FINDING OF NO SIGNIFICANT IMPACT:

CONSTRUCTION AND OPERATION OF A CONTRACTOR-OWNED, CONTRACTOR-OPERATED (COCO) FUEL FACILITY PIÑON CANYON MANEUVER SITE

FORT CARSON, CO

Fort Carson has prepared an Environmental Assessment (EA) that evaluates the potential environmental and socioeconomic impacts of the Army's proposal to construct and operate a new fuel facility and remove the aging existing fuel facility at the Piñon Canyon Maneuver Site (PCMS) so that petroleum products can be received, stored and dispensed safely and efficiently, utilizing current control technologies and appropriate safeguards. The new fuel facility will use above-ground storage tanks on concrete pads. Leak prevention and detection is expected to be enhanced. The new facility will help to ensure adequate fuel quality; inventory accuracy, operations, quality surveillance, organizational level maintenance, and training safety are conducted appropriately.

Description of the Proposed Action

Fort Carson is proposing to construct and operate a contractor-owned and contractor-operated (COCO) fuel facility on PCMS. The fuel facility will have the ability to dispense bulk and retail unleaded, diesel, E85, JP8, and B20 fuels via automated dispensing pumps and provide services for the receipt, storage and issuance of bulk and retail jet fuel. The required acreage for the Proposed Action on the cantonment would be between 3 to 4 acres. The Proposed Action includes the removal and remediation of the existing fuel facility.

Construction for the Proposed Action is expected to commence in the Spring of 2015.

Alternatives

The proposed alternate locations for construction are within the existing cantonment area of PCMS and would minimize environmental effects (*e.g.*, there are no National Register of Historic Places-eligible cultural resources or Native American sacred sites; avoid effects to federal-listed species, special interest areas, and wetlands), and minimize cost (e.g., utilities, infrastructure, construction). Originally, the "Proposed Action location" was identified as the Army's preferred alternative, however upon further investigation concerning the proximity and routing of utility connections, it was determined that the cost of extending utilities to the Proposed Action site was cost-prohibitive. Re-examination of the cantonment area provided another alternative (Alternative 2) that has direct access to existing utilities without the additional cost and ground disturbance. Therefore, Alternative 2 is the Army's Preferred Alternative.

No Action Alternative

There would be no construction or implementation of the proposed fuel facility under the No Action Alternative. However, under the No Action Alternative, the existing fuel facility would remain in place. This facility is old and in need of repair. Contamination at the site can be further remediated after the site is closed per current Division of Oil and

facility would remain in place. This facility is old and in need of repair. Contamination at the site can be further remediated after the site is closed per current Colorado Division of Oil and Public Safety (OPS) regulations, Fort Carson is required to remediate any remaining oil product measuring over 100th of a foot in thickness, therefore the No Action Alternative is not feasible and is only used as a baseline for this analysis.

Environmental Consequences

Implementation of the Proposed Action or the Alternatives would allow bulk (fueling trucks that supply remote storage tanks or provide remote on-site refueling) and retail (drive up service) fuels of unleaded gasoline, ultra-low sulfur diesel, E85, JP8, and B20 fuels to be dispensed. These fuels will be available to authorized Fort Carson and PCMS personnel, who could be military, Army civilians, or base contractors. The replacement of the aging facility would ensure that petroleum products are received, stored, and dispensed safely and efficiently. The new facility will help to ensure adequate fuel quality; inventory accuracy, operations, quality surveillance, organizational level maintenance, and training safety are conducted appropriately. The removal of the existing fuel facility would allow the area contamination to be further remediated upon the completion of the new fuel facility.

Findings indicate that implementation of the Proposed Action or Alternatives would result in no significant adverse environmental consequences. No significant cumulative effects are expected.

Conclusion

The attached EA was prepared pursuant to Title 32 of the Code of Federal Regulations (CFR) Part 651 and U.S. Council on Environmental Quality (CEQ) regulations (Title 40 of the CFR, Parts 1500-1508) for implementing the procedural requirements of the National Environmental Policy Act (NEPA). The finding of this EA is that neither the Proposed Action nor the Alternatives, with minor mitigation, would have any significant adverse effects on the human or natural envrironment. Therefore, based on review of the EA, I conclude that the Army's Preferred Alternative (Alternative 2) is not a major federal action that would significantly affect the quality of the environment within the meaning of Section 102(2)(c) of NEPA. Accordingly, no Environmental Impact Statement (EIS) is required. With this finding, I approve selection of the Preferred Alternative.

Roderick Chisholm Date: 11 JUNE 14

JOEL D. HAMILTON
COL, FA
Garrison Commander
Fort Carson, Colorado

Environmental Assessment for the Construction of a Contractor Owned / Contractor Operated Fuel Facility at Piñon Canyon Maneuver Site, Colorado

Fort Carson, CO
May 2014

Environmental Assessment for the Construction of a Contractor Owned / Contractor Operated Fuel Facility at Piñon Canyon Maneuver Site, Colorado

Fort Carson, CO
May 2014

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Environmental Assessment for the Construction of a Contractor Owned / Contractor Operated Fuel Facility at Piñon Canyon Maneuver Site, Colorado

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ENVIRONMENTAL ASSESSMENT

Construction of a Contractor Owned / Contractor Operated Fuel Facility at Piñon Canyon Maneuver Site, Colorado

BACKGROUND

This EA is being prepared to analyze construction and operation of a Contractor Owned / Contractor Operated (COCO) fuel facility at PCMS. The existing fuel facility at PCMS is made up of various underground storage tanks, which have had several incidents of leakage over the past twenty years, as described below. The existing facility will be removed. The area where it now sits will be further remediated to resolve the effects of the prior fuel leaks. The new fuel facility will use above-ground storage tanks on concrete pads. These will replace the old facility so that petroleum products can be received, stored and dispensed safely and efficiently, utilizing current control technologies and appropriate safeguards. Leak prevention and detection is expected to be improved.

In 1985, the United States Department of the Army established the PCMS to support mechanized military maneuvers. The Petroleum, Oil, and Lubricants (POL) Point was constructed within the site in 1986 to serve as a fueling depot for military vehicles. The original underground storage tank (UST) system installed at the POL Point consisted of:

- Two 30,000-gallon, fiberglass-reinforced plastic (FRP) USTs that stored diesel fuel;
- Two 20,000-gallon FRP USTs that stored JP-4 (jet fuel);
- One 20,000-gallon FRP UST that stored Mogas (automotive gasoline); and
- Three bulk loading stations and two retail dispensers that serviced the USTs.

In 1993, a series of leak events occurred at the site during a UST upgrade effort, releasing an unknown amount of JP-4 fuel product into the subsurface. Petroleum-contaminated soil and groundwater were removed from the tank pit, which was subsequently over-excavated. The excavated soil was land-farmed in an area directly west of the site. Several groundwater monitoring wells were installed to monitor subsurface conditions including four upgradient 2- inch-diameter wells).

In July 1993, the entire subsurface portion of the UST system was replaced with a new system that included:

- Five 20,000-gallon, FRP-encased steel USTs (Tanks #1 through #5);
- Double-walled fiberglass piping;
- A Soil Vapor Monitor (SVM) unit; and
- An automatic tank gauging (ATG) unit.

Tanks #1 through #4 currently contain JP-8 fuel, and Tank #5 contains Mogas. The system was designed to accommodate a sixth 20,000-gallon UST, which, to date, has not been installed. The Colorado Department of Labor and Employment, Division of Oil and Public Safety (OPS) granted the site No Further Action status on May 4, 2000.

The SVM unit consists of nine SVM wells that are located within the tank field area and are accessed through the surface slab. The SVM unit ceased to provide reliable data after static groundwater immersion of the soil vapor sensors.

In September 2007, AECOM Technical Services, Inc. (AECOM) replaced the ATG system, which had also malfunctioned. Following its replacement, a rudimentary integrity test of the lines indicated a failure of the product recirculation in one of the lines. The line was evacuated and subsequently capped.

On October 22, 2007, a fuel/water interface probe was used at some of the wells to determine if a product release had occurred outside of the secondary containment system. Approximately 1.0 foot of free-phase liquid petroleum product (free product) was detected in each of the SVM wells. Although located a minimum of 120 feet upgradient of the tank field and unlikely to suggest a release, four wells were also measured at this time. No free product was detected in these upgradient wells. Evidence of a product release was reported to OPS within 24 hours of confirmation.

Free product removal from the tank field commenced on October 23, 2007, and continued during subsequent pumping events in: November 2007; March, April, May, and November 2008; November 2009; and February 2010. An estimated total of 11,182 gallons of free product and approximately 32,938 gallons of groundwater were removed through the SVM wells. The average thickness of the free product layer has been reduced from an average of 1.04 foot (approximately 12.25 inches) to 0.058 foot (approximately 0.75 inch). No remarkable free product rebound had been evident since commencement of extraction activities (that is prior to the 2011 JP-8 release). However, it was determined that groundwater within the tank pit exhibited a slow rate of recharge ranging from 0.006 to 0.009 foot per day after major extraction events listed above.

In April and May 2009, AECOM installed five additional groundwater monitoring wells surrounding the tank field area. The subsurface investigation resulted in the following conclusions:

- Free-phase, slightly weathered JP-8 product, was detected in one well during development, suggesting that the integrity of the tank pit liner had been compromised. However, the product observation did not occur until the well was purged, which suggested that product within the water-bearing deposits was highly mobile. When considering the relatively flat groundwater gradient, migration of the contaminant plume can be efficiently mitigated by applying negative hydrostatic pressure to the source area.

- The presence of benzene in groundwater above the Risk-Based Screening Level (RBSL) in P150MW07 suggests that residual JP-4 contamination from the 1993 leak exists in the soils and groundwater northwest (downgradient) of the tank field.

- Low concentrations of tetrachloroethene (PCE) were detected at a maximum of 10.8 micrograms per liter in groundwater samples collected from five wells, suggesting

possible secondary impacts. PCE impacts to groundwater have not been defined nor a source identified.

- The extent of soil and groundwater contamination had not been defined to the west, northwest, and north of the source. In November and December 2009, AECOM performed a second investigation to support the preparation of a revised Site Characterization Report (SCR). The field effort included the advancement of 12 boreholes, 6 of which were completed as permanent groundwater monitoring wells at locations upgradient, downgradient, and crossgradient of the tank field. The borings and wells were completed to delineate the downgradient extent of the source plume and to determine the potential of a secondary upgradient source. Two previously undiscovered permanent groundwater monitoring wells were also incorporated into the sampling network.

The additional 2009 investigation successfully defined the extent of the benzene plume in groundwater; however, the following constituents of concern were also determined to exceed their respective RBSLs:

- Methyl tertiary-butyl ether (MTBE) was detected in groundwater above its RBSL of 0.020 milligrams per liter (mg/L) in crossgradient well P150MW11 and in two downgradient wells;

- Naphthalene was detected in groundwater above the RBSL of0.14 mg/L in three wells; and

- Total petroleum hydrocarbon (TPH) was detected in soil above the RBSL in four wells.

An updated SCR for the site was submitted to OPS on February 11, 2010. In a letter dated April 1, 2010, OPS requested preparation of the Corrective Action Plan (CAP) for the site. The CAP was prepared and submitted to OPS on August 31, 2010, requesting continuation of enhanced fluid recovery (EFR) with a possible surfactant injection pilot test. Approval of the August 31, 2010 CAP was granted by OPS in a letter dated January 20, 2011.

In May 2011, Summit Technical Resources, Inc. installed three new wells to further assess the plume and one new well to establish a downgradient point-of-compliance. The newly installed wells were developed in June 2011, to allow for sufficient groundwater to enter the wells and stabilize. It should be noted, that lower than average ground water table was observed during this time.

In July 20, 2011, a new JP-8 release was observed and response efforts determined that an estimated 923 gallons of JP-8 was released from one tank into the tank pit. During the third quarter 2011 monitoring event, product levels in SVE wells exhibited a rise on average of about three one- hundredths of an inch. Recovery efforts conducted by both the Defense Logistics Agency (DLA) and Summit Technical Resources (Summit) removed

an estimated total of 520 gallons JP-8 of the estimated 923 gallons released. Per the direction of OPS, the remaining estimated 403 gallons will be addressed and removed as part of the ongoing approved PCMS CAP EFR events, under the Facility ID#4490.

Implementation of the aforementioned approved CAP is currently ongoing.

CURRENT THIRD QUARTER 2012 GROUNDWATER MONITORING RESULTS

Fluid level measurements and groundwater analytical results for the third quarter 2012 are summarized below.

Fluid-Level Measurements

On August 7 and August 8, 2012, fluid-level measurements were collected from all site monitoring wells and SVM wells using an oil/water interface probe, with the exception of one well, which was abandoned in place in May 2011 due to irreparable well damage. Product thicknesses remained relatively unchanged from the previous sampling event, increasing an average of 0.018 of a foot. Similar to previous monitoring events, the site-wide groundwater table contours indicated that groundwater generally flows towards the northwest.

Groundwater Analytical Results

After gauging the wells, groundwater samples were collected unless the wells contained free product or were observed dry. Seventeen monitoring wells were sampled and analyzed for volatile organic compounds (VOCs) using the EPA Method 8260B and for TPH-gasoline-range organics (GRO) and TPH-diesel-range organics (DRO) using EPA Method 8015.Toluene, Naphthalene, and Xylene were not detected above Tier 1 RBSLs in any of the wells sampled during this event. Benzene was detected above the RBSL of 0.005 mg/L in one well at 0.827 mg/L. Ethyl benzene was detected above the RBSL of 0.68 mg/L in one well at a concentration of 0.867 mg/L.

MTBE was detected above the RBSL of 0.020 mg/L in seven wells at concentrations ranging from 0.0244 to 2.47 mg/L. PCE was detected above the RBSL of 0.005 mg/L in two wells at concentrations of 0.00598 and 0.00857, respectively.

TPH-GRO was detected in 10 wells at concentrations ranging from 0.0188 J to 6.15 mg/L. TPH-DRO was also detected in seventeen wells at concentrations ranging from 0.0582 J to 43.8 mg/L. At this time, the State of Colorado does not have cleanup standards or Tier 1 RBSLs for TPH-GRO and TPH-DRO in groundwater.

It is presumed that the wells with measured free product (and not sampled this quarter) may exhibit one or more dissolved-phase constituent, such as benzene, that may exceed RBSLs.

Analytical data for this period is consistent with historical results. The dissolved-phase plume appears to be stable and not migrating beyond previously observed locations.

PRODUCT RECOVERY

As of January 2013 a total of 13,663 gallons of product has been recovered through pumping, vacuum extraction, and a combination of surfactant flushing/vacuum extraction. The available data indicate that an estimated 1,500 gallons of product remain in the tank pit and an estimated 6,000 gallons of product remain outside the tank pit. The technical feasibility of additional product removal using skimming pumps is estimated to be limited to 0.07 to 3.9 gallons per day and additional surfactant flushing events are estimated to be capable of removing only 0.5% of the remaining product. The estimated rates of residual product removal have been reviewed by OPS who requires cleanup to less than 0.01 of a foot of free product on the water table. OPS evaluated the feasibility data modified the CAP as follows:

- CAP requirements for groundwater sampling and analysis are suspended from the second quarter 2013 through the fourth quarter 2016.

- Semi-annual gauging of the depth to groundwater and free product shall be conducted in all monitoring wells and the results shall be reported using the OPS Monitoring and Remediation Report format within 60 days of each monitoring event.

