Statement of Basis

FACILITY:	Fort Carson Municipal Separate Storm Sewer System (MS4)
PERMIT NO.:	CO-R042001
RESPONSIBLE OFFICIAL:	Colonel Eugene B. Smith Garrison Commander Fort Carson
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CONTACT PERSON:	Stephanie Carter Stormwater Program Manager Fort Carson

Facility Background Information:

Fort Carson military reservation (Fort Carson) is located in central Colorado. The northern edge is located approximately 8 miles south of Colorado Springs in El Paso County. The northern portion of the west boundary is adjacent to Colorado State Highway 115. The southern boundary is approximately 10 miles north of and parallel to U.S. Highway 50 in Pueblo County. A small area in the southwestern portion of the post is located in Fremont County. Fort Carson as a whole is divided into three areas. The contonement area is approximately 220 square miles and includes the majority of the developed area. The downrange portion of Fort Carson is utilized primarily for maneuvers and is immediately adjacent to the contonement area. A third area, the Pinon Canyon maneuver site, is not contiguous with the contonement and downrange areas, and is located in Las Animas County approximately 100 miles southeast of Fort Carson. The Pinon Canyon site is utilized primarily for large scale military maneuvers. This permit authorizes stormwater discharges from the contiguous area of Fort Carson which includes both the contonement area and the downrange portions of the facility. The Pinon Canyon site is not included in this permit as it does not contain a significant developed footprint and is not contiguous with the other areas operated by Fort Carson.

Prior to the issuance of this permit, stormwater discharges from the Fort Carson MS4 were regulated under EPA's General Permit for Storm Water Discharges from Federal Facility Small Municipal Separate Storm Sewer Systems in Colorado (COR42000F). This permit was issued on June 23, 2003 and expired on June 22, 2008. This general permit was not reissued. The eight facilities covered under the general permit have been or will be issued individual permits for discharges from their MS4s. This approach is being taken so that terms specific to the operations, industrial activities, and receiving water conditions of each facility can be included in each individual permit. It is believed that this approach will result in a permit with more streamlined conditions specifically tailored to the goal of reducing pollutant loading in stormwater runoff.

As part of the process of issuing an individual permit for stormwater discharges from the Fort Carson MS4, representatives from EPA Region 8 conducted a facility audit of the MS4 program at Fort Carson. The audit team reviewed contracts, regulations, annual reports from the previous permit, and facility operating procedures. Oversight inspections of industrial activities and interviews of program staff were also performed. A summary of the significant findings from this audit are as follows:

- Fort Carson has the foundation for a strong municipal stormwater program. Staff is motivated and organized, and there is an effective Stormwater Management Plan (SWMP);

- Staff is aware of the policies and procedures related to effective management of the municipal stormwater conveyance system;

- Management of stormwater at municipal maintenance sites is exemplary;

- Fort Carson is growing rapidly. Contracting procedures with the Army Corps of Engineers (COE) have caused recent projects to be designed and built in a manner which is not consistent with Low Impact Development (LID) procedures or the goals of the facility's MS4 permit; and

- Degradation of receiving waters is evident and is partially related to management of stormwater runoff from impervious surfaces.

Recommendations from the facility audit include were used to develop specific permit conditions for Fort Carson. This audit is available as part of the administrative record for this permit and is available on the EPA Region 8 stormwater web site. A summary of the recommendations from the Fort Carson MS4 audit is as follows:

- Fort Carson should continue to effectively communicate the terms of the facility SWMP with municipal support staff, construction site operators, and contracting officials.

- Regulations (e.g., Fort Carson Regulation #200-1) need to ensure compliance with the terms of the facility SWMP and all contracts (e.g., Department of Defense Form 1391) have to include a budget and specifications for management of post-construction stormwater runoff consistent with the SWMP.

- A monitoring program should be initiated to ascertain receiving water quality and to evaluate the effectiveness of the MS4 program.

Each of these recommendations, as well as more specific findings from the facility MS4 audit are included as permit conditions in this permit. These supplement the previous conditions laid out

in EPA's General Permit for Storm Water Discharges from Federal Facility Small Municipal Separate Storm Sewer Systems in Colorado (COR42000F).

