

FINDING OF NO SIGNIFICANT IMPACT (FONSI)/ FINDING OF NO PRACTICABLE ALTERNATIVE (FONPA)

Name of the Proposed Action

Environmental Assessment Addressing Activities Associated with Development of a Regional Wastewater Treatment Plant, Ellsworth Air Force Base, South Dakota.

Purpose and Need of the Proposed Action

The purpose of the Proposed Action is to demolish and decommission the existing wastewater treatment plant (WWTP) and provide an easement for the construction of a sanitary sewer pipeline on Ellsworth Air Force Base (AFB) that would connect to a pipeline off-installation that would flow to a proposed future regional wastewater treatment plant (RWWTP). Ellsworth AFB and the adjacent City of Box Elder are currently faced with upgrading their individual wastewater treatment facilities in order to meet more stringent South Dakota Surface Water Discharge System (SDSWDS) discharge limits imposed by the South Dakota Department of Environment and Natural Resources (SDDENR) that will become effective for Ellsworth AFB on October 1, 2014. The feasibility of constructing an RWWTP to support the sewage treatment needs of Ellsworth AFB and the City of Box Elder to meet these standards was evaluated. The engineering feasibility study indicated that it would be more cost-effective for an RWWTP to treat Ellsworth AFB's and City of Box Elder's sewage together versus using individual systems.

The need for the Proposed Action is to provide wastewater treatment capacity for Ellsworth AFB to meet more stringent SDSWDS standards. Ellsworth AFB operates a secondary conventional rock media trickling filtration WWTP. Effective October 1, 2014, Ammonia-N 30-day average and daily maximum limits will be instituted for Ellsworth AFB. The current WWTP at Ellsworth AFB is not capable of meeting these future ammonia-removal requirements within its current operational profile.

On February 4, 2009, House Bill Number 1301 was enacted by the legislature of the State of South Dakota, creating the South Dakota Ellsworth Development Authority (EDA). The South Dakota EDA seeks to address a number of issues concerning the future of the installation and compatible civilian development around Ellsworth AFB. Ultimately, the South Dakota EDA would be responsible for construction of the RWWTP and associated infrastructure.

The creation of a new RWWTP would also help to serve the City of Box Elder, which is currently over its capacity for treating wastewater and also must comply with the more stringent SDSWDS standards. Box Elder's demand for wastewater treatment is expected to increase because of expected population growth in the region.

Description of the Proposed Action and Alternatives

Proposed Action. The Proposed Action includes three components: (1) decommissioning and demolition of the existing WWTP, (2) granting an easement on Ellsworth AFB to the South Dakota EDA and construction of a sanitary sewer pipeline within the easement, and (3) Ellsworth AFB's contribution to the regional wastewater stream. These are discussed in the following paragraphs:

- ***Decommissioning/Demolition of the WWTP.*** Under the Proposed Action the existing WWTP would be decommissioned and demolished. Decommissioning would begin in early 2014 with flow being sent to the proposed RWWTP in summer 2014. WWTP decommissioning involves disconnecting the influent piping and rerouting it to the new RWWTP; discontinuing effluent

outflow; pumping all residual wastewater out of the treatment units; removing and properly disposing of all residual sludge; cleaning or decontaminating all treatment units and equipment; disconnecting utilities (e.g., water and electricity); removing from service petroleum-containing equipment and tanks including generators and transformers; and properly disposing of all residual chemicals, including chlorine, sulfur dioxide, and laboratory analysis chemicals. Demolition involves disassembly and removal of the infrastructure, including treatment units, buildings, and piping. Backfilling, grading, and revegetation would be needed in areas where below-ground structures have been removed. If indicated during the removal process or by historical records or experience, soil and groundwater contamination testing could be required.

