

FORT LEWIS WWTP INVESTIGATION

ENCLOSURES AND EXHIBITS
Contains Enclosures 1-3 and Exhibits 1-49

(1 of 2)

VOL I

FT. Lewis WWTP AR-6 ROI

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AR 15-6 ROI Ft. Lewis Waste Water Treatment Plant

MEMO



DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
WEST REGION
2450 STANLEY ROAD, SUITE 101
FORT SAM HOUSTON, TX 78234-6102

19 July 2007

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JGA Deputy Director 19 Jul 07
MEMORANDUM THRU Director, Installation Management Command-West (IMWE),
2450 Stanley Road, Suite 101, Fort Sam Houston, TX 78234-6102

FOR Mr. Philip E Sakowitz, Executive Director, US Army Installation Management
Command (IMCOM), 2511 Jefferson Davis Highway, Arlington, VA 22202-3926

SUBJECT: AR 15-6 Report of Investigation – Fort Lewis Waste Water Treatment Plant

1. REFERENCES:

- a. HQ IMCOM-LA 6 June 2007 Memorandum, Subject: Appointment as AR 15-6 Investigating Officer.
- b. AR 15-6.

2. BACKGROUND:

a. On 30 May 2007, the Army Office of General Counsel (OGC) forwarded to IMCOM HQ a referral memorandum from the Office of Special Counsel (OSC) related to a whistleblower complaint alleging mismanagement and misconduct at the Fort Lewis waste water treatment plant (WWTP). The whistleblowers allege that the Ft. Lewis wastewater treatment plant is discharging unacceptable and unlawful quantities of oil and other contaminants into Puget Sound, in violation of the plant's operating permit; that plant management fails to properly maintain and replace plant equipment; that plant management does not take adequate measures to protect employees against occupational health and safety risks; and gross mismanagement on the part of the Plant Supervisor, in that he is not qualified to be plant supervisor because he does not possess the appropriate Level III certification, among other things.

b. On 6 June 2007, I was appointed as an Investigating Officer and directed to conduct an investigation in accordance with AR 15-6 into the allegations raised by the whistleblowers. This Report of Investigation (ROI), documents the findings, conclusions and recommendations that resulted from my investigation.

c. On 26 June 2007, IMLA informed IMWE-LA by email that the Army General Counsel's office extended the suspense date for this ROI from 27 June 2007 to 18 July 2007. Reference "a" and the extension notice are Enclosures 1, 2, and 3.

d. The Solo Point Wastewater Treatment Plant (WWTP), constructed in 1955 for primary treatment and upgraded to provide secondary treatment in 1974, provides preliminary, primary and secondary treatment of both domestic and industrial wastewater. The WWTP was upgraded in 2005. Improvements included new preliminary treatment process (fine screens and grit removal), sludge pumps, scum pumps, waste gas burner system, propane storage, digester gas system, and boilers. The WWTP effluent is discharged to the Puget Sound via a pipe with diffusers approximately 70 feet deep. The WWTP receives wastewater from Fort Lewis, McChord Air Force Base, Camp Murray and a Veterans Hospital. The design average flow rate is 7.0 million gallons per day (MGD). The average daily flow is approximately 3.4 MGD (Exhibits 106-159).

e. Five operators and a lab technician, possessing two Group II, three Group III, and one Group IV licenses, operate the WWTP in shifts seven days a week, 24 hours a day. The WWTP supervisor position is entitled Utility Systems Repairer-Operator Supervisor. Organizationally, that position is responsible to supervise three subordinate shops: The WWTP, the Water Treatment Plant (WTP) and the exterior water & sewer. (b)(6) (b)(6) was temporarily promoted to this position on 4 September 2005. He accepted a competitive temporary promotion for the same position on 3 January 2006 and his promotion was made permanent on a non-competitive basis on 4 April 2006. In April 2007, (b)(6) was informally removed from the position of WWTP supervisor. On 3 April 2007, (b)(6), a water systems engineer, was detailed as interim WWTP supervisor for 120 days. The purpose of this detail is to take corrective actions and allow time for management decisions and actions, if necessary, to fill the WWTP supervisor position permanently. (b)(6) remains assigned as the water treatment plant and exterior water & sewer shop supervisor.

3 SUMMARY:

a. Issues and Conclusions: As directed, I investigated the following issues, and I determined that evidence supports the conclusions below:

(1) Issue: Whether the Fort Lewis WWTP is discharging unacceptable and unlawful quantities of oil and other contaminants into Puget Sound, in violation of the plant's operating permit.

Conclusion: The WWTP is not discharging unlawful quantities of oil or other contaminants into Puget Sound in violation of its permit; however Fort Lewis properly notified EPA that on nine days during the period of June 2005 through May 2007 the WWTP operated outside of the permit's pH limit; analysis indicates no other contaminants were discharged into Puget Sound as a consequence of these pH excursions and EPA did not issue a notice of violation.

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(2) Issue: Whether WWTP management fails to properly maintain and replace plant equipment.

Conclusion: Although the "suspended" WWTP Supervisor, (b)(6), and Operator-Repairer employees maintained the WWTP adequately to meet National Pollutant Discharge Elimination System (NPDES) discharge requirements, evidence reveals certain equipment did not function properly, redundant "back up" equipment remained inoperable for extended periods, and other equipment was not serviced properly; management investigated these conditions in response to recent employee complaints, and the interim WWTP Supervisor has initiated corrective measures.

(3) Issue: Whether WWTP management fails to take adequate measures to protect employees against occupational health and safety risks.

Conclusion: (b)(6) (b)(6) failed to adequately emphasize the Public Works Safety Program, did not order requested safety equipment, and disregarded safe practices during an equipment repair job; however, there have been no OSHA violations and no continuing violations of unsafe conditions reported to the Fort Lewis Safety Office; the interim (b)(6) has made safety a priority.

(4) Issue: Whether there is gross mismanagement on the part of the Plant Supervisor, in that he is not qualified to be plant supervisor because he does not possess the appropriate Level III WWTP certification, among other things.

Conclusion: (b)(6) has demonstrated management and leadership shortcomings that place the WWTP at risk and adversely affect employee morale; although state certification requirements do not apply directly to the federally owned and operated WWTP, (b)(6) does not meet the Fort Lewis condition of employment that the WWTP supervisor hold a Washington State WWTP Group III certification, and (b)(6) Group II certification does not demonstrate a level of technical competence required for the Fort Lewis WWTP; the interim WWTP supervisor, a water systems engineer, is assertively fixing WWTP management and leadership deficits, and WWTP operations, maintenance, and morale are rapidly improving.

b. Recommendations: See paragraph 10 below.

4. PROCESS:

a. Investigative Actions:

(1) 4-8 June 2007: Reviewed allegations; gathered preliminary information and documents; coordinated with subject matter experts; and researched applicable law and regulations.

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(2) 11-15 June 2007: Visited Fort Lewis, Washington; interviewed twenty witnesses, including each complainant (Exhibits 29-49); made site visits to the WWTP and other public works facilities (Exhibit 5), and reviewed relevant reports to include the Garrison AR 15-6 (Exhibits 8, 9, and 10) and US Army Center for Health Promotion and Preventive Medicine (Exhibit 4) reports, and gathered operations, maintenance, safety and test documents (Exhibits 6, 11, 15-28, and 50-105).

(3) 18 June – 6 July 2007: Analyzed the hundreds of pages of documents and witness statements.

(4) 9-13 July 2007: Prepared AR 15-6 Report.

b. Issue Analysis: The following paragraphs discuss each issue. Each discussion includes facts relevant to the issue, analysis, and conclusions.

5. ISSUE: Whether the Fort Lewis WWTP is discharging unacceptable and unlawful quantities of oil and other contaminants into Puget Sound, in violation of the plant's operating permit.

a. Relevant Facts:

(1) The Fort Lewis WWTP is a federally owned and operated WWTP. It is operated under NPDES Permit WA-002195-4 issued by the EPA to Fort Lewis effective on 1 February 2004.

(2) Concerning oil and other petroleum products, the Permit requires that there shall be no discharge of floating solids and/or visible foam in other than trace amounts or oily wastes which produce sheen on the surface of the receiving water. Furthermore, two samples for total petroleum hydrocarbons (TPH) are to be collected during the wet season (October-March) and analyzed, using the Hydrocarbon Identification Method for soil and water. This analysis is required to determine if TPH is present in the effluent at levels of concern and only required during the first year of the permit.

(3) Concerning other contaminants, the permit stipulates certain limitations.

(a). Total Residual Chlorine (TRC). The following limitations shall apply: total residual chlorine 0.5 mg/l.

(b). Fecal Coliform (FC) Bacteria. The following limitations shall apply: The average monthly fecal coliform count must not exceed a geometric mean of 200 colonies/100 ml. The average weekly fecal coliform count must not exceed a mean of 400 colonies/100 ml.

(c). pH. The pH shall not be less than 6.0 or greater than 8.5 standard units.

(d). Biochemical Oxygen Demand (BOD). The following limitations shall apply: 5 day Biochemical Oxygen Demand (BOD5) - Average monthly 30 mg/l and average weekly 45 mg/l. Average monthly 1902 lbs/day and average weekly 2852 lbs/day. * Monthly average BOD5 and TSS effluent concentrations shall not exceed 30 mg/l or 20% of the influent concentrations whichever is more stringent.

(e). Total Suspended Solids. The following limitations shall apply: Total Suspended Solids* (TSS) - Average monthly 30 mg/l and average weekly 45 mg/l. Average monthly 1902 lbs/day and average weekly 2852 lbs/day. * Monthly average BOD5 and TSS effluent concentrations shall not exceed 30 mg/l or 20% of the influent concentrations whichever is more stringent.

(4) I interviewed 16 witnesses regarding this issue (Exhibit 29, 33, 34, 35, 36, 37, 38, 40, 41, 42, 43, 44, 45, 46, 47, 48) and examined Discharge Monitoring Reports (DMRs) from June 2005 to May 2007 (Exhibits 74 thru 97); Facility Operating Logs from June 2005 to May 2007 (Exhibits 50 thru 73); a US Army Center for Health Promotion and Preventive Medicine (USACHPPM) performance evaluation report (Exhibit 4); EPA correspondence (Exhibits 27 and 28); and numerous other pertinent reports.

b. Analysis:

(1) The permit states "there shall be no discharge of floating solids, visible foam in other than trace amounts or oily wastes which produce sheen on the surface of the receiving water (Exhibit 3). The test for the first element of this permit standard is a visible observation of floating solids or visible foam in other than trace amounts exiting the discharge weir at the end of the detention tank.

(2) Thirteen of sixteen witnesses that were interviewed stated they had not observed or had knowledge of a report of floating solids in other than trace amounts and none indicated they had observed foam in other than trace amounts leaving the wastewater treatment plant (exiting the discharge weir at the detention tank), (Exhibits 29, 33, 34, 35, 36, 37, 38, 40, 41, 42, 43, 44, 45, 46, 47, 48). Three witnesses (42, 44, and 45) answered yes to the question about having observed or having knowledge of a report of floating solids leaving the wastewater treatment plant. (b)(6) states suspended solids flow over the detention tank weir and carry petroleum with them (Exhibit 45). (b)(6) states that some solids do go over and believes "perhaps a bit more than trace". (b)(6) states that (b)(6) told him that "things are released to the Sound" (Exhibit 42). However in his statement, (b)(6) indicates that the amount leaving would be trace amounts" (Exhibit 35). (b)(6) stated he had seen things leaving the detention tanks (Exhibit 42). Given all the witnesses statement descriptions I believe that some floating solids do pass over the weir but only in trace amounts.

(3) The permit states "There shall be no discharge of floating solids and visible foam in other than trace amounts, or oily wastes which produce sheen on the surface of the receiving water (Exhibit 3). The test for the second element of this permit standard is a visible observation of oil sheen at the outfall in Puget Sound located about 600 feet from the WWTP and 70 feet below the surface.

(4) Fourteen of sixteen witnesses that were interviewed stated that they had not observed or had knowledge of a report of oil sheen at the outfall of Puget Sound (Exhibits 29, 33, 34, 35, 36, 37, 38, 40, 41, 42, 43, 44, 45, 46, 47, and 48). Two witnesses (Exhibits 42, and 44) answered "Yes" to the question about having observed or having knowledge of a report of oil sheen at the outfall of Puget Sound. (b)(6) said "Yes" but explained that the release is emulsified and will not become sheen on the surface (Exhibit 42). (b)(6) said "Yes" but explained that he had not seen (an oil sheen) at the outfall but he had seen an oil sheen going over the wastewater treatment plant weir out of the detention tank (Exhibit 44). Therefore, because these two witnesses clarified that they did not observe or have knowledge of a report of oil sheen at the outfall of Puget Sound; all witnesses verified that the second element of the permit standard has not been violated.

(5) Witness statements were corroborated by the DMRs, which did not report any floating solids or visible foam exiting the discharge weir and did not report any incidences of oil sheen at the Puget Sound outfall (Exhibits 74 thru 97).

(6) During the WWTP study, the USACHPPM study team checked for foam and floating solids in other than trace amounts and detected none. The team also did not observe oil sheen in the effluent leaving the WWTP (Exhibit 4 and 12).

(7) Further corroborating witness statements, a random sampling of operator log book entries revealed no reports of foam or floating solids in the effluent leaving the WWTP (Exhibit 5).

(8) During my onsite inspection, I observed no floating solids, foam, or oil in the effluent leaving the wastewater treatment plant (Exhibit 5).

(9) The permit requires 2 samples for total petroleum hydrocarbon (TPH) to be collected during the wet season in the first year of the permit (Exhibit 3). The analysis is required to determine if TPH is present in the effluent at levels of concern. Results show TPH was less than 1.51 mg/l (Exhibit 11). This is consistent with the permit application showing TPH at 1.01 mg/l (Exhibit 1). This report did not generate a response from the EPA to further regulate the TPH discharge which indicates the two TPH samples results are below the concentrations that EPA would consider a "level of concern".

(10) Ft. Lewis started voluntary monthly monitoring of petroleum components (diesel & lubricating oil) in June 2006. Gasoline was monitored over a 4 month period starting December 2006. After 4 months, gasoline monitoring was stopped because it was not detected in any of the effluent samples. Nine of 11 monthly samples detected lubricating oil in the effluent with a range of 0.36 to 2.01 ppm. Diesel was detected in 5 of 11 monthly samples with a range of 0.12 to 0.78 ppm (Exhibit 6). The data shows TPH ranging from "Not detected" to 2.79 ppm. The NPDES permit application reported TPH present at 1.01 ppm (Exhibit 1). The data has been reported on the monthly DMR's (Exhibits 86, 88, 89, 90, 91, 92, 93, 94, 95, 96, and 97). The reported levels have not resulted in any action by the EPA to further regulate TPH under the permit. The EPA has the authority to re-evaluate the need to impose additional limits when the test data shows TPH present at "levels of concern". Since the EPA has not imposed additional limits, these TPH concentration levels are below those that the EPA considers "levels of concern".

(11) Concerning other contaminants, DMRs' show that there were no non-petroleum contaminants (TRC, FC, BOD, and TSS) exceeding mass and concentration permit limits, discharged into Puget Sound from the WWTP (Exhibits 74 thru 97).

(12) Although DMR's for the period June 2005 through May 2007 show that there were no non-petroleum contaminants exceeding mass and concentration permit limits, discharged into Puget Sound from the WWTP, various pH excursions occurred in April-May 2006 and April 2007 (Exhibits 60, 61, 72, 84, 85, and 96). To determine if other contaminants were discharged as a consequence of the pH excursions, we evaluated the Total Suspended Solids (TSS) and Biochemical Oxygen Demand (BOD) removal efficiencies of the WWTP on the days of the pH excursions. A pH excursion (pH below 6.0) occurred on 14 April 2006. The BOD removal efficiency was 91%. This is consistent with the April 2006 monthly average of 89%. The TSS removal efficiency was 89% which is consistent with the April 2006 monthly average of 89%. The following month's pH excursions occurred on 17, 19, 29, 21, 24 and 25 May 2006. The BOD removal efficiencies ranged from 89% to 92% with an average of 91%. This is consistent with the May monthly average of 91%. The TSS removal efficiencies ranged from 91% to 96% with an average of 93%. This is consistent with the May monthly average of 93%. Additional pH excursions occurred on 19 and 21 April 2007. The BOD removal efficiencies were 88% and 80% with an average of 84%. This is consistent with the April monthly average of 86%. The TSS removal efficiencies were 86% to 88% with an average of 87%. This is consistent with the April monthly average of 88%. These TSS and BOD removal efficiencies would indicate that the treatment process continued to remove other contaminants during the pH excursions that would normally be removed prior to discharge.

(13) Fort Lewis submitted a report to the EPA addressing the May 2006 pH excursions and submitted two letters addressing the April 2007 excursions (Exhibits 27 & 28). No notices of violation or enforcement actions have been issued by the EPA

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(Exhibits 25 and 40), which indicates that the EPA did not conclude that these excursions were serious violations.

(14) A US Army Center for Health Promotion and Preventive Medicine (USACHPPM) Waste Water Treatment Plant (WWTP) Performance Evaluation (29 Nov - 7 Dec 2006) (Exhibit 4), included a review of the WWTP records for 2004 to 2006. Based upon the review USACHPPM concluded that the WWTP was operated in compliance with the permit effluent limitations which set concentration and mass limits for non-petroleum contaminants such as biochemical oxygen demand, total suspended solids, fecal coliform bacteria and total residual chlorine. They reached this conclusion while noting one exception, when treatment was inhibited by an unknown pollutant in May 2006.

(15) Fort Lewis leadership has coordinated with the Washington State Department of Ecology to sign a memorandum of understanding with the goal of adding an environmentally approved pre-treatment plan. The program described in the memorandum, signed 7 June 2007, will enhance the Fort Lewis WWTP processes by intercepting, capturing, and appropriately managing industrial wastes (Exhibits 8, 161, and 162).

c. Conclusion: Based on analysis above, I conclude that:

(1) Since June 2005, there has been no discharge of oil in unacceptable or unlawful quantities into Puget Sound in compliance with the plant's permit.

(2) Since June 2005, there has been no discharge of other contaminants in unacceptable or unlawful quantities into Puget Sound in compliance with the plant's permit.

(3) The Fort Lewis WWTP violated the permit's effluent limit for pH on nine days during the period of June 2005 through May 2007. An analysis indicates that no other contaminants were discharged into Puget Sound as a consequence of these pH excursions.

6. ISSUE: Whether WWTP management fails to properly maintain and replace plant equipment.

a. Relevant Facts:

(1) The Fort Lewis NPDES addresses maintenance of WWTP equipment and systems in as much as it applies to achieving compliance with the permit.

(2) Concerning maintenance of primary equipment, the permit states the Permittee shall at all times properly operate and maintain all facilities and systems of

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treatment and control (and related appurtenances) that are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures (Exhibit 3).

(3) Concerning maintenance of backup or auxiliary facilities, the permit states; this provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the Permittee only when the operation is necessary to achieve compliance with the conditions of the permit (Exhibit 3).

(4) I interviewed 18 witnesses with knowledge of WWTP maintenance (Exhibits 29, 30, and 32-48) and conducted an onsite inspection (Exhibit 5).

(5) There were two reports among the documents I reviewed; a Fort Lewis AR 15-6 Investigation dated 7 June 2007 (Exhibit 9) and the USACHPPM WWTP Performance Evaluation-29 November thru 7 December 2006 (Exhibit 4).

b. Analysis:

(1) To determine if plant management had been properly maintaining and replacing plant equipment, I examined two indicators: 1) did equipment function properly and 2) was equipment maintained properly.

(2) First, concerning whether equipment was functioning properly, the consensus among both leaders and operators is that the WWTP equipment has not been functioning properly (Exhibits 29, 30, 32, 33, 34, 35, 37, 38, 41, 42, 43, 45, 46, 47, and 48). Various stages in the treatment process require redundant equipment such as back up and surge capacity pumps and a second grit auger in the headworks (Exhibits 111, and 125). In the past some redundant equipment became inoperable and was allowed to remain in that state for extended periods (Exhibit 29, 30, 33, 34, 43, 47, and 48). Reasons offered include the rationale that redundant equipment is not critical as long as the primary equipment is operational; and operators do not perform preventive maintenance (Exhibits 29, 30, 32, 33, 34, 35, 37, 42, 43, 47, and 48).

(3) Even though repair parts were scarce at times and various redundant systems were inoperable, the WWTP continued to operate, thus performing its treatment function adequately. In order to keep equipment operational, at times the operators employed innovative repair solutions such as cannibalizing parts from other equipment and "jerry rigging" solutions (Exhibits 44, 45, and 46).

(4) (b)(6) former plant supervisor, blames the problem of equipment not functioning properly on lack of funding (Exhibit 33). (b) (b)(6) supervisor and Chief, Operations and Maintenance Division, states that budget constraints have existed but 'these have never prevented the WWTP from getting what

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they needed" (Exhibit 34). (b)(6) Director Public Works, states that funding has been adequate and that "if a redundant system is not repaired, it is not because there is no money" (Exhibit 32). Based upon testimony of those who manage the (b)(6) budget, I believe that lack of funding is not the cause of improper maintenance of WWTP equipment.

(5) My WWTP site inspection on 14 June 2007 revealed that all wastewater primary, secondary, and disinfection treatment processes were operating or appeared to be in operational condition except: one primary clarifier was out-of-service and being renovated and the polymer chemical feed system to the secondary clarifiers did not have chemicals stored in the tank. All the solids handling and treatment processes were operating or appeared operational except one of three digesters was out of service for cleaning and repair (Exhibit 5). The removal of treatment processes from operation to perform maintenance, repair, and renovation is a common and necessary practice. The lack of polymer on site to enhance the settling of solids in the secondary clarifiers limits the operators' ability to quickly react to WWTP problems. There were not violations in effluent quality due to these processes being out-of-service.

(6) The USACHPPM report (2006-2007) identified four components of the treatment system as out-of-service: (1) One of 2 influent fine screens (inoperable); (2) one of four primary clarifiers, since November 2006; (3) one of two primary digesters, since October 2006; (4) one of two chlorine contact chambers during February and March 2007 (Exhibit 4). The draft final report did not identify the reasons/causes for equipment being out-of-service. However, in a subsequent interview with the current plant supervisor, (b)(6) explained reasons for equipment down time (Exhibit 13). All but the first were out of service for scheduled maintenance or service. This first item, actually a grit chamber auger, had been inoperable for an extended period of time. The USACHPPM report did not cite any violations in effluent quality due to these processes being out-of-service.

(7) The second indicator I investigated concerned whether equipment was maintained properly during the time period (b)(6) served as plant supervisor. An indication of whether plant management failed to maintain plant equipment is in determining if all tools, parts, and materials necessary for the reliable and continuous operation of the WWTP are readily available.

(8) To maintain equipment, operators need access both to their personal tool box with hand tools and to common special tools, such as an impact wrench. Two operators, (b)(6) and (b)(6) specifically stated they lacked all tools to do the job and several others alluded to the same shortfall (Exhibits 35 and 42). (b)(6) interim plant supervisor, stated that he had "recently purchased several thousand dollars worth of special tools in response to operator requests" (Exhibit 29). I believe that until recently, many special tools were not available. Also, that plant management did not practice sufficient property accountability and employ management

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controls so that all necessary tools were available to perform maintenance and repair work on plant equipment.