Receiving Waters:

Fort Carson is located in the Fountain Creek drainage basin, within the Arkansas River drainage basin. Stormwater runoff in the northern portion of the installation flows into one of four main drainages: B-Ditch, Clover Ditch, Unnamed Ditch, and Rock Creek, which are all tributaries to Fountain Creek. The southern and western portions of the installation drain to the Arkansas River to the south via miscellaneous tributary drainages. Maps of hydrology and the developed footprint of Fort Carson, as well as a detailed description of the geology of the area, are available in the facility's Stormwater Management Plan (SWMP). Also included in the SWMP is a description of existing downstream waterbody impairments and any efforts to develop TMDLs (Total Maximum Daily Loads) to address these impairments to waterbody uses.

Natural factors affecting surface water quality at Fort Carson include: the reaction of the water with minerals and organic materials in the stream bed and in suspension; the concentration of solutes in the water due to evaporation; the inflow of groundwater; and the modification of water chemistry by biota (e.g., plants). Anthropogenic factors impacting water quality include waste disposal, irrigation return flow, and increased flows from rain events from newly developed impervious surfaces. Further analysis required through this permit will help ascertain the relative natural and anthropogenic impacts to water quality within Fort Carson and how future activities can be tailored to minimize downstream impacts and pollutant loading to impaired waters within the Fountain Creek and Arkansas River watersheds.

Water Quality Standards

There are two segments in the Fountain Creek basin that receive Fort Carson stormwater discharges: Fountain Creek Segment 2a (COARFO2A) and Fountain Creek Segment 4 (COARFO04). Two segments in the Arkansas River Basin, Middle Arkansas River Segment 4a (COARMA4A) and Upper Arkansas River Segment 14b (COARUA14B), receive runoff from Fort Carson stormwater discharges. Fountain Creek Segment 2a is the mainstem of Fountain Creek from a point immediately above the confluence with Monument Creek to a point immediately above the State Highway 47 Bridge (i.e., the north edge of Pueblo) and Fountain Creek Segment 4 is described as all tributaries to Fountain Creek which are not within the boundaries of National Forest or Air Force Academy lands, including all wetlands, lakes and reservoirs, from a point immediately above the confluence with Monument Creek to the confluence with the Arkansas River, except for the specific listings in segments 5, 6 and 7a and 7b. Arkansas River Segment 4a is described as the mainstem of Wildhorse Creek from the source to the confluence with the Arkansas River. Arkansas River Segment 14b is described as all tributaries to the Arkansas River, including wetlands, lakes and reservoirs, which are not on National Forest lands, from the confluence with Brown's Creek to the inlet to Pueblo Reservoir, except for specific listings in segments 12a, 12b, 14a, and 15-27.