- Remediation of free product will be completed in conjunction with removal of the underground storage tanks which is anticipated to occur prior to 2016-2017.

Based on the analytical results of previous sampling events, quarterly groundwater sampling of PCMS monitoring wells will continue to assess potential plume migration. This EA is being prepared to analyze construction and operation of a Contractor Owned / Contractor Operated (COCO) fuel facility at PCMS. The existing fuel facility at PCMS is to be removed and the area further remediated.

1.0 PROPOSED ACTION PURPOSE, NEED, AND SCOPE

1.1 Purpose and Need

Fort Carson proposes to install a Contractor-Owned, Contractor-Operated (COCO) fuel facility at the PCMS. The purpose of this facility is to dispense bulk (fueling trucks that supply remote storage tanks or provide remote on-site refueling) and retail (drive up service) fuels of unleaded gasoline, ultra-low sulfur diesel, E85, JP8, and B20 fuels. These fuels will be available to authorized Fort Carson and PCMS personnel, who could be military, Army civilians, or base contractors.

The need for the new fuel facility is to replace the aging facility so that petroleum products can be dispensed safely and efficiently, and be received, stored, and issued with appropriate and current controlling technologies. The new facility will help to ensure adequate fuel quality; inventory accuracy, operations, quality surveillance, organizational level maintenance, and training safety are conducted appropriately.

The existing POL site on PCMS is located to the east of Highway 350, southwest of the main buildings and north adjacent to the rail spur (see Figure 1.1). As part of the Proposed Action, this aging facility would be removed and the area remediated upon the

completion of the new fuel facility. The proposed site for the new fuel facility would be located within the cantonment area of the PCMS (see Section 2.1).

The fuel facility will dispense both bulk and retail fuels of unleaded gasoline, ultra-low sulfur diesel, E85, JP8, and B20 biodiesel fuels.

The implementation and operation of the fuel facility may have environmental impacts; therefore, an EA is required to undertake an examination of the data generated and assess the magnitude of potential impacts to determine if further study is required, via an Environmental Impact Statement (EIS), or if a Finding of No Significant Impact is warranted.

1.2 Scope of Analysis

This EA has been developed in accordance with the National Environmental Policy Act (NEPA) of 1969 and implementing regulations issued by the President's Council on Environmental Quality (CEQ) and the Army. Its purpose is to inform decision-makers and the public of the likely environmental consequences of the Proposed Action and alternatives.

The 2009 EIS for Implementation of Fort Carson Grow the Army Stationing Decisions contains information concerning the base wide affected environment with regards to biological resources, natural resources, cultural resources, economics, population, hazardous materials and hazardous wastes which will be used as baseline data for the environmental conditions associated with the implementation and operation of the fuel facility (Fort Carson, 2009). As the proposed fuel facility requires only a small portion of PCMS land, only data pertinent to the potential impacts to the fuel facility location and the Regions of Influence (ROI) will be included in the Proposed Fuel Facility EA. The following actions will be discussed in the EA:

- Preparing the proposed location for the facility installation activities, as necessary.
- Demolition of existing on-site structures at PCMS (pending building materials assessment) and remediation of any contamination at the existing site.
- Grading and compaction of exposed soils within the building area of the new fuel facility.
- Installation of an asphaltic, concrete pad and associated concrete dispensing islands for the facility.
- Installation of the above ground storage tanks (ASTs) on their associated concrete pads and secondary containment vaults, as necessary.
- Installation of underground piping systems with secondary containments to attach the dispensing islands to their respective fuel ASTs.
- Installation of the contractor's service/administrative/retail center building.
- Daily use of the facility for vehicle fueling, retail sales, and restrooms.

This EA describes the potential environmental consequences resulting from the Proposed Action and the Alternatives on the following resource areas:
Air Quality, Noise, Geology and Soils, Water Resources, Biological Resources, Cultural Resources, Utilities, Hazardous Materials and Wastes, Socioeconomics, and

Transportation at PCMS and the surrounding area. A brief analysis of issues eliminated from further analysis is in Section 2.1, *Issues Not Addressed*.

Figure 1.1 Aerial Map of the Existing Fuel Facility Location at PCMS.

1.3 Decision(s) To Be Made

The decision to be made is whether or not to implement the Proposed Action or one of the Alternatives and to determine whether implementation would cause significant impacts to the human or natural environment. The final decision is the responsibility of the Garrison Commander at Fort Carson.

1.4 Agency and Public Participation

Public participation opportunities with respect to this EA and decision-making on the Proposed Action are guided by 32 CFR Part 651, *Environmental Analysis of Army Actions (Army Regulation 200-2)*. Consideration of the views and information of all interested persons promotes open communication and enables better decision-making. All agencies, organizations, and members of the public having an interest in the Proposed Action, including minority, low-income, disadvantaged, and Native American groups, will be given the opportunity to comment on this EA.

If utilization of an EA continues to be warranted and no signifivcant impacts are identified, the EA along with a Draft Finding of No Significant Impact (FNSI), will be available to the public for 30 days, starting from the last day of publication of the Notice of Availability (NOA) in the local media. The documents will be available at:
http://www.carson.army.mil/DPW/nepa.html
At the end of the 30-day public review period, the Army will consider all comments submitted by individuals, agencies, or organizations on the Proposed Action, EA, or Draft

FNSI. Copies of individual comment letters and the associated responses received during this period will be included in the final documentation in Appendix A.

Anyone wishing to comment on the Proposed Action or request additional information should contact the Fort Carson NEPA Coordinator, Directorate of Public Works; Environmental Division at: usarmy.carson.imcom-central.list.dpw-ed-nepa@mail.mil.

1.5 Legal Framework

A decision on whether to proceed with the Proposed Action rests on numerous factors such as mission requirements, schedule, availability of funding, safety, and environmental considerations. In addressing environmental considerations, Fort Carson is guided by relevant statutes (and their implementing regulations) and Executive Orders (EOs) that establish standards and provide guidance on environmental and natural resources management and planning. These include, but are not limited to, the following:

- Clean Air Act;
- Clean Water Act;
- Noise Control Act;
- Endangered Species Act;
- Migratory Bird Treaty Act;
- National Historic Preservation Act;
- Archaeological Resources Protection Act;
- Resource Conservation and Recovery Act;
- Toxic Substances Control Act;
- EO 11988, Floodplain Management;
- EO 11990, Protection of Wetlands;
- EO 12088, Federal Compliance with Pollution Control Standards;
- EO 12580, Superfund Implementation;
- EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations;
- EO 13045, Protection of Children from Environmental Health Risks and Safety Risks;
- EO 13423, Strengthening Federal Environmental, Energy, and Transportation Management;
- EO 13175, Consultation and Coordination with Indian Tribal Governments;
- EO 13186, Responsibilities of Federal Agencies to Protect Migratory Birds; and
- EO 13514, Federal Leadership in Environmental, Energy, and Economic Performance.

2.0 DESCRIPTION OF THE PROPOSED ACTION AND ALTERNATIVES

2.1 Description of the Proposed Action

Fort Carson is proposing to implement, operate, and maintain a Contractor-Owned; Contractor-Operated (COCO) fuel facility at PCMS. The fuel facility will have the ability to dispense bulk and retail unleaded, diesel, E85, JP8, and B20 fuels via automated dispensing pumps and provide services for the receipt, storage and issuance of bulk and

retail jet fuel. Operations at the fuel facility must be safely and efficiently conducted for receipt, storage, and issuing of petroleum products and have appropriate controls to ensure adequate fuel quality, inventory accuracy, operations, quality surveillance, organizational level maintenance, and training safety for the COCO facility. Furthermore, all installation, design, construction, and operations would follow the Colorado Department of Labor and Employment (CDLE), Oil and Public Safety Division Petroleum Storage Tank (PST) requirements (7 C.C.R. 1101-14), as well as Department of Defense Military Handbook for Petroleum Fuel Facilities and any other applicable federal regulations.

The estimated storage capacity and acreage proposed for the facility is as follows:
Retail Operations:

- One 12,000 gallon above-ground storage tank (AST) unleaded fuel
- One 12,000 gallon AST diesel fuel
- One 12,000 gallon AST JP8 fuel

Bulk Operations:

- Two 50,000 gallon AST JP8 fuel

Resupply of bulk fuel would be by 8,000 gallon tanker trucks.
The required acreage for the Proposed Action on the cantonment would be between 3 to 4 acres (see Figure 2.1 for proposed locations).

Figure 2.1. Aerial Map of Proposed Areas for a COCO Fuel Facility at PCMS.

General construction activities would consist of staking and marking the areas where major components are to be placed. The site would be graded and any cut and fill

necessary to level the construction area performed. Roadways would be established via fully compacting the surface beneath the planned egress. Once the general site preparation activities are completed, utility infrastructure (including, electric, communications, water, etc.) would be brought on site and construction of the tank pads, berms and any structures accomplished. These activities are anticipated to take four to six months to complete.

2.2 Alternatives Considered

This section describes alternatives to the Proposed Action. 32 CFR 651 (AR 200-2) and Council on Environmental Quality regulations (40 CFR 1500) require the identification of reasonable alternatives to the Proposed Action, including the No Action Alternative. Originally, the "Proposed Action location" was identified as the Army's preferred alternative, however upon further investigation concerning the proximity and routing of utility connections, it was determined that the cost of extending utilities to the Proposed Action site was cost-prohibitive. Re-examination of the cantonment area provided another alternative (Alternative 2) that has direct access to existing utilities without the additional cost and ground disturbance. Therefore, Alternative 2, described below, is the Army's Preferred Alternative.

2.2.1 No Action Alternative

There would be no construction or implementation of the proposed fuel facility under the No Action Alternative. The No Action Alternative provides a basis of comparison for the Proposed Action and also addresses issues of concern by avoiding or minimizing effects associated with the Proposed Action. However, under the No Action Alternative, the existing fuel facility would remain in place. This facility is old and often needs repair and the contamination at this site can be more fully remediated after the site is closed. Per current Division of Oil and Public Safety (OPS) regulations, Fort Carson is required to remediate any remaining oil product measuring over 100^{th} of a foot in thickness, therefore the No Action Alternative is not feasible and is only used as a baseline for this analysis.

2.2.2 Proposed Action

The Proposed Action that would result in the implementation and operation of the proposed COCO fuel facility at PCMS and would include the construction of the facility southeast of the main buildings within the cantonment, adjacent to the existing clamshells and near the runway. In accordance with UFC 3-260-01: Airfield and Heliport Planning and Design, Runway Lateral Clearance Zone, ARMY Airfields table 3-2. Runways, Item. 12, the proposed facility should be at least 500 ft away from the active assault runway. The current proposed location would be 1225 ft from the active runway. This location would be close to the existing clamshell for easy maintenance access. It would not require any new roads to be constructed, is near existing electrical sources, provides area for queuing vehicles to be re-fueled, and is less visible from highway 350. Access to the existing potable water and sanitary sewer is approximately 2000 feet away from the proposed site. The Proposed Action includes the removal and remediation of the existing fuel facility.

2.2.3 Alternative 1

This alternative would result in the implementation and operation of the proposed COCO fuel facility at PCMS located south of the main buildings within the cantonment, west of the existing clamshells, and adjacent south of the rail yard unloading area. This alternative would include the removal and remediation of the existing fuel facility. Construction of the new facility would occur southeast of the main buildings within the cantonment, adjacent to the existing clamshells and near the runway. This location would be closer to existing potable water and sanitary sewer (approximately 1000 feet), would provide adequate area for queuing vehicles to be refueled and would not require any new roads to be constructed, however during rail load operations, access to and from this location would be limited without the construction of another access route. Also, this alternative would be farther away from electrical power, maintenance (clamshells) structures, and vehicle and aircraft storage areas. It could also interfere with plans to construct a vehicle wash facility nearby.

2.2.4 Alternative 2 (Preferred Alternative)

This alternative would result in the implementation and operation of the proposed COCO fuel facility at PCMS located south of the main buildings within the cantonment, west of the existing clamshells, and adjacent north of the rail yard unloading area. This alternative would include the removal and remediation of the existing fuel facility. Construction of the new facility would occur southeast of the main buildings within the cantonment, west of the existing clamshells and northwest of the runway. This location would provide direct connection to existing potable water and sanitary sewer and would provide adequate area for queuing vehicles to be refueled. An entrance/egress would be required due to potential congestion during rail load operations. This alternative would be farther away from maintenance (clamshells) structures, but would be adjacent to the equipment holding yard (vehicle and aircraft storage area). The cost of providing utilities at this location was minimal compared to the other two alternatives. For these reasons, Alternative 2 is the Army's Preferred Alternative.

2.2.5 Alternatives Eliminated From Further Consideration.

Other alternative locations and size of the fuel facility were originally proposed, but were eliminated from further consideration and evaluation for the following reasons:

- **Existing Fuel Area** – The implementation and operation of the fuel facility at the existing site was eliminated from further consideration because the existing facility is failing and the location is in need of additional remediation from prior leaks. The new facility at a different location will allow for further restoration of the old location and not impact the mission.
- **Other locations on PCMS** – Siting the proposed facility included necessary criteria such as availability of electrical sources, space (approximately 4 - 5 acres required), ease of access, and within close proximity to the existing operations and maintenance area within the cantonment (already built or disturbed environment to lessen potential impacts to vegetation and soils). After careful consideration of

locations within and around the cantonment that met these criteria, the alternatives (listed above) were identified as the most reasonable and cost-effective locations.

- **Government Operated** – Government constructed and government operation of the new Petroleum, Oils, and Lubricants (POLs) facility was an option considered but not analyzed in this EA. An economic analysis conducted by the Defense Logistics Agency determined that it would be more economical to operate the POL facility as a COCO (DLA, 2012). This economic analysis was conducted prior to initiation of the EA and therefore the option was not included in the analysis.

3.0 AFFECTED ENVIRONMENT, ENVIRONMENTAL CONSEQUENCES, AND MITIGATION

This section presents a description of the environmental resources and baseline conditions that could be affected from implementing the Proposed Action. In addition, this section presents an analysis of the potential environmental consequences of implementing the Proposed Action, the No Action Alternative, and any mitigation measures identified to reduce potential adverse impacts.

All potentially relevant environmental resource areas initially were considered for analysis in this EA. In compliance with NEPA, CEQ, and 32 CFR Part 651 guidelines, the discussion of the affected environment focuses only on those resource areas potentially subject to impacts, and those with potentially significant environmental issues.

This environmental assessment focuses on resources and issues of concern identified during initial issue analysis and on differences in effects between the Proposed Action and the No Action Alternative. Areas with no discernible concerns or known effects, as identified in the issue elimination process (Section 3.1, *Issues Not Addressed*), are not included in this analysis.

This section discloses potential environmental effects of each alternative and provides a basis for evaluating these effects. Effects can be direct, indirect, or cumulative. Direct effects occur at the same place and time as the actions that cause them, while indirect effects may be geographically removed or delayed in time. A cumulative effect is defined as an effect on the environment that results from the incremental effect of the action when added to other past, present, and reasonably foreseeable future actions, regardless of what agency or person undertakes such other actions. Cumulative effects can result from individually minor, but collectively significant, actions taking place locally or regionally over a period of time.

3.1 Issues Not Addressed

Initial analyses resulted in the elimination of some potential issues because they were not of concern or were not relevant to the Proposed Action and alternatives. Brief discussions of the rationale for these decisions are below.

