

**U.S. ENVIRONMENTAL PROTECTION AGENCY, REGION 8
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
STATEMENT OF BASIS**

PERMITTEE:	United States Department of Space Force, Buckley Garrison
FACILITY NAME AND ADDRESS:	Buckley Space Force Base 660 South Aspen Street Bldg. 1005, Room 178 Buckley Space Force Base, CO 80011
PERMIT NUMBER:	COR-042003
RESPONSIBLE OFFICIAL:	Marcus D. Jackson, Garrison Commander (720) 847-4601 marcus.jackson@spaceforce.mil
FACILITY CONTACT:	Matt Rogers, Chief of Environmental Element (720) 847-7245 matthew.rogers.7@spaceforce.mil
PERMIT TYPE:	Federal Facility, Municipal Separate Storm Sewer Systems, Permit Renewal
FACILITY LOCATION:	Buckley Space Force Base Arapahoe County, Colorado Lat. 39.708° N, Long. -104.758° W
DISCHARGE LOCATION(S):	Multiple outfalls to East Toll Gate Creek, Murphy Creek, Granby Ditch and Sand Creek (Figure 2)
RECEIVING WATERS:	East Toll Gate Creek, Granby Ditch, Murphy Creek, Sand Creek

1. INTRODUCTION

This statement of basis (SoB) is for the issuance of a NPDES permit (Permit) to the United States Department of Space Force for the Buckley Space Force Base (BSFB) municipal separate storm sewer systems (MS4). The permit establishes discharge limitations for any discharge of municipal stormwater from the BSFB. The SoB explains the nature of the discharges, and the EPA's decisions for limiting the pollutants in the stormwater, as well as the regulatory and technical basis for these decisions.

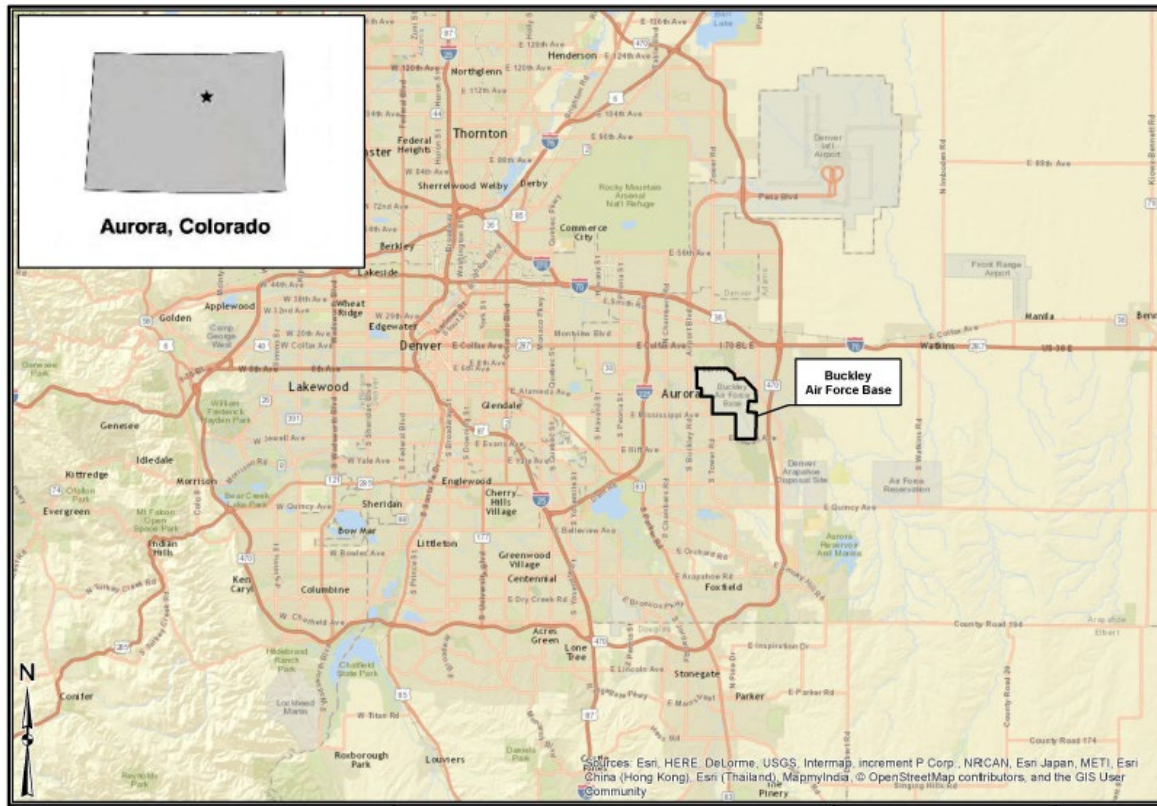
The EPA Region 8 is the permitting authority for Colorado federal facilities and provides implementation of federal and state environmental laws within Colorado.

2. FACILITY BACKGROUND INFORMATION

2.1. Facility Overview

BSFB is a Space Force Command Base located in Arapahoe County, Colorado (Figure 1). Base-operating responsibilities changed from the Colorado Air National Guard (COANG) to the U.S. Air Force (USAF) 460th Space Wing, and currently the Buckley Garrison is the host unit of the BSFB. In 2021, the base name was changed from the Buckley Air Force Base (BAFB) to the Buckley Space Force Base.

Figure 1 – BSFB (previously named BAFB) Location



The Buckley Garrison’s mission is to provide combatant commanders with expeditionary warrior Airmen, and deliver global infrared surveillance, tracking, and missile warning for theater and homeland defense. Also, the Buckley Garrison provides infrastructure and organizational support for approximately 77 tenant organizations who have facilities and operations located on BSFB including the 140th Wing (140 WG) of the Colorado Army National Guard, the Navy Operational Support Center, Marines Corps, and Coast Guard, and reserve components of these forces.

Prior to the issuance of the current individual permit, stormwater discharges from the BSFB MS4 were authorized under EPA Region 8’s General Permit for Storm Water Discharges from Federal Facility Small Municipal Separate Storm Sewer Systems in Colorado (COR42000F). This permit was issued on June 23, 2003 and expired on June 22, 2008. This general permit was not reissued after expiration. The eight facilities covered under the general permit have instead been issued

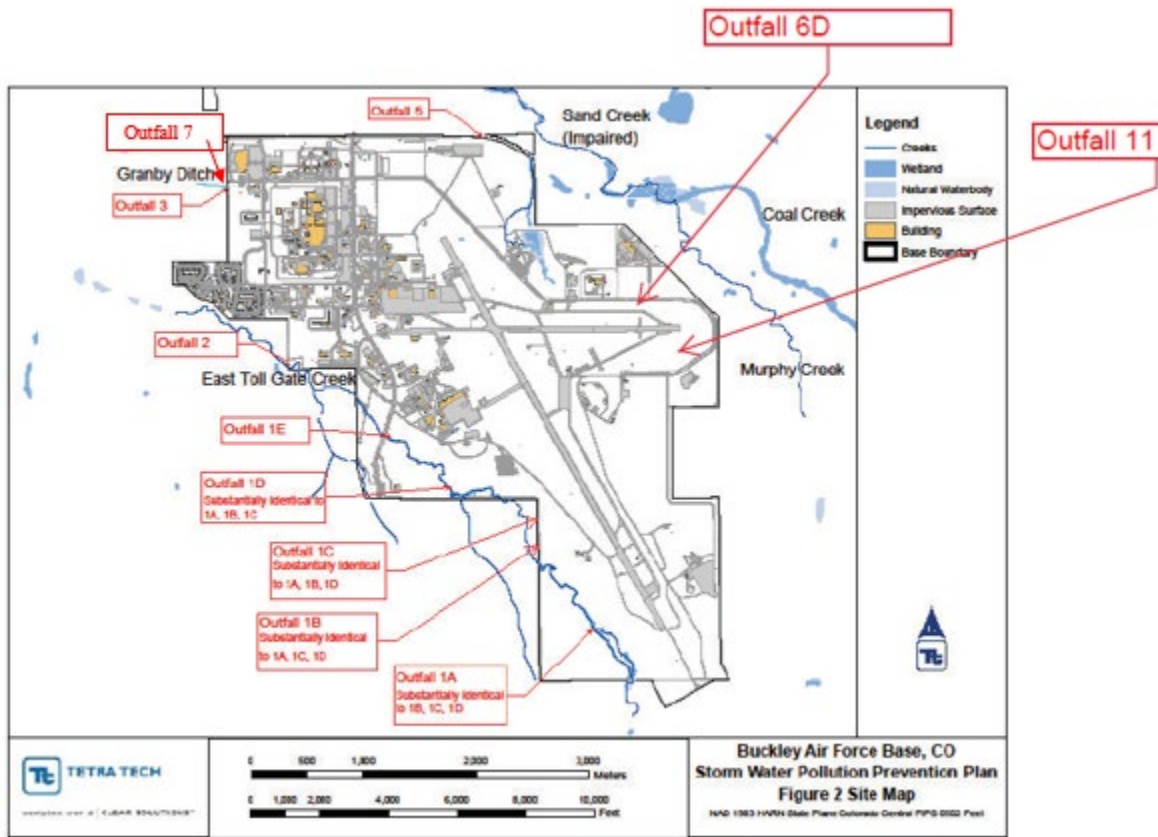
individual permits for discharges from their MS4s. This approach was being taken so that terms specific to the operations, industrial activities, and receiving water conditions of each facility be included in each individual permit. This approach has resulted in permits with more streamlined conditions specifically tailored to the goal of reducing pollutant loading in stormwater runoff.

3. WATER QUALITY CONSIDERATIONS

3.1. Description of Receiving Waters

Stormwater runoff from BSFB discharges into its own MS4 system and discharges via MS4 outfalls to four receiving waters (Figure 2). The receiving waters, are East Toll Gate Creek (a natural drainage channel) and Granby Ditch (a natural channel, largely improved by man, and a component of the City of Aurora’s MS4 drainage system) on the western side of the BSFB, and Murphy Creek and Sand Creek on the eastern side of BSFB.

Figure 2 – BSFB Receiving waters and Outfall Locations



Drainage from the eastern portion of BSFB is part of the Murphy Creek and Sand Creek Drainage Basin. Discharge to Murphy Creek is via Outfall 11. Stormwater runoff from the Murphy Creek Drainage Basin flows into Sand Creek at the confluence of Coal Creek and Murphy Creek.

