

FINAL

ENVIRONMENTAL ASSESSMENT

CONSTRUCTION AND OPERATION OF A WASHINGTON ARMY NATIONAL GUARD (WA ARNG) TACTICAL UNMANNED AIRCRAFT SYSTEM (TUAS) FACILITY, AND TRAINING OF A WA ARNG TUAS PLATOON AT YAKIMA TRAINING CENTER, WASHINGTON

YAKIMA COUNTY, WASHINGTON



National Environmental Policy Act (NEPA)
documentation funded by U.S. Armed Forces Command,
prepared by Washington Army National Guard
in coordination with
Joint Base Lewis-McChord.

October 2012

[THIS PAGE LEFT INTENTIONALLY BLANK]



Note: Consistent with 32CFR651.18, ARNG, this report is printed on recycled paper.

[THIS PAGE LEFT INTENTIONALLY BLANK]

EXECUTIVE SUMMARY

LEAD AGENCY: Washington Army National Guard, Pierce County, WA

COOPERATING AGENCIES: Joint Base Lewis-McChord (JBLM) /Yakima Training Center (YTC)

TITLE OF PROPOSED ACTION: Construction and Operation of a Washington Army National Guard (WA ARNG) Tactical Unmanned Aircraft System (TUAS) Facility, and Training of a WA ARNG TUAS Platoon at Yakima Training Center, Washington

AFFECTED JURISDICTION: Yakima Training Center

The Washington Army National Guard (WA ARNG), under the State of Washington Military Department (WMD), prepared an Environmental Assessment (EA) to identify and evaluate potential significant environmental effects associated with the Proposed Action—construction and operation of a WA ARNG Tactical Unmanned Aircraft System (TUAS) facility and training of WA ARNG TUAS platoon at Yakima Training Center (YTC), Washington. YTC is located in south central Washington, northeast of the city of Yakima, situated directly between Interstate 82 (I-82) on the west and the Columbia River to the east.

The WA ARNG proposes to construct a TUAS facility (further referred to as ‘the facility’) in an approximately 8-acre site at YTC where a TUAS platoon will train by entering into a 25-year real property agreement with the Department of the Army via the U.S. Army Corps of Engineers-Seattle District. Although YTC is not a signatory on the final FNSI, YTC is involved in the development and review process for the EA and will complete NEPA evaluation of real property license as appropriate. This facility would be intended solely for WA ARNG’s 81st Heavy Brigade Combat Team (HBCT)/ Brigade Special Troops Battalion (BSTB) and TUAS Platoon, and act as their primary duty station to support all collective and individual training requirements along with all administrative requirements. Construction will include a hangar/aircraft storage facility, two parking lots, a new aircraft apron, utility connection, and possible access road improvements. Training will include launch and recovery and in-flight maneuvering focused on surveillance and reconnaissance missions during the day and night.

The purpose of and need for the proposed action is because the 81st HBCT/BSTB and TUAS platoon of A Company, 81st HBCT/BSTB needs a facility to store and maintain their Unmanned Aircraft System (UAS) and a location to train in order to fulfill situational awareness needs at the Brigade level and lower, by gathering Reconnaissance, Surveillance, and Target Acquisition (RSTA) data using unmanned aircraft. Providing the platoon with the facility and training areas at YTC will lead to more seamless operations in preparing for future deployments to a theater of operation, more realistic RSTA support, and reduce loss of soldiers in a combat zone.

The WA ARNG prepared the EA in accordance with the National Environmental Policy Act (NEPA) of 1969 as implemented by the regulations promulgated by the Council on Environmental Quality (CEQ) (40 CFR Section 1500-1508), and 32 CFR Part 651, Environmental Analysis of Army Actions. The guidelines set forth by the National Guard Bureau (NGB) were followed in preparing this EA. Consultations with the State Historic Preservation Office (SHPO) and two Native American tribes with cultural interest at YTC (Yakama Nation and Wanapum Band) are presented in Appendix A. Also included in Appendix A are the Endangered Species Act Section 7 consult letters for the U.S. Fish and Wildlife Service (USFWS), National Oceanic and Atmospheric Administration (NOAA) Fisheries and Washington Department of Fish and Wildlife. The WA ARNG addressed comments from JBLM-Legal, YTC Environmental Division, Washington Department of Fish and Wildlife, Yakima

Regional Clean Air Agency, Yakama Nation, and Wanapum Band that were received during the public comment period (Appendix A).

Three alternatives evaluated in the EA were: (1) *No Action Alternative* - Continue with operations as currently conducted and do not implement the Proposed Action, (2) *Preferred Action Alternative* - Implement the proposed action which is construction of the proposed facility at the north of Selah Airstrip, and (3) *Alternative Location* - Construction of the proposed facility at the southwest corner of Selah Airstrip.

The No Action Alternative serves as a baseline from which to compare all other reasonable alternatives and was not analyzed as a viable option to accomplish the proposed action. Under this alternative, the construction and operation of a TUAS facility would not occur; however, the operations and training of the platoon would still take place at YTC. Because existing facilities at YTC have not been designed for use by a TUAS platoon, the efficiency and effectiveness of their training activities would be degraded.

The Preferred Action Alternative (North Selah Airstrip further referred to as 'N. Selah') consists of construction of the proposed facility at the north end of Selah Airstrip and conducting all UAS training, operations and maintenance at that site. The N. Selah site fulfills the needs of the platoon while at the same time has low interference with existing training conducted at YTC. Selah Airstrip is located in the southwestern part of YTC; and in an attempt to achieve flexibility in the siting of the N. Selah alternative, an area of 189 acres has been delineated in which an approximately 8-acre WA ARNG facility would be constructed. Given any contiguous 8-acre parcel within those 189 acres, the effects from construction and training would be essentially identical, creating room for the TUAS to shift one way or another depending on any further findings that may preclude the specific location of N. Selah alternative. The airstrip is positioned such that obstructions to flight are at a minimum; the restricted use airspace boundary is far away enough to allow unconfined flight maneuvers on take-off/landing and there are no topographical obstructions either. This site supports the mission of the platoon by giving them enough space to conduct their training effectively and allows for possible future development as well. The distance to existing infrastructure is approximately 4.8 miles.

The Alternative Location (South Selah Airstrip further referred to as 'S. Selah') consists of constructing the proposed facility at the southwest corner of Selah Airstrip and conducting all UAS training, administrative activities, operations and maintenance at that site. As with the N. Selah site, the approximately 8-acre S. Selah site has also been approved for use by YTC, fulfills the needs of the platoon, and has sufficient restricted use airspace for the platoon to work with. However, use of this site would encroach on the current use of Range 15 (R15) to the south of the airstrip. This site is within the range fan of R15, which is the third highest used range at YTC, and would require that R15 be closed while the TUAS facility is being used or vice versa. In addition, if R15 is in use, the access route to Selah Airstrip would have to be altered because a portion of the southern access route is closed during R15 live-fire operations. This conflict would be resolved by units scheduling the use of either training asset in advance through Range Control who manages the use of all training areas and ranges. No other obstacles to flight exist. The S. Selah site is supportive of the training mission and represents the alternative with the shortest distance to run utilities, about 3 miles. Future expansion capability does not exist adjacent to this location, but could be possible to the north at other areas around the airstrip.

Environmental analysis of the impacts of the Preferred Alternative and Alternative Location showed that there would be significant but mitigable impacts only to the biological resources, particularly the big sagebrush/bluebunch wheatgrass vegetation community and greater sage grouse.

- The mitigation under N. Selah alternative includes restoration of approximately 24 acres of big sagebrush/bluebunch wheatgrass vegetation communities in areas previously disturbed.
- The mitigation under S. Selah alternative includes restoration of approximately 20 acres of big sagebrush/bluebunch wheatgrass vegetation communities in areas previously disturbed.

This mitigation strategy for both alternative locations works two-fold in that it lowers the level of significance for the impacts on the vegetation communities which also serves as the sage grouse's habitat.

With regard to cumulative effects, foreseeable future actions expected to take place on or around YTC or to have an effect on the proposed action include increased use of Selah Airstrip, increased overall troop strength and training needs (analyzed in the JBLM's Grow the Army Environmental Impact Study, July 2010), and construction of additional ranges in the future. These activities will increase the potential for and the actual impacts to resource areas; however, the level of cumulative impacts is low overall and the significance thresholds for each resource area will not be breached. Wildlife and vegetation, air quality, infrastructure, and soils would potentially be impacted by this cumulative increase in use of YTC's Selah Airstrip and cantonment resources. No additional impacts are expected with respect to the water quality/quantity or cultural and historic resources.

Based on the environmental analysis, the WA ARNG concluded that the construction and operations of TUAS facility and training activities of the WA ARNG TUAS platoon at the N. Selah or the S. Selah site will have less than significant impacts on the surrounding natural and human environment at YTC with the implementation of the above mitigation measures on impacts to vegetation community and greater sage grouse. The preferred alternative is to implement the proposed action at the N. Selah site.

[THIS PAGE LEFT INTENTIONALLY BLANK]

ACRONYMS AND ABBREVIATIONS

AR – Army Regulation
CAA – Clean Air Act
CO – carbon monoxide
CWA – Clean Water Act
BSTB - Brigade Special Troops Battalion
DAHP - Department of Archaeology and Historic Preservation
DOH – Department of Health
ESA – Endangered Species Act
EIS – Environmental Impact Assessment
HBCT – Heavy Brigade Combat Team
JBLM – Joint Base Lewis-McChord
MATES – Maintenance and Training Equipment Site
NAAQS – National Ambient Air Quality Standards
NEPA – National Environmental Policy Act
NO – nitrogen oxide
NOAA – National Oceanic and Atmospheric Administration
Pb – lead
RSTA – Reconnaissance, Surveillance, and Target Acquisition
RUA – restricted use airspace
SHPO – State Historic Preservation Office
SO₂ – sulfur dioxide
SPCCP – Spill Prevention Control and Countermeasures Plan
TUAS – tactical unmanned aircraft system
UAS – unmanned aircraft system
USEPA/EPA – U.S. Environmental Protection Agency
USFWS – U.S. Fish and Wildlife Service
WA ARNG – Washington Army National Guard
WAC – Washington Administrative Code
WAU – Watershed Administrative Units
WDFW – Washington Department of Fish and Wildlife
WDNR – Washington Department of Natural Resources
WNHP – Washington National Heritage Program
WRIA - Watershed Resource Inventory Areas
YRCAA – Yakima Regional Clean Air Agency
YTC – Yakima Training Center

[THIS PAGE LEFT INTENTIONALLY BLANK]

TABLE OF CONTENT

EXECUTIVE SUMMARY	1
1.0 PURPOSE OF AND NEED FOR THE PROPOSED ACTION	1
1.1 INTRODUCTION	1
1.2 PURPOSE AND NEED	3
1.3 SCOPE OF THE DOCUMENT	4
2.0 DESCRIPTION OF THE PROPOSED ACTION	5
2.1 PROPOSED ACTION AND ASSOCIATED ACTIVITIES	5
2.1.1 <i>Construction</i>	5
2.1.2 <i>Training</i>	7
2.2 PROJECT TIMING AND PROGRESSION	12
2.3 PERMITS	12
3.0 ALTERNATIVES CONSIDERED.....	13
3.1 ALTERNATIVES DEVELOPMENT (SCREENING CRITERIA)	13
3.2 ALTERNATIVES ELIMINATED FROM FURTHER CONSIDERATION.....	14
3.2.1 <i>Cold Creek Road (R14)</i>	14
3.2.2 <i>Silica Drop Zone (DZ)</i>	14
3.3 ALTERNATIVES EVALUATED	14
3.3.1 <i>Alternative 1: No Action Alternative</i>	14
3.3.2 <i>Alternative A: North Selah Airstrip</i>	15
3.3.3 <i>Alternative B: South Selah Airstrip</i>	15
4.0 AFFECTED ENVIRONMENT	17
4.1 LOCATION DESCRIPTION.....	19
4.1.1 <i>Geography</i>	19
4.1.2 <i>Climate</i>	19
4.1.3 <i>Military Mission</i>	19
4.2 AIR QUALITY.....	19
4.3 GEOLOGY, SOILS AND TOPOGRAPHY	21
4.4 WATER RESOURCES	21
4.4.1 <i>Hydrology</i>	23
4.4.2 <i>Surface Water</i>	23
4.4.3 <i>Ground Water</i>	25
4.5 BIOLOGICAL RESOURCES	25
4.5.1 <i>Vegetation</i>	26
4.5.2 <i>Fish and Wildlife</i>	30
4.5.2.1 Bull Trout	32
4.5.2.2 Northern Leopard Frog	33
4.5.2.3 American white pelican	33
4.5.2.4 Bald Eagle	33
4.5.2.9 Yellow-billed Cuckoo.....	37
4.5.3 <i>Wetlands</i>	37
4.6 CULTURAL RESOURCES.....	39
4.6.1 <i>Cultural Resources at YTC</i>	39
4.6.2 <i>Native American Considerations</i>	40
4.7 HAZARDOUS AND TOXIC MATERIALS/WASTES	40
5.0 ENVIRONMENTAL CONSEQUENCES	43
5.1 AIR QUALITY.....	45

5.1.1	No Action.....	45
5.1.1.1	Construction	45
5.1.1.2	Operation.....	45
5.1.2	N. Selah Alternative.....	45
5.1.2.1	Construction	45
5.1.2.2	Operation.....	46
5.1.3	S. Selah Alternative	46
5.1.3.1	Construction	46
5.1.3.2	Operation.....	46
5.2	WATER RESOURCES	46
5.2.1	No Action.....	46
5.2.1.1	Construction	46
5.2.1.2	Operation.....	47
5.2.2	N. Selah Alternative	47
5.2.2.1	Construction	47
5.2.2.2	Operation.....	47
5.2.3	S. Selah Alternative.....	47
5.2.3.1	Construction	47
5.2.3.2	Operation.....	48
5.3	BIOLOGICAL RESOURCES	48
5.3.1	Upland and Riparian Vegetation.....	48
5.3.1.1	No Action	49
5.3.1.2	N. Selah Alternative	49
5.3.1.3	S. Selah Alternative.....	50
5.3.2	Wildlife and Fish	50
5.3.2.1	No Action	50
5.3.2.2	N. Selah Alternative	51
5.3.2.3	S. Selah Alternative.....	51
5.3.3	Threatened , Endangered and Special Status Species	51
5.3.3.1	Bald Eagle.....	52
5.3.3.2	Migratory Birds	52
5.3.3.3	Listed Fish Species (Bull Trout)	52
5.3.3.4	Listed Plant Species (Ute Ladies-tresses, Beaked Cryptantha, Hoover’s Tauschia, Nutall’s Sandwort, Umtanum Desert Buckwheat, and White Eatonella)	52
5.3.3.5	Sage Grouse	52
5.3.3.6	Other Wildlife, Bird and Insect Species (Yellow-billed Cuckoo, Northern Leopard Frog, American White Pelican, Ferruginous Hawk, Sandhill Crane).....	54
5.4	SOILS	54
5.4.1	No Action.....	54
5.4.1.1	Construction	54
5.4.1.2	Operation.....	54
5.4.2	N. Selah Alternative.....	55
5.4.2.1	Construction	55
5.4.2.2	Operation.....	55
5.4.3	S. Selah Alternative	55
5.4.3.1	Construction	55
5.4.3.2	Operation.....	56
5.5	CULTURAL AND HISTORICAL	56
5.5.1	No Action.....	56
5.5.1.1	Construction	56
5.5.1.2	Operation.....	56
5.5.2	N. Selah Alternative.....	57
5.5.2.1	Construction	57
5.5.2.2	Operation.....	57
5.5.3	S. Selah Alternative	57
5.5.3.1	Construction	57
5.5.3.2	Operation.....	58

5.6	INFRASTRUCTURE.....	58
5.6.1	<i>No Action</i>	58
5.6.1.1	Construction	58
5.6.1.2	Operation.....	58
5.6.2	<i>N. Selah Alternative</i>	58
5.6.2.1	Construction	58
5.6.2.2	Operation.....	59
5.6.3	<i>S. Selah Alternative</i>	59
5.6.3.1	Construction	59
5.6.3.2	Operation.....	59
5.7	HAZARDOUS MATERIALS AND WASTES	59
5.7.1	<i>No Action</i>	59
5.7.1.1	Construction	59
5.7.1.2	Operation.....	59
5.7.2	<i>N. Selah Alternative</i>	59
5.7.2.1	Construction	59
5.7.2.2	Operation.....	60
5.7.3	<i>S. Selah Alternative</i>	60
5.7.3.1	Construction	60
5.7.3.2	Operation.....	60
5.8	MITIGATION MEASURES	60
5.9	CUMULATIVE EFFECTS	60
5.9.1	<i>Actions Considered in Cumulative Effects</i>	61
5.9.2	<i>Cumulative Effects Discussion</i>	61
5.9.2.1	Wildlife and Vegetation	61
5.9.2.2	Air Quality	62
5.9.2.3	Infrastructure.....	62
5.9.2.4	Soils.....	62
5.9.3	<i>Cumulative Effects Conclusion</i>	62
6.0	COMPARISON OF ALTERNATIVES AND CONCLUSIONS	63
6.1	COMPARISON OF ENVIRONMENTAL CONSEQUENCES OF THE ALTERNATIVES	63
6.2	CONCLUSION	64
7.0	REFERENCES.....	65
8.0	GLOSSARY.....	71
9.0	LIST OF PREPARERS.....	73
10.0	AGENCIES AND INDIVIDUALS CONSULTED.....	75
	APPENDIX A PROJECT CONSULTATION AND COORDINATION	77
	APPENDIX B TERRESTRIAL VERTEBRATE SPECIES AT YTC.....	151
	APPENDIX C RECORD OF NON-APPLICABILITY (RONA)	167
	APPENDIX D ECOP DOCUMENTS	171
	APPENDIX E OTHER NEPA DOCUMENTS.....	181

LIST OF TABLES

TABLE 2-1 SHADOW UNMANNED AIRCRAFT SYSTEM SPECIFICATIONS AND FLIGHT CAPABILITIES.	10
TABLE 3-1 ALTERNATIVE COMPARISON CHART BASED ON SATISFACTION OF SCREENING CRITERIA.	13
TABLE 4-1 SOIL TYPES AND EROSION FACTORS.	23
TABLE 4-2 VEGETATION CLASSES WITHIN TRAINING AREA 12 (TA12).	26
TABLE 4-3 SPECIAL STATUS PLANT SPECIES THAT MAY OCCUR ON OR NEAR YAKIMA TRAINING CENTER.	27
TABLE 4-4 SPECIAL STATUS FISH AND WILDLIFE SPECIES THAT MAY OCCUR ON OR NEAR YAKIMA TRAINING CENTER.	31
TABLE 5-1 SIGNIFICANCE CRITERIA USED FOR EACH RESOURCE AREA EVALUATED.	44
TABLE 6-1 SUMMARY OF POTENTIAL IMPACT BY RESOURCE AREA.	63

LIST OF FIGURES

FIGURE 1-1 SELAH AIRSTRIP VICINITY MAP.	2
FIGURE 2-1 SELAH AIRSTRIP PROJECT SITE MAP AND ALTERNATIVE LOCATIONS.	6
FIGURE 2-2 LAUNCH AND RECOVERY SITE DIAGRAM.	8
FIGURE 2-3 SHADOW SYSTEM COMPONENTS.	9
FIGURE 3-1 LAND USE MAP AT AND AROUND SELAH AIRSTRIP.	16
FIGURE 4-1 SOIL TYPES AT SELAH AIRSTRIP.	22
FIGURE 4-2 WATER RESOURCES AT YTC.	24
FIGURE 4-3 VEGETATION COMMUNITIES AT YTC.	38
FIGURE 4-4 WETLANDS AT YTC.	39

