

# Annual Report Format



## National Pollutant Discharge Elimination System Stormwater Program MS4 Annual Report Format



Check box if you are submitting an individual Annual Report with one or more cooperative program elements.

Check box if you are submitting an individual Annual Report with individual program elements only.

Check box if this is a new name, address, etc.

### 1. MS4(s) Information

Department of the Air Force, Kirtland Air Force Base, 377th MSG/CEIE

Name of MS4

Victoria Branson Water Quality Program Manager  
 Name of Contact Person (First) (Last) (Title)

505 846-6362 victoria.branson@us.af.mil  
 Telephone (including area code) E-mail

2000 Wyoming Blvd SE, Building 20685

Mailing Address

Kirtland AFB NM 87117-5663  
 City State ZIP code

What size population does your MS4(s) serve? 22,010 NPDES number NMR04A009

What is the reporting period for this report? (mm/dd/yyyy) From 07/01/2017 to 06/30/2018

### 2. Water Quality Priorities

A. Does your MS4(s) discharge to waters listed as impaired on a state 303(d) list?  Yes  No

B. If yes, identify each impaired water, the impairment, whether a TMDL has been approved by EPA for each, and whether the TMDL assigns a wasteload allocation to your MS4(s). Use a new line for each impairment, and attach additional pages as necessary.

Impaired Water	Impairment	Approved TMDL		TMDL assigns WLA to MS4	
		Yes	No	Yes	No
Tijeras Arroyo NM-9000.A_070	NA	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No
Rio Grande NM-2105_50N	E.Coli, dissolved oxygen, PCB	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
		<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No

**2. B. Continued**

Impaired Water	Impairment	Approved TMDL		TMDL assigns WLA to MS4	
<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No
<input type="text"/>	<input type="text"/>	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> Yes	<input type="checkbox"/> No

C. What specific sources contributing to the impairment(s) are you targeting in your stormwater program?

KAFB is continuing to collect data on dissolved oxygen, sediment control, and bacteria reduction.

D. Do you discharge to any high-quality waters (e.g., Tier 2, Tier 3, outstanding natural resource waters, or other state or federal designation)?  Yes  No

E. Are you implementing additional specific provisions to ensure their continued integrity?  Yes  No

**3. Public Education and Public Participation**

A. Is your public education program targeting specific pollutants and sources of those pollutants?  Yes  No

B. If yes, what are the specific sources and/or pollutants addressed by your public education program?

Pesticides, herbicides, oil products, sanitary waste, pet waste (domestic), sediment, and floatables.

C. Note specific successful outcome(s) (e.g., quantified reduction in fertilizer use; NOT tasks, events, publications) fully or partially attributable to your public education program during this reporting period.

NA

D. Do you have an advisory committee or other body comprised of the public and other stakeholders that provides regular input on your stormwater program?  Yes  No

**4. Construction**

A. Do you have an ordinance or other regulatory mechanism stipulating:

Erosion and sediment control requirements?  Yes  No

Other construction waste control requirements?  Yes  No

Requirement to submit construction plans for review?  Yes  No

MS4 enforcement authority?  Yes  No

B. Do you have written procedures for:

Reviewing construction plans?  Yes  No

Performing inspections?  Yes  No

Responding to violations?  Yes  No

C. Identify the number of active construction sites  $\geq$  1 acre in operation in your jurisdiction at any time during the reporting period.

D. How many of the sites identified in 4.C did you inspect during this reporting period?

E. Describe, on average, the frequency with which your program conducts construction site inspections.

Inspections of active construction sites occur monthly by KAFB and at least bi-monthly by contractor's qualified stormwater inspectors. A total of 252 CGP inspections were conducted, 84 by KAFB and 168 by contractors.

F. Do you prioritize certain construction sites for more frequent inspections?  Yes  No

If Yes, based on what criteria?

An inspection deficiency may warrant increased inspections, reporting, or corrective actions to return to compliance.

G. Identify which of the following types of enforcement actions you used during the reporting period for construction activities, indicate the number of actions, or note those for which you do not have authority:

- |   |                       |   |              |                                     |
|---|-----------------------|---|--------------|-------------------------------------|
| <input type="checkbox"/> Yes            | Notice of violation   | <input type="text"/>  | No Authority | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> Yes            | Administrative fines  | <input type="text"/>  | No Authority | <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> Yes | Stop Work Orders      | <input type="text" value="0"/>  | No Authority | <input type="checkbox"/>            |
| <input type="checkbox"/> Yes            | Civil penalties       | <input type="text"/>  | No Authority | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> Yes            | Criminal actions      | <input type="text"/>  | No Authority | <input checked="" type="checkbox"/> |
| <input type="checkbox"/> Yes            | Administrative orders | <input type="text"/>  | No Authority | <input checked="" type="checkbox"/> |
| <input checked="" type="checkbox"/> Yes | Other                 | Federal Acquisition Regulations - withholding project funds, punitive fees, negative contractor performance ratings |              |                                     |

H. Do you use an electronic tool (e.g., GIS, data base, spreadsheet) to track the locations, inspection results, and enforcement actions of active construction sites in your jurisdiction?  Yes  No

I. What are the 3 most common types of violations documented during this reporting period?

Concrete washouts being poorly maintained, the SWPPP site map not being up-to-date with BMPs and/or identifying features, trash present at the laydown yard and metal items not being raised off of the ground.