Drainage from the northeastern and northern portion is part of the Sand Creek Drainage Basin and here stormwater discharges to Sand Creek directly via Outfalls 5 and 6D.

Drainage on the western and southwestern portion of the ASFB flows directly into East Toll Gate Creek Drainage Basin via Outfalls 1A, 1B, 1C, 1D, 1E and 2. East Toll Gate Creek flows to Toll Gate Creek which flows to Sand Creek to the west of BSFB.

Granby Ditch Drainage Basin is located on the northwestern portion of the BSFB and discharge to Granby Ditch occurs via Outfalls 3 and 7. Stormwater from this drainage basin is conveyed through Granby Ditch to the City of Aurora’s MS4 which discharges to Toll Gate Creek, which discharges to Sand Creek.

All the above Stormwater Drainage Basins ultimately discharge to Sand Creek which generally flows to the northwest and discharges into the South Platte River about 12 miles downstream from BSFB.

3.2. Receiving Waters Water Quality Standards

East Toll Gate Creek is within the state of Colorado and thus state of Colorado water quality standards (WQS) apply. Colorado Regulation Number 38 provides basic, narrative, and numeric water quality criteria for the specific stream segments affected by the Permit. According to this regulation, East Toll Gate Creek is within segment 16h of the South Platte River (COSPUS16h) (Tables 1-3). Classifications and designations are listed below for

- Classifications: Agriculture, Aquatic Life Warm 2, Recreation E
- Designation: Reviewable

Classifications and Designations are defined in Colorado Regulation Number 31 and these definitions are provided below:

Table 1 – Stream Segment 16h of the South Platte River (COSPUS16h) - Physical and Biological ^{a/ b/}

Physical and Biological	Daily Maximum	Maximum Weekly Average	Acute	Chronic
Temperature °C	WS-II <u>c/</u>	WS-II <u>c/</u>	N/A	N/A
D.O. (mg/L)	N/A	N/A	---	5.0
pH	N/A	N/A	6.5-9.0	---
chlorophyll a (mg/m ²)	N/A	N/A	---	150 <u>d/</u>
E. Coli (per 100 mL)	N/A	N/A	---	126

^{a/} 16h. Mainstem of West Toll Gate Creek, including all tributaries and wetlands, upstream of the confluence with East Toll Gate Creek. Mainstem of East Toll Gate Creek, including all

tributaries and wetlands, upstream of the confluence with West Toll Gate Creek. Mainstem of Toll Gate Creek, downstream of the confluence of East and West Toll Gate Creeks to the confluence with Sand Creek.

b/ COSPUS 16H Designation - Reviewable; Classifications: Agriculture, Aq Life Warm 2, Recreation E. Qualifiers: Fish Ingestion Standards.

c/ WS-II is warm stream temperature tier two. See Colorado Regulation No. 38.6(3).

d/ Applies only above the facilities listed in Colorado Regulation No. 38.5(4).

Table 2 – Stream Segment 16h of the South Platte River (COSPUS16h) - Inorganic ^{a/ b/}

Inorganic	Acute (mg/L)	Chronic (mg/L)
Ammonia	TVS <u>c/</u>	TVS <u>c/</u>
Boron	---	0.75
Chloride	---	---
Chlorine	0.019	0.011
Cyanide	0.005	---
Nitrate	100	---
Nitrite	---	0.5
Phosphorous	---	0.17 <u>d/</u>
Sulfate	---	---
Sulfide	---	0.002

a/ 16h. Mainstem of West Toll Gate Creek, including all tributaries and wetlands, upstream of the confluence with East Toll Gate Creek. Mainstem of East Toll Gate Creek, including all tributaries and wetlands, upstream of the confluence with West Toll Gate Creek. Mainstem of Toll Gate Creek, downstream of the confluence of East and West Toll Gate Creeks to the confluence with Sand Creek.

b/ COSPUS 16H Designation - Reviewable; Classifications: Agriculture, Aq Life Warm 2, Recreation E. Qualifiers: Fish Ingestion Standards.

c/ TVS is table value standard. See Colorado Regulation No. 38.6(3).

d/ Applies only above the facilities listed in Colorado Regulation No. 38.5(4).

Table 3 – Stream Segment 16h of the South Platte River (COSPUS16h) - Metals ^{a/ b/}

Metals	Acute (µg/L)	Chronic (µg/L)
Arsenic	340	---
Arsenic (T)	---	7.6
Cadmium	TVS <u>e/</u>	TVS <u>e/</u>
Chromium III	TVS <u>e/</u>	TVS <u>e/</u>
Chromium III (T)	---	100
Chromium VI	TVS <u>e/</u>	TVS <u>e/</u>
Copper	TVS <u>e/</u>	TVS <u>e/</u>
Iron (T)	---	1000
Lead	TVS <u>e/</u>	TVS <u>e/</u>
Manganese	TVS <u>e/</u>	TVS <u>e/</u>
Mercury (T)	---	0.01
Molybdenum (T)	---	150
Nickel	TVS <u>e/</u>	TVS <u>e/</u>
Selenium	Varies <u>c/</u>	Varies <u>c/</u>
Silver	TVS	TVS
Uranium	Varies <u>d/</u>	Varies <u>d/</u>
Zinc	TVS <u>e/</u>	TVS <u>e/</u>

^{a/} 16h. Mainstem of West Toll Gate Creek, including all tributaries and wetlands, upstream of the confluence with East Toll Gate Creek. Mainstem of East Toll Gate Creek, including all tributaries and wetlands, upstream of the confluence with West Toll Gate Creek. Mainstem of Toll Gate Creek, downstream of the confluence of East and West Toll Gate Creeks to the confluence with Sand Creek.

^{b/} COSPUS 16H Designation - Reviewable; Classifications: Agriculture, Aq Life Warm 2, Recreation E. Qualifiers: Fish Ingestion Standards.

c/ See Colorado Regulation No. 38.6(4)(b) for selenium standards and assessment locations. Information is also included below.

d/ See Colorado Regulation No. 38.5(3) for details.

e/ TVS is table value standard.

Upper South Platte Segment 16h: Selenium Standards and Assessment Locations

Selenium Standards ($\mu\text{g/L}$):

West Toll Gate Creek: Selenium(chronic)=50.6, Selenium(acute)=119.2

East Toll Gate Creek: Selenium(chronic)=14.3, Selenium(acute)=15.9

Toll Gate Creek: Selenium(chronic)=26.5, Selenium(acute)=29.5

Selenium Assessment Locations:

- Toll Gate Creek (TG6): Downstream of the confluence of East and West Toll Gate Creeks, at 6th Avenue near the gage station.
- East Toll Gate Creek (ET1): Upstream of the confluence with West Toll Gate Creek, at Chambers Road and 1st Avenue.
- West Toll Gate Creek (WT1): Upstream of the confluence with East Toll Gate Creek, at 2nd Avenue.

Toll Gate, East and West Toll Gate Creeks, Upper So Platte segment 16h: The City of Aurora presented evidence that the natural or irreversible human-induced ambient water quality levels for selenium in Toll Gate Creek, East Toll Gate Creek, and West Toll Gate Creek at times exceed the relevant table value standard, and that an ambient quality-based standard, calculated in a manner consistent with Basic Standards requirements, is adequate to protect classified uses. The Commission accepts the City of Aurora's evidence as accurate. The Commission expressly finds that the natural or irreversible human-induced ambient water quality levels for selenium in Toll Gate Creek, East Toll Gate Creek, and West Toll Gate Creek exceed the relevant table value standard. Moreover, the proposed ambient quality-based standard is adequate to protect classified uses and represents the highest reasonably attainable standard, based on analysis of available data that show elevated instream conditions are attributable to natural or irreversible human-induced conditions.

The Commission created a new segment, segment 16h, and adopted ambient quality-based site-specific standards for selenium applicable to Toll Gate Creek, East Toll Gate Creek, and West Toll Gate Creek in Segment 16h. The ambient quality-based standards are based on the 85th percentile (chronic) and the 95th percentile (acute) of the selenium data collected at three specific instream monitoring locations (TG6, ET1 and WT1). The instream attainment locations have been added to Colorado Regulation No. 38, section 6(4). Percentiles are:

Toll Gate Creek (TG6): 85th percentile = 26.5 $\mu\text{g/l}$ chronic (dis), 95th percentile = 29.5 $\mu\text{g/l}$ acute (dis).

East Toll Gate Creek (ET1): 85th percentile = 14.3 $\mu\text{g/l}$ chronic (dis), 95th percentile = 15.9 $\mu\text{g/l}$ acute (dis).

West Toll Gate Creek (WT1): 85th percentile = 50.6 µg/l chronic (dis), 95th percentile = 119.2 µg/l acute (dis).

The Commission removed the temporary modification currently in place for selenium in Toll Gate Creek, East Toll Gate Creek, and West Toll Gate Creek in Segment 16c, and added “16h” to the list of exceptions in the 16c segment description.

Per the state of Colorado, Toll Gate Creek, East Toll Gate Creek, and West Toll Gate Creek are meeting adopted ambient selenium standards. Therefore, Toll Gate Creek, East Toll Gate Creek, and West Toll Gate Creek have been de-listed from the CWA 303(d) impaired waters list.

In addition, Murphy Creek and Sand Creek, are receiving waters, and are designated as CWA 303(d) impaired for selenium and *E.coli* by the state of Colorado. Murphy Creek is considered a subbasin of Sand Creek (Segment 16a) with the same classifications and designations as outlined in Tables 4-6 for Sand Creek.

- Classifications: Agriculture, Aquatic Life Warm 2, Recreation E and Water Supply
- Designation: Reviewable

Table 4 – Stream Segment 16a of the South Platte River (COSPLUS16a) - Physical and Biological ^{a/ b/}

Physical and Biological	Daily Maximum	Maximum Weekly Average	Acute	Chronic
Temperature °C	WS-II <u>c/</u>	WS-II <u>c/</u>	N/A	N/A
D.O. (mg/L)	N/A	N/A	---	5.0
pH	N/A	N/A	6.5-9.0	---
chlorophyll a (mg/m ²)	N/A	N/A	---	---
E. Coli (per 100 mL)	N/A	N/A	---	126

a/ 16a. Mainstem of Sand Creek from the confluence of Murphy and Coal Creek in Arapahoe County to the confluence with the Toll Gate Creek.

b/ COSPLUS 16A Designation - Reviewable; Classifications: Agriculture, Aq Life Warm 2, Water Supply, Recreation E.

c/ WS-II is warm stream temperature tier two. See Colorado Regulation No. 38.6(3).