Environmental Health and Safety Risks for Children

Executive Order No. 13045, *Protection of Children from Environmental Health Risks and Safety Risks*, (62 Federal Regulation No. 78) was issued in April 1997. This Executive Order directs each federal agency to "*ensure that its policies, programs, activities, and standards address disproportionate risks to children that result from environmental health or safety risks*". Sensitive areas for exposure to children are schools and family housing areas. Environmental health and safety risks are attributable to products that a child might come in contact with or ingest as well as safety around construction areas and areas of buildings that pose safety hazards.

Neither the Proposed Action nor its alternatives would change environmental health or safety risks to children since the area is well within the boundaries of PCMS. There are no Soldier or civilian family members residing within the PCMS border, therefore neither the Proposed Action nor its alternatives would have any significant or disproportionate adverse effects on children or pose health or safety risks.

Environmental Justice
Executive Order No. 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations* (59 Federal Regulation No. 32), issued in February 1994, provides that "*each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations*".

Neither the Proposed Action nor its alternative would change any existing impacts with regard to minority and low-income populations.

Airspace Use
Neither the Proposed Action nor its alternatives would change existing airspace nor does this require the usage of airspace or designation of new airspace for use on PCMS.

Land Use
The PCMS cantonment area contains administrative buildings and support facilities that are used during training exercises. PCMS is utilized for a variety of training missions to include brigade or regiment-size maneuvers, battalion or squadron-size maneuvers, and support operations, such as supply, communications, aviation, etc. Implementation of the Proposed Action would be a replacement of an existing fuel facility and would not appreciably change existing operations or land use.

Energy
Impacts to energy consumption from the development of the fuel facility is not expected as it would replace the existing fuel facility resulting in no net increase of installation demands for regional energy.

Noise
PCMS is an existing remote training area. The bordering area of PCMS is rural, mainly ranch and farm land. Neither the Proposed Action nor its alternatives would change the

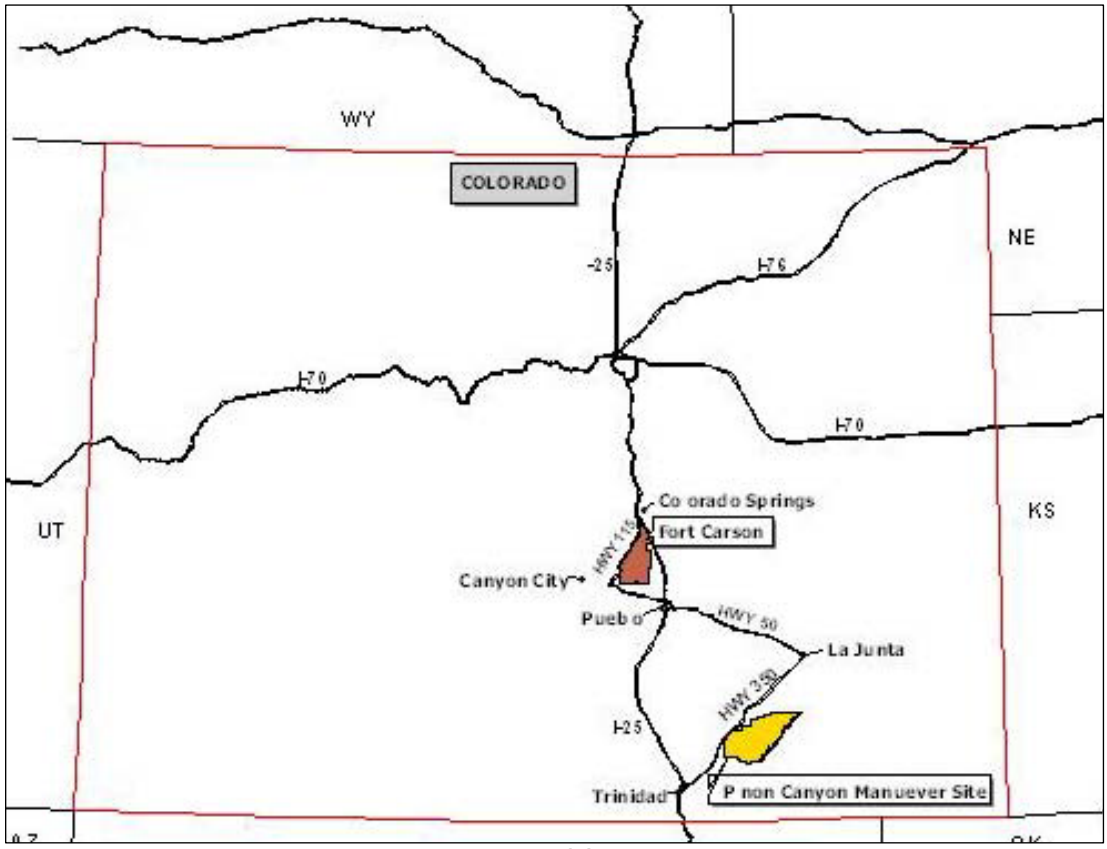
noise environment conditions from what currently exists. Noise generated during construction at these facilities would be minor and temporary.

Visual and Aesthetics
The Proposed Action and the alternatives are interior to PCMS and not visible to outside communities.

3.2 General Information – Location, Surrounding Land Uses, and Climate
Additional information about the environment of PCMS can be found in the Final Environmental Impact Statement for Implementation of Fort Carson Grow the Army Stationing Decisions (Fort Carson, 2009), the Integrated Natural Resources Management Plan [INRMP] (Fort Carson, 2007), and the Fort Carson Integrated Cultural Resources Management Plan (Fort Carson 2002).

PCMS, occupying approximately 236,000 acres, is located about 150 miles southeast of Fort Carson and is totally located in Las Animas County, Colorado (Figure 3.2a). PCMS measures about 31 miles east to west and about 21 miles north to south. The 1,670-acre cantonment area is located at the west central edge of PCMS, adjacent to Colorado Highway 350. PCMS is bordered on the north by the Comanche National Grassland and private interests; on the east by the Purgatoire River and U.S. Forest Service (Picket Wire Canyonlands); on the south by County Road 56.0; and on the west by State Highway 350 and private property (Figure 3.2b). Land use adjacent to the PCMS is primarily used for livestock grazing, agriculture, and public access hunting/recreation.

Figure 3.2a Location of Piñon Canyon Maneuver Site.



3.2.1 Population

A few civilian employees are permanently assigned to PCMS. The surrounding area is sparsely populated; the population of Las Animas County was estimated to be 15,037 in 2011 (U.S. Census Bureau).

3.2.2 Climate

The climate in the PCMS area is classified as dry continental with average annual precipitation of approximately 13.5 inches, fluctuating widely from year to year and between areas of the parcel (U.S. Department of Army 1980). Precipitation at the PCMS primarily results from either frontal storms or convective storms. Frontal storms can occur throughout the year and have varying strength and frequency; the largest quantities of precipitation are associated with periods of moist airflow from the Gulf of Mexico. Monthly averages for temperatures and precipitation collected by the U.S. Weather Service (www.weather.com) for Trinidad are shown in Table 4.2.

Figure 3.2b Lands Neighboring Piñon Canyon Maneuver Site.

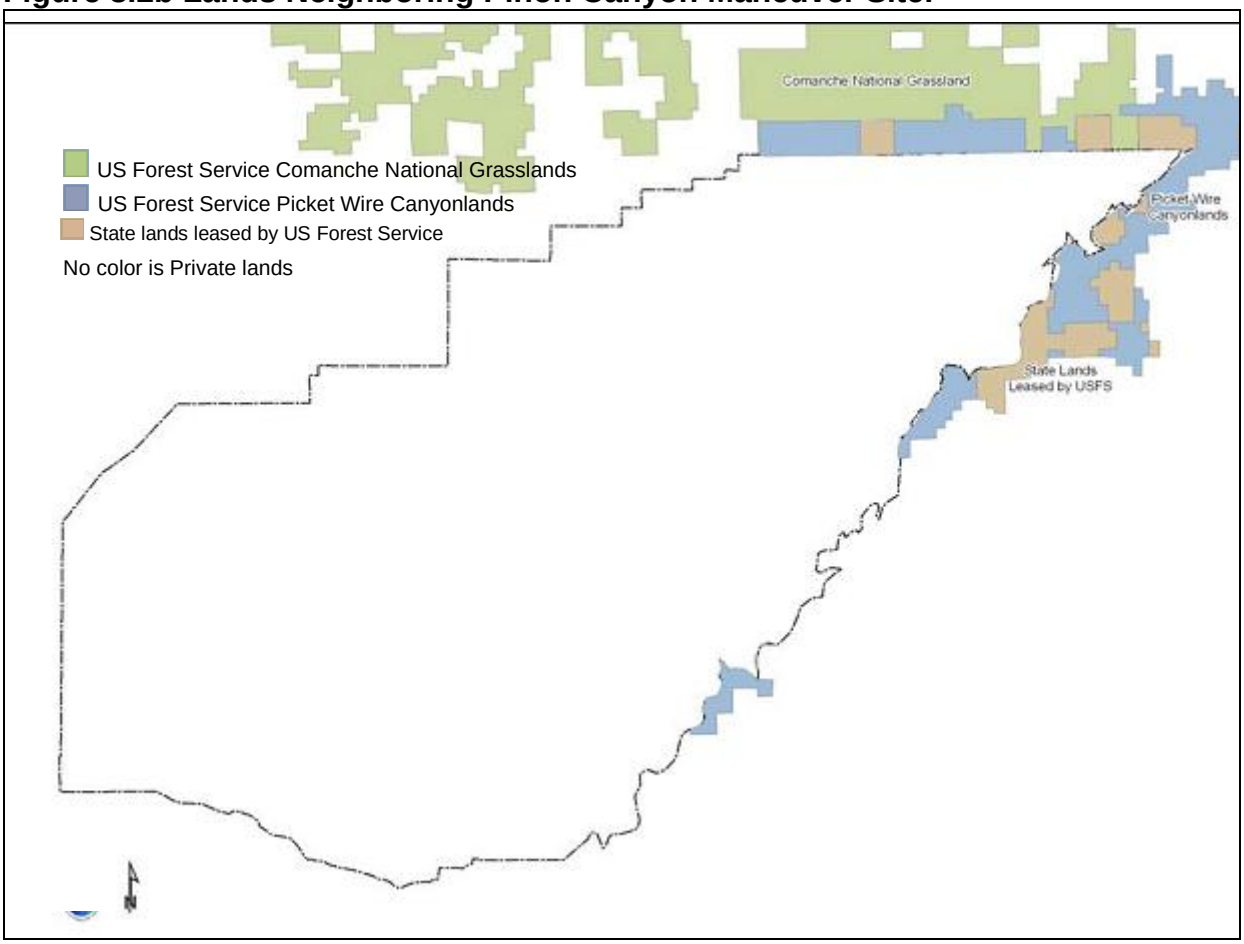


Table 3.2 Monthly Average Temperatures and Precipitation for Trinidad, CO.

Month	Avg. High	Avg. Low	Mean	Avg. Precip	Record High	Record Low
Jan	49°F	19°F	34°F	0.52 in.	78°F (1997)	-32°F (1963)
Feb	50°F	21°F	36°F	0.61 in.	78°F (1957)	-21°F (1948)
Mar	57°F	28°F	43°F	1.16 in.	84°F (1971)	-15°F (1948)
Apr	65°F	35°F	50°F	1.28 in.	89°F (2002)	2°F (1997)
May	74°F	44°F	59°F	1.72 in.	96°F (2002)	22°F (1978)
Jun	83°F	52°F	68°F	1.71 in.	101°F (1994)	31°F (1954)
Jul	87°F	57°F	72°F	2.68 in.	101°F (2005)	43°F (1980)
Aug	84°F	56°F	70°F	2.68 in.	98°F (2002)	37°F (1979)
Sep	78°F	48°F	63°F	1.33 in.	94°F (1999)	23°F (1984)
Oct	68°F	37°F	53°F	1.26 in.	90°F (1964)	2°F (1993)
Nov	56°F	26°F	41°F	0.82 in.	80°F (2007)	-15°F (1976)
Dec	47°F	19°F	33°F	0.57 in.	82°F (1964)	-16°F (1983)

3.3 Air Quality

This section identifies all potential impacts to air quality that could occur with the implementation of the proposed action and alternatives.

3.3.1 Existing Conditions

This section describes the current ambient air quality status for Las Animas County and the current emission sources at the PCMS.

Ambient Air Quality Standards

Las Animas County is currently in attainment for all of the National Ambient Air Quality Standards (NAAQS).

Air Pollutant Emissions

Operations at the PCMS emit the following criteria pollutants (particulate matter [PM], carbon monoxide [CO], nitrogen oxides [NO_X], sulfur dioxide [SO_2] and volatile organic compounds [VOC]) as well as hazardous air pollutants (HAP). The most significant pollutant emitted from the PCMS is PM. There are three primary sources of PM emissions: 1) prescribed burning, 2) tactical obscurants generated from the use of smoke

grenades and fog-oil during training exercises and 3) both on-road vehicle travel on unpaved roads as well as off-road travel. These PM emissions potentially contribute to limited visibility and can also have impacts on human health if inhaled. Prescribed burning and the combustion of fossil fuels in equipment such as boilers, generators and motorized vehicles emit combustion emissions of PM, CO, NO_X, SO_2, VOC and HAP. Fuel loading and dispensing operations at the PCMS emit VOC and HAP.

The proposed and alternative actions would primarily impact the release of VOC and HAP from the fuel loading and dispensing operations. However, the proposed and alternative actions could also impact vehicular combustion emissions and fugitive PM emissions from paved and unpaved roads if vehicular travel and idle patterns are changed as a result of the new fuel facility layout and location.

Regional Air Pollutant Emissions Summary
As indicated above, Las Animas County is designated as being in attainment for all of the NAAQS. It is not expected that the county will be classified as nonattainment in the near future.

3.3.2 Environmental Consequences

3.3.2.1 No Action

Absent additional fuel leaks, there would be very little change to air quality under the No Action alternative. As the ASTs degrade, increased VOC and HAP emissions could result due to increased fuel vapor evaporation. These changes would be slow to occur and difficult to quantify ahead of time.

3.3.2.2 Proposed Action

The potential for impacts to air quality resulting from the Proposed Action would consist of 1) fugitive dust and combustion emissions from mobile and stationary equipment generated as a result of the development at the proposed fuel facility location; 2) emissions of VOC and HAP, in the form of fuel vapors, from the ASTs being installed, 3) VOC and HAP emissions from the remediation of leaked and spilled fuels and 4) fugitive dust PM emissions and tailpipe combustion emissions from vehicular traffic to the dispensing areas during normal operation. The impacts are described in more detail below.

1) Construction Activity. The demolition of the current fuel facility, the preparation and disturbance of the land, and the construction/installation of the new facility result in air emissions. The emissions are generally from two separate and distinct sources. Fugitive PM emissions are generated from the soil itself as it is moved and/or disturbed and from the roadways over which construction equipment travel. There are also combustion emissions from the mobile and stationary engines used to move vehicles or power equipment. Both types of emissions would not be generated if no new facility were constructed. The quantity and extent of these emissions are expected to be relatively minor, and will be temporary in duration. The proposed location is located just over one mile from US Highway 350. Due to suppression techniques (detailed further below), dust generated from construction traffic and land

disturbance activities is unlikely to significantly increase the airborne PM concentration on public roadways or lands outside of the PCMS. Likewise, dust generated during development activities would be unlikely to travel the one mile distance from the disturbed area to the highway and hamper visibility of drivers. Combustion emissions from mobile and portable-stationary engines located onsite are also expected to be minor and short in duration. Any portable-stationary engines that are located onsite for more than 12 months are regulated by the Colorado Department of Public Health and Environment, and would need to obtain the proper permits.

