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

PERMITTEE:	United States Department of the Air Force
FACILITY NAME AND ADDRESS:	Cheyenne Mountain Space Force Station
PERMIT NUMBER:	CO-0034762
RESPONSIBLE OFFICIAL:	John Anderson, Deputy Director, 21st Civil Engineer Squadron (719) 556-7632 john.anderson.18@spaceforce.mil
FACILITY CONTACT:	David Wooten, Water Quality and Toxics Program Manager (719) 556-8412 david.wooten.8@spaceforce.mil
PERMIT TYPE:	Permit Renewal, Federal Facility, Minor
FACILITY LOCATION:	El Paso County, Colorado, at approximate latitude 38.744722º N and longitude 104.843333º W

1 INTRODUCTION

This statement of basis (SoB) is for the issuance of a National Pollutant Discharge Elimination System (NPDES) permit (the Permit) to the Cheyenne Mountain Space Force Station (Facility). The Permit establishes discharge limitations for any discharge of wastewater from the Facility through Outfall 001 to unnamed tributaries of Fountain Creek. The SoB explains the nature of the discharges, EPA's decisions for limiting the pollutants in the wastewater, and the regulatory and technical basis for these decisions.

The Facility is a federal facility in Colorado. EPA Region 8 is the NPDES permitting authority for federal facilities located in Colorado.

2 MAJOR CHANGES FROM PREVIOUS PERMIT

Major changes from the previous permit include the following:

- Analysis of pollutant occurrence was performed based on monitoring results from the previous permitting cycle. Results were used to assign further monitoring and determine appropriate limits. See Section 6 of this SoB, which describes discontinuation of monitoring requirements and effluent limitations for biological oxygen demand at Outfall 001D; changes to TSS limitations at Outfall 001D; addition of limitations for temperature at Outfall 001D; and addition of monitoring requirements for dissolved oxygen at Outfall 001D.
- Per- and polyfluoroalkyl substances monitoring requirements will be included in this renewal permit. See Section 7.1.1 of this SoB.

3 BACKGROUND INFORMATION

The Cheyenne Mountain Space Force Station (CMSFS) is located on the slopes of Cheyenne Mountain on the southwest edge of the City of Colorado Springs. The CMSFS complex was initially constructed as the North American Aerospace Defense Command Center (NORAD) and became operational in about 1967. At present, the CMSFS is operated by approximately 350 personnel from numerous military operations and Department of Defense agencies working inside the complex. Over a dozen multi-story buildings are located within the mountain, constructed on a foundation of large springs designed to minimize the physical effects of any seismic movement or shock waves to which the buildings could potentially be subjected. Facility operations include the management of the Facility's heating, ventilation and cooling system, subsurface water and diesel reservoirs, a diesel fueled power plant, cooling towers, drinking and wastewater systems, a groundwater dewatering system, air exhaust stacks, and an interior storm drainage system. This permit places effluent limitations and monitoring requirements on discharges from the air exhaust stacks and interior storm drainage system (ISDS) to unnamed tributaries of Fountain Creek. Unless noted otherwise, the following background information was obtained from CMSFS's application for renewal of the Permit.

3.1 Facility Process Description

The use of water within the CMSFS complex includes drinking water, sanitary usage, cooling water for the diesel-powered electric generators, and periodic hosing down of the interior rock walls and ceilings of the tunnels and chambers to remove loose rock. The latter is normally done annually but can be done more frequently if needed.

The electricity for the underground complex normally is purchased from commercial sources. However, some of the diesel generators are kept on standby status and all are operated periodically to ensure their operating capability, for certain practice alerts, and when electricity is not available from the commercial source(s). When the diesel generators are operated, the cooling water from the generators normally is routed in a closed loop system to heat exchangers and returned to the diesel generators for reuse. Cooling towers are used to cool the water in the heat exchangers. The water in the cooling tower system is treated with a proprietary system called "Cascade UVOX ultraviolet light system."

If the cooling towers cannot be used, on-site industrial water reservoirs can be used for cooling. When the reservoirs are utilized in lieu of the towers, the cooling water from the closed loop cooling system is routed to the industrial reservoirs and mixed with the water in the industrial reservoirs. At the same time, water from the industrial reservoirs is pumped into the closed loop cooling system to replace the water routed to the industrial reservoirs. The use of the industrial reservoirs for cooling purposes can occur in emergency situations; when it is necessary to do repairs, maintenance, equipment modifications, etc., that involve the cooling towers; and during training drills on how to use the industrial reservoirs as cooling reservoirs.

The various wastewaters, excess spring water, and drainage from the underground complex at CMSFS are either routed to the Fort Carson Wastewater Treatment Plant (WWTP, NPDES Permit CO-0021181) via a buried pipeline, or discharged under the provisions of the Permit. Wastewaters flowing to the WWTP include sanitary wastewaters, cooling tower blowdown, cooling tower basin cleaning wastes, infiltration water from the diesel storage reservoir, overflow from the drinking water reservoir, overflow from the industrial water reservoirs, and water collected in certain floor drains in the underground complex. All of these, with the exception of the sanitary wastewater, are collected in the Main Tunnel Pits 52 and 48 and are pumped directly to an oil/water separator located outside the underground complex. The effluent from the oil/water separator and the sanitary wastewaters discharge directly to the WWTP pipeline. Discharges authorized by the Permit through Outfall 001 are discussed below.

3.1.1 Interior Storm Drainage System (ISDS)

The previous permit authorized discharge from the interior storm drainage system (ISDS) at the CMSFS to an unnamed tributary of Fountain Creek. The ISDS receives some of the excess spring flow, infiltration collected under Building 2000, and water from miscellaneous seeps that come out of the stone walls at various places and flow into the ISDS via grates located at numerous points in the complex. Previous monitoring showed effluent limits can be met without treatment.

An additional source of water and pollutants that drains to the ISDS comes from the periodic hosing down of the interior rock walls and ceilings of the tunnels and chambers. They are hosed down for safety purposes to remove loose rock. The water is applied with a hose that is connected to a tank truck and is applied at about normal household tap pressure. The runoff from the washing operations flows to the storm drains in the ISDS. During the washing operations the road surfaces are also hosed off. Normally a street sweeper is used to keep the interior roads clean. The water from the washing operations has the potential to contain significant quantities of suspended solids, etc. When the washing operations occur, the operating procedure is to direct the flow of the ISDS to the oil/water separator and on to the Fort Carson sanitary sewer system.

After the ISDS leaves the underground complex there are two valves where the flow can be routed to either the oil/water separator via the industrial sewer (and on to the pipeline to the Fort Carson sewer system) or to the discharge line which discharges to an unnamed tributary to Fountain Creek. The normal operating procedure is to route the flow of the ISDS to the discharge line (and subsequently to surface waters) except when activities and/or conditions within the underground complex have the potential to significantly increase the concentration of pollutants in the ISDS. When that occurs, the flow is directed to the oil/water separator and on to the pipeline to the Fort Carson sanitary sewer system.

Outfall 001 is the discharge point from the ISDS from the underground tunnels and chambers of the CMSFS to an unnamed tributary of Fountain Creek. The actual discharge point is located on the side of a hill down the slope from the north entrance to the underground complex. The outfall is located at approximately latitude 38.744861º N and longitude 104.843419º W. Due to the difficulty of monitoring the actual outfall, effluent limitations and monitoring requirements in previous permits were applied at the three internal outfalls described below:

Table 1. ISDS Internal Outfall Descriptions

Internal Outfall Number	Description of Internal Outfall(s) Associated with Outfall 001
001A	This compliance point is the portion of the interior storm drainage system at the grate located in the main tunnel near the Diesel Maintenance blast door. **The last permit eliminated this Internal Outfall as a compliance point.**
001B	Outfall has been eliminated.
001D	This outfall is the monitoring compliance point located at the last floor drain in the North Portal or in a manhole located downstream from the last floor drain. This compliance point contains two valves that either route the flow of the interior storm drainage system to (1) the oil/water separator and on to Fort Carson or to (2) Outfall 001. These valves are located at the ground surface at the north edge of the driveway that goes into the North Portal (tunnel). The valves are located approximately 70 to 80 feet from the portal entrance. The approximate latitude and longitude are 38.744464º N and 104.846449º W. There is no practical access at this point to take samples. .

3.1.2 Exhaust Stack Discharge

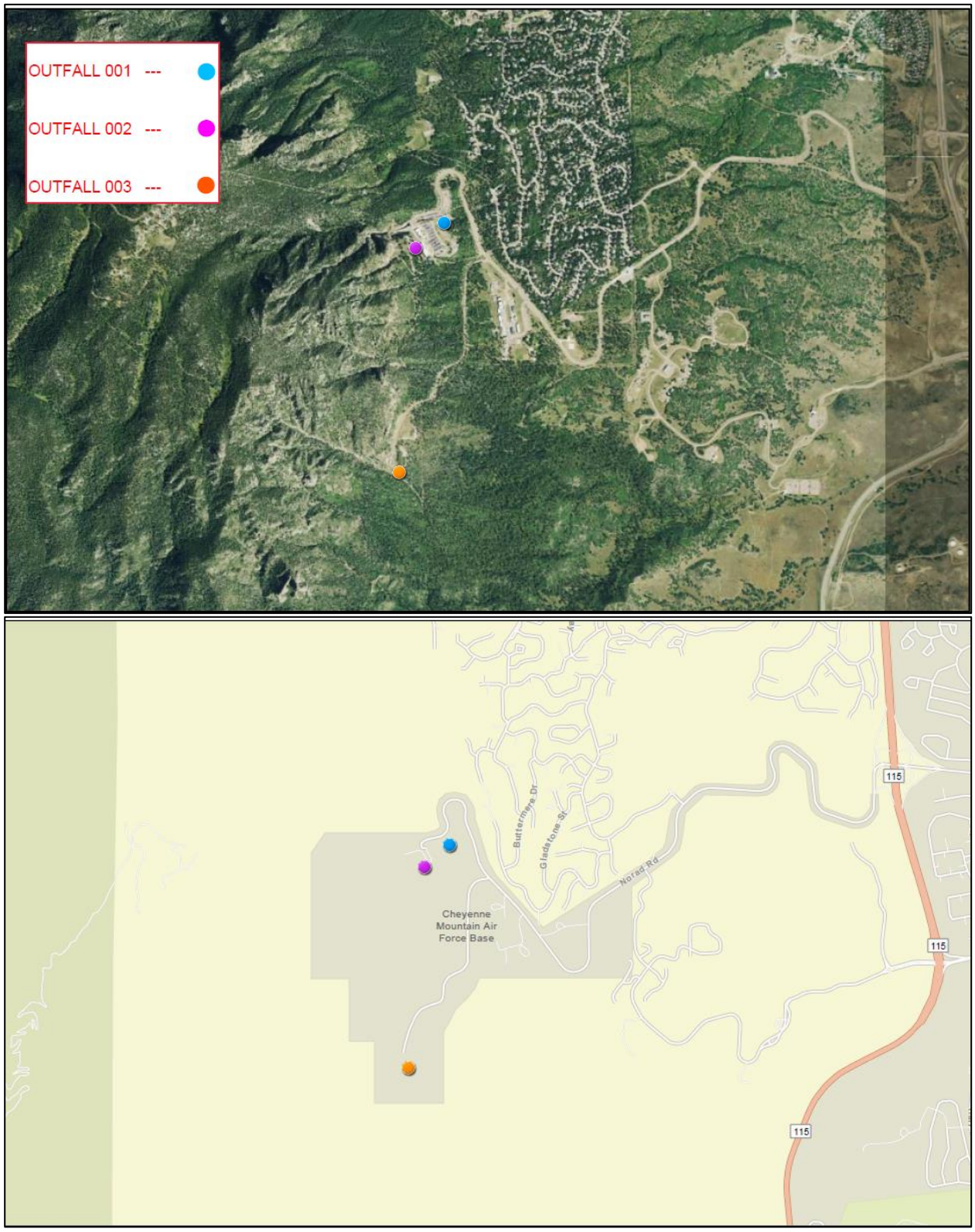
In addition to the discharge from the ISDS to the discharge line via Internal Outfall 001D, the previous permit authorized discharges from the drain lines from the exhaust stacks that are part of the ventilation system for the underground complex at CMSFS. Exhaust gases from the generators, vapors from the cooling towers, stale air, etc., are collected and blown out through the exhaust stacks. There are two exhaust stacks, a "north stack" and a "south stack." Normally only one exhaust stack is used at a time, with the south stack being used most of the time. The exhaust stacks are vertical and approximately 12 feet in diameter. The exhaust comes into the stack from the side near the base of the stack. At the base of each exhaust stack there is a sump for collecting any water that may collect in that portion of the ventilation system.