Table 5 – Stream Segment 16a of the South Platte River (COSBUS16a) - Inorganic ^{a/ b/}

Inorganic	Acute (mg/L)	Chronic (mg/L)
Ammonia	TVS <u>c/</u>	TVS <u>c/</u>
Boron	---	0.75
Chloride	---	250
Chlorine	0.019	0.011
Cyanide	0.005	---
Nitrate	10	---
Nitrite	---	0.5
Phosphorous	---	---
Sulfate	---	WS <u>d/</u>
Sulfide	---	0.002

a/ 16a. Mainstem of Sand Creek from the confluence of Murphy and Coal Creek in Arapahoe County to the confluence with the Toll Gate Creek.

b/ COSBUS 16A Designation - Reviewable; Classifications: Agriculture, Aq Life Warm 2, Water Supply, Recreation E.

c/ TVS is table value standard.

d/ WS is water supply.

Table 6 – Stream Segment 16a of the South Platte River (COSPUS16a) - Metals ^{a/ b/}

Metals	Acute (µg/L)	Chronic (µg/L)
Arsenic	340	---
Arsenic (T)	---	0.02-10 ^A
Cadmium	TVS <u>c/</u>	TVS <u>c/</u>
Cadmium (T)	5.0	---
Chromium III	---	TVS <u>c/</u>
Chromium III (T)	50	---
Chromium VI	TVS <u>c/</u>	TVS <u>c/</u>
Copper	TVS <u>c/</u>	TVS <u>c/</u>
Iron	---	WS d/
Iron (T)	---	1000
Lead	TVS <u>c/</u>	TVS <u>c/</u>
Lead(T)	50	---
Manganese	TVS <u>c/</u>	TVS/WS <u>c/ d/</u>
Mercury (T)	---	0.01
Molybdenum (T)	---	150
Nickel	TVS <u>c/</u>	TVS <u>c/</u>
Selenium	Varies <u>c/</u>	Varies <u>c/</u>
Silver	TVS	TVS
Uranium	Varies <u>e/</u>	Varies <u>e/</u>
Zinc	TVS <u>c/</u>	TVS <u>c/</u>

^{a/} 16a. Mainstem of Sand Creek from the confluence of Murphy and Coal Creek in Arapahoe County to the confluence with the Toll Gate Creek.

b/ COSPUS 16A Designation - Reviewable; Classifications: Agriculture, Aq Life Warm 2, Water Supply, Recreation E.

c/ TVS is table value standard.

d/ WS is water supply

e/ See Colorado Regulation 38.5(3) for details.

The state of Colorado's water quality standards are established to protect both aquatic life and human health (based on consumption of organisms and/or water). The state of Colorado also implements total maximum daily loads (TMDLs) to address waters that are impaired. As mentioned above, Murphy Creek and Sand Creek are listed as impaired for selenium and *E. coli*. These listings are category 5, which is defined as "impaired without a TMDL completed." Thus, there are no TMDLs developed for this segment of Murphy Creek or Sand Creek at this time.

Selenium can be released into water resources by natural sources via weathering and by anthropogenic sources, such as surface mining, coal-fired power plants, and irrigated agriculture. There are no known anthropogenic sources of selenium on BSFB. BSFB collected a selenium sample from Outfall 005 (which discharges to Sand Creek) in 2016 and the result (1.1 µg/L) was consistent with natural occurring levels based on a previous study, *Selenium and Other Elements in Water and Adjacent Rock and Sediment of Toll Gate Creek, Aurora, Arapahoe County, Colorado, December 2003 through March 2007, Scientific Investigations Report 2007-2018*.

E. coli results from the 2016 sampling event of Outfall 005 were also consistent with natural occurring levels due to typical wildlife found in the area (rabbits). The analytical result was 2 most probable number (mpn)/100 mL. The only known fecal contamination source on BSFB is wildlife, such as rabbits, and even wildlife is limited on the base due to an active wildlife management program performed by United States Fish and Wildlife Service (FWS) in support of the Bird Airstrike Hazard (BASH) program. The following typical *E. coli* water pollutant sources can be ruled out or are improbable at BSFB:

- **Homeless population.** BSFB is a secure (armed and gated, and fenced for high security) military installation thus there are no homeless population.
- **Cross-connections** between sanitary and storm sewers: BSFB has completed several studies of the sanitary and storm sewer systems. No cross-connections were identified as part of these evaluations and locations that were evaluated appropriately discharged to the sanitary sewer system.
- **Wildlife.** BSFB perimeter fencing was constructed to prevent wildlife from entering (fencing is 8 feet tall with barbed wire on top and an additional metal skirting was added to the bottom 2 feet and is buried 2–3 feet deep to prevent animals from digging under) thus less wildlife occurs inside the installation boundary than outside. BSFB also has a Natural Resource Program that performs habitat modifications aimed at reducing wildlife habitat to increase aircraft safety thus reducing wildlife on the installation. Further, BSFB has a Bird Hazard Working Group that uses trapping, hazing, and depredation to reduce wildlife on the Installation. These measures reduce the amount of wildlife thus reducing wildlife feces containing *E. coli*. from entering the MS4.

In 2018, EPA Region 8 released BSFB from addition selenium and *E. coli* monitoring under its Multi-Sector General Permit (MSGP) coverage (COR05F004), Sector - Air Transportation for the 2015-2020 permit cycle. Annual outfall monitoring of selenium and *E. coli* will resume for the 2021 MSGP permit cycle as it is required for discharges to impaired waters without an EPA-approved or established TMDL in the first year and fourth year of 2021 MSGP coverage. Therefore, EPA will not be requiring any selenium and *E. coli* monitoring as a requirement of this MS4 Permit.

4. PERMIT HISTORY

Prior to the issuance of the 2013 individual permit, stormwater discharges from the BSFB MS4 were authorized under EPA Region 8's General Permit for Storm Water Discharges from Federal Facility Small Municipal Separate Storm Sewer Systems in Colorado (COR42000F). This permit was issued on June 23, 2003 and expired on June 22, 2008. This general permit was not reissued after expiration. The eight facilities covered under the general permit have instead been issued individual permits for discharges from their MS4s. This approach was being taken so that terms specific to the operations, industrial activities, and receiving water conditions of each facility be included in each individual permit. This approach has resulted in permits with more streamlined conditions specifically tailored to the goal of reducing pollutant loading in stormwater runoff.

The 2013 permit was developed by the EPA, signed on July 11, 2013 and was effective on September 1, 2013 with an expiration date of August 31, 2018. On September 30, 2013, the United States Department of Air Force (DoAF) filed with the Environmental Appeals Board a petition for review of the 2013 permit. The DoAF appealed Parts 2.6.1 through 2.6.3 of the 2013 permit relating to Post-Construction Stormwater Management for New Development and Re-Development of the 2013 permit. EPA and the DoAF voluntarily agreed to enter into Alternative Dispute Resolution (ADR) to try to settle the permit appeal. As a result of ADR, EPA agreed to modify the contested provisions in the 2103 permit to settle the appeal. The 2013 permit modification included a revised Part 2.6. The modified MS4 Permit was issued on December 5, 2014 with an effective date of January 12, 2015 and expiration date of August 31, 2018.

The Permittee submitted the renewal permit application for the Permit on April 24, 2018. The EPA deemed the permit application on time and complete and issued an administrative letter to the Permittee on April 24, 2018. All of the limits and conditions of the administratively extended 2013 permit remain fully effective until the renewal Permit is issued and effective. According to records maintained for this facility, this Permit is the second individual permit renewal for BSFB.

5. MAJOR CHANGES FROM PREVIOUS PERMIT

The Phase II stormwater rule was challenged in petitions for review filed by environmental groups, municipal organizations, and industry groups, resulting in a partial remand of the rule. *Environmental Defense Center v. U.S. Environmental Protection Agency*, 344 F.3d. 832 (9th Cir. 2003) (EDC). The court remanded the Phase II rule's provisions for small MS4 general permits because they lacked procedures for permitting authority review and public notice and the opportunity to request a hearing on Notices of Intent (NOIs) for authorization to discharge under a general permit. In response to the court's remand, EPA revised its Phase II stormwater rules for Phase II permits in 2016 (i.e. Remand Rule). One of the new requirements is that all Phase II MS4 permits have "clear, specific and measurable" conditions. Therefore, all terms and conditions have

changed to be “clear, specific and measurable” to comply with the Remand Rule. Additionally, the standard for reducing pollutants to the “maximum extent practicable” (MEP) has been revised (as required by the Remand Rule) to be determined by the permitting authority (EPA) versus the permittee (BSFB) in this permit.

Additionally, EPA added nutrients management terms and conditions to the Permit. In October 2017, the Water Quality Control Commission made changes to Colorado’s nutrient management control regulations (Colorado Regulations 85 and 31.17). In response to changing regulations and water quality, both the state of Colorado and EPA have added nutrient provisions to all re-issued Phase II MS4 permits.

BSFB MS4 is located within the Barr - Milton watershed. To support the implementation of Barr - Milton TMDL, the Permittee is required to perform dry weather phosphorus monitoring at outfalls 1A, 1B, 1C, 2, 3, 6D, and 11. Dry weather outfall discharges are flows greater than 5 gallons per minute (gpm) and a discharge not resulting from surface runoff from stormwater. In the first year of the permit term, the Permittee must identify which outfalls contain dry weather flows greater than 5 gpm. Upon identification of dry weather flows at outfalls, the Permittee must begin semi-annual (twice per year) total phosphorus monitoring for a minimum of 8 semi-annual samples from each outfall with dry weather discharge.