(9) The right service and repair parts were not available at the right time to ensure proper maintenance of WWTP equipment. Ten witnesses, including operators and those with knowledge on parts status, stated that the lack of repair parts was a significant issue in deterring them from properly maintaining equipment (Exhibits 35, 37, 39, 41, 43, 44, 45, 46, 47, and 48). Several noted specifically that pump repair parts were not available. The plant supervisor did not maintain an adequate stock of parts and equipment (Exhibits 29 and 35), which would be preferred to help ensure timely maintenance and repair of equipment.

(10) Generally, materials are readily available to operate the WWTP (Exhibits 32, 33, and 34). However, (b)(6) informed employees that he did not approve some supplies and materials because of insufficient funds. For example, (b)(6), biological science lab technician and supply card holder, stated that (b)(6) will not approve the orders or provide necessary information for the orders". Furthermore, "the same regularly occurred with lab supplies and equipment" (Exhibit 47). (b)(6) request for the correct type of gas compressor oil was similarly denied (Exhibit 45). Finally, polymers have not been purchased and used in the WWTP for over a year (Exhibits 29, 30, 44, and 45). Based upon senior management statements that funds are available, I do not believe that the primary reason for not purchasing these supplies is insufficient funds (Exhibits 29, 32, and 34).

(11) My 14 June 2007 site inspection yielded further evidence that equipment was not being properly maintained and not repaired in a timely manner. For example, the spark arrester and piping on top of the Digester had been painted red in 2005 to include exposed bolts (Exhibit 150). These bolts should be removed semi-annually to perform a service that includes replacing filters. However, the paint on the bolts has not been disturbed, leading me to believe that those services have not been performed (Exhibit 13). The biogas system oil-water separator was recently found bypassed and an internal oil filter had been removed and not replaced rendering the oil remover system non-functional (Exhibit 154). One of two aerated grit basins designed to remove coarse solids did not remove grit over a several year period due to a broken coupling on the auger. The inoperable auger had just been repaired. During this period the WWTP was depending on the one remaining operable grit basin to remove grit at all times. It is likely that excessive solids/grit may have entered the primary settling basins unnecessarily during high flows.

(12) The Fort Lewis AR 15-6 investigation report addressed 10 issues regarding management practices at the Fort Lewis Wastewater Treatment Plant (WWTP). Two issues addressed WWTP maintenance: failure to use proper oil in the WWTP compressor and improper budgeting causing a shortage of repair parts and equipment at the WWTP and Water Treatment Plant (Exhibit 9).

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(13) The Fort Lewis AR 15-6 report found that suitable oil type and weight has not been available in on-hand supplies and the supervisor failed on occasions to order suitable oil type and weight in response to employee requests. This finding is consistent with our investigation. (b)(6), acting WWTP supervisor is obtaining the correct oil (Exhibit 13).

(14) The Fort Lewis AR 15-6 report found that the supervisor, (b)(6), did not keep employees informed on the status of repair parts and equipment and that budget constraints did not preclude purchase of repair parts.

(15) The USACHPPM report identified repairs and maintenance issues such as; broken plastic trickling filter media on top of the surface of the trickling filters, cracks and evidence of leaking gas on the cover/roof on a primary digester, flow meters not calibrated since installed in 2005, and chlorine feed system not calibrated for two years (Exhibit 4). The accuracy of flow meters is critical to proper operation of a wastewater treatment plant since it influences operator control decisions. The accuracy of a chlorine feed system is likewise critical to ensure that the NPDES permit effluent limitations are not exceeded for fecal coliform bacteria and total residual chlorine.

(16) Although there were no discharge violations attributed to the lack of proper maintenance, the failure to calibrate the meters and chlorine feed system are symptomatic of the general lack of a fully implemented preventive maintenance program to ensure that facilities and systems of treatment and control operated properly, which would ensure compliance with the NPDES permit equipment maintenance provisions.

(17) When they became aware of the WWTP equipment issues, Fort Lewis leadership took corrective actions. (b)(6) DPW, removed (b)(6) from the Plant Supervisor position and temporarily replaced him with (b)(6), a water systems engineer (Exhibits 8, 29, and 32). Additionally, Fort Lewis and DPW senior management and (b)(6), now intensely manage WWTP operations to ensure equipment is maintained and functioning properly (Exhibits 7, 8, 29, 30, 32, 34, and 35).

c. Conclusion: Based on analysis above, I conclude that:

(1) Plant management failed to properly maintain and replace plant equipment. Some equipment has not been serviced as required, other equipment has not been calibrated on schedule, and many special tools are not available to perform repair and maintenance work.

(2) The WWTP has remained operational even though some of its equipment subsystems such as the polymer feed system and redundant systems (e.g. pumps and grit augers) have been allowed to remain inoperable.

(3) Fort Lewis leadership has taken corrective actions to include assigning an interim plant supervisor who has ordered repair parts, began repairing inoperable equipment, ordered special tools, and is implementing a preventative maintenance program. These actions will alleviate maintenance deficiencies.

7. ISSUE: Whether WWTP management fails to take adequate measures to protect employees against occupational health and safety risks.

a. Relevant Facts:

(1) The Fort Lewis NPDES Permit does not address WWTP health and safety standards.

(2) OSHA has not published specific health and safety standards for wastewater treatment plants.

(3) The Fort Lewis Director of Public Works (DPW) has published three policy and procedure documents that provide guidance on the safe conduct of operations at the WWTP. These are confined space entry procedures, 1 March 2007, DPW Operations and Maintenance safety plan, and the Public Works safety plan, 1 July 2002 (Exhibits 103, 104, and 105).

(4) I interviewed 20 witnesses with knowledge of WWTP health and safety considerations (Exhibits 29 through 49) and conducted an on site inspection (Exhibit 5).

(5) Pertinent documents reviewed include the Garrison AR 15-6 report (Exhibit 9), the USACHPPM WWTP Performance Evaluation (Exhibit 4), and various safety reports (Exhibits 98-105).

b. Analysis:

(1) To determine if plant management took adequate measures to protect employees against occupational health and safety risks, I examined two indicators: 1) are measures in place to protect employees against occupational health and safety risks; and 2) are there reported incidences of safety and health risks.

(2) First, concerning measures taken to protect employees, eight witnesses cited examples of measures that should have been taken to protect employees from occupational safety risks, but were not. (b)(6) stated that (b)(6) did not conduct safety training related to working in confined spaces or present safety meetings (Exhibit 42). Furthermore, (b)(6), Operations & Maintenance Division secretary, stated that (b)(6), Division Chief, "never gave safety briefings [nor] required others to give safety briefings (Exhibit 39). Two employees, (b)(6) and (b)(6) stated that (b)(6) would not order safety equipment, such as safety boots, for employees

(Exhibits 38 and 44). As such, (b)(6) buyer for the interior electric shop, states, "the buyer for the WWTP, (b)(6) would not place orders for safety equipment. She said (b)(6) would not permit her to do so. Consequently, the WWTP workers came to me, and I bought them safety equipment to the extent I could" (Exhibit 38). Employees cited only one physical measure not taken at the WWTP for their protection - safety railing around the grease vault. A project to install that safety railing is programmed this fiscal year (Exhibit 14, 29, and 35).

(3) Two employees expressed concerns about health risks at the WWTP. (b)(6) (b)(6) stated that cracks in the lid of the number two digester caused methane gas to vent into the air and exposed the operators to risk" (Exhibit 45). The installation industrial hygiene office assessment determined that while it is likely that a miniscule amount of gas does escape it is not likely to be high enough concentrations to be of concern (Exhibit 15). (b)(6) expressed concerns in three health areas: desired vaccinations for water born diseases; believes non-potable water should not be used for wash downs because of "blow back" in operators faces, and disease risks due to contaminates in the head works (Exhibit 46). It is common practice to use non-potable water to wash down WWTP equipment and operators are provided personal protective equipment. The Fort Lewis industrial hygiene office performed an assessment on contaminants at the WWTP head works and "determined there was no exposure issue or problem" (Exhibit 31). From the evidence presented, I believe the suspected health risks are unfounded.

(4) During the site inspection, my subject matter expert and I did not note any apparent safety violations (Exhibit 5). Operators were wearing personal protective equipment, hazard warning signs were posted, the grounds were uncluttered, and safety railings were located throughout the plant. The supervisor had initiated a project to install additional safety railing at the scum (grease) vault.

(5) The USACHPPM report included a list of concerns identified in part from discussions with the WWTP operators. The apparent safety related concerns included: cracks and evidence of leaking gas observed on the cover/roof of primary digester #2; a safety stairway platform and safety railing is needed on the grease vault; and a catwalk is needed at the drying beds for sludge sampling (Exhibit 4). The first two concerns are addressed in paragraphs 7b (2) and 7b (3) of the report. The catwalk is not a safety issue. Rather, its purpose would be for operators' convenience in collecting the sludge samples (Exhibit 14).

(6) A Workplace Exposure Assessment Review conducted in August 2006 by the Fort Lewis Industrial Hygiene Service identified three confined space issues: The WWTP has 23 confined spaces, several were unmarked; the WWTP did not have air monitoring equipment to support its in-house confined space entry permit system; and the confined space SOP was not on the premise (Exhibit 98). Air monitoring equipment

is now located at the WWTP & the remaining two issues are being addressed by the acting supervisor (Exhibit 14).

(7) Concerning the second indicator (incidence of health and safety risks), a few employees cited specific incidences in which they believe employee's safety may have been at risk. These include a lift station repair project in which electricians were not called upon to render the site safe prior to work beginning (Exhibits 41 and 43); a confined space manhole in which (b)(6) directed work be performed even though "workers had no safety gear and no safety harness" (Exhibits 38 and 43); and a digester gas swing arm repair job in which improper tools were used in the vicinity of flammable gases, operators on site were not notified, and a crane was not present to safely lift the broken gas arm (Exhibit 31, 33, 34, 43, 44, 46, 47, 48, and 102, 151, and 152). For the gas arm repair job, a subsequent installation safety office report found that "the supervisor did not follow the internal work control SOP, but there were no apparent residual violations of OSHA standards" (Exhibit 31 and 102). Although evidence was not presented to indicate there were repeated and uncorrected incidences, evidence does indicate that (b)(6) occasionally disregarded certain safety precautions in order to complete work tasks. He placed both employees and himself at risk (Exhibits 36, 40, and 47).

(8) (b)(6) disregard for safety during the digester # 3 swing arm repair job is corroborated in the Garrison AR 15-6 report in which the Investigating Officer states that, (b)(6) failed to follow safety procedures; when repairing the swing arm on the floating lid of digester # 3, he did not check in with plant operators prior to making any repairs, he did not use non-sparking tools while working in an area where gas may be present, and he failed to use a lift or crane to move the broken standpipe as required for heavy and awkward items (Exhibit 9).

(9) The Workplace Exposure Assessment Review conducted in August 2006 by the Industrial Hygiene Service addressed the repairs made to gas piping on digester #3 using a flexible hose. It states "this (repair) still poses a potential hazard if pressure becomes great enough to burst the flex hose. Repair of this pipe should be expedited" (Exhibit 98). A memo dated 7 May 2007 from the Senior Safety Director, Mr. Strohm, Subject: Report of Hazard, WWTP Digester Arm, also addressed the repair. It states "The flex line installation, though not a permanent design solution seems to provide adequate, safe venting....." Additionally, "There were no specific OSHA standards regarding wastewater treatment plants. Rather, numerous individually different standards apply. In this case, the supervisor did not follow the internal work control SOP, but there were no apparent residual violations of OSHA standards" (Exhibit 102). Even though OSHA standards were not violated, I believe (b)(6) did not adequately address occupational safety considerations, which he could have done by performing a risk assessment, before beginning the repair effort.

c. Conclusion: Based on analysis above, I conclude that:

(1) Fort Lewis has adequate measures such as safety SOPs, personal protective equipment, and engineering and structural controls in place to protect employees against occupational health and safety risks.

(2) The plant supervisor occasionally disregarded certain safety measures (e.g. obtaining requested PPE and safety meetings), procedures (e.g. following SOP), and precautions (e.g. risk assessments, notifying others of high risk work), seemingly to expedite work efforts.

8. ISSUE: Whether there is gross mismanagement on the part of the Plant Supervisor, in that he is not qualified to be plant supervisor because he does not possess the appropriate Level III WWTP certification, among other things.

a. Relevant Facts:

(1) Regarding certification requirements, Washington State Standards, Chapter 173-230, Certification of Operators of Wastewater Treatment Plants, establishes the requirements for obtaining a wastewater certificate and for the level of certificate required for an operator in responsible charge of a treatment plant. An operator in responsible charge of a wastewater treatment plant must be certified at a level that is equal to or greater than the classification of the wastewater treatment plant. The standard also requires the Director (of Ecology) to classify all wastewater treatment plants according to listed criteria as Group I, II, III or IV (Exhibit 19).

(2) The Army's governing regulation, AR 420-49, requires operators to be trained and certified in accordance with applicable existing Federal, State, local and host nation standards (Exhibits 21).

(3) The Fort Lewis plant supervisor position description requires Group III wastewater certification: "The employee must possess and maintain a Group III waste water certification issued by the State of Washington. Must be able to obtain within 2-years and maintain a current State of Washington Water Treatment Plant Operator II certification" (Exhibit 18).

(4) Fort Lewis issued a vacancy announcement (Number WTEU05004308) for the utility systems repairer-operator supervisor (e.g. WWTP Supervisor); WS-4742-10 dated 23 December, 2005. The Vacancy Announcement's Qualifications requires qualifying experience described as: "experience in a sanitary sewer collection plant, storm drain, and water distribution systems, which provided the knowledge of how the various systems and equipment work". A note under the Qualifications also requires a Group III waste water certification issued by the State of Washington in addition to the requirement to obtain and maintain a Water Distribution manager III certification and a Water Treatment Plant Operator II certification (Exhibit 17).

(5) (b)(6) possesses a Group II wastewater operator certification from Washington State Department of Ecology, which expires 31 December, 2007 (Exhibit 16).

(6) I interviewed 20 witnesses regarding this issue (Exhibits 29-49) and examined both the Fort Lewis AR 15-6 report (Exhibit 9) and USACHPPM Performance Evaluation (Exhibit 4), along with other pertinent documents discussed in the analysis.

b. Analysis:

(1) To determine if evidence supported the allegation of gross mismanagement, I examined both certification requirements and the common management indicators of leadership and technical competence.

(2) First, concerning whether (b)(6) possessed the appropriate Level III certification, determination needs to be made regarding the legal requirement for certification of the WWTP supervisor. Possible standards include federal, state or local.

(3) Potential federal standards include the NPDES discharge permit and AR 420-49. The NPDES permit does not include certification requirements. As stated in the facts, the Army's regulation, AR 420-49, does not stipulate certification requirements.

(4) As stated in the facts section, Washington State establishes standards for state-regulated wastewater treatment plants. The state recently verified that they do not have authority over the federally operated plant at Fort Lewis. In a response to a Fort Lewis request for a temporary Group III certification for the wastewater treatment plant operator, (b)(6) the Department of Ecology stated that they do not have authority over the Fort Lewis Wastewater Treatment Plant and therefore it is unnecessary to issue a temporary certificate (Exhibit 20 and 23). The Army Environmental Command, Office of Counsel offered the opinion that "there is no requirement that a federal WWTP operator in the state of Washington must meet the state operator requirements." (Exhibit 22)

(5) The State disavows regulatory authority over the Fort Lewis WWTP, therefore state certification requirements do not apply. The AR 420-49 certification provision likewise does not apply because there are no other applicable federal, state, or local standards. The EPA has not elected, through the permit, to require certification. Therefore no regulatory requirement for certification exists.

(6) The Fort Lewis WWTP supervisor certification level is governed by Fort Lewis policy as demonstrated by both the vacancy announcement and position description. Both the Vacancy announcement WTEU05004308 and the Position Description EU 185551 state the employee must possess and maintain a Group III wastewater

certification issued by the State of Washington (Exhibits 17 and 18). (b)(6) holds a Group II certification, a lower grade certification (Exhibit 16).

(7) The Garrison AR 15-6 findings state that (b)(6) did not meet the condition of employment, possession of wastewater treatment plant operator Group III certification, when temporarily promoted to Utility Systems Repairer-Operator Supervisor on 4 September 2005 with a NTE date of 2 January 2006. He did not meet this same condition of employment when he accepted a competitive temporary promotion for the same position on 3 January 2006 with a NTE date of 2 January 2007. (b)(6) did not meet this same condition of employment when his promotion was made permanent on a non-competitive basis on 4 April 2006 (Exhibit 9).

(8) The USACHPPM WWTP performance evaluation report addressed certification of operators. It stated that the WWTP supervisor was not routinely on site and did not have a Group III license. The report recommended the operator in responsible charge should be routinely on site and have a Group III WWTP operator license (Exhibit 4). USACHPPM assumed State certification applies. It does not. However, because Fort Lewis requires Group III certification, the USACHPPM recommendation is valid.

(9) Confusion also exists among both employees and managers as to certification requirements for the Plant Supervisor. (b)(6) who has been assigned as WWTP biological science lab technician for 8 years and WWTP operator for 2 years, holds an operator class III certificate. She states that (b)(6) is under qualified in that the state of Washington requires certification III level and that [operators in responsible in charge] "also must be an III or IV for a federally owned facility" (Exhibit 47). (b)(6), Fort Lewis environmental engineer who oversees wastewater compliance, acknowledges that state requirements do not apply to federally owned plants (Exhibit 40). Discussing the plant supervisor job qualifications, (b)(6), (b)(6) supervisor, stated that the job announcement included "a requirement to have a class III license or be able to get one within a year" (Exhibit 34). (b)(6) expressed the same understanding (Exhibit 33). The job announcement had no such clause allowing a year to obtain class III certification (Exhibit 17). Finally, (b)(6), Fort Lewis DPW, understood "that the supervisor had to hold or be able to obtain a Washington State WWTP certification equal to the classification of the WWTP" (Exhibit 32). However, the WWTP has not been officially classified by the state (Exhibit 20). With the exception of (b)(6), the statement of all others who spoke about certification, demonstrated a lack of complete understanding of federal, state, and Fort Lewis certification requirements.

(10) Only general standards exist concerning the second indicator (leadership and technical competence) of gross mismanagement. Management responsibilities of the plant supervisor are listed in the Fort Lewis position description for this position (PD# EU200383; Utility Systems Repairer-Operator Supervisor). "Supervisor provides broad instructions, priorities, policies, and time limits. Work is reviewed to assure an

adequate quantity and quality of work as well as efficient accomplishment of work within established priorities and controls. Supervises employees directly or through subordinate lead positions in accomplishing the work of an organizational segment or group. The incumbent supervises employees in several stationary locations on the installation and also supervises a mobile team as well. The occupations and non-supervisory grade levels that best reflect the nature of the overall work operations supervised are WG-4742-09, GS-0404-09, WG-4206-07, and WG-4749-09" (Exhibit 18).

(11) Fourteen of eighteen witnesses who have personal knowledge of (b)(6) management performance indicate that he has poor leadership skills. His most obvious deficiency is an inability to communicate effectively with employees (Exhibits 32, 33, 34, 37, 38, and 41). (b)(6) considers himself an authoritarian leader [when under time constraints] who does not communicate enough (Exhibit 33). His supervisors acknowledge this deficiency (Exhibits 32 and 34). Several employees and his supervisor stated that (b)(6) lack of people skills manifests itself in heavy handedness and at times, verbally abusive behavior (Exhibits 34, 35, 37, 38, 41, 43, 44, and 45). For example, in one interchange in which (b)(6) reminded (b)(6) of a personal physical limitation, (b)(6) responded with "tough shit" (Exhibit 37). In another incident (b)(6) testified that in December 2005, (b)(6) "called my house on an emergency call out. My daughter answered the phone, and (b)(6) shouted into the phone at my daughter, thinking she was me, "you better get your ass out here now," my daughter gave me the phone, and (b)(6) said the same thing to me" (Exhibit 43). This also demonstrates poor judgment, cited by some witnesses as another leadership shortfall (Exhibits 41, 43, and 47).

(12) One such example of poor judgment is (b)(6) purchase of a Samsung High-Design 40 inch flat panel LCD HDTV from Sears, which was found to constitute misuse and abuse of the government purchase card. Furthermore, (b)(6) misrepresented the intended use of the television as making training materials available to employees, while actually locating it inside his locked office where employees could not access it in his absence (Exhibits 9, 46, and 47). I believe these and other leadership deficiencies have created a work environment characterized by friction between employees and management, which has contributed to employees resisting management directives and low morale among the work force.

(13) The Fort Lewis AR 15-6 addressed 11 allegations of which 5 may potentially be related to (b)(6) Management/Leadership; Failure to use proper oil, improper WWTP daily entry logs, safety violations during repairs to digester swing arm, leaving WWTP unattended, and improper budgeting causing shortage of parts & equipment. 1) Failure to use proper oil: The Fort Lewis AR 15-6 Investigating Official (IO) concluded that (b)(6) had failed to action employee requests to order suitable oil type and weight. 2) Improper WWTP daily log entries: The Fort Lewis IO reviewed all WWTP daily log entries during (b)(6) assignment as WWTP supervisor (4 Sept 05 to 30

Apr 07) and found no inappropriate written comments by (b)(6). The IO concluded that after assuming supervisory responsibilities (b)(6) did not write inappropriate comments in the WWTP daily entry logs. 3) Safety violations for digester # 3 swing arm repair. The Fort Lewis IO determined that (b)(6) failed to follow proper safety procedures including; failing to follow the WWTP SOP. Specifically he failed to; check in with the plant operator prior to making repairs, did not use non-sparking tools, and did not use a crane or lift to move the broken standpipe. 4) Improperly leaving WWTP unattended. The IO determined that there is no written requirement that requires the WWTP to be attended 24/7. 5) Improper budgeting causing shortage of parts & equipment. The IO found that (b)(6) was not keeping employees informed of parts & equipment requests, was not executing appropriate supervisory oversight of a subordinates Government Purchase Credit Card (GPCC) and his (b)(6) purchase of a HDTV from Sears constitutes misuse and abuse of the GPCC (Exhibit 9). I believe that the Fort Lewis IO findings that found fault with (b)(6) actions or failure to take action are evidence of mismanagement but would not be considered "gross" mismanagement. His failure to follow the WWTP SOP endangered himself, others and plant equipment and his lack of supervisory oversight and misuse of the GPCC are serious findings. However, there is no clear pattern of documented leadership failures; only sporadic cases.

(14) The USACHPPM WWTP Performance Evaluation did not evaluate management of the WWTP. It conducted a staffing evaluation. The report concluded that due to a recent retirement and a reassignment, the resulting low staffing levels required personnel to work significant overtime to cover normal operator responsibilities and the operators were required to perform lab work in the absence of the lab technician. The report recommended an increase in the WWTP staff by one lab technician and at least one operator. The recommendations do not allege mismanagement by the Plant Supervisor, (b)(6) (Exhibit 4).

