and calibrated according to the manufacturer's guidelines and recommendations, as well as to criteria set forth in the applicable analytical methodology. Personnel who have been properly trained in these procedures perform maintenance and calibration. Documentation of calibration information is maintained in data archives (see SOP ALI-14, Data Archiving) or Instrument Activity Logs (IALs). Brief descriptions of the calibration procedures for our major laboratory equipment and instruments are described below. More information is contained in laboratory SOPs.

Analytical Instrumentation

Each instrument utilized at Anatek Labs is calibrated against traceable standards. Standard Operating Procedures are used to ensure traceability of stock reference materials. Standard Operating Procedures also specify required instrument settings, calibration concentrations and frequency, instrument linear ranges, specific required QA/QC measures and a number of other related technical issues.

Preventative Maintenance

Preventative maintenance is a crucial element of Anatek Labs's Quality Assurance program. Qualified in-house personnel maintain instruments, such as GC/MS systems, spectrometers, analytical balances and gas and liquid chromatographs. All instruments are operated and maintained according to the instrument operating manuals. All



routine and special maintenance activities pertaining to the instruments are recorded in instrument activity logbooks (IALs). The IALs contain extensive information about the instruments used at the laboratory.

When an instrument is acquired at the laboratory, the following information is noted in a maintenance notebook assigned to the new equipment:

1. The equipment's serial number;
2. Date the equipment was received;
3. Date the equipment was placed into service;
4. Condition of equipment when received (new, used, reconditioned, etc.); and
5. Prior history of damage, malfunctions, modification or repair (if known).

Preventative maintenance procedures, frequencies, etc. are available for each instrument. These may be found in the various SOPs for routine methods performed on an instrument and may also be found in the operating or maintenance manuals provided with the equipment at the time of purchase. Responsibility for ensuring that routine maintenance is performed lies with the Laboratory Manager and area Supervisors. The maintenance may be performed by a Supervisor or Technical Director, assigned to a qualified chemist, or contracted to the manufacturer or an outside repair service.

When performing maintenance on an instrument (whether preventative or corrective), additional information about the problem (attempted repairs, etc.) is also recorded in the instrument activity log. Typical logbook entries include the following information:

1. Details and symptoms of the problem;
2. Repairs and/or maintenance performed;
3. Description and/or part number of replaced parts;
4. Source(s) of the replaced parts; and/or
5. The analyst's initials and date.

Temperature Record Keeping

Temperatures are monitored and recorded for all of active temperature-regulating devices including ovens, incubators and refrigerators. An electronic monitoring system is used to track temperatures in a number of refrigerators and freezers in Moscow. The following are units that are documented daily (during operations) and the associated acceptable average temperature limits:

Sample Archive	0 – 6°C
Drinking Water Storage	0 – 6°C
Drinking Water VOC Storage	0 – 6°C
Non Drinking Water Storage	0 – 6°C
Waste Water VOC Storage	0 – 6°C

All thermometers are checked annually against a National Institute of Standards and Technology (NIST) traceable thermometer.

Analytical Balances

Analytical balances are serviced on an annual basis by a professional metrology organization. New certificates of calibration for each balance are issued to the laboratory on an annual basis. The calibration of each analytical balance is verified daily. As needed, the balances are recalibrated using the manufacturer's recommended operating procedures. Records are kept that contain the recorded measurements, identification and location of equipment, acceptance criteria and the initials of the technician who performed the checks.

Water Purification System

There are a variety of water purification systems used at Anatek Labs. A filtration system is in place to provide deionized water throughout the laboratory. The system is monitored and provides a purity of at least 1 MΩ (up to approximately 18 MΩ). When purity falls below 1 MΩ, the system is serviced by Culligan (Moscow) or King Soft



Water (Spokane) and new filters are installed. Additionally there is a filter system that provides 18 M Ω purity water. The specifications, preventative maintenance schedules and other information for particular water purification systems are explained in detail in the applicable Standard Operating Procedure.

Glassware Washing

Glassware washing and maintenance play a crucial role in the daily operation of a laboratory. The glassware used at Anatek Labs undergoes a rigorous cleansing procedure prior to every usage. Refer to SOP ALI-03 and method specific SOPs for specific glassware cleaning procedures.

Services and Supplies

Anatek Labs purchases services and supplies from reputable vendors, and ensures that supplies meet or exceed standards established in the analytical methods. A list of approved vendors is maintained, and updated annually.

Waste Disposal

All samples received at Anatek Labs remain in the ownership of the submitting party. Unless analysis of the samples demonstrates hazardous/regulated levels of contaminants, liquid samples are routinely disposed in the sanitary sewer after adjustment to a pH specified by the local wastewater treatment facility. Solid samples are disposed of using the solid waste sanitation services. Samples demonstrated to be inappropriate or hazardous for disposal by routine means are returned to the client for disposal/treatment at the original sampling location or retained in a manner consistent with mineral acid, solvent or other hazardous materials storage and disposal activities within Anatek Labs

All mineral acids, solvents and other hazardous materials used in the daily operation of the laboratory are collected in designated areas on-site until sufficient material is collected for cost-effective disposal at a licensed disposal facility.

Subcontracting of Laboratory Services

Analytical services may be subcontracted when the requested analyses cannot be performed by Anatek Labs. Subcontracting of laboratory services is done only with the knowledge and approval of the client.

The acceptability of subcontracting laboratories is assessed using the following criteria:

1. The subcontracting laboratory is certified for the analysis requested if results are for regulatory purposes;
2. The subcontracting laboratory has an approved/audited Quality Assurance Plan and/or an established reputation for providing quality services;
3. The subcontracting laboratory agrees to perform and provide specific Quality Control measures outlined by the project manager or sample submitter;
4. The subcontracting laboratory agrees to retain records for a period of time no less than outlined by the project manager or sample submitter.

Termination or Transfer of Business

In the event Anatek Labs goes out of business or ownership is transferred, available clients will be contacted, and customer records will be dealt with according to client instructions and state and regulatory requirements. For those clients who cannot be contacted, customer records will be destroyed in the event the lab goes out of business or transferred in the case of new ownership.

APPENDIX C – CHAIN OF CUSTODY AND FIELD SAMPLING FORMS

Sampling Point ID#: _____ Sampler Name (s): _____
 Sample Location Description: _____

Sample Date: _____ Sample Time: _____
 Facility Name: _____ Address: _____

SAMPLE MEDIA (Check appropriate Boxes)
 Recycled water Irrigation Water Surface Water Ground Water Soil Sludge
 Plant Tissue Other (describe) _____

SAMPLE TYPE (Check appropriate Boxes)
 Grab Composite Other Other (describe) _____

PRESERVATION METHOD Cooled 4C Other (Describe) _____

SAMPLING DEVICES USED (make and model) _____

ANALYSES REQUESTED AND SAMPLE METHOD

Analysis	Method	Analysis	Method	Analysis	Method

DECONTAMINATION METHOD _____

ANALYTICAL LABORATORY _____

Field Parameter Measurements

Time	Temp (°C)	pH	Specific Conductivity (µS/cm)	Dissolved Oxygen (mg/L)	Turbidity (NTU)	Sample Collected (Yes/No)

Sample Information

Sample ID	Sample Location	Date (Mo/Day/Yr)	Time (Military)	Comments

Other Observations

Sample Color: _____ Sample Odor: _____

Sampling Problems: _____

Other Observations: _____

Continue on Reverse if necessary →