BSFB shall be required to sample per- and polyfluoroalkyl substances (PFAS) once a multi-lab validated test method is developed and promulgated by EPA. This is because PFAS substances have historically been used at BSFB (see Section 8.3 of the SoB). This data will allow EPA to evaluate any needed controls in future permits to meet the state of Colorado’s narrative standard prohibiting toxics, as describes in the state of Colorado’s PFAS Policy 20-1. Therefore, BSFB will be required to monitor semi-annually for pollutant identification. EPA has developed a multi-lab validated PFAS analytical method available for detecting certain PFAS. See Section 8.3 for more details.

6. PERMIT LIMITATIONS

6.1. Technology Based Effluent Limitations

NPDES permit coverage for these discharges is required in accordance with the 1987 Amendments to the Clean Water Act (CWA) and final EPA regulations for Phase II stormwater discharges (64 FR 68722, December 8, 1999). The 1987 Water Quality Act (WQA) amended the Clean Water Act (CWA) by adding section 402(p) which requires that NPDES permits be issued for various categories of stormwater discharges. Section 402(p)(2) requires permits for the following five categories of stormwater discharges:

- 6.1.1. Discharges permitted prior to February 4, 1987;
- 6.1.2. Discharges associated with industrial activity;
- 6.1.3. Discharges from large municipal separate storm sewer systems (MS4s) (systems serving a population of 250,000 or more);
- 6.1.4. Discharges from medium MS4s (systems serving a population of 100,000 or more, but less than 250,000); and
- 6.1.5. Discharges judged by the permitting authority to be significant sources of pollutants or which contribute to a violation of a water quality standard.

The five categories listed above are generally referred to as Phase I of the stormwater program. In Colorado, Phase I MS4 permits have been issued by the Colorado Department of Public Health and Environment (CDPHE) to the cities of Denver, Lakewood, Aurora, Colorado Springs, and the highway system operated by the Colorado Department of Transportation within those cities. In Colorado, NPDES permitting authority for Federal Facilities has not been delegated to CDPHE. Therefore, EPA maintains NPDES primacy for those facilities.

Phase II stormwater regulations were promulgated by EPA on December 8, 1999 (64 FR 68722). These regulations set forth the additional categories of discharges to be permitted and the requirements of the program. The additional stormwater discharges to be permitted include:

- 6.1.6. Small MS4s (DFC is considered a small Phase II MS4);
- 6.1.7. Small construction sites (i.e., sites which disturb one to five acres); and
- 6.1.8. Industrial facilities owned or operated by small municipalities which were temporarily exempted from the Phase I requirements in accordance with the provisions of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991.

The 1987 CWA amendments clarified the fact that industrial storm water discharges are subject to the best available technology (BAT)/ best conventional technology (BCT) requirements of the CWA, and applicable water quality standards. For MS4s, the CWA specifies a new technology related level of control for pollutants in the discharges control to the maximum extent practicable (MEP). However, the CWA is silent on the issue of compliance with water quality standards for MS4 discharges. In September 1999, the Ninth Circuit Court addressed this issue and ruled that water quality standards compliance by MS4s is discretionary on the part of the permitting authority (*Defenders of Wildlife v. Browner*, No. 9871080).

The technology based effluent limits for this Permit are largely based on the implementation of a Stormwater Management Plan (SWMP) which addresses six minimum measures. The SWMP and additional measures included in this Permit are the means through which the Permittee complies with the CWA's requirement to control pollutants in the discharges to the MEP and how the EPA applies its discretion for compliance with the water quality related provisions of the CWA. The EPA considers MEP to be an iterative process in which an initial SWMP is proposed and then periodically

upgraded as new best management practices (BMPs) are developed or new information becomes available concerning the effectiveness of existing BMPs (64 FR 68754). The Phase II regulations at 40 CFR §122.34 require the following six minimum pollution control measures to be included in the SWMP:

- 6.1.9. Public Education and Outreach on Storm Water Impacts;
- 6.1.10. Public Involvement/Participation;
- 6.1.11. Illicit Discharge Detection and Elimination;
- 6.1.12. Construction Site Storm Water Runoff Control;
- 6.1.13. Post Construction Storm Water Management in New Development and Redevelopment; and
- 6.1.14. Pollution Prevention/Good Housekeeping for Municipal Operations.

The regulations specify required elements for each minimum measure and include guidance which provides additional information recommended for an adequate program. The Permit includes a number of additional requirements for each minimum measure which were derived from the recommendations of the regulations, recommendations from the State of Colorado, and from inspection/audit findings by EPA inspectors which could affect the implementation of an effective stormwater program.

The technology based effluent limits and a rationale for these limits are in Part 2 of the Permit.

7. COMPLIANCE HISTORY

BSFB has experienced numerous illicit dischargers of water from its cooling tower since 2018 as shown in

Table 7. On May 4, 2020, EPA issued the Permittee a Warning Letter in response to the below illicit discharges. On September 2, 2021, the Permittee completed construction of a retention basin for sump overflows from its cooling towers as a final corrective action. The retention pond has no outlet/outfall and any cooling tower water in the pond would be routed back to the sump which is only allowed to discharge to the sanitary sewer with prior permission from Metro Water Recovery. No additional corrective measures for these illicit discharges are being proposed in this Permit.

Table 7 – Summary of Illicit Discharges

Location	Illicit Discharge Release Date	Gallons Released	Chemical Additives	24-Hour Notice Received Yes/No	Corrective Action(s) Reported by BSFB
Aerospace Data Facility (ADF) B460 cooling tower	10/30/2018	280	Nalco 3D TRASARTM 3DT465 Nalco STABREXTM ST70 Nalco 7330	Yes	BSFB has reported to EPA it is evaluating engineering controls to eliminate illicit discharge from the ADF B460 and initiated review of conceptual drawings for a lined evaporative pit on May 1, 2020. EPA understands BSFB will optimize the ADF B460 to ensure compliance with the permit.
ADF B460 cooling tower	11/5/2018	2,000	Nalco 3D TRASARTM 3DT465 Nalco STABREXTM ST70 Nalco 7330	Yes	BSFB has reported to EPA it is evaluating engineering controls to eliminate illicit discharge from the ADF B460 and initiated review of conceptual drawings for a lined evaporative pit on May 1, 2020. EPA understands BSFB will optimize the ADF B460 to ensure compliance with the permit.

<p>ADF B460 cooling tower</p>	<p>11/27/2018</p>	<p>45</p>	<p>Nalco 3D TRASARTM 3DT465 Nalco STABREXTM ST70 Nalco 7330</p>	<p>Yes</p>	<p>BSFB has reported to EPA it is evaluating engineering controls to eliminate illicit discharge from the ADF B460 and initiated review of conceptual drawings for a lined evaporative pit on May 1, 2020. EPA understands BSFB will optimize the ADF B460 to ensure compliance with the permit.</p>
<p>ADF B460 closed loop chiller water</p>	<p>5/31/2019-6/3/2019</p>	<p>150</p>	<p>Nalco 8338</p>	<p>Yes</p>	<p>BSFB has reported to EPA it is evaluating engineering controls to eliminate illicit discharge from the ADF B460 and initiated review of conceptual drawings for a lined evaporative pit on May 1, 2020. EPA understands BSFB will optimize the ADF B460 to ensure compliance with the permit.</p>
<p>Buckley Garrison Restricted Area CT-101</p>	<p>10/25/2019-10/26/2019</p>	<p>64,000</p>	<p>Nalco 3DT265-A Nalco 3DT265-I</p>	<p>Yes</p>	<p>BSFB proposed no corrective actions at this time.</p>
<p>ADF B460 cooling tower</p>	<p>1/7/2020</p>	<p>100</p>	<p>Nalco 3D TRASARTM 3DT465 Nalco STABREXTM ST70 Nalco 7330</p>	<p>Yes</p>	<p>BSF has reported to EPA it is evaluating engineering controls to eliminate illicit discharge from the ADF B460 and initiated review of conceptual drawings for a lined evaporative pit on May 1, 2020. EPA understands BSFB will optimize the ADF B460 to ensure compliance with the permit.</p>

ADF-C E-Chiller Plant (Bldg 495)	2/16/2021	100,000 domestic water, 20,000 cooling tower water	Corrosion inhibitors and biocides	Yes	<p>BSFB has reported to EPA it requires plant operators to conduct periodic equipment checks. Following this illicit discharge event, periodic equipment checks were added to operator's routine equipment checks.</p> <p>In addition to the automated make-up water information, a plant operator will document the Bldg 495 meter reading and submit for verification.</p>
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8. MONITORING REQUIREMENTS

8.1. Monitoring

The Phase II stormwater regulations at 40 CFR §122.34(g) require that small MS4s evaluate program compliance, the appropriateness of the BMPs in their SWMPs and progress towards meeting their measurable goals.

8.2. Water Quality and Stream Monitoring

Under the 2013 permit, BSFB was required to develop a plan to evaluate the water quality in East Tollgate Creek, and if deemed necessary by the Permittee, Granby Ditch, as it both enters and exits BSFB. The 2013 permit required, at a minimum, evaluations of streambank stabilization and water quality. BSFB submitted this plan to EPA with the 2016 Annual Report as required by the 2013 permit. For this Permit, EPA has reviewed this plan and determined no additional water quality monitoring or stream restoration is warranted. This is due to BSFB being proactive and conducting stream restorations and green infrastructure activities to reduce stormwater pollutants and improve water quality including:

- Spending \$1.4 million on stream restoration since 2013;
- Budgeting for Outfall 7 and Granby Ditch improvements in 2020;
- Re-locating Outfall 2 to eliminate erosive stream conditions; and
- Typically complying with the Energy Independence and Security Act (EISA) of 2007, Section 438 which requires federal footprints that exceed 5,000 square feet to use site planning, design, construction, and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible, the predevelopment hydrology of the property with regard to the temperature, rate, volume, and duration of flow. Note, EPA is not requiring compliance with EISA as part of this permit.

Additionally, East Toll Gate Creek is meeting all ambient water quality standards and is no longer on the CWA 303(d) Impaired Water list, which supports no further monitoring in this permit. As

mentioned previously, annual outfall monitoring of selenium and *E. coli* will resume for the 2021 MSGP permit cycle as it is required for discharges to impaired waters without an EPA-approved or established TMDL in the first year and fourth year of 2021 MSGP coverage.

