

**DEPARTMENT OF ENVIRONMENTAL QUALITY**  
Environmental Assessment

**PERMITTING AND COMPLIANCE DIVISION**  
Water Protection Bureau

**Name of Project:** A major modification to Montana Pollutant Discharge Elimination System (MPDES) permit MT0021920 for wastewater discharges from the City of Great Falls Wastewater Treatment Plant (WWTP).

**Type of Project:** The WWTP is an activated sludge treatment system with anaerobic sludge digestion and chlorine disinfection, which serves the residents and businesses of the City of Great Falls, the communities of Black Eagle and Malmstrom Air Force Base, and some areas of Cascade County. It was built in 1974 with an average daily design flow of 21 million gallons per day (mgd); however planned upgrades to the facility will reduce the average daily design flow to 13.3 mgd. DEQ is proposing the following changes to the Great Falls WWTP MPDES permit under this major modification:

- Provide source-specific mixing zone for ammonia, nitrate, arsenic, copper, selenium, and thallium;
- Extend the effective date for the final *Escherichia coli* (*E.coli*) bacteria and Total Residual Chlorine (TRC) effluent limits by one year, to correspond with the final effluent limits compliance date of December 1, 2014 for the above parameters;
- Recognize that flow monitoring will be considered “calculated” rather than “continuous” since the WWTP will use SCADA data to track various inputs and outputs.

**Location of Project:** 1600 6<sup>th</sup> Street NE, Great Falls, Cascade County, MT

**Agency Action and Applicable Regulations:** The proposed action is to modify the MPDES permit.

ARM Title 17, Chapter 30, Subchapter 2 - Water Quality Permit Application and Annual Fees.  
ARM Title 17, Chapter 30, Subchapter 5 - Mixing Zones in Surface and Ground Water.  
ARM Title 17, Chapter 30, Subchapter 6 - Surface Water Quality Standards.  
ARM Title 17, Chapter 30, Subchapter 7 - Nondegradation of Water Quality.  
ARM Title 17, Chapter 30, Subchapters 12 and 13 – MPDES Standards.  
Montana Water Quality Act, MCA 75-5-101, et seq.

**Summary of Issues:** DEQ does not see any major issues with this modification (see discussion above). One specific consideration is that the ambient arsenic level in the Missouri River exceeds the human health standard of 10 µg/L. Since the elevated arsenic level is attributed to natural sources from the greater Yellowstone area, the WWTP is not required to treat to cleaner than background. The 25<sup>th</sup> percentile of the background arsenic concentration in the Missouri was used as a basis for developing the effluent limits for the WWTP.

**Benefits and Purpose of Action:** The permit will ensure compliance with the Montana Water Quality Act and protection of the beneficial uses of the Missouri River.

**Affected Environment & Impacts of the Proposed Project:**

Y = Impacts may occur (explain under Potential Impacts).

N = Not present or No Impact will likely occur.

<b>IMPACTS ON THE PHYSICAL ENVIRONMENT</b>	
<b>RESOURCE</b>	<b>[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES</b>
1. GEOLOGY AND SOIL QUALITY, STABILITY AND MOISTURE: Are soils present which are fragile, erosive, susceptible to compaction, or unstable? Are there unusual or unstable geologic features? Are there special reclamation considerations?	[N]
2. WATER QUALITY, QUANTITY AND DISTRIBUTION: Are important surface or groundwater resources present? Is there potential for violation of ambient water quality standards, drinking water maximum contaminant levels, or degradation of water quality?	[N] New and continuing effluent limits will continue to assure discharge quality and protect receiving water beneficial uses.
3. AIR QUALITY: Will pollutants or particulate be produced? Is the project influenced by air quality regulations or zones (Class I airshed)?	[N]
4. VEGETATION COVER, QUANTITY AND QUALITY: Will vegetative communities be significantly impacted? Are any rare plants or cover types present?	[N]
5. TERRESTRIAL, AVIAN AND AQUATIC LIFE AND HABITATS: Is there substantial use of the area by important wildlife, birds or fish?	[N]
6. UNIQUE, ENDANGERED, FRAGILE OR LIMITED ENVIRONMENTAL RESOURCES: Are any federally listed threatened or endangered species or identified habitat present? Any wetlands? Species of special concern?	[N]
7. HISTORICAL AND ARCHAEOLOGICAL SITES: Are any historical, archaeological or paleontological resources present?	[N]
8. AESTHETICS: Is the project on a prominent topographic feature? Will it be visible from populated or scenic areas? Will there be excessive noise or light?	[N]
9. LAND USE: (waste disposal, agricultural lands [grazing, cropland, forest lands, prime farmland], recreational lands [waterways, parks, playgrounds, open space, federal lands], access, commercial and industrial facilities [production & activity, growth or decline], growth, land-use change, development activity)	[N]
10. IMPACTS ON OTHER ENVIRONMENTAL RESOURCES: Are there other activities nearby that will affect the project?	[N]