Stream Classification and Water Quality Standards

Stream Segment	Classifications	Physical and Biological	Inorganic (mg/L)	Metals (ug/L)	Temporary Modifications and Qualifiers
Fountain Creek Segment 2a	Aq Life Warm 2 Recreation E Water Supply Agriculture	D.O. = 5.0 mg/l pH = 6.5-9.0 E.Coli=126/100ml	NH3(ac/ch)=TVS CL2(ac)=0.019 CL2(ch)=0.011 CN=0.005 S=0.002 B=0.75 NO2=1.0 NO3=10 Cl=250 SO4=330	As(ac)=340 As(ch)=0.02-10(Trec) Cd(ac/ch)=TVS CrIII(ac)=50(Trec) CrVI(ac/ch)=TVS Cu(ac/ch)=TVS Fe(ch)=WS(dis) Fe(ch)= 1000(Trec) Pb(ac/ch)=TVS Mn(ac/ch)=TVS Mn(ch)=WS(dis)** Hg(ch)=0.01(tot) Ni(ac/ch)=TVS Se(ac)=TVS Se(ch)=8 Ag(ac/ch)=TVS Zn(ac/ch)=TVS	Temporary modifications: NH3(ac/ch)=TVS (old). Expiration date of 12/31/2012. Type (iii): Cu(ac/ch)=current condition, Expiration date of 12/31/2009.
Fountain Creek Segment 4	Aq Life Warm 2 Recreation E Agriculture	D.O. = 5.0 mg/l pH = 6.5-9.0 E.Coli=126/100ml	CN=0.2 NO2=10 NO3=100 B=0.75	As(ch)=100(Trec) Be(ch)=100(Trec) Cd(ch)=10(Trec) CrIII(ch)=100(Trec) CrVI(ch)=100(Trec) Cu(ch)=200(Trec) Pb(ch)=100(Trec) Ni(ch)=200(Trec) Se(ch)=20(Trec) Zn(ch)=2000(Trec)	Temporary modification type (i): NH3(ac/ch)=TVS(old). Expiration date of 12/31/2012.
Middle Arkansas River Segment 4a	Aq Life Warm 2 Recreation E Agriculture	D.O.=5.0 mg/l pH=6.5-9.0 E.Coli=126/100ml	NH3(ac/ch)=TVS CL2(ac)=0.019 CL2(ch)=0.011 CN=0.005 S=0.002 B=0.75 NO2=0.05	As(ch)=100(Trec) As(ac)=340 Cd(ac/ch)=TVS CrIII(ac/ch)=TVS CrVI(ac/ch)=TVS Cu(ac/ch)=TVS Fe(ch)=1000(Trec) Pb(ac/ch)=TVS Mn(ac/ch)=TVS Hg(ch)=0.01(tot) Ni(ac/ch)=TVS Se(ch)=597 Se(ac)=708 Ag(ac/ch)=TVS Zn(ac/ch)=TVS	
Upper Arkansas River Segment 14b	Aq Life Cold 2 Recreation 1a Agriculture	D.O.=6.0 mg/l D.O. (sp) = 7.0 mg/l pH=6.5-9.0 F. Coli = 200/100ml E.Coli= 126/ 100ml	CN=0.2 NO2 =10 NO3 =100 B=0.75	As(ch)=100(Trec) Be(ch)=100(Trec) Cd(ch)=10(Trec) CrIII(ch)=100(Trec) CrVI(ch)=100(Trec) Cu(ch)=200(Trec) Pb(ch)=100(Trec) Ni(ch)=200(Trec) Se(ch)=20(Trec) Zn(ch)=2000(Trec)	

Water Quality Impairments

There are no impaired waters within Fort Carson. However, three of the four segments which receive stormwater runoff from Fort Carson have a high priority E.coli impairment and are listed

on the 303(d) List. Impairments noted in the 2008 303(d) list for receiving waters downstream of Fort Carson include:

Segment	Description	Parameter	Priority
COARFO02a	Fountain Creek, Monument Creek to Hwy 47	*E. coli*	H
COARMA04a	Wildhorse Creek	*E. coli*	H
COARFO04	All tribs to Fountain Creek, which are not on National Forest or Air Force Academy Land	*E. coli*	H

Segments noted in the CDPHE's 2008 Monitoring and Evaluation List downstream of Fort Carson include:

Segment	Description	Parameter
COARMA04a	Wildhorse Creek	*E. coli*
COARFO02a	Foutain Creek, Monument to Hwy 47	*Se*

Endangered Species

Coverage under this permit is available only if the stormwater discharges, allowable non-storm water discharges, and discharge-related activities are not likely to:

- Jeopardize the continued existence of any species that are listed as endangered or threatened ("listed") under the ESA or result in the adverse modification or destruction of habitat that is designated as critical under the ESA ("critical habitat"); or

- Cause a prohibited "take" of endangered or threatened species (as defined under Section 3 of the Endangered Species Act and 50 CFR 17.3), unless such takes are authorized under sections 7 or 10 of the Endangered Species Act.

"Discharge-related activities" include: activities which cause, contribute to, or result in stormwater point source pollutant discharges; and measures to control stormwater discharges, including the citing, construction, and operation of Best Management Practices (BMPs) to control, reduce, or prevent stormwater pollution.

Upon its initial certification for MS4 permit coverage in 2003, Fort Carson, working with the U.S. Fish and Wild Life Service (FWS) and the State of Colorado, certified in its Notice of Intent (NOI) application, that stormwater discharges and discharge-related activities from the Fort Carson MS4 would not jeopardize the continued existence of any species that are listed as endangered or threatened ("listed") under the ESA or result in the adverse modification or destruction of habitat that is designated as critical under the ESA ("critical habitat"). Fort Carson continues to work with FWS and the State to update its endangered species lists and is required to evaluate the potential affects of every new construction project through a formal impact analysis. These analyses require that all new projects are designed and maintained such that the existence of listed species cannot be jeopardized and critical habitat cannot be adversely modified or destroyed.