8.3. Per- and Polyfluoroalkyl Substances (PFAS)

Per- and polyfluoroalkyl substances (PFAS) are a group of man-made chemicals that includes perfluorooctanoic acid (PFOA), perfluorooctanesulfonic acid (PFOS), GenX, and many other chemicals. PFAS have been manufactured and used in a variety of industries around the globe, including in the United States since the 1940s. PFOA and PFOS have been the most extensively produced and studied of these chemicals. Both chemicals are very persistent in the environment and in the human body – meaning they do not break down and they can accumulate over time. There is evidence that exposure to PFAS can lead to adverse human health effects.

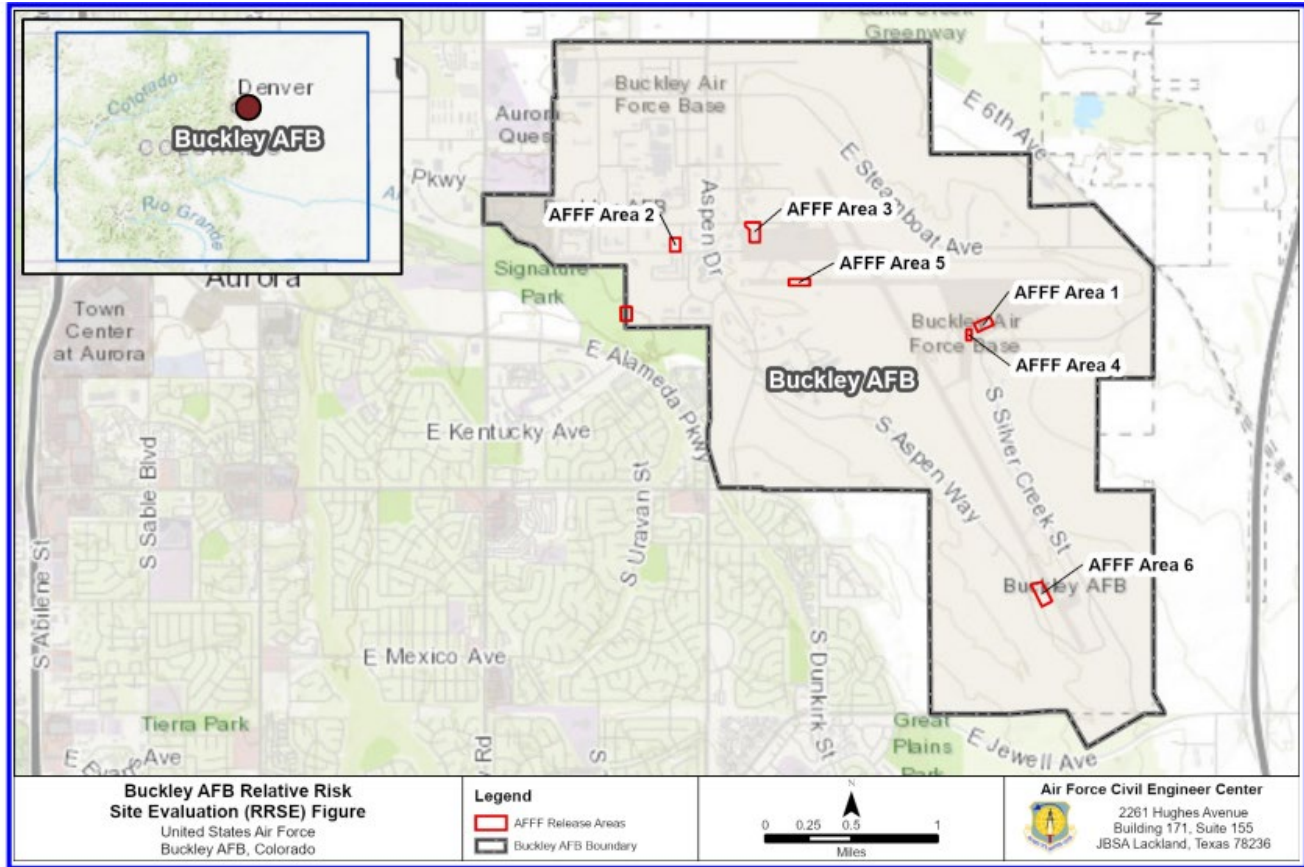
The Department of Defense (DoD) identified PFAS as emerging contaminants of concern which affected installations across the DoAF. Specifically, perfluorooctane sulfonate (PFOS), perfluorooctanoic acid (PFOA), and perfluorobutanesulfonic acid (PFBS) are components of legacy Aqueous Film Forming Foam (AFFF) that the DoAF began using in the 1970s as a firefighting agent to extinguish petroleum fires. In 2022, EPA issued the below lifetime health advisory levels, measured in parts per trillion (ppt), to offer protection for people from adverse health effects resulting from exposure throughout their lives to these individual PFAS in drinking water:

- Interim updated health advisory for PFOA = 0.004 ppt
- Interim updated health advisory for PFOS = 0.02 ppt
- Health advisory for GenX chemicals = 10 ppt
- Health advisory for PFBS = 2,000 ppt

The DoAF has systematically evaluated potential AFFF releases on all Installations and former Installations. It began with the Preliminary Assessments, or PAs, that identified potential release areas. First responders, fire chiefs, and hangar staff were interviewed to determine where a release or a spill may have occurred on an installation (for example, aircraft crash site or an accidental hangar AFFF release). Once the information in the PA was collected, Site Inspections (SIs) began to take soil and water samples and analyzed the media for 16 different PFAS compounds at the potential release areas. The intention of the SI was to determine if a release had occurred to determine the impacts to soil and/or groundwater. The next step in the process is the Relative Risk Site Evaluation, or RRSE, which is a tool used to prioritize funding for which sites/Installations have the highest priority to begin a Remedial Investigation, or RI with estimated completion in Spring 2022 for BSFB. EPA will be requesting the RI to determine if changes to the final PFAS monitoring requirements in this permit are necessary during the Permit term.

A RRSE has been completed of BSFB and identified the following locations that have had historic use of AFFF (Figure 3).

Figure 3 – Location of AFFF Historic Use



AFFF Location Descriptions from the RRSE:

AFFF 1 is comprised of an unlined burn area known as Fire Training Area No. 2 and was comprised of an unlined burn area. Fire training exercises were conducted approximately six times a month from the early 1950s to 1972. No record of use of AFFF as an extinguishing material is available. Only a vague outline of the unlined burn area remains visible because it was filled and graded during the construction of adjacent concrete and asphalt aircraft parking ramps.

AFFF 2 is a former fire training area, which was approximately 100 feet in diameter with an adjacent concrete pad. AFFF 2 is located on the western side of BSFB, west of Building 606 on the north side of A Basin Avenue. The Colorado Air National Guard used AFFF 2 for fire training from 1972 to 1989; approximately 24 fire training exercises occurred annually. Fire training procedures included saturating the surface with water to reduce infiltration, igniting approximately 150 gallons of water contaminated JP-4 jet fuel spread on the pad, and extinguishing the fire with water and 6% AFFF. Approximately 400 gallons of AFFF were used annually. Approximately 40 cubic yards of soil at AFFF 2 were excavated in October 2006, to remove volatile organic compound (VOC)-contaminated soils. Excavation began with soil from 0 to 2 feet bags near the center of the former fire training area and proceeded laterally and vertically. The excavation floor over the contaminated area was estimated to be approximately 150 square feet. In 2008, the excavated area was paved to serve as a parking lot adjacent to the newly constructed Consolidated Services Administration Building.

AFFF 3 includes Hangar 801 and Outfall #2. Hangar 801 is the main hangar at BSFB and is on the west end of the flight line. Outfall 2 is located southwest of Hangar 801 and represents the surface water runoff discharge point for Hangar 801. Due to drought conditions, surface water and sediment could not be collected for Outfall 2. An AFFF fire suppression system was present in Hangar 801 until 2008. According to fire and wastewater personnel, only one discharge of the AFFF fire suppression system occurred, releasing approximately 400 gallons of Ansulite 3% AFFF mixed with 13,000 to 14,000 gallons of water from the fire suppression system. According to personnel, the discharge should have been diverted through the floor drain into an underground storage tank (UST). However, the diversion valve failed, which resulted in the solution flowing onto Breckenridge Avenue because of foam expansion (approximately 1,000 to 2,000 gallons). AFFF solution that flowed onto Breckenridge Avenue either entered the stormwater system or remained on the surface and was allowed to evaporate.

AFFF 4 is Building 1606, Former Fire Station #2. AFFF-4 is located on the east side of the flight line and was built between 1993 and 1999. AFFF-4 was used as an auxiliary fire station until 2013 and was primarily used for storage and to support fire department activities on the east side of the flight line. AFFF was regularly stored here although an estimate of the quantity or type of AFFF was not available. The building is still standing, although the structure has been deemed unsafe and is not accessible. Annual spray testing was conducted on the pad adjacent to and south of the building within AFFF 4. The date these operations began is unknown. During spray testing, AFFF (3%, manufactured by National Foam) was sprayed onto the concrete pad to limit potential infiltration and allowed to evaporate. All of the fire trucks at the installation were tested, and approximately 10 gallons or less of AFFF were used annually for spray testing.

AFFF 5 is a F-5 crash site from the 1980s. As part of the emergency response, approximately 100 to 200 gallons of AFFF were sprayed on the Lima Apron, located south of Taxiway G and J. No additional information is available regarding crash response activities (Aerostar 2019). AFFF 5 is primarily covered in concrete and asphalt pavement with areas of vegetation are located to the north and south.

AFFF 6 is a F-16 crash site from 1995 that occurred west of the southern end of Runway 14/32. Specifically, AFFF 6 is located between East Utah Circle and Runway 14/32. Approximately 200 gallons of AFFF were used as part of the emergency response and dispensed on the bare ground. No further response documentation is available (Aerostar 2019).

Additionally, in 2010 a hydrologic study, divided the BSFB into Major Drainage Basins and identified major outfalls and proposed PFAS monitoring locations (Figure 4).