2) AST Emissions. VOC and HAP emissions from ASTs are emitted via two mechanisms, working losses that are released while fuels are filled into or removed from a tank, and breathing losses that occur due to atmospheric temperature or pressure changes that affect the vapors in the tank. VOC is a precursor for ground-level ozone. However, the relatively low VOC emissions from the proposed fuel facility should have a negligible impact on the ambient ozone in Las Animas county. The two primary determinants for VOC and HAP emissions from tanks are the type and quantity of fuel being stored or transferred. For the purposes of this analysis, both the type and quantity of fuels stored and dispensed at the new fuels facility will be assumed to be the same as for the current facility. Because the new ASTs are expected to be of higher quality and newer technology than the existing tanks, actual VOC and HAP emissions from fuel operations could be less but would be negligible.

   Colorado Air Quality Control Commission (AQCC) Regulation No. 3 exempts “gasoline stations” located in NAAQS attainment areas from construction permit requirements. However, an Air Pollutant Emission Notice (APEN) may be required if emissions exceed the reporting thresholds. Dispensing operations for gasoline and E85 are subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) Subpart CCCCCC, which is codified in 40 CFR 63. This rule has recordkeeping, tank design and other requirements, especially for facilities that dispense more than 10,000 gallons per month. This rule should be consulted prior to AST construction.

3) Remediation Activities. . The use of above-ground storage tanks is expected to decrease the likelihood and scope of potential contamination from leaks. Spills may result from human error or failure of the equipment receiving fuel, and those variables will not change as a result of this action. To the extent that the POL facility equipment might contribute to the cause of a leak, updated control technology is expected to reduce that risk. VOC and HAP emissions from remediation activities are highly dependent on the methods employed. Complete removal from the site of contaminated soils produce relatively few on-site emissions as the bulk of the leaked fuel is evaporated or otherwise removed at another location outside of the PCMS. Alternatively, the leaked fuel can be remediated on site. A common on-site remediation activity includes the extraction and either collection or destruction of fuel vapors from the soil via a Soil Vapor Extractor (SVE) unit. Destruction is normally performed via combustion. SVE units generate increased combustion emissions of PM, CO, NO_X, and SO_2 over baseline conditions, but there are reduced long-term

emissions of VOC and HAP than what would be expected from evaporation or non-destructive on-site remediation.

4) Operation Emissions. The location and layout of the proposed fueling station can have impacts on the distances traveled and idle times of vehicles receiving fuel, The proposed location is located nearer to the airfield, and may reduce tactical vehicle and fuel transport vehicle travel distances during operations. However, comprehensive impact on vehicle travel patterns is currently unknown, and would require further study to determine. Total expected emissions changes from these factors are expected to be relatively minor or negligible.

Judging from the factors reviewed and analyzed, relatively minor changes to current emission levels, and little to no impact to existing air quality at PCMS from the activities described in the previous paragraph are expected to occur. A summary of the expected changes is a follows:

1) There will be a temporary increase in emissions from construction activities. Mitigation procedures will be applied to reduce impacts. Public impact is expected to be minimal.
2) There will be very little change in VOC and HAP emissions from the new tanks, assuming fuel throughput remains unchanged. Any changes are likely to be relatively slight.
3) Remediation activities will reduce VOC and HAP emissions while slightly increasing the emissions of other combustion pollutants. The total change in emissions could be a minor positive.
4) The new location and layout of the facility could have impacts on operational vehicular emissions due to distances traveled and idling wait times. Further traffic studies would need to be performed to determine the total impacts on emissions.

Based on the available information, no significant impact would be generated from the construction, maintenance, and/or operation of the proposed fuel facility.

3.3.2.3 Alternative 1

The Alternative 1 proposal would involve nearly the same level of disturbance during construction, and would have the same level of operational emissions as the proposed action. The alternative site is slightly closer to Highway 350 and the PCMS boundary, which could result in very marginal increases in air pollutant concentrations on public lands and roadways there. However, the increase would be negligible, and no noticeable increase in health or environmental effects would be expected. The alternative proposed location is further from the airfield, and might slightly increase operational vehicle travel distances, slightly increasing emissions. Overall difference in emissions between the two sites is very small, and should not be a major factor in the determination of the facility location.

3.3.2.4 Alternative 2

This alternative would involve less ground disturbance during construction due to the proximity of the existing utilities, but would have the same level of operational emissions

as the proposed action. The alternative site is slightly closer to Highway 350 and the PCMS boundary than the proposed action, which could result in very marginal increases in air pollutant concentrations on public lands and roadways there. However, the increase would be negligible, and no noticeable increase in health or environmental effects would be expected. The alternative proposed location is further from the airfield, and might slightly increase operational vehicle travel distances, slightly increasing emissions. Overall difference in emissions between the other two sites is very small, and should not be a major factor in the determination of the facility location.

Cumulative Effects
As indicated above, the majority of the emissions impact would be the temporary increase in emissions due to the construction activities associated with the removal of the old fuel facility and the installation of the new one. Due to the transitory nature of air pollution, the short-term increase in construction emissions will have no cumulative or long-term impacts on the air quality of the PCMS or Las Animas County. Annual emissions from the operation of the new fuel are expected to be nearly the same as those from the existing facility, with likely small reductions in VOC and HAP emissions, with potential small increases in other combustion emissions.

Mitigation Measures
To minimize dust and particulates during development, dust control measures, such as spraying water from trucks or applying dust suppressants (e.g. magnesium chloride) to the roadways and disturbed areas could be performed both during construction and afterwards during normal operations. Additionally, the design of the fuel tanks can help mitigate VOC and HAP emissions during loading and dispensing. Utilizing submerged/bottom filling as well as Stage I vapor controls will greatly reduce the working vapor losses from the tanks. The use of above-ground storage tanks is expected to decrease the likelihood and scope of potential contamination from leaks.

3.4 Geology and Topography

3.4.1 Existing Conditions

PCMS is located within the Raton Basin, which has developed along the eastern margin of the Rocky Mountain foreland because of compression associated with the Laramide Orogeny. More detail on geological characteristics of PCMS are described in the 2011 *CAB Stationing PEIS*. PCMS is located within the low risk Seismic Zone 1; where earthquake potential is on a scale of zero to four (Fort Carson, 2007c). The proposed location for the Proposed Action is in the northwest corner of PCMS, known as the cantonment area (built environment). This area is on relatively flat topography.

3.4.2 Environmental Consequences

3.4.2.1 No Action

There would be no change to geology or topography at Fort Carson under the No Action Alternative.

3.4.2.2 Proposed Action

The proposed site is a geologically stable area and relatively flat topography, which is suitable for construction. The Proposed Action would have negligible impacts to geology and topography during construction and/or operational activity.

3.4.2.3 Alternative 1

The proposed site is a geologically stable area and relatively flat topography, which is suitable for construction. Under this alternative there would be negligible impacts to geology and topography during construction and/or operational activity.

3.4.2.4 Alternative 2

The proposed site under Alternative 2 is a geologically stable area and relatively flat topography, which is suitable for construction. Under this alternative there would be negligible impacts to geology and topography during construction and/or operational activity.

Cumulative Effects

There would be no cumulative effect on geology or topography from the combined environmental effects of past, present and reasonable foreseeable future actions.

Mitigation Measures

None identified.

3.5 Soils

3.5.1 Existing Conditions

There is only one soil type potentially impacted by the Proposed Action and the Alternatives. The soil composition and soil description was collected from the U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (USDA, 2013). The soil type that would be potentially affected is Wilid silt loam. Wilid silt loam is a well drained soil, has a 0 to 3 percent slope and depth to restrictive feature is more than 80 inches. The typical profile is 0 to 6 inches silt loam, 6 to 10 inches silty clay loam, 10 to 30 inches silty clay loam, 30 to 44 inches silty clay loam, and 44 to 79 inches of silt loam. Available water capacity is high (about 10.2 inches).

3.5.2 Environmental Consequences

3.5.2.1 No Action

There would be no significant impact to soils under the No Action Alternative. However, the existing facility is in need of repair. The underground tanks have leaked for years, continue to leak very small quantities of fuel, and thus have required the expenditure of significant amounts of tax dollars, in addition to the original cost of the lost fuels. Prior leaks have degraded the site to the point that it requires constant monitoring. The monitoring is done by contracts, which are becoming more difficult to award and administer and are paid from funds that could be better spent elsewhere.

3.5.2.2 Proposed Action

The Proposed Action would be constructed on already heavily disturbed soils in the cantonment area. Areas disturbed by construction could experience soil losses by water

and wind erosion, unless such disturbance is mitigated. Building a new fuel facility, with above-ground tanks and a berm sufficient to contain 100% of the contents of the tanks, would provide the ability to quickly detect any future leaks and to take appropriate actions to repair them, reducing the potential environmental risks associated with operating a fuel facility. The proposed site would be surveyed for invasive plants prior to construction. If invasive plants were in the construction area, they would be eradicated prior to construction. Topsoil would be lifted and stockpiled, to be used in reclamation of both new and old sites. Reclamation of the existing fuel site under the Proposed Action would have a minor beneficial effect on soils as the contaminated soil from prior leaks would be removed.

3.5.2.3 Alternative 1

The potential for minor beneficial and negative impacts to soils would be the same as the Proposed Action.

3.5.2.4 Alternative 2

The potential for minor beneficial and negative impacts to soils would be the same as the Proposed Action, with the exception that soil disturbance would be slightly less due to the proximity of the existing utilities, requiring less trenching.

Cumulative Effects

Army activity on PCMS has resulted in a relatively permanent changed soil structure where construction has occurred especially within the cantonment area. The Proposed Action continues this process on those areas where buildings and other facilities would be located. This cumulative effect would not be significant. Operation of the facilities would not have any cumulative effects on soils as this facility will replace the existing fuel facility. The Proposed Action and the Alternatives would have a beneficial effect on soils in that the existing facility which is in need of repair would be removed and the contaminated soil can be further remediated.

Mitigation Measures

Best management practices to control erosion, such as the use of silt fencing/tarping soil stock piles, would be used to ensure soils do not erode from sites disturbed by project construction. If contamination on construction sites is discovered during preconstruction or construction, appropriate soil remediation would be implemented. The proposed new site should be surveyed for invasive plants, and any such invasives eradicated, prior to construction. Any excess soil from the new site should be stockpiled (tarp-covered) or used to help backfill the existing fuel site, once remediation has been accomplished. Any contaminated soils from the existing fuel site must be handled IAW established procedures for disposal of hazardous waste. Revegetation of any stockpiles or of disturbed surfaces should be done using certified weed-free seed. Any grubbed topsoil should be saved for future use. Due to its fine texture, any stockpiled soils would be tarped with tarps weighted down to provide protection from wind and water erosion. Stockpile location would require coordination with DPW Operations and PCMS Environmental Subject-Matter Experts (SMEs). Shaping the stockpile appropriately and

planting perennial grass cover is recommended. Grass seed would be certified to be weed-free.

3.6 Water Resources

Water resources include surface water and watersheds, stormwater, groundwater, and floodplains. Additional information regarding water resources on Fort Carson is in the INRMP (Fort Carson 2007) and the 2012 PCMS Stormwater Management Plan (SWMP, Fort Carson 2012).

3.6.1 Existing Conditions

Surface Water and Watersheds

The majority of PCMS is located within the Purgatoire River watershed, which is a part of the larger Arkansas River basin. The Purgatoire River is on the state of Colorado's 303d-list for Selenium (Se). Selenium occurs naturally from the soils in this area. The cantonment area is in the Simpson and Timpas watersheds. No creeks or major drainages are present in the cantonment area. The quality of surface water at PCMS has not changed considerably in the recent past and is not a source of domestic water supply.

Stormwater

The existing stormwater infrastructure at PCMS in the cantonment area uses overland flow and low impact development features within the landscape. See the PCMS SWMP for more information (included in Appendix B).

Ground Water

The primary source of groundwater is the Dakota-Purgatoire aquifer. Recharge on PCMS occurs through precipitation and subsurface inflow from nearby aquifers. Water quality testing of groundwater determined that some of the groundwater beneath PCMS contains concentrations of dissolved solids, sulfate, iron, manganese, fluoride, and radionuclide constituents that exceed domestic or public-use water quality standards. Additionally, there are 95 wells at PCMS, with 21 wells currently functional and used for watering wildlife aboard PCMS. Additionally, see the utilities section of this EA on potable water use. At the new site, the use of above-ground storage tanks is expected to decrease the likelihood and scope of potential contamination from leaks

Floodplains

Floodplains have not been mapped on PCMS. There are flood prone areas along the drainages in the training areas, but the cantonment area is not subject to flooding because the associated watershed drains to the Simpson Lake, which has adequate storage for flood events.

3.6.2 Environmental Consequences

3.6.2.1 No Action

There would be no change to water resources under the No Action Alternative, however the existing facility is in need of repair and could potentially cause degradation of groundwater due to limited remediation of existing fuel product and continued leaking of product into the ground.

3.6.2.2 Proposed Action

Surface Water and Watersheds

The potential for erosion increases with the construction required to execute the Proposed Action. However, this risk can be mitigated by complying with the USEPA Construction General Permit. For the Proposed Action, a Notice of Intent (NOI) would be submitted to be covered under USEPAs Construction General Permit (CGP). A Stormwater Pollution Prevention Plan (SWPPP) would also be required. Irrigation and maintenance including weed mowing may be required until area is re-vegetated. Stabilization would include perennial grasses, certified weed-free and suitable for the PCMS environment. Annual weeds would not be accepted as stabilization. All items in the CGP must be fulfilled before termination of a Construction General Permit coverage (filing the Notice of Termination) can be filed.

The final post-development footprint of new surfaces (sidewalks, buildings, parking, non-vegetated landscaping, etc.) would exceed 5000 SF in the Proposed Action. Therefore it would be required to implement Post-Development stormwater controls that return the developed area to pre-development hydrology. This is a requirement of Section 438 of the Energy Independence and Security Act (EISA). In accordance with Department of Defense (DoD) memo, “DoD Policy on Implementing Section 438 of the Energy Independence and Security Act (EISA)” dated January 10, 2010, the difference in discharge between the pre-construction and the proposed impacted condition would be the minimal target amount that would be required to be mitigated through permanent BMP design.

Stormwater

Implementation of the Proposed Action has the potential for some minor negative impacts, however Fort Carson is required to comply with Section 438 of the Energy Independence and Security Act (EISA), therefore the existing bioswales and biodetention areas would be improved to meet the EISA Section 438 requirement.

Groundwater

The proposed construction activities would create additional areas of impervious surface; however by constructing above-ground fuel storage tanks with appropriate secondary containment, groundwater would not be impacted. There would be potential improvement of groundwater near the existing POL site, as UST leakage would cease and remediation would occur.

Floodplains

The Proposed Action would occur within the cantonment area and would not impact any floodplains.

3.6.2.3 Alternative 1
Under this Alternative, impacts would be the same as described under the Proposed Action.

3.6.2.4 Alternative 2
Under this Alternative, impacts would be the same as described under the Proposed Action

Cumulative Effects
The threshold of significance for impacts to water resources would be if the Proposed Action or the Alternatives would cause a violation of state water quality criteria, a violation of NPDES discharge permits or potential degradation of an aquifer. The surface water and watershed impacts are required to be 100 percent mitigated. Therefore, no cumulative effects are expected. The Proposed Action or the Alternatives would improve groundwater quality near the existing POL site as the site would be further remediated.

