Fact Sheet

NPDES Permit Number:	IDS027561
Public Comment Period Issuance Date:	February 18, 2021
Public Comment Period Expiration Date:	April 5, 2021
Technical Contact:	Misha Vakoc
	(206) 553-6650 or (800) 424-4372
	vakoc.misha@epa.gov

The U.S. Environmental Protection Agency (EPA) Proposes to Reissue a National Pollutant Discharge Elimination System (NPDES) Permit for Stormwater Discharges To:

Ada County Highway District,

Boise State University,

City of Boise,

City of Garden City,

Ada County Drainage District #3,

and the Idaho Transportation Department District #3

EPA Region 10 proposes to reissue the NPDES permit authorizing the stormwater discharges from all municipal separate storm sewer system (MS4) outfalls located in the corporate city boundaries of Boise and Garden City in Ada County, Idaho that are owned and/or operated by the Ada County Highway District (ACHD), Boise State University (BSU), City of Boise, Garden City, Ada County Drainage District #3 (DD3) and the Idaho Transportation Department-District #3 (ITD3). These entities are collectively referred to in this document as "the Permittees."

Permit requirements are based on Section 402(p) of the Clean Water Act (CWA), 33 U.S.C. § 1342(p), and EPA regulations for permitting municipal stormwater discharges (40 CFR §§ 122.26, 122.30-35, and 123.35; see also 64 FR 68722 [Dec. 8, 1999] and 81 FR 89320 [Dec. 9, 2016]).

The Permit requires the continued implementation of a cooperative jurisdiction-wide stormwater management program (SWMP), and outlines the control measures to be used by the Permittees to reduce pollutants in their stormwater discharges to the maximum extent practicable (MEP), to protect water quality, and to satisfy the appropriate water quality requirements of the CWA. Monitoring of certain storm water discharges is required to assess the effectiveness of best management practices (BMPs) and to estimate pollutant loading to the Boise River and its tributaries. Annual reporting is required to reflect the collective status of the SWMP implementation.

This Fact Sheet includes information on public comment, public hearing, and appeal procedures; descriptions of the regulated MS4 discharges to be covered; and explanation of the control measures and other Permit terms and conditions.

State CWA Section 401 Certification

EPA has requested that the Idaho Department of Environmental Quality (IDEQ) certify the Permit pursuant to Section 401 of the CWA, 33 U.S.C. § 1341.

Questions or comments regarding the certification should be directed to:

Idaho Department of Environmental Quality
Boise Regional Office
ATTN: Kati Carberry, Water Quality Program
1445 N. Orchard St.
Boise, ID 83706

(208) 373-0550

Public Comment and Opportunity for Public Hearing

Because of the COVID-19 virus, access to the Region 10 EPA building is limited. Therefore, EPA requests that all comments on this Permit or requests for a public hearing be submitted via email to Misha Vakoc (vakoc.misha@epa.gov). If you are unable to submit comments via email, please call 206-553-6650.

Persons wishing to comment on, or request a Public Hearing for, the draft Permit must do so in writing by the expiration date of the Public Comment period. A request for Public Hearing must state the specific NPDES permit, the nature of the issues to be raised as well as the requester's name, address and telephone number. All comments and requests for Public Hearing must be in writing and should be submitted to EPA as described in the Public Comments Section of the attached Public Notice.

After the comment period ends, and all comments have been considered, EPA's Regional Director for the Water Division will make a final decision regarding permit issuance. If EPA receives no comments, the tentative conditions in the draft Permit will become final. If comments are submitted, EPA will prepare a response to comments document and, if necessary, will make changes to the draft Permit. After making any necessary changes, EPA will issue the Permit and the response to comments document, unless issuance of a new draft Permit is warranted pursuant to 40 CFR § 122.14. The Permit will become effective no earlier than thirty (30) days after the issuance date, unless the Permit is appealed to the Environmental Appeals Board pursuant to 40 CFR § 124.19.

Documents Available for Review

The draft Permit, and other information is available on EPA Region 10 website at: https://www.epa.gov/npdes-permits/stormwater-discharges-municipal-sources-idaho-and-washington OR https://www.epa.gov/npdes-permits/idaho-npdes-permits.

Because of COVID-19 response, there is no public access to the Region 10 EPA buildings at this time. Therefore, EPA cannot make hard copies available for viewing at our offices.

For technical questions regarding the Permits listed above or this Fact Sheet, contact Misha Vakoc at the phone number or email listed above. Services for persons with disabilities are available by contacting Audrey Washington at (206) 553-0523.

Table of Contents

Acronyms

ACHD	Ada County Highway District
aka	Also known as
BMP	Best Management Practice
BSU	Boise State University
CFR	Code of Federal Regulations
CGP	Construction General Permit, i.e., the most current version of the NPDES General Permit for Stormwater Discharges from Construction Activities in Idaho
CWA	Clean Water Act
CZARA	Coastal Zone Act Reauthorization Amendments
DD3	Ada County Drainage District #3
EFH	Essential Fish Habitat
ESA	Endangered Species Act
EPA	United States Environmental Protection Agency
FR	Federal Register
GI	Green Infrastructure
GSI	Green Stormwater Infrastructure
IDAPA	Idaho Administrative Procedures Act
IDDE	Illicit Discharge Detection and Elimination
IDEQ	Idaho Department of Environmental Quality
IPDES	Idaho Pollutant Discharge Elimination System
ITD3	Idaho Transportation Department–District #3
LA	Load Allocation
LBR	Lower Boise River
LID	Low Impact Development
mg/L	Milligrams per Liter
MEP	Maximum Extent Practicable
MS4	Municipal Separate Storm Sewer System
MSFCMA	Magnuson-Stevens Fishery Conservation and Management Act
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
O&M	Operation and Maintenance
SWMP	Stormwater Management Program
SWMM	Stormwater Management Model
SWPPP	Stormwater Pollution Prevention Plan
TMDL	Total Maximum Daily Load
UA	Urbanized Area
US	United States
USC	United States Code
USFWS	U.S. Fish and Wildlife Service
WLA	Wasteload Allocation
WY	Water Year
WQS	Water Quality Standards

1. Introduction

Stormwater is the surface runoff that results from rain and snow melt. Urban development alters the land's natural infiltration, and human activity generates a host of pollutants that can accumulate on paved surfaces. Uncontrolled stormwater discharges from urban areas can negatively impact water quality. The National Pollutant Discharge Elimination System (NPDES) regulations establish permit requirements for discharges from certain municipal separate storm sewer systems (MS4s) located in a U.S. Census-defined Urbanized Area (UA). Appendix 1 of this Fact Sheet details the types of pollutants typically found in urban stormwater, and explains the regulatory background for the MS4 permit program.

The term "municipal separate storm sewer" identifies those MS4s that are considered to be "large-," "medium-," and/or "small-" MS4s at 40 CFR § 122.26(b). EPA has designated and defined large, medium and small MS4s in the federal regulations based on the size of the population the system serves. MS4s include any publicly-owned conveyance or system of conveyances used for collecting and conveying stormwater that discharge to waters of the United States. MS4s are designed for conveying stormwater only, and are not part of a combined sewer system, nor part of a publicly owned treatment works. Such a system may include roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains.[1] In Idaho, various public entities own and/or operate MS4s, including, but not limited to: cities and counties; local highway districts; Idaho Transportation Department; and colleges and universities.

Under the "Phase I" NPDES storm water regulations at 40 CFR § 122.26, the Ada County Highway District (ACHD), Ada County Drainage District #3 (DD3), Boise State University (BSU), Boise City, Garden City, and Idaho Transportation Department District #3 (ITD3) are considered to be "medium" MS4s, based upon the 1990 Census population of the greater Boise/Garden City area.

Operators of regulated MS4s must obtain NPDES permit coverage for their discharges. NPDES permits for regulated MS4 discharges require the implementation of storm water management programs (SWMPs) designed to control pollutants in the MS4 discharges to the MEP. This Fact Sheet explains the rationale for the proposed renewal of the MS4 Permit authorizing discharges from the regulated "Phase I" MS4s located in the corporate boundaries of Boise and Garden City, Idaho.

1.1 Permittees and Permit History

In accordance with Section 402(p) of the CWA, 33 U.S.C. § 1342(p), and 40 CFR § 122.26(d), EPA proposes to reissue the Permit on a jurisdiction wide basis to the following MS4 co-permittees:

Permittee	Physical Address
Ada County Highway District	3775 Adams Street Garden City, ID 83714

[1] *See*: 40 CFR §122.26(b) and 122.32(a); and EPA 1990.

Permittee	Physical Address
Ada County Drainage District #3	c/o Elam & Burke P.O. Box 1539 Boise, ID 83701
Boise State University	1910 University Drive Boise, ID 83725
City of Boise	150 N. Capitol Boulevard Boise, ID 83701- 0500
City of Garden City	6015 Glenwood Street Garden City, ID 83714
Idaho Transportation Department-District #3	8150 W Chinden Blvd. Boise, ID 83714

The Permittees have managed MS4 discharges in accordance with their SWMPs since the early 1990's, and have been subject to MS4 permit requirements since November 2000. EPA subsequently reissued the Permit in December 2012. The Permittees submitted a timely and complete permit renewal application on July 17, 2017; and the Permit expired on January 30, 2018. Thus, pursuant to 40 CFR § 122.6, the Boise-Garden City Area MS4 Permit was administratively continued and the permittees remain authorized to discharge under the 2012 Permit.

The Permittees conduct cooperative SWMP activities in compliance with the administratively continued Permit, and submit Annual Reports. The Permittees submitted a request to modify the Permit's monitoring requirements on May 23, 2018. EPA considers the modification request package to augment the 2017 permit renewal application and Annual Report information, all of which are available in the Administrative Record for this action.

1.2 Idaho NPDES Program Authorization

On June 5, 2018, EPA approved Idaho's application to administer and enforce the Idaho Pollutant Discharge Elimination System (IPDES) program. IDEQ will be assuming permitting authority under the IPDES program in phases over a four-year period in accordance with the Memorandum of Agreement between IDEQ and EPA, and subject to EPA oversight and enforcement. IDEQ will obtain permitting authority for the stormwater phase on July 1, 2021. At that time, all documentation required by the permit will be sent to IDEQ rather than to EPA and any decision under the permit stated to be made by EPA or jointly between EPA and IDEQ will be made solely by IDEQ. Permittees will be notified by IDEQ when this transition occurs.

1.3 Description of the MS4s and Discharge Locations

A map of the MS4 Permit Area is provided in Appendix 2. Discussion of the individual MS4s and discharge locations is found in Appendix 3.

1.4 Stormwater Management Program Accomplishments

The Permittees continue to implement SWMP control measures in their jurisdictions and have documented their accomplishments in their respective SWMP documents and Annual Reports. These materials are available online https://www.partnersforcleanwater.org/aboutpartners/permit-info/

Examples of their SWMP accomplishments include:

- Permittee-led training for personnel, consultants and construction contractors working within the Permittees' rights of way in Boise and Garden City;
- Relevant stormwater management information posted on readily available website(s);
- Ongoing litter removal from the I-84 right of way through the Adopt a Highway Program;
- Current MS4 maps and detailed outfall inventories;
- Policies/protocols for screening and response to illicit discharges into the MS4s;
- Requirements for erosion and sediment controls at all construction activities that disturb one or more acres;
- Ongoing inspection and maintenance of the road/highway systems and other stormwater management facilities in each jurisdiction; and
- Ongoing MS4 discharge monitoring.

After review of the Annual Reports and EPA inspection reports, EPA concludes that the Permittees continue to effectively control stormwater discharges in compliance with their prior NPDES Permit, and in a manner that has reduced pollutants discharged through the MS4s to the maximum extent practicable. See also Part 2.1 of this Fact Sheet.

1.5 Permit Development and Revisions

The NPDES permitting authority must include terms and conditions in each successive MS4 permit based on its evaluation of the current permit requirements, record of permittee compliance and program implementation progress, current water quality conditions, and other relevant information. The permitting authority must consider adjustments in the form of modified permit requirements, where necessary, to reflect current water quality conditions, best management practices (BMP) effectiveness, and other current relevant information. The permitting authority cannot reissue the same permit conditions for subsequent five-year permit term(s) without considering whether more progress can or should be made in meeting water quality objectives (especially in areas where the receiving waters are not attaining the applicable water quality standards).[2]

In 2016 and 2017, EPA drafted a preliminary statewide general permit intended to authorize all NPDES regulated MS4 discharges in Idaho. At the time, EPA received input from interested stakeholders on both the organization and content of MS4 permits in Idaho. Thereafter, EPA reissued individual permits for regulated small MS4s, and is using that prior stakeholder input to

[2] See EPA 1990, pages 48052-48053, and EPA 2010.

inform the organization, numbering, and specific requirements in the Boise-Garden City Area Phase I MS4 Permit.

EPA has editorially revised or updated the text (as compared to the prior administratively extended permit) in order to ensure the Permit requirements are clear, measurable and specific. EPA has also deleted the phrase "to the maximum extent practicable" from the Permit text; as discussed further in Section 2.1, the statutory standard for MS4 permits requires Permittees to reduce pollutants in MS4 discharges to the MEP, and it is the NPDES permitting authority's responsibility to create permit provisions that, when implemented, accomplishes that goal. Since 2012, EPA has further clarified that it is inappropriate to include the phrase "to the MEP" in individual provisions of an MS4 permit. Unless otherwise noted, EPA's editorial revisions to the Permit text are directly comparable to the language in the administratively continued Permit, and serve to update the text to be comparable to provisions in other recently issued MS4 permits in Idaho.

EPA considered a variety of information during the renewal of the Permit terms and conditions, including but not limited to:

- The Permittees' 2017 permit renewal application materials;
- IDEQ's 2020 *Integrated Report*, describing IDEQ's assessment of receiving waters in Boise and Garden City;
- Annual Reports submitted by the Permittees as required by the prior Permit;
- Input from stakeholders and the Permittees on EPA's 2016-2017 preliminary draft MS4 general permit(s), which were not issued;
- EPA guidance and national summary information regarding MS4 permits,[3] including:
  - *Compendium Part 1: Six Minimum Control Measure Provisions*, November 2016;
  - *Compendium Part 2: Post Construction Performance Standards*, November 2016;
  - *Compendium Part 3: Water Quality-Based Requirements*, April 2017;
  - *Summary of State Post Construction Stormwater Standards*, July 2016;
  - EPA's November 2014 Memo entitled *Revisions to the November 22, 2002 Memorandum "Establishing TMDL Wasteload Allocations (WLAs) for Stormwater Sources and NPDES Permit Requirements Based on Those WLAs*;" and the
  - *MS4 Permit Improvement Guide*, April 2010.
- Conclusions and recommendations from the National Research Council Report entitled *Urban Stormwater Management in the United States*, dated October 2008;
- Technical developments in the field of stormwater management, including recent research and information on the effective and feasible methods for the on-site management and treatment of stormwater using practices commonly referred to as "low impact development" (LID), "green infrastructure" (GI) and/or "green stormwater infrastructure" (GSI) techniques.
- Other MS4 permits issued by EPA and by other state NPDES permitting authorities.

[3] EPA documents listed here are available at https://www.epa.gov/npdes/stormwater-discharges-municipal-sources

A partial list of references supporting the development of the Permit is provided in Section 4 of this Fact Sheet. All references are available in the Administrative Record for this action.

1.6 Average Annual Precipitation in the Boise-Garden City Area

The National Oceanic and Atmospheric Administration's (NOAA's) Western Regional Climate Center maintains historical climate information for various weather stations throughout the western United States. Annual average precipitation in the Boise-Garden City area is approximately 11.76 inches, and the annual average snowfall is approximately 20 inches.

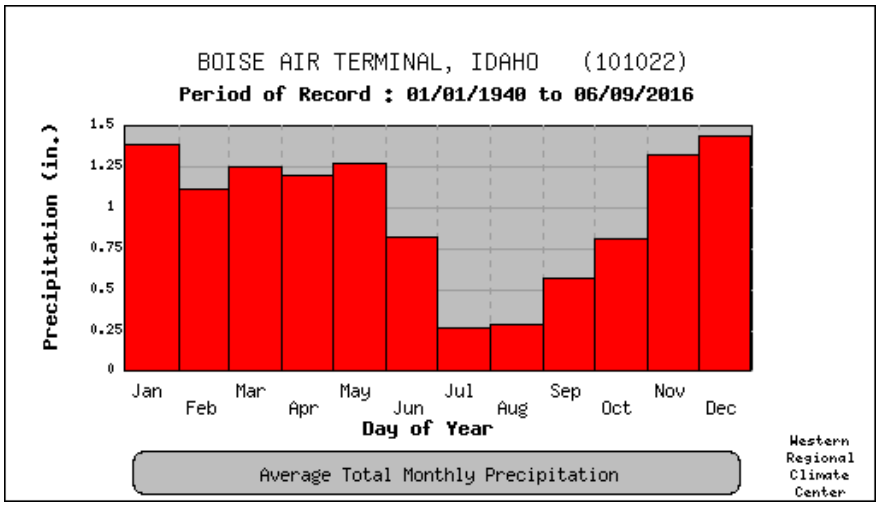


Figure 1. Average Total Monthly Precipitation in the Boise Area.

1.7 Receiving Waters

EPA is reissuing the Permit authorizing discharges from the Permittees' MS4s to waters of the United States (U.S.) that include Cottonwood Creek, Crane Creek, Dry Creek, Fivemile Creek, Stewart Gulch, and the Lower Boise River. ACHD and ITD3 also discharge to many other tributary conveyances leading to the Lower Boise River, as described in Appendix 3.

All MS4 discharges to waters of the U.S. in the Permit Area (defined as the corporate boundaries of the Cities of Boise and Garden City) must also comply with any limitations that may be imposed by the State as part of its water quality certification pursuant to CWA Section 401, 33 U.S.C. § 1341. See Section 3.7 of this Fact Sheet.

IDEQ classifies the waterbodies as fresh water with beneficial uses as listed in Table 1. See: IDAPA 58.01.02.140.12.

Table 2. Designated Beneficial Uses for Waters Receiving Regulated MS4

Receiving Water	Designated Beneficial Uses *Note: All waters in Idaho must also be protected for industrial and agricultural water supply, wildlife habitats, and aesthetics*
Cottonwood Creek; Crane Creek; Dry Creek; Fivemile Creek; Stewart Gulch;	Cold water aquatic life, secondary contact recreation
Boise River *Diversion Dam to River Mile 50 (*aka *Veterans Memorial Bridge)*	Cold water aquatic life, salmonid spawning, primary contact recreation, domestic water supply
Boise River *Veterans Memorial Parkway to Star Bridge (*aka *River Mile 50 to Indian Creek);*	Cold water aquatic life, secondary contact recreation

1.7.1 Anti-degradation

EPA is required under Section 301(b)(1)(C) of the CWA, 33 U.S.C. § 1311(b)(1)(C), and implementing regulations (40 CFR §§ 122.4(d) and 122.44(d)) to establish conditions in NPDES permits that ensure compliance with State water quality standards, including antidegradation requirements. The State of Idaho has an EPA-approved antidegradation policy as well as antidegradation implementation procedures (IDAPA 58.01.02.051). EPA expects that IDEQ will provide an antidegradation analysis in the CWA §401 certification. Once EPA has received a final §401 certification, EPA will review the respective antidegradation analysis to ensure that it is consistent with CWA Section 301(b)(1)(C).

1.7.2 Water Quality and Total Maximum Daily Loads

Any water body that does not, and/or is not, expected to meet the applicable State water quality standards is described as “impaired” or as a “water quality-limited segment.” Section 303(d) of the CWA, 33 U.S.C. § 1313(d), requires States to identify impaired water bodies in the State and develop total maximum daily load (TMDL) management plans for those impaired water bodies. TMDLs define both wasteload allocations (WLAs) for point sources and load allocations (LAs) for non-point sources that specify how much of a particular pollutant can be discharged from both regulated and unregulated sources, respectively, such that the water body will again meet State water quality standards.