Figure 4 – Base wide Hydrologic Study and Drainage Infrastructure Assessment

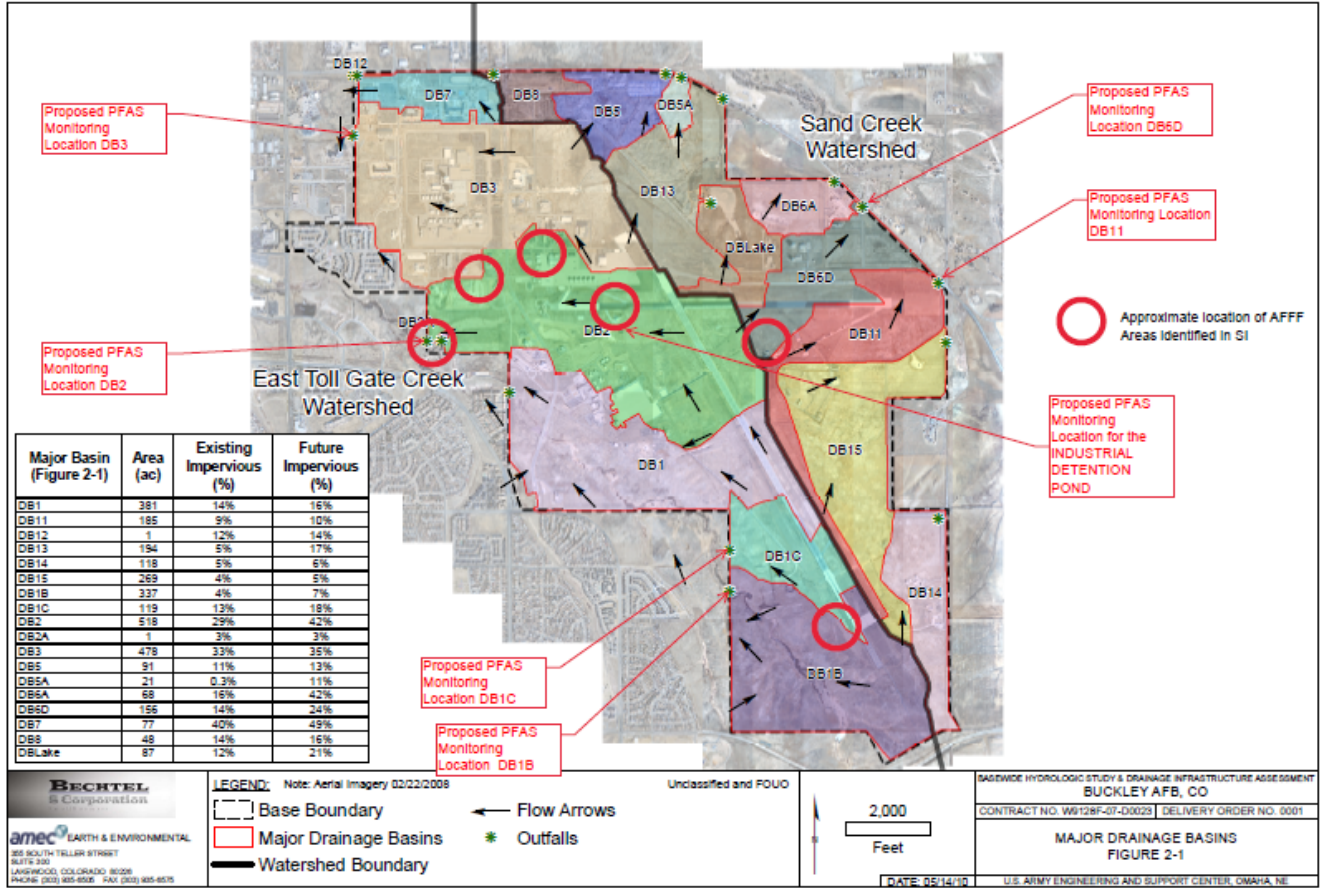
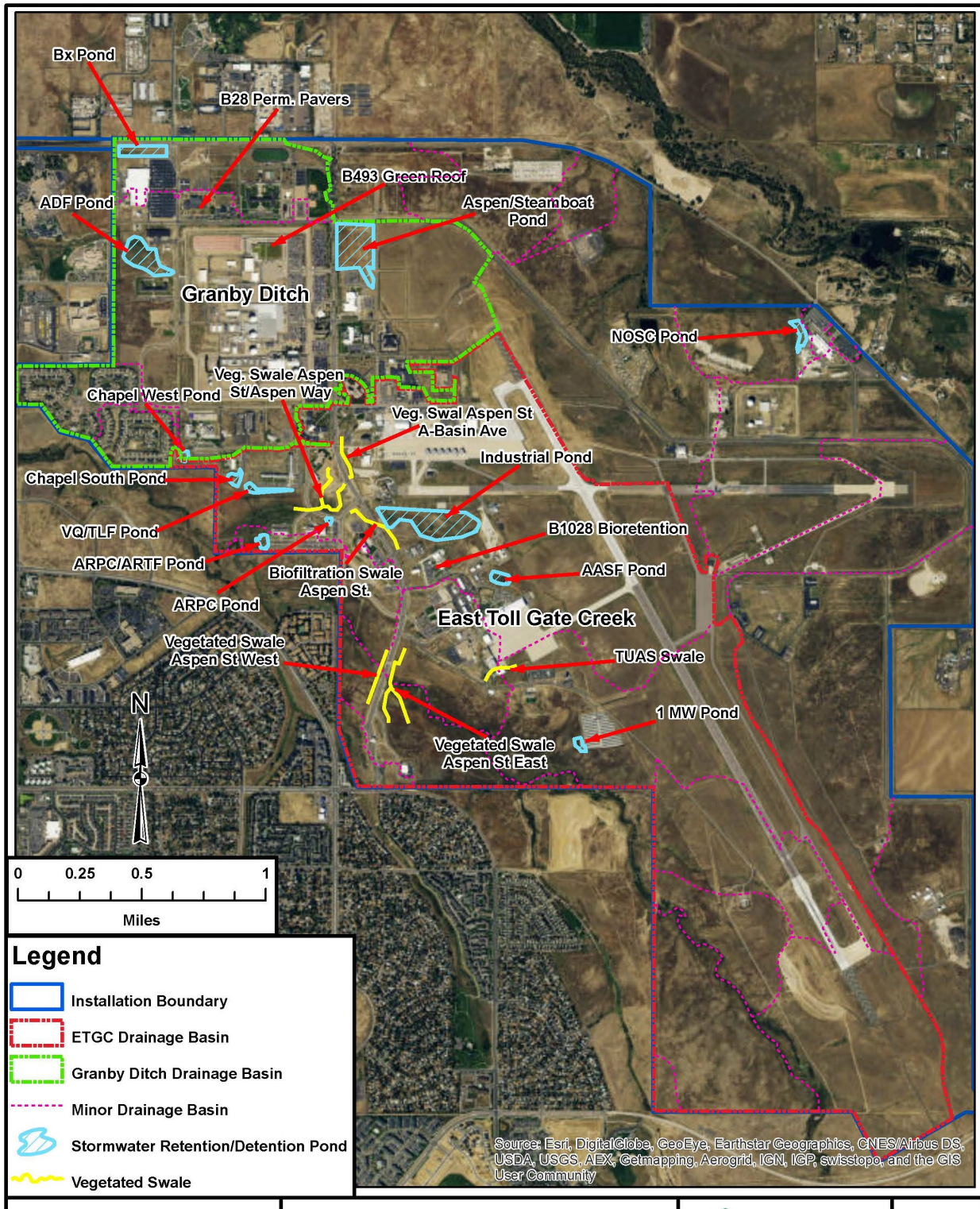


Figure 5 provides an overview of drainage basins and stormwater features on the BSFB.

Figure 5 – BSFB Drainage Basins and Stormwater Features



8.4. Required Monitoring

Based upon the findings of the RRSE, EPA will require PFAS monitoring in this Permit. EPA determined the PFAS monitoring locations by overlaying Figure 3, Figure 4 and Figure 5 to identify areas of high priority for PFAS sampling. PFAS monitoring shall be required of some stormwater detention ponds and outfalls within the MS4. Sampling will not be required of low impact development (or green infrastructure) features associated with a building’s post-construction BMP nor where sampling is not practicable due to safety concerns.

EPA has developed a multi-lab validated PFAS analytical method available for detecting certain PFAS to support bi-annual monitoring.

Based upon the information in Section 8.3, EPA is proposing PFAS monitoring at the following locations:

1. Industrial Detection Pond
2. AASF Pond
3. Outfalls 1A, 1B, 1C, 2, 3, 6D, 11

Table 8 – PFAS Monitoring Requirements For: Outfalls 1A, 1B, 1C, 2, 3, 6D, 11 AND Industrial Detection Pond AND AASF Pond^{c/}

Effluent Characteristic	Frequency	Sample Type ^{a/}
Per- and polyfluoroalkyl substances (PFAS) µg/L ^{b/}	Twice per year ^{b/}	Grab ^{a/}

^{a/} See Definitions, Part 1, for definition of terms.

^{b/} PFAS monitoring shall begin one year after the effective date of this Permit. The Permittee must report PFAS monitoring results with its Annual Report for each year of permit coverage.

^{c/} After completion of the RI, the Permittee may submit information to EPA in its Annual Report to request a reduced number of locations for PFAS sampling. The reduction of sampling locations must be based upon a more targeted analysis from the RI and PFAS sampling results. A reduction in sampling locations may be approved by EPA and would not require additional public notice.

9. REPORTING REQUIREMENTS

8.1 Annual Report

The Permittee must submit an annual report to the EPA for each year of the Permit term. The first report is due April 1, 2024 and must cover the activities during the period beginning on the effective date of the Permit through December 31, 2023. Each subsequent annual report is due on April 1 of each year following 2024 for the remainder of the Permit term. Reports must be signed in accordance with the signatory requirements in Part 7.7. Reports may be posted on the EPA Region 8 web site. Therefore, parts of the annual report which cannot be publicly available should be marked as “confidential” or “for official use only.” Reports must be submitted to the EPA at the following address:

U.S. EPA, Region 8
 Attention: Stormwater Coordinator
 1595 Wynkoop Street (Mail Code: 8WD-CWW)
 Denver, Colorado 80202

10. ENDANGERED SPECIES CONSIDERATIONS

The Endangered Species Act (ESA) of 1973 requires all Federal Agencies to ensure, in consultation with the FWS, that any Federal action carried out by the Agency is not likely to jeopardize the continued existence of any endangered species or threatened species (together, “listed” species), or result in the adverse modification or destruction of habitat of such species that is designated by the FWS as critical (“critical habitat”). See 16 U.S.C. § 1536(a)(2), 50 CFR Part 402. When a Federal agency’s action “may affect” a protected species, that agency is required to consult with the FWS, depending upon the endangered species, threatened species, or designated critical habitat that may be affected by the action (50 CFR Part 402.14(a)).