1.0 PURPOSE OF AND NEED FOR THE PROPOSED ACTION

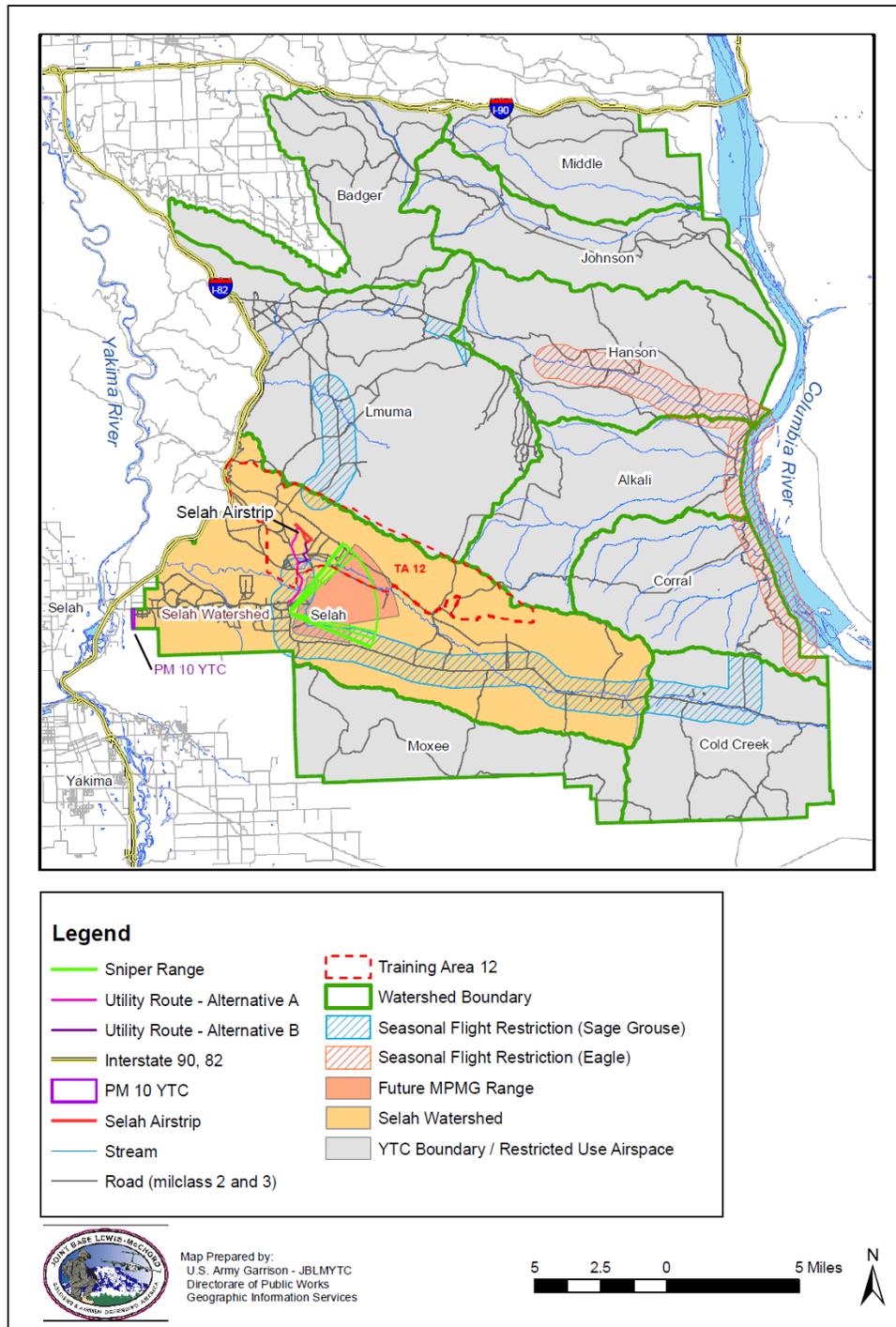
1.1 Introduction

The Washington Military Department's Washington Army National Guard (WA ARNG) proposes to construct and operate a Tactical Unmanned Aircraft System (TUAS) facility (Fig. 1-1) and train a TUAS platoon at the Yakima Training Center (YTC). The WA ARNG will enter into a 25-year real property license agreement with the Department of the Army for a portion of land at Joint Base Lewis-McChord's YTC (JBLM-YTC; further referred to as YTC). Although YTC is not a signatory on the final FNSI, YTC has been involved in the development of the EA and will complete NEPA evaluation of real property license as appropriate. YTC legal office and environmental division continue to participate through document review during the NEPA process.

The Army is in the midst of transformation from a division-centric force to a brigade-centric force in order to accomplish their goal of becoming a "more responsive, deployable, agile, versatile, lethal, survivable, and sustainable" force (HQDA, 2001). Paralleling that effort, the Army National Guard is transforming in order to modernize and remain compatible with the transformation of the Army's active component, given the increased level of collaboration between the two in theater. During this process, the Army National Guard identified the need for implementation of remote sensing technologies in theater to support ground commanders in gaining situational awareness on and off the battlefield, in a quicker time frame. The Unmanned Aircraft Systems (UAS) has effectively accomplished this task as it can fly virtually undetected gathering near real-time RSTA data and transmitting that information directly to those who need it. The National Guard Bureau (NGB) tasked the individual states to implement the use of UAS to improve the RSTA mission for the lower level tactical units. The WA ARNG accomplished this tasking in conjunction with the ongoing transformations of both the active Army (USACE, 2002) and the Army National Guard (ARNG) when the 81st Mechanized Infantry Brigade of the WA ARNG transitioned into the 81st HBCT, and its subordinate battalions were in turn transitioned into new roles (Fort Lewis, 2000). The 81st HBCT's 898th Engineer Battalion transformed into a BSTB from which a TUAS platoon was formed. This being an entirely new type of platoon, no existing facilities were available or sufficient to meet its training and operational needs. Shortly after the transformation, in August 2008, the 81st HBCT deployed to support Operation Iraqi Freedom. They have since returned, but have no administrative or maintenance facilities in which to train or operate from for their new mission.

This EA has been prepared in accordance with the National Environmental Policy Act (NEPA), Council on Environmental Quality regulations (Authority: NEPA, the Environmental Quality Improvement Act of 1970, as amended (42 U.S.C. 4371 et seq.), sec. 309 of the Clean Air Act, as amended (42 U.S.C. 7609) and E.O. 11514, Mar. 5, 1970, as amended by E.O. 11991, May 24, 1977), and 32 CFR 651, Environmental Effects of Army Actions (March 29, 2002). In addition, this document is in compliance with Section 7 of the Endangered Species Act of 1973, Protection of Historic Properties (36 CFR 800), Native American Graves Protection and Repatriation Act, (25 U.S.C. 3001 et seq.), and the *Archeological Resources Protection Act* of 1979. General authorities for Native American Tribe Consultation include: the American Indian Religious Freedom Act of 1979 ; Executive Order 13007-Indian Sacred Sites, and Department of Defense (DoD) Instruction 4710.02 *DoD*

Interactions with Federally Recognized Tribes (DoD 2006), within which the DoD Annotated American Indian and Alaskan Native Policy is a component of DoD14710.02.



Source: Geographic Information Services, Yakima Training Center, 2012.

Figure 1-1 Selah Airstrip vicinity map.

1.2 Purpose and Need

The purpose of and need for the proposed action is because the 81st HBCT/BSTB and TUAS platoon of A Company, 81st HBCT/BSTB need a facility to store and maintain their UAS and a location to train in order to fulfill situational awareness needs at the Brigade level and lower, by gathering RSTA data using unmanned aircraft, and perform administrative tasks. The basic facility needs of the new TUAS platoon are an airstrip for launch and recovery of the aircraft; sufficient restricted use airspace (also known as military airspace) for flight and maneuvering of the aircraft; a hangar for administration, storage, and maintenance activities; and related site infrastructure such as parking and utilities. Providing the platoon with the facility and training areas at YTC will lead to more seamless operations in preparing for future deployments to a theater of operation, more realistic RSTA support and reduce loss of soldiers in a combat zone.

The WA ARNG, within the National Guard's transformation process, has been redefined and fielded new technologies in order to support situational awareness needs on and off the battlefield. In August 2008, National Guard fielded a new UAS to the recently transformed platoon of A Company, 81st BSTB/HBCT in order to fulfill situational awareness needs at the Brigade level and lower, by gathering RSTA data using unmanned aircraft (See Past Action Memorandum in Appendix E for the NEPA documentation of this fielding action and Signed FNSI for ARNG's Programmatic Environmental Assessment). The WA ARNG then organized a UAV Platoon in order to facilitate training in the operation and flying of unmanned aerial vehicles (See REC in Appendix E for the NEPA documentation of this restationing action). The UAS platoon was formed out of Co A, 81st Brigade Special Troops Battalion (BSTB) stationed in Kent, WA and conducts their training at YTC. The new platoon, Detachment 1, Co A, 81st BSTB, now occupies Building 951 at the YTC and consists of 29 personnel. Major equipment includes, but not limited to, one system: 4 Birds (3 Tactical Shadow UAVs, 1 UAS Raven), 2 launchers, 6 high mobility multipurpose wheeled vehicles, 4 generators; 2 cargo trailers, 15 tool kits, and 5 power supply units. National Guard's Modified Table of Organization and Equipment #87305GNG06 (paragraphs 214 to 216, effective 1 Oct 2009) provides a complete listing of equipment and supplies provided to the platoon.

The platoon's primary mission, as stated by the Modified Table of Organization and Equipment, is to provide timely, relevant, accurate, and synchronized intelligence, surveillance and reconnaissance support to the BCT Commander. Because of the speed at which this platoon was first created and then deployed to Operation Iraqi Freedom in 2008, no facilities were necessary at that time. The 81st HBCT, which deployed to Iraq in 2008, was stationed in Seattle, WA and trains extensively at YTC. Since the unit and platoon's return from deployment in September 2009, however, they have been in need of a location to train and a facility to store and maintain their UAS. The WA ARNG re-stationed the platoon to YTC effective October 1, 2009 for efficiency in operation while waiting for the construction of a UAS facility. The platoon's equipment has been in reset with AAI Corporation, the UAS contractor, since their return from deployment and prior to deployment was stored and maintained at YTC. Currently, TUAS training occurs at Selah but using temporary tents.

Construction of a TUAS facility would support the ongoing mission of the unit currently assigned to undergo UAS training. Construction would meet standards and requirements described in Army National Guard Facilities

Allowances (NGB PAM 415-1) and NGR 415-10 (Army National Guard Facilities Construction) and would support the ongoing mission of the 81st BSTB/HBCT unit and TUAS platoon of A Company, 81st BSTB/HBCT.

1.3 Scope of the Document

The scope of this document is to analyze the potential environmental consequences of the proposed construction and operation of the TUAS facility, and training of a TUAS platoon. The real property agreement will be purely administrative and have no environmental consequences, while the construction and training portions of the action will have impacts to the surrounding environment. A decision will be made based on the findings of this analysis, on how best to meet the purpose of and need of the proposed action while keeping the objectives, proposed action, and alternatives in mind. The overall goal is to implement the version of the proposed action that will have the least adverse effect on the surrounding environment, while at the same time providing the platoon with the training and operation facilities that they require to successfully carry out their activities and missions.

An environmental assessment is prepared because the proposed action will result in greater than 5.0 acres of surface disturbance and the potential for a significant adverse impact to the natural environment exists.

2.0 DESCRIPTION OF THE PROPOSED ACTION

2.1 Proposed Action and Associated Activities

The WA ARNG proposes to construct and operate a TUAS facility at YTC. The WA ARNG will enter into a real property agreement with The Department of the Army via the U.S. Army Corps of Engineers-Seattle District, for use of an area of land at YTC to construct a TUAS facility (further referred to as 'the facility') (Fig. 2-1) where a TUAS platoon will train. This facility would be intended solely for the WA ARNG's 81st HBCT/BSTB/TUAS Platoon, and act as their primary duty station to support all collective and individual training requirements along with all administrative requirements. The real property agreement would be a twenty-five (25) year renewable license for an area of land located adjacent to Selah Airstrip at YTC. The WA ARNG plans to acquire approximately eight (8) acres of exclusive use area for the construction of their TUAS facility. Shared use of both the runway and taxiways will also be included.

2.1.1 Construction

Construction will include a hangar/aircraft storage building, two parking lots, a new aircraft apron, utility connection, and possible access road improvements. The hangar will be 9,308 square feet and serve as the primary duty station for the unit's activities, containing areas for maintenance, administration, classrooms, latrines, as well as for supply and storage. The amount of hardstand necessary will depend upon the site's final location and orientation to the airstrip; approximately 9,577 square yards of hardstand will be constructed. Parking, for both privately owned vehicles as well as military vehicles/equipment, will be constructed to support the platoon as well as other occasional users. Additional hardstand will be constructed to provide access from the aircraft storage facility to the existing taxiway/runway. In addition, the new facility will require provision of utilities (water, sewer, electric, and communications). The WA ARNG will need to drill a new well to supply the necessary potable water for the facility, as the water-well that is currently located on the southern corner of the airstrip is required by YTC's Public Works Directorate to remain available for installation use. The different forms of wastewater produced will be treated onsite in three different ways:

- Domestic waste water (sewage and grey-water) - onsite septic system and leach field
- Stormwater - direct infiltration into the surrounding vegetated areas.
- Industrial wastewater - onsite underground vault for collection of waste water associated with the maintenance of the aerial vehicles. The vault will be regularly pumped and the wastes disposed of properly per the WA ARNG's Dangerous Waste Management Pamphlet, PAM 200-1.

The WA ARNG will run the remaining utilities (communication lines, electricity, and gas) underground alongside Badger Pocket Road from Range Control, building 1805, to the facility site at Selah Airstrip, a total of 4.8 miles. Badger Pocket Road crosses Selah Creek on its way to Selah Airstrip via an arch culvert. This culvert has utility conduits built into it so that no further excavation in Selah Creek is necessary for the utility expansion portion of the project.

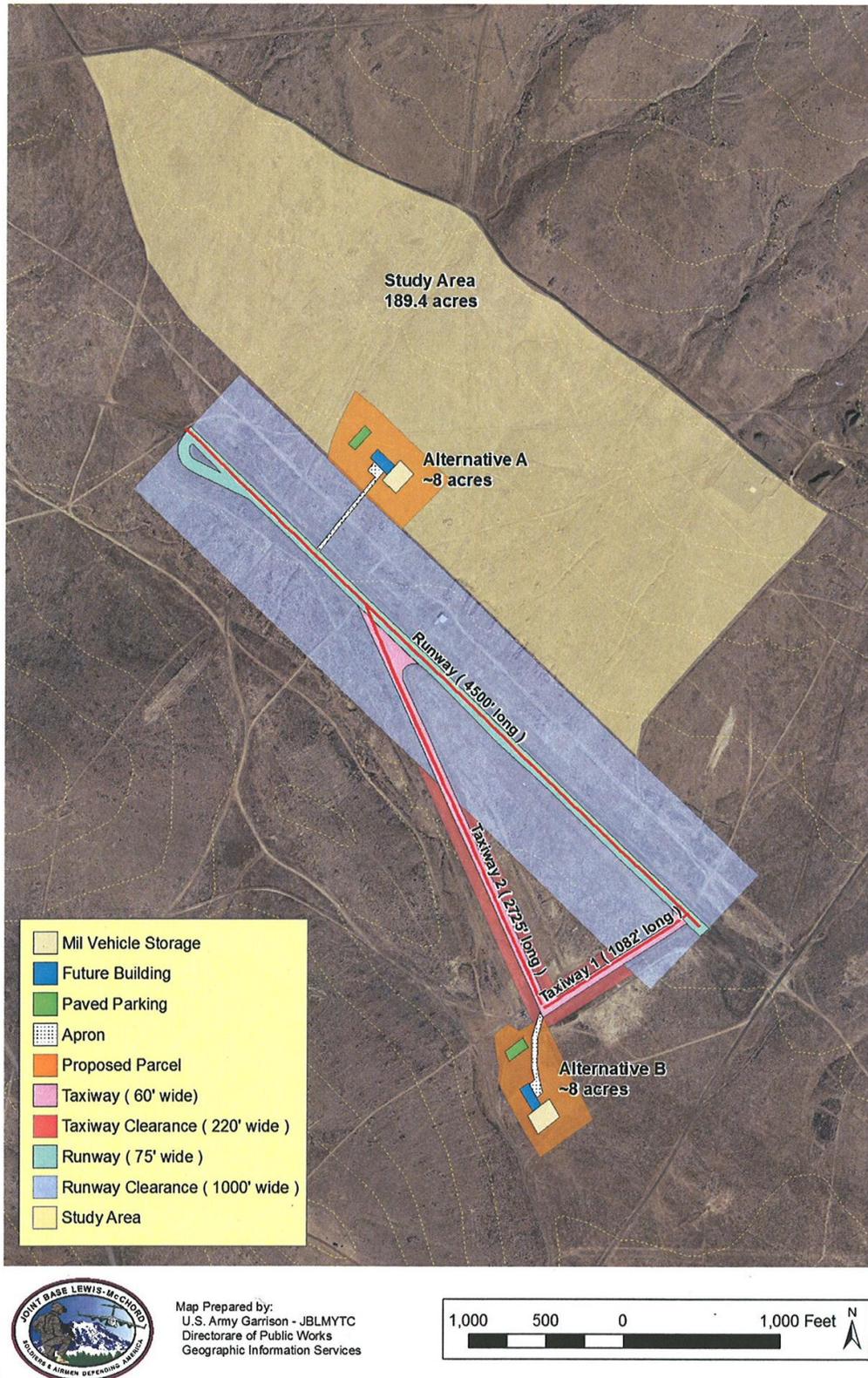


Figure 2-1 Selah Airstrip project site map and alternative locations.

Lastly, upgrades to existing access roads leading to the facility site may be necessary depending on the final site selected. Portable generators will be used during the construction of the facility, as well as during the utility extension. Based on the current TUAS fielded to this platoon, the SHADOW, a runway of 1,000 feet (304.8 meters) in length and at least 50 feet (15.2 meters) in width is sufficient to perform all necessary training exercises (see Fig. 2-2).

Actual construction of the proposed facility would be phased. Construction of the hangar/aircraft storage building is planned for FFY 2012, whereas the construction of the infrastructure for the facility is not known. If the latter is not constructed within three years of the finalization of this document, the WA ARNG will determine the need to prepare an updated NEPA analysis in the form of a Supplemental EA or tiered Categorical Exclusion. The WA ARNG will consult with ARNG-ILE before determining whether additional NEPA analysis is necessary. The WA ARNG will use this original EA as the foundation for the updated analysis and supplemental analyses would focus only on those issues, if any, that have changed.

2.1.2 Training

Training Requirements. The TUAS training requirements include:

- Integrated ground/air maneuver areas under restricted airspace
- Military targets and units conducting fire and maneuver
- Weather availability
- Proximity to transportation
- Transient billeting
- Classroom space

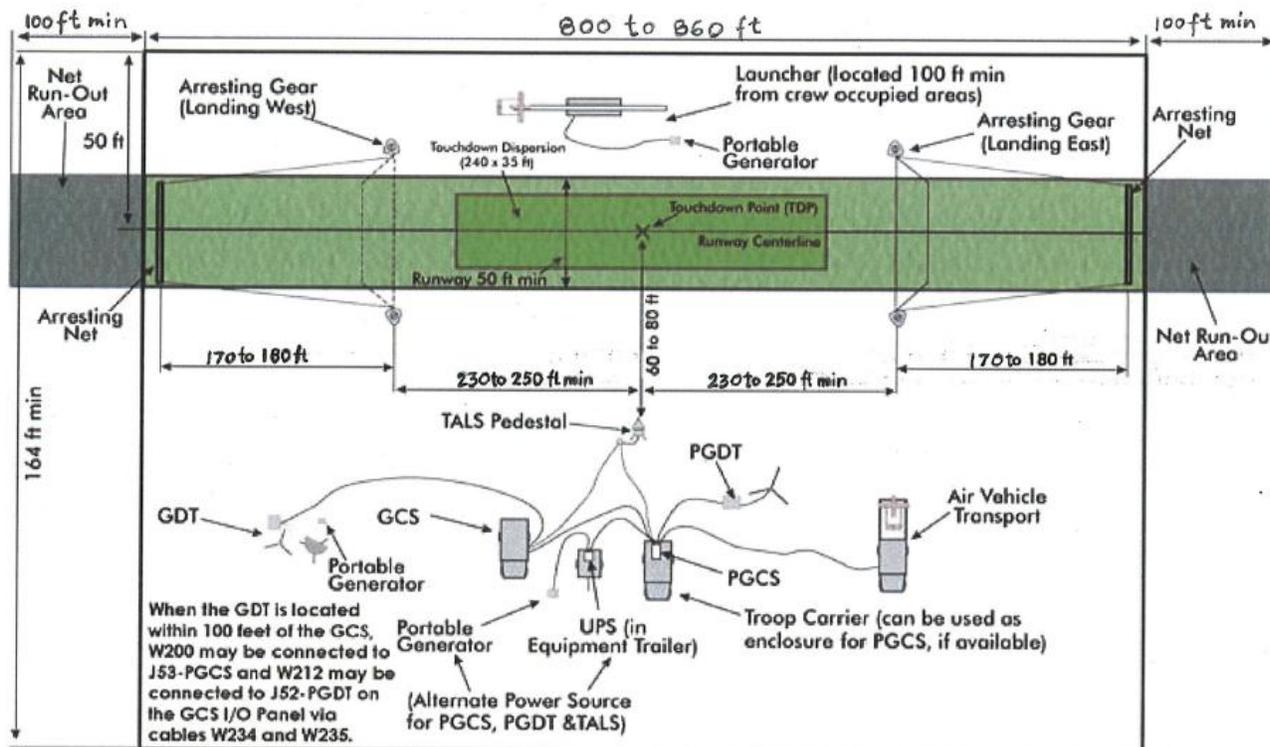
At the most basic level, training will center on mastering the operation and maintenance of the RQ-7 SHADOW. Gaining the skills and experience necessary to maintain and operate this aircraft system helps to ensure successful accomplishment of the platoon's primary mission: RSTA in support of the ground maneuver commander in theater. Specifically, training will include launch and recovery and in-flight maneuvering focused on surveillance and reconnaissance missions during the day and night:

- Surveillance of named areas of interest and target areas of interest.
- Support to route, area, and zone reconnaissance.
- Support to Intelligence Preparation of the Battlefield
- Support to situation development.
- Support to target acquisition.
- Support to Battle Damage Assessments

The components that make-up each SHADOW system is detailed below (see also Fig. 2-3):

1. the Ground Control Station (GCS) and related equipment
 - a. Primarily to control, track, and operate the aerial vehicles (AV).
 - b. Secondly to manipulate the payload and receive/process data from the payload.
 - c. Transfer data to those who need it.
2. Aerial Vehicles (see Table 2-1 for specifications)

- a. small, light aircraft
- 3. Modular Mission Payloads (MMP)
 - a. Primary payload is remote imaging equipment and communication equipment.
- 4. Communications;
 - a. Secure communications from GCS directly to:
 - i. command, control, communications, computers, and intelligence entities
 - ii. ground components



Legend:

GCS – Ground Control Station

GDT – Ground Data Terminals

TALS – Tactical Automated Landing System

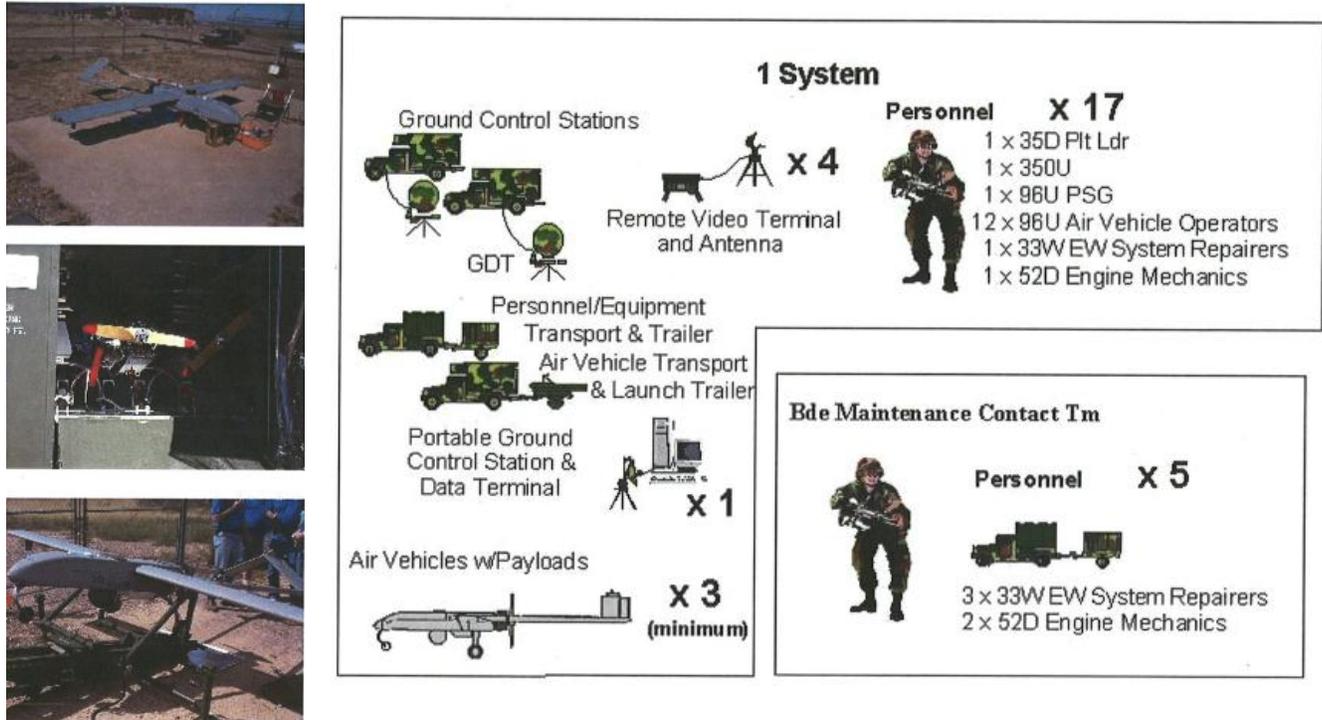
PGDT – Portable Ground Data Terminal

PGCS – Portable Ground Control Station

UPS – Uninterruptible Power Supplies

Source: Modified chart from Department of the Army-US Army Garrison. 2004. Environmental Assessment for the Training, Testing and Operation of Unmanned Aerial Vehicles at Redstone Arsenal, Alabama. Prepared by the Directorate of Environment and Safety, May 2004, Redstone, AL.

Figure 2-2 Launch and recovery site diagram.



Source: U.S. Army Intelligence Center (USAIC). 2000. Tactical Unmanned Aerial Vehicle (TUAV) Concept of Operations.

Figure 2-3 SHADOW system components.

The system will have a minimum of two Ground Control Systems, two Ground Data Terminals, one Portable Ground Control Station and one Portable Ground Data Terminal with line of sight command and control links to, and receipt of telemetry and imagery from the aerial vehicle, as well as two Tactical Automated Landing System. The Tactical Automated Landing System controls automated take-offs and landings; the aircraft sends position information to a ground antenna and the ground antenna replies with signals to maneuver the aerial vehicles keeping it on a specific glide slope to land. All take-offs and landings will be guided by this system (K. Curry, personal communication). Additionally, it will have four Remote Video Terminals to provide payload information in the area of operations. The system's four Remote Video Terminals that receive near real time video/telemetry from the aerial vehicle can be used by: the brigade in the Tactical Operations Center, the brigade's subordinate maneuver battalions, or the direct support artillery or supporting aviation assets. To maintain control, Ground Control Systems must have line of sight with the aerial vehicles, but do not have to be fixed at the launch and recovery site. Ground Control Systems can be located away from the initial launch and recovery site, closer to where the majority of flying will occur and aerial vehicles control will be transferred at the time of launch to the Ground Control System that is out in the field. The normal vertical range of operation for this aerial vehicle is from 3,000 ft above ground level to 15,000 ft mean sea level and the normal horizontal range is 68 miles (109.5 km). Standard operational altitude for SHADOW training is 6,000 ft for night operations and 8,000 ft for day

operations. Although the range of this aerial vehicle is 68 miles, all UAS training operations are required to remain in the restricted use airspace within YTC's borders.

Table 2-1 SHADOW Unmanned Aircraft System Specifications and Flight Capabilities.

Characteristics	TUAS Capability
Altitude: Maximum (km/ft)	4.6km / 15,000ft
Operating (km/ft)	0.9–3.7km / 3,000–12,000 ft
Endurance (Max): (hrs)	6 hrs
Radius of Action: (km/nm)	109.5km / 68mi
Speed: Maximum (km/hr -- kts)	227.8 km/hr -- 123 kts
Cruise (km/hr -- kts)	120 – 130 km/hr -- 65 – 70 kts
Loiter (km/hr -- kts)	120 – 130 km/hr -- 65 – 70 kts
Climb Rate (Max): (m/min -- fpm)	366 m/min -- 1200 fpm
Propulsion: Engine	One rotary
Prop	One pusher
Guidance & Control	Remote Control/Preprogrammed/Autonomous
Length (m/ft)	3.4 m / 11 ft
Wingspan: (m/ft)	3.9 m / 14 ft
Weight: Max (kg/lbs)	170 kg / 375 lbs
Payload (kg/lbs)	27.3 kg / 60 lbs
Fuel:	100LL
Capacity (kg/lbs)	23.1 kg / 50.7 lbs

Source: TUAV Concept of Operations (USAIC, 2000)

The platoon consists of 29 soldiers and one contractor from the manufacturer of the aerial vehicle, AAI Corporation. A typical training weekend begins with five to six soldiers arriving at YTC early for in-processing (preparing necessary equipment, coordinating use of training areas and ranges, and securing billeting). The rest of the platoon joins the initial coordination group later that evening, spends the night in the Cantonment in barracks, and mobilizes early the next morning to begin training with the RQ-7 SHADOW unmanned aerial system at the airstrip. During the three week annual training, the platoon would spend part of the time bivouacking in the field and part of the time utilizing the barracks in the Cantonment Area.

Training Standards. Operators and crewmembers of UAS have similarly rigorous proficiency requirements as compared to pilots of other aircraft, which are outlined in the Army Regulation (AR) 95-23 *Unmanned Aircraft System Flight Regulations* (HQDA, 2006). As of the date of this assessment, NGB and/or ARNG have not produced any follow-on guidance, distinct from AR 95-23; however, further details can be found in the Training Circular 1-600 (*Unmanned Aircraft Systems Commander's Guide and Aircrew Training Manual*, 23 August 2007) (HQDA, 2007c) which applies to Active Army, Army National Guard of the United States, and the United States Army Reserve (USAR).

In order to remain current and proficient, unmanned aircraft crews must train more than the standard National Guard commitment of one weekend per month and two weeks per year. The platoon is required to meet two weekends per month and for up to three contiguous weeks for their annual training (*Unmanned Aircraft Systems Commander's Guide and Aircrew Training Manual*, 23 August 2007). In addition to their weekend use of the facilities, full-time positions are necessary to accomplish everyday operational needs of the facility and of the platoon. On a daily basis, six personnel will be working at the facility full time, performing

administrative and maintenance activities at the Selah Airstrip hangar. UAS flights may also be performed during the week if a crew or single operator needs to fulfill a currency/proficiency requirement deadline.

The frequency and duration of flights necessary can be determined as per AR 95-23, based on the number of unmanned aerial crews and their initial readiness level at the onset of training. Based on the needs of the platoon, four crews of approximately seven soldiers will conduct one training flight each over the course of a typical training weekend. Each crew will be active in pre-flight, launch, flight, and recovery activities for approximately six to eight hours for each training flight. Out of the total time for one training flight, four to five hours will be actual flight time when the aerial vehicle is in the air. Therefore, a total of approximately 16 to 20 hours of SHADOW flight will occur per training weekend. A total of approximately 144 to 180 hours of flight time will occur during the platoon's three-week annual training. In some instances, more than one aerial vehicle will be flown at a time; however, this will not affect the total number of hours flown. Re-fueling of the aerial vehicles will take place at the TUAS facility either from a permanent storage tank and dispensing unit installed in the hangar, or from a 125 gallon tank and pump unit in the back of a high mobility multipurpose multi-wheeled vehicle. In the unlikely event of an aerial vehicle malfunction leading to an uncontrolled descent, an onboard parachute will deploy and bring the aerial vehicle to rest with a greatly reduced risk of aircraft damage. In the training environment, it is Army policy to deploy the onboard parachute 100 percent of the time when control of the aerial vehicle has been lost. The parachute installed in the platoon's UAS has an 80 percent rate of full aircraft recovery and a relatively mild landing can be inferred when parachute assisted. In 2009, a total of 26 SHADOW RQ-7B accidents reported out of all SHADOW flights accomplished in training and in a theater of operations (USACRC, 2009). In addition, out of all SHADOW training accidents for the past five years, none have resulted in a fire.

In the event that weather or other conditions would not permit standard unmanned aircraft flight operations, a SHADOW simulator can be used for training. Two types of simulation exist: First, the GCS can be used as a simulation device, where the aerial vehicle controller operates the GCS as if an aerial vehicle was in the air, however, this simulation does not afford practice of take-offs and landings. The other type of simulation device has the ability for soldiers to practice take-offs and landings, as well as aerial vehicle flight. The platoon does not yet have simulators, but is in the midst of obtaining them in an attempt to ensure uninterrupted training. The simulators have been proposed to be set up at the Kent, WA duty station to support the platoon when travel across the mountains to YTC is not possible; however, a final location for these training devices has not yet been decided (M. Dasaro, personal communication).

Training to be accomplished by the platoon beyond UAS-related exercises such as combined arms training; collective training at the company, battalion, or brigade level; and individual training have all been covered under previous NEPA analysis¹ (U.S. Army, 1994). Although this type of platoon/mission (TUAS platoon/RSTA) is new to the brigade, it does not entail an increase in soldiers or a change in the combined arms or collective training

¹ This document contains references to "Fort Lewis", "McChord AFB", and "YTC" which are legacy references and will not change over time. Others are temporary and will change to Joint Base Lewis-McChord as revisions and updates occur to those references.

at the brigade, battalion, or company level. Therefore, this EA evaluated only the platoon-specific TUAS training activities' and the construction of the TUAS facility's effects to YTC's resources.

2.2 Project Timing and Progression

The project's exact start date is unknown at this time but is anticipated to begin in October 2012 (FY 2013) depending on funding availability. The proposed construction action will be implemented in two phases: construction of the hangar/aircraft storage building and construction of infrastructure to service the building. The construction of the facility is expected to take 12 months and the expansion of utilities is expected to take two months.

2.3 Permits

This project will be implemented under federal contracting procedures and no state permitting is involved. No permits are necessary because YTC is a federal land and is exempt from local permitting requirements. Should there be a need to obtain any permit for compliance to federal laws and regulations, the Army's Department of Public Works is the permitting authority and would obtain those permits.

3.0 ALTERNATIVES CONSIDERED

3.1 Alternatives Development (Screening Criteria)

WA ARNG and YTC developed screening criteria (Table 3-1) to determine if the proposed action meets the project’s purpose and need. This is a critical element in choosing the potential sites for the implementation of the proposed action. The formulation of alternatives was structured around the specific criteria required by the UAS and by the host installation. This subject was discussed during the February 18, 2009 charrette for TUAS (See Appendix A for the meeting’s MFR). Sites not meeting the criteria were eliminated from further analyses.

The criteria specify that the site must:

- be within the state of Washington (driver: centralized and ready access by WA ARNG).
- have sufficiently sized restricted use airspace (driver: regulation; UAS are limited to this airspace).
- be clear of topographical and other obstacles to flight (driver: aerial vehicle capabilities).
- be supportive of combined arms, collective and individual training missions.
- have the least distance from existing infrastructure (driver: cost).
- have future expansion capability.
- have limited interference with existing training on host’s land (availability/continuity of training area and Range function)

Once the list of criteria was developed, the preliminary alternatives were weighed against it to reveal the preferred and follow-on alternatives. Criteria clearly evident for this proposed action are its location within WA State, as well as its location within restricted use airspace (RUA) to meet the platoon’s flight requirements. The WA ARNG narrowed the preliminary decisions on site location to options within YTC because it is the only place in Washington with sufficient restricted use airspace that can also accommodate additional air traffic and the platoon’s higher headquarters, the 81st HBCT, trains predominantly at YTC.

Table 3-1 Alternative comparison chart based on satisfaction of screening criteria.

Screening Criteria	In WA State	Sufficient RUA	Clear of Obstacles	Supports Training Mission	Infra-structure	Future Expansion	Limited Conflicts with existing training
Alternatives							
No Action	**	++	++	--	N/A	N/A	-
N. Selah Airstrip	**	++	++	++	+	++	++
S. Selah Airstrip	**	++	+	+	++	+	-
Alternatives Ruled Out							
Cold Creek Rd (R14)	**	+	-	--	--	~	--
Silica Drop Zone (DZ)	**	+	--	~	--	-	+

- ++ meets screening criteria the best
- + meets screening criteria adequately
- ~ neutral
- does not meet screening criteria well
- does not meet screening criteria
- ** screening criteria is an absolute (scale not applicable)

The proposed action involves the construction of one hangar/aircraft storage facility, parking areas, and related infrastructure to support the 81st HBCT TUAS Platoon at YTC. The amount of training, equipment, and the number of personnel will not vary, leaving only the facility's location to be evaluated with alternatives. The formulation of alternatives was structured around the specific criteria required by the UAS and by the host installation.

3.2 Alternatives Eliminated from Further Consideration

Neither of the following two alternatives (Cold Creek Road R 14 and Silica Drop Zone, Fig. 3-1) sufficiently met the screening criteria to achieve the outcome intended for this action and have therefore been ruled out for further detailed analysis.

3.2.1 Cold Creek Road (R14)

In the preliminary analysis, WA ARNG considered this site because it met four of the seven criteria; the site is within Washington, has sufficient restricted use airspace, is clear of obstacles, and allows some room for future expansion. While those basic characteristics are met to some degree, the other criteria were not met at all. Although the site is within Washington, it is not in a readily accessible area given the greater distance soldiers must travel to get there from the cantonment area. The long distance would also result in increased costs to run utilities.

3.2.2 Silica Drop Zone (DZ)

The WA ARNG considered this site in the preliminary analysis because it met four of the seven required criteria to some extent; it is within Washington, has access to sufficient restricted use airspace, supports the training missions and would have limited interference with existing training operations. When examined further, the WA ARNG decided that this site was unsuitable. Obstacles to flight at this site are numerous; the steepness of the topography constricts approach/departure routes, high tension power lines run 6 miles to the north with an existing proposal to add more lines, and the proximity of the restricted use airspace boundary on the west side limits the maneuverability of the aerial vehicle on take-off and landing, increasing the possibility that the aircraft may inadvertently fly outside the restricted use airspace. The site is far from existing infrastructure, causing the cost of the project to increase and there is limited space for future expansion.

3.3 Alternatives Evaluated

3.3.1 Alternative 1: No Action Alternative

The No Action alternative serves as a baseline from which to compare all other reasonable alternatives and is not analyzed as a viable option to accomplish the proposed action. The construction and operation of a TUAS facility would not occur; however, the operations and training of the platoon would still take place at YTC. The No Action alternative consists of the platoon working out of YTC and Selah Airstrip, but having no facilities at Selah Airstrip in which to do so. The platoon could potentially share the existing WA ARNG maintenance and training equipment site (MATES) within YTC's Cantonment Area as a stop-gap measure for the current lack of administrative, storage, and maintenance space and would conduct their flight training outside of Selah Airstrip. The MATES facility is the only facility located within the Cantonment Area of YTC that is potentially available to accommodate additional users; however, it would not meet the design standards and requirements for UAS

training and operation. This facility was originally intended for other purposes and was, therefore, not designed for use by a TUAS platoon. By sharing the MATES facility with other units and being within the Cantonment area, the platoon will be removed from their primary training area, and the efficiency and effectiveness of their training would be degraded.

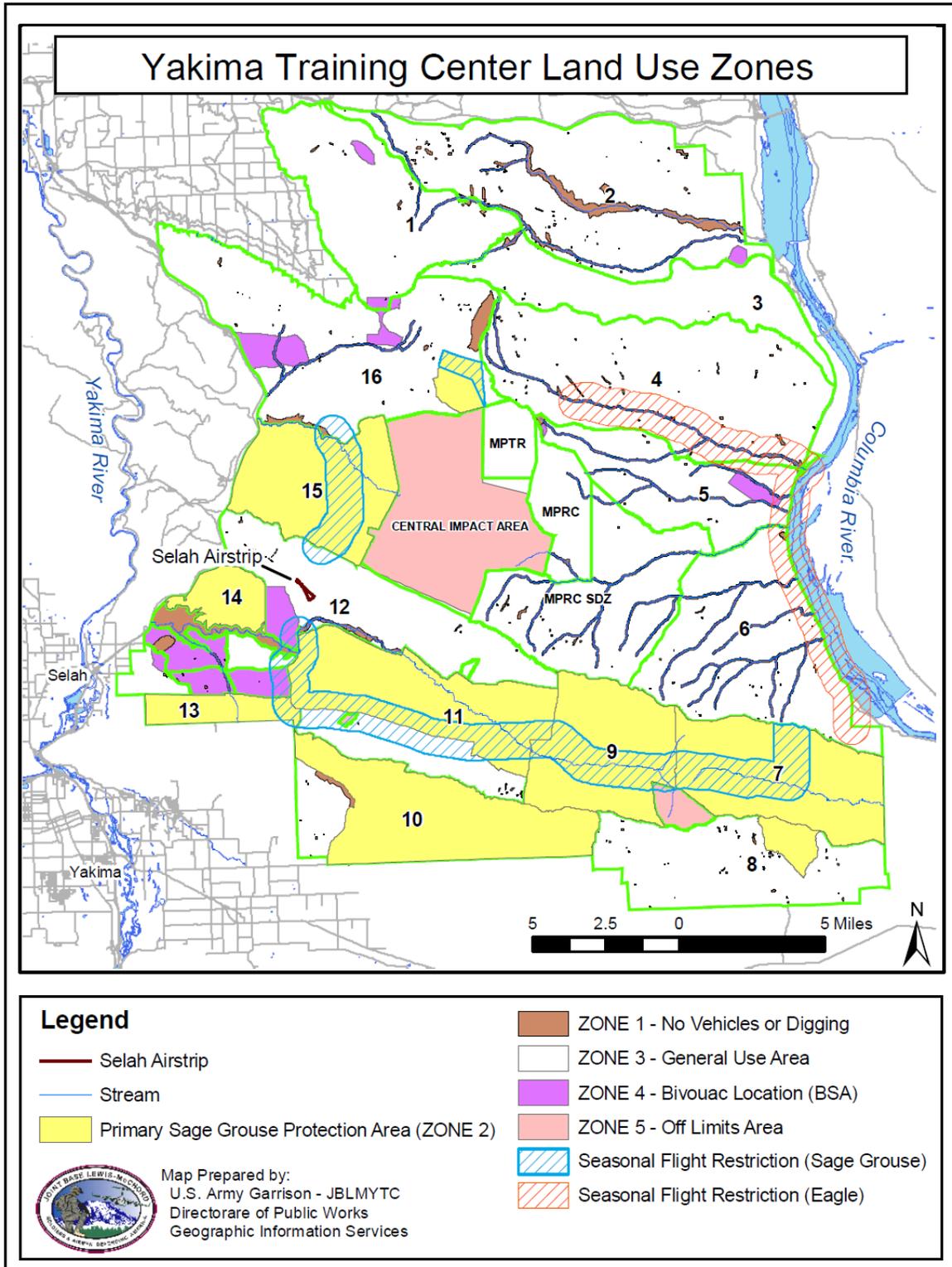
Under this alternative, training would still occur at YTC's Selah Airstrip. Given the lack of facilities, temporary tents would be erected and generators used to provide power to perform training operations with the SHADOW. All tents would be placed on existing hardened surfaces and all vehicles would be located either on these same hardened surfaces or adjacent to the taxiway/runway used as the take-off and landing site.