IDEQ’s 2018/2020 *Integrated Section 303(d)/Section 305(b) Report* (2020 Integrated Report) lists the impaired water bodies in Idaho required by CWA Section 303(d).[4] Table 2 below summarizes the status of waters receiving the MS4 discharges covered by the Permit, including waterbody assessment units, or segments, that IDEQ considers impaired.

NPDES permit terms and conditions for regulated stormwater discharges must be consistent with the assumptions and requirements of applicable WLAs or LAs in the TMDLs.[5] In general, EPA’s guidance recommends that the NPDES permitting authority use BMPs to implement WLAs and load reduction targets for MS4 discharges in a NPDES permit. When using BMPs as narrative permit limitations to implement a WLA or load reduction target, the NPDES permit must include a monitoring mechanism to assess compliance.[6]

[4] The IDEQ’s 2020 Integrated Report is available online at: https://www.deq.idaho.gov/water-quality/surface-water/monitoring-and-assessment/
[5] See 40 CFR § 122.44(d)(1)(vii)(B).
[6] See: EPA 1996; EPA 2002; EPA 2014a; and EPA 2014b;

The Permit's terms and conditions direct the Permittees to continue their efforts to reduce impairment pollutants from their MS4s to the Lower Boise River, including the segments of the Lower Boise River downstream of the Permit Area. Collectively, these requirements are consistent with the WLAs in the TMDLs established by IDEQ. The Permittees must continue conducting monitoring/assessment activities to assess compliance. See Appendix 5 for additional discussion of the impairments listed in Table 2, applicable TMDLs, and associated Permit requirements.

In the event that EPA approves new or revised TMDLs for waters listed in Table 2, and those TMDL(s) contain WLA(s) for regulated MS4s, IDEQ as the NPDES permitting authority may modify the Permit to incorporate additional provisions. Permit Part 8.1 addresses such a permit modification, consistent with the NPDES regulations at 40 CFR §§ 122.62, 122.64 and 124.5.

Table 2. Status of Waters Receiving Regulated MS4 Discharges

Waterbody Assessment Unit/ Receiving Water	Impairment Pollutants	TMDL Status
ID17050114SW012_02 *Stewart Gulch, Cottonwood & Crane Creeks - 1st & 2nd order*	*E.coli*	*Lower Boise River TMDL - 2015 Sediment and Bacteria Addendum.* June 2015. Approved September 2015.
ID17050114SW013_03 *Dry, Currant and Spring Valley Creeks - 3rd order sections*	Fully Supporting	N/A
ID17050114SW010_02 *Fivemile, Eightmile, and Ninemile Creeks - 1st and 2nd order*	*E.coli*	*Lower Boise River TMDL - 2015 Sediment and Bacteria Addendum.* June 2015. Approved September 2015.
ID17050114SW010_03 *Fivemile Creek - 3rd order*	*E. coli;* Sediment; Chlorpyrifos; Cause unknown (nutrients suspected)	*E. coli* & Sediment: *Lower Boise River TMDL - 2015 Sediment and Bacteria Addendum.* June 2015. Approved September 2015. Chlorpyrifos: No TMDL completed.
ID17050114SW011a_06 *Boise River – Diversion Dam to River Mile 50 (*aka *Veterans Memorial Parkway)*	Fully Supporting.	N/A
ID17050114SW005_06 *Boise River - Veterans Memorial Parkway to Star Bridge (*aka *River Mile 50 to Indian Creek)* ID17050114SW005_06a *Boise River-Star to Middleton*	Temperature; Fecal coliform; Sedimentation/ Siltation;	Temperature: No TMDL completed. Fecal Coliform & Sediment: *Lower Boise River TMDL Subbasin Assessment, Total Maximum Daily Loads*, September 1999.Approved January 2000.
ID17050114SW005_06b *Boise River.-Middleton to Indian Cree*k	Temperature; Fecal coliform; Sedimentation/ Siltation; Total Phosphorus.	Temperature: No TMDL for completed. Fecal Coliform and Sediment/Siltation: *Lower Boise River TMDL Subbasin Assessment, Total Maximum Daily Loads*, September 1999. Approved January 2000. Total Phosphorus: *Lower Boise River TMDL - 2015 Total Phosphorus Addendum.* August 2015. Approved December 2015.

2. Basis for Permit Conditions

2.1 General Information

Permit conditions are based on Section 402(p)(3)(B) of the CWA, 33 U.S.C. § 1342(p)(3)(B), which requires an NPDES permit for Phase I MS4 discharges to:

1) Include a requirement to effectively prohibit non-stormwater from entering the MS4; and

2) Require controls to reduce pollutants in municipal stormwater discharges to the MEP, including management practices, control techniques and system, design and engineering methods, and other such provisions determined appropriate for the control of pollutants.

MEP is the statutory standard that describes the level of pollutant reduction that MS4 operators must achieve. Neither the CWA nor the stormwater regulations provide a precise definition of MEP which provides for maximum flexibility in MS4 permitting. Permit requirements for meeting the MS4 permit standard are continually adapted to current conditions and the effectiveness of the control measures with the goal of attaining water quality standards.[7]

EPA has described the iterative process of imposing the MS4 standard, including what is necessary to reduce pollutants to the MEP, over consecutive permit terms as: (1) the NPDES permitting authority defining clear, specific, and measurable NPDES permit requirements; (2) the MS4 Permittee implementing the required actions as part of a comprehensive program; and (3) the NPDES permitting authority and MS4 Permittee evaluating the effectiveness of BMPs used to date, current water quality conditions, and other relevant information.[8]

All MS4 permits must include terms and conditions that are “clear, specific, and measurable,” and consist of narrative, numeric, and/or other types of requirements. Examples include: implementation of specific tasks or practices; BMP design requirements; performance requirements; adaptive management requirements; schedules for implementation, maintenance; and/or frequency of actions.[9]

Such stormwater control measures are managerial, physical, and/or structural BMPs that, when used singly or in combination, reduce the downstream quality and quantity impacts of storm water runoff. A variety of studies demonstrate that such stormwater control measures effectively reduce runoff volume and peak flows, and remove pollutants. When designed, implemented, constructed, and maintained correctly as part of a comprehensive stormwater management program (or SWMP), the control measures - in combination with the prohibitions and other conditions of the Permits as described in this Fact Sheet below - have a positive effect on water quality and other biological indices.[10]

In order for the Permittees to comply with the MS4 standard during the Permit term, EPA has defined the stormwater management control measures and evaluation requirements that the Permittees must implement.

Where explicit discussion of a particular provision is not included in this Fact Sheet, EPA’s rationale can be found in previous Fact Sheets and other permit related documents, which are incorporated by reference herein and available as part of the administrative record for this action.

[7] EPA 1990; EPA 1996; and 40 CFR 122.26(d)
[8] EPA 1990; EPA 1996; EPA 2016a; 40 CFR 122.26(d)
[9] EPA 2010; EPA 2014; EPA 2016 a-c.
[10] EPA 1999a; EPA 1999b; EPA 2006; NRC 2008; EPA 2016b; WERF 2017.

2.2 Discharges Authorized By The Permit

Permit Part 1.2 conditionally authorizes municipal stormwater discharges and certain types of non-stormwater discharges from the MS4s in the Permit Area, provided that the Permittees comply with the Permit's terms and conditions.

EPA has revised and updated the conditional discharge authorization pertaining to compliance with water quality standards (Permit Part 2.1) to clearly identify that the Permittees are expected to use adaptive management to address discharges where monitoring or other information shows that a pollutant in a Permittee's MS4 discharge is causing or contributing to an ongoing excursion above the applicable Idaho water quality standard. EPA has added corresponding notification and adaptive management requirements in Permit Part 5 (*Required Response to Excursions of Idaho Water Quality Standards*). See also Section 2.6 of this Fact Sheet.

The Permit continues to outline conditions and prohibitions related to snow disposal (Permit Part 2.2); stormwater discharges associated with industrial and construction activities (Permit Part 2.3); and discharges unrelated to precipitation events (i.e., "non-stormwater discharges;" Permit Part 2.4) that are similar to the requirements in the administratively continued Permit.

EPA acknowledges that, in the Boise/Garden City area, non-stormwater sources (in the form of landscape irrigation, springs, rising ground waters, and/or groundwater infiltration) are routinely present during dry weather discharges from the MS4(s). The Permit therefore continues to require the Permittees to determine whether a detected dry weather MS4 discharge is an "allowable" discharge. Section 2.4.2 of this Fact Sheet discusses the continued dry weather outfall screening requirements included as Permit Parts 3.2.5 and 3.2.6.

2.3 Permittee Responsibilities

Permit Part 2.5 outlines Permittee responsibilities. In general, each Permittee is responsible for Permit compliance related to its MS4 and associated discharges. Where more than one entity owns or operates MS4s in a geographic area, the operators are allowed to participate in a joint permit as co-permittees (see 40 CFR § 122.26(a)(3)(iii) and (d)), and must describe the roles and responsibilities of each entity and procedures to ensure effective coordination (see 40 CFR §122.26(d)(2)(vii)). See Permit Parts 2.5.1 and 2.5.2. In the 2017 renewal application, the Permittees noted they will continue the existing lead roles and responsibilities related to permit administration (ACHD), monitoring (ACHD) and public education and outreach (Boise), as described in their existing intergovernmental agreement.

Permit Part 2.5.3 continues to allow Permittees to implement control measures by sharing responsibility with another outside entity. Permittees remain responsible for Permit compliance if the other entity fails to implement the control measure (or any component thereof).

Permit Part 2.5.4 continues to require Permittees to maintain adequate legal authority to implement and enforce the SWMP as allowed and authorized pursuant to applicable Idaho law.[11] EPA recognizes that highway districts, state transportation departments, and other special purpose entities do not have formal ordinance authority under Idaho state law, and that the Permittees control pollutants into and from the MS4 using relevant regulatory mechanisms available pursuant to applicable Idaho state law. ACHD, DD3, BSU and ITD3's jurisdictional authority extends only to the boundaries of its individual right of way and/or properties, and mechanisms that ensure Permit compliance are the organization's policies, standard operating procedures, construction contracts, and/or right of way permits. EPA uses the term "ordinance or

[11] See EPA 2010

other regulatory mechanisms" in the Permit, which includes all such legal means available to these Permittees pursuant to Idaho state law. EPA reviewed the Annual Reports, SWMPs, and other information submitted by the Permittees and finds that each entity maintains sufficient legal authority to impose and enforce the SWMP control measure components in their jurisdictions.

Permit Part 2.5.5 requires Permittees to maintain a written SWMP Document.[12] The SWMP Document summarizes the physical characteristics of the MS4, describes how the Permittee conducts the required control measures in its jurisdiction, and describes the Permittee's unique cooperative or shared responsibilities with other entities. The requirement to maintain a SWMP Document remains an enforceable condition of the Permit. However, SWMP Document contents are not directly enforceable Permit requirements. As a result, a Permittee may revise the SWMP Document, as necessary, without review or approval by the NPDES permitting authority. With this clarification, EPA has therefore deleted prior permit text (in old Permit Part II.D) related to reviewing and updating the SWMP, because such text is now obsolete. Part 2.5.5 requires SWMP Document(s) to be updated no later than the due date of the 2nd Year Annual Report to include waterbody specific requirements pursuant to Permit Part 4. EPA also revised the SWMP Document submittal requirements from the prior permit to no longer require its submittal with each Annual Report. Instead, updated SWMP Document(s) must be available through the Permittees' website(s), and the website URL must be referenced in each Annual Report. SWMP Documents must submitted with the Permit Renewal Application required by Permit Part 8.2.

Permit Part 2.5.6 requires Permittees to track indicator statistics and information to document SWMP implementation progress, and Permit Part 2.5.7 requires the Permittees to provide adequate financial support, staffing, equipment, and other support capabilities to implement the SWMP control measures and other Permit requirements, and report their implementation costs in each Annual Report (40 CFR 122.26(d)(2)(vi)). EPA encourages Permittees to establish stable funding sources for ongoing SWMP implementation, and to continue cooperative working relationships with other regulated MS4s in Idaho. Technical resources, such as the *Water Finance Clearinghouse* developed by EPA's Water Infrastructure and Resiliency Finance Center,[13] are available to help Permittees identify sustainable funding solutions. EPA supports comprehensive long-term planning to identify investments in stormwater infrastructure and system management that complement other community development initiatives and promote economic vitality.

Permit Part 2.5.8 requires Permittees to extend stormwater control measures to all areas under their direct control particularly when new areas served by the MS4 are annexed, and/or when areas previously served by the MS4 are transferred to another entity.

Permit Part 2.5.9 requires Permittees to consider using BMPs outlined in the latest IDEQ guidance document, *Catalog of Stormwater Best Management Practices for Idaho Cities and Counties*, available from IDEQ's website at: https://www.deq.idaho.gov/water-quality/wastewater/storm-water/.

2.4 SWMP Requirements

Permit Part 3 contains clear, specific, and measurable requirements that address the Phase I MS4 permit requirements in 40 CFR § 122.26(d)(2) and that serve to reduce pollutants in MS4

[12] See discussion of the relationship between the SWMP and required permit terms and conditions in *EPA 2016b* at pages 89339-89341. In contrast, the purpose of the Annual Report is to summarize the Permittee's activities during the previous reporting period, and to provide an assessment or review of the Permittee's compliance with the Permit.
[13] See: https://www.epa.gov/waterfinancecenter

discharges to the MEP. EPA requires specific tasks, BMPs, design requirements, performance requirements, adaptive management requirements, schedules for implementation and maintenance, and/or frequency of actions. Each minimum control measure is comprised of actions and activities that EPA refers to as SWMP control measure components.

EPA considered existing programs implemented by Permittees during development of the Permit terms and conditions. As previously noted, EPA has refined the SWMP control measures to further clarify and define the MS4 permit standard for the Permittees and establish expectations for the level of effort necessary to reduce pollutants in MS4 discharges.

EPA recognizes that each regulated MS4 is unique, and that each operator has different circumstances that guides their approach to stormwater management and pollutant control. To address these unique circumstances, the Permit allows implementation flexibility, while setting consistent expectations through clear, specific, and measurable permit requirements.

2.4.1 Public Education, Outreach, and Public Involvement/Participation

Permit Part 3.1 addresses the required SWMP control measures for public education, outreach, and involvement requirements consistent with 40 CFR §§ 122.26(d)(2)(iv) (B), (D)(4) and (A)(6), as essential parts of any plan to reduce stormwater pollutants. As citizens learn about the impacts of their actions on local water resources, they are more likely to change their behaviors.

The administratively continued Permit contained public education and involvement requirements in Part II.B.6. The Annual Reports submitted by each Permittee demonstrate that they collectively participate in an extensive public education program, led by the City of Boise, known as the “Partners for Clean Water” advertising campaign which includes maintaining a website, TV PSAs, radio PSAs, digital billboards and other media outlets. The Permittees participate in community events, and maintain storm drain markers throughout the Permit Area, among other activities. EPA encourages the Permittees to continue working cooperatively with the other entities, particularly the regulated MS4 Cities of Nampa, Caldwell, Middleton, and others throughout the State, to assist with education and public involvement activities that are both meaningful and relevant to their respective missions and local needs. Permit Part 3.1 allows the Permittees to choose which education and public involvement activities to continue or initiate during the next permit cycle.

When scoping future activities, EPA recommends that the Permittees consider the recommendations found in the EPA document, *Promising Practices for Permit Applicants Seeking EPA-Issued Permits: Ways to Engage Neighboring Communities*. See also Section 3.1 of this Fact Sheet.

The Permit contains the following Public Education, Outreach, and Involvement components:

- Permit Part 3.1.1 establishes a compliance deadline of one year from the Permit effective date for the Permittees to update and continue their public education, outreach, and involvement activities in the Permit Area.
- Permit Part 3.1.2 specifies requirements for the Public Education, Outreach and Involvement Program. To the extent allowable pursuant to the authority granted the Permittees under Idaho state law, the Permittees must work to educate and engage interested stakeholders in the development and implementation of the SWMP control measures.

- Permit Part 3.1.3 requires the Permittees to distribute and/or offer a minimum of eight educational messages to at least one of the four audiences listed in Part 3.1.4 during the Permit term.
- Permit Part 3.1.4 identifies target audiences (i.e., General Public; Business/Industrial/Commercial/Institutions; Construction/Development Professionals; and Elected Officials, Land Use Policy and Planning Staff). For each audience, the Permit includes a non-exclusive list of suggested topics for the Permittees to consider as their focus during the Permit term.
- Permit Part 3.1.5 requires the Permittees to assess, or to participate in an effort to assess, the understanding and adoption of behaviors by the target audience(s). A vital, yet challenging, component of a successful education program is the assessment of whether the Permittee's efforts are achieving the goals of increasing public awareness and behavior change to improve water quality. EPA recognizes and encourages the long-term nature of such assessment activities, and notes that there may be opportunities for the Permittees to work together within the State or with other watershed organizations on specific MS4 topics if they choose to do so.
- Permit Part 3.1.6 requires the Permittees to maintain records of its education, outreach, and public involvement activities.
- Permit Part 3.1.7 requires Permittees to provide regular educational opportunities to local professional audiences related to requirements for construction site and permanent stormwater management controls within their jurisdictions. This provision consolidates the prior requirements in the administratively continued Permit Parts II.B.1.g.v and II.B.2.g.ii., related to education for the professional construction and engineering communities. The City of Boise and Garden City require each construction project to have an individual in charge of the site's erosion and sediment control program, who must be trained and certified by the City of Boise as either a Responsible Person or Plan Designer. Permit Part 3.1.7 is intended to continue this aspect of the SWMP. [Requirements for Permittee staff training are cited in the respective control measure provision.]
- Permit Part 3.1.8 requires the Permittees to maintain and promote at least one publicly-accessible website to provide relevant SWMP information to the public. Relevant information includes the Permittee's SWMP Document, links to relevant public education material, and easily identifiable (and up to date) Permittee contact information such that members of the public may easily call or email to report spills or illicit discharges, and/or ask questions, etc.

  The Permittees contribute to a central informational website, led by the City of Boise, where SWMP information is readily available to the public ; see: https://www.partnersforcleanwater.org/ .

2.4.2 Illicit Discharge Detection and Elimination

Permit Part 3.2 requires Permittees to continue addressing illicit discharges and spill response in their jurisdictions, based on requirements in 40 CFR § 122.26 (d)(1)(v)(B) and (d)(1)(iv)(B). The Permit requires the Permittees to prohibit, detect, and eliminate illicit discharges from their MS4s, by continuing to provide ongoing surveillance and deterrence to prevent pollutant loadings caused by illicit discharges into the MS4s. Illicit discharges can enter the MS4 through direct connections (e.g., wastewater piping mistakenly or deliberately connected to storm drains), or

through indirect connections (e.g., infiltration into the MS4 from cracked sanitary systems, spills collected by drain inlets, or discarded used oil dumped directly into a drain). Both types of illicit discharges contribute pollutants to the MS4, and in turn can negatively affect water quality. Ongoing investigation and elimination of illicit discharges from entering the MS4s improves water quality and is consistent with the pollutant reduction expectations in applicable TMDLs identified in Appendix 5 of this document.

Based on review of the Annual Reports and SWMP documents, the Permittees collaboratively maintain a robust, jurisdiction-wide program to locate and remove non-stormwater discharges into and from their MS4s. The Permittees continue to work cooperatively among themselves and with neighboring MS4 jurisdictions, using their abilities to address illicit discharges when identified, and have complied with the provisions of the administratively continued Permit.