(15) Ten of the eighteen witnesses who have personal knowledge of (b)(6) work and management performance indicated that he lacks technical competence. Several WWTP operators and other employees cited (b)(6) inadequate knowledge of WWTP processes and equipment (Exhibit 35, 37, 41, 42, 44, and 46). (b)(6) expresses concern that (b)(6) lack of technical knowledge puts employees at unnecessary risk and that he "tried to teach him (b)(6) how the boiler cycle works and how to heat the digesters, but he could never get it" (Exhibit 42). In another example of questionable technical competence, (b)(6) stated that (b)(6) "wanted to introduce polymers at the wrong point of the process" (Exhibit 46). Furthermore, (b)(6), interim Plant Supervisor, stresses that his top priority to improve conditions at the WWTP is to establish a preventative maintenance (PM) program (Exhibit 29). This PM program should have already been in place. Contrary to the other witnesses, both (b)(6) and his supervisor (b)(6), feel that (b)(6) is technically competent to perform the Plant Supervisor job (Exhibit 33 and 34). I believe (b)(6) is knowledgeable in the WWTP processes and equipment. Although

he apparently lacks some knowledge in certain aspects of WWTP operations, I believe that he is at least minimally technically competent as a WWTP supervisor.

(16) Senior leadership recognized the leadership and management shortfalls and has taken appropriate actions. (b)(6) has been informally removed from the WWTP supervisory position. An interim plant supervisor has been appointed to assess the WWTP and its operations and make the appropriate changes. The senior leadership has directed that (b)(6) receive coaching, mentoring, and supervisory training (Exhibit 8).

c. Conclusion: Based on analysis above, I conclude that:

(1) No regulatory requirement for certification exists because federal and state regulations do not apply and the EPA does not dictate a standard.

(2) The plant supervisor, (b)(6), was unqualified for assignment as Fort Lewis WWTP supervisor because he lacked the Group III certification required in both the Fort Lewis position description and the job announcement.

(3) (b)(6) did not grossly mismanage the Fort Lewis WWTP. (b)(6) lack of Group III certification, alone, does not constitute gross mismanagement. (b)(6) undeveloped leadership skills and minimal technical competence, although less than desirable, do not constitute gross mismanagement.

(4) Fort Lewis leadership has taken appropriate corrective actions by removing (b)(6) from the position of WWTP supervisor and assigning a plant supervisor, who has made significant improvements in plant operations. (b)(6) now remains as supervisor of the water treatment plant and the outside water and sewer shop.

9. CONCLUSIONS: A preponderance of evidence establishes each conclusion in paragraph 3a above.

10. RECOMMENDATIONS: Based on analysis and conclusions above, recommend that:

a. As to discharging contaminants into Puget Sound.

(1) I make no recommendation for corrective action as there is no violation.

(2) That Fort Lewis continues to implement its planned pretreatment program to intercept, capture, and appropriately manage industrial wastes.

b. As to properly maintaining plant equipment.

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(1) Repair inoperable redundant systems such as the grit removal auger and restore a polymer feed system into an operable condition.

(2) Fully implement the preventative maintenance program, already underway, to help ensure reliability of WWTP equipment.

(3) Establish and enforce a Quality Control program to ensure the WWTP supervisor continues to execute the preventative maintenance and repair programs.

(4) That Fort Lewis leadership follows through on their maintenance corrective action plan.

c. As to adequate measures to protect employees against occupational health and safety risks.

(1) That (b)(6) receives additional training in supervisory requirements of safety and health programs.

(2) That the WWTP supervisor fully implements the Director of Public Works Operations & Maintenance Division Safety Plan and that Fort Lewis leadership verifies compliance.

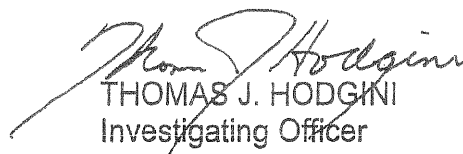
(3) That (b)(6) receives formal counseling for disregarding safety precautions during repair of digester #3 swing arm.

d. As to whether there is gross mismanagement on the part of the Plant Supervisor.

(1) That the appointing official formally removes (b)(6) from the WWTP supervisor position and fill the position with a qualified plant supervisor.

(2) That (b)(6) should not be considered for reinstatement as the WWTP supervisor unless he meets certification requirements and demonstrates an appropriate level of leadership and management skills.

11. Point of contact is Mr. Thomas Hodgini, (309) 782-4531 or DSN 793-4531, email: Thomas.J.Hodgini@us.army.mil.


THOMAS J. HODGINI
Investigating Officer

VOL I

AR 15-6 ROI Ft. Lewis Waste Water Treatment Plant

DA 1574

REPORT OF PROCEEDINGS BY INVESTIGATING OFFICER/BOARD OF OFFICERS

For use of this form, see AR 15-6; the proponent agency is OTJAG.

IF MORE SPACE IS REQUIRED IN FILLING OUT ANY PORTION OF THIS FORM, ATTACH ADDITIONAL SHEETS

SECTION I - APPOINTMENT

Appointed by Mr. Philip E. Sakowitz, Jr., Executive Director, US Army Installation Management Command (Appointing authority)

on 6 June 2007 (Date) (Attach inclosure 1: Letter of appointment or summary of oral appointment data.) (See para 3-15, AR 15-6.)

SECTION II - SESSIONS

The (investigation) (board) commenced at Fort Lewis, WA (Place) at 1300 (Time)

on 11 June 2007 (Date) (If a formal board met for more than one session, check here [] . Indicate in an inclosure the time each session began and ended, the place, persons present and absent, and explanation of absences, if any.) The following persons (members, respondents, counsel) were present: (After each name, indicate capacity, e.g., President, Recorder, Member, Legal Advisor.)

Thomas Hodgini, Investigating Officer
(b)(6) Subject Matter Expert
(b)(6) Legal Advisor

The following persons (members, respondents, counsel) were absent: (Include brief explanation of each absence.) (See paras 5-2 and 5-8a, AR 15-6.)

The (investigating officer) (board) finished gathering/hearing evidence at 1300 (Time) on 28 June 2007 (Date) and completed findings and recommendations at 1600 (Time) on 19 July 2007 (Date)

SECTION III - CHECKLIST FOR PROCEEDINGS

Table with 3 columns: YES, NO, NA. Rows include: A. COMPLETE IN ALL CASES; 1. Inclosures (para 3-15, AR 15-6); Are the following inclosed and numbered consecutively with Roman numerals: (Attached in order listed); a. The letter of appointment or a summary of oral appointment data?; b. Copy of notice to respondent, if any?; c. Other correspondence with respondent or counsel, if any?; d. All other written communications to or from the appointing authority?; e. Privacy Act Statements (Certificate, if statement provided orally)?; f. Explanation by the investigating officer or board of any unusual delays, difficulties, irregularities, or other problems encountered; g. Information as to sessions of a formal board not included on page 1 of this report?; h. Any other significant papers (other than evidence) relating to administrative aspects of the investigation or board?

FOOTNOTES: 1/ Explain all negative answers on an attached sheet. 2/ Use of the N/A column constitutes a positive representation that the circumstances described in the question did not occur in this investigation or board.

		YES	NO ¹	NA ²
2	Exhibits (para 3-16, AR 15-6)			
	a. Are all items offered (whether or not received) or considered as evidence individually numbered or lettered as exhibits and attached to this report?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	b. Is an index of all exhibits offered to or considered by investigating officer or board attached before the first exhibit?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	c. Has the testimony/statement of each witness been recorded verbatim or been reduced to written form and attached as an exhibit?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	d. Are copies, descriptions, or depictions (if substituted for real or documentary evidence) properly authenticated and is the location of the original evidence indicated?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	e. Are descriptions or diagrams included of locations visited by the investigating officer or board (para 3-6b, AR 15-6)?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	f. Is each written stipulation attached as an exhibit and is each oral stipulation either reduced to writing and made an exhibit or recorded in a verbatim record?	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	g. If official notice of any matter was taken over the objection of a respondent or counsel, is a statement of the matter of which official notice was taken attached as an exhibit (para 3-16d, AR 15-6)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3	Was a quorum present when the board voted on findings and recommendations (paras 4-1 and 5-2b, AR 15-6)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
B. COMPLETE ONLY FOR FORMAL BOARD PROCEEDINGS (Chapter 5, AR 15-6)				
4	At the initial session, did the recorder read, or determine that all participants had read, the letter of appointment (para 5-3b, AR 15-6)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5	Was a quorum present at every session of the board (para 5-2b, AR 15-6)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6	Was each absence of any member properly excused (para 5-2a, AR 15-6)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7	Were members, witnesses, reporter, and interpreter sworn, if required (para 3-1, AR 15-6)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	If any members who voted on findings or recommendations were not present when the board received some evidence, does the inclosure describe how they familiarized themselves with that evidence (para 5-2d, AR 15-6)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
C. COMPLETE ONLY IF RESPONDENT WAS DESIGNATED (Section II, Chapter 5, AR 15-6)				
9	Notice to respondents (para 5-5, AR 15-6):			
	a. Is the method and date of delivery to the respondent indicated on each letter of notification?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	b. Was the date of delivery at least five working days prior to the first session of the board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	c. Does each letter of notification indicate —	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	(1) the date, hour, and place of the first session of the board concerning that respondent?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	(2) the matter to be investigated, including specific allegations against the respondent, if any?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	(3) the respondent's rights with regard to counsel?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	(4) the name and address of each witness expected to be called by the recorder?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	(5) the respondent's rights to be present, present evidence, and call witnesses?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	d. Was the respondent provided a copy of all unclassified documents in the case file?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	e. If there were relevant classified materials, were the respondent and his counsel given access and an opportunity to examine them?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
10	If any respondent was designated after the proceedings began (or otherwise was absent during part of the proceedings):			
	a. Was he properly notified (para 5-5, AR 15-6)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	b. Was record of proceedings and evidence received in his absence made available for examination by him and his counsel (para 5-4c, AR 15-6)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
11	Counsel (para 5-6, AR 15-6):			
	a. Was each respondent represented by counsel?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Name and business address of counsel:			
	(If counsel is a lawyer, check here <input type="checkbox"/>)			
	b. Was respondent's counsel present at all open sessions of the board relating to that respondent?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	c. If military counsel was requested but not made available, is a copy (or, if oral, a summary) of the request and the action taken on it included in the report (para 5-6b, AR 15-6)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
12	If the respondent challenged the legal advisor or any voting member for lack of impartiality (para 5-7, AR 15-6):			
	a. Was the challenge properly denied and by the appropriate officer?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	b. Did each member successfully challenged cease to participate in the proceedings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
13	Was the respondent given an opportunity to (para 5-8a, AR 15-6):			
	a. Be present with his counsel at all open sessions of the board which deal with any matter which concerns that respondent?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	b. Examine and object to the introduction of real and documentary evidence, including written statements?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	c. Object to the testimony of witnesses and cross-examine witnesses other than his own?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	d. Call witnesses and otherwise introduce evidence?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	e. Testify as a witness?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	f. Make or have his counsel make a final statement or argument (para 5-9, AR 15-6)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14	If requested, did the recorder assist the respondent in obtaining evidence in possession of the Government and in arranging for the presence of witnesses (para 5-8b, AR 15-6)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	Are all of the respondent's requests and objections which were denied indicated in the report of proceedings or in an inclosure or exhibit to it (para 5-11, AR 15-6)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

FOOTNOTES: 1) Explain all negative answers on an attached sheet.
2) Use of the N/A column constitutes a positive representation that the circumstances described in the question did not occur in this investigation or board.

SECTION IV - FINDINGS (para 3-10, AR 15-6)

The (investigating officer) (board) , having carefully considered the evidence, finds:

See attached memo, subject : AR 15-6 Report of Investigation – Fort Lewis Waste Water Treatment Plant
dated: 19 July 2007

SECTION V - RECOMMENDATIONS (para 3-11, AR 15-6)

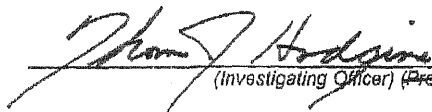
In view of the above findings, the (investigating officer) (board) recommends:

See attached memo, subject : AR 15-6 Report of Investigation – Fort Lewis Waste Water Treatment Plant
dated: 19 July 2007

SECTION VI - AUTHENTICATION (para 3-17, AR 15-6)

THIS REPORT OF PROCEEDINGS IS COMPLETE AND ACCURATE. (If any voting member or the recorder fails to sign here or in Section VII below, indicate the reason in the space where his signature should appear.)

(Recorder)



(Investigating Officer) (President)

(Member)

(Member)

(Member)

(Member)

SECTION VII - MINORITY REPORT (para 3-13, AR 15-6)

To the extent indicated in inclosure _____, the undersigned do(es) not concur in the findings and recommendations of the board. (In the inclosure, identify by number each finding and/or recommendation in which the dissenting member(s) do(es) not concur. State the reasons for disagreement. Additional/substitute findings and/or recommendations may be included in the inclosure.)

(Member)

(Member)

SECTION VIII - ACTION BY APPOINTING AUTHORITY (para 2-3, AR 15-6)

The findings and recommendations of the (investigating officer) (board) are (approved) (disapproved) (approved with following exceptions/substitutions). (If the appointing authority returns the proceedings to the investigating officer or board for further proceedings or corrective action, attach that correspondence (or a summary, if oral) as a numbered inclosure.)

Enclosure 1

VOL I

Enclosure 1



REPLY TO
ATTENTION OF

DEPARTMENT OF THE ARMY
US ARMY INSTALLATION MANAGEMENT COMMAND
2511 JEFFERSON DAVIS HIGHWAY
ARLINGTON, VA 22202-3926

JUN 06 2007
S: 27 June 2007

IMLA

MEMORANDUM FOR Thomas J. Hodgini, Assistant to the Deputy Director, Installation Management Command (IMCOM), West Region, (Northwest Office), IMWE-ZA, 1 Rock Island Arsenal, Rock Island, IL 61299-6200

SUBJECT: Appointment as AR15-6 Investigating Officer

1. I am appointing you as an investigating officer to conduct an informal investigation under the provisions of Army Regulation 15-6 (Procedures for Investigating Officers and Boards of Officers) into "whistleblower" allegations of mismanagement and misconduct related to the Ft. Lewis wastewater treatment plant made by twelve current and former employees of Ft. Lewis, Public Works. The purpose of your investigation to determine the validity of the whistleblowers allegations and make findings concerning whether any wrongdoing has occurred, and if so, by whom, and whether adequate policies and procedures are in place to preclude recurrence of any improprieties, irregularities, or misconduct disclosed during your inquiry.
2. I have enclosed the ten (10) page referral from the Army Office of General Counsel (OGC) dated 30 May 2007, which contains the 24 May 2007 referral memorandum from the Office of Special Counsel (OSC) and OSC's Report of Disclosures Referred for Investigation. Section II of the Report of Disclosures Referred for Investigation contains specifics as to the allegations as well as the names of the whistleblowers. In addition, OGC has the whistleblowers' original correspondence to OSC which included approximately seventy-five (75) pages of enclosures supporting the allegations. Once a copy of the original correspondence is obtained from OGC, a copy will be forwarded to you.
3. In conducting your investigation you must interview the current and former employees who have made the allegations as well as anyone else you determine to have relevant information.¹ Witnesses may be sworn at your discretion in accordance with AR 15-6, paragraph 3-2. Your investigation should focus on the following:
 - a. whether the Ft. Lewis wastewater treatment plant is discharging unacceptable and unlawful quantities of oil and other contaminants into Puget Sound, in violation of the plant's operating permit;

¹ If you need to question a contractor employee, you must coordinate with the appropriate Program Manager and Contracting Officer Representative to arrange the interview with that person.

IMLA

SUBJECT: Appointment as AR15-6 Investigating Officer

b. whether plant management fails to properly maintain and replace plant equipment, and does not take adequate measures to protect employees against occupational health and safety risks; and

c. whether there is gross mismanagement on the part of the Plant Supervisor, in that he is not qualified to be plant supervisor because he does not possess the appropriate Level III certification, among other things.

4. Your report will summarize all relevant statements and make specific findings and recommendations. If you discover conflicting evidence, you will resolve the conflicts by saying what you believe and why. Cite the statements that support your findings and recommendations. Submit your findings and recommendations on DA Form 1574 to (b)(6) IMCOM HQ, by close of business

27 June 2007.

5. Because the allegations were made to the OSC pursuant to 5 USC § 1213, you will also need to complete a draft OSC Report to be signed by the Assistant Secretary of the Army (Manpower and Reserve Affairs). Your informal 15-6 investigation will be an attachment to the OSC Report. If you have multiple attachments please index and tab them. The OSC Report must contain the following:

- a. Summary of the information with respect to which the investigation was initiated;
- b. Description of the conduct of the investigation;
- c. Summary of any evidence obtained from the investigation;
- d. Listing of any violation or apparent violation of any law, rule, or regulation; and
- e. Description of any action taken or planned as a result of the investigation, such as:
 - (1) Changes in agency rules, regulations, or practices;
 - (2) The restoration of any aggrieved employee;
 - (3) Disciplinary action against any employee; and
 - (4) Referral to the Attorney General of any evidence of a criminal violation.

IMLA


SUBJECT: Appointment as AR15-6 Investigating Officer by OGC and OSC

6. OGC has given us a deadline of 29 June 2007 by which to submit the draft OSC Report. Because this deadline is driven by statute, any extensions must be approved by OGC and OSC. As such, if a situation develops which will require an extension, you must notify me immediately so that we can alert OGC. Any request for an extension must include a detailed reason why the 29 June deadline cannot be met.

7. Your primary legal advisor is (b)(6), who will assist you in drafting the OSC Report. (b)(6) may be reached at (b)(6) or (b)(6), US Army Environmental Command, will serve as a subject matter expert on environmental legal issues. Mr. Hatch may be reached at (b)(6) or (b)(6). Joseph Stanuszek, Environmental Engineer, IMCOM-West (Northwest Office) will serve as a subject matter expert on environmental technical issues. (b)(6) may be reached at (b)(6) or (b)(6). In accordance with AR 15-6, paragraph 4-1, you may consult with any other subject matter experts you deem appropriate.

8. The investigation and reports are the primary duties of the appointed officials until these duties are complete.

Encls
as

(b)(6)

PHILIP E. SAKOWITZ, JR. / (b)(6)
Executive Director

Enclosure 2

VOL I

Enclosure 2

(UNCLASSIFIED)

ARMY STAFFING FORM For use of this form, see DA Memo 25-52; the proponent agency is AASA	1. TRACKING NUMBER	2. TODAY'S DATE (YYYYMMDD) 20070626	3. SUSPENSE DATE (YYYYMMDD) 20070720
	5. SUBJECT Ft. Lewis Whistleblower Investigation - Request for Extension of Time		

OFFICE SYMBOL IMLA	ROUTING: (ECC USE ONLY)			ECC POC (Rank, Name, Phone)	DIR, ECC
	Initial	Date			
SA				COMMENTS:	
CSA					
USA					
VCSA					
AASA					
DAS					
SMA					
DUSA					
VDAS					

7. EXECUTIVE SUMMARY / ACTION MEMORANDUM

Key Points

- Mr. Sakowitz appointed Mr. Tomas Hodgini to conduct a 15-6 Investigation and draft a §1312 Report in response to a whistleblower complaint filed with the Office of Special Counsel (OSC) re: Ft. Lewis PW.
- The suspense set by Army OGC was 29 June. OGC can obtain an automatic 60 day extension from OSC if requested.
- Mr. Hodgini has requested an extension of time due to the complexity of the allegations and the voluminous material he needs to review (TAB A). IMCOM SJA obtained an extension until 20 July (TAB B).

Ref: 5 USC § 1213(c)(1)(B) - (establishes time periods by which agencies must submit reports to OSC)

- TAB A: Extention Request by Investigating Officer
- TAB B: IMCOM SJA Extention Request sent to OGC

1. Purpose: Inform Mr. Sakowitz that OGC has given IMCOM an extension until 20 July to submit the Report of Investigation and the draft § 1213 Report

2. Discussion: Upon receipt of Mr. Hodgini's request for an extension of time (TAB A), Frank Levi discussed the matter with Cassandra Johnson and received an informal extension of time until 20 July. (b)(6) explained that OSC typically grants 60 day extensions as a matter of course, but that she needed a formal Request for Extension of Time from the IMCOM SJA so that she could use to submit her Request to OSC.

(b)(6) informed (b)(6) of the extension of time and informed him that Mr. Hodgini has a new internal suspense of 18 July 2007.

(b)(6) submitted the formal Request for Extension to OGC on 26 June. (TAB B)

Recommendation:
ED, IMCOM be informed of extension of time and the new suspense of 18 July 2007.

(UNCLASSIFIED)

8. LEAD AGENCY STAFF COORDINATION			TRACKING NUMBER:	
TITLE	INITIAL	TYPED OR PRINTED NAME		DATE
Branch				
Division				
CofS		(b)(6)		
ED		Philip E. Sakowitz, Jr.		
DCG				
DACSIM				
ACSIM				
ACTION OFFICER: (Name/Position/Phone Number/E-mail)		(b)(6)	(b)(6)	26 Jun 07
FILE LOCATION:				
SACO's NAME: (Name/Position/Phone Number/E-mail)		IMCOM: (b)(6)	(b)(6)	(b)(6)
		ACSIM: (b)(6)	(b)(6)	(b)(6)
RECOMMENDATION FOR STAFF PRINCIPAL:				

9. STAFF COORDINATION

CONCUR	NON-CONCUR	AGENCY	NAME (TITLE, LAST NAME)	PHONE (XXX)XXX-XXXX	DATE (YYYYMMDD)	REMARKS
<input type="checkbox"/>	<input type="checkbox"/>					
<input type="checkbox"/>	<input type="checkbox"/>					
<input type="checkbox"/>	<input type="checkbox"/>					
<input type="checkbox"/>	<input type="checkbox"/>					
<input type="checkbox"/>	<input type="checkbox"/>					
<input type="checkbox"/>	<input type="checkbox"/>					
<input type="checkbox"/>	<input type="checkbox"/>					
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<input type="checkbox"/>	<input type="checkbox"/>					
<input type="checkbox"/>	<input type="checkbox"/>					
<input type="checkbox"/>	<input type="checkbox"/>					
<input type="checkbox"/>	<input type="checkbox"/>					
<input type="checkbox"/>	<input type="checkbox"/>					
<input type="checkbox"/>	<input type="checkbox"/>					

10. ECC REMARKS: RETURNED REQUESTING ADDITIONAL INFORMATION/CLARIFICATION

Enclosure 3

VOL I

Enclosure 3

Hodgini, Thomas J CIV USA IMCOM

(b)(6)
Tuesday, June 26, 2007 8:30 AM

Cc: (b)(6); (b)(6); Hodgini, Thomas J
CIV USA IMCOM
Subject: Extension of Time for Ft. Lewis Whistleblower Investigation (UNCLASSIFIED)
Attachments: Extension Request Package.pdf



Extension Request
Package.pdf ...

Classification: UNCLASSIFIED

Caveats: NONE

(b)(6) - OGC has given us an extension of time for the Ft. Lewis Whistleblower Investigation. The old suspense was 29 June. The new suspense is 20 July. We gave the Investigating Officer an internal suspense of 18 July to submit the Reports to us. I am attaching the Staff Action package. I will bring up the hard copy.