Per the permit record, due to the high temperatures in an exhaust stack when it is being used, there should not be any condensation of water from the exhaust gases. However, water can collect in the sumps during heavy precipitation and possibly from groundwater infiltration. Each sump has an overflow drain line that slopes downward and outward, ending at the ground surface in a vertical concrete wall a few feet high. The end of the drain line from the north stack has become covered by loose rock that slid down the slope. The drain lines from the north stack and south stack were designated in the prior permit as Outfall 002 and Outfall 003, respectively. However, after a request from the Permittee, the Region reviewed monitoring data indicating that no wastewater has been discharged from these drain lines in the prior 18 years. Based on this lack of discharge and the request from the Permittee, the Region has removed these outfalls from the Permit. See a description in the table below:

Table 2. Exhaust Stack Outfall Descriptions

Outfall Number	Description of Discharge Point
002	Outfall has been removed from this permit.
003	Outfall has been removed from this permit.

Figure 1. Aerial View of Facility with External Outfall Locations a/, b/



a/ Facility's approximate outfall locations are called out. US EPA GeoPlatform. Top Image: World Imagery, Esri & USDA Farm Agency. Bottom Image: World Topographic Map, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, US Census Bureau, USDA. Created May 2023.

b/ Note that locations labelled Outfall 002 and Outfall 003 are drain outlets no longer covered under this Permit.

3.2 Treatment Process

As stated above, no treatment takes place at the CMSFS for discharges covered by the Permit. Flows are either directed to the Fort Carson sanitary sewer system or they discharge to unnamed tributaries of Fountain Creek via Outfall 001.

In the current Permit, a combination of numerical effluent limitations, the requirement to develop and implement a pollution prevention plan (PPP), the prohibition of discharging certain waste streams, and restrictions on the use of the industrial reservoirs for cooling purposes are used to regulate the discharge from the CMSFS.

The 2017 permit required that there be no discharge of sanitary wastes, cooling tower blowdown, wastes from the cleaning of cooling tower basins, water from Main Tunnel Pits 48 and 52, or from the closed loop cooling system except as the result of the industrial reservoirs being used as cooling reservoirs. Since there is no treatment of these waters if routed to the ISDS and discharged, these waters must be routed to the pipeline to the Fort Carson sanitary sewer system for further treatment. The previous permit eliminated the allowance for discharges from the closed loop cooling system under emergency circumstances in which the industrial reservoirs are used to augment and replenish the cooling system. This permit will maintain this prohibition - water from the closed loop cooling system must be routed to Fort Carson. The previous permit contained numeric effluent limitations on Internal Outfalls 001A and 001D for 5-day biological oxygen demand (BOD_5), total suspended solids (TSS), oil and grease, and pH, and it required that there be no discharge of floating solids or foam nor visible sheen. The effluent limitations and monitoring requirements at Internal Outfalls 001A and 001D did not apply when the valve at Internal Outfall 001B was closed so that there was no discharge from the ISDS to the discharge line (Outfall 001).

Since the issuance of the previous permit, the construction of Outfall 001D has been completed. Per the provisions of the previous permit, the completion of Outfall 001D has triggered the elimination of Outfalls 001A and 001B as compliance points, and effluent limitations and monitoring requirements that previously applied to Outfall 001A will apply to Outfall 001D in this permit iteration.

For Internal Outfall 001B, the current Permit requires that the valve be closed whenever any of the following conditions occur. The following provisions will now apply to the valves at Outfall 001D:

1. When there are "washing" operations (i.e., hosing down of the interior rock walls and ceilings of the tunnels and chambers) occurring within the underground portion of the complex;

2. When there are known operations within the underground portion of the complex that are known to have a reasonable likelihood of causing the effluent limitations at Internal Outfall001D to be exceeded;

3. A spill is known to have occurred within the underground portion of the complex and there is a reasonable potential for pollutants from that spill to reach the ISDS; and/or,

4. A sheen and/or floating oil is observed at Internal Outfall 001D. The valves shall be promptly arranged so that there is no discharge to Outfall 001 and remain in such a position until a sheen and/or floating oil is no longer observed at Internal Outfall 001D.

Discharges from the two outfalls associated with the exhaust stacks (Outfalls 002 and 003) have never been observed; therefore, these Outfalls will no longer be compliance points in this permit iteration.

3.3 Chemicals Used

N/A

4 PERMIT HISTORY

According to EPA records maintained for the Facility, this renewal is at least the 5th issuance of this NPDES permit. The previous permit for the Facility became effective on April 1, 2017, and was set to expire on March 31, 2022. The Facility submitted a permit renewal application prior to the permit's expiration, and thus the previous permit was administratively continued.

4.1 Discharge Monitoring Report (DMR) Data

A summary of DMR Data for Internal Outfalls 001A and 001D are available in Tables 3 and 4 below, respectively.

Table 3. Summary of the DMR Data (2017-2023) for Internal Outfall 001A from EPA Integrated Compliance Information System (ICIS) database (accessed March 2023)

Parameter	Permit Limit(s)	Reported Average	Reported Range	Number of Data Points	Number of Exceedances
Flow, Total, gallons per day	N/A	106,324.99	69.6 – 763,147	48	N/A a/
Temperature, °C	N/A	22.45	10.8 - 22	38	N/A a/
Copper, Potentially Dissolved, ug/L	N/A	5.9	4.2 – 11	5 b/	N/A a/
Hardness, Total [as $CaCO_3$], mg/L	N/A	85.4	6.4 - 110	6	N/A a/
Lead, Potentially Dissolved, mg/L	N/A	5.33	0.0042 - 13	6	N/A a/

Parameter	Permit Limit(s)	Reported Average	Reported Range	Number of Data Points	Number of Exceedances
Nitrogen, Inorganic Total, mg/L	N/A	0.75	0.18 – 4.2	11	N/A a/
Oil & Grease, mg/L	10	2.55	1.7 – 3.4	2	N/A a/
Oil & Grease, Visual	0 d/	0 d/	0 d/	12 e/	N/A a/
Phosphorus, Total [as P], mg/L	N/A	0.067	0.017 – 0.26	11 b/	N/A a/
pH, Minimum, S.U.	6.5	7.91	6.5 – 8.5	24	N/A a/
pH, Maximum, S.U.	9.0	7.90	6.5 – 8.6	18 f/	N/A a/
BOD_5, 7- Day Average, mg/L	45	0	0	6e/ f/	N/A a/
BOD_5, 30 - Day Average, mg/L	30	0	0	6 e/ f/	N/A a/
TSS, 7- Day Average, mg/L	45	10.2	0.8 – 39.2	17 e/ f/	N/A a/
TSS, 30- Day Average, mg/L	30	7.15	1.2 - 24	22 e/ f/	N/A a/

a/ ICIS data indicates late reporting.

b/ The previous permit required quarterly sampling for this parameter. For some quarters, the permittee reported No Data Indicator (NODI) code "E" indicating that they "Failed to Sample/Required Analysis Not Conducted." For some other quarters, the Permittee reported NODI code "B" which indicates results were "Below Detection Limit/No Detection." The failures to collect and analyze a sample appears to have resulted in fewer sampling results than expected given the reporting frequency required for this parameter in the previous permit.

c/ In one instance the facility reported both NODI code "E" indicating "Failed to Sample/Required Analysis Not" and NODI code "B" which indicates results were "Below Detection Limit/No Detection." This appears to be a reporting error.

d/ Narrative limit, coded in DMR such that "0" represents no visual detection of parameter.

e/ Permittee reported NODI code "B" which indicates results were "Below Detection Limit/No Detection," these results are considered to have a value of "0" for the purposes of this data summary.

f/ Permittee reported NODI code "9" which indicates results "Conditional Monitoring – Not Required This Period," this appears to be a reporting error.

Table 4. Summary of the DMR Data (2017-2023) for Internal Outfall 001D from EPA Integrated Compliance Information System (ICIS) database (date accessed March 2023)

Parameter	Permit Limit(s)	Reported Average	Reported Range	Number of Data Points	Number of Exceedances
Flow, Total, gallons per day	N/A	10,851.95	3,679 – 38,466	40	N/A
Temperature, ^oC	N/A	14.31	7.8 – 22.8	40	N/A

Parameter	Permit Limit(s)	Reported Average	Reported Range	Number of Data Points	Number of Exceedances
Copper, Potentially Dissolved, ug/L	N/A	0	0	8 a/	N/A
Hardness, Total [as $CaCO_3$], mg/L	N/A	120	N/A	8	N/A
Lead, Potentially Dissolved, mg/L	N/A	0	0	8 a/	N/A
Nitrogen, Inorganic Total, mg/L	N/A	0.35	0.25 – 0.75	10	N/A
Oil & Grease, mg/L	10	0	0	2 a/	N/A
Oil & Grease, Visual	0 c/	0	0	0	N/A
Phosphorus, Total [as P], mg/L	N/A	0.0054	0 – 0.029	8 a/	N/A
pH, Minimum, S.U.	6.5	8.25	6.95 – 8.59	20	N/A
pH, Maximum, S.U.	9.0	8.41	8.08 – 8.76	20	N/A
BOD_5, 7- Day Average, mg/L	45	0.55	0 - 1.1	2 a/ b/	N/A
BOD_5, 30 - Day Average, mg/L	30	0.55	0 – 1.1	2a/ b/	N/A
TSS, 7- Day Average, mg/L	45	6.71	1.20 - 36	9 b/	N/A
TSS, 30- Day Average, mg/L	30	5.87	1.20 - 36	9 b/	1 d/

a/ Permittee reported NODI code "B" which indicates results were "Below Detection Limit/No Detection," these results are considered to have a value of "0" for the purposes of this data summary.

b/ Permittee reported NODI code "9" which indicates results "Conditional Monitoring - Not Required This Period," this appears to be a reporting error.

c/ Narrative limit, coded in DMR such that "0" represents no visual detection of parameter.

d/ Numeric exceedance on 7/27/2021, reported value was 36 mg/L, which was 20% over the permitted limit for this parameter.

4.2 Other Facility History

N/A

5 DESCRIPTION OF RECEIVING WATER

The discharge from Outfall 001 would go to unnamed tributaries of Fountain Creek, which is a tributary of the Arkansas River. The unnamed tributary flows to the east for approximately two miles before crossing under state Highway 115, approximately 1/4 of a mile to the south of O'Connell Blvd, and onto the Fort Carson Military Reservation (FCMR). On the FCMR, the unnamed tributary combines with other unnamed streams and drainageways to form one stream

that flows to the southeast into Fountain Creek in Section 6, T16S, R68W near the City of Fountain.

Colorado's Stream Segmentation tool indicates that these waterbodies are in stream segment 4d (COARFO04D) of the Fountain Creek Basin for purposes of stream classifications. Streams and reservoirs in Segment 4d are classified for Class 2 Aquatic Life Warm, Class E Recreation, Water Supply and Agriculture and are designated use-protected. The assigned water quality standards include the parameters in Tables 5a- 5d below:

Table 5a. Fountain Creek Segment Designations & Classifications per Colorado Regulation 32

Fountain Creek Segment	**Segment 4d**
Designation	Use Protected
Classification	Agriculture
	Aq Life Warm 2
	Recreation E

Table 5b. Physical & Biological Water Quality Standards for Fountain Creek Segments 4d a/

Parameter	**Segment 4d**
Temperature, ºC	T=TVS ;(WS-II) ºC a/
D.O., mg/L	D.O. (ch) = 5.0 mg/L
pH	pH = 6.5-9.0
E.coli (per 100 mL)	*E. coli* = 126/100 mL
Chlorophyll *a* (Chla), mg/m2	Chla = 150 µg/L b/

a/ Colorado Regulation 32 assigns segment specific temperature standards based on the indicated classification. TVS = Table Value Standard. WS-II = Warm Stream, Tier Two. See section 6.2.2.3 for further information

b/ Chlorophyll *a* standards apply only to above existing facilities listed in Colorado Regulation 32, Section 32.5(4). This does not apply to the CMSFS.

Table 5c. Inorganic Water Quality Standards for Fountain Creek Segment 4d

Parameter	Segment 4d	
	Acute (mg/L)	Chronic (mg/L)
Ammonia	TVS a/	TVS a/
Boron	---	0.75
Chloride	---	250
Chlorine	0.019	0.011
Cyanide	0.005	---
Nitrate	100	---
Nitrite	---	0.5
Phosphorous	---	0.17 b/
Sulfate	---	---
Sulfide	---	0.002

a/ TVS = Table Value Standard.

b/ Phosphorous standards apply only to above existing facilities listed in Colorado Regulation 32, Section 32.5(4). This does not apply to the CMSFS.