3.3.2 Alternative A: North Selah Airstrip

The North Selah Airstrip alternative (further referred to as 'N. Selah') consists of construction of the proposed facility at the north end of Selah Airstrip and conducting all UAS training, operations and maintenance at that site. The N. Selah site fulfills the needs of the platoon while at the same time has low interference with existing training conducted at YTC. Selah Airstrip is located in the southwestern part of YTC and in an attempt to achieve flexibility in the siting of the N. Selah alternative, an area of 189 acres has been delineated in which an approximately 8 acre National Guard Facility would be constructed. Given any contiguous 8 acre parcel within those 189 acres, the effects from construction and training would be essentially identical, creating room for the TUAS to shift one way or another depending on any further findings that may preclude the specific location of N. Selah alternative as mapped (Fig. 2-1). The airstrip is positioned such that obstructions to flight are at a minimum; the RUA boundary is far away enough to allow unconfined flight maneuvers on take-off/landing and there are no topographical obstructions either. This site supports the mission of the platoon by giving them enough space to conduct their training effectively and allows for possible future development as well. The distance to existing infrastructure is approximately 4.8 miles.

3.3.3 Alternative B: South Selah Airstrip

The South Selah Airstrip alternative (further referred to as 'S. Selah') consists of construction of the proposed facility at the southwest corner of Selah Airstrip and conducting all UAS training, administrative activities, operations and maintenance at that site. The approximately 8.0 acre S. Selah site has also been approved for use by JBLM-YTC, fulfills the needs of the platoon and has sufficient restricted use airspace for the platoon to work with; however, use of this site would encroach on the current use of Range 15 (R15) to the south of the airstrip. This site is within the range fan of R15, which is the third highest used range at YTC, and would require that R15 was closed while the TUAS facility was being used or vice versa. In addition, if R15 is in use, the WA ARNG would have to alter the access route to Selah Airstrip because a portion of the southern access route is closed during R15 live-fire operations. The WA ARNG would resolve this conflict by scheduling of the units' use of either training asset in advance through Range Control who manages the use of all training areas and ranges. No other obstacles to flight exist. The S. Selah site is supportive of the training mission and represents the alternative with the shortest distance to run utilities, 3.0 miles. Future expansion capability does not exist adjacent to this location, but could be possible to the north at other areas around the airstrip.



Source: Geographic Information Services, Yakima Training Center, 2012.

Figure 3-1 Land use map at and around Selah Airstrip.

4.0 AFFECTED ENVIRONMENT

The affected environment consists of all resource areas that could be directly or indirectly affected by the proposed action in the short term and the long-term. WA ARNG identified the resource areas that were reasonably expected to be affected by this action from the proponent's and the landowner's inputs. WA ARNG reviewed YTC's Cultural and Natural Resources Management Plan (ENRD, 2002) to describe resources present at YTC and checked each resource area to determine the applicability to this action and then finalized the list. The WA ARNG determined that air quality, water quality, biological resources, soils, historic/cultural resources, infrastructure, and hazardous materials and waste would be affected by the siting of this facility at any and/or all of the proposed alternative locations and are addressed further in this section.

The WA ARNG eliminated land use, noise, utilities and public service, protection of children and environmental justice from further impact analysis in Chapter 5.0 per 40 CFR 1501.7(a) (3) as WA ARNG determined that no impacts would occur with regards to these resources based on any of the alternatives considered for the proposed action. During early planning and charrette meetings, a multidisciplinary team including YTC's Deputy to the Garrison Commander, Director of Plans, Training, Mobilization and Security (DPTMS), environmental program manager and staff, DPW manager, range officer, operations officer, safety officer, aviation division officer, and air/traffic/air space officer, WA ARNG CFMO, engineers, real estate manager, and Deputy G3 and field representative for Congressman Hastings-4th District of WA reviewed management plans, studies, institutional knowledge and geospatial maps to determine expected levels of impact by proposed action (See MFR dated 20 February 2009 and Meeting Minutes dated 6 April 2010 in Appendix A).

No impacts are expected on land use and noise because the site is already an airstrip that is used for multiple training purposes, while the surrounding areas of Selah Airstrip have already been used for military training. Proposed action would not change noise contours. Selah Airstrip is currently used for activities including, but not limited to, forward arming and refueling point operations, driver's training, fixed wing landings and UAS training. An existing building at Selah Airstrip is currently used for office space and targetry maintenance, while a Range Complex is being renovated. This is a garrison facility and is not available for use by military components. Because of the relatively isolated location of the proposed facility, no direct or indirect impacts on the health and safety of children and minorities population would be expected. Protection of children will not be discussed further in this document. Activities associated with construction (e.g., equipment movement) have impacts similar to those encountered during training and with regular road maintenance activities. These types of activities do not disproportionately affect minority or low income populations. Because of the similarity of the actions in the proposed alternative sites to activities currently occurring in the area, environmental justice will not be discussed further in this document. No socioeconomic resources, such as recreation, population, housing, transportation and traffic, will be affected, as this action does not include stationing and no soldiers from this platoon will be utilizing resources outside of YTC.

No additional utilities or public service infrastructure than what currently exists at the Selah Airstrip are planned for the TUAS facility. Potable water and non-potable water needs for proposed actions can be met from existing systems. The proposed action would increase usage by an insignificant amount that is within the water

capacity available (S. Kruger, personal communication). All wastewater from the Cantonment Area that feeds into the sewer system is conveyed to YTC's wastewater treatment plant and the treated effluent is then released into the Yakima River. Sufficient capacity is available for wastewater generated by proposed action (S. Kruger, personal communication). In the proposed action the electricity to be run out to Selah Airstrip would follow existing roadway. Peak usage is expected to be within the capacity of the existing infrastructure (Puget Sound Energy staff, personal communication). Soldiers conducting training activities that require power outside of infrastructure network use generators. The roads that run throughout YTC's Cantonment and rangelands are sufficient for traffic volumes generated by proposed action. The proposed action will add no more than 10 vehicular trips per day to the existing YTC traffic and should not negatively impact traffic flow at affected intersections (LTC M. Abed, personal communication).

Selah Airstrip was constructed in 1978. AR 420-1 *Army Facilities Management (HQDA, 2009)* requires airfield pavements to meet certain strength and condition criteria for various types of aircraft. U.S. Army Corps of Engineers (2008) evaluated the Selah Airstrip in 2008 and was found to be inadequate for its projected traffic based on its pavement condition index ratings, and it was recommended that the runway not be used by unmanned aircraft systems due to the high-severity cracking that was observed (USACE, 2008). The runway at Selah Airstrip is 4,500 feet long and 75 feet wide; Taxiway 1 is 1,082 feet long and 60 feet wide; Taxiway 2 is 2,725 feet long and 60 feet wide; the turnaround apron is 500 feet long and 75 feet wide (Fig. 2-1) (USACE, 2008). The only useable space for UAS launch and recovery operations at Selah Airstrip is a stretch of approximately 800 feet (243.8 meters) on Taxiway 2 and the Turnaround apron at the north end of the runway; all other areas are not operational due to their deteriorated condition. Four active army components currently train with UAS at Selah Airstrip: 3 Stryker Brigade Combat Teams (SBCTs) and the local Special Forces Group. Two new UAS platoons are proposed with the possible stationing of the 16th medium Combat Aviation Brigade to JBLM. On average, UAS units use the airstrip eighty percent of the time, with the other twenty percent for all other uses. In 2008, the UAS units used the airstrip for a total of 183 days out of the year, and in 2009, 91 days out of the year (lower usage was due to units being deployed) (A. Felix, personal communication). Applying the eighty percent average to the above numbers, UAS training used Selah airstrip for approximately 146 days in 2008 and 72 days in 2009. No change in land use will occur with the implementation of the proposed alternatives.

Due to the terrain, the majority of the areas surrounding YTC is either uninhabited or sparsely populated (JBLM, 2010; ENRD, 2008). The post's employees, soldiers, and their families live off-post in the Yakima Valley area, approximately three miles southwest of YTC. Selah, Yakima, Naches, and Ellensburg are the leading residential areas. Major communities nearby the installation include Yakima, Terrace Heights, Selah, Moxee City, Ellensburg, and the Badger Pocket Area.

The region of influence for each activity under the proposed action is dependent upon the resource area that the action is affecting. For example, the region of influence for construction activities with respect to rare and sensitive plant species is the construction footprint and adjacent ground surfaces that are directly disturbed by construction equipment and personnel. The region of influence for the same activity with respect to air quality is

quite large encompassing areas on and off-post. A discussion of each activity's region of influence with respect to the individual resource areas is presented in Chapter 5, *Environmental Consequences*.

In the event that an aerial vehicle executes an uncommanded/uncontrolled descent to the ground, two resource areas may be affected: air quality and biological resources. The possible effects of this type of event will be discussed in more detail within the respective resource sections below.

4.1 Location Description

4.1.1 Geography

YTC is located in south central Washington State, northeast of the city of Yakima, situated directly between Interstate 82 (I-82) on the west and the Columbia River to the east (Fig. 1-1). It is approximately 327,232 acres in size, of which 1,688 acres are devoted to Cantonment Area, the city-like portion of the installation, and 325,544 acres are devoted to training areas, ranges, impact areas and other uses (ENRD, 2008). YTC straddles two counties, Kittitas to the north and Yakima to the south, with a combined population of 278,300 as of April 1, 2009 (Office of Financial Management, 2009). The population centers of each of these counties are Ellensburg (population 17,230), as well as Selah (population, 7,185) and Yakima (population 84,850), respectively (OFM, 2009).

4.1.2 Climate

YTC's climate is semi-arid to arid. The Cascade Mountains lay just west of YTC, serving as an effective rain shadow, resulting in an arid climate and a predominantly shrub-steppe ecosystem. The summer and winter seasons are more extreme to the east of the Cascades with measureable snowfall in the winter and hot, dry summers. YTC is marked by roughly east-west trending ridges with wide intervening valleys. The installation provides facilities and training lands in support of Joint Base Lewis-McChord and other Army and non-Army elements including: Navy, Air Force, Marines, Reserve and Guard components, and North American Treaty Organization (NATO) forces. The area surrounding YTC is predominantly agricultural, open land with a few concentrated areas of housing and commercial development centered on the cities of Selah, Yakima, and Ellensburg.

4.1.3 Military Mission

The primary mission of YTC is the support of military training. However, much of the 500 square miles that compose the installation are available for contemporary Native American uses, public recreation, and limited livestock trailing (ENRD, 2008). Restricted areas of YTC (e.g., impact and dud areas) are not open to the public.

The WA ARNG has both federal and state missions. The WA ARNG's federal mission is to maintain properly trained and equipped units available for prompt mobilization for war, national emergency, or as otherwise needed. The state mission is to provide trained and disciplined forces for domestic emergencies or as otherwise required by state laws. The Department of Army, under which the WA ARNG operates for its federal mission, also has an environmental mission to sustain the environment to enable the Army mission in perpetuity.

4.2 Air Quality

The U.S. Environmental Protection Agency (USEPA) regulates the nation's air emissions through the Clean Air Act, as amended in 1990. USEPA divided the U.S. into 10 regions and established standards on the

amount of criteria pollutants that can be emitted into the air by stationary sources, the National Ambient Air Quality Standards (NAAQS). The criteria pollutants are carbon monoxide (CO), lead (Pb), nitrogen oxide (NO), ozone, particulate matter (PM₁₀/PM_{2.5}), and sulfur dioxide (SO₂). These standards form a baseline from which to gauge air pollutant emissions across the country in order to gain an understanding of the country's current air quality and improve on it. Each region is designated as an attainment, non-attainment or maintenance area based on their level of compliance with NAAQS.

YTC is under the authority of the Washington State Department of Ecology (Ecology) and air quality regulations are specifically carried out by the Yakima Regional Clean Air Agency (YRCAA) for Yakima County and the Ecology-Central Regional Office for Kittitas County. YTC, and the entire proposed project area, is an attainment area for all criteria pollutants; however, a 49.5 acre PM₁₀ maintenance area originating from off-post, overlaps onto YTC, covering a small portion of the Cantonment Area (Fig. 1-1). A complete air emissions inventory for entire YTC stationary source emissions in 2009 indicates that the following amounts of criteria pollutants were emitted: 0.85 tons/yr CO, 3.75 tons/yr NO_x, 0.54 tons/yr VOC, 0.22 PM₁₀, 0.23 tons/yr PM_{2.5}, 0.20 tons/yr SO₂.

Greenhouse Gases (GHGs) are gases that trap heat in the atmosphere. Sources of these emissions are natural processes and human activities. The most common GHGs emitted from natural processes and human activities include carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O). Combustion sources are a prime source of these GHG emissions.

Historically, GHGs have not been regulated pollutants under the Clean Air Act. On December 7, 2009, the USEPA Administrator signed a final action finding that six GHGs constitute a threat to public health and welfare and that the combined emissions from motor vehicles cause and contribute to the climate change problem. On April 1, 2010, USEPA and the National Highway Traffic Safety Administration (NHTSA) issued the first national rule limiting GHG emissions from cars and light trucks. The requirements of the GHG light duty vehicle rule took effect on January 2, 2011. USEPA's *Mandatory Reporting of Greenhouse Gases Rule* also became effective on January 2, 2011, requiring large stationary sources in the U.S. to report GHG emission data. In general, the rule, codified in 40 CFR Part 98, requires that facilities that emit 25,000 tonnes (27,500 metric tons) or more per year of GHGs are required to submit annual reports to USEPA. The WA state passed its Final Rule effective January 1, 2011 (WAC 173-441) with reporting requirements for facilities exceeding 10,000 metric tons of GHG emissions per calendar year to begin on January 1, 2012 to the Department of Ecology.

USEPA tracks hazardous air pollutants in addition to the above criteria pollutants. Hazardous air pollutants are identified as air pollutants that are known to cause or may reasonably be anticipated to cause adverse effects to human health or the environmental. Lead and lead compounds are included on the list of hazardous air pollutants, and are emitted as a result of the consumption of 100 LL aviation gasoline which is used to run the SHADOW aerial vehicle (USEPA, 2008). The aerial vehicle is constructed out of a composite material, whereby in the event of a crash where a fire would ignite, the resulting fumes are toxic. In addition, if the fire would spread beyond the crash site into YTC's rangelands, particulate matter from the smoke would be released into the air. Research on this topic has shown that an aerial vehicle crash severe enough to ignite a

fire is extremely rare, and has not occurred with the SHADOW aerial vehicle in a training scenario for at least the last five years.

4.3 Geology, Soils and Topography

The three major controls on soil formation are climate, parent material (the underlying bedrock or unconsolidated sediment), and topography. Climate controls the rate of soil formation; parent material controls the composition of the resultant soil; and topography delineates the most conducive areas for soils to form. YTC lies within the Columbia Plateau physiographic province. The geologic formations underlying YTC are massive basalt flows that were deposited prior to a period of loess (windblown silt) deposition in the early Pleistocene, during the last ice-age. Attributable to the aeolian deposition, the thickest loess deposits were, and are today, on leeward facing slopes, while deposits on the windward slopes are relatively thin. During the Pleistocene ice-age, no glaciers reached the area of YTC; however, the overall climate was much wetter resulting in the alteration of the composition and lateral extent of the soil parent materials that were previously deposited.

The predominant parent materials throughout YTC are basalt and loess. YTC topography is dominated by east-west trending anticlinal and synclinal ridges and north-south trending drainages that dissect the ridges. Due to this topography, the most mature soils are found in the valleys as weathering processes, over time, have transported sediments from the steeper adjacent slopes. The combination of these factors results in silt loams being the predominant soil type throughout YTC. There are six soil types within the N. Selah site and two soil types present on the S. Selah site. The N. Selah site contains silt loams, loams, very stony loams, and cobbly loams, while the S. Selah site only contains various types of silt loams (Fig. 4-1).

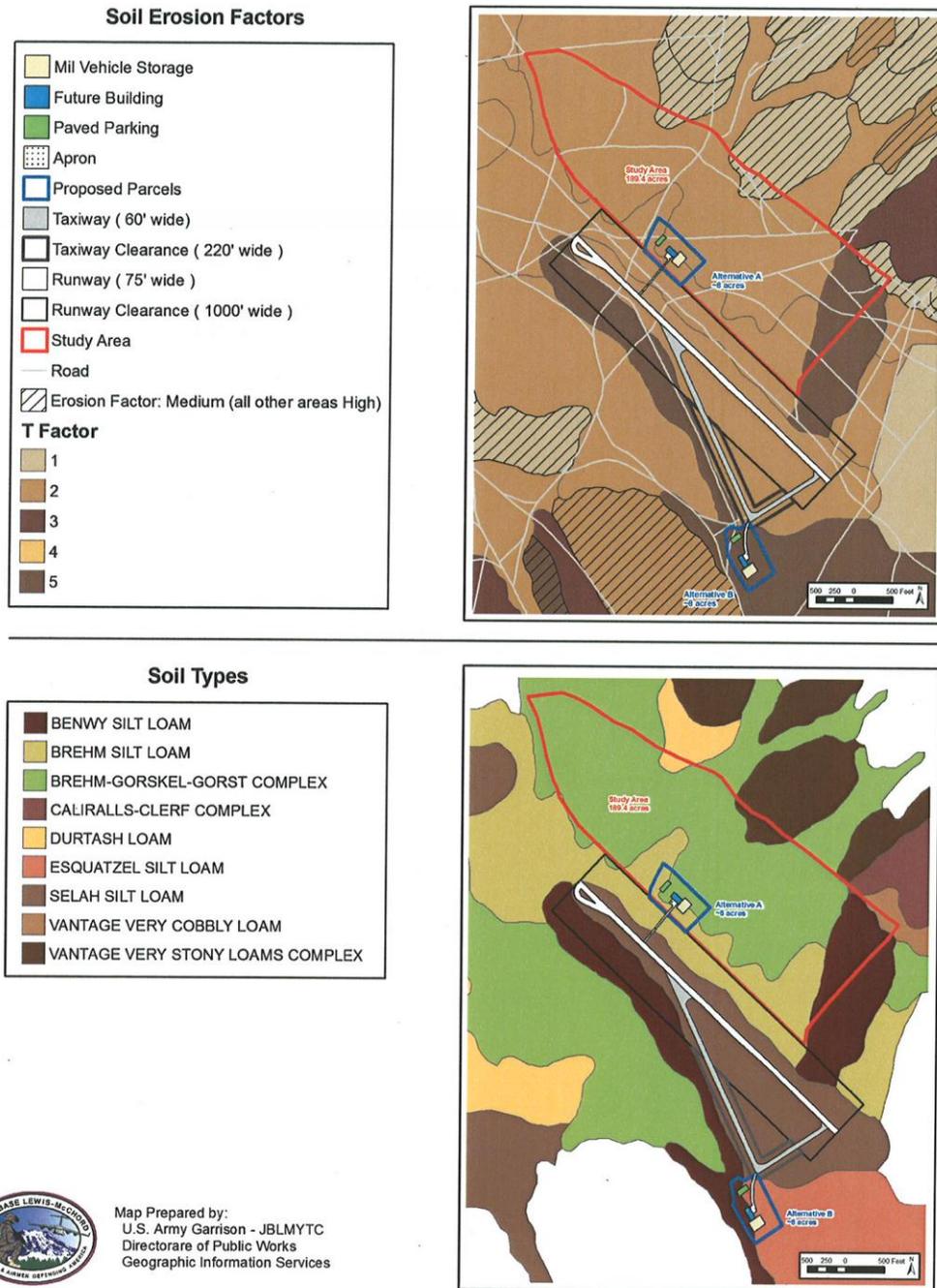
Soil erodibility is a descriptive feature, determined through K-factor values of low, medium, or high, based on the soil's allowable effective stress, defined as the maximum hydraulic stress that may be applied directly to the soil without the occurrence of unacceptable erosion (Fig. 4-1). K-factor, which is used in the Universal Soil Loss Equation and Revised Universal Soil Loss Equation, indicates the susceptibility of a soil to sheet and rill erosion by water (USDA-NRCS, 2006). K-Factors less than 0.37 have low soil erodibility, K-factors greater than 0.37 and less than 0.49 have moderate erodibility, and K-factors greater than 0.49 have high erodibility. Soils in the project area have K-factors ranging from 0.37 to 0.55, indicating moderate to high soil erodibility in the project area (Table 4-1). In addition to the K-values of soil, the T-value of soils describes the soil loss tolerance of a given soil (USDA-NRCS, 2006). The majority of soils within or near the proposed alternative locations have a tolerance of two metric tons per year of acceptable soil loss (Table 4-1). Wind erodibility also plays a factor in the amount of soil loss that can occur over time (USDA-NRCS, 2006). At both action alternative locations the wind erodibility rating indicates a low susceptibility to erosion.