NO ACTION NEEDED BY THE CHIEF OR MR. SAKOWITZ.

ONLY.

(b)(6)

U.S. Army Installation Management Command (IMCOM)
2511 Jefferson Davis Hwy, Arlington, VA 22202-3926

(b)(6) (phone)

(b)(6) (fax)

DSN 332

(b)(6)

Support and Defend - Army Strong!

Classification: UNCLASSIFIED

Caveats: NONE

EXHIBIT 1

VOL I

Exhibit 1



DEPARTMENT OF THE ARMY
HEADQUARTERS, 1 CORPS AND FORT LEWIS
FORT LEWIS, WASHINGTON 98433-5000



20 JUL 1998

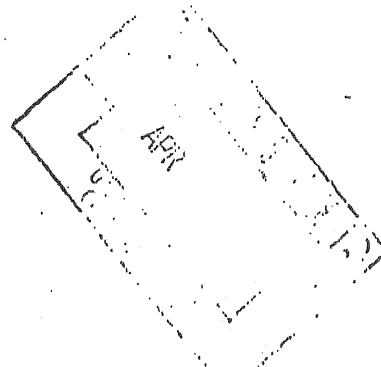
REPLY TO
ATTENTION OF:

Public Works

Subject: NPDES Permit No. WA-002105-4, Expiration Date: November 2, 1998

(b)(6)

Region 10, United States Environmental
Protection Agency
NPDES Permit Unit
1200 Sixth Avenue
Seattle, Washington 98101



Dear (b)(6):

Enclosed is Fort Lewis' application for reissuance of our National Pollutant Discharge Elimination System (NPDES). The NPDES Sludge Permit Application Package is being prepared. We anticipate receiving it from our consultants in early August at which time it will be forwarded to you.

Point of contact at Fort Lewis is (b)(6) (b)(6)
telephone (b)(6).

Sincerely,

(b)(6)

Colonel, U.S. Army
Director of Public Works

Enclosure

NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM
APPLICATION FOR PERMIT TO DISCHARGE WASTEWATER

FOR AGENCY USE									

STANDARD FORM A - MUNICIPAL

SECTION I. APPLICANT AND FACILITY DESCRIPTION

Unless otherwise specified on this form all items are to be completed. If an item is not applicable indicate "N/A."

ADDITIONAL INSTRUCTIONS FOR SELECTED ITEMS APPEAR IN SEPARATE INSTRUCTION BOOKLET AS INDICATED. REFER TO BOOKLET BEFORE FILLING OUT THESE ITEMS.

Please Print or Type
Department of the Army, Fort Lewis, Washington

<p>1. Legal Name of Applicant (see instructions)</p> <p>2. Mailing Address of Applicant (see instructions) Number & Street</p> <p>City</p> <p>State</p> <p>Zip Code</p> <p>3. Applicant's Authorized Agent (see instructions) Name and Title</p> <p>Number & Street</p> <p>City</p> <p>State</p> <p>Zip Code</p> <p>Telephone</p> <p>4. Previous Application If a previous application for a permit under the National Pollutant Discharge Elimination System has been made, give the date of application.</p>	<p>101</p> <hr/> <p>102a</p> <hr/> <p>102b</p> <hr/> <p>102c</p> <hr/> <p>102d</p> <hr/> <p>103a</p> <hr/> <p>103b</p> <hr/> <p>103c</p> <hr/> <p>103d</p> <hr/> <p>103e</p> <hr/> <p>103f</p> <hr/> <p>104</p>	<p>Department of the Army, Fort Lewis, Washington</p> <hr/> <p>AFZH - PWO - R; Box 339500; Bldg. 4301</p> <hr/> <p>MS-17, Fort Lewis</p> <hr/> <p>WA</p> <hr/> <p>98433-9500</p> <hr/> <p>(b)(6)</p> <hr/> <p>Department of Public Works</p> <hr/> <p>AFZH - PWE - EC/MS17b</p> <hr/> <p>Fort Lewis</p> <hr/> <p>WA</p> <hr/> <p>98433-9500</p> <hr/> <p>(b)(6)</p> <hr/> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%;">Area Code</th> <th style="width: 70%;">Number</th> </tr> <tr> <td> </td> <td> </td> </tr> </table> <hr/> <p>91 (month and day uncertain)</p> <hr/> <p>YR MO DAY</p>	Area Code	Number		
Area Code	Number					

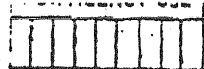
I certify that I am familiar with the information contained in this application and that to the best of my knowledge and belief such information is true, complete, and accurate.

<p>George T. Bryant, COL, U.S. Army</p> <p>(b)(6)</p> <p>Deputy Director of Public Works</p> <p>Signature of Applicant or Authorized Agent</p>	<p>102e</p> <hr/> <p>102f</p>	<p>Director, Public Works</p> <p>Title</p> <p style="text-align: center;">98 04 27</p> <p style="text-align: center;">YR MO DAY</p> <p>Date Application Signed</p>
--	-------------------------------	--

18 U.S.C. Section 1001 provides that:

Whoever, in any matter within the jurisdiction of any department or agency of the United States knowingly and willfully falsifies, conceals or covers up by any trick, scheme, or device a material fact, or makes any false, fictitious or fraudulent statement or representation, or makes or uses any false writing or document knowing same to contain any false, fictitious or fraudulent statement or entry, shall be fined not more than \$10,000 or imprisoned not more than five years, or both.

<p>Received 98 4 28</p> <p style="text-align: center;">YR MO DAY</p>	<p>(b)(6)</p> <p>5/12/88</p>	<p>OFFICE: _____ EPA Region Number</p> <p>_____ State</p>
--	------------------------------	---



Facility (see instructions)
Give the name, ownership, and physical location of the plant or other operating facility where discharge(s) presently occur(s) or will occur.
Name

Fort Lewis Water Pollution Control Facility

105a _____
U.S. Department of Defense, Fort Lewis
105b _____
Army Base, Washington
105c _____

Ownership (Public, Private or Both Public and Private).

105d PUB PRV BPP

Check block if a Federal facility

105e FED

and give GSA Inventory Control Number

105f 53465

Location:

105g AFZH - PWO - R; Box 339500; Bldg. 4301, M.S.-17,

Number & Street

105h Fort Lewis

City

105i Pierce

County

105j Washington

State

105k _____

6. Discharge to Another Municipal Facility (see instructions)
a. Indicate if part of your discharge is into a municipal waste transport system under another responsible organization. If yes, complete the rest of this item and continue with item 7. If no, go directly to item 7.

106a Yes No

b. Responsible Organization Receiving Discharge Name

106b _____

Number & Street

106c _____

City

106d _____

State

106e _____

Zip Code

106f _____

c. Facility Which Receives Discharge Give the name of the facility (waste treatment plant) which receives and is ultimately responsible for treatment of the discharge from your facility.

106g _____

106h _____

106i _____

106j _____

106k _____

d. Average Daily Flow to Facility (mgd) Give your average daily flow into the receiving facility.

106l _____ mgd

7. Facility Discharges, Number and Discharge Volume (see instructions) Specify the number of discharges described in this application and the volume of water discharged or lost to each of the categories below. Estimate average volume per day in million gallons per day. Do not include intermittent or noncontinuous overflows, bypasses or seasonal discharges from lagoons, holding ponds, etc.

FOR AGENCY USE					

	<u>Number of Discharge Points</u>	<u>Total Volume Discharged, Million Gallons Per Day</u>
To: Surface Water	1	5.1
Surface Impoundment with no Effluent		
Underground Percolation		
Well (Injection)		
Other		
Total Item 7	1	5.1
If 'other' is specified, describe		

If any of the discharges from this facility are intermittent, such as from overflow or bypass points, or are seasonal or periodic from lagoons, holding ponds, etc., complete item 8.

- 8. Intermittent Discharges**
- a. Facility bypass points
Indicate the number of bypass points for the facility that are discharge points. (see instructions)
 - b. Facility Overflow Points
Indicate the number of overflow points to a surface water for the facility (see instructions).
 - c. Seasonal or Periodic Discharge Points
Indicate the number of points where seasonal discharges occur from holding ponds, lagoons, etc.

9. Collection System Type
Indicate the type and length (in miles) of the collection system used by this facility. (see instructions)

- Separate Storm SST
- Separate Sanitary SAN
- Combined Sanitary and Storm CSS
- Both Separate Sanitary and Combined Sewer Systems BSC
- Both Separate Storm and Combined Sewer Systems BSSC

Length app. 175 miles

10. Municipalities or Areas Served
(see instructions)

Name	Actual Population Served
Fort Lewis Army Base	57,200
City of DuPont	600
McChord Air Force Base	12,500
Camp Murray	200
Northwest Landing (Dupont)*	800 (es)
Total Population Served	71,300 (es)

*Temporary until Nov. 1998

--	--	--	--	--	--	--	--	--	--	--	--

11. Average Daily Industrial Flow
 Total estimated average daily waste
 flow from all industrial sources. 111. 0.11 mgd

Note: All major industries (as defined in Section IV)
 discharging to the municipal system must be
 listed in Section IV.

12. Permits, Licenses and Applications
 List all existing, pending or denied permits, licenses and applications related to discharges from this facility. (see instructions)

	Issuing Agency	For Agency Use	Type of Permit or License	ID Number	Date Filed	Date Issued	Date Denied	Expiration Date
					YR/MO/DA	YR/MO/DA	YR/MO/DA	YR/MO/DA
1.	EPA		NPDES	WA-0021954	--	93/11/1	N/A	98/11/2
2.								
3.								

13. Maps and Drawings
 Attach all required maps and drawings to the back of this application. (see instructions) **Maps included**

14. Additional Information

Item Number	Information
	N/A

STANDARD FORM A—MUNICIPAL

FOR AGENCY USE									

SECTION II. BASIC DISCHARGE DESCRIPTION

Complete this section for each present or proposed discharge indicated in Section I, Items 7 and 8, that is to surface waters. This includes discharges to other municipal sewerage systems in which the waste water does not go through a treatment works prior to being discharged to surface waters. Discharges to wells must be described where there are also discharges to surface waters from this facility. Separate descriptions of each discharge are required even if several discharges originate in the same facility. All values for an existing discharge should be representative of the twelve previous months of operation. If this is a proposed discharge, values should reflect best engineering estimates.

ADDITIONAL INSTRUCTIONS FOR SELECTED ITEMS APPEAR IN SEPARATE INSTRUCTION BOOKLET AS INDICATED. REFER TO BOOKLET BEFORE FILLING OUT THESE ITEMS.

<p>1. Discharge Serial No. and Name</p> <p>a. Discharge Serial No. (see instructions)</p> <p>b. Discharge Name Give name of discharge, if any (see instructions)</p> <p>c. Previous Discharge Serial No If a previous NPDES permit application was made for this discharge (Item 4, Section I) provide previous discharge serial number.</p>	<p>201a</p> <p>201b</p> <p>201c</p>	<p style="text-align: center;">001</p> <hr/> <p style="text-align: center;">Fort Lewis Water Pollution Control Facility</p> <hr/> <p style="text-align: center;">001</p>	
<p>2. Discharge Operating Dates</p> <p>a. Discharge to Begin Date If the discharge has never occurred but is planned for some future date, give the date the discharge will begin.</p> <p>b. Discharge to End Date If the discharge is scheduled to be discontinued within the next 5 years, give the date (within best estimate) the discharge will end. Give reason for discontinuing this discharge in item 17.</p>	<p>202a</p> <p>202b</p>	<p style="text-align: center;">N/A</p> <hr/> <p style="text-align: center;">YR MO</p> <p style="text-align: center;">N/A</p> <hr/> <p style="text-align: center;">YR MO</p>	
<p>3. Discharge Location Name the political boundaries within which the point of discharge is located:</p> <p style="padding-left: 20px;">State</p> <p style="padding-left: 20px;">County</p> <p style="padding-left: 20px;">(If applicable) City or Town</p>	<p>203a</p> <p>203b</p> <p>203c</p>	<p style="text-align: center;">Washington</p> <hr/> <p style="text-align: center;">Pierce</p> <hr/> <p style="text-align: center;">Fort Lewis Army Base</p>	<p style="text-align: right;">Agency Use</p> <p>203d</p> <p>203e</p> <p>203f</p>
<p>4. Discharge Point Description (see instructions)</p> <p>Discharge is into (check one)</p> <p>Stream (includes ditches, arroyos, and other watercourses)</p> <p>Estuary</p> <p>Lake</p> <p>Ocean</p> <p>Well (injection)</p> <p>Other</p> <p>If 'other' is checked, specify type</p>	<p>204a</p> <p>204b</p>	<p><input type="checkbox"/> STR</p> <p><input checked="" type="checkbox"/> EST</p> <p><input type="checkbox"/> LKE</p> <p><input type="checkbox"/> OCE.</p> <p><input type="checkbox"/> WEL</p> <p><input type="checkbox"/> OTH</p>	
<p>5. Discharge Point - Lat/Long. State the precise location of the point of discharge to the nearest second. (see instructions)</p> <p style="padding-left: 20px;">Latitude</p> <p style="padding-left: 20px;">Longitude</p>	<p>205a</p> <p>205b</p>	<p style="text-align: center;">47 08 10</p> <p style="text-align: center;">DEG. MIN. SEC</p> <hr/> <p style="text-align: center;">122 38 17</p> <p style="text-align: center;">DEG. MIN. SEC</p>	

DISCHARGE SERIAL NUMBER

001

FOR AGENCY USE									

6. Discharge Receiving Water Name
Name the waterway at the point of discharge. (see instructions)

206a

If the discharge is through an outfall that extends beyond the shoreline or is below the mean low water line, complete item 7.

For Agency Use		
Major	Minor	Sub

206b

206c

For Agency Use
303e

7. Offshore Discharge

a. Discharge Distance from Shore

207a

800 feet

b. Discharge Depth Below Water Surface

207b

70 feet

If discharge is from a bypass or an overflow point or is a seasonal discharge from a lagoon, holding pond, etc., complete items 8, 9 or 10, as applicable, and continue with item 11.

8. Bypass Discharge (see instructions)

a. Bypass Occurrence

Check when bypass occurs

Wet weather

208a1

Yes No

Dry weather

208a2

Yes No

N/A

b. Bypass Frequency Give the actual or approximate number of bypass incidents per year.

Wet Weather

208b1

0 times per year

Dry weather

208b2

_____ times per year

c. Bypass Duration Give the average bypass duration in hours.

Wet weather

208c1

0 hours

Dry weather

208c2

_____ hours

d. Bypass Volume Give the average volume per bypass incident, in thousand gallons.

Wet weather

208d1

0 thousand gallons per incident

Dry weather

208d2

_____ thousand gallons per incident

e. Bypass Reasons Give reasons why bypass occurs.

208e

Proceed to item 11.

9. Overflow Discharge (see instructions)

a. Overflow Occurrence Check when overflow occurs.

Wet weather

209a1

Yes No

Dry weather

209a2

Yes No

N/A

b. Overflow Frequency Give the actual or approximate incidents per year.

Wet weather

209b1

_____ times per year

Dry weather

209b2

_____ times per year

DISCHARGE SERIAL NUMBER

FOR AGENCY USE									

c. Overflow Duration Give the average overflow duration in hours.

Wet weather

208e1 _____ hours

Dry weather

208e2 _____ Hours

d. Overflow Volume Give the average volume per overflow incident in thousand gallons.

Wet weather

208e3 _____ thousand gallons per incident

Dry weather

208e4 _____ thousand gallons per incident

Proceed to item 11

10. Seasonal/Periodic Discharges

a. Seasonal/Periodic Discharge Frequency If discharge is intermittent from a holding pond, lagoon, etc., give the actual or approximate number of times this discharge occurs per year.

N/A

210e _____ times per year

b. Seasonal/Periodic Discharge Volume Give the average volume per discharge occurrence in thousand gallons.

210e _____ thousand gallons per discharge occurrence

c. Seasonal/Periodic Discharge Duration Give the average duration of each discharge occurrence in days.

210e _____ days

d. Seasonal/Periodic Discharge Occurrence—Months Check the months during the year when the discharge normally occurs.

210e JAN FEB MAR

APR MAY JUN

JUL AUG SEP

OCT NOV DEC

11. Discharge Treatment

a. Discharge Treatment Description Describe waste abatement practices used on this discharge with a brief narrative. (See instructions)

217a

Treatment consists primarily of screening influent followed by primary sedimentation using clarifiers, followed by biological treatment using trickling filters, followed by secondary clarification and chlorination.
~~Influent treatment capabilities also include polymer addition to enhance settling, as needed.~~ Sludge is treated by digestion and atmospheric drying. Final sludge is currently hauled off and used in land application and for compost at this time.

DISCHARGE SERIAL NUMBER

001

FOR AGENCY USE									

S, SC, C, FTL, N, PG, T, DN,

d. Discharge Treatment Codes
Using the codes listed in Table I of the Instruction Booklet, describe the waste abatement processes applied to this discharge in the order in which they occur, if possible. Separate all codes with commas except where slashes are used to designate parallel operations.

211b

B, XN

If this discharge is from a municipal waste treatment plant (not an overflow or bypass), complete Items 12 and 13

12. Plant Design and Operation Manuals
Check which of the following are currently available

a. Engineering Design Report

212a

b. Operation and Maintenance Manual

212b

13. Plant Design Data (see instructions)

a. Plant Design Flow (mgd)

213a

7.0 mgd

b. Plant Design BOD Removal (%)

213b

85 %

c. Plant Design N Removal (%)

213c

N/A %

d. Plant Design P Removal (%)

213d

N/A %

e. Plant Design SS Removal (%)

213e

90 %

f. Plant Began Operation (year)

213f

1959

g. Plant Last Major Revision (year)

213g

1973

FOR AGENCY USE
(b)(6)

1a. Description of Influent and Effluent (see instructions)

Parameter and Code Z143	Influent		Effluent				
	Annual Average Value	Annual Average Value	Lowest Monthly Average Value	Highest Monthly Average Value	Frequency of Analysis	Number of Analyses	Sample Type
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Flow Million gallons per day 50050	5.1	5.1	2.5	9.5	Continuous	-	Meter
pH Units 00400			6.0	6.9	Daily	365	Grab
Temperature (winter) ° F 74028	60	60**	53**	61**	Influent Daily	-	Grab
Temperature (summer) ° F 74027	61	61**	57**	65**	Influent Daily	-	Grab
Fecal Streptococci Bacteria Number/100 ml 74054 (Provide if available)				N/A	N/A	-	-
Fecal Coliform Bacteria Number/100 ml 74055 (Provide if available)				179	Daily	365	Grab
Total Coliform Bacteria Number/100 ml 74056 (Provide if available)				N/A	N/A	-	-
BOD 5-day mg/l 00310	148	13.9	10	17	Daily	365	Comp.
Chemical Oxygen Demand (COD) * mg/l 00340 (Provide if available)	300	36	29	51	Estimated	0	Est.
OR Total Organic Carbon (TOC) mg/l 00680 (Provide if available) (Either analysis is acceptable)	-	-	-	-	-	-	-
Chlorine—Total Residual mg/l 50060	N/A	N/A	0.2	0.69	Daily	365	Grab

*Concentration estimated from similar facilities

**Estimated values
EPA Form 7530-22 (7-73)

FOR AGENCY USE									

14. Description of Influent and Effluent (see instructions) (Continued)

Parameter and Code	Influent		Effluent				
	Annual Average Value (1)	Annual Average Value (2)	Lowest Monthly Average Value (3)	Highest Monthly Average Value (4)	Frequency of Analysis (5)	Number of Analyses (6)	Sample Type (7)
Total Solids * mg/l 00500	403	59	46	72	Estimated	0	Est.
Total Dissolved Solids mg/l 70300	280	41	32	50	Estimated	0	Est.
Total Suspended Solids mg/l 00530	219.9	20.9	19	23	Daily	365	Comp.
Settleable Matter (Residue) m/l 00545	15.7	5.2	40.1	0.2	Estimated	0	Est.
Ammonia (as N) mg/l 00610 (Provide if available)	N/A	N/A	N/A	N/A	-	-	-
Kjeldahl Nitrogen mg/l 00625 (Provide if available)	N/A	N/A	N/A	N/A	-	-	-
Nitrate (as N) mg/l 00620 (Provide if available)	N/A	N/A	N/A	N/A	-	-	-
Nitrite (as N) mg/l 00615 (Provide if available)	N/A	N/A	N/A	N/A	-	-	-
Phosphorus Total (as P) mg/l 00665 (Provide if available)	N/A	N/A	N/A	N/A	-	-	-
Dissolved Oxygen (DO) mg/l 00300	X	7.9	6.1	9.3	Monthly	12	Grab

DISCHARGE SERIAL NUMBER

001

FOR AGENCY USE

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15. Additional Wastewater Characteristics

Check the box next to each parameter if it is present in the effluent. (see instructions)

Parameter (215)	Present	Parameter (215)	Present	Parameter (215)	Present
Bromide 71870		Cobalt 01037		Thallium 01059	
Chloride 00940	X	Chromium 01034	X	Titanium 01152	
Cyanide 00720	X	Copper 01042	X	Tin 01102	
Fluoride 00951		Iron 01045	X	Zinc 01092	X
Sulfide 00745	X	Lead 01051	X	Algicides* 74051	
Aluminum 01105		Manganese 01055	X	Chlorinated organic compounds* 74052	
Antimony 01097		Mercury 71900		Oil and grease 00650	
Arsenic 01002		Molybdenum 01062		Pesticides* 74053	
Beryllium 01012		Nickel 01067	X	Phenols 32730	
Barium 01007		Selenium 01147		Surfactants 38260	
Boron 01022		Silver 01077	X	Radioactivity* 74050	
Cadmium 01027	X				

*Provide specific compound and/or element in Item 17, if known.

Pesticides (insecticides, fungicides, and rodenticides) must be reported in terms of the acceptable common names specified in *Acceptable Common Names and Chemical Names for the Ingredient Statement on Pesticide Labels*, 2nd Edition, Environmental Protection Agency, Washington, D.C. 20250, June 1972, as required by Subsection 162.7(b) of the Regulations for the Enforcement of the Federal Insecticide, Fungicide, and Rodenticide Act.

FOR AGENCY USE					

STANDARD FORM A-MUNICIPAL

SECTION III SCHEDULED IMPROVEMENTS AND SCHEDULES OF IMPLEMENTATION

This section requires information on any uncompleted implementation schedule which has been imposed for construction of waste treatment facilities. Requirement schedules may have been established by local, State, or Federal agencies or by court action. IF YOU ARE SUBJECT TO SEVERAL DIFFERENT IMPLEMENTATION SCHEDULES, EITHER BECAUSE OF DIFFERENT LEVELS OF AUTHORITY IMPOSING DIFFERENT SCHEDULES (ITEM 1b) AND/OR STAGED CONSTRUCTION OF SEPARATE OPERATIONAL UNITS (ITEM 1c), SUBMIT A SEPARATE SECTION III FOR EACH ONE.

1. Improvements Required

a. Discharge Serial Numbers Affected List the discharge serial numbers, assigned in Section II, that are covered by this implementation schedule

304a

305a

306a

307a

FOR AGENCY USE	
Sched. No.	