Table 5d. Metals Water Quality Standards for Fountain Creek Segment 4d

Parameter	Segment 4d	
	Acute (µg/L)	Chronic (µg/L)
Arsenic a/	340	---

Arsenic (T) b/	---	100
Cadmium	TVS c/	TVS
Chromium +3	TVS	TVS
Chromium +3 (T)	---	100
Chromium +6	TVS	TVS
Copper	TVS	TVS
Iron (T)	---	1000
Lead	TVS	TVS
Manganese	TVS	TVS
Mercury (T)	---	0.01
Molybdenum (T)	---	150
Nickel	TVS	TVS
Selenium	TVS	TVS
Silver	TVS	TVS
Uranium	Varies*	Varies*
Zinc	TVS	TVS

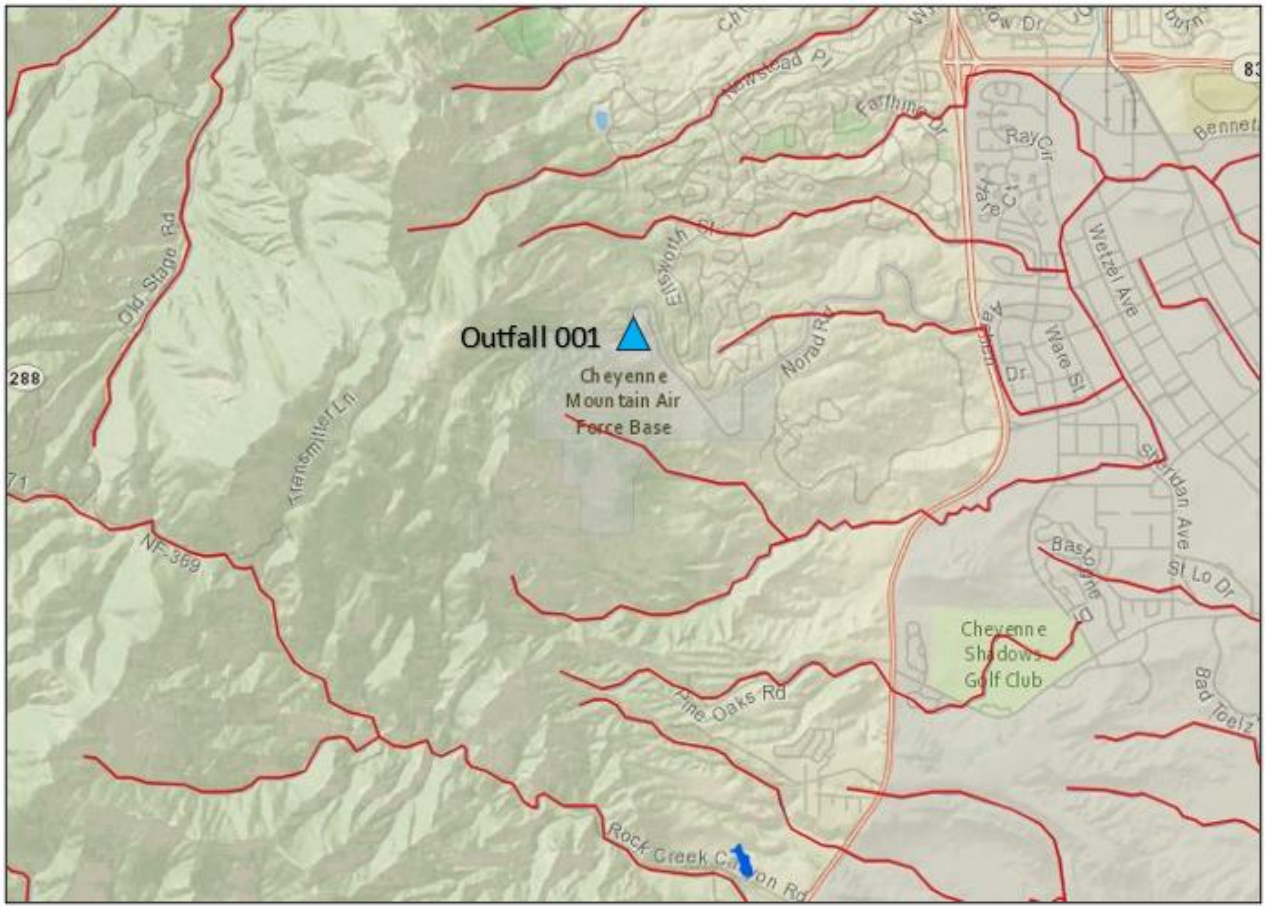
a/ All metals are dissolved unless otherwise noted

b/ T = Total Recoverable

c/ TVS = Table Value Standard

d/ All waters of the Arkansas River Basin are subject to the following basic standard for uranium, unless otherwise specified by a water quality standard applicable to a particular segment.

Figure 2. Facility Receiving Waters a/



a/ Facility's approximate outfall location is shown. Image generated using CDPHE's Colorado Stream Segmentation Tool. Accessed August 2024.

6 PERMIT LIMITATIONS

6.1 Technology Based Effluent Limitations (TBELs)

6.1.1 Biochemical Oxygen Demand and Total Suspended Solids

40 CFR § 122.44(l) requires that effluent limitations in a renewal permit, with limited exceptions, be at least as stringent as the effluent limitations in the previous permit. The earliest permit on file for this facility, issued in 1999, indicated that limitations on 5-day biochemical

oxygen demand (BOD_5) and total suspended solids (TSS) were based on the national Secondary Treatment Regulation (40 CFR Part 133) and the Colorado Regulation 62, Regulations for Effluent Limitations. See Tables 6a and 6b below for these TBELs used in previous permits:

Table 6a. Secondary Treatment Regulation (40 CFR Part 133) TBELs

Parameter	30-day average (mg/L)	7-day average (mg/L)	30-day average percent removal (%)
BOD_5	30	45	85
TSS	30	45	85
pH	Maintained within the limits of 6.0 to 9.0		

Table 6b. Colorado Regulation No. 62 – Regulations for Effluent Limitations

Parameter	30-day average (mg/L)	7-day average (mg/L)	30-day average percent removal (%)
BOD_5	30	45	85
TSS	30	45	85
pH	Maintained within the limits of 6.0 to 9.0		
Oil& Grease	The concentration of oil and grease in any single sample shall not exceed 10 mg/L. a/		

a/ Colorado Regulation 62 states, "A numeric effluent limit will be assigned in permits for discharges to surface waters, however, monitoring for a "visual sheen" will generally be required. Where a visual sheen is detected, the discharger will be required to collect a grab sample and have it analyzed for oil and grease. Monitoring for oil and grease may be required where there is a reasonable potential that oil and grease will be present in the effluent at concentrations at or above 10 mg/l."

It is important to recognize that the national secondary treatment standards are generally intended to apply to discharges from wastewater treatment facilities treating domestic waste. The discharges authorized by this Permit do not fit into this profile. Please also note that Colorado Regulation 62.5 contains the following statement regarding the applicability of the regulation, "The following numeric limits shall apply where the Water Quality Control Division ("Division") identifies the pollutant as one that may, without treatment, be present in the discharge at a level approaching the relevant limit." The permit record lacks information that supports the idea that BOD_5 is a pollutant of concern at this Facility. The statement of basis indicated the monitoring frequency for BOD_5 was decreased to yearly in the previous permit because, "On a practical basis there is not a need for effluent limitations on BOD_5 except as a safeguard." No additional information is provided that explains the further need for a "safeguard" with respect to BOD_5, nor does the statement of basis address how oxygen levels could be more appropriately monitored through the monitoring of dissolved oxygen, a constituent for which there is state water quality standard (see Section 6.2.1.2). Available effluent monitoring data from the last permitting cycle indicates that facility effluent BOD_5 values are consistently far below effluent limitations imposed for this parameter in previous permit iterations and frequently reported as "Below Detection Limit/No Detection" (See Tables 3 & 4 above). Based on this information, it is apparent that BOD_5 has a negligible presence in the discharge.

The profile of the discharge from the CMSFS does not meet the applicability of any of the industrial discharge categories defined in 40 CFR Parts 405 – 471. The following discussion provides EPA's rationale for selecting alternative technology-based effluent limitations on the basis of best professional judgment (BPJ).

40 CFR § 125.3(a) indicates that technology-based treatment requirements under Clean Water Act (CWA) section 301(b) represent the minimum level of control that must be imposed in an NPDES permit. EPA is required to promulgate technology-based limitations and standards that reflect pollutant reductions that can be achieved by categories, or subcategories, of industrial point sources using specific technologies (including process changes) that EPA identifies as meeting the statutorily prescribed level of control under the authority of CWA sections 301, 304, 306, 307, 308, 402, and 501 (33 United States Code [U.S.C.] 1311, 1314, 1316, 1318, 1342, and 1361). Those national industrial wastewater controls are called effluent limitations guidelines (ELGs) and they establish performance standards for all facilities within an industrial category or subcategory. However, where EPA-promulgated ELGs are not applicable to a non-POTW discharge, such requirements are established on a case-by-case basis using the BPJ of the permit writer. Although not explicitly cited, the first iteration of this permit appears to have included these secondary treatment TBELs on the basis of BPJ. In keeping with this approach, this permit issuance will use BPJ to evaluate the continued applicability of these limitations.

40 CFR § 122.44(l)(2) outlines specific exceptions to the general prohibition against revising an existing limit to be less stringent in a renewed, reissued, or modified permit. 40 CFR § 122.44(l)(2)(i)(B)(2) provides that relaxed limitations may be allowed where technical mistakes or mistaken interpretations of the law were made in issuing the permit under CWA section 402(a)(1)(b). EPA has reevaluated the applicability of the BOD_5 and determined that this limit was added due to technical mistakes or mistaken interpretations, as the activities associated with discharges from the Facility do not align with the applicability criteria for NSS or the Colorado Regulation 62. Therefore, the BOD_5 limit has been removed from the renewal Permit.

The monitoring results for TSS indicate that the potential for excursion above the TBELs in previous permits for this parameter persists – see Table 6c below. Due to the reasonable potential demonstrated by the Facility's monitoring data, permit limitations for TSS will be maintained in this issuance. However, per the discussion above, the limitations will be based on ELGs more appropriate for the Facility's discharge.

Table 6c. Analysis of TSS with Respect to National Secondary Standards

Parameter	**TBEL**	**Monitoring Data Reported**	
		Average	Max Reported
TSS, 7- Day Average, mg/L	45	8.83	39.2
TSS, 30- Day Average, mg/L	30	6.69	36

As discussed above the activities associated with discharges from the Facility do not align with the applicability criteria for NSS or the Colorado Regulation 62 nor does the CMSFS meet the applicability of the industrial discharge categories defined in 40 CFR Parts 405 – 471. Discharges authorized by this permit consist of excess spring flow, infiltration collected under Building 2000 and water from miscellaneous seeps that come out of the stone walls at various places. The discharge is more appropriately likened to a mine dewatering discharge which is defined at 40 CFR § 436.41(b) as follows, "…any water that is impounded or that collects in the mine and is pumped, drained, or otherwise removed from the mine through the efforts of the mine operator. This term shall also include wet pit overflows caused solely by direct rainfall and ground water seepage." Although the Facility does not meet the applicability criteria of 40 CFR Part 436, this Permit (on the basis of BPJ) will incorporate the TSS limitations detailed at 40 CFR § 436.42(a)(4) in place of those defined by the NSS and Colorado Regulation 62. See Table 6d below.

Table 6d. Effluent Limitation Guidelines for Mine Dewatering Discharges Defined at 40 CFR § 436.42(a)(4)

Parameter	30-day average (mg/L)	Daily Max
TSS	25	45

The percent removal requirements have not been included in previous permits due to the absence of treatment at the Facility. The permit application indicates that this information is still accurate. Based on the discussion provided within this section above, the national secondary treatment standards and Colorado Regulation 62 have been determined to not be applicable to this Facility. The ELG's that will apply to the Facility's discharge in this permit (Table 6d) do not include percent removal requirements for TSS.

EPA Region 8 has developed technology and water quality-based guidance on oil and grease. It states "if a visible sheen or floating oil is detected in the discharge, a grab sample shall be taken immediately, analyzed and recorded in accordance with the requirements of 40 CFR Part 136. The concentration of oil and grease shall not exceed 10 mg/L in any sample." The visual narrative "sheen or floating oil" requirement was developed in alignment with 40 CFR § 401.16 which lists "oil and grease" as a conventional pollutant (as related to technology-based limitations in line with 40 CFR § 125.3(h)(1)) pursuant to section 304(a)(4) of the Act, as well as the National Recommended Aquatic Life Criteria which recommends that "surface waters shall be virtually free" from floating oils of petroleum origin and floating nonpetroleum oils of vegetable or animal origin, as "floating sheens of such oils result in deleterious environmental effects." This consideration for oil and grease will be included in the Permit.