Both proposed alternative locations for the TUAS facility are in relatively flat, vegetated areas; however, the utility expansion will cross Selah Creek and some areas of steeper terrain.

4.4 Water Resources

The Congressional protection of United States waters began in 1948 by the Federal Water Pollution Control Act. In 1972, this act was expanded and restructured into the Clean Water Act (CWA). This act limits the volume of pollutants that are discharged into any waters of the United States. YTC, being a federal installation, reports directly to USEPA regarding their water quality, rather than to the WA Department of Ecology Water

Quality Program. Although the state regulations do not apply to federal properties, YTC has a good working relationship with the state authorities and attempt to abide by both federal and state regulations/laws regarding water quality.



Source: Geographic Information Services, Yakima Training Center, 2012.

Figure 4-1 Soil types at Selah Airstrip

4.4.1 Hydrology

YTC lies within three watershed administrative units (WAU) whose boundaries coincide with watershed resource inventory areas (WRIA), as defined by the State of Washington natural resource agencies (JBLM, 2010) (Fig. 4-2). These include Lower Yakima (WRIA 37), Upper Yakima (WRIA 39), and Alkali/Squilchuck (WRIA 40). The project site is within the Upper Yakima.

YTC’s hydrologic conditions vary annually depending on seasonal snowpack and runoff characteristics (JBLM, 2010). Flash runoff events with minimum water retention can occur when rain falls on snow or frozen ground. Gradual melting of snow creates more consistent spring flows and recharges shallow aquifers resulting in higher, more consistent summer base flows. Several years of drought conditions can cause perennial streams to become intermittent or ephemeral in certain reaches. When shallow aquifers are recharged temporarily, intermittent reaches or ephemeral reaches may return to a perennial condition.

Table 4-1 Soil Types and Erosion Factors.

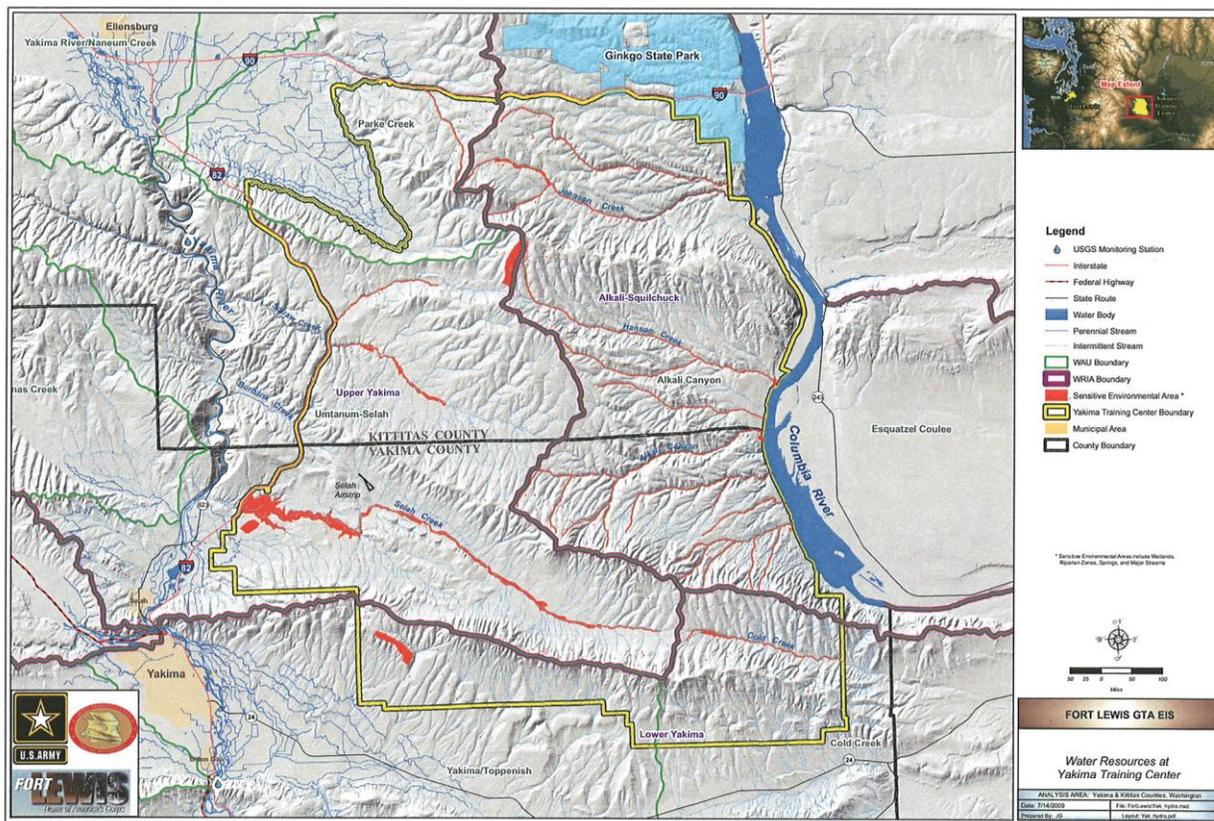
Alternative	Soil Type	K-Factor	Soil Erodibility	T-Factor	Wind Erodibility Group	Wind Erodibility Index
Study Area	BREHM-GORSKEL-GORST COMPLEX, 10 TO 15 PERCENT SLOPES	.49	High	2	5	56
	BREHM SILT LOAM, 5 TO 10 PERCENT SLOPES	.49	High	2	5	56
	VANTAGE VERY STONY LOAMS COMPLEX, 3 TO 15 PERCENT SLOPES	.37	Moderate	1	8	0
	BENWY SILT LOAM, 5 TO 10 PERCENT SLOPES	.49	High	2	5	56
	VANTAGE VERY COBBLY LOAM, 15 TO 30 PERCENT SLOPES	.37	Moderate	1	8	0
Alternative A	BREHM-GORSKEL-GORST COMPLEX, 10 TO 15 PERCENT SLOPES	.49	High	2	5	56
	BREHM SILT LOAM, 5 TO 10 PERCENT SLOPES	.49	High	2	5	56
Alternative B	BENWY SILT LOAM, 5 TO 10 PERCENT SLOPES	.49	High	2	5	56
	ESQUATZEL SILT LOAM, 0 TO 2 PERCENT SLOPES	.55	High	5	5	56
	SELAH SILT LOAM, 2 TO 5 PERCENT SLOPES	.49	High	2	5	56

Source: Table created by JBLM based on information from the United States Department of Agriculture Natural Resource Conservation Service, 2006.

4.4.2 Surface Water

The surface water resources at YTC include streams, seeps, springs, and ponds (ENRD, 2002). Natural wetlands on YTC are rare given the arid to semi-arid climate of the region; however, there is a network of streams that drain the area of its surface run-off to either the Columbia River to the east or the Yakima River to the west (Fig. 4-2). The proposed action is located within the Selah Creek Sub-basin of the Yakima River, near

the lower reach of the creek. Any run-off in connection with this project would drain to the west into the Yakima River, via Selah Creek. Selah Creek receives perennial flow in sections of its upper and lower reaches; however, in its lower reaches, there are no contiguous sections that reach from the Selah Airstrip area all the way to the Yakima River.



Source: Joint Base Lewis-McChord (JBLM). 2010. Final Environmental Impact Statement for the Fort Lewis Army Growth and Force Structure Realignment. JBLM, WA.

Figure 4-2 Water resources at YTC.

YTC’s network of streams is managed as 10 distinct watershed units (ENRD, 2008) and in general the streams are characterized by highly variable flows, given a location within an arid region and the subsequent pattern of infrequent precipitation and snowmelt events of high volume. The soil’s ability to absorb water from high volume rainfall and snowmelt can be impeded by frozen ground and compaction from training events and sparsely vegetated terrain, resulting in water flowing over the surface as run-off. Rapid precipitation events and lower infiltration capability of the soils, leads to erosion throughout stream beds and higher sediment loads entrained in the flow. The quality of sections of the major streams of YTC has not been formally classified; however, they are considered Class A (excellent) based on the Washington State criteria for water quality (ENRD, 2007; Washington Administrative Code (WAC) 173-201A). This rating can be highly variable in eastern Washington given the wide spectrum of differing conditions that can occur along the length of any one stream.

For example, the upper reaches of a stream may be considered excellent, while other reaches/sections of the same stream may not even be supporting water flow (simply due to lack of precipitation or a lowered ground water table).

4.4.3 Ground Water

The Washington State Department of Health governs all drinking water related issues as tasked by USEPA and a Sanitary Control Area is applied to all drinking water wells per the guidance of WAC 246-290. Individualized Wellhead Protection Areas for each drinking water well are required by Washington State Department of Health (WAC 246-290-135), and are defined by subsurface geology/hydrology, surface water infiltration rates, and groundwater flow rates. YTC has an established potable water infrastructure and an ample supply of potable water. The WA ARNG facility will have its own well to supply potable water and therefore the existing YTC infrastructure will not be affected.

Generally, shallow groundwater aquifers in the region are recharged locally by precipitation, and the ability of water to infiltrate the surface and recharge the shallow aquifers depends partly on the condition of soils (*i.e.*, compacted vs. intact soil structure) and the area's vegetative cover (*i.e.*, sparse, dense). Impacts on these resources may also impact the groundwater.

Selah Airstrip currently has one well on the south end of the taxiway. YTC detected a restricted use pesticide in the Selah Airstrip well in November 1994, and began conducting quarterly sampling until completing the repair and reseal of the well in 1998. This pesticide had been applied aerially in 1987 to control knapweed. After re-casing and re-grouting the well, the surface contamination source was eliminated and no further contamination was found in the well.

4.5 Biological Resources

At YTC, the semi-arid climate is the predominant factor controlling the types and diversity of its plant and animal life. YTC is characterized by a shrub-steppe ecosystem. Subsequently, any wetland areas are limited to the immediate vicinity of perennial streams, seeps, and springs and riparian plants and animals are limited to roughly those locations as well. Wildlife habitats characteristic of YTC include shrub and grassland communities (Table 4-2) that dominate the vegetated landscape, as well as stringers of wetland habitats. These habitats support multiple types of mammal, bird, fish and reptile species.

Several species of fish, wildlife, or plants are of management concern for YTC due to their current or potential federal status under the Endangered Species Act (Tables 4-3 and 4-4), the Bald and Golden Eagle Protection Act, and/or the Migratory Bird Treaty Act. Fort Lewis Regulation (FL Reg) 420-5 (Department of the Army, 1990) outlines the procedures for the protection of special status species on JBLM and YTC. The WA ARNG developed the list of species to be analyzed in this EA through informal verbal and formal consultations with USFWS and National Oceanic and Atmospheric Administration (NOAA) Fisheries Service (NMFS), searching the USFWS, NMFS, WDFW and WDNR web-based resources, discussions with YTC Environmental staff, and through the review of species and habitat lists contained in recent biological assessments (JBLM, 2010) that have concluded Section 7 ESA consultation with the regulatory agencies.

Tables 4-3 and 4-4 present special status plants and animals that occur on or near YTC. Discussions below focused only on those species listed in these tables that are threatened/endangered and candidate species for

Yakima County and WA state threatened/endangered species. Species that are federal- or state-listed but are not known to occur on or near YTC were not included in the discussions.

Table 4-2 Vegetation Classes within Training Area 12 (TA12).

Vegetation Class Name^{1/}	Species Code^{2/}	Acres	Percent of Coverage
Bluebunch wheat grass	PSSP	5614.1	34%
Big sagebrush/Bluebunch wheat grass	ARTR/PSSP	2821.7	17%
Goldenweed/Sandberg's bluegrass	HAST/POSE	1991.5	12%
Goldenweed/Bluebunch wheat grass	HAST/PSSP	1573	10%
Big sagebrush [Antelope bitterbrush]/Bluebunch wheat grass	ARTR[PUTR]/PSSP	1012.9	6%
Riparian	RIPARIAN	1016.9	6%
Thymeleaf buckwheat/Sandberg's bluegrass	ERTH/POSE	779.6	5%
Stiff sagebrush/Sandberg's bluegrass	ARRI/POSE	233.7	1 %
Big sagebrush/Sandberg's bluegrass	ARTR/POSE	227.9	1%
Threetip sagebrush/Idaho fescue	ARTRP/FEID	244.6	1%
Threetip sagebrush – Big sagebrush/Bluebunch wheat grass	ARTRP-ARTR/PSSP	179.4	1%
Disturbed	DISTURBED	41.8	< 1%
Total Acreage		16,441.6 Acres	

^{1/}There are twelve additional vegetative classes that exist within TA12 each with <1% of ground cover throughout TA12. These are not listed explicitly in this table given that their coverage is minor and that none of these vegetative classes exist on either of the proposed action alternative locations, with the exception of Sandberg's bluegrass/Cheat grass, which is present on 1.8 acres of Alternative B (S. Selah).

^{2/}When collecting field data, it is more efficient to record species using codes rather than full names. The code consists of the first two letters of the genus and the first two letters of the species, and is always capital letters.

Source: Yakima Training Center Cultural and Natural Resources Management Plan (ENRD, 2002).

4.5.1 Vegetation

YTC lies within the shrub-steppe Columbia River Basin province of eastern Washington and Oregon (Franklin and Dyrness, 1973). Shrub-steppe vegetation is characterized as the potential big sagebrush (*Artemisia tridentata*)/bluebunch wheatgrass (*Pseudoroegneria spicata*) zone (Daubenmire, 1970) and was once widespread throughout the Columbia Plateau (ENRD, 2002). This is the community that is expected to occur without disturbance; however, today very little shrub-steppe remains undisturbed or unaltered from its condition prior to Euro-American settlement and it is considered one of North America's most imperiled and neglected ecosystems (Dobkin and Sauder, 2004). Only about 40% of the original shrub-steppe in Washington remains (Dobler *et al.*, 1996), with Yakima County supporting the largest amount of shrub-steppe in the state retaining 58% of its original acres. The few remaining large areas of shrub-steppe in Washington are primarily on federal holdings such as YTC and Hanford Reach National Monument as well as the Yakama Indian Nation reservation and may represent the only suitable sites for species requiring extensive areas of continuous shrub-steppe (Dobler *et al.*, 1996).

Table 4-3 Special status plant species that may Occur on or Near Yakima Training Center

Common Name	Scientific Name	Federal Status (Yakima County) ¹	WA State Status ¹	Analyzed in the EA?
Beaked cryptantha	<i>Cryptantha rostellata</i>	-	T	Yes
Beaked spike-rush	<i>Eleocharis rostellata</i>	-	S	No ³
Bristle-flowered collomia	<i>Collomia macrocalyx</i>	-	S	No ³
Cespitose evening-primrose	<i>Oenothera caespitosa</i> <i>ssp. caespitosa</i>	-	S	No ³
Columbia milk-vetch	<i>Astragalus columbianus</i>	SC	S	No ³
Coyote tobacco	<i>Nicotiana attenuata</i>	-	S	No ³
Dwarf evening-primrose	<i>Camissonia pygmaea</i>	-	-	No ³
Gray cryptantha	<i>Cryptantha leucophaea</i>	SC	S	No ³
Hoover's desert-parsley	<i>Lomatium tuberosum</i>	SC	S	No ³
Hoover's tauschia	<i>Tauschia hooveri</i>	SC	T	Yes
Kalm's lobelia	<i>Lobelia kalmii</i>	-	E	Yes
Miner's candle	<i>Cryptantha scoparia</i>	-	S	No ³
Narrow-stem cryptantha	<i>Cryptantha gracilis</i>	-	S	No ³
Nuttall's sandwort	<i>Minuartia nuttallii</i> <i>ssp. fragilis</i>	-	T	Yes
Paiute suncup	<i>Camissonia scapoidea</i> <i>ssp. scapoidea</i> ²	-	S	No ³
Pauper milk-vetch	<i>Astragalus misellus</i> <i>var. pauper</i>	-	S	No ³
Suksdorf's monkey-flower	<i>Mimulus suksdorfii</i>	-	S	No ³
Umtanum desert buckwheat ²	<i>Eriogonum codium</i>	-	E	Yes
Ute ladies'-tresses ²	<i>Spiranthes diluvialis</i>	T	E	Yes
White eatonella	<i>Eatonella nivea</i>	-	T	Yes

¹T – Threatened, E – Endangered, C – Candidate, S – Sensitive, SC – Species of Concern

² – Common name in Washington Natural Heritage listing is naked-stemmed evening-primrose

³ – Not analyzed further in detail because neither Federal T, E or C species nor WA state T or E species; Not detected to be present at the proposed project site

Sources: Joint Base Lewis-McChord (JBLM). 2010. Final Environmental Impact Statement for the Fort Lewis Army Growth and Force Structure Realignment. JBLM, WA; U.S. Fish and Wildlife Service, <http://www.fws.gov/wafwo/speciesmap/YakimaCounty0312.pdf> and WDNR, <http://www1.dnr.wa.gov/nhp/refdesk/lists/plantrnk.html>. Accessed September 5, 2012.

Upland vegetation communities on the installation consist of a mosaic of native and non-native grasslands and a variety of shrubland communities often composed of several species of Sagebrush (*Artemisia* sp.). The

intricate mosaic of these plant communities is the result of complex soil patterns, topography, precipitation patterns, and past and current land uses. Historic and present day causes of disturbance to vegetation on YTC include conversion of land to agricultural uses, grazing, fire, construction, road building, the deliberate and inadvertent introduction of non-native species, and maneuver training exercises. Disturbance reduces native plant species cover and diversity, changes species composition and structure, and increases the likelihood of invasion by non-native species (Rickard *et al.*, 1988). Native bunchgrasses and native forbs are particularly vulnerable to disturbances and have decreased dramatically in most portions of the shrub-steppe in Washington.

All action alternatives are located within Training Area (TA) 12 (16,441.6 acres). The vegetation communities within TA 12 are listed in Table 4-2 and YTC's vegetation communities are shown in Fig. 4-3. Bluebunch wheat grass (5,614.1 acres) and big sagebrush/bluebunch wheatgrass (2,821.7 acres) vegetation communities comprise 51% of the communities present within TA 12. North Selah Airstrip alternative consists of 181.8 acres big sagebrush/bluebunch wheatgrass, 5.8 acres disturbed, and 1.4 acres of goldenweed/sandberg's bluegrass communities within the area of consideration. The proposed construction footprint as currently depicted within N. Selah alternative consists entirely of a big sagebrush/bluebunch wheatgrass vegetation community. South Selah Airstrip alternative consists of 6.5 acres of big sagebrush/bluebunch wheatgrass and 1.8 acres of sandberg's bluegrass/cheatgrass vegetation communities.

Based on the vegetation communities present within the proposed action alternatives, there are several Washington State status plant species that may be present (Table 4-2). A survey of S. Selah was conducted in 2009 and no status species were found. Subsequent surveys for rare/sensitive plants indicated that there are no rare/sensitive plant species found in action alternative footprints.

4.5.1.1 Beaked Cryptantha

Beaked cryptantha (*Cryptantha rostellata*) is listed in WA state as threatened. It is known to occur in Kittitas, Klickitat and Asotin counties in WA and historically known to occur in Yakima and Walla Walla counties (WDNR, 2012). This species is usually found in scattered patches along drainages, generally on coarse substrates. Grazing, erosion, and habitat invasion by exotic species are among the threats to beaked cryptantha. This species was not detected to be present at the proposed project site during the YTC's 2009/2010 survey.

