



DRAFT
FINDING OF NO SIGNIFICANT IMPACT
PROPOSED IMPLEMENTATION OF THE
CONSTRUCTION OF A WASTEWATER TREATMENT PLANT
AND
RECLAIMED WATER DISTRIBUTION SYSTEM
JOINT BASE LEWIS-McCHORD, WASHINGTON

Introduction

The Department of the Army has prepared an Environmental Assessment (EA), incorporated herein by reference, evaluating the potential environmental, cultural, and socioeconomic effects of the proposed construction of a Wastewater Treatment Plant (WWTP) and Reclaimed Water Distribution System (RWDS) at Joint Base Lewis-McChord (JBLM).

This project will support JBLM and the Army in meeting sustainability goals through re-use of water, improving water quality, augmenting low stream flows on the installation, and will help mitigate impacts from the Army's decision to station more troops at JBLM under the July 2010 "Fort Lewis Army Growth and Force Structure Realignment" Environmental Impact Statement (EIS) (Grow the Army [GTA EIS]). The GTA EIS and appendices, as well as the Biological Opinion (BO) and the Record of Decision (ROD), are hereby incorporated by reference.

Purpose and Need

The purpose of the Proposed Action is to provide the necessary treatment technology required to improve water quality discharges into Puget Sound and to meet sustainability goals on JBLM by reducing the on-base potable water consumption by two percent (2%) per year by 2015.

The need for the Proposed Action is to ensure that JBLM sewage treatment capability complies with Federal water quality regulatory requirements. JBLM's current treatment process utilizes outdated technology which has contributed to a significant number of permit exceedances (18 since 2009) at the installation. Furthermore, evaluation of the existing Solo Point WWTP has projected facility failure within the next five (5) to seven (7) years which is not sufficient to accommodate future use. In addition to meeting State and Federal water quality guidelines, there is a need for environmental conservation and resource sustainability at JBLM. The re-use of treated wastewater would allow the reduced use of potable water resources by providing a new source of water for irrigation and industrial facilities on the installation. The use of reclaimed water would also significantly reduce the amount of wastewater discharge to Puget Sound, furthering JBLM's commitment as a local partner for the protection and the restoration of this resource.

Description of the Proposed Action and Alternatives

Proposed Action

JBLM proposes to construct a new WWTP and a RWDS. The Army's goal at JBLM is to meet Federal regulatory requirements and improve sustainability through the following objectives:

- Treat all wastewaters to meet a Class A reclaimed standard by 2025 to conserve water resources and improve Puget Sound water quality.
- Reduce potable water consumption by two per cent (2%) per year by 2015.

The new WWTP would utilize membrane bioreactor technology to meet water quality goals. The reclaimed water distribution system would support the Army's sustainability goal by re-using wastewater for irrigation, in industrial areas (e.g., equipment maintenance facilities, wash racks, boiler water feed, fire protection, etc.), and for flushing toilets.

Alternatives

Using the preliminary concept designs as our basis, JBLM identified environmental protection measures (as described in Section 2.5 of the EA and screening (evaluation) criteria to guide the environmentally and operationally sensitive "design" of the Proposed Action in development of Alternatives. The evaluation criterion was developed based on the physical, operational, and location requirements of the Proposed Action, as well as existing environmental constraints and operational activities on the installation. These environmental protection measures and screening criteria were determined to be required Site and Action attributes in order to achieve the purpose of and need for the Proposed Action, while minimizing the potential for adverse environmental and operational effects. Implementation of the environmental protection measures and mitigation measures as part of the Proposed Action and satisfaction of the screening criteria by an individual alternative would provide locations and infrastructure best suited to meet the purpose and need for the Proposed Action, while avoiding adverse environmental and operational effects - in other words, a "reasonable" alternative.

The goal of this effort was to narrow the number of alternatives and to identify which alternatives were "reasonable". Alternatives that were determined to be unreasonable were excluded from further analysis. Through this process, we identified the following reasonable alternatives which were analyzed in the Final EA:

- ***Alternative A (Preferred Alternative):***

Under Alternative A, JBLM proposes to complete a 2-phased construction effort to replace the existing Solo Point WWTP and to transition JBLM towards reusing treated wastewater (Class A). Phase I consists of construction of a new WWTP. Phase II consists of demolition of the existing WWTP, and construction of the RWDS and a new outfall to Puget Sound. These phases are described in more detail below.

Phase 1 - Construction of a new WWTP

Phase 1 of Alternative A would be to construct a new WWTP facility on an approximately ten (10) acre undisturbed site immediately south of the existing Solo Point WWTP.