J. How often do municipal employees receive training on the construction program?

**5. Illicit Discharge Elimination**

A. Have you completed a map of all outfalls and receiving waters of your storm sewer system?  Yes  No

B. Have you completed a map of all storm drain pipes and other conveyances in the storm sewer system?  Yes  No

C. Identify the number of outfalls in your storm sewer system.

D. Do you have documented procedures, including frequency, for screening outfalls?  Yes  No

E. Of the outfalls identified in 5.C, how many were screened for dry weather discharges during this reporting period?

F. Of the outfalls identified in 5.C, how many have been screened for dry weather discharges at any time since you obtained MS4 permit coverage?

G. What is your frequency for screening outfalls for illicit discharges? Describe any variation based on size/type.

The five MS4 outfalls are screened at least monthly during the wet season.

H. Do you have an ordinance or other regulatory mechanism that effectively prohibits illicit discharges?  Yes  No

I. Do you have an ordinance or other regulatory mechanism that provides authority for you to take enforcement action and/or recover costs for addressing illicit discharges?  Yes  No

J. During this reporting period, how many illicit discharges/illegal connections have you discovered?

K. Of those illicit discharges/illegal connections that have been discovered or reported, how many have been eliminated?

L. How often do municipal employees receive training on the illicit discharge program?

**6. Stormwater Management for Municipal Operations**

A. Have stormwater pollution prevention plans (or an equivalent plan) been developed for:

- |  |   |  |
|--|---|--|
| All public parks, ball fields, other recreational facilities and other open spaces | <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No |
| All municipal construction activities, including those disturbing less than 1 acre | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            |
| All municipal turf grass/landscape management activities                           | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            |
| All municipal vehicle fueling, operation and maintenance activities                | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            |
| All municipal maintenance yards  | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            |
| All municipal waste handling and disposal areas                                    | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            |

Other

B. Are stormwater inspections conducted at these facilities?  Yes  No

C. If Yes, at what frequency are inspections conducted?

D. List activities for which operating procedures or management practices specific to stormwater management have been developed (e.g., road repairs, catch basin cleaning).

E. Do you prioritize certain municipal activities and/or facilities for more frequent inspection?  Yes  No

F. If Yes, which activities and/or facilities receive most frequent inspections?

G. Do all municipal employees and contractors overseeing planning and implementation of stormwater-related activities receive comprehensive training on stormwater management?  Yes  No

H. If yes, do you also provide regular updates and refreshers?  Yes  No

I. If so, how frequently and/or under what circumstances?

**7. Long-term (Post-Construction) Stormwater Measures**

A. Do you have an ordinance or other regulatory mechanism to require:

- |  |   |  |
|--|---|--|
| Site plan reviews for stormwater/water quality of all new and re-development projects? | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            |
| Long-term operation and maintenance of stormwater management controls?                 | <input checked="" type="checkbox"/> Yes | <input type="checkbox"/> No            |
| Retrofitting to incorporate long-term stormwater management controls?                  | <input type="checkbox"/> Yes            | <input checked="" type="checkbox"/> No |

B. If you have retrofit requirements, what are the circumstances/criteria?

C. What are your criteria for determining which new/re-development stormwater plans you will review (e.g., all projects, projects disturbing greater than one acre, etc.)?

D. Do you require water quality or quantity design standards or performance standards, either directly or by reference to a state or other standard, be met for new development and re-development?  Yes  No

E. Do these performance or design standards require that pre-development hydrology be met for:

- Flow volumes  Yes  No
- Peak discharge rates  Yes  No
- Discharge frequency  Yes  No
- Flow duration  Yes  No

F. Please provide the URL/reference where all post-construction stormwater management standards can be found.

[https://www.epa.gov/sites/production/files/2016-08/documents/swstdsummary\\_7-13-16\\_508.pdf](https://www.epa.gov/sites/production/files/2016-08/documents/swstdsummary_7-13-16_508.pdf)

G. How many development and redevelopment project plans were reviewed during the reporting period to assess impacts to water quality and receiving stream protection?

H. How many of the plans identified in 7.G were approved?

I. How many privately owned permanent stormwater management practices/facilities were inspected during the reporting period?

J. How many of the practices/facilities identified in I were found to have inadequate maintenance?

K. How long do you give operators to remedy any operation and maintenance deficiencies identified during inspections? Remedy within 24hr or provide corrective action plan to remedy within 7 days.

L. Do you have authority to take enforcement action for failure to properly operate and maintain stormwater practices/facilities?  Yes  No

M. How many formal enforcement actions (i.e., more than a verbal or written warning) were taken for failure to adequately operate and/or maintain stormwater management practices?

N. Do you use an electronic tool (e.g., GIS, database, spreadsheet) to track post-construction BMPs, inspections and maintenance?  Yes  No

O. Do all municipal departments and/or staff (as relevant) have access to this tracking system?  Yes  No

P. How often do municipal employees receive training on the post-construction program?

**8. Program Resources**

A. What was the annual expenditure to implement MS4 permit requirements this reporting period?

B. What is next year's budget for implementing the requirements of your MS4 NPDES permit?

C. This year what is/are your source(s) of funding for the stormwater program, and annual revenue (amount or percentage) derived from each?