The Illicit Discharge Detection and Elimination (IDDE) program includes maintaining a MS4 map showing outfall locations and receiving waters; effectively prohibiting non-stormwater discharges to the MS4 through an ordinance or regulatory mechanism, using enforcement as needed; regularly investigating and addressing non-stormwater discharges, using standard procedures to identify problems, determine sources, remove the source if identified, and document resulting actions; and educating employees, businesses, and the general public of hazards associated with illegal discharges and improper waste disposal, including ways to report illicit discharges when they occur. Permittees must continue to implement these activities through the components described below:

- Permit Part 3.2.1 establishes a compliance deadline 180 days before the Permit expiration date for the Permittee to update their existing illicit discharge program activities, and/or to fully impose any new program components outlined in this Part. EPA believes this timeframe is justified to allow the Permittee adequate opportunity to adjust its existing programs, as necessary, to ensure all the components are sufficiently addressed in the Permit Area.
- Permit Part 3.2.2 replaces similar text in prior Permit Part II.B.4.a, and continues the requirement to maintain current MS4 maps, with accompanying inventory of the features that comprise the MS4 system. The purpose of the MS4 Outfall Map and Inventory is to record and verify MS4 outfall locations, including relevant descriptive system characteristics. EPA expects Permittees to know locations and characteristics of all outfalls, their MS4 infrastructure and associated assets. Each entity has completed MS4 outfall maps as required by the administratively continued Permit. See Appendix 3. EPA refined the required content of the MS4 Map and Outfall Inventory, and is requiring that updated materials be submitted as part of the Permit Renewal Application pursuant to Permit Part 8.2.

  Permit Part 3.2.2 also requires the Permittees to continue identifying and characterizing those MS4 outfall(s) with ongoing dry weather flows as a result of irrigation return flows and/or groundwater seepage. This provision replaces the similar requirement in prior Permit Part II.B.5.d.ii. Recording the location and characteristics of such outfall(s) is important in areas where the MS4 discharges to the nutrient-impaired Lower Boise River. The MS4 Map and Outfall Inventory must be used by the Permittees to tailor activities that will address non-stormwater discharges that may be contributing to the receiving water impairment. This provision is also related to Permit Part 3.2.6 below.

- Permit Part 3.2.3 requires the Permittees to continue prohibiting non-stormwater discharges into the MS4 through enforcement of an ordinance or other legal mechanism to the extent allowable under Idaho state law.
- Permit Part 3.2.4 describes EPA's continued expectations for the Permittees' Illicit Discharge Complaint Reporting and Response Program, which includes maintaining a publicly accessible means to report illicit discharges, requiring response within two (2) days and maintaining records regarding actions taken.
- Permit Part 3.2.5 requires the Permittees to continue 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. Permittees must conduct visual screening during dry weather; use screening and monitoring protocols when flows are identified during dry weather, and ensure proper recordkeeping/documentation. EPA has consolidated text from prior Permit Parts II.B.5.d.ii and IV.A.11 into this Part.

  In the 2017 renewal application materials, Permittees requested flexibility to 1) selectively determine constituents included in the outfall screening program (instead of completing analyses of all constituents listed in the current permit at every outfall); and 2) allow Permittees with less than seven outfalls to screen one outfall per Permit Year using dry weather analytical and field screening monitoring within the June 1 to September 30 timeframe, and conduct visual dry weather screening of one outfall (or at least 20% of all outfalls per year).

  Appropriate threshold limits for dry weather monitoring results are important to distinguish pollutant spikes from normal background conditions at a particular outfall. ACHD has established threshold levels for their dry weather screening program that, when exceeded, result in retesting to determine whether the sample was an isolated event or an ongoing water quality issue. Given the Permittees long term experience with conducting their dry weather monitoring activities, EPA believes that the Permittees – particularly those with less than seven outfalls - are sufficiently familiar with their individual MS4 systems and outfalls; therefore EPA has revised the permit text to accommodate this request. EPA continues to recommend that, in general, samples taken during dry weather screening be analyzed for pH, total chlorine, detergents, total copper, total phenols, fecal coliform bacteria, and/or turbidity to assist in source identification.
- Permit Part 3.2.6 requires mandatory follow-up actions for recurring illicit discharges (identified through complaint reports and/or Permittee screening activities). This provision has been revised from the prior Permit Part II.B.5.e, and now requires response activities to begin within 30 days of identifying elevated concentrations of screening parameters, and action to be taken to eliminate problem discharges within 60 days.

  EPA considered information from sources listed in Section 1.5 regarding reasonable timeframes, and has revised the text for investigating and eliminating the source of an illicit discharge (from 15/45 days of detection, respectively, to 30/60 days). Information sources include EPA guidance and national MS4 summary information, such as *Compendium Part 1: Six Minimum Control Measure Provisions* (November 2016); *MS4 Permit Improvement Guide* (April 2010), and other information submitted during the

development of MS4 permits issued by EPA . Based on consideration of this information EPA believes this is a minimal revision when compared to the administratively continued Permit.

Due to the diverse nature and sources of water quality impacts in urban settings in Idaho, both EPA and IDEQ remain concerned about inputs of irrigation return flows and/or groundwater seepage through MS4s. Permit Part 3.2.6 continues to require Permittees to identify MS4 outfall locations where irrigation return flows and/or groundwater seepage are present during dry weather (See also Permit Part 3.2.2.6.). This provision continues to require documentation of locations where irrigation or groundwater related non-stormwater discharges occur. For the purposes of this permit, the term "appropriate action" in Permit Part 3.2.6 means documentation in the Annual Report of the MS4 outfall location, and the Permittee's determination of the source as either irrigation return flows or groundwater seepage. EPA encourages the Permittee(s) to take action to eliminate such flows if it is identified as a source of pollutants pursuant to Permit Part 2.4.5.2.

At a minimum, a summary list of all such outfall locations must be submitted with the Permit Renewal Application. This information will be reassessed by IDEQ and the Permittees at the time of the permit renewal to tailor future control measures to appropriately address non-stormwater discharges that may be contributing excess nutrient loads to receiving waters.

- Permit Part 3.2.7 requires the Permittees to respond to spills and maintain appropriate spill prevention and response capabilities as appropriate within their jurisdiction. Through coordination with state and/or local agencies (under this provision, "agencies" refers to the organizations responsible for spill response), the goal is to provide maximum water quality protection at all times. EPA has included an explicit requirement directing the Permittee to notify the appropriate IDEQ regional office, Idaho State Communications Center, and/or the National Response Center, as specified by IDEQ in its CWA Section 401 certifications for prior MS4 permits issued by EPA.[14]
- Permit Part 3.2.8 continues to require the Permittees to coordinate with appropriate agencies to ensure the proper disposal of used oil and toxic materials by employees and the public.
- Permit Part 3.2.9 requires the Permittees to train appropriate staff to respond to spills, complaints, and illicit discharges/connections to the MS4. Permittee staff can be the "eyes and ears" of the stormwater program if they are trained to identify illicit discharges and spills or evidence of illegal dumping. Based on input from Permittees in the 2017 renewal application, EPA has revised the previous requirement for annual training; instead, Permittees must provide relevant training for new staff within six months of employment, and may allow existing staff to comply by attending relevant and appropriate online or in-person training courses at least every other year.

2.4.3 Construction Site Storm Water Runoff Control

This SWMP control measure requires the Permittees to control construction site runoff discharges into their MS4s. 40 CFR § 122.26(d)(2)(iv)(D) requires that Permittees maintain an ordinance or regulatory mechanism to require proper construction site controls for sediment, erosion, and waste management. Other mandatory controls are procedures for site plan review

[14] IDEQ 2017; IDEQ 2019; IDEQ 2020.

that consider potential water quality impacts; procedures for site inspection and enforcement; and procedures for the receipt and consideration of information submitted by the public.

Construction activities (such as clearing vegetation and excavating, moving, and compacting earth and rock) significantly change the land surface. The consequences of construction activities during rain events include: reduced stormwater infiltration, increased runoff volume and intensity, and higher soil erosion rates. While sediment and other pollutants are readily mobilized by precipitation during land disturbance activity, such discharges can be effectively prevented through the use of reasonable and effective erosion and sedimentation controls. Examples include the use of construction sequencing, and vegetative- or non-vegetative stabilization techniques.[15]

Local oversight is key to ensuring that construction site operators use appropriate techniques to prevent pollutant discharges to the MS4s. Although discharges from all construction sites disturbing one or more acres in Idaho are independently subject to the *NPDES General Permit for Storm Water Discharges from Construction Activity*, #IDR120000 (Construction General Permit or CGP), it is appropriate for the Permittees to directly impose local site management requirements to prevent construction-related pollutants from entering the MS4s.

Each Permittee has procedures and policies in place that meet the required construction runoff control measure components, consistent with their legal authority under Idaho state law.

As previously noted, EPA recognizes that ACHD, DD3, BSU and ITD3 are only responsible for the construction and maintenance of local roads and state highways in their jurisdiction, and do not have legal authority to enact enforceable ordinances. They each may cite their existing policies, design manuals, standard specifications for construction, construction contracts, bid documents, cooperative agreements, and/or other legal means of ensuring that construction projects that impact their right-of-ways are appropriately controlled to reduce pollutant discharges through their MS4.

The components of the Permit's Construction Site Runoff Control Measure are described below:

- Permit Part 3.3.1 establishes a compliance deadline of 180 days before the Permit expiration date for the Permittee to update its existing programs, if needed, to impose any new or revised control components in the Permit Area. This provision also defines the date by which any ACM Request must be submitted.
- Permit Part 3.3.2 outlines the expected scope of the Permittee's legal mechanism to reduce and prevent runoff from construction sites in its jurisdiction..
- Permit Part 3.3.3 requires written specifications to define appropriate site level controls for construction activities within the Permittee's jurisdiction. EPA clarifies that the type and extent of site-level erosion, sediment, and waste management controls will likely be different depending on site size and location. Therefore, the Permittee has the discretion to determine how best to control sediment and other pollutants in runoff from different sized construction sites.
- Permit Part 3.3.4 requires a preconstruction site plan review process to address construction site activity, and includes consideration of public input. This review can be conducted using a checklist or similar process to consider and address potential water quality impacts from the site activities.

[15] EPA 1999, pages 68758-68759; EPA 2009a, pages 7-3 through 7-26.

- Permit Part 3.3.5 requires the Permittee to conduct prioritized construction site inspections and to enforce the applicable requirements as needed. At a minimum, the Permittee must inspect and enforce their requirements at construction sites occurring in their jurisdictions according to their prioritization protocol..
- Permit Part 3.3.6 requires the Permittee to have a written enforcement response policy or plan to guide and prioritize their oversight, inspection, and enforcement efforts.
- Permit Part 3.3.7 requires the Permittee to provide proper training for construction staff conducting plan review and inspections. Based on input from Permittees in the 2017 renewal application, EPA has revised the previous requirement for annual training; instead, Permittees must provide relevant training for new staff within six months of employment, and may allow existing staff to comply by attending relevant and appropriate online or in-person training courses at least every other year.

EPA has determined it is no longer necessary to include two provisions from the administratively continued Permit: Part II.B.1.f *Construction General Permit Violation Referrals* based on the transfer of the program to IDEQ in July 2021*,* and II.B.1.g *Enforcement Tracking* because this requirement is adequately addressed by Permit Part 3.3.5*.*

Ensuring that construction sites use appropriate erosion and sedimentation controls through BMP specifications, site plan review, in-field inspection and enforcement has been shown to significantly reduce sediment loadings to nearby water bodies. By reducing sediment discharges, Permittees also reduce nutrients and other pollutants that bind to sediment particles. Such control measures, properly implemented, reduce overall pollutant loading, and are therefore consistent with the pollutant reduction expectations in applicable TMDLs identified in Appendix 5 of this document.

2.4.4 Post Construction Stormwater Management from New Development and Redevelopment

Permit Part 3.4 requires the Permittees to continue to implement and enforce a program to control runoff from new development and redevelopment project sites, including projects involving streets and roads.

EPA has reviewed the Permittees' Annual Reports and SWMP documents, and finds that the Permittees are sufficiently implementing the provisions for permanent stormwater management in the Permit Area.

In the 2017 permit renewal application materials, the Permittees requested several major changes to the Permit text related to their implementation of the permanent stormwater management control program. Discussion of these changes and EPA's responses are outlined below:

1) *Subwatershed planning*: The administratively continued Permit, at Part II.A.4, required the Permittees to complete two subwatershed plans that identify priority areas to be protected, potential locations for protecting or restoring resources through the increased use of infiltration, or other site-based low impact development (LID) practices, and consideration of how incentives or enforceable requirements could improve water quality. The Permittees completed subwatershed plans for the Americana and Main subwatersheds, including characterization of the land uses, storm drain delineation, identification of priority aquatic resources and beneficial uses. A hydrologic and water quality model Stormwater Management Model (SWMM) was developed for both subwatersheds and calibrated to

existing monitoring data. A priority methodology for implementing green stormwater infrastructure in the subwatersheds was completed and is part of a final planning report.

The Permittees requested that no additional subwatershed planning requirements be included in the next Permit term; instead, the Permittees stated that they intend to build on the successes to date through continued implementation of green infrastructure techniques at appropriate repair and redevelopment projects. In light of the Permittees' continued emphasis on green infrastructure/LID techniques (as further discussed below), EPA agrees to make this change.

2) *Additional exemptions:* The Permittees requested an exemption from post construction stormwater management requirements for small pedestrian infrastructure (sidewalk, walking path) projects completed separately from road or other transportation improvement projects, based on implementation experience demonstrating that post-construction BMPs are very challenging on such small projects and often require the acquisition of adjacent property. EPA agrees, and has added the underlined phrase in Permit Part 3.4, first paragraph:

   "At a minimum, the Permittees must …control storm water runoff from new development and redevelopment projects that result in land disturbance of 5,000 square feet or more, excluding individual one or two family dwelling development or redevelopment and the infill or redevelopment of public pedestrian infrastructure projects. This program must apply to private and public sector development, including roads and streets. The Permittees must ensure that permanent controls or practices are utilized at each new development and redevelopment site to protect water quality.

3) *Ordinance or other regulatory mechanisms*: The administratively continued Permit, at Part II.B.2.a, required the Permittees to install control measures at development sites that will retain onsite the first 0.6 inches of runoff volume. The provision provided opportunities for alternative compliance for sites where 100% retention is infeasible, such as the Permittees' use of subwatershed planning to support investment in off-site mitigation of runoff within a specific drainage area. The Permittees have requested permit text to provide additional opportunities to deal with areas where infiltration/onsite retention is infeasible, to recognize techniques such as targeted pollutant removal or treatment, regional stormwater management facilities, or other approaches. EPA agrees, and Permit Part 3.4 has been rewritten to align with the onsite retention standard as expressed in other Idaho MS4 permits, and to allow for increased implementation flexibility to address runoff treatment for project sites where retention is infeasible.

4) *Green Infrastructure/LID Incentive Strategy and Pilot Projects:* The administratively continued Permit, at Part II.B.2.c.i and ii, required the Permittees to incentivize the use of LID techniques in public and private projects, and required the Permittees to complete three pilot projects to evaluate appropriate practices for onsite water quality and/or quantity control for areas discharging to impaired waters. Over the prior permit term, ACHD adopted the term *Green Stormwater Infrastructure* (GSI) to refer to this work, and ACHD and Boise completed the three pilot projects in 2017. Since that time, numerous GSI projects have been designed, constructed, or are in the process of being constructed in the NPDES Phase I area – these projects are summarized in ACHD's 2019 and 2020 Annual Reports. In addition, ACHD has programmed approximately $500,000 annually for continued investment in GSI projects over the next five years (2021-2025).

   The Permittees requested that the associated Permit text be revised to direct the continued implementation of the Green Infrastructure Strategy, as it has become the primary program

vehicle for Permittees to consider viable options to incorporate innovative stormwater management approaches. EPA agrees, and revised the Permit text accordingly, as Permit Part 3.4.2.3.

5) *Riparian Zone Management and Outfall Disconnection*: The administratively continued Permit, at Part II.B.2.c.iii, required the Permittees to identify riparian areas appropriate for Permittee acquisition and protection, and to complete at least one project to disconnect at least one outfall using vegetated swales, treatment wetlands, or other techniques. The Permittees requested that this provision be deleted, as such considerations in the future will be part of implementing the Permittees' GSI strategy. EPA agrees and has deleted this provision.

6) *Repair of Public Streets, Roads and Parking Lots:* The administratively continued Permit, at Part II.B.2.c.iv, required the Permittees to evaluate feasibility of incorporating runoff reduction techniques/GSI into the repair of public streets, roads and parking lots. During the permit term, the Permittees have successfully included such considerations into their design processes, and have requested revisions that would simplify the Permit text. EPA has revised the text of Permit Part 3.4.2.4 accordingly.

The control measure components for this section include:

- Permit Part 3.4.1 establishes a compliance deadline of 180 days before the Permit expiration date to refine the existing runoff control programs, if needed, to comply with the Permit.
- Permit Part 3.4.2 requires the Permittee to maintain their legal regulatory mechanism to require an onsite stormwater retention standard, or require treatment equivalent to the onsite retention standard, for new development and redevelopment sites. Rationale for onsite retention of stormwater runoff from new development and redevelopment is provided in Appendix 4 of this Fact Sheet. As noted above, Part 3.4.2 also allows the Permittees to continue exploring alternative means of controlling pollutants from new and redeveloped areas where it is technically infeasible to infiltrate the resulting runoff, and the intent remains meaningfully consistent with the prior permit text and aligns with other recently issued Idaho MS4 permits. EPA agrees that continued implementation flexibility is necessary and reasonable, and believes the text in Part 3.4.2 as drafted addresses the Permittees' request. This provision also includes references to the GSI Strategy, repair of public streets, roads and parking lots, and plan review/approval.
- Permit Part 3.4.3 requires Permittees to maintain written specifications for the permanent stormwater controls allowed at development sites within their jurisdiction. The Stormwater Design Criterial Manuals currently in place for the Permittees fulfill this requirement.
- Permit Part 3.4.4 requires the Permittees to review and approve site plans for permanent stormwater controls at sites resulting from land disturbance of 5,000 square feet or more, excluding individual one- or two-family dwelling development or redevelopment and the infill or redevelopment of public pedestrian infrastructure projects. To comply with this requirement, the Permittees must maintain the authority to withhold approvals when it determines that the controls at a specific site are not designed to meet established standards for permanent stormwater control.
- Permit Part 3.4.5 outlines the requirement to inspect and enforce requirements for permanent stormwater controls at sites resulting from land disturbance of 5,000 square

feet or more, with the exclusions noted above. This provision was included in the administratively continued Permit as Part II.B.2.f. Inspection of permanent control measures is key to ensuring water quality protection over the long-term.

In the 2017 renewal application, the Permittees requested additional flexibility to prioritize permanent facility inspections. EPA has revised the text consistent with the Permittees' suggestion as follows:

> *The Permittees must implement 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 may 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); history of non-compliance; the presence of offsite discharge; use of the property where the stormwater facilities are located; type of stormwater facility; drainage or treatment area of the stormwater facility and/or other factors.*

- Permit Part 3.4.6 continues to require Permittees to ensure the long-term operation and maintenance (O&M) of permanent stormwater controls through the use of a database inventory to track and manage the operational condition of permanent stormwater controls within its jurisdiction. Ongoing O&M is necessary to ensure that the BMPs will perform as designed over time. Inadequate maintenance of existing stormwater management controls is a primary shortcoming for most local SWMPs across the country. As with any infrastructure, deferred maintenance can increase costs and negatively affect receiving waters. Unmaintained BMPs will ultimately fail to perform their design functions, and can become a nuisance and/or pose safety problems.[16] The Permittees must keep track of permanent controls which are known to them, or for which they accept ownership.
- Permit Part 3.4.7 requires the Permittees to ensure that their staff are sufficiently trained and/or qualified to review site plans for permanent stormwater controls, and/or for inspecting the installation and operation of permanent stormwater controls. Based on input from Permittees in the 2017 renewal application, EPA has revised the previous requirement for annual training; instead, Permittees must provide relevant training for new staff within six months of employment, and may allow existing staff to comply by attending relevant and appropriate online or in-person training courses at least every other year.

2.4.5 Stormwater Infrastructure and Street Management (Pollution Prevention/God Housekeeping for MS4 Operations)

As noted above, O&M is an integral part of any SWMP, and, when coupled with good housekeeping and pollution prevention principles, reduces the risk of water quality problems from MS4 discharges. The minimum requirements for this control measure are set forth in 40 CFR § 122.26(d)(2)(iv)(A). The administratively continued Permit required the Perrmittees to maintain their MS4 and related facilities, reduce pollutant runoff from municipal operations; ensure employees are adequately trained; and establish site-specific stormwater pollution prevention plans (SWPPPs) at the Permittees' own maintenance buildings and similar facilities.