N/A

b. Authority Imposing Requirement Check the appropriate item indicating the authority for the implementation schedule. If the identical implementation schedule has been ordered by more than one authority, check the appropriate items (see instructions)

- Locally developed plan
- Arsenic Plan
- Basin Plan
- State approved implementation schedule
- Federal approved water quality standards implementation plan
- Federal enforcement procedure or action
- State court order
- Federal court order

- LOC
- ARE
- BAS
- SOS
- WQS
- ENF
- CRT
- FED

c. Improvement Description Specify the 3-character code for the General Action Description in Table II that best describes the improvements required by the implementation schedule. If more than one schedule applies to the facility because of a staged construction schedule, state the stage of construction being described here with the appropriate general action code. Submit a separate Section III for each stage of construction planned. Also, list all the 3-character (Specific Action) codes which describe in more detail the pollution abatement practices that the implementation schedule requires.

3-character general action description

3-character specific action descriptions

307a

308a

2. Implementation Schedule and 3. Actual Completion Dates

N/A

Provide dates imposed by schedule and any actual dates of completion for implementation steps listed below. Indicate dates as accurately as possible. (see instructions)

Implementation Step	2. Schedule (Yr / Mo / Day)	3. Actual Completion (Yr / Mo / Day)
a. Preliminary plan complete	302a	303a
b. Final plan complete	302b	303b
c. Financing complete & contract awarded	302c	303c
d. Site acquired	302d	303d
e. Begin construction	302e	303e
f. End construction	302f	303f
g. Begin Discharge	302g	303g
h. Operational level attained	302h	303h

FOR AGENCY USE									

STANDARD FORM A—MUNICIPAL

SECTION IV. INDUSTRIAL WASTE CONTRIBUTION TO MUNICIPAL SYSTEM

Submit a description of each major industrial facility discharging to the municipal system, using a separate Section IV for each facility description. Indicate the 4 digit Standard Industrial Classification (SIC) Code for the industry, the major product or raw material, the flow (in thousand gallons per day), and the characteristics of the wastewater discharged from the industrial facility into the municipal system. Consult Table III for standard measures of products or raw materials. (see instructions)

1. Major Contributing Facility (see instructions)

Name

Fort Lewis Landfill

Number & Street

401b AFZH - PWO - R; Box 339500; Building 4301, MS-17

City

401c Fort Lewis

County

401d Pierce

State

401e Washington

Zip Code

401f 98433

2. Primary Standard Industrial Classification Code (see instructions)

402 N/A

3. Principal Product or Raw Material (see instructions)

Product

403a Solid Waste

Quantity

Units (See Table III)

403c 1,200

403e N/A

Raw Material

403b

403d

tn/yr

404a 37

thousand gallons per day

4. Flow Indicate the volume of water discharged into the municipal system in thousand gallons per day and whether this discharge is intermittent or continuous.

404b

Intermittent (int) Continuous (con)

5. Pretreatment Provided Indicate if pretreatment is provided prior to entering the municipal system

405

Yes No

6. Characteristics of Wastewater (see instructions)

Parameter Name							
Parameter Number	See Attachment IV-6						
406b Value							

Attachment IV-6
to EPA Standard Form A—Municipal

Characteristics of Wastewater
Ft. Lewis Landfill Leachate (µg/L)

Parameter Name	Arsenic	Cadmium	Chromium	Copper	Lead	Mercury	Molybdenum	Nickel	Selenium	Zinc
Parameter Number	—	—	—	—	—	—	—	—	—	—
Value*	15.13	2.9**	34.00	95.00	6.00	2.40	11.00	72.67	14.83	80.50

*Average

**Value listed is one detectable sample out of four conducted. Other three were non-detectable.

FORM 1
GENERAL LABEL ITEMS



U.S. ENVIRONMENTAL PROTECTION AGENCY
GENERAL INFORMATION
Consolidated Permit Program
(Read the "General Instructions" before starting.)

I. EPA I.D. NUMBER

F A 0021954

IIA C
D

GENERAL INSTRUCTIONS

If a preprinted label has been provided, affix it in the designated space. Review the information carefully; if any of it is incorrect, cross through it and enter the correct data in the appropriate fill-in area below. Also, if any of the preprinted data is absent (the area to the left of the label space lists the information that should appear), please provide it in the proper fill-in area(s) below. If the label is complete and correct, you need not complete items I, III, V, and VI (except VI-B which must be completed regardless). Complete all items if no label has been provided. Refer to the instructions for detailed item descriptions and for the legal authorizations under which this data is collected.

PLEASE PLACE LABEL IN THIS SPACE

II. POLLUTANT CHARACTERISTICS

INSTRUCTIONS: Complete A through J to determine whether you need to submit any permit application forms to the EPA. If you answer "yes" to any questions, you must submit this form and the supplemental form listed in the parenthesis following the question. Mark "X" in the box in the third column if the supplemental form is attached. If you answer "no" to each question, you need not submit any of these forms. You may answer "no" if your activity is excluded from permit requirements; see Section C of the instructions. See also, Section D of the instructions for definitions of bold-faced terms.

SPECIFIC QUESTIONS	MARK 'X'			SPECIFIC QUESTIONS	MARK 'X'		
	YES	NO	FORM ATTACHED		YES	NO	FORM ATTACHED
A. Is this facility a publicly owned treatment works which results in a discharge to waters of the U.S.? (FORM 2A)	X		X	B. Does or will this facility (either existing or proposed) include a concentrated animal feeding operation or aquatic animal production facility which results in a discharge to waters of the U.S.? (FORM 2B)		X	
C. Is this a facility which currently results in discharges to waters of the U.S. other than those described in A or B above? (FORM 2C)		X		D. Is this a proposed facility (other than those described in A or B above) which will result in a discharge to waters of the U.S.? (FORM 2D)		X	
E. Does or will this facility treat, store, or dispose of hazardous wastes? (FORM 3)	X			F. Do you or will you inject at this facility industrial or municipal effluent below the lowermost stratum containing, within one quarter mile of the well bore, underground sources of drinking water? (FORM 4)		X	
Do you or will you inject at this facility any produced water or other fluids which are brought to the surface connection with conventional oil or natural gas production, inject fluids used for enhanced recovery of oil or natural gas, or inject fluids for storage of liquid hydrocarbons? (FORM 4)		X		H. Do you or will you inject at this facility fluids for special processes such as mining of sulfur by the Frasch process, solution mining of minerals, in situ combustion of fossil fuel, or recovery of geothermal energy? (FORM 4)		X	
Is this facility a proposed stationary source which is one of the 28 industrial categories listed in the instructions and which will potentially emit 100 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X		J. Is this facility a proposed stationary source which is NOT one of the 28 industrial categories listed in the instructions and which will potentially emit 250 tons per year of any air pollutant regulated under the Clean Air Act and may affect or be located in an attainment area? (FORM 5)		X	

III. NAME OF FACILITY

1 SKIP HQ I CORPS & FORT LEWIS

IV. FACILITY CONTACT

A. NAME & TITLE (last, first, & title)		B. PHONE (area code & no.)		
2	MARY HAMRE ROADS & SANITATION	253	967	5237

V. FACILITY MAILING ADDRESS

A. STREET OR P.O. BOX	
3	Box 339500 APZH-PWO-R

B. CITY OR TOWN		C. STATE	D. ZIP CODE
4	Fort Lewis	WA	98433

VI. FACILITY LOCATION

A. STREET, ROUTE NO. OR OTHER SPECIFIC IDENTIFIER	
5	Main St Bldg 4301

B. COUNTY NAME	
fce	

C. CITY OR TOWN	D. STATE	E. ZIP CODE	F. COUNTY CODE (if known)
Lewis	WA	98433	

CONTINUED FROM THE FRONT

VII. SIC CODES (4-digit, in order of priority)

A. FIRST 7 (specify) Sewage Systems				B. SECOND 7 (specify)			
C. THIRD 7 (specify)				D. FOURTH 7 (specify)			

VIII. OPERATOR INFORMATION

A. NAME 8 Department of the Army											B. Is the name listed in Item VIII-A also the owner? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	
-------------------------------------	--	--	--	--	--	--	--	--	--	--	---	--

C. STATUS OF OPERATOR (Enter the appropriate letter into the answer box: if "Other", specify.) F - FEDERAL M - PUBLIC (other than federal or state) F (specify) S - STATE O - OTHER (specify)											D. PHONE (area code & no.) A 2 5 3 9 6 7 5 2 3 7			
---	--	--	--	--	--	--	--	--	--	--	---	--	--	--

E. STREET OR P.O. BOX BOX 339500 AFZHPWO - R										
---	--	--	--	--	--	--	--	--	--	--

F. CITY OR TOWN B FT. LEWIS						G. STATE WA		H. ZIP CODE 98433		IX. INDIAN LAND Is the facility located on Indian lands? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
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X. EXISTING ENVIRONMENTAL PERMITS

A. NPDES (Discharges to Surface Water) 9 N W A 0 0 2 1 9 5 4						D. PSD (Air Emissions from Proposed Sources) 9 P					
B. UIC (Underground Injection of Fluids) 9 U						E. OTHER (specify)					
C. RCRA (Hazardous Wastes) J R W A 1 4 0 5 3 4 6 5						E. OTHER (specify)					

XI. MAP

Attach to this application a topographic map of the area extending to at least one mile beyond property boundaries. The map must show the outline of the facility, the location of each of its existing and proposed intake and discharge structures, each of its hazardous waste treatment, storage, or disposal facilities, and each well where it injects fluids underground. Include all springs, rivers and other surface water bodies in the map area. See instructions for precise requirements.

XII. NATURE OF BUSINESS (provide a brief description)

Ft. Lewis is a military installation with housing and administrative units, hospitals, maintenance shops, motor pools, vehicle wash facilities, and laundry facilities.

XIII. CERTIFICATION (see instructions)

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this application and all attachments and that, based on my inquiry of those persons immediately responsible for obtaining the information contained in the application, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

A. NAME & OFFICIAL TITLE (Type or print) (b)(6)		B. SIGNATURE (b)(6)		C. DATE SIGNED 4/27/98	
--	--	------------------------	--	---------------------------	--

COMMENTS FOR OFFICIAL USE ONLY

C.										
----	--	--	--	--	--	--	--	--	--	--

Print or type in the unshaded area only

Form
2F
NPDES



United States Environmental Protection Agency
 Washington, DC 20460

**Application for Permit to Discharge Storm Water
 Discharges Associated with Industrial Activity**

Paperwork Reduction Act Notice

Public reporting burden for this application is estimated to average 28.6 hours per application, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding the burden estimate, any other aspect of this collection of information, or suggestions for improving this form, including suggestions which may increase or reduce this burden to: Chief, Information Policy Branch, PM-223, U.S. Environmental Protection Agency, 401 M St., SW, Washington, DC 20460, or Director, Office of Information and Regulatory Affairs, Office of Management and Budget, Washington, DC 20503.

I. Outfall Location

For each outfall, list the latitude and longitude of its location to the nearest 15 seconds and the name of the receiving water.

A. Outfall Number <i>(list)</i>	B. Latitude			C. Longitude			D. Receiving Water <i>(name)</i>
002	47°	05'	33"	122°	37'	33"	Bell Marsh --> Puget Sound
003	47°	06'	09"	122°	36'	23"	Hamer Marsh --> Puget Sound
004	47°	07'	38"	122°	37'	21"	Drainage Canal--> Puget Sound
005	47°	07'	01"	122°	37'	18"	Drainage Canal--> Puget Sound
006	47°	08'	10"	122°	38'	15"	Open Drainage --> Puget Sound
007	47°	06'	47"	122°	32'	53"	Murray Creek --> Puget Sound
008	47°	06'	30"	122°	36'	17"	Hamer Marsh --> Puget Sound
009		TBD			TBD		Kennedy Marsh
010		TBD			TBD		Murray Creek --> Puget Sound
011		TBD			TBD		Murray Creek --> Puget Sound

II. Improvements

A. Are you now required by any Federal, State, or local authority to meet any implementation schedule for the construction, upgrading or operation of wastewater treatment equipment or practices or any other environmental programs which may affect the discharges described in this application? This includes, but is not limited to, permit conditions, administrative or enforcement orders, enforcement compliance schedule letters, stipulations, court orders, and grant or loan conditions.

1. Identification of Conditions, Agreements, Etc.	2. Affected Outfalls		3. Brief Description of Project	4. Final Compliance Date	
	number	source of discharge		a. req.	b. proj.
N/A					

B. You may attach additional sheets describing any additional water pollution (or other environmental projects which may affect your discharges) you now have under way or which you plan. Indicate whether each program is now under way or planned, and indicate your actual or planned schedules for construction.

III. Site Drainage Map

Attach a site map showing topography (or indicating the outline of drainage areas served by the outfall(s) covered in the application if a topographic map is unavailable) depicting the facility including: each of its intake and discharge structures; the drainage area of each storm water outfall; paved areas and buildings within the drainage area of each storm water outfall, each known past or present areas used for outdoor storage or disposal of significant materials, each existing structural control measure to reduce pollutants in storm water runoff, materials loading and access areas, areas where pesticides, herbicides, soil conditioners and fertilizers are applied; each of its hazardous waste treatment, storage or disposal units (including each area not required to have a RCRA permit which is used for accumulating hazardous waste under 40 CFR 262.34); each well where fluids from the facility are injected underground; springs, and other surface water bodies which receive storm water discharges from the facility. (Map Attached)

Continued from the Front

IV. Narrative Description of Pollutant Sources

A. For each outfall, provide an estimate of the area (include units) of impervious surfaces (including paved areas and building roofs) drained to the outfall, and an estimate of the total surface area drained by the outfall.

Outfall Number	Area of Impervious Surface (provide units)	Total Area Drained (provide units)	Outfall Number	Area of Impervious Surface (provide units)	Total Area Drained (provide units)
		See Attachment A			

B. Provide a narrative description of significant materials that are currently or in the past three years have been treated, stored or disposed in a manner to allow exposure to storm water; method of treatment, storage, or disposal; past and present materials management practices employed to minimize contact by these materials with storm water runoff; materials loading and access areas; and the location, manner, and frequency in which pesticides, herbicides, soil conditioners, and fertilizers are applied.

See Attachment B

C. For each outfall, provide the location and a description of existing structural and nonstructural control measures to reduce pollutants in storm water runoff; and a description of the treatment the storm water receives, including the schedule and type of maintenance for control and treatment measures and the ultimate disposal of any solid or fluid wastes other than by discharge.

Outfall Number	Treatment	List Codes from Table 2F-1
	See Attachment C	

V. Nonstormwater Discharges

A. I certify under penalty of law that the outfall(s) covered by this application have been tested or evaluated for the presence of nonstormwater discharges, and that all nonstormwater discharges from these outfall(s) are identified in either an accompanying Form 2C or Form 2E application for the outfall.

Name and Official Title (type or print)	Signature	Date Signed

B. Provide a description of the method used, the date of any testing, and the onsite drainage points that were directly observed during a test.

N/A

VI. Significant Leaks or Spills

Provide existing information regarding the history of significant leaks or spills of toxic or hazardous pollutants at the facility in the last three years, including the approximate date and location of the spill or leak, and the type and amount of material released.

Information on leaks and spills is included in the Fort Lewis Stormwater Pollution Prevention Plan. Information is updated monthly. Recorded leaks and spills have been small and insignificant. A Spill Prevention, Control and Countermeasure Plan is in place and provides an identification of BMPs that are utilized by areas which have a potential for a significant spill. The plan, in conjunction with the Stormwater Pollution Prevention Plan, provides a mechanism to, if not eliminate significant spills, at least mitigate the impact of such an event on the environment.

**ATTACHMENT A
TO PERMIT OF STORMWATER DISCHARGES
FORM 3510-2F, SECTION IV-A**

The storm drainage system at Fort Lewis primarily accommodates runoff from built-up areas: North Fort Lewis, the Main Cantonment area, and the Logistics Center area (see enclosed maps at back of application). The drainage of these areas is generally to the north with discharges into Puget Sound.

The various outfalls listed in this application are as follows:

Outfall No.	General Area	Total Area Drained (approx. acres)	Impervious Surface Area (approx. acres)
001 - Sewage Treatment Plant	STP	N/A	N/A
002 - Dupont Stormwater Outfall	Main Cantonment Area	1,930	1,000
003 - Flora Road	Main Cantonment Area	1,675	530
004 - North Fort Lewis No. 1	North Fort Lewis	616	180
005 - North Fort Lewis No. 2	North Fort Lewis	401	180
*006 - Special Forces	Special Forces Vehicle Maintenance	14	11
007 - Logistics Center	Logistics Center	131	95
*008 - Former Coal Plant	Former Coal Plant	25	0
009 - Kennedy Marsh	Vehicle Maintenance	8	8
**010 - Motor Pool	Vehicle Maintenance	9	9
**011 - Defense Reutilization and Marketing Office (DRMO)	DRMO Area	158	150

*Outfalls 006 and 008 are proposed to be withdrawn from the NPDES application for the following reasons. Outfall 006 discharges a small amount of water at infrequent intervals to a detention pond. The water has infiltrated and never discharged from the pond. The former coal plant facility (Outfall 008) has been totally demolished and removed and a grassed field now occupies the site. No (or very minimal) impervious surface exists on the site and no stormwater discharge has been observed. Samples (grab and composite) were not taken for these sites because of the proposed withdrawal from the permit.

**Outfalls 010 (Site 27 on Fort Lewis drainage map) and 011 (Site 33 on Fort Lewis drainage map) are recently identified sites not included in previous applications. A stormwater outfall study was completed for these sites in 1997-1998 and the sites are included in this application. The outfall area draining into 010 includes a motor pool area and the outfall area draining into 011 is a large group of buildings and roads on the DRMO site. Samples (grab and composite) were taken for these sites and are included in this application.

**ATTACHMENT B
TO PERMIT OF STORMWATER DISCHARGES
FORM 3510-2F, SECTION IV-B**

The materials treated or disposed of that could allow exposure to stormwater include those related to aviation/vehicle maintenance, equipment maintenance, fuel operations, general maintenance, painting, production/fabrication, and storage tanks. Table B-1 from the Ft. Lewis Stormwater Pollution Prevention Plan is a hazardous material inventory and is included with this attachment. None of these materials have had any exposure to the storm drainage system in the past three years. Non-hazardous materials that could end up in stormwater include cleaners, detergents, vehicle wash water, fertilizers, salt, bleach, and ammonia. The method of treatment, if present, for stormwater pollutants is discussed in Attachment C. Management practices employed to minimize contact with materials from stormwater runoff are discussed in the Stormwater Pollution Prevention Plan under Best Management Practices (Chapters 11.0 and 12.0). Pesticides, herbicides, soil conditioners, and fertilizers are applied in accordance with guidelines established in the Fort Lewis Pest Control Management Plan and standard industry practices. Pesticides and herbicides are applied to control weeds or noxious species around the installation (such as Scot's broom) and, along with fertilizers and soil conditioners to maintain landscaped or lawn areas around the installation cantonment area.

**TABLE B-1
MATERIAL INVENTORY**

Material	Purpose/Location	Quantity (lb/yr)	Quantity Exposed In Last 3 Years	Likelihood of Contact with Stormwater
Antifreeze (ethylene glycol)	Motor pool and equipment maintenance/57 locations vehicle cannibalization	136,750		Spills possible in changing fluids, leaky containers, improper disposal of waste
Non-Halogenated Solvents	Motor pool, vehicle, aviation, and industrial maintenance; parts cleanings; painting operations	75,830		Possible via improper disposal of waste
Batteries	Motor pool, battery maintenance, vehicle cannibalization	43,600		Cracked batteries have the potential to leak
Paint and Primer	Painting operations	32,830		Chipping paint, leaky containers
Fuel	Motor pool, vehicle maintenance, vehicle cannibalization, aviation maintenance, industrial maintenance, fuel transfer operations, aboveground storage tanks	See Leaks and Spills information provided in Section 8.0		Fuel can spill in transfer due to leaky containers or valves, and in damaged or ill maintained equipment.
Lubricants	Used in motor pool, vehicle maintenance, industrial maintenance, aviation maintenance	26,450		Lubricants can be washed off of equipment as "dirt," spill, leak from damaged containers
Montreal Protocol Chemicals	Brake system maintenance, industrial maintenance, solvent cleaning operations	7,300		Faulty or damaged containers, misuse, improper disposal
Hydraulic Fluid	Vehicles maintenance, industrial maintenance, aviation maintenance, vehicle cannibalization	1,100 ¹		Spills during maintenance and changing, leaks from damaged or poorly maintained equipment
Acids	Battery maintenance	1,200		Cracked batteries, leaky containers

**TABLE B-1 (CON'T)
MATERIAL INVENTORY**

Material	Purpose/Location	Quantity (lb/yr)	Quantity Exposed In Last 3 Years	Likelihood of Contact with Stormwater
Halogenated Solvents	Vehicle maintenance, industrial maintenance, solvent cleaning operations	1,810		Spills during transfer and use, leaky containers, disposal of used solvent
Miscellaneous	Vehicle maintenance, industrial maintenance, solvent cleaning operations	1,110		Spills during transfer and use, leaky containers, disposal of used solvent
Pesticides	Grounds crew	638		Spills during use, damage to packaging or containers
Alkaline	Battery maintenance	1,060		Leaky containers
Reactives	Battery maintenance	249		Leaky containers
Mercury	Training exercises	40		Cracked batteries, decon kits
Sealants	Painting operations, building maintenance	10		Improper disposal of waste
1 - Water with hydraulic fluid.				

**ATTACHMENT C
TO PERMIT OF STORMWATER DISCHARGES
FORM 3510-2F, SECTION IV-C**

Outfall Number	Treatment	List Code from Table 2F-1
002-003	Treatment consists of oil/water separators, polymer addition, dissolved air flotation, and oil skimmer with water/oil recovery. Each facility is inspected three times a week with maintenance provided as needed and sludge removed annually.	1-H
004	No treatment.	4-A
005	Same as 002-003.	1-H
006*	No treatment (except by detention pond infiltration).	4-A
007	Stormwater is routed to an oil/water separator prior to discharge into the sanitary sewer system. Prior to the oil/water separator, stormwater flows to a diversion structure that contains a proportional weir which directs up to 6 cubic feet per second (cfs) to the existing pretreatment facility. Flows in excess of 6 cfs are sent directly to Murray Creek. Overflows are expected to occur during a 10-year storm event.	4-A
008*	Discharge occurred in the past only during overflow of the former Coal Plant Stormwater treatment facility. No discharge observed since former facility was demolished and removed.	N/A
009	Treatment consists of oil/water separator with settling chamber. Oil boom/skimmer in place.	1-H
010*	No treatment.	4-A
011*	No treatment.	4-A

*Note: Outfalls 006 (Special Forces Area) and 008 (Former Coal Plant Stormwater Treatment Facility) are proposed to be withdrawn from the existing NPDES permit. Outfalls 010 (Motor Pool) and 011 (DRMO Area) are proposed to be added.

Continued from Page 2

VII. Discharge Information

A, B, C, & D: See instructions before proceeding. Complete one set of tables for each outfall. Annotate the outfall number in the space provided.
Tables VI-A, VI-B, and VI-C are included on separate sheets numbered VI-1 and VI-2.

E: Potential discharges not covered by analysis - is any toxic pollutant listed in table 2F-2, 2F-3 or 2F-4, a substance or a component of a substance which you currently use or manufacture as an intermediate or final product or byproduct?