An updated endangered species list which includes federally threatened species, state endangered species, state threatened species, and state species of concern, and the associated critical habitat, is maintained in the Fort Carson Stormwater Management Plan.

Historic Properties

Coverage under this permit is available only if the stormwater discharges, allowable non-stormwater discharges, and discharge-related activities are:

- Not likely to affect a property that is listed or is eligible for listing on the National Register of Historic Places as maintained by the Secretary of the Interior; or

- In compliance with a written agreement with the State Historic Preservation Officer (SHPO) that outlines all measures the MS4 operator will undertake to mitigate or prevent adverse effect to the historic property.

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

affected.

An updated cultural resources list which includes both listed properties and properties eligible for listing, as well as traditional cultural properties and sacred sites, is maintained in the Fort Carson Stormwater Management Plan.

Technology Based Effluent Limits

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

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

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

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

1. Small MS4s;
2. Small construction sites (i.e., sites which disturb one to five acres); and
3. Industrial facilities owned or operated by small municipalities which were temporarily exempted from the Phase I requirements in accordance with the provisions of the Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991.

The 1987 CWA amendments clarified the fact that industrial storm water discharges are subject

to the best available technology (BAT) / best conventional technology (BCT) requirements of the CWA, and applicable water quality standards. For MS4s, the CWA specifies a new technology-related level of control for pollutants in the discharges - control to the maximum extent practicable (MEP). However, the CWA is silent on the issue of compliance with water quality standards for MS4 discharges. In September 1999, the Ninth Circuit Court addressed this issue and ruled that water quality standards compliance by MS4s is discretionary on the part of the permitting authority (Defenders of Wildlife v. Browner, No. 98-71080).

The technology based effluent limits for this permit are largely based on the implementation of a Stormwater Management Program (SWMP) which addresses six minimum measures. The SWMP and additional measures included in this permit are the means through which Fort Carson complies with the CWA's requirement to control pollutants in the discharges to the maximum extent practicable (MEP) and comply with the water quality related provisions of the CWA. EPA considers MEP to be an iterative process in which an initial SWMP is proposed and then periodically upgraded as new BMPs are developed or new information becomes available concerning the effectiveness of existing BMPs (64 FR 68754). The Phase II regulations at 40 CFR §122.34 require the following six minimum pollution control measures to be included in SWMP:

1. Public Education and Outreach on Storm Water Impacts;
2. Public Involvement/Participation;
3. Illicit discharge detection and elimination;
4. Construction Site Storm Water Runoff Control;
5. Post-Construction Storm Water Management in New Development and Redevelopment; and
6. Pollution Prevention/Good Housekeeping for Municipal Operations.

The regulations specify required elements for each minimum measure and also include guidance which provides additional information recommended for an adequate program. The permit includes nearly verbatim the required program elements for each minimum measure. The permit also includes a number of additional requirements for each minimum measure which were derived from the recommendations of the regulations and from findings recognized during the facility audit which could affect the implementation of an effective stormwater program.

A summary of technology based effluent limits is as follows:

General Requirements

- Fort Carson must continue to develop, implement, and enforce a SWMP designed to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP), to protect water quality, and to satisfy Colorado's water quality standards. The SWMP must include management practices; control techniques, system design, engineering methods, and other provisions the permittee or EPA determines appropriate

for the control of pollutants in discharges from the MS4;

- Fort Carson must fully implement the SWMP, including meeting its measurable goals. Implementation should take place in approximate equal intervals throughout the permit and progress will be tracked in the annual report;

- The SWMP must include each of the minimum control measures. For each of the minimum control measures the SWMP must include the BMPs that will be implemented and the measurable goals for each of the BMPs including, as appropriate, the months and years in which the required actions will be started and completed, and the frequency of the action; and

- Fort Carson must conduct an annual review of the SWMP in conjunction with preparation of the annual report.