6.1.2 Nutrients

The Colorado Water Quality Control Commission (WQCC) established Regulation 85, Nutrients Management Control Regulation (5 CCR 1002-85) effective September 30, 2012. Among other things, Regulation 85 establishes technology based effluent limitations on total inorganic nitrogen and total phosphorus for certain non-domestic wastewater treatment works. The effluent limitations for non-domestic wastewater treatment works that were discharging prior to May 31,

2012, apply to those (A) whose Standard Industrial Classification code is in the Major Group 20 and (B) any other non-domestic discharger for which the Division has determined, based on credible information that the facility is expected, without treatment for nutrients, to discharge total inorganic nitrogen or total phosphorus concentrations to surface waters in excess of the respective effluent limitations. The previous permit required monitoring for total inorganic nitrogen (T.I.N) and total phosphorus. Table 7 below lists the relevant effluent limitations for T.I.N and total phosphorus as well as the relevant monitoring data from the previous permitting cycle for these parameters from CMSFS effluent:

Table 7. Nutrient Limitations for Non-Domestic Discharges Colorado Reg. 85.5(2)(a)(ii)(B)

Parameter	Parameter Limitation	Corresponding Monitoring Data
Total Phosphorus, Annual Median	1.0 mg/L	0.04
Total Phosphorus, 95th Percentile	2.5 mg/L	0.18
Total Inorganic Nitrogen, Annual Median a/	15 mg/L	0.33
Total Inorganic Nitrogen, 95th Percentile a/	20 mg/L	0.75

a/ Determined as the sum of nitrate as N, nitrite as N, and ammonia as N.

In addition to the data reported above, it should also be noted that during the period of April 2017 – February 2023 the maximum total nitrogen monitoring result reported was 4.2 mg/L and the maximum phosphorus monitoring result reported was 0.26 mg/L. This date provides credible information that the Facility is not expected, without treatment for nutrients, to exceed the limitations in Colorado Reg. 85.5(2)(a)(ii)(B), and therefore these limits do not apply. Monitoring for these parameters will not be included in the reissuance of this permit.

6.2 Water Quality Based Effluent Limitations (WQBELs)

The Facility discharges to streams identified by the State of Colorado's stream segmentation tool to be in Fountain Creek Segment 4d. The receiving waters are within the state of Colorado and thus the state of Colorado's water quality standards (WQS) apply. EPA has reviewed the applicable State water quality standards for consideration of the development of WQBELs and evaluated whether any total maximum daily loads (TMDLs) apply.

6.2.1 Physical and Biological

6.2.1.1 Temperature

For Fountain Creek Segment 4d, the temperature criterion in Colorado Regulation 32 is T=TVS(WS-II) ºC. Table 8 below shows the temperature standards for the receiving streams:

Table 8. Receiving Water Temperature Standards

Temperature Classification a/	**Applicable Months**	**Temperature Standard (°C)**		**Maximum Temperature Observed (°C) d/**
		MWAT **b/** (°C)	DM **c/** (°C)	
T=TVS(WS-II)	March-Nov.	27.5	28.6	22.8
	Dec.-Feb.	13.8	25.2	17.1 e/

a/ Based on applicable classifications for the Arkansas River Basin (Regulation 32) effective 09/30/2022.

b/ Maximum Weekly Average Temperature (MWAT). The MWAT is calculated as the largest mathematical mean of multiple, equally spaced temperatures over a seven-day consecutive period, with a minimum of three data points spaced equally through the day.

c/ Daily Maximum Temperature (DM). The DM means the highest two-hour average temperature recorded during a given 24-hour period. The daily maximum should be calculated from a minimum of 12 measurements spaced equally through the day.

d/ Maximum temperature observed at the Facility for the applicable months based on daily grab samples for the period of April 2017 – February 2023.

e/ Maximum sample value of 17.1°C reported in December 2018 and January 2019, from Internal Outfall 001A.

Since the permit record indicates that effluent from the same sources flow to Internal Outfalls 001A and 001D, data from both outfalls were considered when evaluating whether there is a reasonable potential to exceed the applicable temperature standards. Available temperature data indicate that the maximum temperature observed at Internal Outfall 001A exceeds the Maximum Weekly Average Temperature (MWAT) standards for both outfalls during the months of

December to February. This indicates that there is reasonable potential for temperature standards exceedance during this timeframe. Therefore, temperature limits will be added to this permit for the months of December to February at Internal Outfall 001D.

6.2.1.2 Dissolved Oxygen

The impact of the Facility's effluent on oxygen availability in the receiving stream has previously been controlled through the application of BOD_5 limitations and monitoring. This reissuance will no longer contain the previously imposed limitations and monitoring requirements for BOD_5. Minimum dissolved oxygen water quality standards are established for this segment by Colorado Regulation No. 32 (see Table 5b). Therefore, monitoring for dissolved oxygen will be included in this permit issuance.

6.2.1.3 pH

pH limits are established for each water segment by Colorado Regulation No. 32. Regarding Segment 4d of Fountain Creek, Regulation No. 32 requires that the pH of discharge shall not be less than 6.5 or greater than 9.0 at any time. This limitation was applied at both Internal Outfalls 001A and 001D in the previous permit and will be maintained in the reissuance.

6.2.1.4 E.coli

As detailed in Section 3.1.1, the Facility is permitted to discharge only specific wastewaters from the ISDS via Outfall 001: excess spring flow, infiltration collected under Building 2000 and water from miscellaneous seeps that come out of the stone walls at various places and flow into the ISDS via grates located at numerous points in the complex. Likewise, as explained in Section 3.1.2, due to the source and nature of the waters being discharged by the Facility under this Permit, it has been determined that there is no reasonable potential for *E.coli* pollution at this time and therefore no monitoring for this parameter will be required and no effluent limitations will be applied.

6.2.2 Inorganics

6.2.2.1 Ammonia

Ammonia has previously been excluded from the permit limitations and monitoring. Ammonia is one of several forms of nitrogen that exist in aquatic environments. Ammonia is produced for commercial fertilizers and other industrial applications. Natural sources of ammonia include the decomposition or breakdown of organic waste matter, gas exchange with the atmosphere, forest fires, animal and human waste, and nitrogen fixation processes. As detailed in Sections 3.1.1 and 3.1.2, the Facility is permitted to discharge only specific wastewaters from the ISDS via Outfall 001, which is not likely to contain ammonia or ammonia producing materials. Due to the source and nature of the waters being discharged by the Facility under this Permit, it has been determined that there is no reasonable potential for ammonia pollution and therefore no monitoring for this parameter will be required and no effluent limitations will be applied.

6.2.2.2 Boron

The toxicological profile for boron provided by the Centers for Disease Control and Prevention (CDC) indicates that anthropological sources of boron include municipal sewage wastewater, coal-burning power plants, copper smelters, and release from other industries using boron compounds (ex. adhesives manufacturing). As detailed in Sections 3.1.1 and 3.1.2, the Facility is permitted to discharge only specific wastewaters from the ISDS via Outfall 001, which is not likely to contain anthropogenically derived borates. Boron is also released to the environment slowly in low concentrations by weathering processes. The Safe Drinking Water Program in the Water Quality Control Division (WQCD) of the Colorado Department of Public Health and Environment (CDPHE) maintains water quality data for the drinking water system at the CMSFS. Although the data is for the drinking water system and not the discharge from Outfall 001, the data gives an indication of the quality of the spring water that is the source of most of the water inside the Facility. These records indicate that the drinking water system has a waiver for inorganic chemicals monitoring (they must sample for inorganics once every nine years) which was renewed on March 9, 2023. This information supports the conclusion that boron is unlikely to enter waters at CMSFS through anthropogenic or natural means and that, at this time, no reasonable potential exists for boron in CMSFS effluent. Therefore, no boron effluent limitations or monitoring requirements will be included in this permit reissuance.

6.2.2.3 Cyanide

Colorado Regulation 32 defines segment specific water quality standards for cyanide. Fountain Creek Segment 4d has an acute cyanide water quality standard of 0.005 mg/L or 5 µg/L. Cyanides can both occur naturally or be man-made and many are powerful and rapid-acting poisons. However, the major sources of cyanides in water are discharges from metal mining processes, organic chemical industries, iron and steel plants or manufacturers, and publicly owned wastewater treatment facilities. The CMSFS does not operate in any of these capacities and is permitted to discharge only specific wastewaters from the ISDS via Outfall 001 (see Sections 3.1.1 and 3.1.2), which is not likely to contain cyanide pollution. The Safe Drinking Water Program in the WQCD of the CDPHE maintains records of water quality data for the drinking water system at the CMSFS. Although the data is for the drinking water system and not the discharge from Outfall 001, the data gives an indication of the quality of the spring water that is the source of most of the water inside the Facility. These records include water quality reports that summarize data from waters entering (i.e., untreated influent) treatment plants within the Colorado Springs Utilities System (which includes the drinking water system at CMSFS). The last cyanide testing results from CMSFS were collected between 1995 and 2001 – all testing events had a result of 'ND' or None Detected. The 2017 water quality report indicates that Colorado Springs Utilities have been issued a waiver from cyanide testing. Given this information, it has been concluded that at this time there is no reasonable potential for cyanide in effluent from CMSFS and as such no effluent limitations or monitoring requirements for cyanide will be imposed in this reissuance.

6.2.2.4 Chloride and Chlorine

Chlorine and chloride monitoring were excluded from the requirements of the 2017 permit issuance. As previously mentioned, no effluent treatment takes place at CMSFS, chemical or

otherwise. According to the permit record, the previous permit placed prohibitions on discharges from the ISDS via Outfall 001 – only discharges of excess spring flow, infiltration collected under Building 2000 and water from miscellaneous seeps that come out of the stone walls at various places are permitted to discharge from the ISDS. Wastewaters from activities onsite that have the potential to introduce chlorinates into water include cooling tower basin cleaning wastes, overflow from the drinking water reservoir, overflow from the industrial water reservoirs, and water collected in certain floor drains in then underground complex are all required to be routed to Ft. Carson sanitary sewer system. These prohibitions will be maintained in this permit issuance. Given these considerations, no reasonable potential for chloride or chlorine is found at this time and therefore no effluent limitations or monitoring requirements for chlorine or chloride will be included in this reissuance.

6.2.2.5 Nutrients

An acute nitrate standard of 100 mg/L and a chronic nitrite standard of 0.5 mg/L are assigned to Fountain Creek Segment 4d. Nitrite and ammonia can also form nitrate, therefore, compliance with the nitrate standard is typically achieved through imposition of a Total Inorganic Nitrogen (T.I.N.) limit. T.I.N. effectively measures nitrate and its precursors including nitrite and ammonia, therefore nitrite monitoring was not included in the previous permit. The phosphorous standards listed for Fountain Creek Segment 4d apply only to above existing facilities listed in Colorado Regulation 32, Section 32.5(4). This list of facilities does not currently include CMSFS.

6.2.2.6 Sulfide

Colorado Regulation 32 defines a segment specific water quality standard for sulfide in Fountain Creek Segment 4d. Sulfides occur naturally in the environment and can be introduced into the environment due to human activity. Examples of facilities producing sulfides include landfills, natural gas plants, rayon manufacturers, pigment and dye manufacturing, and food processing plants. The description of activities taking place at the Facility do not indicate a risk for the introduction of sulfide into the effluent due to human activity. Sulfides (typically occuring as H_2S) appear naturally in groundwater and spring waters. In low oxygen environments sulfides may be produced by sulfur-reducing bacteria during the decomposition of organic matter. The introduction of the organic matter needed to foster sulfur-reducing bacteria is unlikely – the ISDS receives spring flow, seepage, and infiltration collected from beneath buildings and at various points throughout the complex. At this time, no reasonable potential has been found for sulfide and therefore no monitoring requirements or effluent limitations will be included for this analyte in this permit issuance.

6.2.3 Metals

As shown in Table 5d above, standards for metals are generally shown in Colorado's regulations as Table Value Standards (TVS), which must be derived from equations that depend on the receiving stream hardness and / or the species of fish present in a given segment. A regression analysis of the hardness data for USGS gaging station 07105530 (the nearest upstream site available) was performed per Colorado Regulation 32. The results of that analysis indicated an instream hardness of 186 mg/L. However, due to the significant distance of this gage from the

site of discharge and the low flow volume in the receiving streams, it was determined that hardness data collected from effluent monitoring would be more representative of instream hardness. Therefore, a hardness value of 105 mg/L was utilized for calculating the acute and chronic table value standards that are hardness dependent. The values in Table 9 below are for a warm water aquatic life classification and a hardness of 105 mg/L and were calculated using the equations provided in Colorado Regulation 32.6(3).