Mitigation Measures
Use Low Impact Development (LID) BMPs. The stormwater infrastructure would require minor upgrades. A Stormwater Pollution Prevention Plan (SWPPP) would be structured and implemented based on final engineering design requirements, which would incorporate factors such as soil type, slope, typical storm duration and intensity, as well as the type and material of the conveyance method. These design requirements will need to comply with Section 438 of the Energy Independence and Security Act (EISA). In accordance with DoD memo, "DoD Policy on Implementing Section 438 of the Energy Independence and Security Act (EISA)" dated January 10, 2010, the difference in discharge between the pre-construction and the proposed impacted condition will be the minimal target amount that will be required to be mitigated through permanent BMP design. The capacity and infiltration rates of the existing bioswales and biodetention areas will be measured and may require improvement based on testing and engineering analysis. They would be improved as necessary in accordance with engineering design factors and best management practices to meet the EISA Section 438 requirement.

3.7 Biological Resources
Additional information regarding flora and fauna on Fort Carson is in the INRMP (Fort Carson 2013). Unless stated otherwise, below information is from that source.

3.7.1 Existing Conditions
Vegetation and Wildlife, including Threatened and Endangered Species
PCMS is located within the Central Shortgrass Prairie Ecoregion and is within upper regions of the Prairie Grasslands Plant Zone. PCMS consists of approximately 41 percent grasslands, 33 percent shrublands, 17 percent forest and woodlands, and 9 percent other (Fort Carson, 2007). Approximately 25 percent of the cantonment area is mowed native grasses and landscaping plants and trees. No plant species appear on the USFWS list of Federally-listed endangered, threatened, and candidate species for Las Animas or Otero counties (USFWS, 2010).

The African rue (*Peganum harmala*), a noxious weed that is a List A species, has been eradicated from PCMS and monitoring continues per the Installation's African rue eradication plan, a plan coordinated with the Colorado Department of Agriculture (Fort Carson, 2007c). No other "A" Listed species are known to occur on PCMS. Besides African rue, as reported in the 2011 *CAB Stationing Programmatic EIS (PEIS)*, Russian knapweed and Canada thistle are the weed species of most concern at PCMS. Control efforts for the Russian knapweed have been concentrated on mechanical, such as burning to reduce old biomass, and then applying chemical methods to new growth. In the summer of 2012, a biological control program for Russian knapweed was begun. Canada thistle and Tamarisk are managed using integrated methods. Spotted knapweed has been found at the western end of the railhead, near Highway 350. It is being aggressively treated with chemicals. There are no known populations of Colorado State listed invasive plants in the area of the Proposed Action. Integrated Pest Management, as mandated by DoD, is practiced at PCMS by the Installation.

The status of wildlife species on PCMS also remains consistent with that reported in the 2011 *CAB Stationing PEIS*. The mountain plover, proposed to be listed as a threatened species, occurs on Fort Carson and PCMS during the breeding and migratory seasons. It is rare on both Installations, nesting at only a few sites. Further information on PCMS wildlife, to include the Triploid checkered whiptail (*Cnemidophorus neotesselatus*), designated as a Species at Risk by the Army, and Colorado State species of concern, such as the peregrine falcon, is available from the Installation's Integrated Natural Resources Management Plan (INRMP) and the 2009 *Fort Carson Grow the Army EIS* (Fort Carson, 2007; Fort Carson, 2009).

Waters of the U.S. and Wetlands
PCMS has no Waters of the U.S. or wetland areas in the cantonment area. Most wetlands on the PCMS are associated with side canyons and streams that are tributaries to the Purgatoire River and Timpas Creek and water developments.

3.7.2 Environmental Consequences
3.7.2.1 No Action
There would be no change to biological resources as construction and operational activity would not be implemented under the No Action Alternative.

3.7.2.2 Proposed Action
Vegetation and Wildlife, including Threatened and Endangered Species
There would be short-term temporary negative impacts to vegetation during construction, demolition, and soil remediation under the Proposed Action. However, impacts would be minor as most of this area has been previously disturbed due to every day operations. There is a slight potential to impact nearby trees, however the removal or disturbance of any of these trees is not anticipated to occur and efforts would be made to avoid them. There would be no significant impacts to wildlife from implementing the Proposed Action.

Waters of the U.S. and Wetlands

There are no Waters of the U.S. or wetlands affected under neither the Proposed Action nor its Alternatives.

3.7.2.3 Alternative 1

Vegetation and Wildlife, including Threatened and Endangered Species

Impacts would be similar as described in the Proposed Action with the exception that there would be no potential to impact trees. There are no trees within close proximity of the Alternative 1 site.

3.7.2.4 Alternative 2

Vegetation and Wildlife, including Threatened and Endangered Species

Impacts would be similar as described in the Proposed Action with the exception that there would be no potential to impact trees and disturbance to vegetation would be slightly reduced due to the proximity of the utilities. There are no trees within close proximity of the Alternative 2 site.

Cumulative Effects

Vegetation, wildlife, and wetland resources effects from past and current Army actions, when added to the anticipated environmental effects of the Proposed Action, would not result in any significant effect to these resources. Army occupation of PCMS has resulted in altered vegetation where construction and associated development has occurred (*e.g*., cantonment area, combat landing strip, improved roads). The Proposed Action continues this process on those areas where buildings would be located. This cumulative effect would not be significant.

Mitigation Measures

Impact to vegetation under the Proposed Action would be limited to areas of construction and any damage would be re-vegetated with native vegetation.

If any tree damage, disturbance, or removal is unavoidable, the trees would be replaced at a four to one ratio (four new trees planted for every one that is damaged or removed). Tree removal would not be allowed if any active nests are present. Any new trees would be on a drip irrigation system. Noxious weeds resulting from construction of this facility would be treated immediately according to Best Management Practices.

3.8 Utilities

3.8.1 Existing Conditions

Potable Water

PCMS purchases treated potable water from the City of Trinidad for use in the cantonment area as well as for Soldier use in training areas, fire fighting and some stock tanks used by wildlife.

Waste Water

The PCMS cantonment area uses evaporative, non-discharging treatment/oxidation ponds, constructed in 1985 for sanitary wastewater treatment. The PCMS fuel point drains to a central collection pipe, connected by underground pipe to a dedicated pond equipped with a Rope-Mop Oil Skimmer using an oleophilic rope mop to collect oil/fuel

from surface water which acts as a means to capture any accidental fuel spills that might occur on the current fuel facility's operational area. The treatment facility is located in the southwestern corner of the PCMS cantonment area. The treatment/oxidation ponds are currently operating at levels below their capacity (Fort Carson, 2010a).

The treatment facility was originally designed for continuous use by a brigade sized unit. The number of personnel at the PCMS cantonment area varies over time from fewer than 10 to several thousand. The oxidation ponds were upgraded in the summer of 2006 and subdivided into smaller ponds to more readily accommodate the fluctuation in flows. The modified system was designed for an average daily flow capacity of 10,052 gallons per day (38,051 liters per day [Lpd]). The wastewater ponds do not have a discharge permit because the ponds are designed to be non-discharging. Sanitary wastewater from the PCMS cantonment is conveyed via approximately 7,000 feet (2,134 m) of 8-inch-diameter and 12-inch-diameter (20 and 30-cm-diameter) mains. The location of this conveyance system is generally known. Not all facilities within the PCMS cantonment area direct their sanitary wastewater to the treatment ponds. The guard trailer and the chlorination building discharge to leach fields. Portable toilets are used in the training areas when septic systems are not available (such as during training activities in the training areas). With the recent upgrade of the treatment/oxidation ponds, the existing wastewater system now has the capacity to accommodate very low flows during non-training periods and high flows during training events.

Stormwater Capacity

The existing stormwater infrastructure at PCMS in the area of the Proposed Action and Alternatives uses overland flow and low impact development features within the landscape.

Solid Waste

Solid waste pickup at PCMS is handled by an outside contractor, and the waste is transported to appropriately permitted disposal facilities in Trinidad. Refuse and construction-related solid waste are managed by the DPW. Solid waste generated in the training areas is collected and returned to the cantonment area for disposal and transport to appropriately permitted facilities. Recycling is currently being accomplished on PCMS with dedicated containers available for aluminum cans/plastics/cardboard recycling.

3.8.2 Environmental Consequences

3.8.2.1 No Action

Under the No Action Alternative, there would be no change to utilities at PCMS, as construction and operation activities of a COCO Fuel Facility would not be implemented. There would be no additional solid waste generated.

3.8.2.2 Proposed Action

Potable Water

The Proposed Action would require potable water which is accessible approximately 2200 feet west. Minimal environmental impact would be expected during pipeline installation

but this would be short-term. There would be no environmental impact anticipated after construction is complete.

Waste Water
The Proposed Action would require sanitary sewer services for the restrooms. The nearest existing sanitary sewer line is approximately 2200 feet west and could be utilized with minimal environmental impact during sewer line construction. There would be no environmental impact anticipated after construction is complete. A septic tank and leach field is an alternative option for wastewater that could be installed with minimal environmental impact.

Stormwater Capacity
There would be no change to existing stormwater infrastructure at PCMS under the Proposed Action as overland flow and low impact development features within the landscape would be used.

Solid Waste
There would be a slight increase in solid waste during construction and the removal of the old fuel tanks would be handled as solid waste and hauled to a designated, permitted landfill.

3.8.2.3 Alternative 1
Potable Water
Alternative 1 would require potable water which is accessible approximately 950 feet west northwest. Minimal environmental impact would be expected during pipeline installation but this would be short-term. There would be no environmental impact anticipated after construction is complete.

Waste Water
Alternative 1 would require sanitary sewer services for the restrooms. The nearest existing sanitary sewer line is approximately 940 feet west northwest and could be utilized with minimal environmental impact during sewer line construction. There would be no environmental impact anticipated after construction is complete. A septic tank and leach field is an alternative option for wastewater that could be installed with minimal environmental impact.

Stormwater Capacity
There would be no change to existing stormwater infrastructure at PCMS under Alternative 1 as overland flow and low impact development features within the landscape would be used.

Solid Waste
Impacts would be the same as described under the Proposed Action.

3.8.2.4 Alternative 2
Potable Water

Alternative 2 would require potable water which is accessible approximately 700 feet west. Minimal environmental impact would be expected during pipeline installation but this would be short-term. There would be no environmental impact anticipated after construction is complete.

Waste Water
Alternative 2 would require sanitary sewer services for the restrooms. The nearest existing sanitary sewer line is approximately 750 feet west and could be utilized with minimal environmental impact during sewer line construction. There would be no environmental impact anticipated after construction is complete. A septic tank and leach field is an alternative option for wastewater that could be installed with minimal environmental impact.

Stormwater Capacity
There would be no change to existing stormwater infrastructure at PCMS under Alternative 2 as overland flow and low impact development features within the landscape would be used.

Solid Waste
Impacts would be the same as described under the Proposed Action.

Cumulative Effects
There would be no cumulative effects for solid waste, potable water, wastewater or storm water for the Proposed Action or Alternatives as the overall use and impact of potable water or wastewater would not change and storm water infrastructure would remain basically the same with a small change in imperviousness location from that in the current POL to either of the new sites.

Mitigation Measures
Nonhazardous waste would be handled as solid waste or non-regulated waste. Compliance with the existing RCRA, POL, and Spill plan requirements would be required.

3.9 Transportation

3.9.1 Existing Conditions

The 2006 Piñon Canyon Maneuver Site Traffic Study (Fort Carson, 2006a) evaluated the potential traffic impacts of convoy operations between Fort Carson and PCMS, as well as traffic impacts on PCMS.convoy traffic between Fort Carson and PCMS is executed per Fort Carson Regulation 56-7, Road Clearance and Convoy Operations, which requires convoys be staggered into groups of no more than 24 vehicles each, spaced at least 15 minutes apart. Convoy movements to and from PCMS are scheduled around peak traffic periods in metropolitan Pueblo to further reduce traffic impacts.

3.9.2 Environmental Consequences

3.9.2.1 No Action

There would be no change in existing traffic conditions under the No Action alternative.

3.9.2.2 Proposed Action
There would be no significant traffic impacts or concerns from implementing the Proposed Action (on or off the maneuver site). On PCMS, the proposed site is well situated to take advantage of existing roads and traffic patterns.

3.9.2.3 Alternative 1
The Alternative 1 site would have no significant traffic impacts off the maneuver site. However, Alternative 1 could present a potential traffic conflict during rail load operations on PCMS. The site is situated on the southern edge of the unpaved railhead staging area. Access to/from the fuel facility would be off of the railhead. During rail load operations, vehicles waiting to be loaded are staged in long closely spaced lanes often completely filling the railhead area. During these times, the fuel facility would potentially be inaccessible from the railhead for days at a time.

3.9.2.4 Alternative 2
The Alternative 2 site would have no significant traffic impacts off the maneuver site. There is an east/west roadway separating the rail yard marshalling area from Alternative 2 site, which would allow vehicles to access the site from the south, even if vehicles are in the marshalling area.

Cumulative Effects
There would be no cumulative effects anticipated with the Proposed Action or the Alternatives.

Mitigation Measures
Construct the entrance for the fuel facility for Alternative 2 along the north/south road adjacent to the site on the west. The entrance should be located 200 feet north of the east/west road. This would minimize traffic conflicts and allow for vehicles to queue, if necessary, while waiting to be refueled.

3.10 Hazardous Waste/Materials
3.10.1 Existing Conditions
Hazardous and toxic materials used at PCMS include gasoline, batteries, paint, diesel fuel, oil and lubricants, JP-8 jet fuel, explosives, pyrotechnic devices used in military training operations, pesticides, as well as toxic or hazardous chemicals used in industrial operations such as painting, repair, and maintenance of vehicle and aircraft.

The Installation has a comprehensive program to address the management of hazardous materials, hazardous waste, and toxic substances at the PCMS. This includes the proper handling, accumulation, storage, and off-site disposal of hazardous waste, and (if necessary) toxic substances as well as appropriate procurement, use, and storage of hazardous and toxic materials. Several plans are in place to assist with the management of hazardous materials and waste including a Pollution Prevention (P2) Plan, Polychlorinated Biphenyl (PCB) Management Plan, Integrated Pest Management Plan, Hazardous Waste Management Plan (HWMP), Lead-Based Paint and Asbestos

Management Plan, and the Spill Prevention, Control, and Countermeasure Plan (SPCCP).

3.10.2 Environmental Consequences

3.10.2.1 No Action

Under the No Action Alternative, there would be no change in the current operations at PCMS. However, per current OPS regulations, Fort Carson is required to remediate any product over 100th of a foot, therefore the No Action Alternative is not feasible and is only used as a baseline for this analysis.

3.10.2.2 Proposed Action

The potential for hazardous materials or wastes to be generated as a result of the Proposed Action consists of the release of POL liquids from the ASTs and/or piping systems. Any releases of POLs would be addressed in accordance with Fort Carson's SPCCP which provides the protocols to be followed for soil cleanup actions and proper disposal (Fort Carson, 2009). All materials that absorb POLs would be treated as hazardous wastes unless the POLs can be drained or wrung from the material. In this case, the POLs would be collected for recycling and the remaining material disposed of as hazardous waste.

Hazardous materials and wastes, generally in the form of POLs, if generated, would be recovered immediately, transported, stored, and disposed of in accordance with Fort Carson regulations in compliance with RCRA Part A and B permit requirements. Nonhazardous waste would be handled as solid waste or non-regulated waste. Compliance with the existing RCRA, POL, and Spill plan requirements would be required.