- Source:  Amount \$  OR %
- Source:  Amount \$  OR %
- Source:  Amount \$  OR %

D. How many FTEs does your municipality devote to the stormwater program (specifically for implementing the stormwater program; not municipal employees with other primary responsibilities)?

E. Do you share program implementation responsibilities with any other entities?  Yes  No

Entity	Activity/Task/Responsibility	Your Oversight/Accountability Mechanism
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>

9. **Evaluating/Measuring Progress**

A. What indicators do you use to evaluate the overall effectiveness of your stormwater management program, how long have you been tracking them, and at what frequency? These are not measurable goals for individual management practices or tasks, but large-scale or long-term metrics for the overall program, such as macroinvertebrate community indices, measures of effective impervious cover in the watershed, indicators of in-stream hydrologic stability, etc.

Indicator	Began Tracking (year)	Frequency	Number of Locations
<i>Example: E. coli</i>	2003	Weekly April–September	20
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

B. What environmental quality trends have you documented over the duration of your stormwater program? Reports or summaries can be attached electronically, or provide the URL to where they may be found on the Web.

KAFB is in the data collection phase. Trend analyses will be performed when more data is available.

10. **Additional Information**

Please attach any additional information on the performance of your MS4 program, including information required in Parts I.C, I.D, and III.B. If providing clarification to any of the questions above, please provide the question number (e.g., 2C) in your response.

**Certification Statement and Signature**

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Yes  No

Federal regulations require this application to be signed as follows: **For a municipal, State, Federal, or other public facility:** by either a principal executive or ranking elected official.

Signature	<input type="text"/>	Victoria Branson, Water Quality Manager	<input type="text"/>
		Name of Certifying Official, Title	Date (mm/dd/yyyy)

# Kirtland Air Force Base 2017-18 MS4 Annual Report

## Supplemental Information

Kirtland AFB is a military installation located in central New Mexico, southeast of and adjacent to the City of Albuquerque. The base urbanized area is 2,795 acres or 4.37 square miles, and is entirely located within Bernalillo County at the approximate latitude of 35.06°N and longitude of 106.5°W. KAFB has over 20,000 employees on base, including over 4,000 military, 3,500 civil service, and 12,500 contractors. There are approximately 100 mission partners, to include tenants, research laboratories, three Major Commands, Reserve, and National Guard components. KAFB is a Phase II MS4 and classified as a Class B Permittee.

The following information expands on sections within the MS4 Annual Report and implementation status of the Kirtland AFB stormwater program, the Storm Water Management Plan (SWMP), and best management practices (BMPs) for the permit term of July 1, 2017 to June 30, 2018. There have been no changes to the SWMP or BMPs for the reporting year.

MS4 Annual Report § 2.C. Special Conditions: The Kirtland AFB MS4 Stormwater Program is targeting dissolved oxygen, sediment discharge, and bacteria reduction.

### **Dissolved Oxygen**

During the reporting year, stormwater pollutants that affect dissolved oxygen levels are reviewed including fertilizers, pesticides, and animal waste. Programs to manage the use of pesticides and fertilizers have been in place at KAFB since 2007. Kirtland AFB has an extensive Base Maintenance Contract with a formal, written Performance Work Statement (PWS). The Base Maintenance Contractor (BMC) is responsible for implementing the Pest Management Plan (PMP) at Kirtland AFB. This plan establishes the strategy and methods for conducting a safe, effective, and environmentally-sound Integrated Pest Management (IPM) program that reduces pollution and other risk factors associated with the use of pesticides. The maintenance and implementation of this PMP is an important aspect of KAFB's Pest Management Program, which is comprised of the following eight elements:

1. PMP
2. IPM
3. Installation Consultative Support, Pest Management Program Reviews, and Audits
4. Training and Certification of Pest Management Personnel
5. Pesticides and Pest Management Equipment

6. Contracting for Commercial Pest Management Equipment
7. Specialized Pest Management Operations
8. Pest Management and Disease Vector Control in Military Contingency Operations

### **Sediment**

The BMC includes a sweeping schedule (in Appendix 5.3 of the BMC PWS) which reduces the quantity of sediment discharged during storm events. The contractor is also responsible for maintaining, repairing, and constructing ditches, culvert storm drains, catch basins, impoundments, subsurface drains, and outlets to allow free flow of waters to natural basins or collecting points at all times. This includes: inspecting and ensuring continuous free flow of water in open drainage systems, outfalls, spill gates, and flood gates; maintaining surface drainage ditches to be free of shrubs, trees, silt, and trash to prevent erosion and ensure continuous flow of water; and removing all trash and debris collected in ditches and ditch banks and disposing of this material properly. As needed, the BMC will conduct maintenance activities at the request of the Water Quality Program Manager in addition to routine maintenance activities.