Table 9. Table Value Standards for Hardness Dependent Metals at Hardness of 106 mg/L a/

Parameter	In-Stream Water Quality Criteria	
	Acute Criterion	Chronic Criterion
Cadmium, µg/L	2.87	0.74
Chromium +3, µg/L	593.00	77.14
Chromium +6, µg/L	16.00	11.00
Copper, µg/L	14.07	9.33
Lead, µg/L	68.10	2.65
Manganese, µg/L	3,034.60	1,676.62
Nickel, µg/L	530.88	54.19
Selenium, µg/L	18.4	4.60
Silver, µg/L	2.21	0.35
Uranium, ug/L	2,534.95	1,583.4

Zinc, µg/L	167.26	126.69

a/ Values based on equations from Colorado Regulation 32, Section 32.6(3)

The previous issuance of this permit used metals data for the drinking water system at the CMSFS to make reasonable potential determinations for the metal parameters listed for the receiving waters in Colorado Reg. 32. Although the data is for the drinking water system and not the discharge from Outfall 001, most of the data gives an indication of the metals content of the spring water that is the source of most of the water inside the Facility. All the samples except for the samples for lead and copper were taken from a tank that stores drinking water for the drinking water system. The samples for lead and copper were taken from the distribution system of the drinking water system, with several samples collected during each sampling event. Starting in 1996 there were 10 samples per sampling event. The 90th percentile value of lead and copper for each sampling event were listed. Reasonable potential was found only for lead and copper and as a result, monitoring requirements were included in the previous permit for these analytes. The data does not address every metal with a standard listed for Fountain Creek Segment 4d in Colorado Regulation 32. As stated previously in this document, CDPHE records include water quality reports that summarize data from waters entering (i.e. untreated influent) treatment plants within the Colorado Springs Utilities System (which includes the drinking water system at CMSFS). Data from more recent water quality reports for the Colorado Springs Utilities System were used to analyze reasonable potential for metals listed in Regulation 32 for Fountain Creek Segment 4d not previously addressed. At the time of drafting the reissuance for this Permit, no new information was available to suggest that previous reasonable potential determinations required reexamining – those determinations will be maintained in this issuance. As previously mentioned, depending on the timing of the discharge, the receiving stream could be dominated by effluent from the Facility. Therefore, no dilution will be considered for the purposes of effluent limitation development or reasonable potential analysis. See Table 10 below.

Colorado Regulation 32.6 (3) Footnote 6 states the following regarding chromium data: “Unless the stable forms of chromium in a water body have been characterized and shown not to be predominantly chromium VI, data reported as the measurement of all valence states of chromium combined should be treated as chromium VI. In addition, in no case can the sum of the concentrations of chromium III and chromium VI or data reported as the measurement of all valence states of chromium combined exceed the water supply standards of 50 µg/L chromium in those waters classified for domestic water use.” The data available for chromium has been reported in all valence states and no waterbody characterization study has been completed to demonstrate that available chromium is not predominantly chromium VI; therefore, this data is listed as chromium VI in Table 10 and is the focus of the reasonable potential analysis for chromium analytes.

Available data for each parameter listed in Table 10 indicate that there is presently no reasonable potential for these metals. Table 10 also indicates that there is no data available from which a quantitative reasonable potential determination can be made for silver. The only silver data available in CDPHE records for the drinking water system at CMSFS was from a source water sampling event in 1992 and the results indicated “<.005” mg/L, or less than .005 mg/L. These

results do not give a good indication of the Facility's likelihood to meet or exceed the relatively low silver water quality standards for Fountain Creek Segment 4d. Therefore, silver monitoring will be included in this permit reissuance, with the caveat that after a minimum of 10 samples have been collected, the Facility may request that the frequency of monitoring for this effluent characteristic be reduced or eliminated based on a reasonable potential analysis of the data collected since the Permit was reissued. Based on the information submitted, the EPA may decide to not make any change in the monitoring frequency, reduce the frequency of monitoring via a modification of the Permit, or remove the monitoring requirement for that effluent characteristic via a modification of the Permit.

Table 10. Reasonable Potential Analysis Summary – Parameters Not Monitored in Effluent

Parameter	Segment 4d		Source Water Quality Reports	
	Acute (µg/L)	Chronic (µg/L)	Average	Max Reported
Arsenic a/	340	--	ND	ND
Arsenic, Total a/	--	100	ND	ND
Cadmium a/	2.87	0.74	ND	ND
Chromium +6 a/	16	11	ND	ND
Iron, Total b/	--	1000	1.00	44.00
Manganese b/	3,034.60	1,676.62	1.20	11.00
Mercury, Total a/	--	0.01	ND	ND
Molybdenum c/	--	150	0.42	1.40
Nickel a/	487.97	54.19	ND	ND

Selenium a/	18.40	4.60	--	1.00
Silver d/	2.21	0.35	NA	NA
Uranium b/	2,534.95	1,583.4	0.70	4.00
Zinc b/	167.26	126.69	0.9	3.10

a/ Data from 2007, 2008, and 2012 sampling.

b/ Data from 2022 Water Quality Report for Colorado Springs Utilities.

c/ Data from 2018 Water Quality Report for Colorado Springs Utilities.

d/ Data for this parameter not available.

Copper and lead are not listed in Table 10 because reasonable potential analysis for these parameters is based on effluent monitoring data collected by the Facility per the requirements of the 2017 permit issuance– see Table 11 below. The maximum reported values for copper and lead listed in Table 11 below are both results from monitoring performed at Internal Outfall 001A and were reported for the April 2018 monitoring period. The Facility reported NODI code "B" indicating "Below Detection Limit/No Detection" for copper until the January 2018 monitoring period, when the first result above the detection limit was identified. The Facility appears to have last performed sampling at Internal Outfall 001A in March 2019. Between April 2019 and February 2021, the Facility reported NODI code "C" indicating "No Discharge." Since the Facility began monitoring at Internal Outfall 001D in the February 2021 monitoring period, NODI code "B" indicating "Below Detection Limit/No Detection" has been reported exclusively for both copper and lead (nine and eight times each, respectively). This history gives a mixed impression of the loading of these analytes in the Facility's effluent. Monitoring requirements will be maintained in this issuance with the caveat that after a minimum of 10 samples have been collected, the Facility may request that the frequency of monitoring for this effluent characteristic be reduced or eliminated based on a reasonable potential analysis of the data collected since the permit was reissued. Based on the information submitted, the EPA may decide not to make any change in the monitoring frequency, reduce the frequency of monitoring via a modification of the Permit, or remove the monitoring requirement for these effluent characteristics via a modification of the Permit.

Table 11. Reasonable Potential Analysis Summary – Parameters Monitored in Effluent

Parameter	**Segment 4d**		**Monitoring Data Reported**	
	Acute (µg/L)	Chronic (µg/L)	Average	Max Reported
Copper	14.07	9.34	a/	11 b/

Lead	68.10	2.65	c/	13 d/

a/ Four results from Internal Outfall 001A, two of instances NODI code "B" reported at this monitoring point. No results above detection limit at Internal Outfall 001D. Nine instances of NODI code "B" reported at Internal Outfall 001D.

b/ Max copper result reported at Internal Outfall 001A for April 2018 monitoring period.

c/ Six results from Internal Outfall 001A, two of instances NODI code "E" reported at this monitoring point. No results above detection limit at Internal Outfall 001D. Eight instances of NODI code "B" reported at Internal Outfall 001D.

d/ Max lead result reported at Internal Outfall 001 for April 2018 monitoring period.

6.3 Final Effluent Limitations

6.3.1 Final Effluent Limitations – Internal Outfall 001D

Applicable TBELs and WQBELs were compared, and the most stringent of the two was selected for the following effluent limits (Table 12).

Table 12. Final Effluent Limitations for Internal Outfall 001D

Effluent Characteristic	**30-Day Average Effluent Limitations a/**	**7-Day Average Effluent Limitations a/**	**Daily Maximum Effluent Limitations a/**	**Limit Basis b/**
Flow, mgd	report only	N/A	report only	N/A
Dissolved Oxygen	report only	N/A	report only, Daily Minimum	N/A
Total Suspended Solids (TSS), mg/L	25	N/A	45	TBEL
Copper, Potentially Dissolved, ug/L	report only	N/A	report only	N/A
Lead, Potentially Dissolved, ug/L	report only	N/A	report only	N/A
Silver, Potentially Dissolved, ug/L	report only	N/A	report only	N/A
Temperature, °C (Mar.- Nov.)	N/A	report only c/	report only d/	N/A
Temperature, °C (Dec.- Feb)	N/A	13.8 c/	25.2 d/	WQBEL
pH	Must remain in the range of 6.5 to 9.0 *at all times*			WQBEL
Oil and Grease (O&G), mg/L	Where a visual sheen is detected, the discharger will be required to collect a grab sample and have it analyzed for oil and grease. The concentration of oil and grease in any single sample shall not exceed 10 mg/L.			TBEL WQBEL

Effluent Characteristic	**30-Day Average Effluent Limitations a/**	**7-Day Average Effluent Limitations a/**	**Daily Maximum Effluent Limitations a/**	**Limit Basis b/**
PFAS (ng/L)	N/A	N/A	report only	N/A

a/ See section 1 of the Permit for definition of terms, except for the definitions of maximum weekly average temperature and daily maximum for temperature. See Footnotes "b" and "c" below.

b/ WQBEL = Limitation based on water quality-based effluent limit; TBEL = Limitation based on technology based effluent limit

c/ Maximum Weekly Average Temperature (MWAT). The MWAT is calculated as the largest mathematical mean of multiple, equally spaced temperatures over a seven-day consecutive period, with a minimum of three data points spaced equally through the day.

d/ Daily Maximum Temperature (DM). The DM means the highest two-hour average temperature recorded during a given 24-hour period. The daily maximum should be calculated from a minimum of 12 measurements spaced equally through the day.

e/ Where a visual sheen is detected, the discharger will be required to collect a grab sample and have it analyzed for oil and grease. Monitoring for oil and grease may be required where there is a reasonable potential that oil and grease will be present in the effluent at concentrations at or above 10 mg/l."

6.3.2 Best Management Practice – Internal Outfall 001D

In keeping with the previous permit, this issuance will require that the valves in Internal Outfall 001D be arranged so that there is no discharge from the interior storm drainage system to Outfall 001 when any of the following conditions occur:

1. When there are "washing" operations (i.e., hosing down of the interior rock walls and ceilings of the tunnels and chambers or jet flushing the conveyance pipes of the ISDS) occurring within the underground portion of the complex;
2. When there are known operations within the underground portion of the complex that are known to have a reasonable likelihood of significant concentrations or quantities of pollutants to reach the interior storm drainage system;
3. A spill is known to have occurred within the underground portion of the complex and there is a reasonable potential for pollutants from that spill to reach the interior storm drainage system; and/or,
4. A sheen and/or floating oil is observed at Internal Outfall 001D. The valves shall be promptly arranged so that there is no discharge to Outfall 001 and remain in such a position until a sheen and/or floating oil is no longer observed at Internal Outfall 001D.

6.4 Antidegradation

Discharges from the Facility are existing, and no changes to effluent quality are proposed. The Permit prohibits exceedances of numeric or narrative standards. An antidegradation review is not

necessary per Colorado's Antidegradation Policy, because the receiving stream is a use-protected water, and use-protected waters are not subject to antidegradation review.

6.5 Anti-Backsliding

Federal regulations at 40 CFR § 122.44(l)(1) require that when a permit is renewed or reissued, interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit unless the circumstances on which the previous permit were based have materially and substantially changed since the time the Permit was issued and would constitute cause for permit modification or revocation and reissuance under 40 CFR § 122.62.

This permit renewal complies with anti-backsliding regulatory requirements. All effluent limitations, standards, and conditions in the Permit are either equal to or more stringent than those in the previous permit or have been modified in a manner compliant with CWA section 402(o)(2) (see Section 6.1).

7 MONITORING REQUIREMENTS

7.1 Self-Monitoring Requirements

Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, as required in 40 CFR § 122.41(j), unless another method is required under 40 CFR subchapters N or O.

7.1.1 Per- and Polyfluoroalkyl Substances (PFAS)

EPA's PFAS Strategic Roadmap directs the Office of Water to leverage NPDES permits to reduce PFAS discharges to waterways "at the source and obtain more comprehensive information through monitoring on the sources of PFAS and quantity of PFAS discharged by these sources."

PFAS monitoring is being required in the Permit based on the April 28, 2022 EPA memorandum, "Addressing PFAS Discharges in EPA-Issued NPDES Permits and Expectations Where EPA is the Pretreatment Control Authority." This is consistent with the agency's commitments in the October 2021 "PFAS Strategic Roadmap: EPA's Commitments to Action 2021-2024 (PFAS Strategic Roadmap)" to restrict PFAS discharges to water bodies. In addition to evaluating the potential for PFAS discharges to waterbodies, the monitoring will inform future permitting actions.