Yes (list all such pollutants below)

No (go to Section IX)

VIII. Biological Toxicity Testing Data

Do you have any knowledge or reason to believe that any biological test for acute or chronic toxicity has been made on any of your discharges or on a receiving water in relation to your discharge within the last 3 years?

Yes (list all such pollutants below)

No (go to Section IX)

IX. Contract Analysis Information

Were any of the analysis reported in Item VII performed by a contract laboratory or consulting firm?

Yes (list the name, address, and telephone number of, and pollutants analyzed by, each such laboratory or firm below)

No (go to Section X)

A. Name	B. Address	C. Area Code & Phone No.	D. Pollutants Analyzed
Laucks Testing Labs, Inc.	940 S. Harney St. Seattle, WA 98108	(206) 767-5060	BOD, COD, N, Oil and Grease, Phosphate, TKN, TSS, Metals

X. Certification

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 gather and evaluate 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.

A. Name & Official Title (type or print) (b)(6)	B. Area Code and Phone No. (253) 967-3191
C. Signature (b)(6)	D. Date Signed 4/27/98

VII. Discharge Information (Continued from page 3 of Form 2F)

Part A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant and CAS Number (if available)	Maximum Values (mg/L) (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Oil/Grease		N/A				
Biological Oxygen Demand (BOD5)	8	No Composite				
Chemical Oxygen Demand (COD)	47	Sampling performed				
Total Suspended Solids (TSS)	14					
Total Nitrogen	11					
Total Phosphorus	2.7					
pH	Minimum	Maximum	Minimum	Maximum		

Part B - List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number (if available)	Maximum Values (ug/L) (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Aluminum	330	No composite				
Antimony	0.55	sampling performed				
Arsenic	1.3					
Barium	8.4					
Beryllium	(U) 0.26					
Cadmium	(U) 0.057					
Calcium	12400					
Chromium	(U) 4.5					
Cobalt	(U) 3.9					
Copper	19.8					
Iron	248					
Lead	1.3					
Magnesium	3810					
Manganese	18.2					
Mercury	(U) 0.10					
Nickel	(U) 4.3					
Potassium	6620					
Selenium	0.55					
Silver	6.3					
Sodium	23500					
Thallium	0.52					
Vanadium	(U) 2.9					
Zinc	33.3					

VII. Discharge Information (Continued from page 3 of Form 2F)

Part A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant and CAS Number (if available)	Maximum Values (mg/L) (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Oil and Grease	1.0 (U)	N/A				
Biological Oxygen Demand (BOD5)	6	5 (U)				
Chemical Oxygen Demand (COD)	10 (U)	10 (U)				
Total Suspended Solids (TSS)	9	3				
Total Nitrogen	1.3	2.2				
Total Phosphorus	0.09	0.05				
pH	Minimum	Maximum 5.6	Minimum	Maximum		

Part B - List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number (if available)	Maximum Values (ug/L) (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Aluminum	610	114				
Antimony	0.99	0.40				
Arsenic	0.80	0.56				
Barium	7.6	3.5				
Beryllium	0.26 (U)	0.26 (U)				
Cadmium	0.28	0.057 (U)				
Calcium	10,200	15,100				
Chromium	4.5 (U)	4.5 (U)				
Cobalt	3.9 (U)	3.9 (U)				
Copper	3.9 (U)	3.9 (U)				
Iron	417	7.1				
Lead	3.7	0.14				
Magnesium	3020	4590				
Manganese	9.5	2.0				
Mercury	0.10 (U)	0.10 (U)				
Nickel	4.3 (U)	4.3 (U)				
Potassium	964	1220				
Selenium	0.48 (U)	0.48 (U)				
Silver	3.7 (U)	3.7 (U)				
Sodium	4190	6350				
Thallium	0.15	0.39				
Vanadium	2.9 (U)	2.9 (U)				
Zinc	25.8	17.9				

VII. Discharge Information (Continued from page 3 of Form 2F)

Part A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant and CAS Number (if available)	Maximum Values (mg/L) (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Oil and Grease	1.0 (U)	N/A				
Biological Oxygen Demand (BOD5)	7	5 (U)				
Chemical Oxygen Demand (COD)	12	10 (U)				
Total Suspended Solids (TSS)	14	3				
Total Nitrogen	0.05	0.71				
Total Phosphorus	0.10	0.12				
pH	Minimum	Maximum 5.1	Minimum	Maximum		

Part B - List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number (if available)	Maximum Values (ug/L) (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Aluminum	755	278				
Antimony	2.0	1.1				
Arsenic	1.1	1.3				
Barium	8.6	10.1				
Beryllium	0.26 (U)	0.26 (U)				
Cadmium	0.78	0.82				
Calcium	2530	8680				
Chromium	4.5 (U)	4.5 (U)				
Cobalt	3.9 (U)	3.9 (U)				
Copper	3.9 (U)	4.3				
Iron	526	203				
Lead	7.9	1.6				
Magnesium	315	1500				
Manganese	15.2	25.4				
Mercury	0.10 (U)	0.10 (U)				
Nickel	4.3 (U)	4.3 (U)				
Potassium	282	843				
Selenium	0.48 (U)	0.48 (U)				
Silver	4.9	3.7 (U)				
Sodium	864	5440				
Thallium	0.005 (U)	0.48				
Vanadium	2.9 (U)	2.9 (U)				
Zinc	31.1	51.5				

VII. Discharge Information (Continued from page 3 of Form 2F)

Part A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant and CAS Number (if available)	Maximum Values (mg/L) (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Oil and Grease	1.0 (U)	N/A				
Biological Oxygen Demand (BOD5)	5 (U)	5 (U)				
Chemical Oxygen Demand (COD)	10 (U)	10 (U)				
Total Suspended Solids (TSS)	18	14				
Total Nitrogen	0.06	0.12				
Total Phosphorus	0.09	0.11				
pH	Minimum	Maximum 5.7	Minimum	Maximum		

Part B - List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number (if available)	Maximum Values (ug/L) (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Aluminum	867	969				
Antimony	3.6	2.3				
Arsenic	0.69	0.73				
Barium	7.7	8.8				
Beryllium	(U) 0.26	0.26 (U)				
Cadmium	(U) 0.057	0.057 (U)				
Calcium	1920	2600				
Chromium	(U) 4.5	4.5 (U)				
Cobalt	(U) 3.9	3.9 (U)				
Copper	(U) 3.9	3.9 (U)				
Iron	624	674				
Lead	3.6	3.6				
Magnesium	457	590				
Manganese	15.7	16.9				
Mercury	(U) 0.10	0.10 (U)				
Nickel	(U) 4.3	4.3 (U)				
Potassium	435	541				
Selenium	(U) 0.48	0.48 (U)				
Silver	5.6	5.8				
Sodium	949	1120				
Thallium	(U) 0.005	0.005 (U)				
Vanadium	(U) 2.9	2.9 (U)				
Zinc	13.7	14.4				

VII. Discharge Information (Continued from page 3 of Form 2F)

Part A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant and CAS Number (if available)	Maximum Values (mg/L) (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Oil and Grease	1.0 (U)	N/A				
Biological Oxygen Demand (BOD5)	5 (U)	5 (U)				
Chemical Oxygen Demand (COD)	10 (U)	10 (U)				
Total Suspended Solids (TSS)	5	2 (U)				
Total Nitrogen	0.06	0.49				
Total Phosphorus	0.05	0.10				
pH	Minimum	Maximum 5.8	Minimum	Maximum		

Part B - List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number (if available)	Maximum Values (ug/L) (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Aluminum	433	169				
Antimony	0.92	0.47				
Arsenic	1.4	0.39				
Barium	5.5	5.5				
Beryllium	0.26 (U)	0.26 (U)				
Cadmium	0.057 (U)	0.16				
Calcium	7230	14,700				
Chromium	4.5 (U)	4.5 (U)				
Cobalt	3.9 (U)	3.9 (U)				
Copper	3.9 (U)	3.9 (U)				
Iron	300	64.5				
Lead	2.6	0.38				
Magnesium	2120	4260				
Manganese	34.5	104				
Mercury	0.10 (U)	0.10 (U)				
Nickel	4.3 (U)	4.3 (U)				
Potassium	688	631				
Selenium	0.48 (U)	0.48 (U)				
Silver	5.7	3.7 (U)				
Sodium	3050	5290				
Thallium	0.14	0.28				
Vanadium	2.9 (U)	2.9 (U)				
Zinc	17.2	23.7				

VII. Discharge Information <i>(Continued from page 3 of Form 2F)</i>						
Part A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.						
Pollutant and CAS Number (if available)	Maximum Values (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Oil and Grease		N/A				
Biological Oxygen Demand (BOD5)	**NO SAMPLING PERFORMED					
Chemical Oxygen Demand (COD)	OUTFALL PROPOSED TO BE WITHDRAWN FROM APPLICATION					
Total Suspended Solids (TSS)						
Total Nitrogen						
Total Phosphorus						
pH	Minimum	Maximum	Minimum	Maximum		
Part B - List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.						
Pollutant and CAS Number (if available)	Maximum Values (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Mercury						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Thallium						
Vanadium						
Zinc						

VII. Discharge Information (Continued from page 3 of Form 2F)

Part A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant and CAS Number (if available)	Maximum Values (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Oil and Grease		N/A				
Biological Oxygen Demand (BOD5)	**SAMPLING OF OUTFALL 007 HAS NOT BEEN PERFORMED. SAMPLING ATTEMPTS MADE ON 1/19/98, 1/20/98, 1/21/98, 1/22/98 AND 2/13/98 BUT NO OVERFLOW OBSERVED.					
Chemical Oxygen Demand (COD)						
Total Suspended Solids (TSS)						
Total Nitrogen						
Total Phosphorus						
pH	Minimum	Maximum	Minimum	Maximum		

Part B - List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number (if available)	Maximum Values (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Mercury						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Thallium						
Vanadium						
Zinc						

VII. Discharge Information (Continued from page 3 of Form 2F)

Part A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant and CAS Number (if available)	Maximum Values (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Oil and Grease		N/A				
Biological Oxygen Demand (BOD5)	**NO SAMPLING PERFORMED.					
Chemical Oxygen Demand (COD)	OUTFALL PROPOSED TO BE WITHDRAWN					
Total Suspended Solids (TSS)	FROM APPLICATION					
Total Nitrogen						
Total Phosphorus						
pH	Minimum	Maximum	Minimum	Maximum		

Part B - List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number (if available)	Maximum Values (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron						
Lead						
Magnesium						
Manganese						
Mercury						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Thallium						
Vanadium						
Zinc						

VII. Discharge Information (Continued from page 3 of Form 2F)

Part A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant and CAS Number (if available)	Maximum Values (mg/L) (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Oil and Grease	1.2	N/A				
Biological Oxygen Demand (BOD5)	5 (U)	5 (U)				
Chemical Oxygen Demand (COD)	10 (U)	10 (U)				
Total Suspended Solids (TSS)	6	6				
Total Nitrogen	0.02	0.01 (U)				
Total Phosphorus	0.08	0.03				
pH	Minimum	Maximum 5.7	Minimum	Maximum		

Part B - List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number (if available)	Maximum Values (ug/L) (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Aluminum	357	431				
Antimony	1.1	0.82				
Arsenic	1.7	2.1				
Barium	5.5	5.4				
Beryllium	0.26 (U)	0.26 (U)				
Cadmium	0.057 (U)	0.34				
Calcium	10,300	8480				
Chromium	4.5 (U)	4.2				
Cobalt	3.9 (U)	3.9 (U)				
Copper	3.9 (U)	3.9 (U)				
Iron	313	234				
Lead	1.2	0.74				
Magnesium	215	267				
Manganese	15.8	14.2				
Mercury	0.10 (U)	0.10 (U)				
Nickel	4.3 (U)	4.3 (U)				
Potassium	859	445				
Selenium	0.48 (U)	0.48 (U)				
Silver	3.7 (U)	3.7 (U)				
Sodium	2070	1980				
Thallium	0.005 (U)	0.31				
Vanadium	2.9 (U)	2.9 (U)				
Zinc	29.8	39.9				

VII. Discharge Information (Continued from page 3 of Form 2F)

Part A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant and CAS Number (if available)	Maximum Values (mg/L) (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Oil and Grease	1.0 (U)	N/A				
Biological Oxygen Demand (BOD5)	5 (U)	5 (U)				
Chemical Oxygen Demand (COD)	10 (U)	10 (U)				
Total Suspended Solids (TSS)	2 (U)	2 (U)				
Total Nitrogen	0.02	0.02				
Total Phosphorus	0.03	0.04				
pH	Minimum	Maximum 4.7	Minimum	Maximum		

Part B - List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number (if available)	Maximum Values (ug/L) (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Aluminum	195	117				
Antimony	0.60	0.65				
Arsenic	0.35	0.30				
Barium	1.8	2.1				
Beryllium	0.26 (U)	0.26 (U)				
Cadmium	0.057(U)	0.057(U)				
Calcium	262	253				
Chromium	4.5 (U)	4.8				
Cobalt	3.9 (U)	3.9 (U)				
Copper	3.9 (U)	3.9 (U)				
Iron	30.9	16.6				
Lead	3.5	2.5				
Magnesium	43.4	59.8				
Manganese	2.3	2.3				
Mercury	0.10(U)	0.10(U)				
Nickel	4.3 (U)	4.3 (U)				
Potassium	184 (U)	184 (U)				
Selenium	0.48 (U)	0.48 (U)				
Silver	3.7 (U)	5.8				
Sodium	221	310				
Thallium	0.005(U)	0.005 (U)				
Vanadium	2.9 (U)	2.9 (U)				
Zinc	10	9.9				

VII. Discharge Information (Continued from page 3 of Form 2F)

Part A - You must provide the results of at least one analysis for every pollutant in this table. Complete one table for each outfall. See instructions for additional details.

Pollutant and CAS Number (if available)	Maximum Values (mg/L) (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Oil and Grease	1.0 (U)	N/A				
Biological Oxygen Demand (BOD5)	9	5 (U)				
Chemical Oxygen Demand (COD)	10 (U)	12				
Total Suspended Solids (TSS)	27	20				
Total Nitrogen	0.07	0.09				
Total Phosphorus	0.10	0.13				
pH	Minimum	Maximum 4.9	Minimum	Maximum		

Part B - List each pollutant that is limited in an effluent guideline which the facility is subject to or any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit). Complete one table for each outfall. See the instructions for additional details and requirements.

Pollutant and CAS Number (if available)	Maximum Values (ug/L) (include units)		Average Values (include units)		Number of Storm Events Sampled	Sources of Pollutants
	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite	Grab Sample Taken During First 20 Minutes	Flow-weighted Composite		
Aluminum	1410	1340				
Antimony	1.0	1.3				
Arsenic	0.95	0.75				
Barium	10.1	8.3				
Beryllium	0.26(U)	0.26(U)				
Cadmium	0.31	0.39				
Calcium	872	920				
Chromium	4.5 (U)	4.5 (U)				
Cobalt	3.9 (U)	3.9(U)				
Copper	7.7	9.0				
Iron	850	822				
Lead	13.1	12.8				
Magnesium	306	281				
Manganese	26.6	24.8				
Mercury	0.10(U)	0.10 (U)				
Nickel	4.3 (U)	4.3 (U)				
Potassium	258	258				
Selenium	0.48 (U)	0.48 (U)				
Silver	5.8	4.3				
Sodium	461	544				
Thallium	0,005 (U)	0.005 (U)				
Vanadium	2.9 (U)	2.9 (U)				
Zinc	34.3	47.4				

SAMPLING DATA

NPDES permits require regular monitoring of the Fort Lewis stormwater outfalls. A visual observation of each outfall is conducted weekly. Samples are collected and tested weekly, unless there is no flow through the outfall. ~~Routine testing parameters include pH, oil and grease flow, and a visual observation for oil sheen.~~ Monthly reports of the monitoring results are submitted to EPA.

In addition to routine stormwater monitoring, testing of each of the permitted stormwater outfalls (except Outfalls 006 and 008, which are proposed to be withdrawn from the NPDES permit and Outfall 007 where no overflow was observed on the sampling days) was conducted on 1/19/98 through 1/22/98 and on 2/13/98. Sampling was also performed at Outfalls 010 and 011 because these outfalls (after stormwater outfall study in 1997-1998) are proposed to be included in the NPDES permit. At each sampled outfall, grab samples and composite samples were taken. The grab samples were taken during the initial phase of the stormwater event. The flow weighted composites were collected from samplers programmed for a 24-hour period encompassing the stormwater event. Temperature and pH were measured in the field after sampling. The stormwater samples were submitted to Laucks Testing Labs, Inc. for analysis. A summary of the stormwater monitoring data is shown in tabular form (attached).

Stormwater Monitoring Summary*

Parameter	006								008								010		011	
	(g/L)	(g/L)	(g/L)	(g/L)	(g/L)	(g/L)	(g/L)	(g/L)	(g/L)	(g/L)	(g/L)	(g/L)	(g/L)	(g/L)	(g/L)	(g/L)	(g/L)			
Oil and Grease	1.0 (U)	N/A	1.0 (U)	N/A	1.0 (U)	N/A	1.0 (U)	N/A	No sampling performed. No overflow observed during sampling days.				1.2	N/A	1.0 (U)	N/A	1.0 (U)	N/A		
BOD	6	5 (U)	7	5 (U)	5 (U)	5 (U)	5 (U)	5 (U)	5 (U)	5 (U)	5 (U)	5 (U)	5 (U)	5 (U)	5 (U)	5 (U)	9	5 (U)		
COD	10 (U)	10 (U)	12	10 (U)	10 (U)	10 (U)	10 (U)	10 (U)	10 (U)	10 (U)	10 (U)	10 (U)	10 (U)	10 (U)	10 (U)	10 (U)	12			
TSS	9	3	14	3	18	14	5	2 (U)						6	6	2 (U)	2 (U)	27	20	
**N	1.3	2.2	0.05	0.71	0.06	0.12	0.06	0.49						0.02	0.01 (U)	0.02	0.02	0.07	0.09	
TKN	0.4	0.3 (U)	0.7	0.7	0.8	0.6	0.8	0.3 (U)						0.7	0.3 (U)	0.6	0.5	0.8	0.8	
Total P	0.09	0.05	0.10	0.12	0.09	0.11	0.05	0.10						0.08	0.03	0.03	0.04	0.10	0.13	
pH	5.6		5.1		5.7		5.8						5.7		4.7		4.9			
Aluminum	610	114	755	278	867	969	433	169						357	431	195	117	1410	1340	
Antimony	0.99	0.40	2.0	1.1	3.6	2.3	0.92	0.47						1.1	0.82	0.60	0.65	1.0	1.3	
Arsenic	0.80	0.56	1.1	1.3	0.69	0.73	1.4	0.39						1.7	2.1	0.35	0.30	0.95	0.75	
Barium	7.6	3.5	8.6	10.1	7.7	8.8	5.5	5.5						5.5	5.4	1.8	2.1	10.1	8.3	
Beryllium	0.26 (U)	0.26 (U)	0.26 (U)	0.26 (U)	0.26 (U)	0.26 (U)	0.26 (U)	0.26 (U)						0.26 (U)	0.26 (U)	0.26 (U)	0.26 (U)	0.26 (U)	0.26 (U)	
Cadmium	0.28	0.057 (U)	0.78	0.82	0.057 (U)	0.057 (U)	0.057 (U)	0.16						0.057 (U)	0.34	0.057 (U)	0.057 (U)	0.31	0.39	
	10,200	15,100	2530	8680	1920	2600	7230	14,700						10,300	8480	262	253	872	920	
	4.5 (U)	4.5 (U)	4.5 (U)	4.5 (U)	4.5 (U)	4.5 (U)	4.5 (U)	4.5 (U)						4.5 (U)	4.2	4.5 (U)	4.8	4.5 (U)	4.5 (U)	
Cobalt	3.9 (U)	3.9 (U)	3.9 (U)	3.9 (U)	3.9 (U)	3.9 (U)	3.9 (U)	3.9 (U)						3.9 (U)	3.9 (U)	3.9 (U)	3.9 (U)	3.9 (U)	3.9 (U)	
Copper	3.9 (U)	3.9 (U)	3.9 (U)	4.3	3.9 (U)	3.9 (U)	3.9 (U)	3.9 (U)						3.9 (U)	3.9 (U)	3.9 (U)	3.9 (U)	7.7 (U)	9.0 (U)	
Iron	417	7.1	526	203	624	674	300	64.5						313	234	30.9	16.6	850	822	
Lead	3.7	0.14	7.9	1.6	3.6	3.6	2.6	0.38						1.2	0.74	3.5	2.5	13.1	12.8	
Magnesium	3020	4590	315	1500	457	590	2120	4260						215	267	43.4	59.8	306	281	
Manganese	9.5	2.0	15.2	25.4	15.7	16.9	34.5	104						15.8	14.2	2.3	2.3	26.6	24.8	
Mercury	0.10 (U)	0.10 (U)	0.10 (U)	0.10 (U)	0.10 (U)	0.10 (U)	0.10 (U)	0.10 (U)						0.10 (U)	0.10 (U)	0.10 (U)	0.10 (U)	0.10 (U)	0.10 (U)	
Nickel	4.3 (U)	4.3 (U)	4.3 (U)	4.3 (U)	4.3 (U)	4.3 (U)	4.3 (U)	4.3 (U)						4.3 (U)	4.3 (U)	4.3 (U)	4.3 (U)	4.3 (U)	4.3 (U)	
Potassium	964	1220	282	843	435	541	688	631						859	445	184 (U)	184 (U)	258	258	
Selenium	0.48 (U)	0.48 (U)	0.48 (U)	0.48 (U)	0.48 (U)	0.48 (U)	0.48 (U)	0.48 (U)						0.48 (U)	0.48 (U)	0.48 (U)	0.48 (U)	0.48 (U)	0.48 (U)	
Silver	3.7 (U)	3.7 (U)	4.9	3.7 (U)	5.6	5.8	5.7	3.7 (U)						3.7 (U)	3.7 (U)	3.7 (U)	5.8	5.8	4.3	
Sodium	4190	6350	864	5440	949	1120	3050	5290						2070	1980	221	310	461	544	
Thallium	0.15	0.39	0.005 (U)	0.48	0.005 (U)	0.005 (U)	0.14	0.28						0.005 (U)	0.31	0.005 (U)	0.005 (U)	0.805 (U)	0.005 (U)	
Vanadium	2.9 (U)	2.9 (U)	2.9 (U)	2.9 (U)	2.9 (U)	2.9 (U)	2.9 (U)	2.9 (U)						2.9 (U)	2.9 (U)	2.9 (U)	2.9 (U)	2.9 (U)	2.9 (U)	
Zinc	25.8	17.9	31.1	51.5	13.7	14.4	17.2	23.7						29.8	39.9	10	9.9	34.3	47.4	

* Outfalls 006 and 008 proposed for withdrawal from application. Outfalls 010 and 011 added after stormwater outfall study in 1997-1998.