[16] NRC 2008; Shaver, et al 2007.

Permit Part 3.5 requires the Permittees to continue these activities and ensure appropriate inspection and maintenance schedules are in place for each type of infrastructure/facility (which include streets and parking lots, stormwater ponds, underground pipes, drainage ditches, etc.). Where appropriate, O&M procedures should include some manner or protocol for testing and safely disposing of waste materials and any associated decant water collected from catch basins or other MS4 infrastructure.

The Permittees have each outlined their O&M procedures in their respective SWMP Documents. In general, the Permittees each perform their maintenance operations in a manner that is consistent with the Permit's SWMP control measure components outlined below:

- Permit Part 3.5.1 establishes a compliance deadline of 180 days before the Permit expiration date for the Permittee to update its existing program(s), and/or to impose any new program components, in the Permit Area. EPA believes this timeframe is justified to allow the Permittee adequate opportunity to adjust its existing programs, as necessary, and ensure the required actions are sufficiently addressed in the Permit Area.
- Permit Part 3.5.2 continues the requirements for inspection of all Permittee catch basins and inlets within the MS4 service area at least once every two years, and requires appropriate cleaning and/or maintenance activities based on inspection findings. EPA has added a provision allowing the Permittee(s) to prioritize inspections and specify an alternative inspection/maintenance frequency, based on past inspection and maintenance experience. For example, ACHD is responsible for 13,251 catch basins, 2,722 sediment/combo boxes, and maintains approximately 393 miles of storm drain pipe in the Phase I permit area that are a part of the inspection and maintenance rotation; in 2020, 3,812 catch basins and 1,065 sediment /combo boxes were cleaned within Ada County. An opportunity to prioritize ongoing inspection and maintenance will provide ACHD and the other Permittees the flexibility to continue conducting their operations in a proactive and cost effective manner.

Because roads and streets function as an integral part of the drainage conveyance systems within the Permit Area, the Permit continues to identify explicit provisions for appropriate stormwater management through O&M activities for roads, streets, highways and parking lots.

- Permit Part 3.5.3 requires the Permittees to review and update their O&M procedures for streets, roads, highways, and parking lots that are owned, operated, and/or maintained by the Permittee to ensure procedures are protective of water quality and reduce the discharge of pollutants through the MS4.

  Permit Part 3.5.3.3 also requires the Permittees to consider using water conservation measures for all landscaped areas associated with streets, roads, highways, and parking lots to prevent landscape irrigation water from discharging through the MS4. Excessive landscape watering can contain fertilizers and other compounds that, when discharged through the MS4, can increase nitrogen and phosphorus loading to impaired waters. Landscape irrigation can be considered an allowable non-stormwater discharge only when it is not a source of pollution under the Idaho water quality standards (WQS). See Permit Part 2.4.

- Part 3.5.4 requires the Permittee with street, road and highway maintenance responsibilities to ensure that road material stockpiles (such as sand, salt, or sand with salt stockpiles) are managed in a manner that prevents pollutants from discharging to the MS4 or into any receiving water. An inventory of all such street materials must be

maintained. No later than 180 days prior to the Permit expiration date, as part of the Permit Renewal Application required by Permit Part 8.2, the Permittees must assess their Material Storage Locations for water quality impacts, and must describe any structural or non-structural improvements made by the Permittees to prevent runoff from discharging to the MS4 or directly to a receiving water.

- Permit Part 3.5.5 requires Permittees with street, road, highway and parking lot responsibilities to continue street sweeping activities and documenting the adequacy of their actions through a sweeping management plan. Permittees without street sweeping responsibilities do not have an obligation to comply with this provision.
- Permit Part 3.5.6 is a new provision that requires each Permittee to review and maintain O&M procedures for a variety of municipal activities to protect water quality and reduce the discharge of pollutants through the MS4.
- Permit Part 3.5.7 continues to require the Permittees to ensure their staff, and others operating in public areas owned and/or operated by the Permittees, are appropriately handling and/or using pesticides, herbicides, and fertilizers used within the Permit Area. This provision is consistent with the *NPDES General Permit for Discharges from The Application of Pesticides, for the State of Idaho,* NPDES Permit No. IDG870000.
- Permit Part 3.5.8 continues to require the Permittees to manage onsite materials at their maintenance yards and to prevent pollutants in runoff through use of SWPPPs.
- Permit Part 3.5.9 requires the Permittees to continue working cooperatively to reduce litter in their jurisdictions and prevent the conveyance of trash and other material through the MS4.
- Permit Part 3.5.10 requires the Permittees to ensure that all staff responsible for the stormwater infrastructure management and O&M activities are trained and/or otherwise qualified to conduct such activities with attention to prevent potential water quality impacts. Based on input from the Permittees in the 2017 renewal application, EPA has revised the previous requirement for annual training; instead, the Permittees must provide relevant training for new staff within six months of employment, and may allow existing staff to comply by attending relevant and appropriate online or in-person training courses at least every other year.

2.4.6 Industrial and Commercial Stormwater Discharges

Permit Part 3.6 requires the Permittees to continue their programs to reduce the discharge of pollutants from industrial and commercial operations to the MS4s. These requirements are based on 40 CFR § 122.26(d)(2)(i)(B), (C), (E), and (F) and 40 CFR § 122.26(d)(2)(iv)(A). The Permittees maintain an inventory and map of certain industrial and commercial activities, including all animal-related facilities, within the Permit Area, and cooperatively prioritize and inspect selected industrial and commercial facilities/activities which discharge to receiving waters or to the MS4s. The Permittees have developed outreach materials to educate businesses have potential to impact water quality through the MS4s, such as vehicle service facilities, restaurants, mobile cleaners and pressure washers, commercial landscapers, carpet cleaners and other businesses. For example, see: https://www.partnersforcleanwater.org/businesses/general-information/. These activities continue to support the pollutant reduction goals of the Lower Boise River TMDLs by including commercial and industrial facilities in the Permittees' inspection, education and

enforcement efforts to continue oversight of facilities that are most likely to discharge impairment pollutants of concern.

2.5 Requirements for Discharges to Impaired Receiving Waters

Consistent with 40 CFR § 122.44(d), the Permittees must continue to implement stormwater management controls to reduce pollutants in their MS4 discharges in a manner that is consistent with applicable TMDLs and watershed management goals. NPDES permit conditions for regulated storm water discharges can be consistent with the assumptions and requirements of available WLAs through the use of narrative control measures and BMPs. Where BMPs are used as permit limitations to implement WLAs, the permit must require monitoring activities as necessary to assure compliance with the WLAs.

The MS4 receiving waterbodies, and water quality impaired segments are listed in Section 1.7.2, Table 2. Additional discussion of the applicable TMDL for these receiving waters is provided in Appendix 5 of this Fact Sheet.

The permit contains clear, specific, and measurable provisions for the continued implementation of a variety of controls, best management practices, control techniques, and system design and engineering methods to reduce the discharge of pollutants to the maximum extent practicable, protect water qualtiy and comply with applicable provision of the Clean Water Act. The continued implementation of the comprehensive SWMP control measures outlined in Permit Part 3, coupled with the terms and conditions outlined in Permit Part 2, the adaptive management provisions in Part 5 (as discussed in Section 2.6 below) and the monitoring and reporting provisions in Permit Part 6 are fully consistent with the requirements and expectations of the applicable TMDLs in the Lower Boise River watershed.

2.6 Requirements for Excursions above the Idaho Water Quality Standards

Permit Part 5 sets forth requirements for the Permittees to report and address excursions above the Idaho WQS as directed by Permit Part 2.1. EPA has outlined an adaptive management approach for use when there are ongoing discharges from the MS4 that cause or contribute to excursions above the applicable Idaho WQS and are not being addressed by other SWMP control measure requirements.

Permit Part 5 provides the Permittee(s) with the opportunity to use adaptive management principles to scope corrective action steps to address ongoing, prolific pollutant source(s). Where such solutions may involve structural controls, require capital expenditures, and/or that necessitate long-term planning and implementation schedules, Permit Part 5 provides opportunity for the Permittee(s) to define and articulate such long-range investment plans.

EPA supports robust long-term planning for stormwater management by MS4 entities, and recognizes that the most successful stormwater planning uses multi-benefit approaches to solve stormwater pollution control challenges. It also recognizes that for a plan to be more affordable, MS4 entities need to make financial investments over a time horizon of sufficient length to allow for cost efficiencies through working with other municipal programs.[17]

Any Permittee that submits information pursuant to Permit Part 5 will be prompted to report on their incremental progress towards their identified milestones in both their Annual Report, and as part of a complete Permit Renewal Application.

[17] EPA 2016e.

2.7 Monitoring, Recordkeeping and Reporting Requirements

Consistent with 40 CFR § 122.26(d)(1)(iii), (d)(2)(iii), and (d)(2)(v), Permit Part 6 requires that the Permittees evaluate program compliance, keep records, and submit Annual Reports. Furthermore, Section 308 of the CWA, 40 CFR § 122.44(i), and subsequent EPA guidance requires monitoring, where necessary, to determine compliance with terms and conditions of a NPDES permit.

2.7.1 Compliance Evaluation

Permit Part 6.1 requires the Permittees to assess their compliance with the Permit requirements annually and to document the evaluation through the submittal of an Annual Report. The five-year permit term will coincide with EPA's national transition to online reporting for MS4 permits; this transition is expected to be accomplished no later than December 2023. In an effort to simplify this reporting process, EPA has developed a streamlined, fillable report format to replace the previously used narrative-style report.[18]

2.7.2 Monitoring and/or Assessment Activities

Permit Part 6.2 requires the Permittees to continue evaluating the effectiveness of their SWMP(s) at protecting water quality by quantifying stormwater pollutant reduction and characterizing discharge quality. While many MS4 program goals can be output-based (e.g. number of stormwater treatment practices installed, number of educational brochures distributed) and can be useful from a program accounting standpoint, such measurements often cannot be used to quantify changes in water quality resulting from MS4 program activities.[19]

Permit Part 6.2 requires the Permittees to conduct stormwater outfall monitoring, subwatershed monitoring, and stormwater control effectiveness monitoring as indicated in respective monitoring documents submitted with their 2017 permit renewal applications, and 2017 Annual Reports. EPA is incorporating those plans by reference into the Permit. Standard NPDES permit conditions are included in Part 6.2 related to quality assurance objectives, representative sampling, additional monitoring, and use of sufficiently sensitive testing methods..

With regard to stormwater outfall monitoring, the administratively continued Permit required the Permittees, led by ACHD, to conduct stormwater discharge sampling at five outfall locations during wet weather events at least three times per year. The resulting data, collected during Water Years (WY) 2000 – 2020, is useful for assessing overall SWMP effectiveness over time. To date, ACHD has characterized runoff from over 2,000 acres of urban watershed and compiled an extensive dataset that represents runoff from the Phase I MS4 Permit Area. In their 2017 permit renewal application materials, augmented by information submitted in 2018, the Permittees requested the Permit text reflect the flexibility to suspend monitoring at one of the outfall locations. In lieu of selecting another outfall monitoring station, the Permittees identified their plan to conduct systematic flow monitoring to identify locations within the upstream portions of the Americana subwatershed for potential sampling sites. The Permittees stated that this approach, in addition to continued monitoring at the Americana outfall, will provide information necessary to identify pollution sources. Additional data and justification for this strategic monitoring approach is included in the Supplemental Reapplication Materials submitted with the Permittees' 2017 Annual Report. EPA has reviewed the *Storm Water Outfall Monitoring Plan* dated October 23, 2014, and the *Americana Subwatershed Monitoring Plan* as updated December 28, 2020, and is proposing to require the implementation of this monitoring by

[18] EPA 2015c, EPA 2020.
[19] CWP 2009.

including both monitoring documents by reference as required activities for the Permit term. See Permit Parts 8.2.1 and 6.2.2. These summary reports and information are available through the Permittees' website at https://www.partnersforcleanwater.org/aboutpartners/annual-report/ and are available as part of the Administrative Record for this permit action.

With regard to effectiveness monitoring for stormwater management controls or BMPs, the administratively continued permit at Part IV.A.9 required the Permittees to evaluate the effectiveness of required structural controls. ACHD has evaluated a variety of practices to determine whether the controls effectively treat or prevent the discharges of one or more impairment pollutants of concern into receiving waters. Specifically, ACHD has evaluated quantitative pollutant load reduction potential for sand and grease traps, hydrodynamic separators, bioretention systems, seepage beds and vegetated swales, and has observationally evaluated permeable pavements and tree cell GSI solutions. To date, ACHD has conducted in depth evaluations of 7 of 10 major categories of BMPs that are included in the ACHD stormwater design manual. While work to date has resulted in better information regarding estimated pollutant reductions, ACHD explains that "the utility of improved or optimized structural controls are generally limited to new development and redevelopment projects, and therefore can take many years to reap the benefits of the redesigned controls".

In the 2017 permit renewal application materials, the Permittees requested the flexibility to conduct pollutant reduction effectiveness evaluations for nonstructural controls such as leaf pick-up, catch basin cleaning, street sweeping, or other GSI techniques. EPA agrees and has revised the Permit text to allow for such efforts. See Permit Part 6.2.3.

Through the permit renewal application materials, the Permittees requested that the optional provision of the administratively continued Permit at Part IV.A.8 (Water Quality Monitoring and/or Fish Tissue Sampling) be deleted. The provision had been suggested to EPA by IDEQ in 2012, and was included as an optional opportunity for the Permittees to add instream and/or fish tissue sampling to their ongoing monitoring activities. The Permittees did not elect to conduct such sampling, and EPA agrees to remove the provision from the Permit text..

2.7.3 Recordkeeping and Reporting

Permit Part 6.3 requires the Permittees to keep all records associated with the Permit for a period of at least five years, and submit such records only when requested by EPA or IDEQ. The Permittee must ensure that SWMP materials are available to the public, and they may charge a reasonable fee for copies and/or require a member of the public to provide advance notice of their request. As previously noted, Permit Part 3.1 requires the Permittee to provide their SWMP Document to the public electronically via one or more dedicated websites.

Permit Part 6.4 describes the overall reporting requirements, including the schedule and required content for the Annual Report, the final monitoring report(s), and final stormwater control effectiveness evaluation report. At a minimum, the Permittees must each submit Annual Reports of progress, and may use the recommended Annual Report format provided in the Permit Appendix according to the schedule identified in Permit Part 6.4.2. The Annual Report format will prompt the Permittee for appropriate information according to compliance dates specified in the final Permit.

The Permittees requested that the MS4 Permit retain a similar reporting schedule as has been including in the administratively continued Permit, and Part 6.4.2 is written to accommodate that request. .

No later than December 21, 2023, all NPDES reports submitted in compliance with an applicable permit must be submitted electronically through EPA's national electronic reporting system. This electronic system will be available from IDEQ through the IPDES program. However, the MS4 Permit program is one of the last types of NPDES permits to be accommodated by this new system.[20] Until the electronic system is available, the Permittees must submit signed versions of their Annual Reports to the IDEQ address provided in the Permit.

2.8 Standard Permit Conditions

Permit Parts 7 and 8 contain standard regulatory language that must be included in all NPDES permits. The standard regulatory language addresses compliance responsibilities, and other general requirements. Although certain provisions may not strictly apply to MS4 facilities (for example, the upset or bypass provisions), it is mandatory that each of the standard provisions be included in a NPDES permit. Such provisions were previously included in the prior MS4 permit, and are included in other Idaho MS4 NPDES permits issued by EPA since 2012. EPA notes that if a particular provision in Permit Parts 7 or 8 does not apply to the Permittee's MS4 discharges or facilities, the Permittee does not need to comply with that provision.

2.8.1 Duty to Reapply

In accordance with 40 CFR § 122.46(a), NPDES permits are in effect for a fixed term not to exceed five (5) years. Permit Part 8.2 requires the Permittees to submit an NPDES permit renewal application no later than 180 days before the Permit expiration date if they intend to continue operational control and management of MS4 discharges after the Permit expiration date.

Because there are no NPDES application forms for the MS4 permit program, Permit Part 8.2.1 describes the expected content of a complete Permit Renewal Application. The deadline for the Permit Renewal Application (180 days before the permit expiration date) corresponds to the Permit's implementation/compliance dates; therefore, as part of any request for continued permit coverage, the Permittees must submit the attachments listed in Permit Part 8.2.1 to demonstrate how they have complied with the current Permit requirements.

The Permittee must submit a 5th Year Annual Report by the Permit expiration date, using the format provided in the Appendix B of the Permit. In the event that a new permit is not issued on or before the Permit expiration date, any Permittee(s) that have submitted a Permit Renewal Application in accordance with Part 8.2, may be authorized to continue discharging under an administrative extension of the Permit. If the permit is administratively continued, , the Permittees must continue to adhere to the terms and conditions of the Permit, which includes submitting the Annual Report(s) by the anniversary of the Permit expiration date, until coverage under a reissued or replacement Permit is available.

3. Other Legal Requirements

3.1 Environmental Justice

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, directs each federal agency to "make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high, and adverse human health or environmental effects of its programs, policies, and activities." EPA strives to enhance the ability of overburdened communities to

[20] EPA 2015c.

participate fully and meaningfully in the permitting process for EPA-issued permits, including NPDES permits. "Overburdened" communities can include minority, low-income, tribal, and indigenous populations, or communities that potentially experience disproportionate environmental harms and risks. As part of an agency-wide effort, EPA Region 10 will prioritize enhanced public involvement opportunities for EPA-issued permits that may involve activities with significant public health or environmental impacts on already overburdened communities. For more information, please visit https://www.epa.gov/environmentaljustice/learn-about-environmental-justice

As part of the permit development process, EPA Region 10 conducted a screening analysis to determine whether the Permit action could affect overburdened communities. EPA uses a nationally consistent geospatial tool that contains demographic and environmental data for the United States at the Census block group level. This tool is used to identify permits for which enhanced outreach may be warranted.

Based on this screening, the Boise/Garden City Area is identified as an area where potentially overburdened communities reside. In order to ensure that individuals in this area are able to participate meaningfully in the NPDES permit process, EPA will work to ensure that interested stakeholders in this area, and throughout the state, are informed and able to provide their input on appropriate local stormwater management activities.

EPA encourages all MS4 Permittees to review (and to consider adopting, where appropriate) *Promising Practices for Permit Applicants Seeking EPA-Issued Permits: Ways To Engage Neighboring Communities* as described in EPA document available at https://www.federalregister.gov/articles/2013/05/09/2013-10945/epa-activities-to-promote-environmental-justice-in-the-permit-application-process#p-104.

3.2 Endangered Species Act

The Endangered Species Act (ESA) Section 7(a)(2) requires federal agencies to consult with the National Oceanic and Atmospheric Administration – National Marine Fisheries Service (NOAA Fisheries) and the U.S. Fish and Wildlife Service (USFWS) regarding potential effects an action may have on listed endangered species.

EPA reviewed available information from the NOAA Fisheries website and the USFWS' Information for Planning and Consultation website. There are no listed species or critical habitat under the NOAA Fisheries jurisdiction in the Permit Area; therefore consultation with NOAA is not required for this permit action. The USFWS identifies that Slickspot peppergrass (*Lepidium papilliferum*), and Yellow Billed Cuckoo (*Coccyzus americanus*) as well as their proposed critical habitats, are potentially located in areas that overlap with the Permit Area. EPA has reviewed the available information regarding both species and determines that reissuance of the Permit for discharges from the Phase 1 MS4s in the Boise-Garden City area in Ada County will have no effect on either species. Reissuance of the Permit has no effect on Slickspot peppergrass because a MS4 discharge permit under the Clean Water Act will neither empower nor restrict landowners in any manner that would cause any impact on the occurrence or habitat of the Slickspot peppergrass. EPA further determines that reissuance of the Pemit will have no effect on Yellow billed Cuckoo for two reasons: first, there are no known populations of the bird in the Permit Area, and second, none of the proposed critical habitat in Idaho overlaps with the Action Area. As a result, consultation with USFWS is not required on this Permit action.[21]

[21] USFWS 2021, NOAA 2021a; EPA 2021.