Military bases have been identified as associated with PFAS groundwater contamination, and it is possible PFAS could enter the spring water through infiltration. There is no data available regarding the presence/absence or quantification of PFAS parameters in the discharge. Since the potential exists for these parameters to be present in the CMSFS discharge, monitoring has been added to the permit for the 40 PFAS parameters in EPA method 1633. Based on recommendations in the April 28, 2022 EPA memorandum, "Addressing PFAS Discharges in EPA-Issued NPDES Permits and Expectations Where EPA is the Pretreatment Control

Authority," in the absence of a final 40 CFR Part136 method, the Permit requires that EPA Draft Method 1633 (in accordance with 40 CFR § 122.21(e)(3)(ii) and 40 CFR § 122.44(i)(1)(iv)(B)) shall be used. Monitoring will include each of the 40 PFAS parameters detectable by Method 1633 and the monitoring frequency will be quarterly to ensure that there are adequate data to assess the presence and concentration of PFAS in discharges. Method 1633 may become approved under 40 CFR Part 136 during the life of the Permit. All PFAS monitoring data, including individual PFAS pollutants, must be reported on DMRs, in accordance with section 122.41(l)(4)(i).

If the results of the initial eight (8) quarterly PFAS monitoring samples using method 1633 show there are non-detectable levels of PFAS, the Permittee may submit a request to EPA for a waiver from further testing.

Should PFAS positive results occur in effluent samples for any of the 40 PFAS parameters detectable by Method 1633, the Permittee must perform the steps indicated in Section 8.10 of the Permit, which include notification to EPA, additional monitoring, development and implementation of a PFAS source identification and reduction plan (PFAS Plan).

7.1.2 Self- monitoring Requirements – Internal Outfall 001D

Internal Outfall 001D effluent characteristics that are subject to self- monitoring requirements (see Section 4.1 of the Permit) are listed in Table 13 below. The Facility discharges from Outfall 001 intermittently. Therefore, to ensure that the effluent is properly characterized by monitoring and is representative of any variability, samples for the specified parameters shall be taken within an hour of the valves of Outfall 001D being arranged such that the flow of the interior storm drainage system is being routed to Outfall 001. Thereafter, sampling will be performed monthly – see footnote "d" under Table 13 below. Effluent monitoring data from the previous permitting cycle demonstrates a high level of variability in results obtained for TSS and the potentially dissolved metals listed in Table 13 below; therefore, composite samples will be required to monitor for these effluent characteristics. The other parameters, such as pH, temperature, oil & grease, and PFAS samples are not amenable to compositing and therefore grab samples will be required for those effluent characteristics.

Table 13. Monitoring requirements for Internal Outfall 001D

Effluent Characteristic	Monitoring Frequency	Sample Type a/	Data Value Reported on DMR b/
Flow, mgd	Continuous	Grab	Daily Max. 30-Day Avg.
Dissolved Oxygen	d/	Grab	Daily Min. 30-Day Avg. e/
Total Suspended Solids (TSS), mg/L	d/	Composite	Daily Max. 30-Day Avg..
Copper, Potentially Dissolved, ug/L	d/	Composite	Daily Max. 30-Day Avg.

Effluent Characteristic	Monitoring Frequency	Sample Type a/	Data Value Reported on DMR b/
Lead, Potentially Dissolved, ug/L	d/	Composite	Daily Max. 30-Day Avg.
Silver, Potentially Dissolved, ug/L	d/	Composite	Daily Max. 30-Day Avg.
Temperature, °C (Mar.- Nov.)	Continuous	Grab	DM, f/ MWAT, g/
Temperature, °C (Dec.- Feb)	Continuous	Grab	DM, f/ MWAT, g/
pH	d/	Grab	Instantaneous Min. Instantaneous Max.
Oil and Grease (O&G), mg/L h/	d/	Visual	Narrative
PFAS (ng/L)	Quarterly i/	Grab	Daily Max

a/ See section 1 of the Permit for definition of terms.

b/ Refer to the Permit for requirements regarding how to report date on the DMR.

c/ Flow measurements of effluent volume shall be made in such a manner that the Permittee can affirmatively demonstrate that representative values are being obtained. The average flow rate in million gallons per day (mgd) during the reporting period and the maximum flow rate observed, in mgd, shall be reported.

d/ A sample will be taken within an hour of the valves of Outfall 001D being arranged such that the flow of the interior storm drainage system is being routed to Outfall 001. Thereafter, sampling will be performed monthly.

e/ Standards for dissolved oxygen are minima, therefore, the Facility will report the daily and monthly average minimum value for dissolved oxygen.

f/ Daily Maximum Temperature (DM). The DM means the highest two-hour average temperature recorded during a given 24-hour period. The daily maximum should be calculated from a minimum of 12 measurements spaced equally through the day.

g/ Maximum Weekly Average Temperature (MWAT). The MWAT is calculated as the largest mathematical mean of multiple, equally spaced temperatures over a seven-day consecutive period, with a minimum of three data points spaced equally through the day.

h/ A daily visual observation is required. Because this is an interior compliance point, and daylight is unavailable to light the surface of waters observed therein, the Facility should shine a light on the surface of the water to discern the presence / absence of a visible sheen. If a visible sheen is detected, a grab sample shall be taken promptly and analyzed in accordance with the requirements of 40 CFR Part 136. The concentration of oil and grease shall not exceed 10 mg/L in any sample.

i/ Use EPA Draft Method 1633 until EPA approves a 40 CFR Part 136 method. Analysis shall be for the 40 PFAS parameters included in the method. If the results of the initial eight (8) quarterly PFAS monitoring samples using Method 1633 show non-detectable levels of PFAS, the Permittee

may submit a request for a waiver from further testing for approval of the appropriate EPA delegated representative.

Monitoring of Valves at Internal Outfall 001D

In keeping with the requirements of the previous permit, the Facility will be required to maintain a daily record indicating the arrangement of the valves at Internal Outfall 001D and whether discharge is being directed to the ISDS or the Fort Carson treatment plant. As mentioned previously, when arranged to do so, these valves direct the discharge to the ISDS and on to final discharge to Fountain Creek Segment 4d from Outfall 001. A daily record of monitoring the position of the valves is necessary to ensure compliance with the limitations for Internal Outfall 001D listed in Section 6.3.2.

8 SPECIAL CONDITIONS

8.1 Pollution Prevention Plan Requirements

This Permit will require the CMSFS to continue to implement the pollution prevention plan (PPP) for the ISDS that was developed and implemented as a requirement of the previous permit. The PPP must be amended whenever there is a change in design, construction, operation, or maintenance at the Facility which has a significant effect on the discharge, or potential for discharge, of pollutants from the interior storm drainage system. The PPP is also to be amended whenever during an inspection or investigation by the Facility or the EPA it is determined that the PPP is ineffective in eliminating or significantly minimizing the discharge of pollutants from the interior storm drainage system. The PPP must also be reviewed on an annual basis to determine if it needs to be amended to meet the objectives of the PPP. See Section 5.1 of the Permit for full PPP requirements.

9 REPORTING REQUIREMENTS

9.1 Compliance Responsibilities and General Requirements

Reporting requirements are based on requirements in 40 CFR §§ 122.44, 122.48, and Parts 3 and 127. A discharge monitoring report (DMR) frequency of monthly was chosen to capture better granularity of months with or without a discharge. Monthly reporting prevents a quarterly or semi-annual reporting scenario in which the Facility could initiate an intermittent discharge lasting more than a month but terminating the discharge with at least a month left, and then mistakenly reporting NODI Code “C” for “No Discharge” for the entire period.

9.2 Inspection Requirements

On a daily basis, unless otherwise modified in writing by EPA, the Permittee shall inspect its facility. The Permittee shall document the inspection, as required by the Permit. Inspections are required to ensure proper O&M in accordance with 40 CFR § 122.41(e), etc.

9.3 Operation and Maintenance

40 CFR § 122.41(e) requires permittees to properly operate and maintain at all times, all facilities and systems of treatment and control (and related appurtenances) which are installed or used by the permittee to achieve compliance with the conditions of this permit. In addition to an operation and maintenance plan, regular facility inspections, an asset management plan (AMP), and consideration of staff and funding resources are important aspects of proper operation and maintenance. Asset management planning provides a framework for setting and operating quality assurance procedures and helps to ensure the permittee has sufficient financial and technical resources to continually maintain a targeted level of service. Consideration of staff and funding provide the permittee with the necessary resources to operate and maintain a well-functioning facility.

Operation and maintenance requirements have been established in sections 6.3 of the Permit to help ensure compliance with the provisions of 40 CFR § 122.41(e).

9.4 Industrial Waste Management

N/A

9.5 Per- and Polyfluoroalkyl Substances (PFAS) Notification and Plan

As discussed in section 7.1.1 of the SoB, PFAS monitoring is included in the Permit based on the April 28, 2022, EPA memorandum, "Addressing PFAS Discharges in EPA-Issued NPDES Permits and Expectations Where EPA is the Pretreatment Control Authority." In accordance with 40 CFR § 122.44(k), the Permit includes best management practices (BMPs) to control or abate the discharge of PFAS when it is found to be present. The Permittee is required to provide notification the first time PFAS is detected in the effluent. Additionally, the Permittee is required to develop and implement a PFAS Plan, as described in section 8.10 of the Permit. PFAS is known to cause risks to human health. The purpose of these BMPs is to identify sources of PFAS and keep PFAS out of the environment.

10 ENDANGERED SPECIES CONSIDERATIONS

The Endangered Species Act of 1973 requires all Federal Agencies to ensure, in consultation with the U.S. Fish and Wildlife Service (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 (formal or informal) (50 CFR § 402.14(a)).

The U.S. Fish and Wildlife Information for Planning and Conservation (IPaC) website (https://ecos.fws.gov/ipac/) was accessed on May 17, 2023 to determine federally-listed Endangered, Threatened, Proposed and Candidate Species for the area near the Facility. The IPaC Trust Resource Report findings are provided below. The designated area utilized was

identified in the IPaC search and covers the entire footprint of the CMSFS site acreage of approximately 626 acres and the immediate outfall area of the receiving waters.

Table 14. IPaC Federally listed Threatened and Endangered Species

Species	Scientific Name	Species Status	Designated Critical Habitat
Gray Wolf	*Canis lupus*	Endangered	None a/
Preble's Meadow Jumping Mouse	*Zapus hudsonius preblei*	Threatened	None a/
Eastern Black Rail	*Laterallus jamaicensis ssp. jamaicensis*	Threatened	None b/
Mexican Spotted Owl	*Strix occidentalis lucida*	Threatened	Yes
Piping Plover	*Charadrius melodus*	Threatened	None a/
Greenback Cutthroat Trout	*Oncorhynchus clarkii stomias*	Threatened	None b/
Pallid Sturgeon	*Scaphirhynchus albus*	Endangered	None b/
Ute Ladies'- tresses	*Spiranthes diluvialis*	Threatened	None b/

a/ Final critical habitat exists for this species. However, per IPaC the project location "does not overlap the critical habitat."

b/ Per IPac – "No critical habitat has been designated for this species."

10.1 Biological Evaluation

The justification to support the determination for the species is as follows.

The Facility was previously covered under an EPA Region 8 NPDES individual permit. The Facility discharges intermittently via Outfall 001 to an unnamed tributary of Fountain Creek. The rates of discharge are expected to be similar to those during the previous permit and the Permit effluent limitations are at least as stringent as in the previous permit. The Facility location is outside of the critical habitat for all species of concern identified by IPaC, listed in Table 14 above, except for the Mexican spotted owl.

As indicated by the table above, there is final critical habitat for the grey wolf; however, it does not overlap with the project area relevant to this Permit although lone, dispersing gray wolves may be present throughout the state of Colorado. Furthermore, per IPaC, the grey wolf only needs to be considered in a biological evaluation if the proposed activity includes a predator management program. Currently, no predator management program is in place at the Facility. Therefore, EPA's determination for this species is "no effect."

Preble's meadow jumping mouse has final critical habitat as well; however, there is no critical habitat for this species within the project area. During summer months, the most important wetland types occupied by Preble's meadow jumping mice include riparian areas and adjacent wet meadows. During the summer, they prefer dense shrub, grass and forb ground cover along creeks, rivers, and associated waterbodies. From early fall through the spring, they hibernate

underground in burrows that are typically at the base of vegetation. As mentioned above, the Facility discharges intermittently to unnamed tributaries of Fountain Creek. The areas of discharge are not wetted consistently enough to foster the types of vegetation and habitat conditions preferred by the Preble's meadow jumping mouse. Furthermore, the distance from the Facility's discharge points to the receiving waters indicates that exposure to unmixed effluent would only occur in the event of an uncontrolled release from the Facility or if severe flooding were to occur in the immediate vicinity of Outfall 001, which has never occurred in the Facility's history nor is it likely to occur given the underground nature of the Facility. Due to the unlikelihood of this species' exposure to the Facility's effluent, EPA's determination for this species is "no effect."