4.5.1.2 Hoover's Tauschia

Hoover's tauschia (*Tauschia hooveri*) is state listed as threatened and is a species of concern at the federal level (WDNR, 2012; USFWS, 2012). A regional endemic of the Columbia Basin, Hoover's tauschia occurs from Toppenish Ridge in south central Yakima County, northward to the southeastern foothills of the Wenatchee Mountains in east-central Kittitas County (WDNR, 2012). The species is found on basalt lithosols in sagebrush habitats, at elevations of 1,400 to 3,000 feet (427 to 914 m). On YTC, Hoover's tauschia occurs on the south slopes of Yakima Ridge in Selah Canyon and at several sites in the northern portion of YTC (JBLM, 2010). One population of this species is protected on the installation. This species is threatened by habitat losses (due to orchard expansion and real property development), herbicide drifts, grazing, road construction and off-road vehicle use. This species was not detected to be present at the proposed project site during the YTC's 2009/2010 survey.

4.5.1.3 Nutall's Sandwort

Nutall's sandwort (*Minuartia nuttallii* ssp. *fragilis*) was reported to occur on or near YTC (JBLM, 2010), although WA DNR's Natural Heritage list indicated that it has been seen only in Grant county (WDNR 2012). This species is a threatened species at the WA state level. It has been found to grow in desert ridges (raised basalt) in rocky to gravelly or sandy soil (WDNR, 2012). Primary threats to Nutall's sandwort's remaining population are off-road vehicles. This species was not detected to be present at the proposed project site during the YTC's 2009/2010 survey.

4.5.1.4 Umtanum Desert Buckwheat

Umtanum desert buckwheat (*Eriogonum codium*) is not known to occur on YTC, although suitable habitat may be present (JBLM, 2010). This species is a long-lived, slow-growing, woody perennial plant that forms low, dense mats. The species occupies a single location on the Hanford National Monument in Washington State. It is found only on an exposed basalt ridge; it is not known if this association is related to the chemical or physical characteristics of the bedrock or other factors. Individual plants may exceed 100 years of age based on counts of annual growth rings. A count in 1997 reported 5,228 individuals; by 2005, the figure had dropped to 4,418, declining 15 percent over 8 years. The major threats to the species are wildfire, firefighting activities, trampling, and invasive weeds. However, the relationship between the decline in population numbers and the known threats is not understood at this time. With the possible exception of wildfire, the observed decline in population numbers and recruitment since 1997 is not directly attributable to the currently known threats. Because the population is small, limited to a single site, and sensitive to fire and disturbance, the species remains vulnerable to the identified threats. Umtanum desert buckwheat is a state listed endangered species (WDNR, 2012). This species was not detected to be present at the proposed project site during the YTC's 2009/2010 survey.

4.5.1.5 Ute ladies'-tresses

Ute ladies'-tresses (*Spiranthes diluvialis*) is a perennial, terrestrial orchid known to occur in eight U.S. states: Nevada, Utah, Colorado, Idaho, Washington, Nebraska, Wyoming, and Montana. The USFWS listed ute ladies'-tresses as a federally threatened species on January 17, 1992 due to habitat loss and modification. In Washington, this species is a WA state endangered species that is known to occur in the north-central portion of the state such as Okanogan and Chelan Counties) (WDNR, 2012) and may also occur in Kittitas and Yakima Counties due to the presence of suitable habitat there. Ute ladies'-tresses grows in the western region of its range, usually abutting or near moderate gradient, medium to large streams and rivers at elevations ranging from 1,500 to 7,000 feet (457 to 2,134 m). This species prefers riparian areas in the transition between mountains and plains, where the water table is within twelve inches of the surface in order for the plant to be in saturated soil throughout its growing season. This species depends on natural disturbance, growing in areas where early successional conditions are perpetuated or competition from other vegetation is restricted (USFWS, 2000). Although potential habitat for this species may occur on YTC, numerous plant surveys and vegetation assessment of riparian associated habitat have not documented ute ladies'-tresses occurrence on the installation. As discussed above, potential habitat for this species does not exist within the proposed alternatives nor is it expected to be impacted by the proposed action. This species was not detected to be present at the proposed project site during the YTC's 2009/2010 survey.

4.5.1.6 White Eatonella

Listed as threatened in WA state, white eatonella (*Eatonella nivea*) has been known to occur only within the Columbia Basin physiographic province, specifically in Grant and Kittitas counties (WDNR, 2012). This species occurs in shrub-steppe vegetation type, in areas with fine, pea-sized gravel that is derived from basalt and is deep red in color. Threats to this species include trampling and disturbance to the substrate by domestic livestock, gravel extraction, disturbance from recreational uses, disturbance from activities associated with military training, and habitat invasion by exotic species. The habitat for this species does not exist within the proposed alternatives nor is it expected to be impacted by the proposed action. This species was not detected to be present at the proposed project site during the YTC's 2009/2010 survey.

4.5.2 Fish and Wildlife

Johnson and O'Neil (2001) identified 651 species of wildlife that reside in Washington State. On YTC, there are approximately 246 species of wildlife and 10 to 12 species of fish that occur or are expected to occur based on known ranges and habitat preferences (ENRD, 2002). With such an array of fish and wildlife species, a combination of both coarse (wildlife habitat) and fine filter (species specific) approaches are used to manage fish and wildlife species on YTC. Habitat is fundamentally linked to the distribution and abundance of species and underlies explanations of the factors, patterns, and processes that support fitness of wildlife at individual, population, and community levels, as well as their continuing evolution (Johnson and O'Neil, 2001).

Wildlife habitats characteristic of this region and YTC include those vegetation communities described above, their structural components (*i.e.*, shrub height, percent cover), specific habitat elements contained within them (*e.g.*, soil characteristics, cliffs, burrows), anthropomorphic features (*e.g.*, roads, buildings, lights) and their potential effects. Wildlife utilizes habitats comprised of the vital components necessary to result in healthy and viable populations.

Within TA 12, there is a mosaic of vegetation communities ranging from Shrub-steppe to shallow soil scablands and riparian areas (Fig. 4-3 and Table 4-2). Within the action alternatives, the predominant vegetation communities consist of big sagebrush/bluebunch wheatgrass, goldenweed/sandberg's bluegrass, disturbed, and sandberg's bluegrass/cheatgrass. Wildlife, to include migratory birds, associated with these types of vegetation communities are expected to occur with big sagebrush/bluebunch wheatgrass communities providing for the greatest diversity of wildlife species relative to the other habitat types. The proposed alternatives exist adjacent to the Selah Air Field consisting of runways, taxiways, and an existing building. In addition, many access roads are present within and adjacent to the proposed alternatives.

Table 4-4 Special status fish and wildlife species that may Occur on or Near Yakima Training Center

Common Name	Scientific Name	Federal Status (Yakima County) ¹	WA State Status ¹	Analyzed in the EA?
Fish				
Bull trout	<i>Salvelinus confluentus</i>	T	C	Yes
Chinook salmon (Upper Columbia Spring Run)	<i>Oncorhynchus tshawytscha</i>	-	C	No ³
Steelhead trout (Mid-Columbia)	<i>Oncorhynchus mykiss</i>	-	C	No ³
Steelhead trout (Upper Columbia)	<i>Oncorhynchus mykiss</i>	-	C	No ³
Reptiles and Amphibians				
Columbia spotted frog	<i>Rana luteiventris</i>	-	C	No ³
Northern leopard frog	<i>Rana pipiens</i>	SC	E	Yes
Sagebrush lizard	<i>Sceloporus graciosus</i>	SC	C	No ³
Sharptail snake	<i>Contia tenuis</i>	SC	C	No ³
Striped whipsnake	<i>Masticophis taeniatus</i>	-	C	No ³
Birds				
American white pelican	<i>Pelecanus erythrorhynchos</i>	-	E	Yes
Bald eagle	<i>Haliaeetus leucocephalus</i>	SC	S	No ³
Burrowing owl	<i>Athene cunicularia</i>	SC	C	No ³
Common loon	<i>Gavia immer</i>	-	S	No ³
Ferruginous hawk	<i>Buteo regalis</i>	SC	T	Yes
Golden eagle	<i>Aquila chrysaetos</i>	-	SC	No ³
Greater sage-grouse	<i>Centrocercus urophasianus</i>	C	T	Yes
Lewis's woodpecker	<i>Melanerpes lewis</i>	-	C	No ³
Loggerhead shrike	<i>Lanius ludovicianus</i>	SC	C	No ³
Merlin	<i>Falco columbiarius</i>	-	-	No ³
Northern goshawk	<i>Accipiter gentilis</i>	SC	C	No ³
Olive-sided flycatcher	<i>Contopus borealis</i>	SC	-	No ³
Sage sparrow	<i>Amphispiza belli</i>	-	C	No ³
Sage thrasher	<i>Oreoscoptes montanus</i>	-	C	No ³
Sandhill crane	<i>Grus canadensis</i>	-	E	Yes
Western grebe	<i>Aechmophorus occidentalis</i>	-	C	No ³
Yellow-billed cuckoo	<i>Coccyzus americanus</i>	C	C	Yes
Mammals				
Black-tailed jackrabbit	<i>Lepus californicus</i>	-	C	No ³
Keen's myotis	<i>Myotis keenii</i>	-	C	No ³
Merriam's shrew	<i>Sorex merriami</i>	-	C	No ³
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	SC	C	No ³
Townsend's ground	<i>Spermophilus townsendii</i>	SC	C	No ³

squirrel				
White-tailed jackrabbit	<i>Lepus townsendii</i>	-	C	No ³

¹T – Threatened, E – Endangered, C – Candidate, S – Sensitive, SC – Species of Concern

² – This species is not known to occur on YTC

³ – Not analyzed further in detail because neither Federal T, E or C species nor WA state T or E species

Sources: Joint Base Lewis-McChord (JBLM). 2010. Final Environmental Impact Statement for the Fort Lewis Army Growth and Force Structure Realignment. JBLM, WA; U.S. Fish and Wildlife Service, <http://www.fws.gov/wafwo/speciesmap/YakimaCounty0312.pdf> and WDFW, <http://wdfw.wa.gov/conservation/endangered/lists/search.php?searchby=All&orderby=AnimalType,%20CommonName%20ASC>

4.5.2.1 Bull Trout

USFWS designated the Columbia River Distinct Population Segment of bull trout (*Salvelinus confluentus*) as threatened on June 10, 1998 (63 Fed. Reg. 31647). Bull trout is a WA state candidate species. The Columbia River bull trout Distinct Population Segment consists of all populations in the Columbia Basin which includes four major stocks: the Yakima; Wenatchee; Entiat; and Methow Rivers. Bull trout are thought to be extirpated from two streams within the Columbia Basin: Satus Creek and Hanford Reach of the mainstem Columbia River. Of the 16 subpopulations recognized by USFWS, 10 are considered to be at risk of extinction (63 Fed. Reg. 31651). Critical Habitat for Columbia River bull trout Distinct Population Segment extends from the mouth of the Columbia River throughout the Columbia Basin, including all tributaries historically accessible to the species. On September 22, 2004, the USFWS designated approximately 737 miles of streams in the Columbia River Basin, Washington, as critical habitat for bull trout under the ESA. The waters on and adjacent to YTC are excluded from this critical habitat designation because these areas were covered by the Federal Columbia River Power System (70 FR 56253).

Factors contributing to the decline of bull trout in the Columbia Basin are similar to those affecting salmon, but also include additional elements. Bull trout are less tolerant of higher water temperatures and sediment loading, and therefore have been affected to a greater degree by human development and use of the Columbia’s resources which have degraded riparian communities (Bottorff and Swanson, 1993). Bull trout are highly susceptible to capture by anglers, because of their aggressive nature. As road networks have expanded and angler access has increased, bull trout populations have declined. Finally, bull trout will interbreed with brook trout, resulting in sterile hybrids.

Although there has been some mention of potential bull trout spawning and rearing habitat on YTC (Bottorff and Swanson, 1993), this is highly unlikely, because the streams on YTC are not cold enough for long enough periods of time to support this species’ needs. In addition, most streams do not have continuous flow from the installation to either the Yakima or Columbia Rivers during the time in which bull trout would potentially be spawning or migrating to spawn. If there is any use, it is likely to be short-term in nature (*i.e.*, foraging) and located at the mouths of streams during the colder months when streams may provide more tolerable temperatures and dependable flows. There is no suitable habitat for bull trout within the proposed project sites as the project area is characterized by upland vegetation communities located on relatively flat terrain some 1 to

1.25 km away from Selah Creek. There is no continuous flow from reaches of Selah Creek on YTC to its confluence with the Yakima River off the installation where bull trout may be present.

4.5.2.2 Northern Leopard Frog

Northern leopard frog (*Rana pipiens*) is an endangered species in WA state and a species of concern at the federal level. This species was found in only two areas in WA state: in ponds at the Potholes Reservoir and Gloyd Seeps units of the Columbia Basin Wildlife Area in Grant County (WDFW, 2011). Although known to inhabit a wide variety of habitats, this species require deep water for overwintering, and near seasonal ponds and wetlands for breeding. Threats to this species include the use of agricultural chemicals, predation by bullfrogs and other amphibians, land use changes and habitat modifications, irrigation projects, and disease (McAllister *et al.*, 1999; WDFW, 2011). Due to the lack of required habitat in the project site, this species is not expected to be impacted by the proposed alternatives.

4.5.2.3 American White Pelican

American white pelicans (*Pelecanus erythrorhynchos*), which are listed as endangered in Washington State, nest inland on islands in lakes and rivers (Seattle Audubon Society, 2012). They feed in shallow lakes, rivers, and marshes and typically migrate to warm coastal marine habitats in the winter. In Washington, American white pelicans have a localized distribution in the eastern portion of the state. Non-breeding American white pelicans can be found along the Columbia River (Doran *et al.*, 2004), and this species is frequently observed immediately adjacent to YTC along the Columbia River. There have been no observations or recordings of the American white pelican at YTC (JBLM, 2010), although there have been several observations of pelicans flying over the installation between the Yakima and Columbia River systems.

4.5.2.4 Bald Eagle

On July 28, 2007, the USFWS removed bald eagles (*Haliaeetus leucocephalus*) that inhabit the lower 48 states from the federal list of Endangered and Threatened Wildlife due to meeting or exceeding established recovery goals throughout its range. However, the bald eagle is still afforded protection under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act and will therefore be included in this analysis. YTC manages bald eagles under an Endangered Species Management Plan that provides both spatial and temporal protection measures for both populations of wintering bald eagles and existing habitat, as well as restoration efforts for future habitat.

Populations of breeding, wintering, and migratory bald eagles occur throughout Washington State. No known nesting occurs on YTC, as suitable habitat does not currently exist; however, portions of the installation contain suitable habitat for wintering and migrating bald eagles. Bald eagles have recently attempted to nest adjacent to the installation along the Yakima and Columbia Rivers, and known nesting attempts adjacent to the installation range from 3.5 to 6 km outside of YTC's boundary, with the nearest confirmed nest site more than 10 km away from the proposed action alternatives identified in this EA. Nesting occurs from December to March while wintering and migrating occur from October through mid-to-late April. A peak in number and frequency of observations occurs in February. Wintering bald eagles found on YTC forage off the installation primarily along the Wanapum and Priest Rapids Reservoirs. Wintering eagles frequenting the Columbia River have been known to roost nocturnally at several sites on the installation to include Hanson Creek, Borden Springs, and

historically Alkali Canyon. Known nocturnal roosts located along Hanson Creek are greater than 20 km away from any of the proposed action alternatives and consist of individual and small stands of mature size cottonwood trees. The Borden Springs roost is approximately 25 km east of the proposed project areas and the Alkali Canyon site no longer exists due to recent wildfires.

Although present on the installation, bald eagle has no known nesting or wintering habitat present within or adjacent to the proposed alternative locations.

4.5.2.5 Ferruginous Hawk

The ferruginous hawk (*Buteo regalis*) is listed as a threatened species in Washington State, and is a federal species of concern. Ferruginous hawks breed in the Lower Columbia Basin of southeast Washington, and the surrounding arid lands (Richardson *et al.*, 2004). They are obligate grassland or desert shrubland nesters, and prefer sparse, short vegetation in steppe and shrub-steppe habitats. In Washington, most ferruginous hawk nests are built on top of rocks, cliffs, and trees and most occur in rock outcroppings. The species has been extremely rare on YTC since 1993, although multiple historic nest sites have been located (JBLM, 2010). However, no ferruginous hawks have been documented nesting at YTC since 1993, and sightings of the species have been infrequent. Ferruginous hawks are sensitive to human disturbance and require isolation from military activity during the nesting season. Protective measures restricting military activity around active nests are listed in Fort Lewis Regulation 420–5.

4.5.2.6 Greater Sage-Grouse

The Columbia Basin Distinct Population Segment of greater sage-grouse (*Certracercus urophasianus*) is a Washington State threatened species (1998) and a federal candidate species under ESA (2010). This species is a candidate for federal listing due to a reduction in its range as a result of habitat conversion for development, agriculture, intensive grazing, and fire (ENRD, 2008). Sage-grouse on YTC tend to use habitat with slopes of less than 15 percent and areas where the dominant species are Wyoming big sagebrush, three-tipped sagebrush, and bluebunch wheatgrass (Livingston, 1998). Sagebrush comprises 60 to 80 percent of the species' diet (Remington and Braun, 1985), shrubs provide nests with shelter from avian predators and weather elements, and grasses provide shelter from ground predators as well as create a favorable microclimate (WDFW, 1995). Critical periods of sage-grouse life history include lek (communal mating grounds) attendance, nesting, and brood-rearing. Lek attendance is initiated in late winter/early spring and extends through mid-May. Nesting typically occurs March through May and brood-rearing extends through mid-June. Both nesting and brood-rearing occur in relatively close proximity (*i.e.*, within 8 km) to leks when suitable habitat exists.

YTC supports one of two distinct populations still present in Washington and the largest and only population of sage grouse occurring primarily on federally owned land. These remaining populations are isolated from each other and larger populations located throughout the species' range. Populations of sage-grouse on YTC have been characterized by short-term fluctuations and have exhibited trends similar to those of statewide populations, with male sage-grouse numbers per lek decreasing (Livingston, 1998) over time. Annual surveys for leks, and lek counts have been conducted on YTC since 1989 to monitor trends and assess population status. From 1989 through 2012 the average population estimate at YTC was 274 sage-grouse (White, 2012). In 2008, 18 known leks were monitored with twelve found to be active (JBLM, 2010). Three of

the 12 active leks were classified as major leks (*i.e.*, ten or more male sage-grouse observed at least once during the season). In 2009, the population estimate for sage-grouse on YTC was 185 and the 21-year population average was 288. The population estimate in 2011 was 213 which was the highest recorded after 2006, the year when YTC had an estimated 228 sage-grouse (White, 2012). The 2012 sage-grouse population was estimated to be 146, a 38% decrease from population estimate in 2011 but an increase of 20% from 2010 estimate. In 2012, there were six complexes with seven active leks, down from 7 complexes and 10 active leks in 2011. The 2012 surveys revealed that Range 26, Selah Creek, and 10Z leks were the only leks classified as major leks and accounted for 80% of all sage-grouse observations. A total of 419 male and 46 female observations were made at active leks in 2012. No grouse were observed at Range 15 lek (a lek discovered in 2002) during the 2012 survey, and except for a single displaying male in 2008, none have been observed since 2004. Human activity associated with Range 15 and Selah Airstrip has resulted in decreased habitat effectiveness and likely lek abandonment of the Range 15 lek. This lek and suitable nesting and brood-rearing habitat is located within 600 meters of both Range 15 and the Selah Airstrip.

Population declines in greater sage-grouse throughout Washington have resulted from large-scale removal of native vegetation for agricultural purposes, combined with reduced habitat quality caused by intensive grazing by livestock (WDFW, 1997). Sagebrush removal using herbicides and fire have contributed to this decline as well (WDFW, 1995). From 1960 to 1995, land on YTC was used for livestock grazing which likely resulted in decreased habitat quality for sage-grouse. Indirect threats to greater sage-grouse are generally habitat-related and are primarily from fire and military training activities. Fire is a threat because it kills big sagebrush, and repeated fires will make an area vulnerable to invasions by noxious weeds such as cheatgrass and knapweed. Fire regimes in the lower Columbia River Basin were historically characterized by regular, low-intensity burns, which created a mosaic of seral stages. Following fire, natural re-establishment of sagebrush is slow (about 20 to 30 years; Britton and Clark 1985). With the loss and fragmentation of shrub-steppe, fire poses a significant threat to remaining greater sage-grouse habitat in Washington. Furthermore, damage to soil and vegetation from vehicles and foot traffic associated with military training is a concern for sage-grouse and other wildlife.