<b>IMPACTS ON THE HUMAN ENVIRONMENT</b>	
<b>RESOURCE</b>	<b>[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES</b>
11. HUMAN HEALTH AND SAFETY: Will this project add to health and safety risks in the area?	[N]
12. INDUSTRIAL, COMMERCIAL AND AGRICULTURAL ACTIVITIES AND PRODUCTION: Will the project add to or alter these activities?	[N]

<b>IMPACTS ON THE HUMAN ENVIRONMENT</b>	
<b>RESOURCE</b>	<b>[Y/N] POTENTIAL IMPACTS AND MITIGATION MEASURES</b>
13. QUANTITY AND DISTRIBUTION OF EMPLOYMENT: Will the project create, move or eliminate jobs? If so, estimated number.	[N]
14. LOCAL AND STATE TAX BASE AND TAX REVENUES: Will the project create or eliminate tax revenue?	[N]
15. DEMAND FOR GOVERNMENT SERVICES: Will substantial traffic be added to existing roads? Will other services (fire protection, police, schools, etc.) be needed?	[N]
16. LOCALLY ADOPTED ENVIRONMENTAL PLANS AND GOALS: Are there State, County, City, USFS, BLM, Tribal, etc. zoning or management plans in effect?	[N]
17. ACCESS TO AND QUALITY OF RECREATIONAL AND WILDERNESS ACTIVITIES: Are wilderness or recreational areas nearby or accessed through this tract? Is there recreational potential within the tract?	[N]
18. DENSITY AND DISTRIBUTION OF POPULATION AND HOUSING: Will the project add to the population and require additional housing?	[N]
19. SOCIAL STRUCTURES AND MORES: Is some disruption of native or traditional lifestyles or communities possible?	[N]
20. CULTURAL UNIQUENESS AND DIVERSITY: Will the action cause a shift in some unique quality of the area?	[N]
21. OTHER APPROPRIATE SOCIAL AND ECONOMIC CIRCUMSTANCES:	[N]
22(a). PRIVATE PROPERTY IMPACTS: Are we regulating the use of private property under a regulatory statute adopted pursuant to the police power of the state? (Property management, grants of financial assistance, and the exercise of the power of eminent domain are not within this category.) If not, no further analysis is required.	[N]
22(b). PRIVATE PROPERTY IMPACTS: Is the agency proposing to deny the application or condition the approval in a way that restricts the use of the regulated person's private property? If not, no further analysis is required.	[N]
22(c). PRIVATE PROPERTY IMPACTS: If the answer to 21(b) is affirmative, does the agency have legal discretion to impose or not impose the proposed restriction or discretion as to how the restriction will be imposed? If not, no further analysis is required. If so, the agency must determine if there are alternatives that would reduce, minimize or eliminate the restriction on the use of private property, and analyze such alternatives. The agency must disclose the potential costs of identified restrictions.	[N]

23. **Description of and Impacts of other Alternatives Considered:** None

24. **Summary of Magnitude and Significance of Potential Impact:** None

25. **Cumulative Effects:** None

26. **Preferred Action Alternative and Rationale:** The preferred action is to modify the MPDES permit. This action is preferred because the MPDES program provides the regulatory mechanism for protecting water quality by enforcing the terms of the MPDES permit.

**Recommendation for Further Environmental Analysis:**

Environmental Impact Statement (EIS)     More Detailed EA     No Further Analysis

**Rationale for Recommendation:** An EIS is not required under the Montana Environmental Policy Act because the project lacks significant adverse effects to the human and physical environment.

27. **Public Involvement:** A 30-day public notification/comment period will be held.

28. **Persons and agencies consulted in the preparation of this analysis:** None

**EA Checklist Prepared By:**

EA prepared by: Christine Weaver  
Date: January 2013

**Approved by:**

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Paul Skubinna, Chief  
Water Protection Bureau  
Permitting and Compliance Division

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Date