3.10.2.3 Alternative 1

The potential impact for hazardous materials or wastes to be generated under Alternative 1 would be the same as described under the Proposed Action.

3.10.2.4 Alternative 2

The potential impact for hazardous materials or wastes to be generated under Alternative 2 would be the same as described under the Proposed Action.

Cumulative Effects

There would be no cumulative effects anticipated with the Proposed Action and/or the Alternatives. The No Action could present some negative impacts from existing leaks and age/deterioration of the facility.

Mitigation Measures

Continue to implement all applicable hazardous waste management plans and training to address leaks or spills of hazardous materials/waste.

3.11 Cultural Resources

3.11.1 Existing Conditions

Cultural resources management on the PCMS encompasses conservation of resources of significance to the history or prehistory of the United States or of traditional, religious or

cultural importance to Native Americans. These resources consist of the material manifestations of the knowledge, beliefs, art, morals, laws, and customs particular to a people or society. Fort Carson manages cultural resources associated with all major prehistoric and historic cultural periods recognized on the southern Great Plains and Rocky Mountains.

Archaeological and historical studies have been conducted on the land encompassed by the PCMS since the 1980s. Prehistoric, historic, and multi-component sites occur throughout the installation, many of which have been determined to meet the criteria of eligibility for inclusion in the National Register of Historic Places (NRHP). Approximately 214,967 acres of the PCMS have been inventoried for historic properties, with approximately 21,401 acres remaining to be surveyed. As of September 2013, 4,193 archaeological sites (excluding isolated finds) have been identified. Currently, Fort Carson considers 788 of these sites to be eligible for inclusion in the NRHP, with an additional 203 sites requiring further evaluation for a determination of eligibility.

Archaeologists from Fort Carson's Cultural Resources Management Program (CRMP) have made site visits and reviewed all archaeological inventories conducted in and around the APEs for the proposed and alternative actions. Archaeological surveys of the APEs and surrounding areas include work performed by the University of Denver (DU) in 1983 and 1984 (Andresfsky 1990), the PCMS Cantonment Survey (Miller 2010), the Transformation Survey (Albin et al. 2011), and several smaller surveys (Cowen 2008; Owens 2013). No cultural resources that are eligible for inclusion in the National Register of Historic Places (NRHP) have been identified within or in the vicinity of the APEs.

3.11.2 Environmental Consequences

The Fort Carson Cultural Resources Manager (CRM) has determined that the proposed action constitutes an undertaking as defined in 36 CFR 800.16(y) of the National Historic Preservation Act (NHPA).

3.11.2.1 No Action Alternative

There is no potential to effect historic properties under the No Action Alternative.

3.11.2.2 Proposed Action

All project components of the Proposed Action will occur on previously disturbed landforms and past archaeological survey and evaluation projects demonstrate that there are no significant cultural resources within the APE. On 19 September 2013, the Fort Carson CRM initiated consultation in accordance with Section 106 of the National Historic Preservation Act (NHPA) with the Colorado State Historic Preservation Officer (SHPO), Native American Tribes (Tribes) who are culturally affiliated with PCMS, and consulting and interested parties. As there are no historic properties within the APE, visually or physically, the Fort Carson CRM has made a determination of "no historic properties affected" in accordance with 36 CFR 800.4(d)(1).

The Section 106 process involves consultation with the SHPO, Tribes and other parties, and requires a minimum of 45 days once the information has been submitted to all parties

by Fort Carson. To date, the SHPO concurred with the determination of "no historic properties affected" via a letter dated 25 September 2013, and the Comanche Nation concurred with the determination via an e-mail dated 20 September 2013. No construction activities shall commence until the Section 106 consultation process has been completed. All Section 106 correspondence has been included in Appendix C.

Should potential impacts to any historic properties be identified in the future due to a change in the submitted scope of work, proposed location or activities proposed beyond the scope of work, additional Section 106 consultation will be required. In the event that subsurface cultural materials are encountered during any project activity, Fort Carson's Inadvertent Discovery of Archaeological, Cultural or Paleontological Materials Standard Operating Procedure (SOP) would be implemented and additional Section 106 consultation initiated.

3.11.2.3 Alternative 1
Under this Alternative, impacts would be the same as described under the Proposed Action.

3.11.2.4 Alternative 2
Under this Alternative, impacts would be the same as described under the Proposed Action.

3.11.3 Cumulative Effects
The cumulative impact to cultural resources consists of past, present, and reasonably foreseeable future actions that affect archeological or historical resources or their viewsheds on and near the PCMS. As is true of cultural and historical resources world-wide, impacts to such places are tied to land use; i.e., a particular culture's view of the landscape it occupies and the societal functions that the land fulfills for that group. Each subsequent population or activity that occupies a landscape produces an impact to past land use practices and cultural remains. The foundation of archaeological and anthropological investigation was formed within these tenets of human progress in order to understand the past, present, and future. Landscapes with repeated use tend to contain high site densities, as human populations are drawn to natural resources, such as water, arable land, minerals, and climates hospitable for game and crops. Repeated land use also means reuse of both natural and manmade materials, such as is seen in the remnants of numerous stone structures scattered throughout Colorado.

It is anticipated that the proposed and alternative actions would not result in adverse cumulative impacts due to the historical use of the PCMS cantonment area and the continued management strategies employed by the Fort Carson CRMP. These include, but are not limited to, the ongoing identification and evaluation of archaeological resources, utilization of cultural landscape analyses, the "mitigation by design" approach used in the planning process for all Fort Carson activities, continued stakeholder and Tribal involvement, and the retention of qualified professionals who meet or exceed the Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation.

3.11.4 Site-specific Mitigation
Unless identified through the Section 106 process discussed in 3.11.2, no site-specific mitigation is required for the proposed or alternative actions.

3.12 Socioeconomics
3.12.1 Existing Conditions
PCMS currently retains 12 full-time employees on site to maintain PCMS facilities and manage training lands. PCMS does not support a resident population. The counties in the ROI are rural; ranching and agriculture support much of the local economy.

3.12.2 Environmental Consequences
3.12.2.1 No Action Alternative
There would be no change in socioeconomics under the No Action Alternative.

3.12.2.2 Proposed Action
The Proposed Action would have no measurable economic effects within the PCMS region of influence (ROI). The EA evaluates the impacts of construction and subsequent operations and the removal of the old fuel facility. This alternative would provide up-to-date fuel delivery services for aircraft and Army vehicles and retail ground fuel dispensing services for Army and other government vehicles, while reducing the potential for leaks and spills in the Cantonment Area at PCMS. These services are restricted to use for government vehicles. Based on the lack of a permanent population at PCMS, little to no impacts to the surrounding area employment, population, education, housing, health or economic activity would be realized from the proposed fuel facility actions at PCMS. The following factors evaluated for this EA generated no significant socioeconomic impacts:
- Economic gains from the fuels dispensing operations would go to the contractor.
- The ROI that has no permanent population.
- Limited public entry onto allowed areas within PCMS.

3.12.2.3 Alternative 1
Under this Alternative, impacts would be the same as described under the Proposed Action.

3.12.2.4 Alternative 2
Under this Alternative, impacts would be the same as described under the Proposed Action.

3.12.3 Cumulative Effects
There would be no cumulative effects anticipated with the Proposed Action and/or the Alternatives.

3.11.4 Site-specific Mitigation
None identified.

4.0 SUMMARY OF EFFECTS AND CONCLUSIONS

4.1 Unavoidable Adverse Effects Should the Proposed Action Be Implemented

Some adverse effects due to construction and demolition cannot be avoided if the Proposed Action is implemented. Disturbance of soils and vegetation would occur, and these effects would be cumulative and negative, however there would be a beneficial long-term effect to soils with the removal of the old leaking fuel facility and soil remediation. There would be no effects to federal-listed species. Short-term noise, air quality degradation, and increased contractor vehicular traffic would occur during demolition and construction, but would not be significant nor long-term.

The new fuel facility will only have Above-ground Storage Tanks, allowing for continued observance or discovery of any problems that may occur.

Table 4.1 summarizes potential effects for each alternative. Environmental effects would not be significant within the larger geographic and temporal context in which they would take place.

Table 4.1. Summary of Potential Environmental Consequences

Resource Area	Environmental Consequence*	
	No Action Alternative	**Proposed Action and Alternatives 1 and 2**
Air Quality	No effect	Short-term Negative effect
Geology and Topography	No effect	No effect
Soils	Negative effect	Short-term Negative effect; then beneficial
Water Resources	Negative effect	beneficial
Biological (Wildlife)	No effect	No effect
Biological (Vegetation)	No effect	Short-term Negative effect
Wetlands	No effect	No effect
Listed or Sensitive Species	No effect	No effect
Utilities	No effect	Short-term Negative effect
Transportation	No effect	Minor Negative effect

* No effect: Actions have no known demonstrated or perceptible effects
Beneficial: Actions have apparent beneficial effects
Negative: Actions have apparent negative effects

4.2 Irreversible and Irretrievable Commitments of Resources

The Proposed Action and Alternatives 1 and 2 would involve irreversible or irretrievable commitment of water resources and the consumption of various expendable materials, supplies, and equipment associated with construction.

4.3 Conclusions

The Proposed Action and Alternatives 1 and 2, to construct and operate a COCO fuel facility at PCMS, were analyzed by comparing potential environmental consequences

against existing conditions. Findings indicate that implementation of the Proposed Action or the Alternatives would result in no significant adverse environmental consequences. The environment would not be significantly or adversely affected by proceeding with the Proposed Action, Alternative 1, or Alternative 2. No significant cumulative effects would be expected.

Based on this environmental assessment, implementation of the Preferred Alternative (Alternative 2) (*i.e*., construct and operate a COCO fuel facility) would have no significant negative environmental or socioeconomic effects. Satisfaction of the Army's significant need to meet the requirements for military mission at PCMS is considered to outweigh the relatively minor environmental impacts, and every effort would be made to mitigate those impacts. The Preferred Alternative does not constitute a major federal action significantly affecting the quality of the human environment. Therefore, preparation of an environmental impact statement is not required, and preparation of a Finding of No Significant Impact is appropriate.

5.0 PERSONS CONTACTED – 4THh ID AND FORT CARSON AND OTHER ARMY PERSONNEL

Name	Installation/ Affiliation	Role
Altepeter, Lana	Fort Carson	Air Program Manager
Allen, Rebekah	Fort Carson	Installation Restoration (IRP)
Bailey, Eric	Fort Carson	Recycle Program Manager
Christensen, Dennis	Fort Carson	Master Planner
Clark, Scott	Fort Carson	Energy Program Manager
Douillard, Mona	Fort Carson	IRP Coordinator
Dunker, Eric	Fort Carson	Water Program Support Specialist
Eastin, Sarah	Fort Carson	Stormwater Program
Funk, Lonnie	COARNG	NEPA Manager
Gallegos, Joseph	Fort Carson	IRP Manager/Section Chief
Granger, Eldon	Fort Carson	AST/UST Program Manager
Gray, Danny	Fort Carson	Forester
Guthrie, Vincent	Fort Carson	Utilities Program Manager
Hennessy, William	Fort Carson	Environmental Law Specialist
Kolise, Jennifer	PCMS	Archeologist
Kulbeth, James	Fort Carson	Sec 404/Watershed Manager
Linn, Jeff	Fort Carson	Natural Resources Manager
Lopilato, Regina	COARNG	Master Planner
Martin, David	Fort Carson	Asbestos/Lead/Radon Manager
Miller, Pamela	Fort Carson	Cultural Resources Manager
Naeyaert, Jacob	Fort Carson	HazWaste/Mat Program Manager
Noonan, Harold	Fort Carson	Wasterwater Program Manager
Orphan, Rick	Fort Carson	Traffic Engineer
Peyton, Roger	Fort Carson	Wildlife Biologist

Riddle, Richard	PCMS	Wildlife Biologist
Rosenthal, Mary	Fort Carson	Real Property
Smith, Stephanie	Fort Carson	Wildlife Biologist
Thomas, Wayne	Fort Carson	NEPA/Cultural Branch Chief
Whiting, Betty	Fort Carson	Archaeologist

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7.0 ACRONYMS

Acronym	Definition
AR	Army Regulation
BAAF	Butts Army Airfield
BMP	Best Management Practice
CAB	Combat Aviation Brigade
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CSU	Colorado Springs Utilities

CWA	Clean Water Act
DPW	Directorate of Public Works
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
EPA	U.S. Environmental Protection Agency
FNSI	Finding of No Significant Impact
ft	feet
ft^2	Square feet
HQDA	Headquarters, Department of the Army
HM/HW	Hazardous Material/Hazardous Waste
HWMP	Hazardous Waste Management Plan
IAW	In accordance with
INRMP	Integrated Natural Resources Management Plan
IWTP	Industrial Wastewater Treatment plant
LEED	Leadership in Energy and Environmental Design
MS4	Municipal Separate Storm Sewer
NEPA	National Environmental Policy Act
NOA	Notice of Availability
NOI	Notice of Intent
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
PA	Programmatic Agreement
PEIS	Programmatic Environmental Impact Statement
Se	Selenium
SPCCP	Spill Prevention, Control, and Countermeasures Plan
SWMP	Stormwater Management Plan
SWPPP	Stormwater Pollution Prevention Plan
U.S.	United States
USACE	U.S. Army Corps of Engineers
USAEC	U.S. Army Environmental Command
USASMDC/ARSTRAT	US Army Space and Missile Defense Command / Army Forces Strategic Command
USDA	U.S. Department of Agriculture
WWTP	Wastewater Treatment Plant

APPENDIX A
Agency and Public Correspondence

(To be included at the conclusion of the public comment period)

APPENDIX B
PCMS Stormwater Management Plan, August 2012

STORMWATER MANAGEMENT PLAN PIÑON CANYON MANEUVER SITE 2012

Prepared by:
Fort Carson Directorate of Public Works, Environmental Division
Fort Carson, Colorado
September 2012

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LIST OF ACRONYMS and ABBREVIATIONS

BMP	Best Management Practice
CDPHE	Colorado Department of Public Health and Environment
CFR	Code of Federal Regulations
CGP	Construction General Permit
COR	Contracting Officer Representative
DoD	Department of Defense
DA	Department of the Army
DPW	Directorate of Public Works
EISA07	Energy Independence and Security Act of 2007
FTC	Fort Carson
IMCOM	Installation Management Command
LID	Low Impact Development
MCM	Minimum Control Measure
NEPA	National Environmental Policy Act
NPDES	National Pollutant Discharge Elimination System
NRCS	National Resource Conservation Service
O&M	Operations and Maintenance
PCMS	Piñon Canyon Maneuver Site
RCRA	Resource Conservation and Recovery Act
SAF	Subject to Availability of Funds
SPCC	Spill Prevention Control and Countermeasure
SWMP	Stormwater Management Plan
SWPPP	Stormwater Pollution Prevention Plan
USACE	U.S. Army Corps of Engineers
USEPA	U.S. Environmental Protection Agency
WQCC	Water Quality Control Commission

1. INTRODUCTION

The Piñon Canyon Maneuver Site does not meet the requirements for implementing a United States Environmental Protection Agency (USEPA) Phase I or Phase II National Pollutant Discharge Elimination System (NPDES) permit program because of its size, population, activities and lack of urbanized area. However, a Stormwater Management Plan for PCMS is required by the Record of Decision for Implementation of Fort Carson Grow the Army Stationing Decisions (March 2009).