- ***Wastewater Pipeline Easement and Construction.*** The Proposed Action would include the granting of an easement to the South Dakota EDA, which is authorized to construct the RWWTP, and the construction of a sanitary sewer pipeline within the easement by the South Dakota EDA. The easement would extend from the manhole just upgradient of the existing Ellsworth AFB WWTP across portions of the installation's golf course and potentially across Operable Unit-(OU) 6. The easement would begin at wastewater junction point to the west of Building 3013 and travel southeast along the golf course to a wastewater pipeline junction point east of Ellsworth Road. This easement would be granted to allow construction of an 18- to 36-inch pipeline from Ellsworth AFB to the proposed future RWWTP. Because of the natural topography of this area, the preferred pipeline route would follow natural contours to allow the pipeline to be gravity-fed versus installing a lift station to pump effluent. The proposed corridor is primarily to the west of the floodplain, but the corridor would cross the floodplain and a creek.
- ***Ellsworth AFB's Wastewater Contribution to the Regional Waste Stream.*** Under the Proposed Action, after completion of the decommissioning process for the existing Ellsworth AFB WWTP, flow from Ellsworth AFB would be sent through a sanitary sewer pipeline to the proposed future RWWTP off-installation. The current annual average daily flow of wastewater from Ellsworth AFB is 0.50 million gallons per day (MGD) and the maximum daily flow is 1.41 MGD. The projected wastewater flow from Ellsworth AFB in 2028 is an annual average daily flow of 1.5 MGD and maximum daily flow of 2.3 MGD. The City of Box Elder has undergone recent growth by annexing portions of Ellsworth AFB, which has nearly doubled the size of the city to a population of approximately 9,200. This annexation and other future developments by the city have increased the need for the city to expand its current wastewater treatment facilities, which are currently operating above capacity.

WWTP Upgrade Alternative. This alternative would require certain upgrades to meet the more stringent SDSWDS standards. The associated upgrades include the following to bring the existing WWTP into compliance with the October 1, 2014, ammonia standards:

- Activated sludge equipment (e.g., blowers, air diffusers, aeration basins) and a new process building to house the equipment
- New secondary clarification designed for the activated sludge process
- Ultraviolet disinfection to eliminate the hazards associated with chlorine gas handling
- Conversion of the existing anaerobic digesters to aerobic digesters to eliminate ammonia loading associated with effluent recycle
- Construct a new pumphouse
- Addition of sludge cake storage and vehicle equipment storage to address current needs at the facility (EAFB 2004b)

- Demolish existing chlorine building and trickling filter
- Construct a service road.

The WWTP Upgrade Alternative would not help the City of Box Elder meet the 2014 SDSWDS permit requirements or address issues with its lagoon treatment facility, which is operating over capacity. The WWTP Upgrade Alternative would therefore require the City of Box Elder to expand its own current wastewater treatment facilities. Nonetheless, upgrading the existing Ellsworth AFB WWTP is considered a reasonable alternative and was carried forth for further analysis.

No Action Alternative. Under the No Action Alternative, Ellsworth AFB would not implement the Proposed Action nor would the existing WWTP be upgraded to meet the 2014 SDSWDS permit requirements for ammonia. Ellsworth AFB would continue to use their existing WWTP to treat wastewater discharge. The existing WWTP would however be unable to meet the more stringent 2014 SDSWDS standards for ammonia. The No Action Alternative would likely be an infeasible alternative as Ellsworth AFB's existing WWTP would not meet the future ammonia requirements.

Summary of Environmental Effects

The public and regulatory agency scoping process focused the analysis on the following environmental resources: land use, infrastructure, noise, air quality, safety, geological resources, water resources, biological resources, cultural resources, socioeconomic resources and environmental justice, and hazardous materials and wastes. Details of the environmental consequences can be found in the Environmental Assessment (EA), which is hereby incorporated by reference. A summary of the analyses is presented in the Executive Summary of the EA.