* Nitrate as N
Not detected

**Figure III-A
Ft Lewis Outfall
Drainage Area Map**

Narrative Information On
Form 3510-2F
Attachments IV-A, IV-B, IV-C

LEGEND



Outfall

Basin Boundary

- 1 STP
- 2 Dupont
- 3 Flora Rd.
- 4 North Fort No.1
- 5 North Fort No. 2
- *6 Special Forces
- 7 Logistics Center
- *8 Former Coal Plant
- 9 Kennedy Marsh
- **10 Motor Pool
- **11 DMRO Area

* To be withdrawn from
NPDES Application

** To be added to NPDES
application

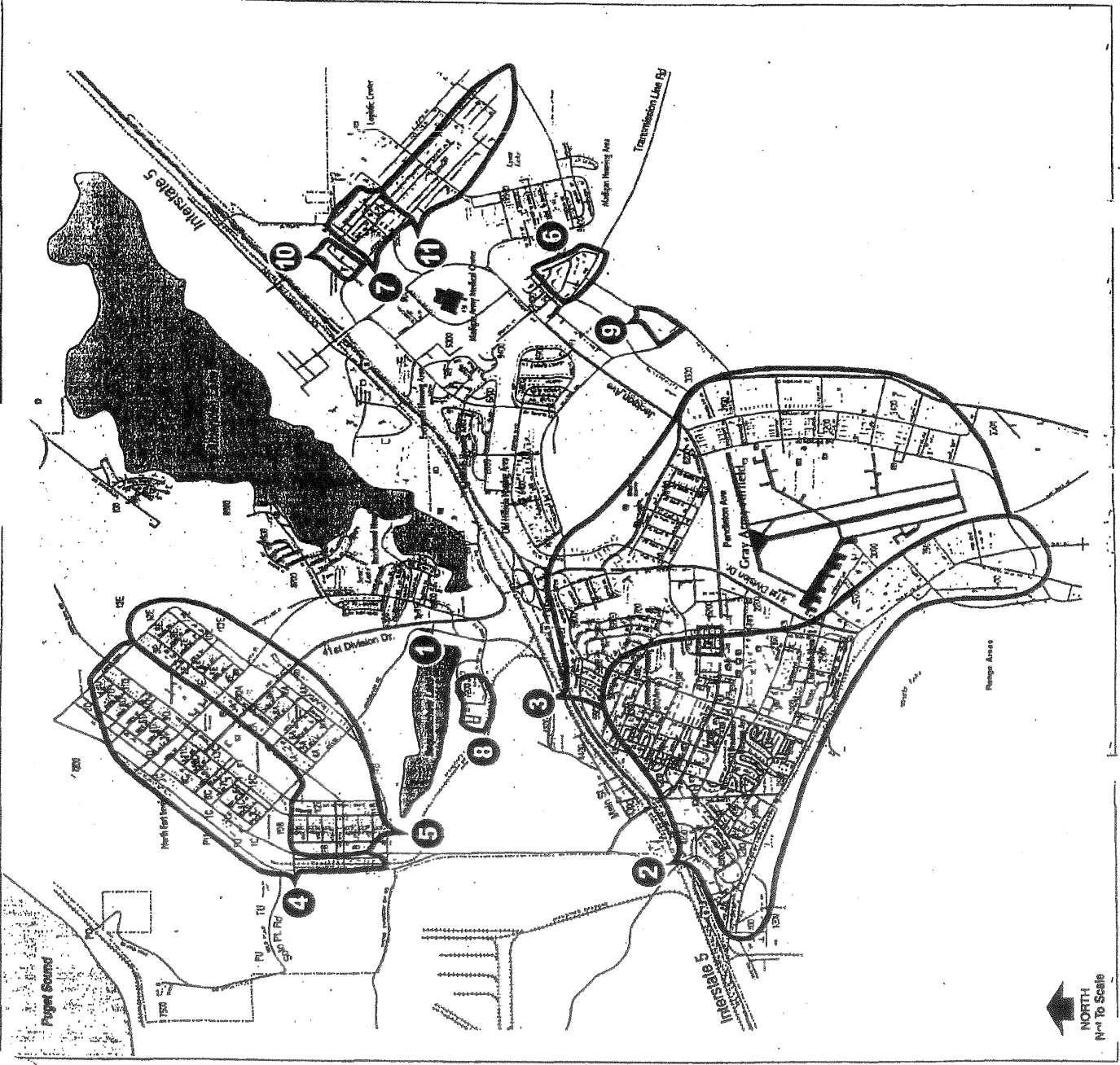


EXHIBIT 2

VOL I

Exhibit 2

FACT SHEET

United States Environmental Protection Agency
Region 10
Park Place Building, 13th Floor
1200 Sixth Avenue
Seattle, Washington 98101
(b)(6)

Permit No: WA-0021954

PROPOSED REISSUANCE OF A NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM (NPDES) PERMIT TO DISCHARGE POLLUTANTS PURSUANT TO THE PROVISIONS OF THE CLEAN WATER ACT

U.S. Department of Defense
Department of the Army
Fort Lewis Army Base
Fort Lewis, Washington 98433-5000

has applied for the reissuance of a National Pollutant Discharge Elimination System (NPDES) permit to discharge pollutants pursuant to the provisions of the Clean Water Act. This fact sheet includes (a) The tentative determination of the Environmental Protection Agency (EPA) to reissue the permit, (b) information on public comment, public hearing and appeal procedures, (c) the description of current discharges, (d) a listing of tentative effluent limitations, and other conditions.

The draft NPDES permit and other related documents are on file, may be inspected, and copies made at the above address any time between 8:30 a.m. and 4:00 p.m., Monday through Friday. Copies and other information may be requested by writing to EPA at the above address to the attention of NPDES Permits Unit, OW-130, or by calling (206) 553-0523. The draft permit, fact sheet and public notice can also be found at the Region 10 website at "www.epa.gov/r10earth/water.htm." This material is also available from the EPA Washington Operations Office, c/o State of Washington, Department of Ecology, P.O. Box 47600, Olympia, Washington 98504-7600.

A. TENTATIVE DETERMINATION

EPA has tentatively determined to reissue an NPDES permit to discharge to the above listed applicant subject to certain effluent limitations and monitoring requirements.

B. PUBLIC COMMENT

Persons wishing to comment on the tentative determinations contained in the proposed permit reissuance may do so by the expiration date of the Public Notice. All written comments should be submitted to EPA as described in the Public Comments Section of the attached Public Notice.

After the expiration date of the Public Notice, the Director, Office of Water, will make final determination with respect to the permit reissuance. The tentative determinations contained in the draft permit will become final conditions if no substantive comments are received during the Public Notice period, and the permit will become effective upon issuance.

If comments are received, EPA will address the comments and issue the permit. The permit will become effective 30 days after the issuance date of the permit unless an appeal is submitted to the Environmental Appeals Board within 30 days.

C. TECHNICAL INFORMATION

1. Applicant

The existing National Pollutant Discharge Elimination System Permit (NPDES permit No. WA-002195-4) was (re)issued on September 30, 1993 to the Department of Defense and expired on November 2, 1998. The permittee submitted an application for permit renewal to EPA on April 26, 1998, resulting in the permit being administratively extended.

2. Proposed Permit Actions

EPA is proposing to reissue the existing permit for discharges of treated domestic wastewater from outfall 001. The existing permit also authorized discharges of storm water from outfalls 002, 003, 004, 005, 006, 007, 008, and 009. All storm water discharges from Fort Lewis Army Base are now regulated under permit requirements established in EPA's multisector storm water permit. Similarly, biosolids (sludge) will be regulated under separate permits issued by EPA and the Washington Department of Ecology. The basis for proposed effluent limitations, monitoring and reporting requirement, and general conditions are included in the fact sheet for the existing permit. The fact sheet for the existing permit is part of the administrative record for this permit action and available upon request to EPA.

EPA determined this permit was a candidate for reissuance without significant change in consideration of factors including:

- The discharge is not a significant sources of pollutants to an impaired waterbody;
- The discharge is not subject to waste load allocations of a TMDL, which need to be incorporated into the permit;
- The permit does not need to be changed to accommodate economic or compliance issues;
- The discharge is not affected by new effluent guidelines nor revised NPDES regulations;

- The existing permit includes appropriate water quality-based effluent limitations and both the discharge and near outfall marine sediment have been tested for toxicity;
- The permittee is designated as a "major" and the latest renewal was more than five years ago.

The principle changes being proposed to the existing permit include: removing storm water requirements from this permit; requiring whole effluent toxicity monitoring information to be submitted with the next permit; report incidences of noncompliance to the Washington Department of Health, Shellfish Protection Unit; and update general conditions. Additional changes to the permit may occur in response to comments received during the public notice period.

3. Description of Discharges

There have been no significant changes in the volume or character of the wastewater sources, treatment or effluent quality since issuance of the existing permit. The discharge locations, source(s) of wastewater, and treatment facilities are described in the fact sheet for the existing permit. Modeling of peak effluent discharge mixing in receiving water was conducted as part of reissuance of the existing permit. Results of the modeling show that mixing at the edge of the acute mixing zone to be approximately 175:1 and range between 975 to 1425:1 at the boundary of the authorized chronic mixing zone. The permittee has reported few exceedences of effluent limitations since issuance of the existing permit and these were attributed to very severe weather events.

4. Receiving Water Quality Standards

Puget Sound in the vicinity of the discharge is designated in Chapter 173-201A WAC, Water Quality Standards for Surface Waters (WQS) of the State of Washington, as "Class AA". Characteristic water uses established in the state's WQS such marine waters include: water supply; wildlife habitat; recreation; fish and shellfish propagation; aesthetic enjoyment; and commerce and navigation.

Receiving water quality criteria to protect these uses are contained in WAC 173-201A-030(2), 040, 050, and 130(21); EPA's Toxics Rule, 40 CFR Part 131 (57 FR 60848 December 22, 1992); EPA Quality Criteria for Water 1986 (the Gold Book) as amended; and/or other criteria published by EPA. This is also in accordance with WAC 173-201A-040(5) which specifies that "Concentrations of toxic, and other substances with toxic propensities not listed in subsection (1) of this section shall be determined in consideration of USEPA Quality Criteria for Water, 1986, and as revised, and other relevant information as appropriate." Receiving water quality criteria for protection of human health are also contained in the Toxics Rule.

The water quality criteria and characteristic uses that might be affected by discharges from Fort Lewis have not changed since issuance of the existing permit. Pollutant discharges from the authorized outfalls have not increased in the authorized outfalls, as characterized in the NPDES permit application submitted by the permittee and by routine monitoring of the discharges. EPA determined that discharges in compliance with existing permit limitations and monitoring requirements have no reasonable potential to cause or contribute to a violation of state water quality

standards.

5. Statutory and Regulatory Requirements

a. Requirements Related to Control of Conventional, Non-conventional, and Toxic Pollutants

It is stipulated in the Water Quality Act of 1987 (Act) that issued NPDES permits must contain effluent limitations reflecting the most stringent of (1) receiving water quality standards established pursuant to state law or regulations and (2) technology-based effluent guidelines established by EPA for three levels of wastewater treatment technology. These levels include Best Practicable Control Technology Currently Available (BPT); Best Conventional Pollutant Control Technology Currently Available (BCT) for the parameters: BOD₅, TSS, pH, fecal coliform bacteria, and oil & grease; and Best Available Technology Economically Achievable (BAT) for non-conventional and toxic pollutants. Effluent limitations to be achieved for discharges of treated domestic wastewater are established in regulation (40 CFR §133). These regulations are the basis of the limitations in the current permit.

Where effluent guidelines have not been promulgated by EPA, the Act and NPDES regulations at 40 CFR § 125.3 require the permit writer to establish BPT, BCT, or BAT effluent limits on a case-by-case basis based on Best Professional Judgement (BPJ).

b. Endangered Species

Section 7 of the Endangered Species Act (SEA) of 1973 requires federal agencies to consult with the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS) to ensure that any federal action, such as resissuance of this NPDES permit, jeopardize the continued existence of any endangered or threatened species or adversely affect its critical habitat. NPDES regulations at 40 CAR Part 122.49(c) also require this showing for the issuance of NPDES permits.

In a letter dated September 13, 1999, USFWS responded to EPA's request for listing of threatened or endangered species that might be present in the vicinity of the discharges from the Fort Lewis Army Base. The letter stated that "To the best of our present knowledge, there are no listed species within the area of the subject project. However, proposed species and species of concern may occur in the vicinity of the project."

In a letter dated August 16, 1999, NMFS stated that "Presently, Puget Sound chinook salmon (*Oncorhynchus tshawytscha*) are listed as threatened and occur in the shallow nearshore in Puget Sound from March to July each year. Coho salmon (*O. Kitsutch*) range in the project area and are candidate species eligible for listing under the ESA."

EPA believes that discharges in compliance with the proposed effluent limitations and monitoring requirements shall not cause any violation of water quality standards established for the protection of aquatic life nor affect listed, threatened or endangered species. Nevertheless, EPA is

providing copies of the proposed permit and fact sheet to these agencies for their review. Based on comments received from these agencies, EPA may engage in formal conference and consultation processes for ESA section 7 considerations (per 50 CFR Part 402).

EXHIBIT 3

VOL I

Exhibit 3

Permit No. WA-002195-4

United States Environmental Protection Agency
Region 10
1200 Sixth Avenue
Seattle, Washington 98101

**AUTHORIZATION TO DISCHARGE
UNDER THE
NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM**

In compliance with the provisions of the Clean Water Act,
33 U.S.C. §1251 et seq., as amended by the Water Quality Act of 1987,
P.L. 100-4 (the "Act"),

**U.S. Department of Defense
Department of the Army
Fort Lewis Army Base
Fort Lewis Washington 98433-5000**

is authorized to discharge from the wastewater facility located at Fort Lewis to receiving waters named Puget Sound (Solo Point) at:

Latitude 47° 8' 10"
Longitude 122° 38' 17"

in accordance with discharge point(s), effluent limitations, monitoring requirements and other conditions set forth herein.

This permit shall become effective on February 1, 2004

This permit and the authorization to discharge shall expire at midnight, February 1, 2009

Signed this 30 day of December 2003

(b)(6)

Director, Office of Water, Region 10
U.S. Environmental Protection Agency

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I. EFFLUENT LIMITATIONS

- A. During the effective period of this permit, the Permittee is authorized to discharge an average monthly flow of 7.6 mgd in accordance to the restrictions set forth herein. This permit does not authorize the discharge of any waste streams, including spills and other unintentional or non-routine discharges of pollutants, that the Permittee did not apply to discharge and that are not part of the normal operation of the facility as disclosed in the permit application, or any pollutants that are not ordinarily present in such waste streams, unless the Permittee receives prior authorization from EPA.
- B. The Permittee must limit and monitor discharges as specified in Section C below. All figures represent maximum effluent limits unless otherwise indicated. The Permittee must comply with the following effluent limits at all times unless otherwise indicated regardless of the frequency of monitoring or reporting required by other provisions of this permit.

C. Effluent Limitations

1. Fort Lewis Water Pollution Control Plant (Discharge 001) During the period beginning on the effective date of this permit and lasting through the expiration date, discharges from the Fort Lewis Water Pollution Control Plant shall be limited and monitored by the permittee as specified below.

- a. The pH shall not be less than 6.0 nor greater than 8.5 standard units
- b. There shall be no discharge of floating solids, visible foam in other than trace amounts, or oily wastes which produce a sheen on the surface of the receiving water.
- c. The following limitations shall apply:

Effluent Characteristic	Units of Measure	Average Monthly	Average Weekly	Daily Maximum
5-day Biochemical Oxygen Demand* (BOD ₅)	mg/L	30	45	---
BOD ₅	lbs/day	1902	2852	---
Total Suspended Solids* (TSS)	mg/L	30	45	---
TSS	lbs/day	1902	2852	---
Fecal Coliform Bacteria**	col/100 ml	200	400	---
Total Residual Chlorine	mg/l	---	---	0.5

- * Monthly average BOD₅ and TSS effluent concentrations shall not exceed 30 mg/l or 20% of the influent concentrations, whichever is more stringent.
- ** Report as the geometric mean of all samples collected during the weekly and monthly reporting periods. The average monthly fecal coliform count must not exceed a geometric mean of 200 col./100 ml. The average weekly fecal coliform count must not exceed a geometric mean of 400 col./100 ml.

II. MONITORING, RECORDING AND REPORTING REQUIREMENTS

A. Monitoring Requirements

1. The Permittee shall monitor the final effluent as specified below, subject to the other monitoring and reporting requirements set forth in this permit.

Effluent Characteristics	Units of Measure	Sample Frequency	Sample Type
Total Flow	MGD	Continuous	Recording
Biochemical Oxygen Demand (5 day)*	mg/l	Daily Composite	24-Hour
Total Suspended Solids	mg/l	Daily Composite	24-Hour
Fecal Coliform Bacteria	Number/100 ml	Daily	Grab
Total Residual Chlorine	mg/l	Daily	Grab
pH.	Standard Units	Daily	Grab
Total Copper	mg/l	Semi-Annual	Grab
Total Nickel	mg/l	Semi-Annual	Grab
Total Chromium	mg/l	Semi-Annual	Grab
Total Lead	mg/l	Semi-Annual	Grab
Total Mercury	mg/l	Semi-Annual	Grab
Total Molybdenum	mg/l	Semi-Annual	Grab
Total Selenium	mg/l	Semi-Annual	Grab
Total Zinc	mg/l	Semi-Annual	Grab
Total Nitrogen **	mg/l	Semi-Annual	Grab
Total Petroleum Hydrocarbon ***	mg/l	Semi-Annual	Grab

- * Representative daily influent and effluent monitoring for BOD₅ and TSS is required to demonstrate % removal efficiencies. Monthly average percent removal for BOD₅ and SS shall be reported on monthly discharge monitoring reports.
- ** Nitrogen analyses shall determine and report total Kjeldahl nitrogen, ammonia as N, nitrate and nitrite nitrogen.
- *** Two samples for total petroleum hydrocarbon (TPH) analyses are to be collected during the wet season (October - March) and analyzed using the Hydrocarbon Identification Method for Soil and Water. This analysis is required to determine if TPH is present in the effluent at levels of concern and only required during the first year of the permit. Results of this monitoring is to be submitted to EPA with the annual Inflow and Infiltration report (condition S.I.D.3.c.)

B. Dilution Zone

1. The boundaries of the dilution zone are defined as follows:
 - The limits in depth are one foot below the surface to one foot above the bottom.
 - The length, on either side of the diffuser, is 300 feet.
 - The width shall be 230 feet.
 - The zone of acute criteria exceedence shall be one tenth (1/10) the distance to the boundaries of the overall dilution zone.
2. Outfall evaluation

Within two years of permit issuance the permittee shall conduct an underwater evaluation of the submerged portion of the outfall pipe and diffusers to verify the structural integrity and functioning of this equipment. The permittee will provide a written report of the results of this evaluation to EPA with the next application for permit renewal. Immediate notification will be provided to EPA if the evaluation determines the outfall or diffuser structure is broken, leaking or not functioning properly.

C. Toxicity Testing Requirements

1. Acute Toxicity Testing Requirements

The Permittee shall test final effluent once in the last summer and once in the last winter prior to submission of the application for permit renewal. The two species listed below shall be used on each sample and the results submitted to the Department as a part of the permit renewal application process. The Permittee shall conduct acute toxicity testing on a series of five concentrations of effluent

and a control in order to be able to determine appropriate point estimates and an NOEC. The percent survival in 100% effluent shall also be reported.

Acute toxicity tests shall be conducted with the following species and protocols:

- a. Fathead minnow, *Pimephales promelas* (96 hour static-renewal test, method: EPA/600/4-90/027F)
- b. Daphnid, *Ceriodaphnia dubia*, *Daphnia pulex*, or *Daphnia magna* (48 hour static test, method: EPA/600/4-90/027F).

2. Acute Toxicity Testing Procedures and Reporting Requirements

- a. All reports for effluent characterization or compliance monitoring shall be submitted in accordance with the most recent version of Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria* in regards to format and content. Reports shall contain bench sheets and reference toxicant results for test methods. If the lab provides the toxicity test data on floppy disk for electronic entry into the Department's database, then the Permittee shall send the disk to the Department along with the test report, bench sheets, and reference toxicant results.
- b. Testing shall be conducted on 24-hour composite effluent samples. Samples taken for toxicity testing shall be cooled to 4 degrees Celsius while being collected and shall be sent to the lab immediately upon completion. The lab shall begin the toxicity testing as soon as possible but no later than 36 hours after sampling was ended.
- c. All samples and test solutions for toxicity testing shall have water quality measurements as specified in Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria* or most recent version thereof.
- d. All toxicity tests shall meet quality assurance criteria and test conditions in the most recent versions of the EPA manual listed in subsection A. and the Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*. If test results are determined to be invalid or anomalous by the Department, testing shall be repeated with freshly collected effluent.
- e. Control water and dilution water shall be laboratory water meeting the requirements of the EPA manual listed in subsection A or pristine natural water of sufficient quality for good control performance.
- f. Effluent samples for whole effluent toxicity testing shall be collected just prior to the chlorination step in the treatment process.
- g. The Permittee may choose to conduct a full dilution series test during

compliance monitoring in order to determine dose response. In this case, the series must have a minimum of five effluent concentrations and a control. The series of concentrations must include the ACEC.

- h. All whole effluent toxicity tests, effluent screening tests, and rapid screening tests that involve hypothesis testing and do not comply with the acute statistical power standard of 29% as defined in WAC 173-205-020 must be repeated on a fresh sample with an increased number of replicates to increase the power.

3. Chronic Toxicity Testing Requirements

The Permittee shall test final effluent once in the last summer and once in the last winter prior to submission of the application for permit renewal. All of the chronic toxicity tests listed below shall be conducted on each sample. The results of this chronic toxicity testing shall be submitted to the Department as a part of the permit renewal application process.

The Permittee shall conduct chronic toxicity testing on a series of at least five concentrations of effluent and a control in order to be able to determine appropriate point estimates and an NOEC. This series of dilutions shall include the acute critical effluent concentration (ACEC). The ACEC equals 0.57 % effluent. The Permittee shall compare the ACEC to the control using hypothesis testing at the 0.05 level of significance as described in Appendix H, EPA/600/4-89/001.

Chronic toxicity tests shall be conducted with the following species and the most recent version of the following protocols:

Saltwater Chronic Toxicity Test Species		Method
Topsmelt or Silverside minnow	<i>Atherinops affinis</i> or <i>Menidia beryllina</i>	EPA/600/R-95/136 or EPA/600/4-91/003
Mysid shrimp	<i>Holmesimysis costata</i> or <i>Mysidopsis bahia</i>	EPA/600/R-95/136 or EPA/600/4-91/003

The Permittee shall use the West Coast fish (topsmelt, *Atherinops affinis*) and mysid (*Holmesimysis costata*) for toxicity testing unless the lab cannot obtain a sufficient quantity of a West Coast species in good condition in which case the East Coast fish (silverside minnow, *Menidia beryllina*) or mysid (*Mysidopsis bahia*) may be substituted.