3.3 Essential Fish Habitat

Essential Fish Habitat (EFH) is the waters and substrate (sediments, etc.) necessary for fish spawning, breeding, feeding, or growing to maturity. The Magnuson-Stevens Fishery Conservation and Management Act requires EPA to consult with the NOAA-Fisheries if a proposed action has the potential to adversely affect (by reducing the quality and/or quantity of) EFH. EPA reviewed the current NOAA-Fisheries maps reflecting EFH for freshwater species, and there is no EFH located in the Boise-Garden City area of Ada County.[22] Therefore, EPA determines that the issuance of the Permit will not affect any EFH species, and consultation is not required for this action.

3.4 National Historic Preservation Act

Section 106 of the National Historic Preservation Act (NHPA) requires federal agencies to take into account the effects of federal undertakings on historic properties listed on, or eligible for listing on, the National Register of Historic Places. The term federal "undertaking" in NHPA regulations to include a project, activity, or program of a federal agency that can result on changes in the character or use of historic properties, if any historic properties are located in the area of potential effects for that project, activity or program. See 36 CFR § 802(o). Historic Properties include prehistoric or historic districts, sites, buildings, structures, or objects that are included in, or are eligible for inclusion in, the National Register of Historic Places. See 36 CFR § 802(e). Federal undertakings include EPA's issuance of a NPDES permit.

EPA has determined that the reduction of pollutants in runoff through compliance with a MS4 discharge permit will not result in the disturbance of any site listed or eligible for listing in the National Historic Register. Therefore, EPA believes that the actions associated with the Permit are also in compliance with the terms and conditions of the National Historic Preservation Act.

Pursuant to Permit Part 8.10, the Permittees are reminded that they must comply with applicable state, Tribal and local laws, including those concerning protection of historic properties. If any permitted entity engages in any activity which meets all of the following criteria, then they must consult with and obtain approval from the State Historic Preservation Office prior to initiating the activity:

- The permitted entity is conducting the activity in order to facilitate compliance with the MS4 Permit;
- The activity includes excavation and/or construction; and
- The activity disturbs previously undisturbed land.

Examples of actions that may meet the above criteria include, but are not limited to: retention/detention basin construction; storm drain line construction; infiltration basin construction; dredging; and stabilization projects (*e.g.*, retaining walls, gabions). The requirement to submit information on plans for future earth disturbing is not intended for activities such as maintenance and private development construction projects.

3.5 National Environmental Policy Act and Other Federal Requirements

40 CFR § 122.49 lists the federal laws that may apply to the issuance of permits i.e., ESA, NHPA, the Coastal Zone Act Reauthorization Amendments (CZARA), NEPA, and Executive Orders, among others. The NEPA compliance program requires analysis of information

[22] NOAA 2021b.

regarding potential impacts, development, and analysis of options to avoid or minimize impacts; and development and analysis of measures to mitigate adverse impacts.

EPA has not promulgated effluent limitation guidelines or new source performance standards specific to MS4 discharges. Therefore, MS4 permits are not subject to NEPA.

Idaho is not located in the U.S. coastal zone, so CZARA does not apply to the issuance of the Permit. In addition, the Permit will not authorize the construction of any water resources facility or the impoundment of any water body. No regulated small MS4s are located in areas with Wild and Scenic River designations. Therefore, EPA determines that the Fish and Wildlife Coordination Act, 16 USC § 661 et seq., and the Wild and Scenic Rivers Act, 16 USC § 470 et seq., does not apply to the issuance of the Permit.

3.6 Permit Dates

NPDES permits may be issued for no more than five years. As proposed, the Permit assumes an effective date of October 1, 2021. Compliance dates for SWMP control measure implementation, Annual Report submittals, etc., are identified in the Permit based on the final Permit's effective date.

EPA remains cognizant of local government budget planning cycles (based on a fiscal year calendar October – September) when establishing implementation deadlines in the Permit. In response, EPA is also considering calculating MS4 Permit compliance dates assuming an effective date of October 1. EPA also notes that in this case, ITD3 is a state government entity with a fiscal year of July – June.

3.7 State Certification of the Draft Permit

Section 401 of the CWA requires EPA to seek State certification before issuing a final permit. As a result of the certification, the State may require more stringent permit conditions or additional monitoring requirements to ensure that the permit complies with water quality standards, or treatment standards established pursuant to any State law or regulation.

As previously noted, EPA has requested that IDEQ certify the Permit. Questions or comments regarding the IDEQ's CWA §401 certifications should be directed to the IDEQ's Boise Regional Office at (208) 373-0550.

4. References Used in this Permitting Decision

The following is a partial list of references supporting the development of the Permit; additional references are available in the Administrative Record.

Ada County Highway District (ACHD). 2013. MS4 Annual Report, Permit Year 2011-2012.

ACHD 2014. *Storm Water Outfall Monitoring Plan*. Prepared for Ada County Highway District, Boise, Idaho. October 23, 2014.

ACHD 2016. Letter from Bruce Wong, ACHD, to Dan Opalski, EPA Region 10, Re: Garden City MS4 Phase I Permit Coverage Termination (IDS-027561). May 13, 2016.

ACHD, Boise State University, City of Boise, City of Garden City, Ada County Drainage District 3, Idaho Transportation Department, District 3. 2017. *NPDES Permit # IDS-027561 Phase I Municipal Stormwater Permit Reapplication.* Received July 31, 2017.

ACHD et al, 2017b. *Permit Year 2017 Annual Repor*t (including Supplemental Reapplication Materials). Submitted January 2018. Available at: https://www.partnersforcleanwater.org/aboutpartners/annual-report/2017-annual-report/

ACHD 2019. Phase I Stormwater Management Plan, Appendix 17, *Dry Weather Outfall Screening Plan*, specifically: *Appendix E: Thresholds for Documented Flowing Outfalls*. Ada County Highway District. December 2019. Permit No. IDS-027561. At: https://www.achdidaho.org/Documents/Engineering/Stormwater/StormwaterManagementPlanPhaseI.pdf

ACHD 2020. *Phase I Stormwater Management Plan, Permit No. IDS027561*. December 2020. At: https://www.partnersforcleanwater.org/media/1177/achd-phase-i-swmp-nov-2020.pdf

ACHD 2020. *Americana Subwatershed Monitoring Plan.* Prepared by: Brown and Caldwell January 13, 2020 Updated by: Ada County Highway District December 28, 2020

Ahiablame, et al 2012. *Effectiveness of low impact development practices: Literature review and suggestions for future research.* Ahiablame, L. M.; Engel, B. A.; Chaubey, I. Water, Air, Soil Pollut. 2012, 223 (7), 4253−4273.

American Rivers 2013. *Permitting Green Infrastructure: A Guide to Improving Municipal Stormwater Permits and Protecting Water Quality*; American Rivers. January 2013.

Boise State University. 2015. *Boise State University Storm Water Management Program NPDES Permit No.: IDS-027561*. At: https://www.partnersforcleanwater.org/media/1031/boise-state-university-swmp-2015.pdf

Brown and Pitt 2004. *Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessments.* E. D. Caraco and R. Pitt. Center for Watershed Protection, Ellicott City, MD.

Center for Watershed Protection (CWP). 2003. Impacts of Impervious Cover on Aquatic Systems. http://www.cwp.org/Resource_Library/Center_Docs/IC/Impacts_IC_Aq_Systems.pdf

CWP 2009. *Monitoring to Demonstrate Environmental Results: Guidance to Develop Local Stormwater Monitoring Studies Using Six Example Study Designs.* August 2009.

EPA 1983. *Results of the Nationwide Urban Runoff Program. Executive Summary* US EPA. National Technical Information Service (NTIS) Accession Number PB84-185545; *Volume 1 – Final Report*, NTIS Accession Number PB84-185552; and *Volume 2- Appendices.*

EPA 1990. NPDES Stormwater Phase I Regulations Final Rule (55 FR 47990, November 16, 1990).

EPA 1996. *Interim Permitting Policy for Water Quality Based Effluent Limitations in Stormwater Permits* (61 FR 43761, November 26, 1996).

EPA 1999a. NPDES Stormwater Phase II Regulations Final Rule (64 FR 68722, Dec. 8, 1999).

EPA 1999b. *Preliminary Data Summary of Urban Stormwater Best Management Practices.* August 1999. EPA-821-R-99-012. https://www.epa.gov/sites/production/files/2015-11/documents/urban-stormwater-bmps_preliminary-study_1999.pdf

EPA 2002. EPA Office of Water Memo (November 22, 2002) "*Establishing Total Maximum Daily Load Waste Load Allocations for Stormwater Sources and NPDES Permit Requirements Based on Those WLAs."*

EPA 2006. *National Management Measures to Control Nonpoint Source Pollution from Urban Areas*, EPA-841-B-05004, January 2006.

EPA et al, 2007a. *Report to West Virginia Department of Environmental Protection: Options for WV's General Stormwater Permit under NPDES Phase II*. US EPA and Tetratech, Inc., November 2007.*.*

EPA 2009*. Technical Guidance on Implementing Section 438 of the Energy Independence and Security Act*, US EPA, December 2009.

EPA 2009a*. Development Document For Final Effluent Guidelines And Standards For The Construction & Development Category*, November 2009. https://www.epa.gov/sites/production/files/2015-06/documents/construction_development_dd_2009_chapters_1-11.pdf

EPA 2009b. *Development Document for Final Effluent Guidelines and Standards for the Construction and Development Category, Appendices A – I*, November 2009. https://www.epa.gov/sites/production/files/2015-06/documents/construction_development_dd_2009_app_a-i.pdf

EPA 2009c. *Economic Analysis of Final Effluent Limitation Guidelines and Standards for the Construction and Development Industry*, November 23, 2009. https://www.epa.gov/sites/production/files/2015-06/documents/construction_development_economic_analysis_2009.pdf

EPA 2009d. *Environmental Impact and Benefits Assessment for Final Effluent Guidelines and Standards for the Construction and Development Category,* November 2009. https://www.epa.gov/sites/production/files/2015-06/documents/cd_envir-benefits-assessment_2009.pdf

EPA 2009e. *Effluent Limitations Guidelines and Standards for the Construction and Development Point Source Category; Final Rule*. 74 FR 62996 (December 1, 2009). https://www.gpo.gov/fdsys/pkg/FR-2009-12-01/pdf/E9-28446.pdf

EPA 2010. *MS4 Permit Improvement Guide,* April 2010. EPA 833-R-10-001.

EPA 2012. *NPDES Permit No. IDS-027561*, including *Fact Sheet*, pages 22-25 and *Response to Comments on the NPDES Permit No. IDS-027561, December 11, 2012 – Final.*

EPA 2014a. EPA Office of Water memo "Revisions to the November 22, 2002 Memorandum "Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Stormwater Sources and NPDES Permit Requirements Based on Those WLAs;" November 26, 2014.

EPA 2014b. *Municipal Separate Storm Sewer System Permits- Post Construction Performance Standards and Water Quality Based Requirements- A Compendium of Permitting Practices*. EPA Office of Wastewater Management. June 2014. EPA 833-R-14-003.

EPA. 2015a. *Helpful Practices for Addressing Point Sources and Implementing TMDLs in NPDES Permits,* Prepared by EPA Region 9. June 2015.

EPA 2015c. *NPDES Electronic Reporting Rule*. (80 FR 64064, October 22, 2015).

EPA Region 10. 2016. Letter from Dan Opalski, Office of Water and Watersheds Director, to Honorable John Evans, Mayor of Garden City, Re: Garden City Request to Terminate Coverage under National Pollutant Discharge Elimination System Permit #IDS027561. June 8, 2016.

EPA 2016a. *NPDES Municipal Separate Storm Sewer System General Permit Remand, Proposed Rule* (81 FR 415, January 6, 2016.)

EPA 2016b. *NPDES Municipal Separate Storm Sewer System General Permit Remand, Final Rule* (81 FR 89320, Dec. 9, 2016.)

EPA 2016c. *Compendium of MS4 Permitting Approaches- Part 1: Six Minimum Control Measures.* EPA Office of Wastewater Management, November 2016. EPA-810-U-16-001.

EPA 2016d. *Compendium of MS4 Permitting Approaches- Part 2: Post Construction Standards.* EPA Office of Wastewater Management, November 2016. EPA-810-R-16-017.

EPA 2016e. EPA Memorandum: *Community Solutions for Stormwater Management: A Guide for Voluntary Long-Term Planning* (and associated draft EPA guidance document). Office of Wastewater Management. October 26, 2016.

EPA 2017. *Compendium of MS4 Permitting Approaches- Part 3: Water Quality Based Requirements.* EPA Office of Wastewater Management, April 2017. EPA-810-R-17-001.

EPA 2020. *Updates to NPDES eRule Data Elements To Reflect MS4 General Permit Remand Rule.* April 15, 2020. 85 FR 20873 – 20885.

EPA 2021. EPA Region 10 Memo "EPA Region 10's No Effect Determination for Slickspot Peppergrass and Yellow Billed Cuckoo, in Compliance with the Endangered Species Act for the Reissuance of NPDES Permit #IDS027561," February 8, 2021.

Georgiadis, N. 2016. *Adaptive Management: What, Why, and How?* Tacoma, WA: University of Washington Puget Sound Institute.

Hirschman and Kosco. 2008. *Managing Stormwater in Your Community: A Guide for Building an Effective Post-Construction Program,* Center for Watershed Protection. July 2008. EPA Publication No: 833-R-08-001.

Holz testimony, 2008. *Written Direct Testimony of Thomas W. Holz (Phase I) Pollution Control Hearings Board For The State Of Washington PCHB Nos. 07-021, 07-026, 07-027, 07-028, 07-029, 07-030, 07-037.*

Horner, 2008*. Direct Testimony of Dr Richard Horner (Phase 1*); *Pollution Control Hearings Board For The State Of Washington PCHB NOS. 07-021, 07-026, 07-027, 07-028, 07-029, 07-030, 07-037.*

Idaho Department of Environmental Quality (IDEQ) 1999. *Lower Boise River TMDL: Subbasin Assessment, Total Maximum Daily Loads*

IDEQ 2015. *Lower Boise River TMDL 2015 Total Phosphorus Addendum Hydrologic Unit Code 17050114.* August 2015. Available at: *https://www.deq.idaho.gov/water-quality/surface-water/total-maximum-daily-loads/boise-river-lower-subbasin/*

IDEQ 2015b. *Lower Boise River TMDL: 2015 Sediment and Bacteria Addendum*. June 2015. Available at: *https://www.deq.idaho.gov/water-quality/surface-water/total-maximum-daily-loads/boise-river-lower-subbasin/*

IDEQ 2017. *Draft §401 Water Quality Certification NPDES Permit Number(s): Regulated Small Municipal Separate Storm Sewer Systems Within the State of Idaho IDR040000*. December 22, 2017.

IDEQ 2020. *FINAL $401 Water Quality Certification for the City of Idaho Falls and Idaho Transportation Department -District 6, Municipal Separate Storm Sewer Systems (MS4), NPDES Permit # IDS028070*. January 3, 2020.

IDEQ 2020a. *Idaho Catalog of Storm Water Best Management Practices*. April 2020. Available at: https://www.deq.idaho.gov/water-quality/wastewater/storm-water/

IDEQ 2020b.Emails from Kati Carberry, IDEQ, to Misha Vakoc, EPA Region 10, dated 6/18 and 6/24/2020. Subject: RE: Preliminary Documents for Permit #IDS028100 - City of Middleton MS4.

IDEQ 2020c. Idaho's 2018/2020 Integrated Report. October 2020. Available at: https://www.deq.idaho.gov/water-quality/surface-water/monitoring-and-assessment/

McIntyre, J.K, et al. 2015. *Severe Coal Tar Sealcoat Runoff Toxicity to Fish is Prevented by Bioretention Filtration*. Environ. Sci. Technol. 2016, 50, 1570−1578.

McIntyre, J.K, et al. 2016. *Confirmation of Stormwater Bioretention Treatment Effectiveness Using Molecular Indicators of Cardiovascular Toxicity in Developing Fish*. Environ. Sci. Technol. 2016, 50, 1561−1569

National Research Council (NRC). 2008. *Urban Stormwater Management in the United States,* Committee on Reducing Stormwater Discharge Contributions to Water Pollution of the National Research Council. October 2008.

National Oceanic and Atmospheric Administration (NOAA) 2021. NOAA Fisheries Protected Resources App – West Coast Region. Maps Accessed on February 82021. At: https://www.webapps.nwfsc.noaa.gov/portal/apps/webappviewer/index.html?id=7514c715b8594944a6e468dd25aaacc9

NOAA 2021b. *Map: West Coast Essential Fish Habitat*: Accessed February 8, 2021. https://www.habitat.noaa.gov/application/efhmapper/index.html

National Oceanic and Atmospheric Administration (NOAA's) Western Regional Climate Center - BOISE AIR TERMINAL, IDAHO - Climate Summary At: https://wrcc.dri.edu/cgi-bin/cliMAIN.pl?id1022

Shaver, Horner, et al. 2007. *Fundamentals of Urban Runoff Management: Technical and Institutional Issues*, 2nd Edition, 2007.

Spromberg, J.A. et al. 2016. *Coho salmon Spawner Mortality in Western US urban Watersheds: Bioinfiltration prevents lethal stormwater impacts*. Journal of Applied Ecology 2016, 53, 398–407.

Stein 2013. Presentation: *Assessments for Stormwater Monitoring And Management*. May 20, 2013. At http://www.sfestuary.org/wp-content/uploads/2013/05/EricStein_AssessmentsForStormwaterMonitoring_052013.pdf

U.S. Fish and Wildlife Service (USFWS) 2021. *Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project Consultation Code: 01EIFW00-2016-SLI-0481; Event Code: 01EIFW00-2021-E-01062; Project Name: EPA's Municipal Stormwater Discharge Permits for Regulated Entities in the Boise Urbanized Are*a. January 15, 2021.

U.S. Geological Survey and EPA. 2015. *Draft: EPA-USGS Technical Report: Protecting Aquatic Life from Effects of Hydrologic Alteration: U.S. Geological Survey Scientific Investigations Report 2015–5160, U.S. Environmental Protection Agency EPA Report 822-P-15-002*. At https://www.epa.gov/sites/production/files/2016-03/documents/aquatic-life-hydrologic-alteration-report.pdf.

USGS and EPA. 2016, *Final EPA-USGS Technical Report:Protecting Aquatic Life from Effects of Hydrologic Alteration: U.S. Geological Survey Scientific Investigations Report 2016–5164, U.S. Environmental Protection Agency EPA Report 822-R-156-007*. At: https://www.epa.gov/wqc/final-epausgs-technical-report-protecting-aquatic-life-effects-hydrologic-alteration-documents

Water Environment and Research Foundation (WERF). 2017. *International Stormwater BMP Database; 2016 Summary Statistics*. At: http://www.bmpdatabase.org/Docs/03-SW-1COh%20BMP%20Database%202016%20Summary%20Stats.pdf. See also: http://www.bmpdatabase.org/index.htm

Appendix 1 – Statutory And Regulatory Overview

Pollutants Typically Found in Urban Runoff

Stormwater is the surface runoff that results from rain and snow melt. Urban development alters the landscape's natural infiltration, and human activity generates pollutants that accumulate on paved or impervious surfaces. Uncontrolled pollutants and flow associated with stormwater discharges from urban areas can negatively affect water quality. Contaminants enter stormwater from a variety of sources in the urban landscape. Urban stormwater is often a contributing factor where there is a water quality standard impairment in a particular water body. Stormwater or urban runoff typically contains a mixture of pollutants, including the following major constituents:

- Sediment;
- Nutrients (nitrogen and phosphorus);
- Chlorides;
- Trace metals;
- Petroleum hydrocarbons;
- Microbial pollution;
- Organic chemicals (pesticides, herbicides, and industrial); and
- Temperature.[23]

An increase in impervious surface cover will increase the amount of runoff. Effects of runoff generally take one of two forms. The first type of runoff effect is an increase in the type and quantity of pollutants in stormwater runoff, where these pollutants become suspended in runoff and are carried to receiving waters, and can impair the aquatic life uses of these waters. The second kind of runoff effect occurs by increasing the quantity of water delivered to the water body as a result of storms. Increased impervious surface area (such as, parking lots, driveways, and rooftops) interrupts the natural process of gradual percolation of water through vegetation and soil, and the water that would percolate under natural conditions may instead be discharged through the MS4. The effects of this alteration include streambank scouring and downstream flooding, which can affect aquatic life and damage property.[24]

Statutory and Regulatory Background for the MS4 Permit Program

The federal Clean Water Act (CWA) Section 402(p), 33 U.S.C. § 1342(p) and the National Pollutant Discharge Elimination System (NPDES) stormwater regulations establish permit requirements for regulated MS4 discharges. Section 402(p)(3)(B) of the CWA, 33 U.S.C. §1342(p)(3)(B) requires any NPDES permit for MS4 discharges to effectively prohibit non-precipitation related flows from entering the MS4, and require controls to reduce the discharge of pollutants to the maximum extent practicable (MEP), including management practices, control techniques, and system design and engineering methods, and such other provisions determined to be appropriate by the NPDES permitting authority.