A new administration building would be required to support the facility in order to meet plant operation requirements (e.g., proximity to controls). The administration building would be designed to meet Leadership in Energy and Environmental Design (LEED) Silver Certification standards and the intent of Executive Order 13423.

The new plant would have 4.3 million gallons per day (MGD) capacity, capable of producing reclaimed water that would meet Class A standards (JBLM, 2011c). Class A

reclaimed water treatment requirements are listed in the Washington Administrative Code under WAC- 173-219-420. The new WWTP would have a Membrane Bioreactor (MBR) treatment with primary and secondary disinfection processes to achieve the quality necessary to be classified as Class A reclaimed water.

Class A reclaimed water would be suitable for reuse on JBLM for recharging of upstream aquifers, vehicle wash racks, fire protection, irrigation, and Heating Ventilation and Air Conditioning (HVAC) systems.

Initially, the new WWTP would be sized to support an approximate maximum monthly flow of 4.34 MGD. The proposed wastewater treatment facilities would be constructed and placed so that adequate space is available for a 50 percent (50%) increase in capacity for future needs and requirements.

The estimated completion date for the design is September 2013, with construction immediately following the design. The construction of the WWTP is estimated to take two (2) years and be completed by September 2015.

Operation of the new facility would not differ from existing day-to-day operations of the existing Solo Point WWTP facility. Operation of JBLM's current WWTP is authorized by EPA's National Pollutant Discharge Elimination System (NPDES) permit which was approved April 1, 2012 and will remain valid until April 1, 2017.

Phase II - Demolition of Existing Structures and Proposed Future Construction of the RWDS and Outfall

The basic elements of Phase II include the construction of the RWDS, which is still being designed and will require further soil tests for locating the optimal infiltration galleries. The analysis of this phase is programmatic, with the intent that additional National Environmental Policy Act (NEPA) documentation would review the plans and final locations of the infiltration galleries if/when they are designed.

Phase II of Alternative A would include the following activities:

- Demolition of the existing Solo Point WWTP.
- Proposed future construction of the RWDS facility adjacent to the new WWTP; this new facility would be within the old footprint of the current Solo Point WWTP.
- Proposed future construction of pump stations for bringing water back up-grade from the new WWTP toward the cantonment area.
- Construction of RWDS pipelines that will lead to existing irrigation systems, industrial facilities, and other uses as described below:
 - Irrigation: Parade areas, grounds maintenance, golf courses, athletic fields, housing areas, school lawns, and cemeteries. Irrigation occurs during a five-month period between May and September, with most occurring between July and September.
 - Stream flow Augmentation: Potential linkage to the headwaters of Murray Creek during low flow seasons.
 - Industrial: Equipment maintenance facilities, wash racks, commercial car washes, boiler water feed, weapons re-coating facility (Parkerizing process), and concrete manufacturing facilities. Industrial water demand is year-round.
 - Other Uses: Toilet flush water for new barracks facilities and ground water recharge. Ground water recharge would be accomplished through, at a minimum, three (3)

major infiltration galleries located at the end of the three proposed pipeline corridors. Water demand for other uses is year-round.

- Construction of New Outfall. A new outfall and diffuser would be constructed near the current location of the existing outfall (500 feet offshore, approximately 70 feet below). This action would require trenching or jack and bore within the sediment of the Puget Sound shoreline. The current reinforced concrete pipe-diffuser assembly would be abandoned in place to minimize additional and unnecessary sedimentation and turbidity in the marine environment. Although the RWDS would essentially remove the need for the outfall, as the water would no longer be discharged through it in the future, the new outfall would serve as both an interim function and backup operational precaution. The new outfall would replace the existing deteriorating outfall in the interim until the RWDS is fully operational. The new outfall would also serve as back up should the RWDS encounter a problem where temporary use of it would cease and therefore the new outfall could resume discharging Class A water into Puget Sound.

- **Alternative B:**

Alternative B would be implementation of Phase I, the construction of a new WWTP only, as described above and within chapter 2.3.1.1 of the Final EA. Under this alternative, the Army would construct a new WWTP just south of the existing WWTP at Solo Point. Operation of the proposed WWTP would occur under existing NPDES permits. Under this alternative, there would be no demolition of the existing WWTP, construction of the RWDS system, or construction of a new outfall, which are all outlined under Alternative A, Phase II. All treated wastewater would discharge to the Puget Sound through the existing outfall, as authorized by the Army's current NPDES permit.