Three bird species were identified by IPaC, the eastern black rail, the Mexican spotted owl, and the piping plover. No final critical habitat has been designated for the eastern black rail. The eastern black rail relies most frequently on dense emergent marshes, including beaver ponds as habitat. This type of habitat is not available in the vicinity of Outfall 001. Therefore, EPA's determination for this species is "no effect. Final critical habitat has been determined for the Mexican spotted owl and IPaC indicates that critical habitat exists for this species within the bounds of the project area. The Mexican spotted owl is found in mixed-conifer forests, Madrean pine-oak forests, and rocky canyons. Nesting habitat is typically in areas with complex forest structure or rocky canyons and contains mature or old growth stands which are uneven-aged, multistoried, and have high canopy closure. In the northern portion of the range (southern Utah and Colorado), most nests are in caves or on cliff ledges in steep-walled canyons. Elsewhere, the majority of nests are in Douglas-fir trees. This type of habitat is not available in the immediate vicinity of Outfall 001. The vegetation in the immediate vicinity of the authorized discharge points tends to be low lying shrubbery, grass, exposed rock and dispersed trees. Where this habitat appears to be available around the CMSFS, it is a significant distance from the Facility's authorized points of discharge. Therefore, EPA's determination for the Mexican spotted owl is "no effect." The piping plover only needs to be considered if the proposed activity occurs in the North Platte, South Platte or Laramie River Basins. This does not apply to discharges authorized by this permit and therefore the EPA's determination for the piping plover is "no effect."

Two species of fish were identified in the IPaC search: the greenback cutthroat trout (GBCT) and the pallid sturgeon. Final critical habitat has not been determined for either species. A 2019 Recovery Outline for the GBCT co-authored by the Colorado Parks and Wildlife, U.S. Forest Service, National Park Service, U.S. Bureau of Land Management, and the U.S. Fish and Wildlife Service indicates that "pure GBCT populations are present in only three streams (Bear Creek, Herman Gulch, and Dry Gulch) and one lake (Zimmerman Lake)." These waterbodies are outside the project area, and therefore the EPA's determination for the GBCT is "no effect." The pallid sturgeon only needs to be considered if the proposed activity occurs in the North Platte, South Platte or Laramie River Basins. This does not apply to discharges authorized by this permit and therefore the EPA's determination for the Pallid Sturgeon is "no effect."

The only plant species identified by the IPaC search was the Ute ladies'-tresses. Final critical habitat has not been determined for this species. Ute ladies'-tresses are found in moist meadows associated with perennial stream terraces, floodplains, and oxbows at elevations between 4300-6850 feet (1310-2090 meters) as well as seasonally flooded river terraces, sub-irrigated or spring-fed abandoned stream channels and valleys, and lakeshores. This type of habitat is not

available in the vicinity of Outfall 001. Therefore, EPA's determination for the Ute ladies'-tresses is "no effect."

Based on the IPaC information and the consultation determination with the Colorado FWS field office representative on September 15, 2023, EPA determined the permitting action will have "no effect" on the species listed above.

Before going to public notice, a copy of the draft Permit and this Statement of Basis was sent to the FWS requesting concurrence with EPA's finding that reissuance of this NPDES Permit will have "no effect" on the species listed as threatened or endangered in the action area by the FWS under the Endangered Species Act nor their critical habitat.

11 NATIONAL HISTORIC PRESERVATION ACT REQUIREMENTS

Section 106 of the National Historic Preservation Act (NHPA), 16 U.S.C. § 470(f) requires that federal agencies consider the effects of federal undertakings on historic properties. The first step in this analysis is to consider whether the undertaking has the potential to affect historic properties, if any are present. See 36 CFR § 800.3(a)(1). Permit renewals where there is no new construction are generally not the type of action with the potential to cause effects on historic properties.

12 401 CERTIFICATION CONDITIONS

Colorado is the Clean Water Act (CWA) Section 401 certifying authority for the Permit, and a CWA Section 401 certification was requested prior to Permit finalization.

13 MISCELLANEOUS

The effective date of the Permit and the Permit expiration date will be determined upon issuance of the Permit. The intention is to issue the Permit for a period not to exceed 5 years.

Permit drafted by Margaret Kennedy U.S. EPA, (303) 312-6644 [April 2023]

ADDENDUM

AGENCY CONSULTATIONS

The EPA made a "no effect" determination in its biological evaluation and therefore no formal consultation with the Fish and Wildlife Service was required.

On September 15, 2023, Colorado's State Historic Preservation Office (SHPO) was notified as an interested party during the Public Notice process. Colorado's State Historic Preservation Office did not comment on EPA's preliminary determination that the Permit reissuance will not impact any historic properties.

On September 19, 2023, EPA sent a CWA Section 401 certification request to Colorado Department of Public Health & Environment (CDPHE). CDPHE certified on January 12, 2024, without Section 401 requirements.

PUBLIC NOTICE AND RESPONSE TO COMMENTS

The Permit and statement of basis, including the CWA Section 401 certification, were public noticed on EPA's website on September 15, 2023. The Permittee provided comments. The comment(s) received and the response(s) are provided below.

Comment #1:

Overall: The permit includes many provisions that are applicable to wastewater treatment facilities, although Cheyenne Mountain Space Force Station (CMSFS) does not have a wastewater treatment facility and that is not the permitted discharge. The lack of treatment is noted in Statement of Basis Section 3.2. We understand these requirements are rooted in pre-existing provisions, but the origins are now unclear. Because CMSFS does not have a wastewater treatment facility these provisions create confusion for compliance staff that we would like to avoid in the future. We are requesting removal of all such provisions and have tried to identify most of them in the more detailed comments below for your consideration.

Response #1:

The EPA acknowledges that this permitted discharge is not wastewater treatment effluent, but many of the Permit's provisions apply generally to systems with internal infrastructure preceding an outfall, which is important for maintaining compliance with the Permit, as is the case with CMSFS. While it is not standard practice to modify boilerplate language, including definitions, the EPA replaced references to publicly owned treatment works (POTWs) with "permitted facility" or similar verbiage in both the Permit and the Statement of Basis where appropriate.

Comment #2:

Overall: Upon installation Outfall 001D became the compliance sampling point as reflected in the permit, but the permit does not reflect that Outfall 001D also replaced Outfall 001B as the

primary valve control point. We ask that these valve-related references to Outfall 001B be updated to name Outfall 001D instead, consistent with current facility operations. These references occur in Sections 3.3, 4.1 (footnote d), 4.2, 5.1.1.6.1, and 6.2.1.2.

Response #2:

The Permit has been corrected to reflect that control valves are now located at Outfall 001D, not 001B.

Comment #3:

Overall: We request removal of the air exhaust stacks, referred to as outfalls 002 and 003, from the proposed permit on two grounds: (1) there is no discharge into a Water of the United States (WOTUS), as defined post-*Sackett* and (2) there are significant safety concerns with carrying out these inspections and these concerns outweigh any commensurate environmental benefit.

Any discharge from the exhaust stacks likely does not reach a WOTUS. The 2016 Statement of Basis (SoB) highlights the ephemeral nature of the receiving waters, which do not constitute a WOTUS in the post-*Sackett* landscape.

First, there is no evidence of an actual "discharge" from the exhaust stacks. The 2016 SoB recognizes that "[a]ctual discharges from the two drain lines have not been observed." Background Information, pg. 7. The permit writer for the 2016 SoB also noted that, due to the lack of actual discharge, they relied on NOAA precipitation frequency maps and determined that "[i]t is not known if this water would reach waters of the U.S. as surface flows." *Id.* This language is mirrored in the proposed 2023 SoB: "Discharges from the two outfalls associated with the exhaust stacks (Outfalls 002 and 003) have never been observed; however, a heavy precipitation event could trigger a discharge." 2023 SoB, Sec. 3.2.

Second, the description of the receiving waters contained in the 2016 SoB indicate that the receiving waters for both the air exhaust stacks and outfall 001 would not meet the current definition of a WOTUS post-*Sackett*. For example, the 2016 SoB stated, "The discharge from Outfall 001 and the potential discharges from Outfalls 002 and 003 *could* go to the unnamed *ephemeral* tributaries of Fountain Creek . . ." 2016 SoB, Receiving Waters, pg. 9 (emphasis added). The 2016 SoB further noted, "the discharge from Outfall 001 and the potential discharge from Outfall 002 go to an unnamed *ephemeral* tributary that flows to the east for approximately two miles . . . and onto the Fort Carson Military Reservation (FCMR). On the FCMR, the unnamed tributary combines with other unnamed streams and drainage ways to form one stream that flows to the southeast into Fountain Creek " *Id.* (emphasis added). The 2016 SoB then stated, "[b]ased on a map, this author estimates it is *at least 10 stream miles* from the point of discharge from Outfall 001 to the confluence of the unnamed tributary with Fountain Creek." *Id.* (emphasis added).

The permit writer for the 2016 SoB repeatedly referred to the receiving waters as ephemeral. For example in the section titled "Permit Limitation in Renewal Permit," the permit writer noted that there are no effluent limitations on temperature "because the discharge from Outfall 001 goes to an ephemeral stream . . ." 2016 SoB, pg. 12. In the section titled "Biological

Evaluation for the Endangered Species Act (ESA) Requirements," the permit writer again found that "[t]he facility discharges into unnamed ephemeral tributaries of Fountain Creek . . . . Because it is an estimated 10 stream miles to the confluence with Fountain Creek, it is unlikely that discharges will reach Fountain Creek except during periods of wet weather runoff conditions or frozen ground." 2016 SoB, pg 16, para. 1. The same applies for the air exhaust stacks: "For outfalls 002 and 003 . . . the discharges are infrequent and would be of very small volume . . . and would be extensively diluted by the precipitation that caused the discharges to occur. It is possible that the discharge would soak into the ground before leaving the facility property." *Id.*

The 2023 proposed SoB removes all references to the receiving water's ephemeral nature and removed any reference to the fact that the point of discharge from outfall 001 is *"at least 10 stream miles*" from the unnamed tributary. The description of the receiving waters otherwise remains analogous.[1] Despite the omission of these descriptors, there is no indication that the physical characteristics of these unnamed tributaries have otherwise changed. Thus, based on the EPA's description in the 2016 SoB, the waters are neither permanent, standing, nor continuously flowing and do not constitute a WOTUS under *Sackett*. 143 S. Ct 1322, 1331 (2023).

Assuming *arguendo* that the ephemeral waters constituting the unnamed tributaries constitute a WOTUS, accessing the exhaust stacks for inspection is far more hazardous than is merited given the highly unlikely occurrence of a discharge. The drain lines described in the permit are no longer visible for the north stack, as noted in the current proposed SoB (sec. 3.1.2), or south stack. Due to the lack of visible drain lines, our inspectors have felt obligated to physically climb up the stack themselves to conduct the inspection, which is very dangerous and has resulted in some near misses in which personnel could easily have been injured. Thus, we request elimination of this permit condition since there are significant safety concerns in carrying out inspections without commensurate environmental benefit.

[1] For example, the 2016 SoB states, "[t]he discharge from Outfall 001 and the potential discharge from outfall 002 go to an unnamed ***ephemeral*** tributary " The 2023 SoB removes this descriptor, noting "[t]he discharge from Outfall 001 and the potential discharge from Outfall 002 go to an unnamed tributary…" 2023 SoB, sec 5.

Response #3:

Comment No. 3 requests the removal of Outfalls 002 and 003. As described in the statement of basis, Outfalls 002 and 003 are drain lines located, respectively, at the base of the north and south exhaust stacks. Permit provisions requiring regular inspections have been imposed on these discharge points since the 2005 iteration of the Facility's NPDES permit. The permit record indicates that no discharges have occurred at these locations over the eighteen-year period that they have been included in the Facility's permit. For this reason, EPA intends to remove Outfalls 002 and 003 from the final permit, per the request of the Permittee. Once removed from the Permit reissuance, and the Permit becomes effective, no further permit requirements will be imposed on these locations and no future discharges from these points shall be authorized unless NPDES Permit coverage is obtained at a later date.

Comment No. 3 includes commentary on the draft statement of basis's description of the distance between the point of discharge from Outfall 001 and the confluence of the unnamed receiving tributary with Fountain Creek. While this part of Comment No. 3 does not include a permitting request, the EPA will respond to provide clarity. The comment repeatedly references the assertion in the 2016 Statement of Basis that the immediate area of discharge is, "at least ten stream miles" from the receiving water's (the unnamed tributary) confluence with Fountain Creek. However, the State of Colorado's 2024 Stream Segmentation Tool shows that Outfall 001 is located about 0.3 miles from a section of the unnamed tributary for which the State has established water quality standards and designated uses as defined in regulation per Colorado Regulation No. 32 "Classifications and Numeric Standards for Arkansas River Basin." Furthermore, historic flow data reported by the Facility shows an average flow over the last reporting period, 2017 to 2023, of 106,324 gallons per day, with the largest reported flow being 763,147 gallons per day. As such, there appears to be ample evidence to support that discharges from this facility have the potential to reach waters for which the State has established water quality standards with protected uses.