Definitions of relevant terms, such as "*municipal separate storm sewer*," and "*large-*" "*medium-"* and "*small MS4*," are found at 40 CFR §122.26(b). In general, a *municipal separate storm sewer* includes any publicly-owned conveyance or system of conveyances that discharges to waters of the United States, is designed or used for collecting and conveying stormwater, is not a combined sewer, and is not part of a publicly owned treatment works. A *municipal separate storm sewer*

[23] Shaver, Horner, et al. 2007; EPA 1990; EPA 1999a, and EPA 1999b.
[24] USGS and EPA, 2015, page 61.

system, or MS4, includes roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, and/or storm drains.[25]

In 1990, EPA developed the first phase of federal stormwater regulations as directed by the CWA. The "Phase I" regulations established NPDES permit application and related requirements for discharges from large MS4s and medium MS4s. The Phase I regulation identified the large- and medium MS4s nationally based on the 1990 Census population. Based on the 1990 Census in Idaho, the Phase I stormwater regulations automatically designated MS4 operators discharging within the boundaries of Garden City and Boise as medium MS4s.[26]

In 1999, EPA developed the "Phase II" stormwater regulations, and designated additional small MS4s as needing NPDES permits. Regulated small MS4s include any MS4 discharge not already covered by Phase I that is located (partially or wholly) within an Urbanized Area (UA) as defined by the latest decennial Census. Regulated small MS4s in Idaho are located in Census-defined UAs of Coeur d'Alene; Lewiston; Nampa; Boise; Pocatello; and Idaho Falls. The Phase II regulation also defines regulated small MS4s as those systems with a UA that serve military bases or other properties owned by the United States; colleges and universities; large hospital or prison complexes; and highway systems.[27] In Idaho, various public entities own and/or operate regulated small MS4s within UAs, including, but not limited to: cities and counties; local highway districts; ITD; and state or community colleges and universities

The Phase II regulation includes authority for EPA (or states that administer the NPDES program as the permitting authority) to require NPDES permits for other unregulated stormwater discharges by a designation process.[28] EPA has previously designated MS4 discharges in the Moscow, Idaho area as needing MS4 permits.

Permits for MS4 discharges must include terms and conditions to reduce the discharge of pollutants from the MS4 to the MEP, to protect water quality, and to satisfy the appropriate water quality requirements of the Clean Water Act.[29] The MS4 permittee must control pollutants in their MS4 discharges to the MEP by addressing "minimum control measures," such as public education and outreach, public participation and involvement, illicit discharge detection and elimination, construction site runoff control, post construction runoff control, and pollution prevention and good housekeeping. A regulated MS4 operator may seek NPDES permit coverage under an available general permit, or the operator may apply for an individual permit

[25] *See*: 40 CFR §122.26(b); and EPA 1990.
[26] In December 2000, EPA issued the first term individual NPDES permit (#IDS027561) for the Phase I MS4 discharges owned/operated by the six co-permittees discussed in this document that operate the MS4s in Garden City and Boise, ID; EPA reissued Permit #IDS027561 effective January 2013 -January 2018; this document supports the reissuance of that permit for a third permit term.
[27] *See*: 40 CFR §§ 122.26(b)(16) and 122.30 through 37; and EPA 1999. U.S. Census maps for the Coeur d'Alene, Lewiston (ID)-Clarkston (WA), Nampa, Boise, Pocatello, and Idaho Falls UAs are available at http://www2.census.gov/geo/maps/dc10map/UAUC_RefMap/ua/.
[28] *See:* 40 CFR § 122.26(a)(9)(i)(C) and (D)
[29] *See*: CWA Section 402(p)(3); 40 CFR §122.26; EPA 2016a and 2016b. EPA now refers to this phrase as the *MS4 permit standard*.

Appendix 2 – Permit Area Map

The following map and description is excerpted from the ACHD's *Phase I Stormwater Management Plan, Permit No. IDS027561*, dated December 2020:

> "The Phase I MS4 permit area is composed of the City of Boise and Garden City, Idaho. The storm drain system in the Boise area is characterized by areas north and northeast of the Boise River that drain directly to the Boise River, while areas south of the Boise River drain to Boise River tributaries and/or irrigation related facilities, many of which eventually drain to the Boise River. Stormwater facilities on private properties built after 1980 drain primarily on-site via infiltration facilities. In Garden City much of the stormwater drains to the Boise River and irrigation-related facilities that drain to the Boise River. A map showing the boundaries of the Phase I MS4 is [*below*]."

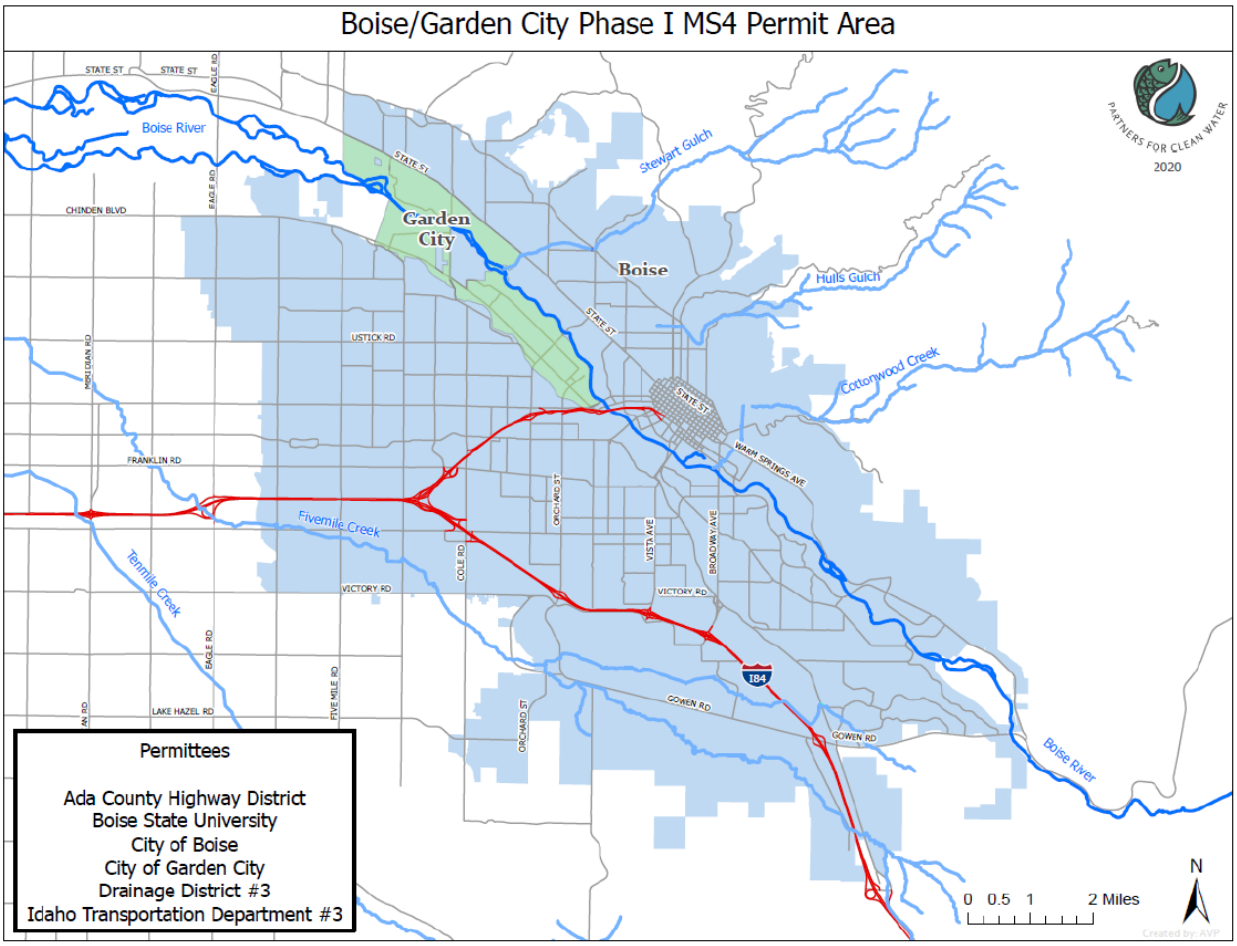


Figure 3. Map of Boise/Garden City area Phase I NPDES permit boundaries (December 2020).

Appendix 3 – MS4 Maps and System Descriptions

This appendix contains individual subsections for each of the Permittees:

A.3.1 Ada County Highway District

Website Information:
https://www.achdidaho.org/Departments/Engineering/Stormwater/resources.aspx

https://www.partnersforcleanwater.org/aboutpartners/achd/

MS4 Description: ACHD owns and operates all public roadways and associated stormwater conveyances in the Phase I permit area except roadways and stormwater facilities operated by ITD District 3. "The stormwater drainage system within the Phase II Permit area is comprised of the ACHD owned and operated MS4 and privately owned on-site drainage facilities. To add complexity, numerous irrigation/drainage conveyance systems are connected to the MS4 and conversely, the MS4 is connected to the irrigation/drainage systems. The irrigation and drainage districts are privately owned and operated and are not subject to NPDES MS4 permitting regulations." (ACHD 2017).

ACHD maintains extensive maps of their Permit Area. See ACHD's Map of Major Outfalls and Stormwater Facility Inventory summary (See **Figure A.3-1 below**)

MS4 Receiving Waters: The ACHD MS4 discharges through approximately 903 outfalls to Cottonwood Creek, Dry Creek, Fivemile Creek, and Stewart Gulch; the Lower Boise River; and other tributary conveyances leading to the Lower Boise River. These tributary conveyances include:

> Ash Lateral; Bennett Lateral; Boise City Canal; Boise River – tributary to; Boise Valley Canal; Bubb Canal; Chaffin Drain; Cloverdale Lateral; Collis Lateral; Davis Drain; Drain A; Drain E; Drain D; Drain B; Dry Creek Lateral; Eagle Drain; Eagle Drain – lateral of; Eggers Lateral; Elmore Drain; Farmer's Lateral; Farmer's Union Canal; Fitz Lateral; Gruber Lateral; Helm Lateral; Hulls Gulch; Hulls Gulch- Lateral of; Huntington Lateral; Julia Davis Pond; Karnes Lateral; Lake Elmore; Lake Heron; Lake Heron- south fork; Lake Heron -lateral of; Logger Creek; Logger Creek Lateral; Lowell Drain; McMillan Lateral; Milk Lateral; New York Canal; North Slough; Penitentiary Canal; Penninger Lateral; Penninger Secondary; Pierce Creek; Pierce Gulch; Powell Lateral; Ridenbaugh Canal; Ridenbaugh Ditch; Rust Lateral; Settler's Canal; Settler's Canal Lateral; Shavrer Lateral; South Slough; Snyder Lateral; Threemile Lateral; Thurman Mill Canal; Thurman Mill Canal Lateral; Tuttle Lateral; Unnamed ditch; Warm Spring Canal; Warm Springs Canal; Watson Drain; Watson Drain Lateral; Wilson Fruit Lateral; and Zinger Lateral.

Figure A.3-1 Map and Facility Inventory of Ada County Highway District MS4

Map Excerpted from: Attachment 5 of ACHD's *MS4 Annual Report, Permit Year 2011-2012.*
Inventory excerpted from *ACHD Phase I Stormwater Management Plan,* December 2020.

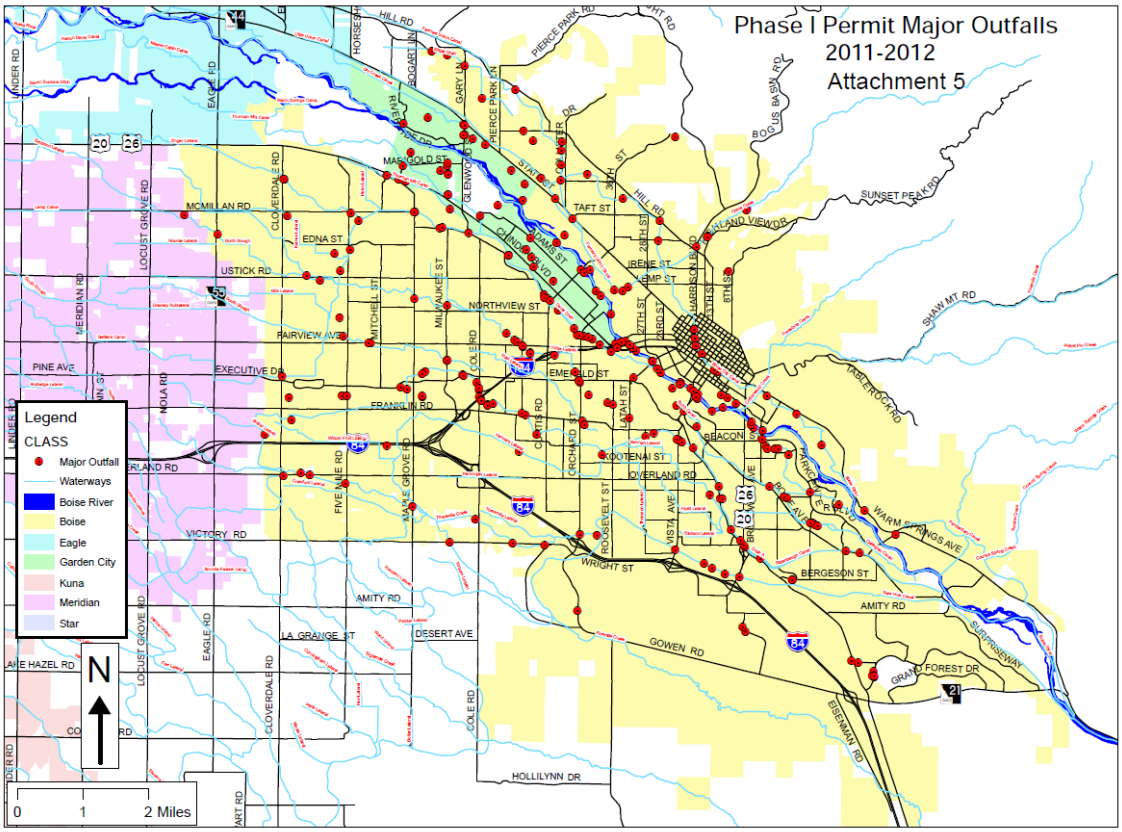


Table 1-4. Phase I Area Stormwater Facility Inventory	
Structure Type	Inventory (December 2020)
Storm Drain Pipe (miles)	393
ACHD Outfalls	903
Total Outfalls (ACHD, permittee, and private)	1,282
Catch Basins	12,848
Sediment/combo boxes	2,657
Proprietary Hydrodynamic BMPs	10
Seepage Beds	1,320
Swales	140
Stormwater Tree Cells	24
Pervious Paver Installations	6
Dry Wells	20
ACHD Basins (detention and retention)	56
Homeowner Association Basins (detention and retention)	261

A.3.2 Ada County Drainage District #3

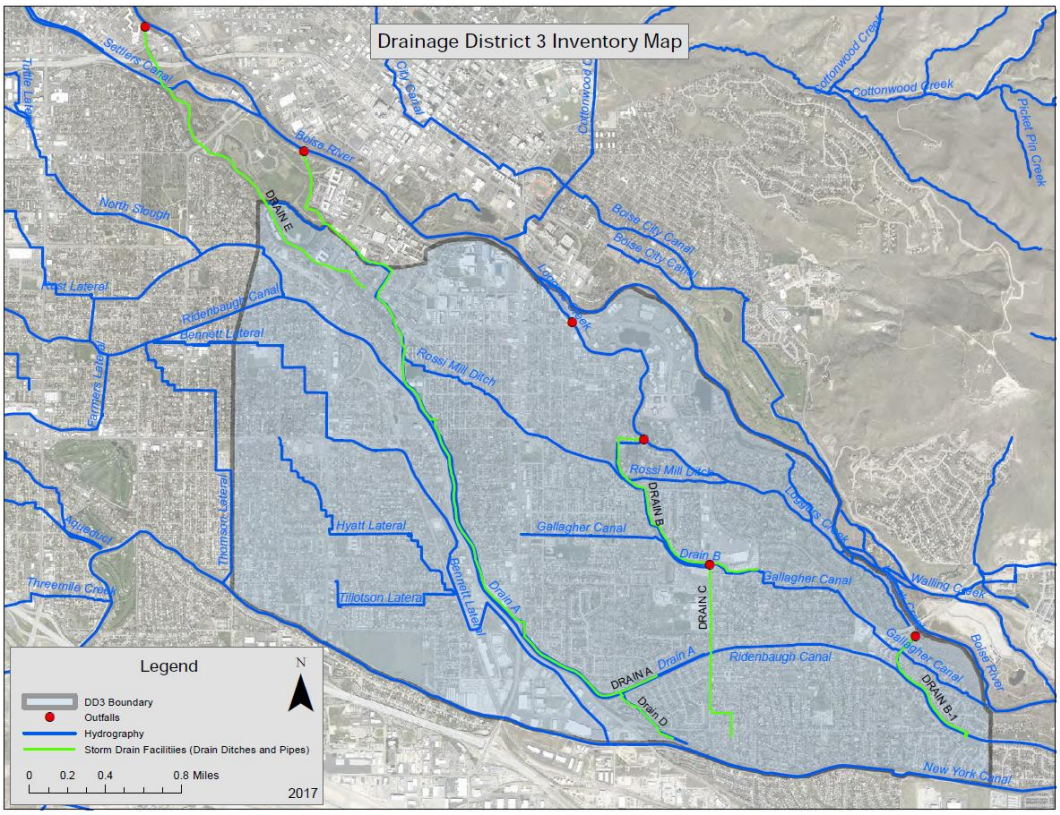
Website Information: https://www.partnersforcleanwater.org/media/1036/boise_gc_2017-section_07_ada_county_drainage_district_3_report.pdf

https://www.partnersforcleanwater.org/aboutpartners/drainage-district-3/

MS4 Receiving Water: Boise River.

MS4 Description: DD3 describes its MS4 in the 2017 permit renewal application as follows: "DD3 owns and operates drainage channels and drain pipes in what is generally referred to as southeast Boise. Virtually all of the geographic area which encompasses DD3's boundaries are now within the city limits of the city of Boise. Southeast Boise entails an older fully developed area with limited future infill development. DD3's area also includes the Boise State campus and other Boise State owned properties. DD3 receives drainage from storm drains under the control of ACHD and Boise State, irrigation from irrigated land, and irrigation canals and drainage from residential and commercial development (previously irrigated lands), which discharge directly into DD3's facilities. Several DD3 drains discharge into other facilities controlled by ACHD, Boise City, irrigation canals, and the Boise River." The DD3 MS4 discharges through six outfalls to the Boise River or tributary conveyances leading to the Boise River.