### **Bacteria**

The BMC operates, repairs, and maintains domestic sanitary sewage and industrial collection systems, force mains, valves, manholes, vaults, clean-outs, facility sewage services, and leak detection equipment, from the collection drain to the sewer main. This includes: operating, repairing, and maintaining all sanitary sewers, septic tank systems, industrial-holding tanks, and all electronic, mechanical, and electrical control systems associated with the sanitary sewage collection systems; operating, repairing, and maintaining all lift stations from the collection point to the sewage main; maintaining the pumps, piping, pump mounting hardware, valves, main connections, and all electronic, mechanical, and electrical control and leach fields prior to the sewer mains; establishing and submitting an inspection schedule to verify operational integrity and operational reliability; correcting any discrepancies to ensure continuous operation of the system; providing for the removal of solids and the cleaning of systems and equipment upon any noticeable accumulation of solids or debris; and maintaining records of inspection dates.

MS4 Annual Report § 3.B. Pollutant Sources Addressed in Public Education and Outreach Program

Educational materials posted on the Kirtland AFB Environment web page during the reporting year included:



- A poster providing information on how to keep stormwater clean that addresses pesticides, general trash, household chemicals, automotive fluids, and pet waste. It provides information on how to recognize stormwater pollution and provides a telephone number for reporting issues.

[https://www.kirtland.af.mil/Portals/52/Stormwater\\_Awareness.pdf?ver=2018-10-10-121444-170](https://www.kirtland.af.mil/Portals/52/Stormwater_Awareness.pdf?ver=2018-10-10-121444-170)

- A “When It Rains, It Drains” brochure that explains how stormwater gets polluted and what everyone can do to help keep stormwater clean.

<http://www.kirtland.af.mil/Portals/52/documents/AFD-100301-030.pdf?ver=2016-06-27-120127-517>

- An EPA document on Protecting Water Quality from Urban Runoff that explains how development in an area can impact runoff volume and stormwater quality.

<http://www.kirtland.af.mil/Portals/52/documents/AFD-100301-031.pdf?ver=2016-06-27-120155-593>

In addition, Kirtland Family housing has an email outreach, provides welcome bags to newcomers with environmental information, and posts information on their website. KFH also participates in the Newcomer’s Information Fair on a monthly basis and organizes an Earth Day event to promote awareness.

#### Reporting Potential Stormwater Issues:

Section 1.1.4.1 of the BMC PWS requires implementation of a 24-hour, 7 days per week Service Desk telephone line to field reports and requests by Kirtland personnel to address emergency conditions and non-emergency work orders. The BMC alerts the Water Quality Program Manager to potential issues related to dry weather or non-stormwater flows and other stormwater pollution concerns. Reports received are investigated to determine whether the flow is an allowable discharge or potential illicit discharge. Potential illicit discharges identified are investigated so that the source can be determined and eliminated.

#### MS4 Annual Report § 5.B. Sanitary and Storm Sewer System Maps

Kirtland AFB has contract support to maintain and update a GeoBase database in which sanitary and storm drainage system maps are available. The BMC PWS Section 1.4.2.3.3.1, Plans Support, requires the BMC to maintain and update the Geodatabase and drawings for all utilities systems.

MS4 Annual Report § 5.J. Illicit Discharge Detection and Elimination Program:

The BMC is responsible for maintaining oil-water separators, the sanitary sewer, storm sewer and septic systems at Kirtland AFB. They perform routine inspections of this infrastructure and respond to emergency conditions. Kirtland AFB also contracts with an Environmental Consultant to provide support to the Stormwater Program. In addition to collecting wet weather and dry weather samples, the consultant assists with responding to and investigating potential illicit discharges. There were no illicit discharges identified during the reporting year.

MS4 Annual Report § 6.D. Operating Procedures

The Air Force has a comprehensive list of Air Force Instructions (AFI) that outline requirements for the Environmental Branch at each Air Force Base. The following are examples of the AFIs that support the implementation of the Stormwater Program:

AFI32-7001	Environmental Management
AFI32-7041	Water Quality Compliance
AFI32-1002	Snow and Ice Control
AFI32-7086	Hazardous Materials Management
AFI32-7042	Waste Management
AFI23-301	Fuels Management
AFI32-1053	Integrated Pest Management Program
AFI32-7061	The Environmental Impact Analysis Program

MS4 Annual Report § 6.G. Environmental Awareness Training

Environmental Awareness Training materials were reviewed during the SWMP implementation evaluation and initial revisions have been completed. Kirtland AFB is in the process of implementing a new training platform to deliver computer-based training courses. A one-time Awareness Training course is required for all employees and contractors. Unit Environmental Coordinators coordinate job specific training needs for their organizations.

**Updates on SWMP Measurable Goals for the 2017-2018 MS4 Annual Report**

**Table 7-1: Dissolved Oxygen Strategy Goals**

BMP Number	General BMP	BMP Description	Measurable Goal	2017-2018 Update
DO-1.a	Investigate Contributors to Reduced Dissolved Oxygen in Receiving Waters	Inventory and investigate structural controls to determine their potential effect on dissolved oxygen in receiving waters.	Document inventory and investigation results then revise BMPs, as needed.	This program is not yet fully implemented but additional progress toward implementation will be conducted in reporting year 2018-2019.
DO-1.b		Inventory and investigate natural or man-made topographical and geological formations for potential effects on dissolved oxygen in receiving waters.	Document inventory and investigation results then revise BMPs, as needed.	This program is not yet fully implemented but additional progress toward implementation will be conducted in reporting year 2018-2019.
DO-1.c		Review MS4 operations for potential effect on dissolved oxygen in receiving waters.	Annually evaluate standard operating procedures and BMPs, report revisions in Annual Report.	Implemented 22 March 2015 and ongoing.
DO-1.d		Review chemicals and materials used through standard procedures to determine if any items effect dissolved oxygen.	Annually review purchases and determine feasibility of alternative products. Provide quarterly EESOH-MIS training for users.	Implemented 01 July 2012 and ongoing.