The U. S. Fish and Wildlife Information for Planning and Conservation (IPaC) website program was accessed on September 5, 2021 to determine federally listed Endangered, Threatened, Proposed and Candidate Species that may be present on BSFB (Table 9).

Table 9 – Potentially Affected Species at BSFB

Species	Scientific Name	Status
Piping plover	<i>Charadrius melodus</i>	Threatened
Whooping Crane	<i>Grus americana</i>	Endangered
Pallid sturgeon	<i>Scaphirhynchus albus</i>	Endangered
Ute ladies’-tresses	<i>Spiranthes diluvialis</i>	Threatened
Western Prairie Fringed Orchid	<i>Platanthera praeclara</i>	Threatened

Monarch Butterfly	<i>Danaus plexippus</i>	Candidate
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Additionally, IPaC determined there are no critical habitats at this location.

10.1. Biological Evaluations and Conclusions

Biological evaluations of the potential effects of the final action on the five listed species and their critical habitat are provided below. These biological evaluations are based on information obtained from the IPaC site and knowledge regarding the final action.

The final action is reissuance of this NPDES permit. This is a continuation of existing operating conditions; no significant changes to habitat or discharge volumes or quality are planned or expected due to the reissuance of this permit. Since this is a MS4 permit, there is no consumptive use, and no water depletions will result from this Permit. Permit effluent limitations are protective of the immediate receiving water quality.

Piping plover, *Charadrius melodus* – This species is currently listed as threatened. This location is outside the critical habitat for this species, and IPaC notes that this species only needs to be considered if water related activities/use in the South Platte River Basin may affect listed species in Nebraska. Continuation of this MS4 permit in the BSFB area will not affect populations in Nebraska. Based on this information, EPA has determined that the reissuance of the Permit will have **no effect** on this species.

Whooping crane, *Grus americana* – This species is currently listed as endangered. This location is outside the critical habitat for this species, and IPaC notes that this species only needs to be considered if water related activities/use in the South Platte River Basin may affect listed species in Nebraska. Continuation of this MS4 permit in the BSFB area will not affect populations in Nebraska. Based on this information, EPA has determined that the reissuance of the Permit will have **no effect** on this species.

Pallid sturgeon, *Scaphirhynchus albus* – This species is currently listed as endangered. No critical habitat has been designated for this species, and IPaC notes that this species only needs to be considered if water related activities/use in the South Platte River Basin may affect listed species in Nebraska. Continuation of this MS4 permit in the BSFB area will not affect populations in Nebraska. Based on this information, EPA has determined that the reissuance of the Permit will have **no effect** on this species.

Ute ladies'-tresses orchid, *Spiranthes diluvialis* – This species is currently listed as threatened. No critical habitat has been designated for this species. The Ute ladies'-tresses orchid typically occurs in riparian, wetland and seepy areas associated with old landscape features within historical floodplains of major rivers. They are also found in wetland and seepy areas near freshwater lakes or springs. Ute ladies'-tresses orchids are unlikely to be found in the disturbed urban setting of the BSFB. Regardless, the Permit does not authorize changes to habitat that supports this species, nor are discharges from this MS4 permit anticipated to affect it. Based on this information, EPA has determined that the reissuance of the Permit will have **no effect** on this species.

Western prairie fringed orchid, *Platanthera praeclara* – This species is currently listed as threatened. No critical habitat has been designated for this species, and IPaC notes that this species only needs to be considered if water related activities/use in the South Platte River Basin may affect listed species in Nebraska. Continuation of this MS4 permit in the BSFB area will not affect populations in Nebraska. Based on this information, EPA has determined that the reissuance of the Permit will have **no effect** on this species.

Monarch Butterfly, *Danaus plexippus* - The Monarch Butterfly is a candidate species and not yet listed or proposed for listing since there is insufficient information to support listing. There are generally no ESA Section 7 requirements for candidate species.

Per an informal consultation with the FWS on September 7, 2021 and the *Endangered Species Consultation Handbook* and the *Memorandum of Agreement Between EPA, FWS, and NMFS Regarding Enhanced Coordination Under the Clean Water Act and Endangered Species Act*, the “no effect” determinations above do not require further consultation with the FWS. During public notice of the Permit, FWS was notified as an interested party. EPA did not receive any comments from the FWS during the public notice period.

11. NATIONAL HISTORIC PRESERVATION ACT REQUIREMENTS

Upon its initial certification for MS4 permit coverage in 2003, the Permittee working with State Historic Preservation Officers (SHPOs), certified in its Notice of Intent (NOI) application, that stormwater discharges and discharge-related activities from the BSFB MS4 would not affect a property that is listed or is eligible for listing on the National Register of Historic Places as maintained by the Secretary of the Interior. BSFB continues to work with SHPOs to update its listing of historic properties and any other archeological areas of significance and is required to evaluate the potential effects of every new construction project through a formal impact analysis. These analyses require that all new projects are designed and maintained such that properties listed or eligible for listing on the National Register of Historic Places are not affected.

Numerous surveys, studies, and inventories have been conducted on BSFB to identify historic or cultural features, sites or items. Twelve historic properties, which date to the Cold War era, have been determined by the Permittee, with the concurrence of the Colorado State Historic Preservation Office, to be individually eligible for the National Register of Historic Places (NRHP). The eligible historic properties are: two hangars, six radomes and four buildings. No archaeological sites eligible for inclusion in the NRHP have been identified on BSFB and no Indian sacred sites, traditional cultural properties, Native American human remains, or cultural items have been identified, or inadvertently discovered or reported on BSFB.

The Integrated Cultural Resources Management Plan (ICRMP) for BSFB provides guidance and establishes standard operating procedures for the management of culturally significant resources on the base. The ICRMP contains compliance procedures including Native American concerns, consultation procedures, and Section 106 review guidelines. The ICRMP is consulted prior to any proposed project to ensure that there are no new cultural resources constraints associated with a proposed action.

During public notice of the Permit, Colorado's State Historic Preservation Office (SHPO) was notified as an interested party to ensure that historic properties are not negatively affected by the conditions of the Permit. EPA did not receive any comments from the SHPO during the public notice period.

12. 401 CERTIFICATION CONDITIONS

Colorado is the Clean Water Act (CWA) Section 401 certifying authority for the Permit, and Colorado provided the following conditions in their Section 401 certification to EPA on March 31, 2022.

“Condition #1

Under Total Maximum Daily Loads (TMDL), requirements need to include conditions consistent with the Barr Lake-Milton Reservoir pH, dissolved oxygen, and total phosphorus TMDLs (Barr-Milton).

1. Permit Language

Current Language

3. TOTAL MAXIMUM DAILY LOADS

Colorado's water quality standards are established to protect both aquatic life and human health (based on consumption of organisms and/or water). The state of Colorado also implements total maximum daily loads (TMDLs) to address waters that are impaired.

Per the state of Colorado, Toll Gate Creek, East Toll Gate Creek, and West Toll Gate Creek are meeting adopted ambient selenium standards. Therefore, Toll Gate Creek, East Toll Gate Creek, and West Toll Gate Creek have been de-listed from the CWA 303(d) impaired waters list for selenium. There are no other impaired listings for these waterbodies.

Currently, segment 16a (which includes Murphy Creek and Sand Creek) are on the 303(d) list as impaired for E. coli and dissolved selenium. These listings are both in category 5, which is defined as “impaired without a TMDL completed.” Thus, there are no TMDLs developed for either Murphy Creek or Sand Creek at this time.

The receiving waters, East Toll Gate Creek, Granby Ditch, and Murphy Creek discharge to Sand Creek and Sand Creek discharges ultimately to the South Platte River 12 miles downstream.

Additional Permit Terms and Conditions (in bold)

3.1 The TMDL assessment for Barr Lake and Milton Reservoir, COSPMS04, pH (Barr Lake/Milton Reservoir TMDL) assigned MS4 permittees a 20 percent reduction in phosphorus loads. The TMDL did not identify specific MS4s, but instead included a single Wasteload Allocation (WLA) for all MS4 permittees within the watershed for three averaging periods, as shown in the below Table 1.

Table 1
Summary of Allowable MS4 Loads for
Barr and Milton

<i>Source Wasteload</i>	<i>Target Load (kg/yr)</i>	<i>Daily Mean Target Load (kg/day)</i>	<i>Total Max. Daily Load (kg/day)</i>
<i>Barr Lake</i>	<i>1,751</i>	<i>7.3</i>	<i>19.3</i>
<i>Milton Reservoir</i>	<i>362</i>	<i>2.2</i>	<i>4.8</i>

3.1.1 U.S. Space Force Base Buckley Municipal Separate Storm Sewer System is located within the Barr - Milton watershed. To support the implementation of this TMDL, the Permittee is required to perform dry weather phosphorus monitoring at outfalls 1A, 1B, 1C, 2, 3, 6D, and 11. Dry weather outfall discharges are flows greater than 5 gallons per minute (gpm) and a discharge not resulting from surface runoff from stormwater. In the first year of the permit term, the Permittee must identify which outfalls contain dry weather flows greater than 5 gpm. Upon identification of dry weather flows at outfalls, the Permittee must begin semi-annual (twice per year) total phosphorus monitoring for a minimum of 8 semi-annual samples from each outfall with dry weather discharge. The samples must be analyzed using a 40 CFR Part 136 approved analytical method. The Permittee must submit the results of the quarterly monitoring with its annual report required in Part 6.2. The Permittee must either measure or estimate the outfall flow at the time the sample is collected. If flow is estimated the permittee must briefly document the method of estimation. The Permittee may remove the outfall from monitoring requirements if it meets one of the following requirements.

3.1.1.1 The Permittee has identified and eliminated all sources of the dry weather discharge such that the dry weather flow is less than 5 gpm.

3.1.1.2 The dry weather flow has ceased or decreased to below 5 gpm for at least 3 semi-annual samples and there are no indicators present of an illicit discharge.