- **No Action Alternative:**

Under the No Action Alternative, no new WWTP would be constructed. The existing WWTP would continue to degrade and become inadequate to treat the quality of sewage received from the population at JBLM. The No Action Alternative would not meet the purpose and need for the Proposed Action, but represents the baseline conditions against which potential consequences of the Proposed Action can be compared. As required under the Council on Environmental Quality (CEQ) and Army NEPA Regulations (40 CFR 1502.14), the No Action Alternative reflects the *baseline* and served as a benchmark against which the effects of the Proposed Action were evaluated.

2. Environmental Analysis

The EA's analysis looked into the implementation of the Proposed Action under both the Preferred Alternative (Alternative A) and Alternative B. Although both alternatives include the construction of a new WWTP (as described in Phase I), the Preferred Alternative includes plans for the construction of a RWDS and outfall (Phase II) which has not been designed, nor has been programmed for funding at this time. Although detailed engineering designs are not available, the Preferred Alternative identified general locations that have been identified as possible routes for RWDS "purple pipe". Because of the limited information available for this phase of the project, the EA took a programmatic approach during its analysis for Phase II, recognizing the flexibility of the RWDS project and its ability to avoid sensitive resources through appropriate design and placement. Rather than identifying every location where an impact to a sensitive resource might occur (e.g., the location of every National Register of Historic Places (NRHP) eligible cultural resource and/or surveying for Endangered Species Act (ESA) listed species in the vicinity of the proposed alignment), the analysis relies on implementation of the environmental protection measures to avoid the resource. If programmed and planned, Phase II of the project would require subsequent environmental review, including NEPA analysis and consultation with regulatory agencies to ensure that project has implemented appropriate protective measures to sensitive natural resources.

Although the construction of a new WWTP is needed to ensure JBLM is in compliance with Federal water quality requirements and regulations, it should be noted that the primary focus of Phase II is to improve sustainability at the Installation. A common sense approach tells us that if significant impacts are identified with a proposed route or use of the RWDS, those plans or designs would be modified, changed, or even deleted all together, if a solution could not be developed which would mitigate those impacts to less than significant.

During project scoping, several resource areas and environmental concerns were identified for analysis, including: Air quality, noise, soil/geology, vegetation, water resources, biological resources, socioeconomics, public services, hazardous materials and waste, aesthetics and visual quality, transportation, cultural resources, land use, and air space. A summary of the expected impacts to these resources with the implementation of the Preferred Alternative (Alternative A), Alternative B, and the No Action Alternative are summarized below.

Affected Environment and Consequences of Alternatives			
VEC	No Action Alternative	Alternative A (Phase I & II)	Alternative B (Phase I Only)
Air Quality	No Effect	Short-term, less-than significant adverse effect during construction. Improvement in long-term air quality with reduced methane burn-off.	Short-term, less than significant adverse effect during construction. Improvement in long-term air quality with reduced methane burn-off. The level of construction impacts without the RWDS would be substantially less on air quality with reduced fugitive dust.
Noise	No Effect	Short-term, less-than significant adverse effect during construction. There would be short term construction noise on the school and children along the DuPont RWDS alignment. No long-term noise effects.	Short-term, less-than significant adverse effect during construction. No long-term noise effects. The level of construction impacts without the RWDS would be substantially less on sensitive noise receptors along the RWDS alignments.
Soil/Geology	No Effect	Short-term, less-than significant adverse effect during construction. No long-term soil effects.	Short-term, less-than significant adverse effect during construction. No long-term soil effects. The level of construction impacts without the RWDS would be substantially less on soils.
Vegetation	No Effect	Short-term, less-than significant adverse effect during construction. Retention of existing tree buffer at WWTP site and landscape restoration will off-set any long term effects.	Short-term, less-than significant adverse effect during construction. The level of construction impacts without the RWDS would be substantially less on the vegetation. Retention of existing tree buffer at WWTP site will off-set any long term effects around the WWTP site.
Water Resources	Continued degradation of water quality and potential failure of meeting USEPA requirements	Short-term, less-than significant adverse effect during construction with implementation of JBLM environmental protection measures and the proposed mitigation. The water resource would not be directly impacted with directional boring. The impacts are avoided by constructing in existing utility corridors and road prisms. The long term operational effects of reclaimed waste water would be beneficial to the base and regional water quality.	Short-term, less-than significant adverse effect during construction. Retention of existing tree buffer at WWTP site will off-set any long term effects. The level of construction impacts without the RWDS would be less on adjacent water resources.
Biological Resources	Near shore adverse impacts from degrading water quality discharge from existing WWTP	Short-term, less-than significant adverse effect during construction with implementation of JBLM environmental protection measures and the proposed mitigation. There are some fish, birds, and mammal species designated under the Endangered Species Act (ESA) that may have short-term effects. Specifically, it is likely that Bull Trout, Chinook Salmon, Steelhead, Coho Salmon, Chum Salmon, Pacific Eulachon/Smelt, Marbled Murrelet, Streaked Horned Lark, and Southern Resident Killer Whale would have a construction determination of May Affect, Not Likely to Adversely Affect. Informal consultation would be required for the construction of the outfall and RWDS.	Short-term, less-than significant adverse effect during construction with implementation of JBLM environmental protection measures and the proposed mitigation. No Effect to Endangered Species Act (ESA) listed species.