**Table 7-2: Sediment Pollutant Load Reduction Strategy Goals**

BMP Number	General BMP	BMP Description	Measurable Goal	2017-2018 Update
SED-1.a	<b>Sediment Assessment</b>	Develop sediment assessment plan that includes standard operating and QA procedures.	Develop sediment assessment plan and validate data.	Implemented 22 March 2015.
SED-1.b		Conduct sediment assessment per developed plan.	Conduct sediment assessment.	Implemented 22 March 2015 and ongoing.
SED-2.a	<b>Estimate Baseline Sediment Loading</b>	Estimate baseline sediment loading and relative potential for contamination of sediments utilizing results from assessment.	Document baseline sediment loading estimate.	Implemented 22 March 2015 and ongoing.
SED-3.a	<b>Targeted Controls and BMPs for Sediment Pollutant Load Reduction</b>	Develop targeted controls and BMPs for sediment pollutant load reduction based on results of the sediment assessment and estimate of baseline sediment loading; putting a priority on areas that are expected to generate the highest annual average pollutant loads.	Develop and document targeted controls and BMPs, and update this SWMP as appropriate.	Baseline controls and BMPs like routine sweeping, track-out controls, and construction inspections are consistently performed. New controls and BMPs are implemented as areas of sediment discharge are identified.  Implement controls 5-10 years from permit effective date.
SED-3.b		Conduct interim monitoring and evaluate BMPs.	Conduct annual monitoring and evaluations.	Implemented 22 March 2015 and ongoing. Monitoring is performed.
SED-4.a	<b>Progress Evaluation</b>	Assess the overall success of the sediment pollutant load reduction strategy by analyzing and interpreting data collected over the course of the implementation. This assessment should include assessment of both direct and indirect measures of success.	Document and report on the strategy's assessment in this SWMP and in the fifth annual report as appropriate.	To be reviewed 5 years from permit effective date.



**Table 7-3: Impaired Waters Requirements Goals**

<b>BMP Number</b>	<b>General BMP</b>	<b>BMP Description</b>	<b>Measurable Goal</b>	<b>2017-2018 Update</b>
<b>IW-1.a</b>	<b>TMDL Required Control Measures</b>	Evaluate the Bacteria Reduction Plan to determine gaps in TMDL requirements and monitor compliance.	Annually evaluate the Bacteria Reduction Plan and BMPs, report revisions in Annual Report.	Implemented 22 March 2015 and ongoing. Additional data is needed to complete this goal. It is anticipated additional analytical data collected during the permit term will allow for a complete evaluation of this plan.
<b>IW-2.a</b>	<b>Sanitary Sewer System Evaluation</b>	Review maintenance reports, sanitary sewer infrastructure, and other sources for improvement areas.	Annually document inadequacies, if any, and prioritize for repair.	Implemented 01 January 2013 and ongoing through Base Maintenance Contract.
<b>IW-2.b</b>		Evaluate sanitary sewer lift stations for inadequacies and overflow controls.	Annually document inadequacies, if any, and prioritize for repair.	Implemented 01 January 2013 and ongoing through Base Maintenance Contract.
<b>IW-3.a</b>	<b>Illicit Discharges</b>	Reduce waste sources of bacteria through proper disposal and illicit discharge prevention.	Annual satisfactory rating of BMC performance, on-time response and compliant disposal procedures.	Implemented 01 January 2013 and ongoing.
<b>IW-4.a</b>	<b>Residential and Animal Source Evaluation</b>	Expand existing management programs to identify and target animal sources and residential discharges.	KFH personnel to monitor grounds, maintain pet scoop stations and report issues quarterly.	Implemented 01 January 2003 and ongoing.