Public Education and Outreach on Stormwater Impacts: Fort Carson must:

- Continue to implement an education and outreach program for Fort Carson which targets project managers, contractors, tenants, students, and environmental staff in an effort to provide education and outreach about the impacts of stormwater discharges on local water bodies and the steps that can be taken to reduce pollutants in stormwater runoff;

- Produce and disseminate informational material to inform the public (i.e., project managers, contractors, tenants, students, and environmental staff) of the effects of erosion and runoff on water quality. Informational materials shall be updated and distributed as necessary throughout the duration of this permit, and should provide a location where all annual reports and/or SWMP updates as required by this permit may be viewed;

- Provide and document training to all planning staff, project managers, contracting officers and other parties as applicable to learn about LID practices, green infrastructure practices, and to communicate the specific requirements for post-construction control and the associated BMPs laid out within the SWMP;

- Within three years from the effective date of this permit, create or adopt age-appropriate educational materials regarding stormwater runoff and water quality issues for schools;

- Provide a stormwater awareness brochure and track its distribution;

- Ensure, to the extent feasible, that any new residential lease agreements include terms for occupancy which relate to household waste management, pet policy, lawn watering, petroleum management, fertilizer/pesticide management, and car washing;

- Require the housing personnel and residents to receive training on an annual basis to ensure compliance with SWMP, Low Impact Development (LID), requirements specified in the resident guide and why those are in place and other applicable topics;

- At a minimum, produce and disseminate informational material to inform the public and contractors working on site of proper hazardous waste collection processes. These materials should be updated and distributed as necessary throughout the duration of the permit; and

- Document education and outreach activities in the SWMP, including documents created for distribution and a training schedule which notes the dates that trainings occurred and the target audiences reached;

Public Involvement/Participation. Fort Carson must:

- Comply with applicable State and local public notice requirements when implementing a public involvement/participation program;|

- Make all relevant Annual Reports available on the permittee web site or provide links to all relevant Annual Reports posted on the EPA Region 8 web site in a locally available publication;Within two years of the effective date of this permit, and annually thereafter, the permittee help organize and host a community River Clean up Day(s) or similar activity;

- Provide volunteer activities as practicable to help actively engage residents and personnel at Fort Carson in understanding water resources and how their activities can affect water quality;

- Maintain a log of public participation and outreach activities performed in the facility SWMP;

- Maintain a copy of the most recent version of the facility SWMP and permit in a publicly accessible format; and

- Within six months of the effective date of this permit, and as appropriate thereafter, the Stormwater Program personnel convene at least one meeting with the upper management of Fort Carson to discuss the SWMP and collect comments;

Illicit Discharge Detection and Elimination. Fort Carson must:

- Implement a program to detect and eliminate illicit discharges into their MS4. The program shall include procedures for detection, identification of sources, and removal of non-stormwater discharges from the storm sewer system. This program shall address

illegal dumping into the storm sewer system, and include training for staff on how to respond to reports of illicit discharges;

- Effectively prohibit, through ordinance or other regulatory mechanism available under the legal authorities of the MS4, non-stormwater discharges into the storm sewer system and implement appropriate enforcement procedures and actions;

- Provide a mechanism for reporting of illicit discharges and provide this number on the Fort Carson stormwater web site and any outreach materials as appropriate;

- Analyze spill reports and response summaries generated by Fort Carson response personnel for trends in illicit discharge reports;

- Investigate any illicit discharge within fifteen (15) days of its detection, and shall take action to eliminate the source of the discharge within forty five (45) days of its detection;

- Maintain an updated storm sewer system map. At a minimum, the map or system of maps maintained within a Geographic Information System (GIS) shall show jurisdictional boundaries, the location of all inlets and outfalls, names and locations of all waters that receive discharges from those outfalls, locations of post-construction BMPs installed since the effective date of this permit, and locations of all municipally-owned and operated facilities, including any public or private snow disposal sites. The map shall be available in electronic or digital format as appropriate;

- Develop and maintain an Illicit Discharge Detection and Elimination (IDDE) database which tracks dry weather screening efforts and the location and any remediation efforts to address identified illicit discharges;