Figure A.3-2 Map of Ada County Drainage District #3 MS4 as included in the ACHD, et al 2017 Annual Report:



A.3.3 Boise State University

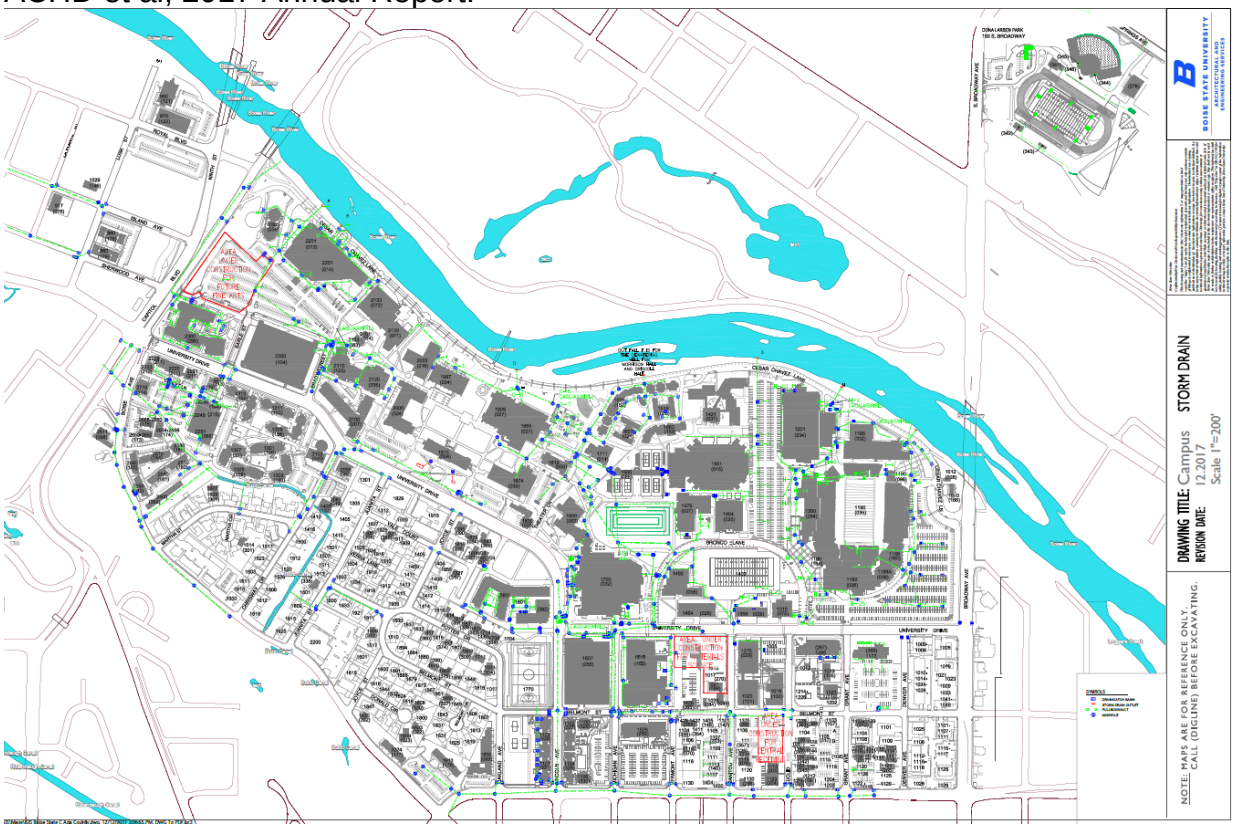
Website Information: The Boise State University's SWMP is available online at: https://www.partnersforcleanwater.org/media/1031/boise-state-university-swmp-2015.pdf

2019 Annual Report Information: https://www.partnersforcleanwater.org/aboutpartners/annual-report/

MS4 Receiving Waters: The MS4 discharges through 12 outfalls directly or indirectly to the Boise River.

MS4 Description: Boise State University is located next to the south bank of the Boise River, near the center of downtown Boise. Boise State University's 215-acre main campus is bordered to the north by the Boise River, to the south by Beacon Avenue, to the east by Broadway Avenue, and to the west by Ann Morrison Park with the majority of parcels between Beacon, University and Boise Avenues. Boise State University's main campus and off-site areas are composed of buildings, maintained lawns, landscaped areas, concrete sidewalks, asphalt-paved driveways and parking areas, parking garages, certain streets owned by Boise State University, a sports stadium with roof areas and multiple artificial turf fields. The main campus and off-site locations, which drain to the lower Boise River or a tributary, are comprised of ten sub-basin drainage areas which drain impervious surface to twelve separate outfalls.[30]

Figure A.3-3 Representation of the Boise State University MS4 Map, as excerpted from ACHD et al, 2017 Annual Report:



[30] ACHD et al 2017 and 2017b; BSU 2015.

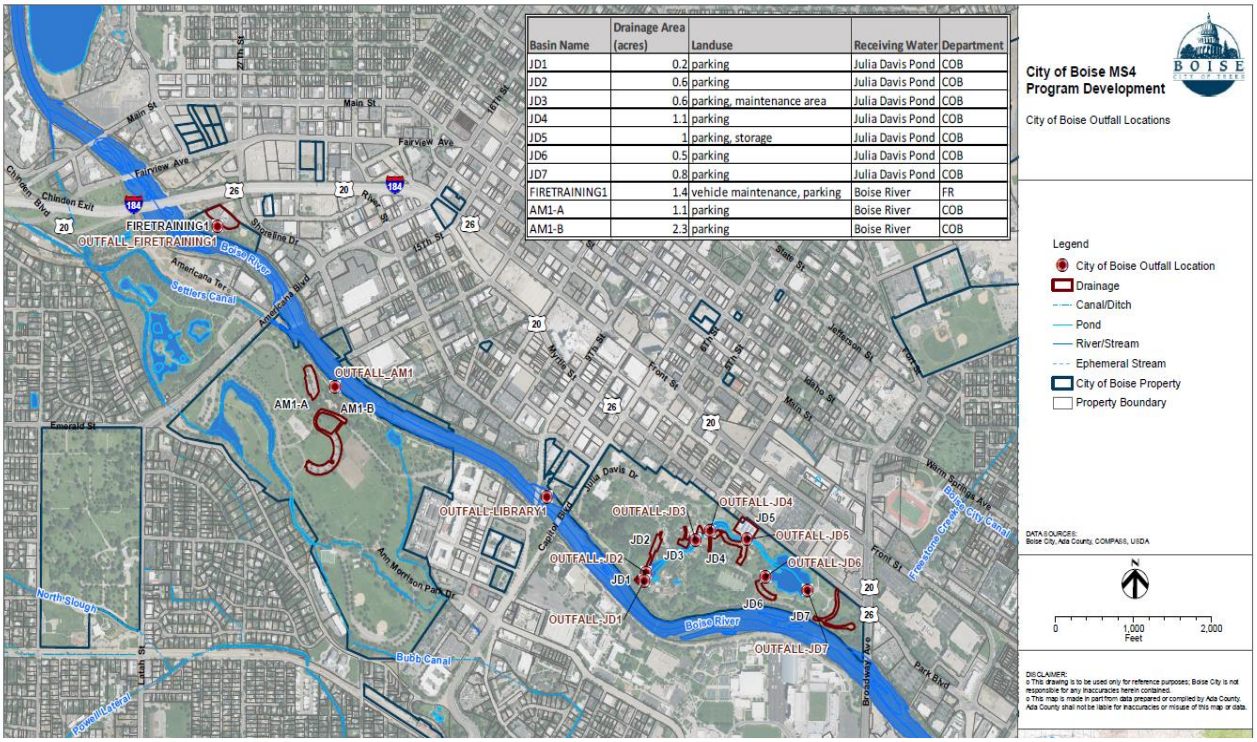
A.3.4 City of Boise

Website Information: https://www.partnersforcleanwater.org/media/1170/2020_city-of-boise_swmp.pdf

MS4 Receiving Waters: Boise River; Julia Davis Pond; and Fivemile Creek.

MS4 Description: Boise City described its MS4 in the permit renewal application as follows: "Boise City has jurisdiction over city-owned facilities and private property within its city limits and maintains four major floodway conveyances from the Boise foothills to the Boise River (Hulls Gulch, Cottonwood Creek, Sand Creek, and Crane Creek)."[31].

Figure A.3-4 Map of City of Boise MS4 Outfalls, as excerpted from its 2017 Annual Report:



[31] ACHD et al, 2017.

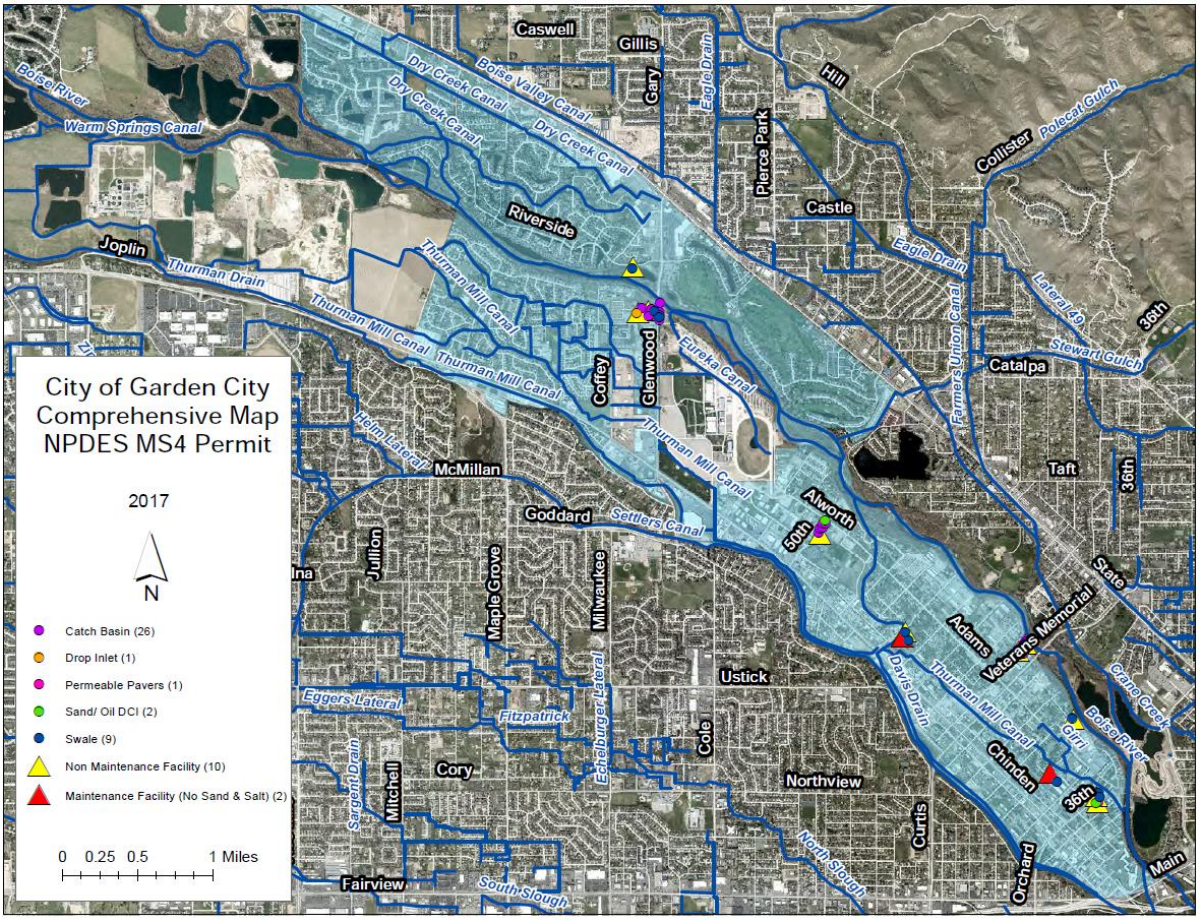
A.3.5 City of Garden City

Website Information: https://www.partnersforcleanwater.org/media/1035/boise_gc_2017-section_06_garden_city_report.pdf; or

https://www.partnersforcleanwater.org/aboutpartners/garden-city/

MS4 Receiving Water and Description: Boise River. The permit renewal application states: "Garden City has jurisdiction over private property and City-owned facilities within its city limits." In addition, Garden City also retains operational responsibility for storm water management associated with the portion of the conveyance ditch structure known as the Davis Drain leading to the Boise River.[32] Garden City is an independent jurisdiction in the permit boundary. They permit and manage their own stormwater systems for residential and commercial development and conduct public education activities. Garden City's responsibilities are unique in that it is an independent jurisdiction in the permit boundary located on the Boise River floodplain and nestled along the Boise River. Because they are surrounded by Boise City and border the Boise River, they are an integral part of the permit.

Figure A.3-5 Map of Garden City MS4 features, as excerpted from the ACHD. et al 2017 Annual Report:



[32] ACHD et al, 2017a, 2017b; ACHD 2016; EPA Region 10, 2016.

A.3.6 Idaho Transportation Department District #3

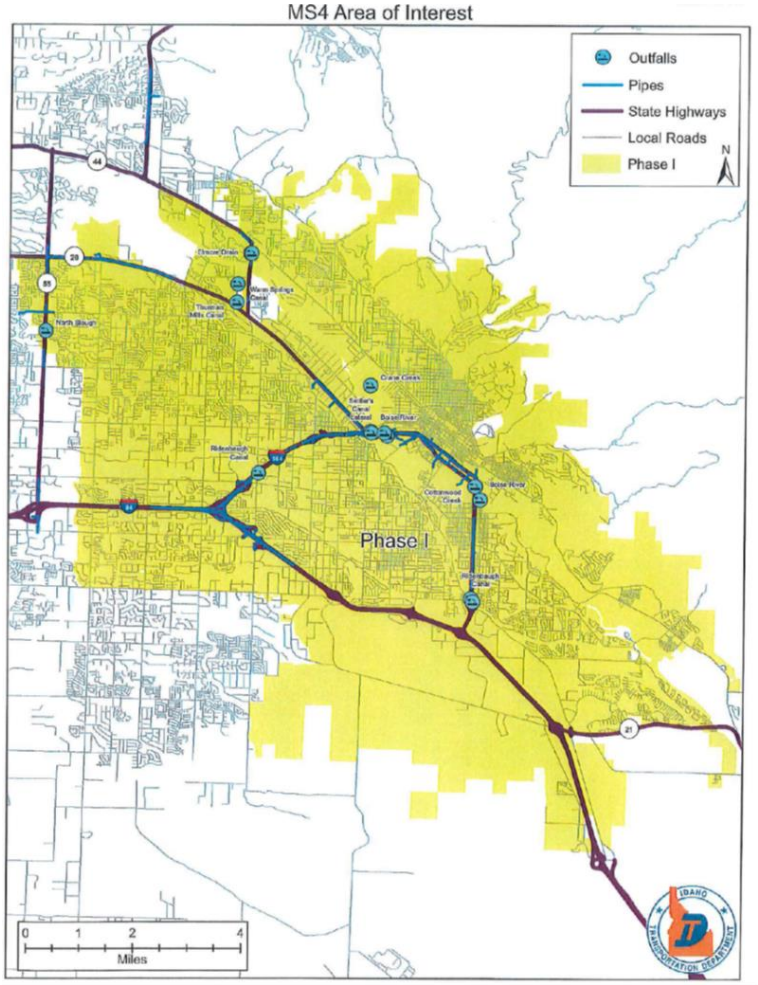
Website Information: https://www.partnersforcleanwater.org/media/1037/boise_gc_2017-section_08_idaho_transportation_department__district_3_report.pdf or

https://www.partnersforcleanwater.org/aboutpartners/itd-dist-3/

MS4 Receiving Waters: The ITD3 MS4 in the Phase I Permit Area discharges to the Boise River; Fivemile Creek; Crane Creek, and other tributary conveyances leading to Boise River. These tributary conveyances include: Settler's Canal; Lowell Drain; Ridenbaugh Canal; Julia Davis Pond; Threemile Lateral; New York Canal; Elmore Drain; Warm Springs Canal; Thurman Mill Canal; Eureka Canal; and North Slough.[33]

MS4 Description: "ITD District 3 owns and operates the following public roadways in the Phase I permit area: [Interstate]-84; I-184; Highways 20, 21, 26, 30, and 44; Glenwood Street; Chinden Boulevard; and the Chinden-Broadway Connector." The ITD3 MS4 is comprised of 28 miles of pipe, 939 inlets, 16 outfalls, and three treatment devices/ponds.

Figure A.3-6 Map of Idaho Transportation Department District #3 MS4 excerpted from ACHD et al 2017 MS4 *Annual Report.*



[33] ACHD et al, 2017a and 2017b.

Appendix 4 - Rationale For The Onsite Stormwater Retention Standard or Treatment Equivalent In Permit Part 3.4

The purpose of requiring an onsite stormwater design standard in this and other Idaho MS4 permits is to reduce pollutants in regulated MS4 discharges to the MEP, and protect water quality in Urbanized Areas of Idaho by helping to maintain or restore stable hydrology in adjacent receiving waters.

The following discussion provides additional background on EPA's rationale for including this requirement as necessary to meet the MS4 permit standard in the Phase I MS4 Permit Area.

It is well understood nationally that uncontrolled runoff from new development and redeveloped areas negatively affects receiving water bodies.[34] Pavement and other impervious surfaces in urban settings prevent infiltration of precipitation, and the resulting runoff increases both in volume and velocity, which in turn causes the erosion of stream banks and scouring of streambeds. Fine sediments and pollutants from automobiles, landscape pesticides, and fertilizers enter waterbodies, and can damage fish spawning areas and other aquatic habitat. Where traditional stormwater management practices typically employ engineered, end-of-pipe practices, (that tend to control only peak flow rates and total suspended solids concentrations), such conventional practices typically fail to address widespread and cumulative hydrologic modifications within a watershed that increase runoff volumes and rates, causing excessive erosion and stream channel degradation. Traditional practices also fail to treat runoff for nutrients, pathogens, and metals pollutants typically found in urban settings.[35]

Permanent stormwater control measures that involve prevention- such as product substitution, better site design, downspout disconnection, and conservation of natural areas - as well as watershed and land use planning, can dramatically reduce both the volume of runoff and pollutant loads from new development and redevelopment. In particular, site-level stormwater control measures that harvest, infiltrate, and evapotranspire stormwater runoff are critical to reducing the volume and pollutant loading associated with smaller storms.[36]

"Green Infrastructure" (GI) or "green stormwater infrastructure" (GSI), are terms used to describe the type of permanent stormwater management techniques that are cost-effective, sustainable, and environmentally friendly. Such techniques, including site level "Low Impact Development" (LID) practices, at new development or redevelopment projects involve both stormwater management and land development strategies emphasizing conservation and integration of natural features with small scale engineered hydrologic controls to more closely mimic predevelopment hydrologic function. A comprehensive approach to long-term stormwater management using GI/GSI, and LID seeks to:

- Preserve, protect and enhance natural landscape features, such as undisturbed forests, meadows, wetlands, and other undisturbed areas that provide natural stormwater management;
- Reduce overall land consumption, and use land efficiently, to reduce total watershed or regional impervious cover;

[34] EPA 1983; EPA 1999.

[35] Shaver, et al., 2007. Holz, 2008; and Horner, 2008.

[36] NRC 2008.

- Recycle land by directing new development to already degraded land, e.g., parking lots, vacant buildings, abandoned malls; and
- Direct stormwater into the ground near where it fell through infiltration, prevent rainfall from falling to the ground through interception, return water back to the atmosphere through evapotranspiration, and/or otherwise manage storm water through reuse techniques.[37]

Since 2008, EPA has encouraged MS4 jurisdictions to employ a volume-based approach to stormwater management at new development and redevelopment sites. This approach includes requirements for the design, construction, and maintenance of permanent stormwater practices that manage rainfall on-site, to generally prevent the off-site discharge of precipitation from all rainfall events below a certain size. EPA considers a volume-based stormwater management approach to be appropriate in this and other MS4 permits in Idaho because such techniques are widely acknowledged as a means of preventing pollutants from entering the receiving water; further, such techniques directly address the need to maintain and, where necessary, restore predevelopment hydrology for duration, rate, and volume of stormwater flows.