**Table 7-4: Construction Site Runoff Control Goals**

BMP Number	General BMP	BMP Description	Measurable Goal	2017-2018 Update
MCM 1-1.a	<b>Construction Project Review</b>	Conduct reviews of new construction projects to evaluate CGP requirements, site BMPs, and provide comments.	Document 95% of construction project reviews and comments.	Implemented 15 September 2003. This goal is consistently achieved.
MCM 1-1.b		Review 103s, 332s, 813s and Environmental Assessments affecting stormwater and provide comments.	Document 95% reviews and comments on 103s, 332s, 813s and Environmental Assessments.	Implemented 1 October 2009. This goal is consistently achieved.
MCM 1-2.a	<b>Track Construction Projects</b>	Maintain inventory of active construction sites and previously closed construction sites.	Annually report on-going projects under CGP.	Implemented 15 September 2003. This goal is consistently achieved.
MCM 1-2.b		Ensure all projects with land disturbance have been evaluated.	Annually review CE project listing and provide comments on 813.	Implemented 3 February 2010. This goal is consistently achieved.
MCM 1-3.a	<b>National Pollutant Discharge Elimination System - Storm Water Construction General Permit, Compliance and Enforcement</b>	For projects requiring CGP coverage, personnel shall assess and document that contractors develop the required SWPPP, NOI, and NOT.	Document 100% of installation projects subject to CGP.	Implemented 15 September 2003. This goal is consistently achieved.
MCM 1-3.b		Conduct monthly inspections of all active CGP sites to ensure compliance with site-specific SWPPP.	Conduct and document monthly construction site inspections.	Implemented 15 September 2003 through F2F Contract. This goal is consistently achieved.
MCM 1-3.c		Identify deficiencies noted during site inspections. Communicate deficiencies to COR for appropriate corrective action, and document inspection reports.	Document deficiencies identified in inspections. Retain a copy of communication to COR and corrective actions.	Implemented 15 September 2003. Deficiencies entered into Finding Tracker.
MCM 1-4.a	<b>Construction Project Contractor Education</b>	The construction project contractor places CGP awareness boards at all active, permitted construction sites.	Document 100% of boards in monthly inspection records.	Implemented 29 June 2010 and ongoing.
MCM 1-4.b		Require CGP compliance training prior to start of project activities.	Document 90% of contractor personnel completing training.	Implemented 1 December 2010 and ongoing.





**Table 7-5: Post-Construction Runoff Control Goals**

<b>BMP Number</b>	<b>General BMP</b>	<b>BMP Description</b>	<b>Measurable Goal</b>	<b>2017-2018 Update</b>
MCM 2-1.a	<b>Post-Construction Storm Water Management Planning</b>	Review 813s and project designs to ensure Section 438 of EISA and sustainable practices are integrated into construction designs.	Document 95% of 813s and design reviews.	Implemented February 2010 and ongoing. This goal is consistently achieved.
MCM 2-1.b		Annually review UFCs, AFIs, Installation Development Plan and regulations for changes in requirements concerning sustainable design. Incorporate watershed protection elements during scheduled document review/revision.	Document policy revisions and BMPs changes in annual report, if necessary.	Implemented 1 February 2010 and ongoing. This goal is consistently achieved.
MCM 2-1.c		Ensure timely establishment of the 70% pre-existing vegetative cover for final stabilization.	Annually inspect final stabilization and NOTs.	Implemented 01 June 2007 and ongoing.
MCM 2-2.a	<b>Existing Site Post-Construction Storm Water Controls</b>	Estimate the acreage of impervious area.	Document impervious area on 90% of projects.	Implemented 01 July 2015 and ongoing.
MCM 2-2.b		Inventory and prioritize Kirtland AFB assets that can be retrofitted with control measures to minimize the frequency, volume, and peak intensity of stormwater discharges.	Develop inventory and prioritization of assets for modernization.	This program is not yet fully implemented. Implement controls 5-10 years from permit effective date.
MCM 2-2.c		Coordinate with BMC to ensure structural BMPs are inspected, maintained, and repaired. Coordinate with KFH Grounds Maintenance for operation and maintenance of the KFH area structural stormwater BMPs.	Annually coordinate with BMC and KFH and document BMP inspection, maintenance, and repair.	Implemented 17 March 2009 and ongoing.
MCM 2-2.d		Require contractors to submit as-built plans to CE within 90 days of project acceptance.	Annually review contract close-out and deliverables.	Implemented 01 January 2009 and ongoing.
MCM 2-3.a	<b>Post-Construction Management Review</b>	Revise post-construction management process to incorporate improvements in control techniques. Consider water quality monitoring results in review.	Annually review 75% of projects and incorporate lessons learned.	Implemented 3 January 2011 and ongoing.

**Table 7-6: Pollution Prevention/Good Housekeeping Goals**

BMP Name	General BMP	BMP Description	Measurable Goal	2017-2018 Update
MCM 3-1.a	<b>Vehicle Maintenance/ Washing Controls</b>	Provide educational information regarding vehicle maintenance and washing to installation tenants and residents.	Annually review educational materials on KFH webpage.	Implemented 17 March 2008 and ongoing. This goal is consistently met.
MCM 3-1.b		Provide guidance document addressing car washes to installation tenants and residents.	Annually review guidance document for car washes.	Implemented 28 March 2014 and ongoing. This goal is consistently met.
MCM 3-2.a	<b>Response Procedures and Plans</b>	Maintain HazMat inventory and response procedures to address release of HazMat.	Annually review Hazardous Waste Management Plan.	Implemented 1 June 2007 and ongoing. This goal is consistently met.
MCM 3-2.b		The shop Waste Collection Site Manager conducts weekly inspections of IAPs per Hazardous Waste Management Plan.	Document weekly IAP inspections and record in binder.	Implemented 1 June 2007 and ongoing. This goal is consistently met.
MCM 3-2.c		Maintain SPCC Plan to address oil spill response procedures.	Annually review SPCC Plan and re-certify every 5 years.	Implemented 1 June 2007 and ongoing. SPCC recertified February 16, 2018.
MCM 3-2.d		Conduct annual inspections for impacts from industrial activities and operations.	Document annual inspections IAW the MSGP, SPCC Plan, and other program requirements.	Implemented 1 June 2007 and ongoing. This goal is consistently met.
MCM 3-3.a	<b>Base Contracted Services</b>	Ensure contractor follows and implements requirements found in BMC.	Conduct comprehensive annual evaluation of BMC and enforce or modify as needed.	Implemented 1 June 2012 and ongoing. This goal is consistently met.
MCM 3-3.b		Maintain dog feces collection stations situated throughout the installation.	Check stations weekly, empty stations and insert new bags.	Implemented 14 Sept. 2006 and ongoing. This goal is consistently met.
MCM 3-3.c		Monitor waste diversion and recycling through the Solid Waste Program.	Annually document % of waste diversion and quantity recycled.	Implemented 1 June 2007 and ongoing. This goal is consistently met.