- Conduct dry weather screening annually at each of the major drainages within the contonement for the presence of non-stormwater discharges. The screening should include field tests of selected chemical parameters as indicators of discharge sources where dry weather flows are detected. Screening level tests may utilize less expensive "field test kits" using test methods not approved by EPA under 40 CFR Part 136, provided the manufacturer's published detection ranges are adequate for the illicit discharge detection purposes. The permittee shall investigate any illicit discharge within fifteen (15) days of its detection, and shall take action to eliminate the source of the discharge within forty five (45) days of its detection;

- Address the categories of non-stormwater discharges or flows listed in the permit and require local controls or conditions on these discharges as necessary to ensure that they are not as significant contributors of pollutants to the small MS4. If the permittee identifies any of these non-stormwater discharges as a significant contributor of pollutants, the permittee must include the category as an illicit discharge, include the non-

stormwater discharge in the list of potential pollutants in the SWMP, and implement a plan of action to minimize or eliminate the illicit discharge as soon as practicable;

- Develop a list of other similar occasional incidental non-stormwater discharges (e.g., non-commercial or charity car washes, etc.) that will not be addressed as illicit discharges. These non-stormwater discharges shall not be reasonably expected (based on information available to the permittee) to be significant sources of pollutants to the MS4 because of either the nature of the discharges or conditions the permittee has established for allowing these discharges to the MS4 (e.g., a charity car wash with appropriate controls on frequency, proximity to sensitive waterbodies, BMPs on the wash water, etc.);

- Have a household hazardous waste collection day as needed or as practicable;

- Continue to stencil storm drains within the contonement area with approximately 90% of the storm drains stenciled by the end of year four of the permit;

- As practicable, update support service contracts (e.g., KIRA) to include maintenance of post-construction BMPs; and

- Consider mechanisms for construction site dewatering and the potential need for permit coverage or alternative BMPs during the project review process or within the Fort Carson Stormwater Program's requirements.

Construction Site Stormwater Runoff Control. Fort Carson must:

- Provide adequate direction to ensure that "representatives" of "regulated construction activities" obtain permit coverage under the NPDES General Permit for Stormwater Discharges for Construction Activity in Colorado, COR10000F (Construction General Permit). "Representatives" include entities contracted by Fort Carson, the Army Corps of Engineers, and Fort Carson staff engaging in "regulated construction activities." For the purposes of this permit, "regulated construction activities" include development and re-development that results in a land disturbance of greater than or equal to one acre or disturbs less than one acre if the development or redevelopment is part of a larger common plan of development or sale that would disturb one acre or more. If EPA waives the permit requirements for storm water discharges associated with a specific small construction activity (i.e., a single project) in accordance with §122.26(b)(15)(i)(A) or (B), the permittee is not required to develop, implement, and/or enforce a program to reduce pollutant discharges from that particular site;

- Use an ordinance or other regulatory mechanism available under the legal authorities of Fort Carson to require erosion and sediment controls and sanctions to ensure compliance with the terms of the NPDES General Permit for Stormwater Discharges for Construction

Activity in Colorado, COR10000F (Construction General Permit);

- Maintain a list of policies and procedures which can be used to enforce construction site compliance within Fort Carson independent of EPA staff directly enforcing the CGP;

- Implement procedures for site plan review which incorporate consideration of potential water quality impacts;

- Implement procedures for receipt and consideration of information, including complaints of construction site non-compliance, submitted by the public;

- Review the Scope of Work for Fort Carson projects, in order to ensure compliance with SWMP specifications for construction BMPs;

- Pursue methods for Fort Carson staff to stop work on construction sites in non-compliance independent of contracting procedures;

- Implement an inspection plan and keep a copy of that plan in the SWMP which provides inspection triggers, a priority for order of inspections, and a required timeframe upon which construction sites must be inspected by Fort Carson staff or representatives of the Army COE. All sites within this plan must be inspected at a minimum quarterly;

- Provide review to address construction site dewatering BMPs and available land prior to awarding construction contracts;

- Maintain a site inspection form in the SWMP for use by Fort Carson stormwater managers at sites;

- Provide herbicide/pesticide applicators with the opportunity to comment during the design review process for new construction projects to deal with returning vegetation to pre-construction conditions and eliminating weeds through intelligent design;

- Evaluate annually inspections performed by representatives of the Army Corps of Engineers or Fort Carson staff (other than the Fort Carson Stormwater Program personnel) to ensure that inspection criteria being inspected by these representatives are consistent with those noted in the inspection criteria provided in the inspection form in the SWMP;

- Include language in Requests For Proposal (RFPs) for new construction projects which requires compliance with the SWMP;

- Maintain a list of construction site BMPs in the SWMP with criteria for maintenance and installation; and

- Maintain and utilize an NOT form for Fort Carson independent of the CGP NOT form and have Fort Carson stormwater staff inspect all construction sites prior to termination to ensure that 70% vegetative cover has been met at all areas of the site.