Affected Environment and Consequences of Alternatives			
VEC	No Action Alternative	Alternative A (Phase I & II)	Alternative B (Phase I Only)
		The long term operational effects of reclaimed waste water would be beneficial to biological resources upland and in the fresh/marine water habitats.	
Socioeconomics	No Effect	The construction and operations of the new WWTP, new outfall, and demolition of the existing WWTP would not create disproportionate impacts to minority, low income, schools, or children. There are no Environmental Justice impacts from the Proposed Action. An adverse impact would be realized with the RWDS, specifically the Lewis Main Line – City of DuPont alignment would create adverse impacts to the 35% minority school child population during construction. However, those impacts can be avoided with the other on base alignment alternatives proposed.	The construction and operations of the new WWTP would have no disproportionate impacts to minority, low income, schools, or children. There are no Environmental Justice impacts from the proposed action.
Public Services	Increasing need for continual maintenance and improvements; emergency responses to adverse water quality discharges and permit violations.	Limited effects with Short-term construction activities that may require temporary shut-off of utilities in localized areas.	Limited effects with Short-term construction activities that may require temporary shut-off of utilities in localized areas.
Hazardous Material & Waste	Increase in adverse water quality discharges, permit violations, and failure at meeting sustainability goals.	Limited effects that would be focused on the demolition of the existing WWTP which may contain lead/asbestos. This will be mitigated by appropriate application of abatement standards and operating procedures in addition to environmental protection measures and the proposed mitigation.	No Effect.
Aesthetics & Visual Quality	No Effect	Short term effects during construction activity, but not substantial adverse impacts.	No Effect
Transportation	No Effect	Short term construction activities will require detours and partial lane closures.	No Effect
Cultural Resources	No Effect	The new WWTP and RWDS system could have an impact on existing historical resources in the vicinity of the Logistics Center Line at the Main Gate of JBLM. An archaeological survey is being conducted to define the extent of the resource and directional bore methods are proposed to avoid the resources.	No Effect
Land Use	No Effect	No Effect	No Effect
Air Space	No Effect	No Effect	No Effect

In review of the resource areas that could potentially be affected by the proposed action, no significant impacts were identified with the implementation of either the Preferred Alternative (Alternative A) or Alternative B, in conjunction with implementation of the integral environmental protection measures that are outlined in the EA. The EA also identified additional mitigation measures to further reduce or avoid effects to soils, water resources and wetlands, biological resources, and cultural resources.

Implementation of Phase I of the proposed project would have the same effect for both alternatives, but the Preferred Alternative would result in a significantly larger footprint with the option for the future RWDS.

From a programmatic review, the EA discloses that the enhanced capability of the Preferred Alternative would result in only minor additional environmental effects as compared to Alternative B. These include potential adverse effects to wetlands and streams and possible impacts to ESA listed species from the construction of the RWDS pipeline system. However, these effects are not expected to be significant. Implementation of the environmental protection and the mitigation measures will ensure that these potential adverse effects are minimized or avoided.

Overall, either action Alternative would result in the following effects:

Long-term positive effects to:

- Water Resources (water quality)
- Public Services (wastewater treatment quality, water reclaim/reuse)
- Air Quality (reduced methane burn-off)
- Biological Resources (discharge of higher quality effluent)

Short-term positive effects to:

- Socioeconomics (economy, including Environmental Justice – via construction jobs/spending).