**Table 7-6: Pollution Prevention/Good Housekeeping Goals**

BMP Name	General BMP	BMP Description	Measurable Goal	2017-2018 Update
MCM 3-4.a	Storm Water Infrastructure	Inventory, inspect and upgrade stormwater outfalls by drainage basin.	Annually inventory and inspect selected stormwater outfalls.	Implemented 1 January 2010 and ongoing. The F2F contractor reviewed stormwater facilities throughout the reporting year and repairs to sampling equipment are completed. Maintenance and repair work orders are submitted to the BMC as necessary. Inspections are documented in Finding Tracker and corrective actions are tracked to completion.

**Table 7-6: Pollution Prevention/Good Housekeeping Goals**

BMP Name	General BMP	BMP Description	Measurable Goal	2017-2018 Update
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**Table 7-7: Illicit Discharges and Improper Disposal Goals**

BMP Number	General BMP	BMP Description	Measurable Goal	2017-2018 Update
MCM 4-1.a	<b>Maintain Maps and Inventories</b>	Maintain sanitary and storm sewer maps (i.e. lines, points, attributes, etc.).	Annually update sanitary and storm sewer system maps.	Implemented 1 June 2007 and ongoing.
MCM 4-1.b		Maintain OWS and septic tank inventories. Routinely inspect systems.	Annually update and maintain sanitary sewer asset inventory.	Implemented 1 June 2007 and ongoing. This requirement is met through the BMC.
MCM 4-2.a	<b>Illicit Discharge and Improper Disposal Detection</b>	Review telephone complaints, inspection reports, staff knowledge, and other available records to develop source reduction strategies, if needed.	Annually review complaint records to prioritize inspection efforts and reduce complaints 3%.	Implemented 5 December 2007 and ongoing.
MCM 4-2.b		Screen high priority areas and the entire jurisdiction for illicit discharges.	Annually Screen high priority areas and screen the entire jurisdiction within 5 years.	Implemented 1 June 2007 and ongoing. Areas are screened during quarterly inspections and when issues are reported.
MCM 4-2.c		Investigate suspected or reported illicit discharges and develop corrective action.	Investigate suspected or reported discharges within <b>48 hours</b> and develop corrective action plan within one week.	Implemented 1 June 2007 and ongoing.
MCM 4-3.a	<b>Illicit Discharge Education and Outreach</b>	Maintain and replace storm drains and storm grate inlet illegal dumping labels.	Maintain and replace storm drain/grate labels every 5 years.	Implemented 19 December 2007 and ongoing.
MCM 4-3.b		Maintain phone and web-based information services for reporting of pollution prevention issues.	Ensure systems are maintained and respond to inquiries within <b>48 hours</b> .	Implemented 5 December 2007 and ongoing through the BMC. Phone number and e-mail is also provided for the Stormwater Program Manager on public outreach materials.

**Table 7-6: Pollution Prevention/Good Housekeeping Goals**

BMP Name	General BMP	BMP Description	Measurable Goal	2017-2018 Update
MCM 4-4.a	Waste Discharge Design in Construction Projects	Ensure construction or renovation projects connect to the proper collection system to avoid cross-connections.	Review 95% of project designs and identify appropriate collection system.	Implemented 1 June 2007 and ongoing. This goal is consistently implemented.

**Table 7-8: Control of Floatable Discharges Goals**

<b>BMP Number</b>	<b>General BMP</b>	<b>BMP Description</b>	<b>Measurable Goal</b>	<b>2017-2018 Update</b>
<b>MCM 5-1.a</b>	<b>Identify Floatables</b>	Characterize Floatables and Trash removed from sample locations.	Annually estimate volume and characterize floatables.	Implemented 20 March 2015 and ongoing.
<b>MCM 5-2.a</b>	<b>Partner with Kirtland CE Grounds</b>	Ensure proper floatable and trash reduction training.	Annually validate maintenance staff training records.	Implemented 20 March 2015 and ongoing through the KAFBs Pollution Prevention efforts.
<b>MCM 5-2.b</b>	<b>Keeping Department (BMC)</b>	Provide documents on grounds keeping practices that minimize floatables and trash accumulation.	Annually review maintenance staff training material.	Implemented 20 March 2015 and ongoing. Training is required for new employees.
<b>MCM 5-3.a</b>	<b>Partner with KFH Grounds</b>	KFH grounds keeping department to ensure floatable and trash reduction training.	Annually validate maintenance staff training records.	Implemented 20 March 2015 and ongoing. Training is required for new employees.
<b>MCM 5-3.b</b>	<b>Keeping Department</b>	Provide documents on grounds keeping practices that minimize floatable and trash accumulation.	Annually review maintenance staff training material.	Implemented 20 March 2015 and ongoing through KFH.