Many GSI/LID strategies involve bioretention, or infiltrating runoff through soil. Bioretention practices include use of porous pavements, green roofs, bioswales, and rain gardens. Various studies confirm the effectiveness of GSI/LID practices to reduce contaminants, restore hydrology, and protect the health of aquatic species. Research and on-the-ground experience suggests that all LID practices can perform effectively in a wide variety of geographic areas as long as procedures for proper design, implementation, and maintenance are established and followed.[38]

Many MS4 Permittees in Idaho currently require onsite retention and infiltration practices at development sites in their jurisdictions, and integrate aspects of a GSI/LID approach for such new development and redevelopment sites. Based on evidence that such GSI/LID approaches are indeed practicable for use in Idaho communities, EPA continues to require such site design approaches in this and other MS4 permits in Idaho to address post-construction stormwater discharges.

The Permit requires the Permittees to use local ordinances or regulatory mechanisms to require the volume of water from storms $\leq$ 95th percentile event to be managed entirely onsite, and not discharged to surface waters, in order to fully protect Idaho receiving waters. The *95th percentile rainfall event* is the rainfall event that is greater than 95% of all rainfall events over a period of record (typically using a minimum 30-year period of record). In general, this calculation excludes extremely small rain events that are $\leq$0.1 of an inch of rainfall or less (because such small rainfall events typically do not result in any measurable runoff due to absorption, interception, and evaporation by permeable, impermeable, and vegetated surfaces).[39]

EPA has previously calculated example target design storm volumes, as illustrated below. Using available 24-hour precipitation data through 2012 from the National Oceanic and Atmospheric Administration, EPA analyzed the average rainfall depth occurring in the Idaho MS4 Permit Areas. See Table A below. In the Urbanized Areas of Idaho, approximately 95% of all storms result in rainfall volumes of approximately 0.82 inches or less, ranging between 0.57 inches to 0.82 inches.

[37] See: American Rivers 2013; EPA 2006*;* EPA 1999*,* at pages 68725 – 68728 and 68759; EPA 2008; and EPA 2009.
[38] For example, see Ahiablame, et al, 2012; Spromberg, J.A. et al. 2016; and McIntyre, J.K, et al. 2016; and other references in the Administrative Record.
[39] See: Hirschman and Kosco, 2008

Table A: ***Analysis of the 95th Percentile Storm Runoff Volumes for Idaho MS4 Permit Areas***

Urbanized Area/ Permit Area	Rainfall Depth (in) 95th	NOAA Station Location; Period of Record
Coeur d' Alene	0.81888	*COEUR D ALENE, ID (GHCND:USC00101956);1895-2012*
Moscow	0.8188	*MOSCOW U OF I, ID (GHCND:USC00106152);1893-2012*
Caldwell	0.6102	*BOISE AIR TERMINAL, ID (GHCND:USW00024131); 1940-2012*
Nampa	0.5708	*NAMPA 2 NW, ID US ZIP:83687; 1948-2012*
Boise	0.6102	*BOISE AIR TERMINAL, ID (GHCND:USW00024131); 1940-2012*
Lewiston	0.6299	*LEWISTON NEZ PERCE CO AIRPORT, ID (GHCND:USW00024149); 1940-2012*
Pocatello	0.6495	*POCATELLO REGIONAL AIRPORT, ID (GHCND:USW00024156); 1939-2012*
Idaho Falls	0.688	*IDAHO FALLS, ID 83402 ZIP:83402; 1913-2012*

EPA recommends the 95th percentile storm volume be calculated for the Boise Area at the start of the Permit term and revisited at the time of permit renewal so that a consistent standard is applied for the duration of the Permit term.

Including a stormwater design standard for onsite stormwater retention in this and other MS4 Permits, expressed as a calculated runoff volume, serves to acknowledge the predicted, incremental increase in storm event volumes in Boise and other areas of Idaho. EPA believes such a design standard is preferable to using a single, static statewide rainfall amount (e.g, "0.6 inches total rain"), or a volume calculated from a statistical storm frequency return interval using historic rainfall data.

EPA has evaluated the potential extreme storm event return interval for 24-hour storm events in each of the MS4 Permit Areas in Idaho.[40] The evaluation reflects estimated changes in rainfall patterns over 30-year averages, centered around the years 2035 and 2060, as compared to historical or present-day conditions. Under all evaluated scenarios, the predicted trends in Idaho MS4 Permit Areas show a general increase in ambient temperatures throughout the calendar year, and increased storm magnitude for all return frequencies (i.e., the 5 year, 10 year, …, and 100 year events). The evaluation also suggests significantly decreased summer precipitation statewide, balanced by increased precipitation during other seasons. Expressing the stormwater design standard for onsite storm water retention in Permit Part 3.4 as a calculated runoff volume therefore defines a practicable and feasible performance standard for permanent stormwater control at new development and redevelopment that will protect Idaho water quality over the long term.

[40] EPA Region 10's analysis of the extreme storm event return interval for the Idaho MS4 Permit Areas is available as part of the Administrative Record. EPA used a risk assessment application designed to help water utilities in adapting to extreme weather events through a better understanding of current and long-term weather conditions; it is available online at https://www.epa.gov/crwu/build-resilience-your-utility.

Appendix 5 – Rationale Supporting Requirements For MS4 Discharges To Impaired Waters

Appendix 5.1 – Stewart Gulch, Cottonwood Creek, Crane Creek, Fivemile Creek

Summary: Consistent with the WLAs established in the EPA-approved TMDL, the Permittees must continue to conduct pollutant reduction activities through implementation of their comprehensive SWMPs to address sediment and *E.coli* in MS4 discharges to the waterbodies listed below.

Receiving Water	Waterbody Assessment Unit	Impairment Pollutants and TMDL Status
Stewart Gulch Cottonwood Creek Crane Creek	ID17050114SW012_02 *Stewart Gulch, Cottonwood & Crane Creeks - 1st & 2nd order*	<u>*E.coli*</u> *Lower Boise River TMDL - 2015 Sediment and Bacteria Addendum.* June 2015. Approved September 2015.
Fivemile Creek	ID17050114SW010_02 *Fivemile, Eightmile, and Ninemile Creeks - 1st and 2nd order*	
	ID17050114SW010_03 *Fivemile Creek - 3rd order*	<u>*E. coli* & Sediment:</u> *Lower Boise River TMDL - 2015 Sediment and Bacteria Addendum.* June 2015. Approved September 2015. <u>Chlorpyrifos</u>: No TMDL completed. <u>Cause Unknown (nutrients suspected).</u>: *Lower Boise River TMDL - 2015 Total Phosphorus Addendum*. August 2015. Approved December 2015.

ACHD's MS4 discharges to Stewart Gulch, Cottonwood Creek, and Fivemile Creek; ITD3's MS4 discharges to Fivemile Creek and Crane Creek. The City of Boise maintains floodway conveyances from the Boise foothills to the Boise River (Cottonwood Creek, Hulls Gulch and Crane Creek).

IDEQ's 2020 Integrated Report lists these segments as impaired for *E. coli*, sediment, chlorpyrifos, and cause unknown (nutrients suspected).

<u>Regarding sediment and E. coli</u>:

IDEQ established bacteria and sediment targets for the impaired segment(s) of Stewart Gulch, Cottonwood Creek, Crane Creek, and Fivemile Creek in the *Lower Boise River TMDL 2015 Sediment and Bacteria Addendum (LBR 2015 TMDL Addendum).*

The LBR 2015 TMDL Addendum establishes applicable stormwater targets, of 20 mg/L, less 2.5 mg/L for natural background for sediment, and 126 cfu/100 mL for *E. coli*. These targets are not end-of pipe limits, but instead are averages (4-month average for sediment and 30 days average for *E. coli*) that only apply to MS4 outfalls discharging over the entire averaging period. The TMDL

addresses pollutants in discharges of long-duration (4 months or more); stormwater discharges are typically only a few hours or days, and they do not receive WLAs in this TMDL. The targets only apply to MS4 outfalls that discharge for the entire averaging period (4 months or longer). Where such long-duration discharges from MS4 outfalls occur, the same target concentrations apply to every storm water outfall. However, because wet weather MS4 discharges typically last only a few hours or days, the TMDL considers such wet weather discharges to be short duration pollutant sources; DEQ provides the following narrative interpretation of the TMDL WLAs for short-term discharges of bacteria and sediment:

> "*1. Storm water entities must continue management practices that reduce sediment and E. coli; [and]*
>
> *2. Storm water entities must continue to identify and characterize inputs to their systems pollutant*."[41]

Conclusion: The requirements for continued implementation of a comprehensive SWMP as directed in Permit Part 3, and the monitoring/assessment activities required by Permit Part 6, are consistent with the WLA identified for MS4 discharges into Stewart Gulch, Cottonwood Creek, Crane Creek and Fivemile Creek, and will ensure progress towards complying with the LBR 2015 TMDL Addendum.

Regarding chlorpyrifos:

IDEQ's 2020 Integrated Report lists Fivemile Creek (3rd order segment) as impaired for the agricultural chemical chlorpyrifos, based on available data indicating the presence of toxic substances in concentrations that impair beneficial uses and violate Idaho's narrative standard for toxic substances. No TMDLs have been established. IDEQ considers the presence of these chemicals to be due to agricultural activities within the watershed.

Conclusion: EPA is not requiring additional SWMP control measures to address impairments due to agricultural chemicals at this time. The requirements for continued implementation of a comprehensive SWMP as directed in Permit Part 3, and the monitoring/assessment and pollutant reduction activities required by Permit Part 6, are sufficient to address and assess the contribution of urban stormwater to water quality impacts in this portion of Fivemile Creek.

Regarding Cause unknown (nutrients suspected):

IDEQ's 2020 Integrated Report lists Fivemile Creek (3rd order segment) as impaired for "cause unknown (nutrients suspected)." Fivemile Creek flows into the segment of the Lower Boise River identified as ID17050114SW005_06a (Boise River-Star to Middleton), which leads to ID17050114SW005_06b (Boise River.-Middleton to Indian Creek).

See the discussion of the WLAs for MS4 discharges to address total phosphorus in the following Appendix 5.2 for the Lower Boise River.

[41] See: *Lower Boise River TMDL: 2015 Sediment and Bacteria Addendum*, pages 51-55.

Appendix 5.2 – Lower Boise River

Summary: The Permittees' MS4s discharge directly and indirectly to the Lower Boise River Assessment Units listed in the table below. Consistent with the WLAs established in the EPA-approved TMDLs, the Permittees must continue implementing the comprehensive SWMP activities to reduce sediment, fecal coliform and total phosphorus in MS4 discharges to the Lower Boise River. Monitoring/assessment of temperature impacts from MS4 discharges, combined with other SWMP activities, is appropriate to address temperature impairments in the absence of an applicable TMDL.

Receiving Water	Waterbody Assessment Unit	Impairment Pollutants and TMDL Status
Boise River	ID17050114SW005_06 *Boise River - Veterans Memorial Parkway to Star Bridge* (aka River Mile 50 to Indian Creek) ID17050114SW005_06a Boise River-Star to Middleton	Temperature: No TMDL completed. Fecal Coliform & Sediment / Siltation: *Lower Boise River TMDL Subbasin Assessment, Total Maximum Daily Loads*, September 1999.Approved January 2000.
	ID17050114SW005_06b Boise River.-Middleton to Indian Creek	Temperature: No TMDL for completed. Fecal Coliform and Sediment/Siltation: *Lower Boise River TMDL Subbasin Assessment, Total Maximum Daily Loads*, September 1999. Approved January 2000. Total Phosphorus: *Lower Boise River TMDL - 2015 Total Phosphorus Addendum.* August 2015. Approved December 2015.

The Permittees' MS4s discharge to the Lower Boise River and other tributary conveyances leading to the Lower Boise River, including but not limited to:

Ash Lateral; Bennett Lateral; Boise City Canal; Boise River – tributary to; Boise Valley Canal; Bubb Canal; Chaffin Drain; Cloverdale Lateral; Collis Lateral; Davis Drain; Drain A; Drain E; Drain D; Drain B; Dry Creek Lateral; Eagle Drain; Eagle Drain – lateral of; Eggers Lateral; Elmore Drain; Farmer's Lateral; Farmer's Union Canal; Fitz Lateral; Gruber Lateral; Helm Lateral; Hulls Gulch; Hulls Gulch- Lateral of; Huntington Lateral; Julia Davis Pond; Karnes Lateral; Lake Elmore; Lake Heron; Lake Heron- south fork; Lake Heron -lateral of; Logger Creek; Logger Creek Lateral; Lowell Drain; McMillan Lateral; Milk Lateral; New York Canal; North Slough; Penitentiary Canal; Penninger Lateral; Penninger Secondary; Pierce Creek; Pierce Gulch; Powell Lateral; Ridenbaugh Canal; Ridenbaugh Ditch; Rust Lateral; Settler's Canal; Settler's Canal Lateral; Shavrer Lateral; South Slough; Snyder Lateral; Threemile Lateral; Thurman Mill Canal; Thurman Mill Canal Lateral; Tuttle Lateral; Unnamed ditch; Warm Spring Canal; Warm Springs Canal; Watson Drain; Watson Drain Lateral; Wilson Fruit Lateral; and Zinger Lateral.

IDEQ's *2020 Integrated Report* lists the segments of the Boise River in the table above as impaired for sediment, fecal coliform, temperature, and total phosphorus. Discussion of each is provided below:

Regarding sediment and fecal coliform:

In 1999, IDEQ originally established the *Lower Boise River TMDL: Subbasin Assessment, Total Maximum Daily Loads* (1999 LBR TMDL) for sediment and bacteria impairments in the segments representing the LBR main stem. The 1999 LBR TMDL establishes sediment allocations for reaches of the LBR upstream of Middleton equal to the 1995 baseline conditions (e.g. the allocations represent a 0% reduction in sediment, or no net increase). The TMDL considers urban and suburban land uses upstream of Middleton as contributing sediment sources to the main stem LBR, and states that the comprehensive municipal SWMP, as implemented through a NPDES permit, is likely sufficient to meet the sediment TMDL allocations.[42]

In the same document, IDEQ's bacteria TMDL assigned estimated bacteria load allocations to various tributaries based on meeting a fecal coliform target concentration. The TMDL estimates that more than 70% of the nonpoint source bacteria load must be reduced from the area upstream of the Middleton compliance point. In 2007, IDEQ revised its WQS indicator for bacteria from fecal coliform to *E. coli,* represented as 126 cfu/100 ml, based on the geometric mean of five samples taken 3-7 days apart over a 30-day period. The *2003 Implementation Plan for the Lower Boise Watershed* (2003 LBR Plan) references the federal NPDES storm water requirements, and cites a menu of activities expected to reduce sediment and bacteria from upstream urban and suburban land uses, such as: targeted public education, construction site runoff control, and on-site management of post-construction runoff from new development and redevelopment.

Conclusion: The Permit requirements for continued implementation of a comprehensive SWMP as directed in Permit Part 3, and the monitoring/assessment activities required by Permit Part 6, are consistent with the WLAs identified for sediment and bacteria in MS4 discharges to the Lower Boise River and are sufficient to ensure progress towards complying with the 1999 LBR TMDL.

Regarding temperature:

IDEQ's 2020 Integrated Report lists these segments of the Lower Boise River as impaired for temperature; no TMDL has been established. EPA requires the Permittees to monitor/assess MS4 discharges for temperature and other impairment pollutants as described in this Appendix and Section 2.5 of this document.

Conclusion: EPA is not requiring additional SWMP control measures to address temperature impairments at this time. The requirements in the Permit for continued implementation of a comprehensive SWMP as directed in Permit Part 3, and the monitoring/assessment required by Permit Part 6, are sufficient to address and assess the contribution of urban storm water to temperature impacts in the Lower Boise River.

Regarding total phosphorus:

The Lower Boise River, from Middleton to its confluence with the Snake River, does not meet the narrative criteria for excess nutrients in the Idaho WQS. The *Lower Boise River TMDL 2015 Total Phosphorus Addendum* (LBR Phosphorus TMDL), approved by EPA on December 22, 2015, quantifies total phosphorus pollutant sources, and identifies responsibility for load and waste load allocations needed to achieve the WQS.[43] IDEQ's numeric target to describe nuisance aquatic

[42] See: *Lower Boise River TMDL Subbasin Assessment* (1999), Table 14, pg 58-61

[43] See: Lower Boise River Phosphorus TMDL at: *http://www.deq.idaho.gov/media/60177413/lower-boise-river-tmdl-total-phosphorus-addendum-0815.pdf.*

growth within impaired Assessment Units of the main stem lower Boise River is established as the mean monthly benthic (periphyton) chlorophyll a ≤ 150 mg/m^2, year round.[44]

IDEQ assigns two types of WLAs for total phosphorus to the Boise-Garden City MS4s and other NPDES-regulated small MS4s discharging to the LBR. One WLA for municipal stormwater discharges during wet weather represents a target total phosphorus load reduction of 42% on average across all regulated MS4 discharges. A second WLA for dry weather discharges from MS4s represents a target of 84% total phosphorus load reduction on average across all regulated MS4s.

The LBR Phosphorus TMDL also includes load allocations of 0.07 mg/L total phosphorus which are to be met at the mouth of the Lower Boise River at Parma. The WLAs (expressed as % reductions) described above for the Phase I and Phase II small MS4 discharges were calculated by IDEQ to meet the 0.07mg/L target this location.[45]

IDEQ acknowledged at the time that it based these WLAs and load reduction targets on limited data and conservative assumptions. Because the "plumbing" of the MS4 systems with the LBR watershed is intricate and complex, and the quantity of the non-storm water inputs remains to be fully characterized, IDEQ asked MS4 Permittees to provide initial estimates for the percentage of the non-storm water discharges through their MS4s that originates from nonpoint sources. IDEQ expects these estimates to be refined through monitoring and mapping in future permit cycles and as part of TMDL implementation. Further, IDEQ recommends that TMDL-related activities be determined on a watershed basis, such that all regulated MS4 entities are conducting the same or similar types of actions. EPA agrees, and has included requirements for the Boise-Garden City Area MS4 Permittees, and other regulated MS4s, to maintain accurate inventories of all existing MS4 outfalls discharging during dry weather, and to characterize such flows by type and source. It is also necessary to confirm whether such groundwater and/or irrigation water flows through the MS4(s) are indeed uncontaminated. If dry weather flows from the MS4 are determined to be uncontaminated, they may be identified as "allowable non-storm water discharges," and as provided by Permit Part 2.4.

IDEQ encourages discharge or pollutant trading (between with other sectors and sources) to facilitate cost effective pollutant load reductions. The LBR Phosphorus TMDL recognizes that retrofitting the existing infrastructure may require considerable time and resources; and recommends that runoff from new urban development be managed carefully, using appropriate BMPs that consistent with the overall total phosphorus reduction goals.[46]

Conclusion: EPA determines that the Permittees' continued implementation of the comprehensive SWMP control measures is consistent with the goal of meeting the numeric target for nuisance algal growth established by the LBR Phosphorus TMDL. To address the LBR Phosphorus TMDL WLAs for wet and dry weather MS4 discharges, EPA has required the Permittees to continue stormwater monitoring/assessment efforts initiated under prior MS4 permit terms. EPA encourages a watershed-based approach to monitoring/assessment efforts and encourages ACHD, ITD3, DD3, BSU, Boise and Garden City, as well as the other regulated MS4 permittees, to work together to fulfill the objectives of the LBR Phosphorus TMDL implementation efforts in a consistent manner. Monitoring/assessment data will help substantiate future modelling that will further assess the effectiveness of stakeholders' ongoing efforts to reduce wet and dry weather pollutant loading from MS4 outfalls.

[44] See: Lower Boise River Phosphorus TMDL, page 64.
[45] IDEQ 2020b.See also LBR Phosphorus TMDL, pages 93- 100.
[46] See: LBR Phosphorus TMDL page 98