Comment #4:

Section 1: The permit definitions include certain terms specific to wastewater treatment facilities, such as sewer sludge, and not applicable to the unique discharge at Cheyenne Mountain Space Force Station (CMSFS). There are more detailed comments on this matter below, and we suggest updating the definitions in alignment with your response to those comments.

Response #4:

The EPA acknowledges that this permitted discharge is not a wastewater treatment facility. However, the definitions in the Permit are taken from Region 8's boilerplate permit definitions for all industrial and municipal wastewater dischargers. The Region's standard practice is to maintain the full set of boilerplate permit definitions in each permit it issues to ensure that no definitions are inadvertently omitted. Because there is no legal effect when a definition is provided but not used in the Permit, this does not create any compliance obligations for the Permittee. The Region is making no changes in response to this comment.

Comment #5:

Section 4.1: The draft permit now requires continuous flow and temperature monitoring effective immediately, even though continuous monitoring is a new requirement which will require the installation of additional equipment. The existing permit has no continuous monitoring requirements and the equipment installed for grab samples cannot adequately accommodate continuous monitoring. We respectfully request the permit allow for monitoring for these parameters to continue as required under the current permit for the first two years of the permit term to allow time for the CMSFS to go through the Air Force acquisition process required for funding equipment acquisition and installation. Funding requirements are managed by Fiscal Year (FY) and funding requirements have already been established through FY25. The earliest funds could be programmed for the installation of new monitoring

equipment is FY26 (October 2025 – September 2026). There is a process by which CMSFS may be able to obtain earlier funding for this new requirement, but funding generally cannot be legally obtained until the permit is final and there is a legal driver for the funding consistent with the Antideficiency Act. Accordingly, immediate compliance with continuous monitoring is extremely challenging. However, achieving compliance within two years of the permit's effective date is more feasible.

Response #5:

The EPA will grant this request for a two-year compliance schedule to allow Cheyenne Mountain Space Force to obtain the equipment necessary to perform continuous monitoring. Table 4 was modified to reflect this change in the final Permit.

Comment #6:

Section 4.1: The permit adds new monitoring requirements for dissolved oxygen, silver, and PFAS. Request the addition of a footnote to these three items allowing one year from the permit effective date before sampling must commence, in order to accommodate the Space Force funding process and allow time for contract modifications to be funded and executed which will otherwise not be feasible to accomplish immediately. As noted above, to avoid violating the Antideficiency Act compliance funding generally cannot be legally obtained until the permit is final and there is a legal driver for the funding, so immediate compliance is impossible.

Response #6:

The EPA will grant this request for a one-year offset for monitoring to begin for dissolved oxygen, silver, and PFAS, to accommodate contract modifications. A footnote has been added to Table 4 of the final Permit to reflect this request.

Comment #7:

Section 5.1.1.3.2.3: There may be security concerns associated with providing this level of detail on a map viewable by EPA staff. We believe meeting the other site map requirements will be sufficient information to serve the purposes of any EPA inspectors, and request removal of this section.

Response #7:

The language in section 5.1.1.3.2.3 of the Permit has been deleted and new language has been added in a new section 5.1.1.3.2, outside of the site map requirements, to characterize this more generally.

Comment #8:

Section 6.2: Requiring weekly facility inspections and corresponding recordkeeping is a new requirement and a significant increase in compliance burden in comparison with the existing permit. CMSFS currently includes suggested quarterly inspections in their Pollution Prevention Plan, although they are not required by the current permit. This is a more

reasonable frequency for staff, particularly considering the relatively low risks associated with the CMSFS permitted discharge and the other permit requirements in place, including those related to valve control to prevent discharge in certain conditions. The potential environmental benefits of weekly inspections and recordkeeping are not commensurate with the significantly increased personnel time and administrative burden required for compliance. Accordingly, we request these requirements be changed from weekly to quarterly.

Response #8:

The EPA will change the requirement from weekly to monthly inspections, as quarterly inspections would be too infrequent to identify changing conditions relevant to compliance with the Permit.

Comment #9:

Section 6.2.1.6: This section references operation and maintenance procedures for Outfalls 002 and 003. There are no O&M procedures associated with these outfalls, so request removal of the reference to these outfalls.

Response #9:

As the EPA intends to remove Outfalls 002 and 003 from the final permit, references to operation and maintenance procedures will be removed in Section 6.2.1.6.

Comment #10:

Section 6.3.1: Section 6.3.1 sets requirements for an operation and maintenance (O&M) program for a wastewater treatment facility. Because CMSFS does not have a wastewater treatment facility, request removal of this section.

Response #10:

Operation and maintenance requirements are standard regardless of whether the facility treats domestic or industrial wastewater, and they will remain in the final Permit; however, references to “wastewater treatment” have been removed from Section 6.3.1 of the final Permit.

Comment #11:

Section 6.3.2: This section sets requirements for a log of all operation and maintenance activities at a wastewater treatment facility. Because CMSFS does not have a wastewater treatment facility, request removal of this section.

Response #11:

Operation and maintenance requirements are standard regardless of whether the facility treats domestic or industrial wastewater, and they will remain in the final permit; however, references to “wastewater treatment” have been removed from Section 6.3.2 of the final Permit.

Comments #12-15:

Sections 7.1, 7.2, 7.7, 7.9: Comments #12-15 request the removal of references to sludge in Section 7 of the Permit. As sludge is produced from the wastewater treatment process, and CMSFS does not have a wastewater treatment facility, they are requesting to remove these references to sludge.

Response #12-15:

References to sludge have been removed from sections 7.1, 7.2, 7.7, and 7.9 of the Permit.

Comment #16:

Section 7.10.2.1: This section pertains to wastewater treatment bypasses. Because CMSFS does not have a wastewater treatment facility, request removal of this section.

Response #16:

Section 7.10.2.1 reads as follows: "Any unanticipated bypass which exceeds any effluent limitation in the Permit (see section 8.6, Bypass of Treatment Facilities.)"

This is a standard permit provision and will remain in the final Permit. While the EPA understands the comment and that, in general, bypass commonly refers to the bypass of treatment works, this language also encompasses the bypass of controls mandated in the Permit.

Comment #17:

Section 8.4: Request removal of the term "sludge use." As described in the permit definition of sewer sludge, it is produced from the wastewater treatment process. Because CMSFS does not have a wastewater treatment facility, request removal of this reference to sludge.

Response #17:

Section 8.4 "Duty to Mitigate" is a standard permit provision required by 40 CFR § 122.41(d), and it will remain in the final Permit. The reference to sludge has been removed from the final permit.

Comment #18:

Section 8.5: This section pertains to pollutants removed during the treatment process. Because CMSFS does not have a wastewater treatment facility, request removal of this section.

Response #18:

Section 8.5 "Removed Substances" is a standard permit provision, and it will remain in the final Permit. References to sludge have been removed from the final Permit.

Comment #19:

Section 8.6: This section pertains to wastewater treatment bypasses. Because CMSFS does not have a wastewater treatment facility, request removal of this section.

Response #19:

Requirements for bypasses are derived from the permit conditions applicable to all permits at 40 CFR § 122.41. While the operations at CMSFS differ from those at a municipal wastewater treatment facility, CMSFS does in fact rely on a system of controls, including valves, for proper operation and maintenance. Section 8.6.1 of the Permit, aligned with 40 CFR § 122.41(m)(3), describes an allowable bypass if it is necessary for essential maintenance and does not cause exceedance of an effluent limitation. All other types of bypass are prohibited and have associated reporting requirements. This distinction and the bypass requirements in section 8.6 are necessary to retain in the Permit.

Comment #20:

Sections 8.9.3 & 8.9.4: As indicated throughout these sections, categorical pretreatment standards are related to wastewater treatment facilities receiving wastewater from Users. Because CMSFS does not have a wastewater treatment facility, request removal of these sections.

Response #20:

The EPA acknowledges that CMSFS does not receive waste from any industrial users. As such, sections 8.9.3 and 8.9.4 have been removed from the Permit, as has section 8.9.5, which pertains to the Permittee's liability for sources of indirect discharge.

Comment #21:

Section 8.10: Section 8.10 of the permit requires a PFAS source identification and reduction plan "If PFAS is detected in any effluent samples for any of the 40 PFAS parameters in Method 1633." As noted in Comment 3, the receiving waters likely do not constitute a WOTUS post-*Sackett*. However, even if the receiving waters meet the current, narrower definition, the Department of the Air Force requests removal of Section 8.10 since (1) the EPA relies on unenforceable guidance documents to promulgate cleanup actions for PFAS and (2) any cleanup without a discernable limit is impracticable.

The proposed permit requires the implementation of a "PFAS source identification and reduction plan" if PFAS is detected in any effluent samples. Any permit condition requiring clean-up of PFAS (i.e., a PFAS source identification and reduction plan) must comply with 40 CFR §§ 131.4 and 131.5, which requires EPA to review and approve state-adopted water quality standards that are more stringent than federal standards. Currently, there are no such standards for PFAS in Colorado.

Practically, instituting an identification and reduction plan without a properly promulgated standard to support those values leaves the permittee subject to open- ended requirements and subjective goals for PFAS reduction. And given the prevalence of PFAS in the environment, low levels of detection for one of the 40 PFAS is feasible for any NPDES permit sampling

regardless of the permittee's industry. The current NPDES permit for the U.S. Air Force Academy (USAFA) wastewater treatment plant in Colorado Springs, for example, highlights these concerns.[2] Sampling at USAFA detected very low levels of PFAS (single digit ppt), which triggered the permit condition requiring a PFAS plan. The USAFA source study, however, failed to reveal specific sources of PFAS for reduction that correlated to meeting a specific discharge limit or objective. Addressing PFAS identified at such low levels with source identification and reduction is not practicable under the current environment, particularly with PFAS still broadly present in commercial products and PFAS data for those products still generally unavailable.

Furthermore, given the EPA PFAS Roadmap, it appears this open-ended permit requirement may be premature in light of planned, forthcoming rulemaking. It is the Air Force's position that any permit conditions should reflect the final, promulgated EPA regulation, as will be reflected in 40 CFR Part 136 – rather than unenforceable EPA guidance documents. Accordingly, we request removal of these provisions from the permit.

Response #21:

With respect to water quality standards for the Permittee's receiving water body, the State of Colorado promulgated Section 31.11(1)(a)(iv) of the Water Quality Control Commission's regulations, which state that "state surface waters shall be free from substances attributable to human-caused point source or nonpoint source discharge in amounts, concentrations or combinations which are harmful to the beneficial uses or toxic to humans, animals, plants, or aquatic life." These narrative water quality standards are broadly applicable to PFAS. The State of Colorado adopted Policy 20-1 as its interpretation of this narrative standard for PFAS, and the policy articulates a numeric value of 70 ng/L for three of the most common PFAS species.

As stated in the Statement of Basis for the Permit, a requirement for monitoring at the type of industry present at CMSFS (e.g. military installation) is appropriate, and characterization of the presence or absence of PFAS in CMSFS' discharge is consistent with the EPA's strategic roadmap. The EPA also notes that Method 1633 has been multi-lab validated and published on EPA's Clean Water Act Laboratory Methods website, giving confidence to laboratories and regulated entities to use this method for aqueous samples. The requirement for CMSFS to respond to any detections of PFAS with a source identification and reduction plan, including best management practices (BMPs) to keep PFAS out of effluent, is consistent with the EPA's authority at 122.44(k), which states that best management practices may be used in NPDES permits to **"**control or abate the discharge of pollutants when: …(4) The practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA." For these reasons, the PFAS requirements, including those at Section 8.10, will be retained in the Permit.

Comment #22:

Section 8.10.2: If a PFAS Plan requirement remains in the permit, request the allowance of more time to perform and implement a PFAS Plan. As proposed, the permit requires the permittee to perform, submit, and begin implementing a PFAS Plan within 180 days of PFAS

detection in PFAS testing results. The time it takes for the Space Force to get additional funds for PFAS sampling/investigation, to modify contracts, accomplish various reviews, and get senior leader approval for submittal along with a 15-business day turnaround time for the analytical results makes the 180 days extremely challenging. As noted above, to avoid violating the Antideficiency Act funding cannot be legally obtained until there is a legal driver for the funding, so compliance with the internal funding process for this requirement in a short timeframe is extremely challenging. We request that the two 180-day references in this section be modified to 365 days if the section is not removed entirely as requested in the comment above.

Response #22:

Section 8.10.2 of the Permit has been revised to allow one year for CMSFS to develop, submit and begin implementing a PFAS source identification and reduction plan if positive analytical results are obtained.

Comment #23:

Section 9.1.2: This section addresses changes in the Permittee's sludge use or disposal practice. As described in the permit definition of sewer sludge, it is produced from the wastewater treatment process. Because CMSFS does not have a wastewater treatment facility, request removal of this section.

Response #23:

Section 9.1.2 of the Permit has been deleted.