4. Chronic Toxicity Testing Procedures and Reporting Requirements

- a. All reports for effluent characterization or compliance monitoring shall be submitted in accordance with the most recent version of Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria* in regards to format and content. Reports shall contain bench sheets and reference toxicant results for test methods. If the lab provides the toxicity test data on floppy disk for electronic entry into the Department's database, then the Permittee shall send the disk to the Department along with the test report, bench sheets, and reference toxicant results.
- b. Testing shall be conducted on 24-hour composite effluent samples. Samples taken for toxicity testing shall be cooled to 4 degrees Celsius while being collected and shall be sent to the lab immediately upon completion. The lab shall begin the toxicity testing as soon as possible but no later than 36 hours after sampling was ended.
- c. All samples and test solutions for toxicity testing shall have water quality measurements as specified in Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria* or most recent version thereof.
- d. All toxicity tests shall meet quality assurance criteria and test conditions in the most recent versions of the EPA manual listed in subsection A. and the Department of Ecology Publication # WQ-R-95-80, *Laboratory Guidance and Whole Effluent Toxicity Test Review Criteria*. If test results are determined to be invalid or anomalous by the Department, testing shall be repeated with freshly collected effluent.
- e. Control water and dilution water shall be laboratory water meeting the requirements of the EPA manual listed in subsection A or pristine natural water of sufficient quality for good control performance.
- f. Effluent samples for whole effluent toxicity testing shall be collected just prior to the chlorination step in the treatment process.
- g. The Permittee may choose to conduct a full dilution series test in order to determine dose response. In this case, the series must have a minimum of five effluent concentrations and a control. The series of concentrations must include the ACEC and the CCEC. The ACEC and CCEC may either substitute for the effluent concentration that is closest to it in the dilution series or be an extra effluent concentration.

- h. All whole effluent toxicity tests that involve hypothesis testing and do not comply with the chronic statistical power standard of 39% as defined in WAC 173-205-020 must be repeated on a fresh sample with an increased number of replicates to increase the power.

D. Infiltration and Inflow

1. Infiltration and Inflow Evaluation

- a. The Permittee shall conduct an infiltration and inflow evaluation. Plant monitoring records may be used to assess measurable infiltration and inflow.
- b. A report shall be prepared which summarizes any measurable infiltration and inflow. If infiltration and inflow have increased by more than 15 percent from baseline flows (established from average influent flow observed during equivalent rainfall events during the previous five years), the report shall contain a plan and a schedule for: (1) locating the sources of infiltration and inflow; and (2) correcting the problem.
- c. The report shall be submitted by June 15 annually for the I/I related control activities conducted since the previous annual report.

E. Representative Sampling (Routine and Non-routine Discharges)

The Permittee shall collect all effluent samples from the effluent stream prior to discharge into the receiving waters. Samples and measurements shall be representative of the volume and nature of the monitored discharge.

The Permittee shall collect additional samples at the appropriate sampling points and analyze them for the parameters limited in Part I, Table 1 of this permit, whenever any discharge occurs that may reasonably be expected to cause or contribute to a violation that is unlikely to be detected by a routine sample. The Permittee shall also conduct monitoring sufficient to characterize the nature and quantity of the pollutants discharged.

The Permittee shall collect such additional samples as soon as possible after the spill or discharge. The samples shall be analyzed in accordance with paragraph G., below. In the event of an anticipated bypass, as defined in Part V. of this permit, the Permittee shall collect and analyze additional samples as soon as the bypassed effluent reaches the outfall. The Permittee shall report all additional monitoring in accordance with paragraph H., below.

- F. Reporting of Monitoring Results.** The Permittee shall summarize monitoring results each month on the Discharge Monitoring Report (DMR) form (EPA No. 3320-1). The Permittee shall submit reports monthly, postmarked by the 10th day of the following month. The Permittee shall sign and certify all DMRs, and all other reports, in accordance with the requirements of Part IV. of this permit ("Signatory Requirements"). The Permittee shall submit the legible originals of these documents to the Director, Office of Water at:

United States Environmental Protection Agency
Region 10
1200 Sixth Avenue, OW-133
Seattle, Washington 98101
Attn: PCS Data Entry Team

- G. Monitoring Procedures.** Monitoring must be conducted according to test procedures approved under 40 CFR Part 136, unless other test procedures have been specified in this permit.

- H. Additional Monitoring by Permittee** If the Permittee monitors any pollutant more frequently than required by this permit, using test procedures approved under 40 CFR Part 136 or as specified in this permit, the Permittee shall include the results of this monitoring in the calculation and reporting of the data submitted in the DMR. The Permittee shall indicate on the DMR whenever it has performed additional monitoring, and shall explain why it performed such monitoring.

Upon request by the Regional Administrator, the Permittee shall submit results of any other sampling, regardless of the test method used.

- I. Records Contents** All effluent monitoring records shall bear the hand-written signature of the person who prepared them. In addition, all records of monitoring information shall include:

1. the date, exact place, and time of sampling or measurements;
2. the names of the individual(s) who performed the sampling or measurements;
3. the date(s) analyses were performed;
4. the names of the individual(s) who performed the analyses;
5. the analytical techniques or methods used; and

6. the results of such analyses.

J. Retention of Records The Permittee shall retain the a copy of this NPDES permit, and records of all monitoring information, including, but not limited to, all calibration and maintenance records and all original strip chart recordings for continuous monitoring instrumentation, copies of all reports required by this permit, and records of all data used to complete the application for this permit, for a period of at least five years from the date of the sample, measurement, report or application, or for the term of this permit, whichever is longer. This period may be extended by request of the Regional Administrator.

K. Twenty-four Hour Notice of Noncompliance Reporting

1. The Permittee shall report the following occurrences of noncompliance by telephone within 24 hours from the time the Permittee becomes aware of the circumstances:

- a. any noncompliance that may endanger health or the environment;
- b. any unanticipated bypass that results in or contributes to an exceedence of any effluent limitation in the permit (See Part III.G., "Bypass of Treatment Facilities");
- c. any upset that results in or contributes to an exceedence of any effluent limitation in the permit (See Part III.H., "Upset Conditions"); or
- d. any violation of a maximum daily discharge limitation for any of the pollutants listed in the permit.
- e. any overflow prior to the treatment works, whether or not such overflow endangers health or the environment or exceeds any effluent limitation in the permit.

2. The Permittee shall also provide a written submission within five days of the time that the Permittee becomes aware of any event required to be reported under subpart 1, above. The written submission shall contain:

- a. a description of the noncompliance and its cause;
- b. the period of noncompliance, including exact dates and times;
- c. the estimated time noncompliance is expected to continue if it has not been corrected; and
- d. steps taken or planned to reduce, eliminate, and prevent reoccurrence of the

noncompliance.

- e. if the non compliance involves an overflow prior to the treatment works, an estimate of the quantity (in gallons) of untreated overflow.
 3. The Regional Administrator may, at his or her sole discretion, waive the written report on a case-by-case basis if the oral report has been received within 24 hours within 24 hours by the NPDES Compliance Hotline in Seattle, Washington, by telephone, (206) 553-1846.
 4. Reports shall be submitted to the addresses in Part II.F. ("Reporting of Monitoring Results").
 5. Unauthorized discharges such as collection system overflows, plant bypasses, or failure of the disinfection system, shall be reported immediately to the Department of Health, Shellfish Protection Program. The 24-hour number for the Department of Health is (360) 753-5992
- L. Other Noncompliance Reporting** The Permittee shall report all instances of noncompliance, not required to be reported within 24 hours, at the time that monitoring reports for Part II.H. are submitted. The reports shall contain the information listed in Part II.K. of this permit.
- M. Changes in Discharge of Pollutants** The Permittee shall notify the Regional Administrator as soon as it knows of, or has reason to believe:
1. That any activity has occurred or will occur that would result in the discharge, on a routine or frequent basis, of any pollutant that is not limited in the permit, if that discharge may reasonably be expected to exceed any of the following "notification levels":
 - a. Five (5) times the maximum concentration value reported for that pollutant in the permit application in accordance with 40 CFR §122.21(g)(7); or
 - b. The level established by the Regional Administrator in accordance with 40 CFR §122.44(f).

III. COMPLIANCE RESPONSIBILITIES

A. Duty to Comply

The Permittee shall comply with all conditions of this permit. Any permit noncompliance constitutes a violation of the Act and is grounds for enforcement action; for permit

termination, revocation and reissuance, or modification; or for denial of a permit renewal application. The Permittee shall give reasonable advance notice to the Regional Administrator of any planned changes in the permitted facility or activity that may result in noncompliance with permit requirements.

B. Penalties for Violations of Permit Conditions

1. **Civil and Administrative Penalties.** Pursuant to 40 CFR 19 and the Act, any person who violates section 301, 302, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any such sections in a permit issued under section 402, or any requirement imposed in a pretreatment program approved under sections 402(a)(3) or 402(b)(8) of the Act, is subject to a civil penalty not to exceed the maximum amounts authorized by Section 309(d) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) (currently \$27,500 per day for each violation).
2. **Administrative Penalties.** Any person may be assessed an administrative penalty by the Administrator for violating section 301, 302, 306, 307, 308, 318 or 405 of this Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of this Act. Pursuant to 40 CFR 19 and the Act, administrative penalties for Class I violations are not to exceed the maximum amounts authorized by Section 309(g)(2)(A) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) (currently \$11,000 per violation, with the maximum amount of any Class I penalty assessed not to exceed \$27,500). Pursuant to 40 CFR 19 and the Act, penalties for Class II violations are not to exceed the maximum amounts authorized by Section 309(g)(2)(B) of the Act and the Federal Civil Penalties Inflation Adjustment Act (28 U.S.C. § 2461 note) as amended by the Debt Collection Improvement Act (31 U.S.C. § 3701 note) (currently \$11,000 per day for each day during which the violation continues, with the maximum amount of any Class II penalty not to exceed \$137,500).
3. **Criminal Penalties**
 - a. **Negligent Violations.** The Act provides that any person who negligently violates sections 301, 302, 306, 307, 308, 318, or 405 of the Act, or any condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, or any requirement imposed in a pretreatment program approved under section 402(a)(3) or 402(b)(8) of the Act, is subject to criminal penalties of \$2,500 to \$25,000 per day of violation, or imprisonment of not more than 1 year, or both. In the case of a second or

subsequent conviction for a negligent violation, a person shall be subject to criminal penalties of not more than \$50,000 per day of violation, or by imprisonment of not more than 2 years, or both.

- b. **Knowing Violations.** Any person who knowingly violates such sections, or such conditions or limitations is subject to criminal penalties of \$5,000 to \$50,000 per day of violation, or imprisonment for not more than 3 years, or both. In the case of a second or subsequent conviction for a knowing violation, a person shall be subject to criminal penalties of not more than \$100,000 per day of violation, or imprisonment of not more than 6 years, or both.
- c. **Knowing Endangerment.** Any person who knowingly violates section 301, 302, 303, 306, 307, 308, 318 or 405 of the Act, or any permit condition or limitation implementing any of such sections in a permit issued under section 402 of the Act, and who knows at that time that he thereby places another person in imminent danger of death or serious bodily injury, shall, upon conviction, be subject to a fine of not more than \$250,000 or imprisonment of not more than 15 years, or both. In the case of a second or subsequent conviction for a knowing endangerment violation, a person shall be subject to a fine of not more than \$500,000 or by imprisonment of not more than 30 years, or both. An organization, as defined in section 309(c)(3)(B)(iii) of the Act, shall, upon conviction of violating the imminent danger provision, be subject to a fine of not more than \$1,000,000 and can be fined up to \$2,000,000 for second or subsequent convictions.
- d. **False Statements.** The Act provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this permit shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than 2 years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than 4 years, or both. The Act further provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than 6 months per violation, or by both.

C. Need to Halt or Reduce Activity not a Defense It shall not be a defense for the Permittee

in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with this permit.

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D. Duty to Mitigate The Permittee shall take all reasonable steps to minimize or prevent any discharge or sludge use or disposal in violation of this permit that has a reasonable likelihood of adversely affecting human health or the environment.

E. Proper Operation and Maintenance The Permittee shall at all times properly operate and maintain all facilities and systems of treatment and control (and related appurtenances) that are installed or used by the Permittee to achieve compliance with the conditions of this permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. This provision requires the operation of back-up or auxiliary facilities or similar systems which are installed by the Permittee only when the operation is necessary to achieve compliance with the conditions of the permit.

F. Removed Substances Solids, biosolids, filter backwash, or other pollutants removed in the course of treatment or control of wastewater shall be disposed of in a manner such as to prevent any pollutant from such materials from entering navigable waters.

G. Bypass of Treatment Facilities

1. Bypass not exceeding limitations. The Permittee may allow any bypass to occur that does not cause effluent limitations to be exceeded, but only if it also is for essential maintenance to assure efficient operation. These bypasses are not subject to the provisions of paragraphs 2 and 3 of this Part.

2. Notice.

a. Anticipated bypass. If the Permittee knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass.

b. Unanticipated bypass. The Permittee shall submit notice of an unanticipated bypass as required under Part II.K. ("Twenty-four Hour Notice of Noncompliance Reporting").

3. Prohibition of bypass.

a. Bypass is prohibited, and the Regional Administrator may take enforcement action against the Permittee for a bypass, unless:

1) The bypass was unavoidable to prevent loss of life, personal injury, or severe property damage;

- 2) There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment downtime. This condition is not satisfied if adequate back-up equipment shall have been installed in the exercise of reasonable engineering judgment to prevent a bypass that occurred during normal periods of equipment downtime or preventive maintenance; and
 - 3) The Permittee submitted notices as required under paragraph 2 of this Part.
- b. The Regional Administrator may approve an anticipated bypass, after considering its adverse effects, if the Regional Administrator determines that it will meet the three conditions listed above in paragraph 3.a. of this Part.

H. Upset Conditions

1. Effect of an upset. An upset constitutes an affirmative defense to an action brought for noncompliance with such technology-based permit effluent limitations if the Permittee meets the requirements of paragraph 2 of this Part. No determination made during administrative review of claims that noncompliance was caused by upset, and before an action for noncompliance, is final administrative action subject to judicial review.
2. Conditions necessary for a demonstration of upset. To establish the affirmative defense of upset the Permittee must demonstrate, through properly signed, contemporaneous operating logs, or other relevant evidence that:
 - a. An upset occurred and that the Permittee can identify the cause(s) of the upset;
 - b. The permitted facility was at the time being properly operated;
 - c. The Permittee submitted notice of the upset as required under Part II.K, Twenty-four Hour Notice of Noncompliance Reporting; and
 - d. The Permittee complied with any remedial measures required under Part III.D, Duty to Mitigate.
3. Burden of proof. In any enforcement proceeding, the Permittee seeking to establish the occurrence of an upset has the burden of proof.

I. Toxic Pollutants The Permittee shall comply with effluent standards or prohibitions

established under Section 307(a) of the Act for toxic pollutants and with standards for sewage sludge use or disposal established under section 405(d) of the Act within the time provided in the regulations that establish those standards or prohibitions, even if the permit has not yet been modified to incorporate the requirement.

J. Planned Changes The Permittee shall give notice to the Regional Administrator as soon as possible of any planned physical alterations or additions to the permitted facility whenever:

1. The alteration or addition to a permitted facility may meet one of the criteria for determining whether a facility is a new source as determined in 40 CFR §122.29(b); or
2. The alteration or addition could significantly change the nature or increase the quantity of pollutants discharged. This notification applies to pollutants that are subject neither to effluent limitations in the permit, nor to notification requirements under Part II.K.

K. Anticipated Noncompliance The Permittee shall also give advance notice to the Regional Administrator of any planned changes in the permitted facility or activity that may result in noncompliance with this permit.

L. Compliance Schedules Reports of compliance or noncompliance with, or any progress reports on interim and final requirements contained in any Compliance Schedule of the permit shall be submitted no later than 10 days following each schedule date.

IV. GENERAL PROVISIONS

A. Permit Actions This permit may be modified, revoked and reissued, or terminated for cause as specified in 40 CFR 122.62, 122.64, or 122.5. The filing of a request by the Permittee for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance, does not stay any permit condition.

B. Duty to Reapply If the Permittee intends to continue an activity regulated by this permit after the expiration date of this permit, the Permittee must apply for and obtain a new permit. The application shall be submitted at least 180 days before the expiration date of this permit.

C. Duty to Provide Information The Permittee shall furnish to the Regional Administrator, within the time specified in the request, any information that the Regional Administrator may request to determine whether cause exists for modifying, revoking and reissuing, or terminating this permit, or to determine compliance with this permit. The Permittee shall also furnish to the Regional Administrator, upon request, copies of records required to be

kept by this permit.

D. Other Information When the Permittee becomes aware that it failed to submit any relevant facts in a permit application, or that it submitted incorrect information in a permit application or any report to the Regional Administrator, it shall promptly submit the omitted facts or corrected information.

E. Signatory Requirements All applications, reports or information submitted to the Regional Administrator shall be signed and certified.

1. All permit applications shall be signed as follows:
 - a. For a municipality, state, federal, Indian tribe or other public agency: by either a principal executive officer or ranking elected official.
2. All reports required by the permit and other information requested by the Regional Administrator shall be signed by a person described above or by a duly authorized representative of that person. A person is a duly authorized representative only if:
 - a. The authorization is made in writing by a person described above and submitted to the Regional Administrator, and
 - b. The authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as the position of plant manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the facility.
3. Changes to authorization. If an authorization under paragraph 2., above, is no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements of paragraph 2 must be submitted to the Regional Administrator prior to or together with any reports, information, or applications to be signed by an authorized representative.
4. Certification. Any person signing a document under this Part shall make the following certification:

"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 gather and evaluate 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."

- F. Availability of Reports** In accordance with 40 CFR 2, information submitted to EPA pursuant to this permit may be claimed as confidential by the permittee. In accordance with the Act, permit applications, permits and effluent data are not considered confidential. Any confidentiality claim must be asserted at the time of submission by stamping the words "confidential business information" on each page containing such information. If no claim is made at the time of submission, EPA may make the information available to the public without further notice to the permittee. If a claim is asserted, the information will be treated in accordance with the procedures in 40 CFR 2, Subpart B (Public Information) and 41 Fed. Reg. 36902 through 36924 (September 1, 1976), as amended.
- G. Inspection and Entry** The Permittee shall allow EPA or their authorized representatives (including an authorized contractor acting as a representative of the Administrator), upon the presentation of credentials and other documents as may be required by law, to:
1. Enter upon the Permittee's premises where a regulated facility or activity is located or conducted, or where records must be kept under the conditions of this permit;
 2. Have access to and copy, at reasonable times, any records that must be kept under the conditions of this permit;
 3. Inspect at reasonable times any facilities, equipment (including monitoring and control equipment), practices, or operations regulated or required under this permit; and
 4. Sample or monitor at reasonable times, for the purpose of assuring permit compliance or as otherwise authorized by the Act, any substances or parameters at any location.
- H. Oil and Hazardous Substance Liability** Nothing in this permit shall be construed to preclude any legal action, or relieve the Permittee from any responsibilities, liabilities, or penalties to that the Permittee is or may be subject, under Section 311 of the Act.
- I. Property Rights** The issuance of this permit does not convey any property rights of any sort, or any exclusive privileges, nor does it authorize any injury to private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations.
- J. Severability** The provisions of this permit are severable. If any provision of this permit, or the application of any provision of this permit to any circumstance, is held invalid, the

application of such provision to other circumstances, and the remainder of this permit, shall not be affected thereby.

K. Transfers The Permittee may request that this permit be automatically transferred to a new Permittee if:

1. The current Permittee notifies the Regional Administrator at least 30 days in advance of the proposed transfer date;
2. The notice includes a written agreement between the existing and new Permittee containing a specific date for transfer of permit responsibility, coverage, and liability between them; and
3. The Regional Administrator does not notify the existing Permittee and the proposed new Permittee of his or her intent to modify, or revoke and reissue the permit. If this notice is not received, the transfer is effective on the date specified in the agreement mentioned in paragraph 2 above.

L. State Laws Nothing in this permit shall be construed to preclude the institution of any legal action or relieve the Permittee from any responsibilities, liabilities, or penalties established pursuant to any applicable state law or regulation under authority preserved by Section 510 of the Act.

M. Reopener Clause

1. This permit shall be modified, or alternatively, revoked and reissued, to comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a)(2) of the Act, as amended, if the effluent standard, limitation, or requirement so issued or approved:
 - a. Contains different conditions or is otherwise more stringent than any condition in the permit; or
 - b. Controls any pollutant or disposal method not addressed in the permit. The permit as modified or reissued under this paragraph shall also contain any other requirements of the Act then applicable.
2. This permit may be reopened to add or adjust any effluent limitations if future water quality studies, waste load allocation determinations, or changes in water quality standards show the need for different requirements, subject to the provisions of sections 303(d)(4) and 402(o) of the Act.

V. DEFINITIONS

1. "Average monthly discharge limitation" means the highest allowable average of "daily discharges" over a calendar month, calculated as the sum of all "daily discharges" measured during a calendar month divided by the number of "daily discharges" measured during that month.
2. "Average weekly discharge limitation" means the highest allowable average of "daily discharges" over a calendar week, calculated as the sum of all "daily discharges" measured during a calendar week divided by the number of "daily discharges" measured during that week.
3. "Bypass" means the intentional diversion of waste streams from any portion of a treatment facility.
4. "CWA" means the Clean Water Act (formerly referred to as either the Federal Water Pollution Control Act or the Federal Water Pollution Control Act Amendments of 1972), Pub. L. 92-500, as amended by Pub. L. 95-217, Pub. L. 95-576, Pub. L. 96-483, Pub. L. 97-117, and Pub. L. 100-4.
5. "Daily Discharge" means the discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. For pollutants with limitations expressed in units of mass, the "daily discharge" is calculated as the total mass of the pollutant discharged over the day. For pollutants with limitations expressed in other units of measurement, the "daily discharge" is calculated as the average measurement of the pollutant over the day.
6. "Daily Maximum" ("Daily Max.") is the maximum value allowable in any single sample or instantaneous measurement.
7. "Daily maximum discharge limitation" means the highest allowable "daily discharge."
8. "Director" means Director of the Office of Water, United States Environmental Protection Agency, Region 10.
9. "EPA" means the United States Environmental Protection Agency.
10. A "grab" sample, for monitoring requirements, is a single "dip and take" sample or measurement taken at a specific time or over as short a period of time at a representative point anywhere in wastewater treatment or biosolids land application processes, as is feasible.
11. "Monthly Average" is the arithmetic mean of all measurements taken during the month except that a geometric mean will be used for fecal coliform analyses.

12. "Not Permitted" means not approved under this permit. It usually refers to either a practice for which the permittee did not apply to utilize, or has not prepared procedures complying with the federal standards or requirements of others.
13. "Severe property damage" means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable, or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.
14. "Treatment Works" are either Federally owned, publicly owned, or privately owned devices or systems used to treat (including recycling and reclamation) either cosmetic sewage or a combination of cosmetic sewage and industrial waste of a liquid nature.
15. A "24-hour composite" sample shall mean a flow-proportioned mixture of not less than eight discrete aliquots. Each aliquot shall be a grab sample of not less than 100 ml and shall be collected and stored in accordance with procedures prescribed in the most recent edition of *Standard Methods for the Examination of Water and Wastewater*.
16. "Upset" means an exceptional incident in which there is unintentional and temporary noncompliance with technology-based permit effluent limitations because of factors beyond the reasonable control of the permittee. An upset does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.