Post-construction Stormwater Management for New Development and Redevelopment. Fort Carson must:

- Starting the first day of the reissued permit, coordinate NEPA review procedures and review contracts to ensure that no projects shall be made available for bidding without procedures, best management practices, and costs provided to ensure that runoff from newly developed or re-developed impervious surfaces equal to or greater than one acre meets pre-development hydrology as defined by the watershed modeling process outlined in the SWMP;

- Use an ordinance or other regulatory mechanism to require the installation and maintenance of post-construction stormwater controls;

- Implement a program which ensures the adequate long-term operation and maintenance of post-construction BMPs;

- Review Form1391 Military Construction Project Data Sheets prior to submittal by the Army COE to ensure that all new Milcon construction projects disturbing 1+ acre are designed and provide sufficient funds to ensure pre-development hydrology can be attained from newly developed impervious surfaces utilizing the watershed modeling process outlined in the SWMP or another equivalent process;

- Ensure, to the maximum extent possible, that a line item is included in every new proposal (e.g., Department of Defense Form 1391) for new development to ensure that post-construction stormwater requirements are met. This should include a line item for cost for post-construction BMPs based on cost estimates noted in the stormwater management plan along with a specific performance specification (i.e., maintaining pre-development hydrology) or BMP specification which ensures that all new projects disturbing one acre are designed to maintain pre-development hydrology as defined by the process referenced in the SWMP and validated through the XP SWMM hydrologic subwatershed modeling process or another equivalent process;

- Where practicable, include training for COE (local/Omaha office) and Architect Engineers (AEs) working on design-build projects related to post-construction stormwater controls, LID, and SWMP at Fort Carson;

- Utilize the Fort Carson NOT form so that construction site operators provide maintenance specifications for post-construction BMPs to Fort Carson prior to receiving authorization from stormwater managers to submit a Notice of Termination (NOT) to discontinue coverage under the CGP;

- Review the Scope of Work for DPW projects to ensure compliance with SWMP specifications for post-construction BMPs. All statements of work for DPW projects disturbing 1+ acre must be designed to ensure pre-development hydrology from newly developed impervious surfaces as defined by the watershed modeling process outlined in the SWMP;

- As part of the NEPA process for new construction projects disturbing equal to or greater than one acre, review all projects to ensure that they meet pre-development hydrology as defined by the watershed modeling or similar process outlined in the SWMP;

- Ensure that all new post-construction BMPs are tracked and georeferenced in a data management system that includes maintenance requirements and schedules for post-construction BMPs;

- By the end of year 3 of the permit term, complete watershed modeling or similar assessment efforts for the four zones recognized in the SWMP such that post-construction BMPs can be both recommended and evaluated within the context of each of the four separate sub-watersheds.

- Consider a one-year review coinciding with the 1-year warranty provided in contracts to ensure functioning of post-construction BMPs. There could also be a ½ year inspection for post-construction stormwater BMPs as part of the file inspection for contracts. File inspection could also include targeted outreach to the end user; and

- By the end of year 4 of the permit term, provide the appropriate Fort Carson staff with training regarding the design and purpose for post-construction stormwater controls.