No effects to:

- Airspace
- Land Use

Less-than-significant adverse effects to:

- Air Quality (short-term; construction emissions)
- Noise (short-term; construction noise)
- Soils/Geology (short-term; construction erosion and sedimentation)
- Vegetation (short-term and long-term; removal of trees for WWTP construction)
- Threatened and Endangered Species (short-term from construction of the outfall and RWDS)
- Socioeconomics (population, housing)
- Public Services (energy, water, electricity)
- Hazardous Material and Wastes (short-term impacts to waste production from demolition and construction)
- Aesthetics and Visual Quality (short-term; construction)
- Transportation and Traffic (short-term; construction traffic, and minor traffic effects)
- Cultural Resources (potential for inadvertent discovery from construction activities)
- Water Resources and Wetlands (during construction)
- Biological Resources (during construction)

Potential less than significant adverse effects can be avoided and/or minimized through implementation of best management practices, environmental protection measures, and referenced mitigations. These mitigation measures will be implemented by JBLM, and no significant adverse cumulative impacts are anticipated.

The No Action Alternative was not found to satisfy the purpose of and need for the Proposed Action. In addition, this Alternative would result in the continuation of long-term, significant adverse impacts to water quality (i.e., inability to use meet current/future water quality and treatment requirements). This would result in a long-term adverse effect to the safety, security, and operational efficiency of training and support activities at JBLM and potentially to the surrounding community.

Mitigation

The environmental protection measures (**Section 2.5**) and the mitigation measures (**Table 4-7**) identified in the Final EA will be implemented. These include mitigation measures for potential construction-related impacts to soils, water resources and wetlands, biological resources, and cultural resources. Implementation of these measures will further reduce the level of identified impacts or avoid the impacts altogether.

Public Review and Comment

The Final EA and this draft FNSI will be available to the public for a 30-day review period. An announcement was published XX January 2013 in *The Tacoma News Tribune* and *The Olympian* in accordance with the Army NEPA Regulation (32 CFR Part 651.36). A Notice of Availability (NOA) will also be sent to the list of interested parties and stakeholders in the EA's Appendix D. The Final EA and draft FNSI will be made available to the public at the DuPont, Lakewood, Steilacoom, and Tillicum branches of the Pierce County Library System.

The documents can also be viewed on the JBLM public website:

http://www.lewis.army.mil/publicworks/sites/envir/eia_wwtpr.htm.

Other Environmental Regulatory Requirements

The Army has satisfied its Endangered Species Act (ESA) Section 7 consultation responsibilities with the submission of a Biological Evaluation and No Effect Determination to NMFS and USFWS. JBLM has also completed their Section 106 requirements and has received concurrence from SHPO for their Finding of No Historic Properties.

In pursuit of Executive Order (EO) 13175, *Consultation and Coordination with Indian Tribal Governments*, 6 November 2000, JBLM sent letters in March 2012 and in September 2012 to local tribal governments regarding the proposed WWTP project as part of our ongoing Government to Government (G2G) relationships.

Actions associated with Phase II of the proposed action would require additional NEPA analysis, subsequent consultations with regulatory agencies, and the tribes for its authorization.

Finding of No Significant Impact

I, as the Joint Base Commander of JBLM, am the Federal decision-maker concerning this proposal. I have considered the results of the analysis referenced in the associated EA, comments received, and the Army mission requirements. Based on this documentation, which has been incorporated or referenced, I have determined that JBLM will pursue Alternative B, the construction of a new WWTP only, at this time.

Although Alternative A was identified as the Army's Preferred Alternative, JBLM will not be carrying out this alternative at this time. NEPA requires that the impacts of proposed Federal Actions be detailed "to the fullest extent possible". At present, I do not believe that we have satisfied this requirement for Phase II of the project.

The programmatic review of the Alternative A (Phase I and Phase II) found no significant impacts to the environment, primarily due to project design flexibility and environmental protective measures that were put into place. Based on this information, I do believe that Phase II, which is outlined in the Army's Preferred Alternative, may also reach a FNSI decision once a hard-look and additional environmental review can be completed. Specifically, additional information (i.e. Biological Assessment and Section 7 consultation) would be required to document the potential impacts to ESA listed species that would be associated with the construction of the proposed RWDS and outfall. The proposed RWDS would also

need to be reviewed to ensure that the planned route did not impact wetlands or protected waterbodies, nor result in adverse impact to any historic, cultural, or tribal resources (Section 106).

I have taken a hard look at known impacts of the implementation of Alternative B, and have determined there to be No Significant Impacts associated with the construction of a new WWTP at JBLM, and therefore, an Environmental Impact Statement is not warranted for Phase I of this project.

Date

H. CHARLES HODGES, JR.
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Joint Base Commander