**Table 7-9: Public Education and Outreach Goals**

<b>BMP Number</b>	<b>General BMP</b>	<b>BMP Description</b>	<b>Measurable Goal</b>	<b>2017-2018 Update</b>
<b>MCM 6-1.a</b>	<b>Partner with Kirtland CE Grounds Keeping Department (BMC)</b>	Ensure proper pesticide and herbicide application and storage training.	Annually validate maintenance staff training records.	Implemented 1 June 2007 and ongoing through the BMC.
<b>MCM 6-1.b</b>		Ensure proper OWS and septic system maintenance training.	Annually validate maintenance staff training records.	Implemented 1 June 2007 and ongoing through the BMC.
<b>MCM 6-1.c</b>		Provide documents on grounds keeping practices that minimize pollutant discharges.	Annually review maintenance staff training material.	Implemented 17 March 2009 and ongoing through the BMC.
<b>MCM 6-2.a</b>	<b>Partner with KFH Grounds Keeping Department</b>	KFH to ensure proper pesticide and herbicide application and storage training.	Annually validate maintenance staff training records.	Implemented 1 June 2007 and ongoing through KFH.
<b>MCM 6-2.b</b>		KFH to ensure proper septic system maintenance training.	Annually validate maintenance staff training records.	Implemented 1 June 2007 and ongoing through KFH.
<b>MCM 6-2.c</b>		Provide documents on grounds keeping practices that minimize pollutant discharges.	Annually review maintenance staff training material.	Implemented 17 March 2009 and ongoing through KFH.
<b>MCM 6-3.a</b>	<b>Employee Training and Education</b>	Monitor training through EMS. Consider employee turnover in training schedule.	Annually audit EMS training records during inspection.	Implemented 3 January 2011 and ongoing. Change in training platforms is in progress.
<b>MCM 6-3.b</b>		Provide educational materials, upon request, to contractors related to stormwater management for construction projects.	Annually review educational materials.	Implemented 3 January 2011 and ongoing.
<b>MCM 6-3.c</b>		Publish announcements that increase awareness of stormwater protection.	Annually publish two stormwater announcements by email per year.	Implemented 5 March 2010 and ongoing. Email from KFH and Newcomer's Information Fair.



**Table 7-9: Public Education and Outreach Goals**

<b>BMP Number</b>	<b>General BMP</b>	<b>BMP Description</b>	<b>Measurable Goal</b>	<b>2017-2018 Update</b>
<b>MCM 6-3.d</b>		Track shop compliance through self-assessments and identify training gaps.	Annually validate completed shop-level checklist in MICT database.	Implemented 5 January 2015 and ongoing.
<b>MCM 6-4.a</b>	<b>Develop and Distribute Educational Materials to Base Residents</b>	KFH to provide pamphlets and/or materials in new resident induction packages.	Annually review stormwater education pamphlets.	Implemented 17 March 2007 and ongoing. This goal is consistently met.
<b>MCM 6-4.b</b>		Display stormwater-related materials on KFH webpage.	Annually review stormwater materials on KFH webpage.	Implemented 13 March 2008 and ongoing. This goal is consistently met.

**Table 7-10: Public Involvement and Participation Goals**

<b>BMP Number</b>	<b>General BMP</b>	<b>BMP Description</b>	<b>Measurable Goal</b>	<b>2017-2018 Update</b>
<b>MCM 7-1.a</b>	<b>Solicit Public Input on Storm Water Related Issues and Activities</b>	Post reports for public comment and solicit comments at public meetings, if necessary, concerning stormwater topics.	Annually post reports for public comment. Incorporate comments in documents, as appropriate.	Implemented 31 March 2010 and ongoing. This goal is consistently met.
<b>MCM 7-1.b</b>		Seek public input to assess public behavioral change.	Receive 25% response on feedback questionnaires.	Questionnaires to be conducted in reporting year 2018-2019 and results reviewed and discussed for that reporting year.
<b>MCM 7-2.a</b>	<b>Involvement Opportunities</b>	Participate in MS4 Technical Advisory Group and outreach opportunities.	Attend regional stormwater group meetings quarterly.	Implemented 01 July 2013 and ongoing. This goal is consistently met.
<b>MCM 7-2.b</b>		Partner with organizations to provide routine collection days for special items for recycling and not disposal.	Provide semi-annual collection days for bulk items, prescription drugs, and hazardous waste items.	Implemented 13 March 2008 and ongoing. KFH conducts semi-annual waste collection days and Kirtland AFB conducts semi-annual prescription drug collection days.
<b>MCM 7-2.c</b>		Conduct EMS CFT and attend ESOHC meetings.	Quarterly EMS CFT Meetings; semi-annual ESOHC meetings, tracked through KAFB EMS Program.	Implemented 3 January 2010 and ongoing. This goal is consistently met.
<b>MCM 7-3.a</b>	<b>SWMP Accessibility</b>	Provide public accessibility of SWMP document and annual reports online and at the Stormwater Program Manager's office.	Maintain SWMP and annual reports online and at the main office.	Implemented 22 March 2015 and ongoing. This goal is consistently met.