Pollution Prevention and Good Housekeeping for Municipal Operations. Fort Carson must:

- Not later than four years from the effective date of this permit, evaluate existing street cleaning operations, catch basin cleaning operations, and street sanding/salt/deicing/anti-icing practices occurring within their jurisdiction to minimize any negative impacts to water quality. This evaluation must also examine the existing practices for the disposal of waste and maintenance operations. This evaluation must identify any actions or improvements necessary to minimize negative impacts on water quality, and timelines for incorporating such actions or improvements;

- Provide annual training for public education and outreach for facility maintenance contracted companies, EPOs, and other people identified as having fleet maintenance activities in line with the SWMP. Each of the categories of municipal activities referenced in the SWMP should receive stormwater training;

- Consider deicing training if available to minimize the use of and runoff from chemical deicers and traction aggregates;

- Develop and implement a schedule for cleanout of storm sewer inlets in a manner which prevents significant deposition of sediment or other debris to receiving waters and provide data or a description of this schedule and its implementation in the SWMP for the facility;

- Consider adding a stormwater module to "Assessment Manager" for ECAT inspections;

- Develop and implement a schedule sweeping streets in a manner which prevents significant deposition of sediment or other debris to receiving waters and provide data or a description of this schedule and its implementation in the SWMP for the facility; and

- Consider the need for and application of cover to prevent airborne deposition of particulates from storage piles at the municipal materials storage yard.

Water Quality Based Effluent Limits

The SWMP and additional measures included in this permit are the means through which Fort Carson complies with the CWA's requirement to control pollutants in the discharges to the maximum extent practicable (MEP) and comply with the water quality related provisions of the CWA. Fort Carson is required to control its discharge as necessary to meet applicable water quality standards. Part 1.3.5 of the permit includes eligibility restrictions for discharges to water quality impaired waterbodies. As written in Part 1.3.5 of the permit, EPA will notify MS4 operators whose discharges are likely to cause or contribute to a water quality impairment, or whose discharges contribute directly or indirectly to a 303(d) listed waterbody. If EPA determines that discharges from the MS4 are causing or contributing to a water quality impairment, that MS4's SWMP must include a section describing how the program will control the discharge of the pollutants of concern and ensure discharges from the MS4 will not cause or contribute to instream exceedances of the water quality standards. This documentation must specifically identify measures and BMPs that will collectively control the discharge of the pollutants of concern.

The water quality impairments downstream of Fort Carson have been included in the Stormwater Management Plan prior to issuance of this permit. BMPs are specifically referenced in the

permit and SWMP to prevent downstream contributions of E. coli that would contribute to an exceedance of the water quality standards. EPA expects that compliance with the other conditions in this permit, including the technology based effluent limits, will result in discharges that are controlled as necessary to meet applicable water quality standards.

Monitoring

The Phase II storm water regulations at 40 CFR §122.34(g) require that small MS4s evaluate program compliance, the appropriateness of the BMPs in their SWMPs and progress towards meeting their measurable goals. Monitoring and assessment activities are included as part of each of the minimum measures described in Parts 2.1-2.6 of the permit. In addition, Fort Carson is required to implement a monitoring program which can be used to assess the effectiveness of the MS4 program as whole. The terms of this monitoring program are as follows:

- Not later than three years from the effective date of this permit, Fort Carson must develop a program to evaluate the water quality in B-Ditch, Clover Ditch, the Central Unnamed Ditch, and Rock Creek B-Ditch, as it enters Fort Carson and leaves Fort Carson. This program shall at a minimum include evaluations of streambank stabilization, and water quality;

- The water quality monitoring program may include indicators such as chemical monitoring, assessment of macroinvertebrates or other aquatic life, or watershed assessment of river stability and sediment supply, provided that the monitoring program provides meaningful data to evaluate the effectiveness of the stormwater management program. The permittee is responsible for evaluating data for analysis of trends; and

- The water quality monitoring program description must be sent to EPA with the Annual Report for year 3 of this permit term. Programs will be assessed by the water quality monitoring coordinator for EPA Region 8 to determine whether the program meets the goals of this permit and whether the data is being collected and reported in compliance with EPA test procedures approved under 40 CFR Part 136.

Administrative Record

The administrative record for this permit may be obtained upon request by contacting Greg Davis at 303-312-6314 or by writing or E-mailing to the address listed below:

Ellen Bonner
EPA Region 8
Mailcode: 8P-W-WW
1595 Wynkoop Street
Denver, CO 80202-1129
303-312-6371
bonner.ellen@epa.gov

Additional stormwater information, including the Fort Carson Stormwater Management Plan (SWMP), is available on EPA Region 8's web site at: www.epa.gov/region8/stormwater.

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Greg Davis
Wastewater Unit
EPA Region 8
Drafted: January 16, 2009