3.1.1.3 The Permittee may use phosphorus data from previous permit terms to satisfy the requirement to collect and analyze 8 quarterly samples provided the previous samples are 10 years old or less, representative of the current dry weather discharge, and samples were analyzed in accordance with 40 CFR Part 136.

Rationale

The discharge from the permittee’s facility and its boundaries are all to receiving waters within the Barr-Milton watershed as outlined within the TMDL, including East Tollgate Creek (COSPUS16h), Murphy Creek (COSPUS16) and Sand Creek (COSPUS16a). Additionally, the facility discharges to Granby Ditch which is part of the City of Aurora’s MS4. Granby Ditch drains to Tollgate Creek where Tollgate Creek, East Tollgate Creek and Murphy Creek drain into Sand Creek which ultimately drains into the South Platte River upstream of Barr Lake and Milton Reservoir. The TMDL does not assign specific MS4 permittees a wasteload allocation (WLA), but instead assigns a 20% percent reduction and a single WLA to all MS4 permittees within the Barr- Milton watershed. Table 1 outlines the WLA and the three averaging periods.

Table 10. Summary of Allowable MS4 Loads for Barr and Milton

Source Wasteload	Target Load (kg/yr)	Daily Mean Target Load (kg/day)	Total Max. Daily Load (kg/day)
Barr Lake	1,751	7.3	19.3
Milton Reservoir	362	2.2	4.8

Additional conditions are needed in order to ensure that the permitted discharge does not cause or contribute to an exceedance of a WQS and that the permit includes appropriate effluent limits and monitoring requirements in accordance with the TMDL.

To do this, the division used the framework of the division’s general permit used to cover non-standard MS4 permittees that are included in the small Phase 2 MS4 descriptions that serve a user population over of 1,000, [Non-Standard MS4 General Permit COR070000](#).”

In response to the State of Colorado’s CWA 401 Certification, EPA has added verbatim (minus grammatic and formatting corrections), the Part 3 TMDL requirements listed above.

13. MISCELLANEOUS

The effective date of the Permit is November 1, 2023 and the Permit expiration date is October 31, 2028. This NPDES Permit shall be effective for a fixed term not to exceed 5 years.

Permit written by: Amy Clark, 8WD-CWW, 303-312-7014, May 2022

14. REFERENCES

1. FINAL EAST TOLL GATE CREEK MONITORING PROGRAM Buckley AFB, Colorado, CONTRACT NO. W9128F-09-D-0044, TASK ORDER NO. 0003, Prepared by OTIE, March 2017
2. Buckley Relative Risk Site Evaluation https://www.buckley.spaceforce.mil/Portals/13/RRSE_Fact%20Sheet%20and%20Installation%20Results_BuckleyAFB_ARPackage_Final_23062020.pdf (Last visited September 5, 2021)

PUBLIC NOTICE AND RESPONSE TO COMMENTS

The Permit and statement of basis were public noticed in the EPA's website (<https://www.epa.gov/npdes-permits/colorado-npdes-permits>) on October 28, 2021. The comments received and the responses are provided below. EPA only received comments from the Department of Air Force and the Department of Defense on November 17, 2021.

DEPARTMENT OF AIR FORCE COMMENTS ON THE DRAFT MS4 PERMIT

Comment: Section 1.2 - Permit Area in draft does not exclude Hunt Housing like current permit. Recommend revising the draft permit language to mirror the current permit and read: "This permit covers all areas of the municipal separate storm sewer system (MS4) within the exterior boundary of Buckley Space Force Base, except for the privatized housing area currently leased to Hunt Housing, LLC, and its successors shall be solely responsible for the sanitary sewer and storm systems under its operation and control. However, this permit does contain requirements for Buckley Space Force Base to provide public education and outreach materials within the privatized housing area(s) located within Buckley Space Force Base but not operated by the Space Force."

Response: EPA discussed this comment with the Department of Air Force and both parties ultimately agreed that Hunt Housing would not be excluded from the permitting area and the permit would not be changed for this comment. This agreement was memorized in a July 22, 2023 Memorandum to Record issued by Department of Air Force.

Comment: Section 1.3 - Recommend replacing within "exterior boundaries" with "permit area" as shown here: "During the Effective Dates of this Permit, the Permittee is authorized to discharge stormwater from all portions of the MS4 within the permit area of the BSFB." This will appropriately address the exclusion of the privatized housing area as noted in Comment #1.

Response: EPA had several meetings with the Department of Air Force regarding this comment and both parties ultimately agreed that final permit will not exclude Hunt Housing from the permitting area. Therefore, no changes will be made in response to this comment in the final permit.

Comment: Section 1.4.2 - The draft permit removes individual residential car washing from the "allowable non-stormwater discharges" list. Request that EPA add this back to the list. Individual residential car washing does not happen frequently on BSFB and is discouraged, but does happen on occasion.

Response: EPA has added per 40 CFR Part 122.34 "individual residential car washing" to the list of allowable non-stormwater discharges in Section 1.4.2.

Comment: Section 2.2.1- The target audience for Public Education and Outreach list is different from last permit. Recommend removing the additions of "inmates," "non-staff residents," and "food service personnel" in list of target audience and replace them with more appropriate audience members included in the existing permit: tenants, residents, and project managers.

Response: EPA has replaced “inmates,” “non-staff residents,” and “food service personnel” with “tenants,” “residents,” and “project managers.”

Comment: Section 2.4.2 - Contracting officer representatives do not perform construction inspections. Recommend changing the wording as follows, removing both references to “contracting office representative” to broadly include any employee who might conduct construction permit inspections (changes highlighted): “Provide and document training to staff which perform inspections regarding the maintenance and installation of best management practices (BMPs) for construction stormwater control and the terms of the EPA General Permit for Discharges from Construction Activities. This training is required at least once during the term of this Permit or within one year of hiring new inspectors, whichever is sooner, and shall include procedures for how inspectors will document and submit findings to the appropriate Permittee staff.

Response: EPA has replaced Section 2.4.2 with “Provide and document training to staff which perform inspections regarding the maintenance and installation of best management practices (BMPs) for construction stormwater control and the terms of the EPA General Permit for Discharges from Construction Activities. This training is required at least once during the term of this Permit or within one year of hiring new inspectors, whichever is sooner, and shall include procedures for how inspectors will document and submit findings to the appropriate Permittee staff.”

Comment: Section 2.4.7 - As noted in comment #5, it would be more appropriate to replace the term “contracting office representative.” We suggest using “a BSFB construction inspector or BSFB project managers.”

Response: EPA has replaced “contracting office representative” with “a BSFB construction inspector or BSFB project managers.”

Comment: Section 2.4.8.6 - As noted in comment #5, it would be more appropriate to replace the term “contracting office representative.” We suggest using “BSFB construction inspectors and BSFB project managers.”

Response: EPA has replaced “contracting office representative” with “a BSFB construction inspector or BSFB project managers.”

DEPARTMENT OF DEFENSE COMMENTS ON THE DRAFT MS4 PERMIT

Comment: Section 2.5.16.3 - Also in line with comment #5, request that "contracting officers regarding low impact development and green infrastructure" is changed to "appropriate permittee staff with construction planning and/or oversight duties, and other staff as deemed appropriate, to provide education on stormwater runoff, and to communicate the expectations for meeting the Control Measure Design Standards defined in Part 2.5.8."

Response: EPA has replaced "contracting officers regarding low impact development and green infrastructure" to "appropriate permittee staff with construction planning and/or oversight duties, and other staff as deemed appropriate, to provide education on stormwater runoff, and to

communicate the expectations for meeting the Control Measure Design Standards defined in Part 2.5.8."

Comment: Section 4 - Request removing the word "such as" in reference to "Based upon the historic use of per- and polyfluoroalkyl substances (PFAS) containing substances such as Aqueous Film Forming Foam..." – instead requesting the language "Based upon the DoD's historic use of Aqueous Film Forming Foams containing per- and polyfluoroalkyl substances (PFAS)..." to clarify the monitoring requirement's basis.

Response: EPA has removed "such as" and revised the language to state "Based upon the DoD's historic use of Aqueous Film Forming Foams containing per- and polyfluoroalkyl substances (PFAS)..." EPA also added that PFAS monitoring shall begin one year after the effective date of the permit to allow for governmental contracts to be established for this monitoring.

Comment: Section 4.c/ - Request a revision to the statement "After completion of the Remedial Investigation (RI), the Permittee may submit information to EPA in its Annual Report to request a reduced number of locations for PFAS Sampling..." to state instead: "Should the Permittee complete a Remedial Investigation (RI) under CERCLA in which PFAS sampling occurred, the Permittee may utilize such sampling data in the Permittee's Annual Report. Such sampling data may be used to request a reduced number of PFAS sampling locations required under this Permit. The information contained in any RI will not be used for any other purpose other than requesting a reduced number of PFAS Sampling locations, nor will the information be used in any other manner."

Response: EPA has changed Section 4.c/ to "If the Permittee completes a Remedial Investigation (RI) under Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) in which PFAS sampling occurred, the Permittee may submit such sampling data in the Permittee's Annual Report. Such sampling data could be used to request a reduction in the number of PFAS sampling locations required under this Permit. The information contained in any RI will not be used for any other purpose in this Permit other than requesting a reduction in the number of PFAS sampling locations. A reduction in sampling locations may be approved by EPA and would not require additional public notice."

EPA clarified the Permittee may choose to complete the RI and submit the data to EPA for a reduction in the number of PFAS sampling locations. EPA also clarified the RI would only be used for a reduction in the number of sampling locations and no other purposes in the Permit.

ADDENDUM

EPA made the following minor updates in the final permit from the draft permit which was public noticed in 2021.

- EPA has developed a multi-verified PFAS method since the draft permit was public noticed. Therefore, EPA had eliminated language that requires PFAS sampling to begin only after a multi-lab validated test is made available. However, to allow for contract mechanisms to be developed by BSFB, PFAS sampling shall begin one year after the effective date of the Permit. This is consistent with other EPA Region 8-issued federal facility NPDES permits that require PFAS monitoring.
- EPA has developed health advisories since the draft permit was public noticed. These health advisories are included in the final permit.
- EPA will be requested the RI to determine if changes to the PFAS monitoring requirements are necessary during the Permit term.