This SWMP describes five minimum control measures (MCMs) that will be implemented and the measurable goals for each. The five MCMs are listed below:

- MCM-1: Education and Outreach
- MCM-2: Illicit Discharge Detection and Elimination
- MCM-3: Construction Site Stormwater Runoff Control
- MCM-4: Post-construction Stormwater Management for New Development and Redevelopment
- MCM-5: Pollution Prevention and Good Housekeeping for Municipal Operations

Owing to the reduction in DoD, DA, and IMCOM funding, execution of the MCMs will be subject to the availability of funding. It is the Army's intent to implement the MCMs with the best available technology within the limited resources authorized. In no case will implementation of MCMs be authorized as an unauthorized fiscal commitment or in violation of the Anti-deficiency Act. Conflicts between plan requirements and fiscal funding will be addressed by the installation Staff Judge Advocate and Installation Commander.

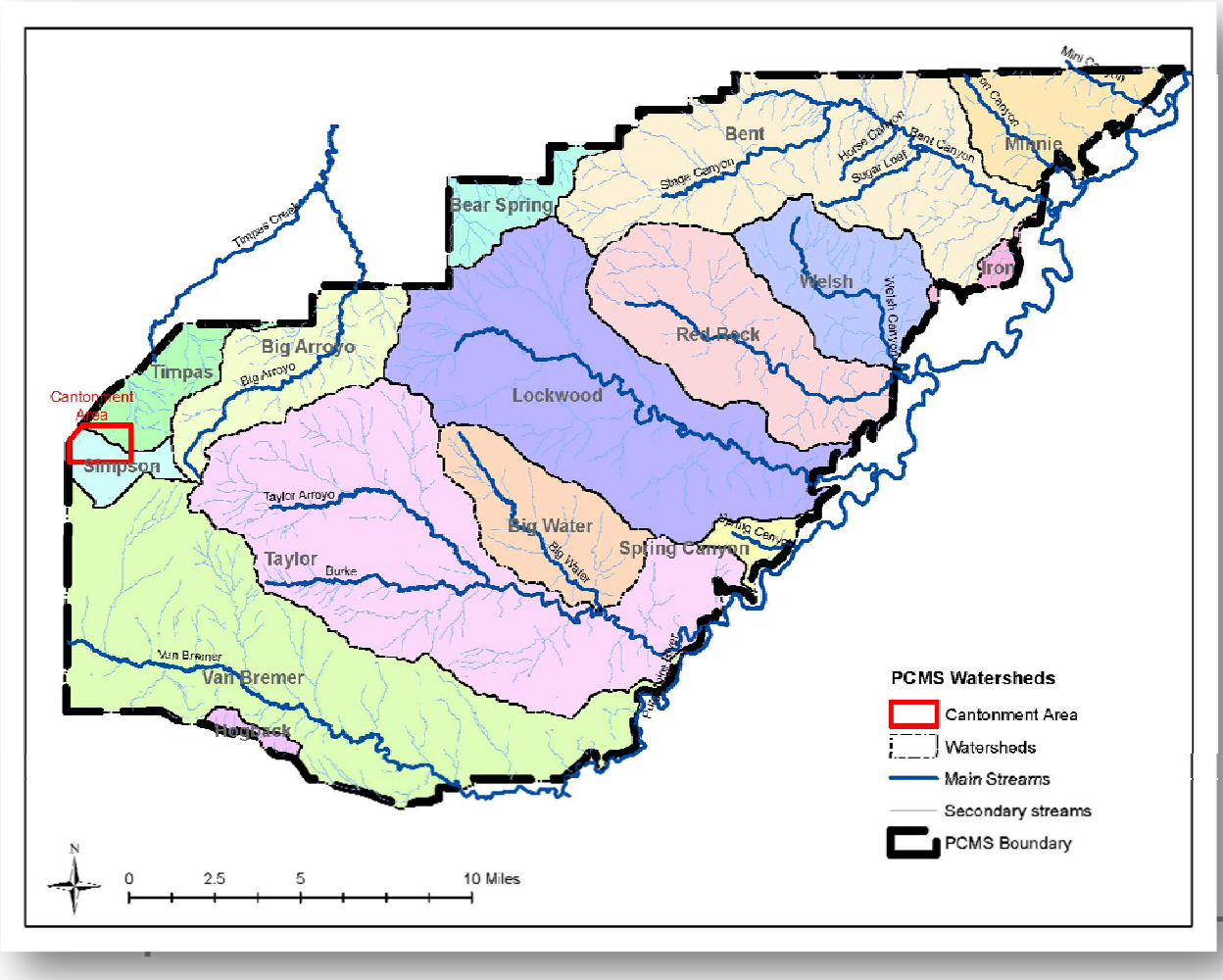
2. SITE DESCRIPTION

2.1 General

At PCMS, Fort Carson Soldiers train to fight and win in combat, which is the Army's basic mission. Training Soldiers how to maneuver across vast land areas and how to effectively employee their weapons is essential to ensure Soldiers will be ready to accomplish their wartime missions.

The PCMS is located in southeastern Colorado in Las Animas County, approximately 150 mi southeast of Fort Carson. The PCMS is bounded by U.S. Highway 350 (U.S. 350) to the west, Purgatoire River Canyon to the east, Las Animas County Road 54 to the south, and Otero County to the north. Nearby cities include Trinidad to the southwest and La Junta to the northeast. Figure 1 is a site map of PCMS.

Figure 1: Site Map of PCMS



2.2 Climate

The PCMS has a moderate, dry climate. Average monthly maximum temperatures range from 46.9 degrees Fahrenheit (°F) in January to 88.9°F in July. Average monthly minimum temperatures range from 16.7°F in January to 58.6°F in July. Average annual precipitation is about 13 inches, with the majority falling as rain in the summer months (May through August). Snowfall can occur in any month except June, July, and August and is generally highest in November, December, and March.

2.3 Terrain and Soils

PCMS is within the Raton Basin, developing along the eastern margin of the Rocky Mountain foreland because of compression associated with the Laramide Orogeny. Numerous volcanoes intrude the Raton Basin, forming lone mountain peaks. Volcanic vents, cinder cones, and lava fields typify the geology of the area. Geologic structures at PCMS are generally associated with the Apishapa Uplift, which is orientated southeast to northeast ranging from one to 36 degrees. The Black Hills (5,365 feet/1,635 meters above mean sea level (MSL), Sheep Canyon, and Muddy Creek Monoclines (strata inclined in the same direction) are major smaller structures within PCMS

Several smaller synclines and anticlines are also associated with these monoclines, including the Model Anticline in the western portion of PCMS. The Maneuver Site is distinguished by topographic features such as mesas, cuestas, dissected plateaus, deep canyons, and volcanic formations.

There are 29 soil associations recognized on the PCMS. Predominant soil associations identified are the Manzanola silty clay loam, Minnequa-Wiley silt loams, Travessilla-Rock outcrop complex and Wiley-Villegreen loams. Additional information on PCMS soil types and characteristics can be found in the INRMP and the information specific to Las Animas Country can be obtained from the NRCS soil survey data (NRCS, 2010).

A major landslide occurs every 20 to 40 years at PCMS, affecting soils with slopes that are greater than 30 percent. Landslides tend to occur at PCMS from approximately the middle of the western boundary, southwest to Dillingham Ridge.

2.4 Vegetation

Like Fort Carson, PCMS is located within the Central Shortgrass Prairie Ecoregion and is within upper regions of the Prairie Grasslands Plant Zone. PCMS consists of approximately 41 percent grasslands, 33 percent shrublands, 17 percent forest and woodlands, and 9 percent other. Approximately 25 percent of the cantonment area is mowed native grasses and landscaping plants. No plant species appear on the USFWS list of Federally-listed endangered, threatened, and candidate species for Las Animas or Otero counties. The African rue (Peganum harmala) as seen in Figure 2, continues to be the only noxious weed on PCMS that is an A List species.

Figure 2: African Rue

PCMS continues to conduct eradication activities per its African rue eradication plan, a plan coordinated with the Colorado Department of Agriculture. Besides African rue, as reported in the 2011 CAB Stationing PEIS, Russian knapweed and Canada thistle are the weed species of most concern at PCMS. No effective biological controls exist for Russian knapweed, and control efforts concentrate on mechanical and chemical methods. Canada thistle is managed by the preferred method, biological control involving several different species, and is integrated with herbicide application, burning and mowing.

PCMS has approximately 361 acres (146 ha) of wetlands, a significant reduction to the 1992 estimate of 4,776 acres (1,933 ha) resulting from the administrative removal of the Purgatoire River section from Department of Army management to USFS management. Most wetlands on the PCMS are associated with side canyons and streams that are tributaries to the Purgatoire River and water development.

2.5 Surface Water Quality

Section 303(d) from the Federal Water Pollution Control Act ("Clean Water Act") requires states to submit to the USEPA a list of the known impaired waters not meeting water quality standards.

In Colorado, this list is updated every four years by the Colorado Department of Public Health and Environment (CDPHE) Water Quality Control Commission (WQCC). Typically, if a waterway is listed under the 303(d), conditions within the watershed, either naturally occurring or induced by man, have degraded the waterway to the point where the constituents may be harmful to its inhabitants. These inhabitants may be aquatic, vegetative or terrestrial.

PCMS is located within the Purgatoire River watershed. The Purgatoire River is on Colorado's 303(d) list as a low priority for selenium. Selenium occurs naturally from the soils in this area.

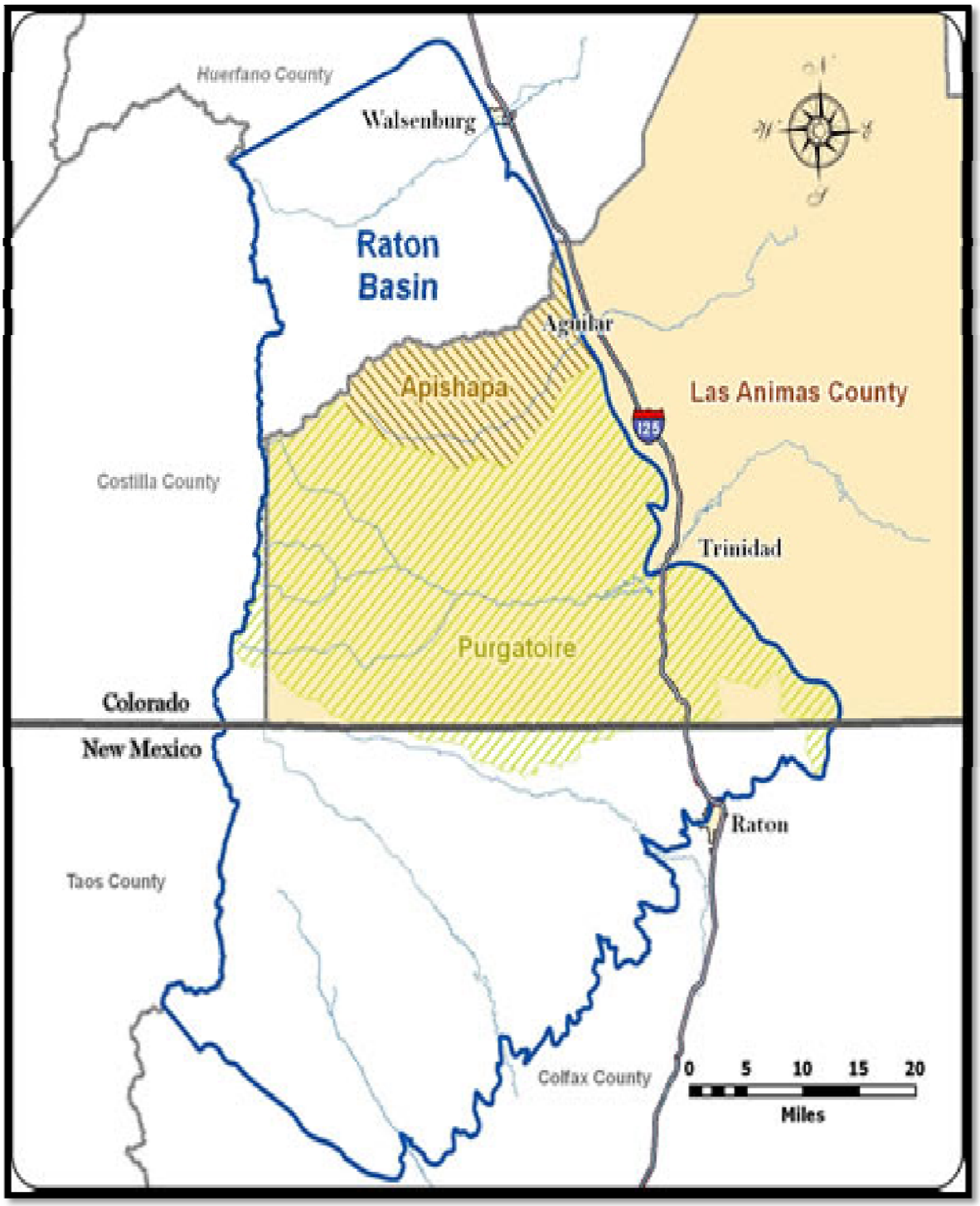
2.6 Surface Water Drainage

PCMS comprises a total land mass of 375,896 acres and is located entirely within the Arkansas River Drainage Basin. About 96 percent of PCMS drains eastward to the Purgatoire River; the remaining 4 percent drains north and east into Timpas Creek. The streams that drain PCMS are intermittent or ephemeral and occupy shallow valleys that cross the rolling plains. Near the confluence with the Purgatoire River, the tributary stream channels become entrenched in the sandstone of the canyon rim and form side canyons to the main canyon. Near the upper ends of the side canyons, the channels of some of the tributary streams intersect the water table, and the streams become perennial or intermittent downstream from that point.

Elevation of PCMS ranges from 5,905 ft at the highest point near Big Arroyo Hills to about 4,350 ft where the Purgatoire River (Figure 3: Map of Purgatoire Watershed) flows out of the PCMS area. The Purgatoire River Watershed is identified as Hydrological Unit Code 11020010. The size of the Purgatoire River Watershed is approximately 2,122,320 acres. The Purgatoire Watershed is located in a four county area including: Las Animas County (1,854,720 AC.), Bent County (129,926 AC.), Otero County (127,383 AC.), and Costilla County (10,291 AC.). Yet all storm water eventually reaches the Arkansas River just above the John Martin Reservoir.

(http://cfpub.epa.gov/surf/huc.cfm?huc_code+11020010)

***Figure 3: Map of Purgatoire Watershed** (http://www.apishapawatershed.org)*



3. MINIMUM CONTROL MEASURES (MCM)

This SWMP describes management practices; control techniques, system design, engineering methods, and other provisions that Fort Carson determined appropriate for the control of pollutants in discharges from the installation to the maximum extent practicable. This SWMP includes the MCMs that will be implemented subject to the availability of funds and the measurable goals for each of the MCMs.

3.1 MCM-1: Education and Outreach

PCMS's Stormwater Program will implement an education and outreach program that targets Soldiers, hunters, contractors, and environmental staff in an effort to provide education and outreach about the impacts of stormwater discharges on local water bodies and the steps that can be taken to reduce pollutants in stormwater runoff. PCMS will disseminate these informational materials to inform the public of the effects of erosion and runoff on water quality. Informational materials shall be updated and distributed as necessary. PCMS will implement the following BMPs to satisfy the requirement for this MCM.