Conclusion

Based on the description of the Proposed Action as set forth in the EA, all activities were found to comply with the criteria or standards of environmental quality and coordinated with the appropriate Federal, state, and local agencies. The attached EA and FONSI/FONPA were made available to the public for a 30-day review period. Agencies were coordinated with throughout the EA process and their comments were incorporated into the analysis of potential environmental impacts performed as part of this EA.

Notice of Wetland Involvement

As guided by Executive Order (EO) 11990, *Protection of Wetlands*, and Air Force Instruction (AFI) 32-7064, *Integrated Natural Resources Management*, the U.S. Air Force (USAF) hereby provides notice of the potential for wetland impacts. Jurisdictional wetlands within the project area occur within the section of the main installation drainage, an unnamed tributary of Box Elder Creek, which crosses the southeasternmost portion of the project area. Additional wetlands occur along the main installation drainage and impoundments adjacent to the eastern side of the project area. This drainage receives overland flow, discharge from the WWTP, and water from several culverts. Potential impacts on this wetland would occur from the construction of the sanitary sewer pipeline within wetlands associated with the unnamed tributary of Box Elder Creek. In addition, impacts on wetlands could occur from the cessation of flow from the WWTP feeding these wetlands.

The USAF has a no net loss policy on wetlands, and considers a portion of the project area to be a wetland. Loss of wetland acreage would likely require a U.S. Army Corps of Engineers Clean Water Act (CWA) Section 404(b) permit. The USAF is committed to mitigating the loss of the wetland area through

either creation of a similar feature nearby, or enhancing the existing wetlands, as required. Permitting authority would be determined based on negotiations between the USAF and the South Dakota EDA.

Other alternatives were reviewed during the EA development process under the requirements of the National Environmental Policy Act (NEPA), but were eliminated from further detailed analysis in the EA because they did not meet the stated purpose and need for the action, were not practicable, or would have led to greater overall environmental impact. The only practicable alternative is described in the “Description of the Proposed Action” section above. For the reasons stated in the EA, the dismissed alternatives are not practicable alternatives to avoiding the potential wetland impacts.

Two general corridors were considered as easements for granting to the South Dakota EDA for a sanitary sewer pipeline. The first corridor connects the inflow for the existing Ellsworth AFB WWTP to an existing sewer line corridor at the intersection of Ellsworth Road and the unnamed tributary of Box Elder Creek that flows through the Prairie Ridge Golf Course. A second corridor is along Ellsworth Street (west of the existing WWTP) and follows a former railroad spur that connected Ellsworth AFB with a railroad line in the City of Box Elder south of Interstate 90 (I-90). However, this second route would require construction of a lift station to pump the wastewater up to the elevation of the railroad spur, and this route would be more than twice as long as the route across the golf course. In addition, the golf course route would maximize use of existing sanitary sewer infrastructure already in place and would not require a lift station. For these reasons, the railroad spur route was not considered to be a practicable alternative to the golf course route.

Finding of No Significant Impact/Finding of No Practicable Alternatives

Based on the information and analysis presented in the EA conducted in accordance with the requirements of the National Environmental Policy Act, the Council on Environmental Quality regulations, implementing regulations set forth in 32 Code of Federal Regulations 989 (*Environmental Impact Analysis Process*), as amended, and review of the public and agency comments submitted during the 30-day public comment period, I conclude that the environmental effects of activities contributing to development of an RWWTP associated with Ellsworth AFB are not significant, that preparation of an Environmental Impact Statement is unnecessary, and that a FONSI/FONPA is appropriate. Pursuant to Executive Order 11990, *Protection of Wetlands*, Executive Order 11988, *Floodplain Management*, Air Force Instruction 32-7064, *Integrated Natural Resources Management*, and the authority delegated by Secretary of the Air Force Order 791.1, and taking the above information into account, I find that there is no practicable alternative to this action and that the Proposed Action includes all practicable measures to minimize harm to the wetland and floodplain environments.

David C. Howe
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Director of Installations and Mission Support (A7)

Date