Suitable habitats for greater sage grouse consists of medium to dense sagebrush stands exhibiting a range of heights, as well as a variety of forbs and grasses (JBLM, 2010). Suitable habitat and known sage-grouse use exists within and adjacent to the proposed alternative locations. Both alternatives are within approximately 2 km of the Range 15 lek. This lek was discovered in 2002 and has been active during four (2002, 2003, 2004, 2008) of the last eight years (2002-2009) that it has been monitored. The majority of suitable nesting and brood-rearing habitat in close proximity of this lek encompasses both proposed alternatives and adjacent areas. Numerous observations to include incidental sightings, lek counts, and telemetry locations of radio-mark birds further demonstrate the use of the suitable habitat within and adjacent to the proposed alternatives. Neither the Range 15 lek nor suitable habitat within Training Area 12 are subject to current or proposed sage-grouse protection measures. It should be noted that the use by sage-grouse of these areas has occurred even under such conditions (*i.e.*, under current conditions of an established range without application of protection measures).

YTC developed a Sage Grouse Management Plan for the installation in 1998. This plan is being revised as part of the installation's INRMP revision. New protection measures for this species will be based on both current and anticipated training requirements being in concert with species and habitat conservation practices which precludes the need to further federally list this species (Leingang, 2011).

4.5.2.7 Sandhill Crane

The state-endangered sandhill crane (*Grus canadensis*) occupies wet meadows and grasslands, feeding in grain fields and pastures (Seattle Audubon Society, 2012). In Washington, they nest during the summer in wetlands with emergent vegetation. During migration and in the winter, they inhabit more open areas, requiring good visibility at their surroundings. There are no nesting areas for this species on YTC, although sandhill cranes are occasionally observed on and near the installation during their migration (JBLM, 2010). The proposed alternatives are, therefore, not expected to impact this species.

4.5.2.8 Other Migratory Birds

YTC provides habitat for a wide variety of migratory birds that migrate annually within and beyond the installation's boundary and North America, as well as resident bird populations. Although the majority of these species use YTC seasonally in migration, a proportion of them utilize the installation as breeding habitat. Their presence serves an important ecological function and is an important indicator of ecosystem health, regardless of how these migratory birds utilize YTC. Recognition of YTC's significant role in providing for migratory birds is evident in its designation as an Important Bird Area by the American Bird Conservancy and National Audubon Society. While this recognition entails no legal or management requirements, it does highlight YTC's important role in providing for large concentrations and an exceptional diversity of birds, rare and endangered species, and unique and imperiled habitats. Continental and local declines in numerous bird populations have led to concern for the future of migratory birds. The primary cause of declines is thought to be habitat loss and fragmentation in the nesting, wintering, and migratory stop-over habitats used by birds on their long journeys. Even where habitat remains, it is often fragmented into small patches that cannot support healthy populations of birds. Military lands, such as YTC frequently provide some of the best remaining habitat for migratory bird species of concern because of their large, contiguous, open acreages.

Primary considerations with regard to migratory bird management are compliance with the Migratory Bird Treaty Act; implementation of migratory bird management actions in accordance with Executive Order 13186, Responsibilities of Federal Agencies to Protect Migratory Birds; National Defense Act 2003, Final Rule 70, 8931-8950; Migratory Bird Permit: Take of Migratory Birds by the Armed Forces Rule, 28 February 2007; Memorandum of Understanding between the U.S. Department of Defense (DOD) and USFWS, Promote the Conservation of Migratory Birds, Final Rule 71, 51580-51585, 30 August 2006; and all Army issued policies and guidance subsequent to all other acts, laws, and regulations pertaining to the management of migratory birds. Additional management considerations include supporting and contributing to compatible goals and efforts of numerous regional migratory and game bird conservation programs.

Migratory birds that inhabit JBLM can be found in Appendix B. Those species associated with big sagebrush/bunchgrass and stiff sagebrush vegetation communities in Table 4-2 may be present in the proposed project areas.

4.5.2.9 Yellow-billed Cuckoo

Yellow-billed cuckoo (*Coccyzus americanus*) was federally listed as a candidate species in July 2001. It is a WA state candidate species. This medium-sized bird (about 30 centimeters in length and 60 grams in weight) is slender, long-tailed, with fairly stout and slightly down-curved bill, which is blue-black with yellow on the basal half of the lower mandible (USFWS, 2010). The tail feathers are boldly patterned with black and white below, while the legs are short and bluish-gray, and adults have a narrow, yellow eye ring.

Western yellow-billed cuckoos breed in riparian habitats, particularly woodlands with cottonwoods (*Populus fremontii*) and willows (*Salix* sp.), the dense understory foliage being an important factor in nest site selection (Ehrlich *et al.* 1988). Threats facing the western U.S. population of the yellow-billed cuckoo include habitat loss from clearing and removal or alteration and fragmentation of riparian forest for agriculture, urban development, flood control, and the invasion by the exotic species (USFWS, 2010). Habitat loss in the Western U.S. is attributed to agriculture, dams and river flow management, overgrazing, and competition from exotic invasive plants.

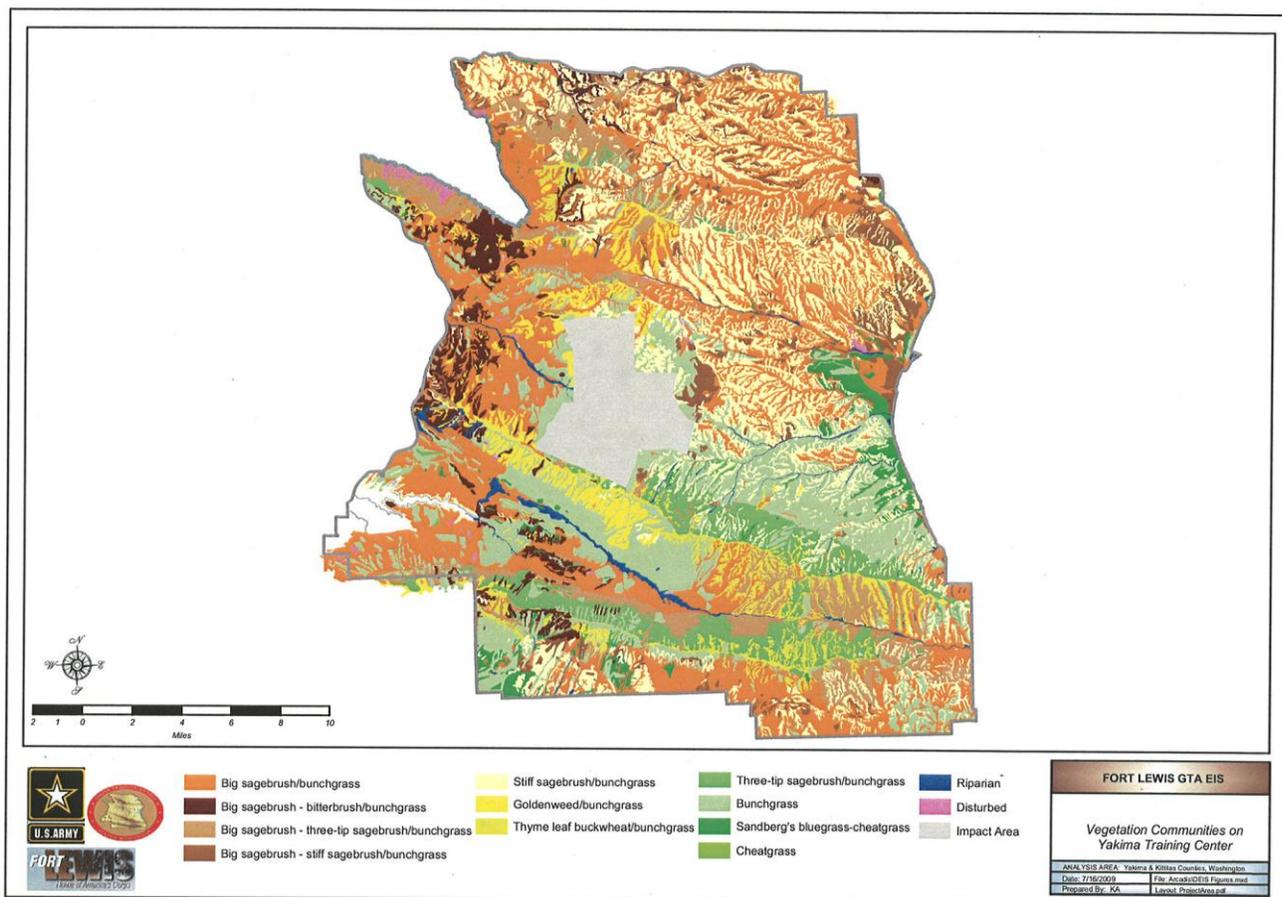
In the Pacific Northwest, the species was formerly fairly common locally in willow bottoms along Willamette and Columbia Rivers in Oregon, and in the Puget Sound lowlands and along the lower Columbia River in Washington (USFWS, 2010). Although several surveys have been conducted in Okanogan and Yakima Counties in the last several years to check locations of previous sightings (Okanogan County) and potential habitat (Yakima County), no cuckoos were detected, despite a small number of statewide accounts in recent years (USFWS, 2010). This species is not found in YTC (JBLM, 2010) and therefore, no impacts on this species are expected from the proposed action.

4.5.3 Wetlands

Riparian or streamside environments are critical linkages and transition zones between the upland and aquatic environment. Riparian zones provide a variety of ecosystem functions, such as fish and wildlife habitat, unique plant species habitat, improved flood control, and trapping of sediment. Although riparian areas comprise only a fraction of the total land area, they have a much higher plant and animal species diversity and biomass per unit area. Higher species diversity can be attributed to the edge effect, where the transition area between aquatic and terrestrial ecosystems offer a broader range of environmental niches in which plants and animals from each ecosystem can occupy/utilize. Riparian habitats are especially important to wildlife when they are adjacent to relatively less productive habitats such as shrub-steppe, steppe, and deserts (Bock *et al.*, 1992).

Riparian habitat is limited geographically and is vulnerable to loss and degradation through human activities and land uses. Since the arrival of settlers in the early 1800s, at least 50% and as much as 90% of riparian habitat in Washington has been lost or extensively modified (Knutson and Naef, 1997). On YTC, riparian areas have sustained repeated damage from livestock grazing prior to 1995 and from impacts associated with military training (e.g., fire, cross-country maneuver, poor road design) since the 1940s. A map of YTC's sensitive areas including wetlands is presented (Fig. 4-4). Riparian habitat is in a constant state of change with newly created habitats shifting over time as point bars are created and are eventually eroded away as the stream continues to change position (Davis *et al.*, 1996). Protecting riparian habitat may yield the greatest gains for fish and wildlife

across the landscape while involving the least amount of area (Knutson and Naef, 1997).



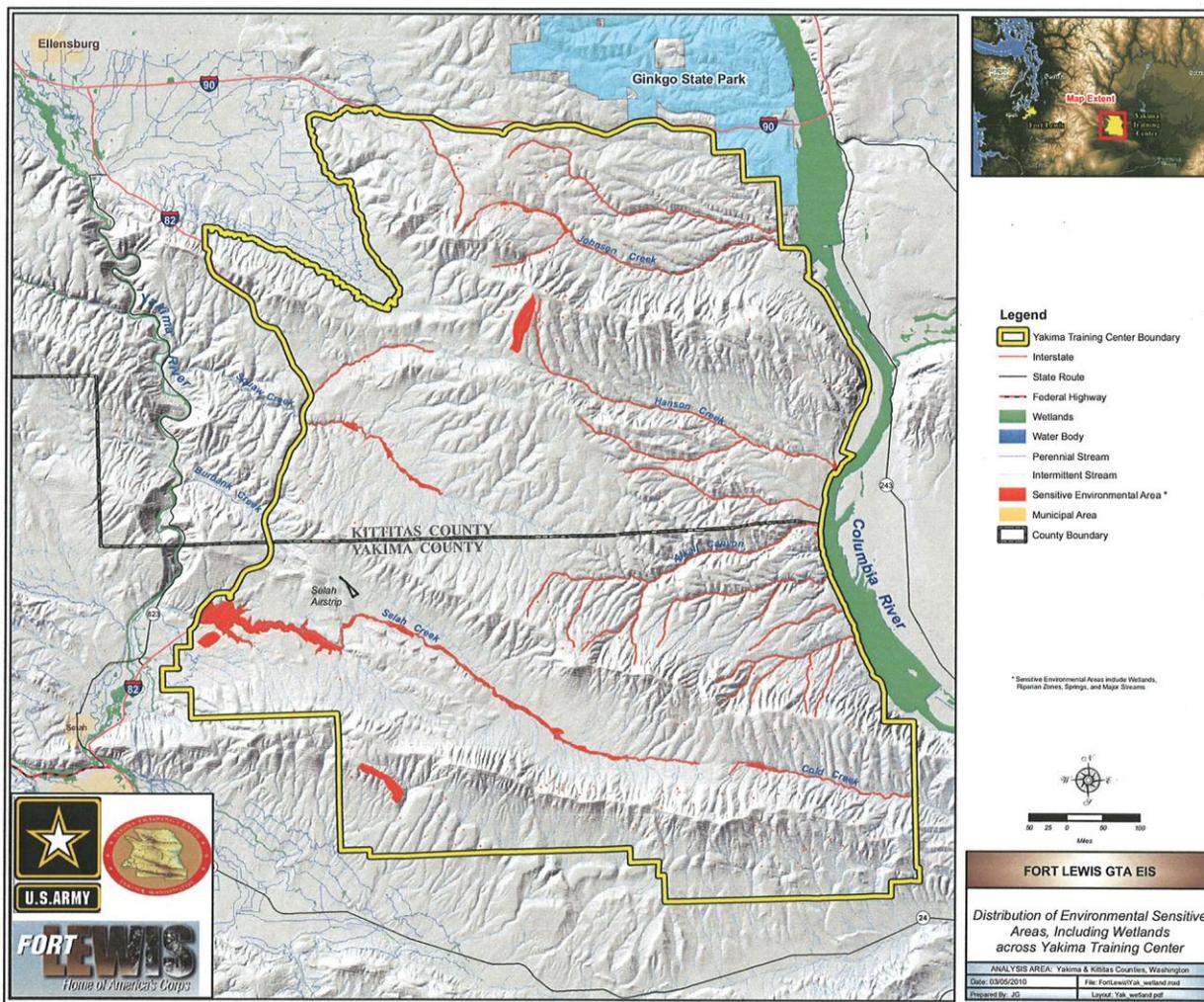
Source: Joint Base Lewis-McChord (JBLM). 2010. Final Environmental Impact Statement for the Fort Lewis Army Growth and Force Structure Realignment. JBLM, WA.

Figure 4-3 Vegetation communities at YTC.

Riparian vegetation includes riparian and wetland plant communities associated with ponds, springs, and perennial and intermittent streams. YTC contains 17 major streams with intermittent or perennial flow and more than 200 springs. Riparian vegetation is primarily dominated by woody shrubs and trees such as black cottonwood (*Populus baslimifera var. trichocarpa*), water birch (*Betula occidentalis*), white alder (*Alnus rhombifolia*), quaking aspen (*Populus tremuloides*), several species of willow (*Salix sp.*), Wood's rose (*Rosa woodsii*), mock orange (*Philadelphus lewisii*), and species of currant (*Ribes sp.*). Riparian communities are also composed of a variety of graminoids including species of rush (*Juncus sp.*), sedge (*Carex sp.*), bulrush (*Schoenoplectus sp.*), bluegrass (*Poa sp.*), and wild rye (*Leymus sp.*). Herbaceous species include species of horsetail (*Equisetum sp.*), cattails (*Typha sp.*), and golden rod (*Solidago sp.*).

Within TA 12 there is approximately 1,016.9 acres of riparian habitat associated with Selah Creek; however, none of the proposed action alternatives contains riparian habitat or jurisdictional wetlands (See Fig. 4-4). Both

action alternatives are located north of Selah Creek by a distance of 0.6 to 0.7 mile (1 to 1.25 km) within relatively flat terrain.



Source: Joint Base Lewis-McChord (JBLM). 2010. Final Environmental Impact Statement for the Fort Lewis Army Growth and Force Structure Realignment. JBLM, WA.

Figure 4-4 Wetlands at YTC.

4.6 Cultural Resources

4.6.1 Cultural Resources at YTC

Cultural resources are defined as historic properties as defined by the National Historic Preservation Act , cultural items as defined by the Native American Graves and Repatriation Act , archeological resources as defined by Archaeological Resources Protection Act , sacred sites as defined in EO 13007 to which access is afforded under the American Indian Religious Freedom Act and collections and associated records as defined in 36 CFR 79. The WA ARNG will comply with the provisions of DoDI 4710.02, “DoD Interactions with Federally Recognized Tribes”. The WA ARNG will involve concerned tribal governments early in the planning process for

proposed actions that may have the potential to affect protected tribal rights, land, or resources, and shall endeavor to complete consultations prior to implementation of the proposed action.

YTC is home to many archaeological and historic sites, as well as sites of cultural importance to neighboring Native American tribes (*i.e.*, Yakama Indian Nation, the Wanapum Band). YTC is part of lands ceded by the Yakama Nation as part of the Treaty of 1855. They reserve the right to conduct traditional subsistence and ceremonial practices at all “usual and accustomed places” within these ceded lands. Protecting cultural and historic resources includes protecting the site itself, access to such sites as well as protection of the site’s viewshed (including view of, and view from, the site). Without all three of these components intact the resource will have lost its intrinsic historical or cultural value. Consultation will occur between YTC and the State Historic Preservation Office (SHPO) to determine whether or not historic properties will be affected in this project’s region of influence. YTC will also coordinate with the Yakama Nation and the Wanapum Band to determine if the proposed action will affect their cultural and religious holdings on or near YTC. The project area and associated areas have been included in, in all or in part, five separate archaeological inventory surveys – Hartmann and Stephenson (1980), Boreson (1998), Gough (1999), Lewarch (2000), and Carter and deBoer (2002). No significant historic properties were revealed by these surveys or were observed within the project area or area of potential effect during a site reconnaissance survey performed by YTC cultural resources staff.

4.6.2 Native American Considerations

Native American traditional cultural resources on YTC are places and resources that are important in the ongoing traditional or spiritual practices of the Wanapum and Yakama tribes (and other area tribes) (JBLM, 2010). Such resources include specific plant and animal habitats, natural features of the landscape, and places where important rituals were carried out in the past that continue to be used for such purposes in the present. They may not have specific geographic boundaries that can be drawn on a map, and may be known only to tribal members who wish to keep their locations and natures confidential.

Two tribes with cultural interest on YTC are Wanapum and Yakama tribes. YTC staff spoke with Yakama Nation’s tribe representative on June 2, 2010. A certified letter signed by the WA ARNG’s Adjutant General was sent on November 10, 2011 to formally consult the Department of Archaeology and Historic Preservation (DAHP), Governor’s Office of Indian Affairs and the concerned tribes regarding any potential cultural resources impacts of this project (Appendix A).

4.7 Hazardous and Toxic Materials/Wastes

Hazardous materials and wastes are managed at YTC as directed by AR 200-1, as well as by federal, state, and local regulations and laws. In addition, the National Guard has its own set of rules and regulations governing its hazardous materials (not at level of state or feds = lower level) and manages their own program separately from YTC’s (WAC 173-303; WA ARNG Pamphlet 200-1; *Dangerous Waste Management Pamphlet, 23 Jul 02*). National Guard components on YTC are under a Defense Reutilization and Marketing Office contract for hazardous waste disposal; it is picked up from YTC and disposed of off-site. The manner in which hazardous materials are managed at YTC will have no effect on how the National Guard manages them; however, if the National Guard has a hazardous material spill that enters the sewer system or the stormwater drainage, in addition to contacting the appropriate regulators, YTC must also be notified.

Site reconnaissance by the WA ARNG and U.S. Army Public Health Command personnel in July 2010 indicated no visual or anecdotal evidence of areas filled or graded by other than natural means, or mounds or depressions suggesting burial of trash or other wastes at the proposed N. Selah site (See Appendix D). No hazardous substances or petroleum products had been stored at the site, nor were any observed during the survey. No former underground/aboveground storage tanks were located within a one-mile radius of the site. A follow-on environmental condition of property (ECOP) report in accordance with AR200-1 and ASTM Standard 1527-05 (ASTM, 2006) was completed in October 2011 to ensure that conditions have not changed since the conduct of the reconnaissance survey in 2010. Construction site preparation may include removal/clean-up of the area for the N. Selah site and will be addressed through a memorandum of agreement once more details of the site location and construction design criteria are met. In addition, other non-WA ARNG activities within the existing area surrounding the Selah Airstrip require the use of some common forms of hazardous materials (*i.e.*, petroleum products, solvents) and are managed/overseen by YTC staff.