- Environmental Protection Officer Training
- Environmental Stewardship briefed to Hunters
- Construction site compliance courses
- Stormwater awareness brochures

3.2 MCM-2: Illicit Discharge Detection and Elimination

An illicit discharge is any discharge to a storm sewer that is not composed entirely of stormwater. The non-stormwater discharges listed below are permissible by, unless they are found to be significant contributors of pollutants.

- Landscape irrigation
- Water line flushing that does not include super-chlorinated water
- Diverted stream flows
- Flows from riparian habitats and wetlands
- Street wash water
- Power washing where no chemicals or detergents are used

- Rising groundwater or uncontaminated pumped groundwater
- Springs
- Discharges from potable water sources
- Foundation drains or water from crawl space pumps and footing drains
- Air conditioning condensate
- Emergency discharges required to prevent imminent threat to human health or severe property damage, provided that reasonable and prudent measures have been taken to minimize the impact of such discharges
- Fire hydrant flushing
- Discharges or flows from fire fighting activities that occur during emergency situations.
- Discharges authorized by a separate NPDES permit

In the event of a non-stormwater release, the Environmental Procedure for Spill Response and the Spill Prevention Control and Countermeasure (SPCC) Plan is followed. The PCMS SPCC Plan is located at the Piñon Canyon Maneuver Site, Environmental Protection Specialist's office, Bldg 300, at PCMS. In addition, the SPCC plan is available by contacting the RCRA Program Manger at phone 719.526.1686 or 719.526.8003.

Non-stormwater spills will be tracked on PCMS's illicit discharge tracker. The database is analyzed yearly, which involves identifying trends and implementing mitigation measures if necessary. The tracker includes PCMS spill reports from regular inspections (see MCM-5: Pollution Prevention and Good House Keeping), the fire department, the installation spill line (719.526.0973), and the installation stormwater website.

(http://www.carson.army.mil/DPW/environmental/stormwater/index.html)

3.3 MCM-3: Construction Site Stormwater Runoff Control

3.3.1 Regulatory Mechanism

All conditions of the Construction General Permit (CGP) must be followed during construction. The NPDES General Permit for Stormwater Discharges for Construction Activity in Colorado, COR12000F (Construction General Permit), is applicable to PCMS. "Regulated construction activities" include development and re-development that results in a land disturbance of greater than or equal to 1 acre or disturbs less than 1 acre if the development or redevelopment is part of a larger common plan of development or sale that would disturb 1 acre or more.

3.3.2 Construction Site Operator Compliance Course

The Stormwater Program Manager of PCMS has developed and implemented a reoccurring informational program that covers the construction general permit requirements and how to prevent the discharge of pollutants from construction activities. The course is targeted towards site operators, inspectors, general workers, and contracting officer representatives (CORs), and other DPW or USACE personnel. The training will cover topics such as the preparation and implementation of a SWPPP and how to choose, install, and maintain BMPs for erosion and sediment control.

3.3.3 Stormwater Website

The Stormwater website contains information and important documents related to the USEPA Construction General Permit. The website is: (http://www.carson.army.mil/DPW/environmental/stormwater/index.html)

3.3.4 Submittal of As-Builts and Operations and Maintenance (O&M) Documents and Manuals

The site construction manager will submit a geo-referenced copy of the As-Built Drawing for each of the BMPs that are used on site to the Directorate of Public Works GIS program. With these drawings, operations and maintenance documents and manuals for the structures must also be submitted.

3.3.5 Approval of Site Stabilization

Following completion of construction activities, environmental personnel, with appropriate technical support, will perform a site evaluation focusing on the vegetation and stabilization of cut and fill slopes and other areas of ground disturbance. This evaluation shall be performed after all land disturbances have been completion. Invasive weeds are not to be considered to be part of the 70 percent coverage. If invasive weeds persist, the contractor must coordinate with the PCMS range scientist to determine the next step and to determine whether herbicide/pesticide should be applied.

3.4 MCM-4: Post-Construction Stormwater Management

All projects with a project footprint in excess of 5,000 square feet will be required to comply with the EISA07 for site planning, design, construction, and maintenance strategies for the property to maintain or restore, to the maximum extent technically feasible, the pre-development hydrology of the property with regard to the temperature, rate, volume, and duration of flow.

The designs of these structures need to incorporate low impact development (LID) techniques. All construction material must be durable for the life expectancy of the BMP, and with reused materials if possible. Soil around outlet structures and dams will be compacted to the design requirements, minimizing short circuiting of water through the structure causing blowouts or reduction in efficiencies of the BMP. All inlets and outlets must be armored and designed to safely pass the design discharge(s) through the structures. All structures will have a bypass structure to allow discharges over and above the EISA07 infiltration volumes to safely pass through the structure. Guidelines for the EISA07 requirement can be found online at:

(http://www.epa.gov/greeningepa/stormwater/requirements.htm#guidance.)

PCMS's Stormwater Manager will review the design via the NEPA process for completeness and soundness of the BMP selected based on the following design criteria:

- Site soils analysis for stormwater evaluation
- Plans that address both stormwater run-on and runoff
- Calculations for the pre- and post-development runoff volumes
- Design calculations and volumes mitigated for each stormwater management BMP employed
- O&M protocols for the stormwater management system
- Appropriateness for a semi-arid environment with freezing temperatures
- Colorado Water Law, 72 hour max hold time

3.5 MCM-5: Pollution Prevention and Good Housekeeping

3.5.1 Road Maintenance

To prevent erosion and control dust, all of the gravel roads at PCMS are inspected. Application of dust suppressants to control dust is limited to priority areas where fugitive dust has the potential for off installation migration and strictly subject to the availability of funds. Other non-

chemical means to control dust will be first utilized prior to application of dust suppressants. Alternative dust reduction methods include targeted use of water, reduced vehicle road speeds, and delayed convoy travel times. Magnesium chloride (MgCl) dust suppressant (30 percent solution of MgCl in a balance of water, with approximately 1 gallon of surfactant per 18,000 gallons of suppressant) may be applied to the roads/tank trails on, near, or next to the installations boundaries, sensitive receptors, or any other location deemed necessary to reduce nuisance fugitive dust emissions and increase road usability.

Application rates should be no more than 0.5 gallons per square yard of road surface. Product should be applied in two passes at 0.25 gallons per square yard to avoid product runoff and allow for maximum soil retention. Product shall not be applied within 100 feet of sensitive and low lying areas, such as old growth cottonwood stands, drainage, ditch or wash basins, and seasonal streams.

3.5.2 Multi-Sector General Permit

Activities that take place at industrial facilities, such as vehicle maintenance and storage, are often exposed to the weather. As runoff from rain or snowmelt comes into contact with these activities, it can pick up pollutants and transport them to a nearby storm sewer system or directly to a river, lake, or coastal water. To minimize the impact of stormwater discharges from industrial activities at PCMS, the NPDES program includes an industrial stormwater permitting component called the Multi Sector General Permit (MSGP.)

This permit requires a MSGP Stormwater Pollution Prevention Plan (SWPPP). A MSGP SWPPP is a written document that identifies the industrial activities conducted at the site, including any structural control practices, which the industrial facility operator will implement to prevent pollutants from making their way into stormwater runoff. The MSGP SWPPP also must include descriptions of other relevant information, such as the physical features of the facility, and procedures for spill prevention, conducting inspections, and training of employees. The MSPG SWPPP is intended to be a “living” document, updated as necessary, such that when industrial activities or stormwater control practices are modified or replaced, the MSGP SWPPP is similarly revised to reflect these changes; which include quarterly site assessments of the areas stormwater management.

A hard copy of the MSGP SWPPP is located at the Piñon Canyon Maneuver Site, Environmental Protection Specialist's office, Bldg 300 at PCMS. The Piñon Canyon Maneuver Site, Environmental Protection Specialist inspects the site quarterly to ensure compliance and makes updates to the MSGP SWPPP.

4. STORMWATER PROGRAM REPRESENTATIVES

Points of contact for the Pinon Canyon Maneuver Site (PCMS) and Fort Carson, Colorado are as follows:

Directorate of Public Works, Environmental Division
Chief Environmental Compliance Branch
1626 Evans Street
Building 1219
Fort Carson, CO 80913
Phone: 719.526.1694
FAX: 719.526.1705

E-mail:
usarmy.carson.imcom-central.list.dpw-ed-storm-water@mail.mil

and

Piñon Canyon Maneuver Site, Environmental Protection Specialist
36086 US Highway 350
Building 300
Model, CO 81059
Phone: 719.524.0526
FAX: 719.524.0577

APPENDIX C
Cultural Resources Correspondence

HISTORY Colorado

RECEIVED OCT 07 2013

September 25, 2013

Carlos Rivero-deAguilar
Chief, Environmental Division
Department of the Army
US Army Installation Management Command
Directorate of Public Works
1626 Evans Street, Building 1219
Fort Carson, Colorado 80913-4143

Re: Proposed Construction of a Contractor-Owned/Contractor-Operated Fuel Facility at Pinon Canyon Maneuver Site (CHS #64716)

Dear Mr. Rivero-deAguilar:

Thank you for your correspondence dated September 19, 2013 (received by our office on September 23, 2013) regarding the subject project.

In consideration of the information that we currently have on file for the area of potential effects, we concur that a finding of no historic properties affected is appropriate for the proposed undertaking per 36 CFR 800.4(d)(1).

The consultation process does involve other consulting parties such as local governments and Tribes, which as stipulated in 36 CFR 800.3 are required to be notified of the undertaking. Additional information provided by the local government, Tribes or other consulting parties may cause our office to re-evaluate our comments and recommendations.

Should unidentified archaeological resources be discovered in the course of the project, work must be interrupted until the resources have been evaluated in terms of the National Register of Historic Places eligibility criteria (36 CFR 60.4) in consultation with our office.

Thank you for the opportunity to comment. If we may be of further assistance please contact Mark Tobias, Section 106 Compliance Manager, at (303) 866-4674 or mark.tobias@state.co.us.

Sincerely,

for Edward C. Nichols
State Historic Preservation Officer
ECN/MAT

PLANNING
&
DEVELOPMENT

CHEYENNE & ARAPAHO TRIBES

P.O. BOX 167
CONCHO, OKLAHOMA 73022
1-800-247-4612 Toll Free
405-422-7630 Telephone

RECEIVED OCT 15 2013

03OCT13

Pamela Miller, CRM
1626 Evans St. Bldg. 1219
Ft. Carson, CO 80913

RE: Proposed Construction of a Contractor-Owned/Contractor-Operated Fuel Facility at Pinon Canyon Maneuver Site

On behalf of the Cheyenne and Arapaho Tribes, thank you for the notice of the referenced project. I have reviewed your Consultation request under section 106 of the National Historic Preservation Act regarding the project proposal and commented as follows:

At this time there are no findings of significant effect; however, if human skeletal remains/ or any historic or cultural objects are discovered during construction, please stop immediately and notify the Cheyenne and Arapaho Tribes.

Best Regards,

Margaret Anquoe

Margaret Anquoe, (Acting)
Tribal Historical Preservation Officer
e.manquoe@c-a-tribes.org

-----Original Message-----
From: Jimmy Arterberry [mailto:jimmya@comanchenation.com]
Sent: Friday, September 20, 2013 8:24 AM
To: Miller, Pamela K CIV (US)
Subject: RE: Proposed construction of a Contractor-Owned/Contractor-Operated Fuel Facility at PCMS

In response to your request, the above referenced project has been reviewed by staff of this office. Based on the information provided and a search within the Comanche Nation Site Files, we have determined that there are no properties affected by the proposed undertaking.

If you require additional information or are in need of further assistance, please contact this office at (580) 595-9960 or 9618.

This review is performed in order to identify and preserve the Comanche Nation and State's cultural heritage, in conjunction with the State Historic Preservation Office.

Jimmy W. Arterberry, THPO
Comanche Nation
P.O. Box 908
Lawton, Oklahoma 73502
(580) 595-9960 or 9618
(580) 595-9733 FAX

From: Miller, Pamela K CIV (US) [pamela.k.miller26.civ@mail.mil]
Sent: Friday, September 20, 2013 9:02 AM
To: janthpo@gmail.com; Jimmy Arterberry; narapahothpo_2009@ymail.com; Betsy

Chapoose; anaranjo@southern-ute.nsn.us; Lynn Hartman
Cc: Whiting, Betty A CTR USARMY (US)
Subject: PCMS Section 106 Packet (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

Good morning. Attached please find our Section 106 information regarding the construction of a fuel facility at the PCMS. Any questions, please let me know. Thanks - be safe!

Pamela Miller

Cultural Resources Manager

Fort Carson and the Pinon Canyon Maneuver Site

1626 Evans Street, Building 1219

Fort Carson, Colorado 80913

719-526-4484

719-526-3806

Whiting, Betty A CTR USARMY (US)

From: Thomas, George Wayne (Wayne) CIV USARMY USAG (US)
Sent: Wednesday, October 23, 2013 11:11 AM
To: Miller, Pamela K CIV (US); Benford, Debra A CIV USARMY IMCOM CENTRAL (US)
Cc: Whiting, Betty A CTR USARMY (US)
Subject: FW: RESPONSE TO SECTION 106 PROPOSED CONSTRUCTION OF A CONTRACTOR-OWNED/DONTRACTOR OPERATED FUEL FACILITY AT PINON CANYON MANEUVER SITE (UNCLASSIFIED)

Classification: UNCLASSIFIED
Caveats: NONE

From: Paula Ozzello [mailto:pozzello@gmail.com]
Sent: Wednesday, October 23, 2013 10:16 AM
To: Thomas, George Wayne (Wayne) CIV USARMY USAG (US); Rivero-Deaguilar, Carlos CIV (US); Alguire, Hal K CIV (US); Degaray, Christopher J CIV USARMY IMCOM CENTRAL (US)
Cc: Gloria Gutierrez; Dwight Gardner; doris.morgan; Conger, John C SES (US); Kliem, John A CAPT USN (US); Garrison, Joel L III LTC USARMY HQDA OCLL (US); Gary Hill; Mack Louden; aeabeyta@msn.com
Subject: RESPONSE TO SECTION 106 PROPOSED CONSTRUCTION OF A CONTRACTOR-OWNED/DONTRACTOR OPERATED FUEL FACILITY AT PINON CANYON MANEUVER SITE

SOUTHERN COLORADO ENVIRONMENTAL COUNCIL

618 EAST GODDING AVENUE

TRINIDAD, COLORADO 81082

October 23, 2013

The Southern Colorado Environment Council sees this 106 project as a very high priority regarding the sustainability of a health eco-system at PCMS. The present fuel yard is outdated and has had underground line breaks and leaks that has contaminated the soil of the fuel yard and created some underground plumes of these fuels. One break sent around 10,000 gallons of fuel into the soil. Continued monitoring of the ground water quality of the section needs to continue till the plume dissipates.

When this project is done, we ask that all contaminated soil be removed from the present fuel yard and transported to a proper regulated waste facility to ensure that the contaminated soil of the fuel yard is removed from PCMS.

The SCEC does ask that even though the new fuel facility will be operated and owned by an independent contractor, monitoring and inspection by Fort/Carson PCMS environmental staff should be done on a regular basis to ensure that the fuel facility stays in environmental compliance with all necessary Colorado Health and Environmental Office, EPA, and Clean Water Act regulations.

We ask that the Cultural Resource Management Team keep good oversight on the project to ensure necessary protection for the cultural resources in this specific section.

Thank you for your consideration in this matter.

On behalf of the membership of the Southern Colorado Environmental Council

Paula Ozzello, Chairperson

Classification: UNCLASSIFIED
Caveats: NONE