[THIS PAGE LEFT INTENTIONALLY BLANK]

5.0 ENVIRONMENTAL CONSEQUENCES

Environmental consequences are those impacts that directly or indirectly affect the environment as a result of the proposed action. The degree to which environmental resources are affected is based on significance criteria specific to each resource, as well as the time (long-term or short-term) and place (local or regional) that the proposed action would occur. The spatial parameters defined for individual activities are also known as the region of influence.

In this chapter, the WA ARNG identified significance thresholds for each resource area, beyond which the proposed activity is recognized to have a significant impact on that resource. Significance is a function of context and intensity of the impact (40 CFR 1508.27). In this chapter, the WA ARNG also determined if any of those thresholds are likely to be surpassed for the affected environments identified above in Section 4.

In evaluating the potential impacts of the proposed action, the level of significance is determined by applying the threshold of significance (significance criteria) presented for each resource evaluated. The following significance ratings were used in the impact analysis for each resource area.

No Impact: A designation of no impact is given when no adverse changes in the environment are expected.

Less Than Significant Impact: A less than significant impact would be identified when the proposed action or alternatives would cause no substantial adverse change in the environment, *i.e.*, the impact would not exceed the threshold of significance.

Significant Impact: A significant impact would create a substantial or potentially substantial adverse change in any of the physical conditions within the area affected by the proposed project or alternatives. Such an impact would exceed the applicable significance threshold established by NEPA.

Significant But Mitigable Impact: A significant impact would create a substantial or potentially substantial adverse change in any of the physical conditions within the area affected by the proposed project or alternatives. Such an impact would exceed the applicable significance threshold established by NEPA, but the impact would be reduced to a less than significant to negligible level by the implementation of one or more feasible mitigation measures.

Significant Unavoidable Impact: This terminology is used when a residual impact that would cause a substantial adverse effect on the environment – which may or may not be reduced somewhat by feasible mitigation measure(s) – but which could not be reduced to a less than significant level by feasible mitigation measure(s).

Beneficial Effect: The proposed project or alternatives would create a positive change in any of the physical conditions in the affected resource area.

Table 5-1 summarized the significance criteria used to determine the significance rating of the proposed alternative actions. Within each significance rating, the impact to each resource was rated as negligible, minor, moderate, or high. It is possible for a high level impact to be less than significant if the defined significance thresholds of the resource are not exceeded by the activity.

Table 5-1 Significance criteria used for each resource area evaluated.

Resource Areas	Significance criteria
Air Quality	<ul style="list-style-type: none"> • Increase in air pollution due to emissions from vehicles and equipment and dusts or • Be out of compliance with existing NAAQS standards
Water Resources	<ul style="list-style-type: none"> • Degrade surface or groundwater quality in a manner that would reduce the existing or potential beneficial uses of the water (WAC 173-201A); • Be out of compliance with existing or proposed water quality standards or with other regulatory requirements related to protecting or managing water resources; or • Be out of compliance with the CWA.
Biological Resources	
Vegetation	<ul style="list-style-type: none"> • A long-term loss or degradation of unique or high-quality plant communities; • A measurable reduction in diversity within high-quality plant communities; or • “Take” of federally listed species or increased mortality of proposed or candidate plant species.
Wildlife	<ul style="list-style-type: none"> • A substantial, long-term (greater than 2 years) reduction in the quantity or quality of habitat critical to the survival of local populations of common wildlife species; • Injury or mortality to common wildlife species, such that species populations would not recover within 2 years; • A reduction in the population, habitat, or viability of a federal or state species of concern or sensitive species that would result in a trend toward endangerment or the need for federal listing; • Any loss of critical habitat, or nesting habitat critical to birds under the Migratory Bird Treaty Act , on the installation; or • Mortality to a listed species or species proposed for listing that could result in a “take” under the ESA.
Cultural/Historic Resources	<ul style="list-style-type: none"> • Cause adverse impact to an NRHP-eligible or listed historic properties, or restrict access to traditional cultural practices or places as protected under the American Indian Religious Freedom Act; • Jeopardize compliance with American Indian Religious Freedom Act by creating conditions that prevent the use of sacred or religious sites or resources or by producing noise levels incompatible with their use. • Jeopardize compliance with the Archaeological Resources Protection Act or RCW 27.53 through actions including, but not limited to: unauthorized construction or digging in areas that have not yet been cleared for archaeological resources; any damage to archaeological sites.
Soils	<ul style="list-style-type: none"> • Degree to which the impact would result in excessive soil loss through increased soil erosion (based on calculated T-value)
Infrastructure	<ul style="list-style-type: none"> • Increase the level of utility demand that exceeds the current or planned capacity of utility systems on YTC; or • Cause the need for major improvements in any of the installation’s utility systems; or • Cause an existing infrastructure network or process (i.e. roads, wastewater treatment) to fail.
Hazardous Materials/Wastes	<ul style="list-style-type: none"> • Violations of federal or state environmental rules, regulations, or permits held by the installation; or • Unacceptable levels of human exposure to contaminated materials; or • A spill or release of a hazardous substance beyond the ability of a spill kit to contain (as defined by Title 40, CFR Part 302 [CERCLA], or Parts 110, 112, 116 and 117 [CWA])

The real estate portion of the proposed action is purely administrative and will have no environmental impacts resulting in its execution. The two activities with the potential to impact the affected environment that will be further analyzed in this section are the construction and operation portions of the proposed action. 'Construction activities' refer to all building construction, access road upgrades, and utilities expansion described in the proposed action, while 'operations' refer to all UAS training and maintenance activities.

5.1 Air Quality

Impacts to air quality would be considered significant if the proposed action would result in an increase in air pollution or emissions from vehicles and equipment.

5.1.1 No Action

5.1.1.1 Construction

Construction activities would not occur under this alternative and therefore no impacts with respect to construction would result.

5.1.1.2 Operation

Training and operations of the platoon at YTC and Selah Airstrip would produce less than significant impacts to air quality. The impact from the combined emissions from aerial vehicles, portable generators, as well as military and privately owned vehicles will be minor. Aerial vehicles emissions are minimal given the size and weight of the aircraft. The SHADOW has a fuel economy of approximately 1.4-1.8 gallons of fuel per hour of normal flight. A summary of expected yearly emissions based on the number of hours of training and the frequency of training can be found in Appendix C, *Record of Non-Applicability*. Based on the amount of training to be conducted per training weekend, no more than 30 gallons of fuel will be consumed each month and no more than 280 gallons in a given year. This amount of fuel consumption equates to 0.09 tons/yr of CO, 0.14 tons/yr of NO_x, 0.26 tons/yr of VOCs, 0.009 tons/yr of PMs, 0.007 tons/yr of SO₂, and 13.5 tons/yr of CO₂. The GHG threshold of 25,000 metric tons per calendar year per EPA rule (10,000 metric tons in WA state) is not expected to be exceeded with the implementation of the proposed alternative.

If an aerial vehicle crash were to ignite a wildland fire significant emissions would be possible; however, the probability that an aerial vehicle would crash with the intensity to ignite a fire is so low that the risk level of this activity, as well as its impact on air quality, is considered minor. Out of all SHADOW UAS training operations over the last five years (2005-2009), there have been no accidents that have resulted in a fire (A.J. Doyle, personal communication). All combined, potential emissions associated with the platoon's training and operations are well below the emission thresholds set-forth in NAAQS and will not jeopardize YTC's attainment of NAAQS.

5.1.2 N. Selah Alternative

5.1.2.1 Construction

Construction activities under this alternative will have less than significant impacts to air quality. Impacts associated with construction activities are predominantly the mobilization of fugitive dust, emissions from construction equipment and generator use. These impacts will be minimal given that only a single structure is planned for construction. A prime power generator will be used in the lag-time between completion of the facility and completion of the electrical/utility expansion; therefore the quantity of emissions will depend on that lag-

time. Ideally, both of these activities will be completed at the same time; however, planning for the worst case scenario, prime power may potentially be used for up to four months. Utilities extension and facility construction will be streamlined to minimize the lag-time and ultimately the amount of time that prime power is necessary. In addition, best management practices will be implemented during the construction to control fugitive dust. Overall, impacts to air quality from construction would be *de minimis* (minor).

5.1.2.2 Operation

Impacts to air quality associated with this alternative are identical to those in the no action alternative with a few exceptions. There will be no need for portable generators during training activities conducted at Selah Airstrip as the facility will be connected to the main electrical utility lines, eliminating an existing source of pollutant emissions. Limited UAS (approximately 1 to 2 times annually) training will occur away from Selah airstrip, and in those cases where power is needed small generators will be used. In addition, fuel will be dispensed on-site from a permanent storage tank located at the facility. A small amount of emissions would result from the dispensing of fuel. Overall, impacts to this resource from operations are minor. The GHG threshold of 25,000 metric tons (10,000 metric tons) per calendar year is not expected to be exceeded with the implementation of the proposed alternative.

5.1.3 S. Selah Alternative

5.1.3.1 Construction

Impacts to air quality with respect to construction under this alternative are similar to those under N. Selah alternative. The site for S. Selah alternative is 0.2 miles (0.32 km) closer to the existing utility infrastructure, leading to shorter overall construction time for the utility expansion and therefore fewer emissions from construction. The overall impacts would be minor.

5.1.3.2 Operation

Impacts to air quality with respect to operations under this alternative are identical to those under N. Selah alternative.

5.2 Water Resources

The region of influence for water quality with respect to construction activities is within the Yakima River Watershed. The region of influence for water quality with respect to training activities of the platoon is the Selah Creek sub-basin of the Yakima River Watershed (Fig. 1-1). Impacts to water quality would be considered significant if the proposed activities were to:

- Degrade surface or groundwater quality in a manner that would reduce the existing or potential beneficial uses of the water (WAC 173-201A);
- Be out of compliance with existing or proposed water quality standards or with other regulatory requirements related to protecting or managing water resources; or
- Be out of compliance with the CWA.

5.2.1 No Action

5.2.1.1 Construction

Construction activities would not occur under this alternative and therefore no impacts with respect to construction would result.

5.2.1.2 Operation

No impacts to water quality should occur as a result of the platoon's training and operations being conducted at Selah Airstrip.

5.2.2 N. Selah Alternative

5.2.2.1 Construction

Typical impacts to water resources from construction activities include increased turbidity due to disturbance of the soil at the construction sites and subsequent sediment run-off into nearby streams and surface water bodies. This process can potentially lead to changes in the water's oxygen content, clarity, and/or temperature. The N. Selah site is characterized by level terrain, moderate vegetative cover and separation from Selah Creek; therefore, the potential for run-off from the N. Selah site to adversely impact Selah Creek is low. Any impacts that do occur are expected to be minor and less than significant for this resource. A less than significant impact is also expected with respect to the installation of the new utility lines along Badger Pocket Road. While this extension route does cross Selah Creek, the utilities will be installed within the existing Badger Pocket Road crossing feature. No new excavation will occur at this crossing. Any increases in turbidity or changes in the creek environment that do occur during the expansion of the utilities would be short term/minor. Best management practices for sedimentation control when construction activities are near the creek, or on sections of steeper terrain, would be implemented in order to further reduce any negative impacts. Overall, the impacts on water quality due to construction would be minor; there would be no impacts to water quantity/availability.

5.2.2.2 Operation

Less than significant impacts to water quality should occur as a result of the platoon's training and operations being conducted at Selah Airstrip. A slight increase in run-off may occur due to the increase in hardened surfaces produced by this project. This increase in run-off may mobilize sediment surrounding the facility and petroleum, oil, and lubricants from the new parking lot surfaces; however, this would be a very small increase and would be a minor impact. The majority of run-off accumulated from the new hardened surfaces would infiltrate into the ground prior to reaching the Selah Creek drainage.

5.2.3 S. Selah Alternative

5.2.3.1 Construction

Impacts to water quality under this alternative are expected to be very similar to those discussed under N. Selah alternative, above. Impacts would be slightly more significant under this alternative because the S. Selah site is closer to Selah Creek and a greater amount of construction site preparation is necessary at the S. Selah site than at N. Selah. Construction site preparation would include backfilling the site with soil to bring it up to grade because it is currently in a topographic depression. Sediment disturbed during construction activities may become entrained in the creek's flow, subsequently increasing turbidity levels, and possibly altering creek dynamics such as temperature or flow rate. Although the S. Selah site has a higher potential to impact water resources, the amount of impact is still relatively minimal. Less than significant impacts are expected regarding this resource.

5.2.3.2 Operation

The impacts to water quality under this alternative are similar to those discussed under N. Selah alternative ; however, due to the S. Selah site being closer to Selah Creek the potential for run-off containing sediment and minor amounts of petroleum, oils and lubricants to reach the creek is higher. Although run-off may be able to reach Selah Creek, the quantity is minimal and so the impacts are still minor.

5.3 Biological Resources

The region of influence for vegetation with respect to construction is the area of construction activities for the TUAS facility and underground utilities installation. The region of influence for wildlife with respect to construction activities is the entire area in which noise from the construction can be heard. The region of influence for wildlife with respect to training activities of the platoon is the entire area of YTC.

Impacts to vegetation would be considered significant if Army actions resulted in:

- A long-term loss or degradation of unique or high-quality plant communities;
- A measurable reduction in diversity within high-quality plant communities; or
- "Take" of federally listed species or increased mortality of proposed or candidate plant species*.

Impacts to wildlife would be considered significant if Army actions resulted in:

- A substantial, long-term (greater than 2 years) reduction in the quantity or quality of habitat critical to the survival of local populations of common wildlife species;
- Injury or mortality to common wildlife species, such that species populations would not recover within 2 years;
- A reduction in the population, habitat, or viability of a federal or state species of concern or sensitive species that would result in a trend toward endangerment or the need for federal listing;
- Any loss of critical habitat, or nesting habitat critical to birds under the Migratory Bird Treaty Act , on the installation; or
- Mortality to a listed species or species proposed for listing that could result in a "take" under the ESA.

*A "take" in the context of the ESA, includes "harming" a listed species or altering their habitat. Harm in the definition of "take" in the ESA means an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impacting essential behavioral patterns, including breeding, feeding, or sheltering (64 FR 60727, 1999).

5.3.1 Upland and Riparian Vegetation

There is no riparian vegetation present in any of the action alternative construction sites and there is none that is expected to be impacted from the operations of unmanned aerial vehicles as proposed. No jurisdictional wetlands would be impacted by the construction and operation of a TUAS in the proposed project areas based on survey and data (See Fig. 4-4). As such, no direct, indirect, or cumulative impacts to riparian vegetation or jurisdictional wetlands would occur under any alternative selected and as such this resource will not be analyzed any further in this assessment. The region of influence for upland vegetation are mentioned in Section 4.0 above and significance criteria include long term loss, degradation, and/or measurable reduction in diversity of unique or high-quality plant communities. The mitigation strategy for both alternative locations described in

Section 5.3.2, Wildlife and Fish works two-fold in that it lowers the level of significance for the impacts on the vegetation communities which also serves as the sage grouse's habitat.

5.3.1.1 No Action

5.3.1.1.1 Construction

Construction activities would not occur under this alternative and therefore no impacts with respect to construction would result.

5.3.1.1.2 Operation

Activities related to the operation of the platoon would cause less than significant impacts to vegetation. Tents would be set-up on existing hardened surfaces, which will have no affect on the surrounding vegetation. Vehicles and other equipment would be set-up adjacent to those same hardened surfaces on bare ground. The areas surrounding the Selah Airstrip have been previously disturbed, and vegetation is minimal in areas directly adjacent to the airstrip. Given these findings, impacts to vegetation from vehicle and equipment set-up at Selah airstrip would be minor.

5.3.1.2 N. Selah Alternative

5.3.1.2.1 Construction

The proposed construction footprint of the facility as currently depicted within N. Selah alternative consists entirely of the big sagebrush/bluebunch wheatgrass vegetation community. Although not considered unique given it is the plant community expected to occur, it is considered high-quality due to the presence of older age class sagebrush, diversity of understory plants, and recent reductions in the quantity, quality and distribution of this vegetation community across the installation. There would be a permanent loss of approximately 8 acres of this plant community within the construction footprint and although this meets the threshold for a significant impact for vegetation resources, it could be mitigated through the restoration of previously impacted (*i.e.*, significant but mitigable) big sagebrush/bluebunch wheatgrass plant communities. The amount of permanent loss is about 1% of existing big sagebrush/bluebunch wheatgrass communities within Training Area 12. Nonetheless, USFWS suggested that such impact could be mitigated by restoring previously impacted area at a ratio of 3 acres restored for every 1 acre impacted (*i.e.*, 24 acres restored).

The proposed 4.8 miles of utility related construction would not directly impact any unique or high-quality plant community as none exists; however, given the ground disturbance associated with this construction and roads being vectors for noxious weeds, it may increase the risk for introducing invasive species into adjacent unique and high-quality plant communities. The proposed utility corridor and roads on YTC receive periodic noxious weed control which would reduce this indirect impact. As such, impacts of construction activities associated with the development of utilities for this alternative are considered less than significant as these will occur within existing utility corridors and road prisms previously impacted.

5.3.1.2.2 Operations

There are no direct or indirect impacts to vegetation resources associated with the operations of aerial vehicles as proposed with this or any other action alternative. If constructed, the site would provide hardened sites and facilities that would encompass the training proposed.

5.3.1.3 S. Selah Alternative

5.3.1.3.1 Construction

The proposed construction footprint of the facility as currently depicted within S. Selah alternative consists of big sagebrush/bluebunch wheatgrass and Sandberg's bluegrass/cheatgrass vegetation communities. Although neither community is considered unique, the big sagebrush/bluebunch wheatgrass community is regarded as high-quality due to the presence of older age class sagebrush, diversity of understory plants, and recent reductions in the quantity, quality and distribution of this vegetation community across the installation. There would be a permanent loss of approximately 6.5 acres of this plant community and approximately 1.5 acres within the more disturbed Sandberg's bluegrass/cheatgrass community. Although the permanent loss of the big sagebrush/bluebunch wheatgrass community meets the threshold for a significant impact for vegetation resources, it could be mitigated through the restoration of previously impacted (*i.e.*, significant but mitigable) big sagebrush/bluebunch wheatgrass plant communities. The mitigation measure is to restore previously impacted area at a ratio of 3 acres restored for every 1 acre impacted (*i.e.*, 20 acres restored).

The proposed utility related construction will occur within existing utility corridors and road prisms previously impacted are considered less than significant and negligible, similar to the impact described under N. Selah alternative above.

5.3.1.3.2 Operation

There are no direct or indirect impacts to vegetation resources associated with the operation of aerial vehicles as proposed with this or any other action alternative. If constructed, the site would provide hardened sites and facilities that would encompass the training proposed.

5.3.2 Wildlife and Fish

Wildlife and fish species found on YTC can be found in Appendix B. The region of influence for wildlife resources is listed in Section 4.0 above and significance criteria includes long-term reduction in quantity or quality of habitat and/or injury or mortality to common species such that there would be a population level effect.

5.3.2.1 No Action

5.3.2.1.1 Construction

Construction activities would not occur under this alternative and therefore no impacts with respect to construction would result.

5.3.2.1.2 Operation

Impacts from the operation of aerial vehicles would include disturbance and possibly displacement of wildlife species utilizing habitats adjacent to the Selah Airstrip for the duration of the training event. No disturbance is anticipated by the flight of aerial vehicles given the elevations utilized with the exception of take-offs and landings. Although there is potential for wildlife- aerial vehicles collisions, risk is thought to be minimal due to the small size of unmanned aerial vehicles, elevations utilized for flight, and lack of reported avian collisions to date. As such, impacts from the current operation of aerial vehicles at YTC is considered less than significant given the short-term duration of individual training events but minor given the cumulative impact throughout the year (72 days in 2009, 146 days in 2008).

5.3.2.2 N. Selah Alternative

5.3.2.2.1 Construction

Construction related impacts to wildlife species include both the direct impact of habitat loss and indirect impacts due to disturbance/displacement of wildlife from construction related activities. Impacts to vegetation resources are described above in Section 5.3.1 and would result in the permanent loss of habitat for big sagebrush/bunchgrass associated species. Because the amount of permanent loss reaches the significance threshold for this resource, impacts could be considered significant but mitigable with the implementation of a mitigation measure to restore previously impacted area at a ratio of 3 acres restored for every 1 acre impacted (*i.e.*, 24 acres restored). No direct injury or mortality is expected to occur from construction activities with the exception of possibly fossorial species that dwell below ground, as other wildlife are capable of dispersing from the area. Potential injury or mortality to fossorial species are not expected to impact population levels given these species are typically abundant, well distributed across the installation, and the construction footprint is relatively small in comparison to available habitat. Indirect impacts of disturbance and displacement would be considered negligible given the short-term duration of construction activities.

5.3.2.2.2 Operation

Impacts to wildlife resources would be similar to those discussed under the No Action alternative. Overall impacts would be greater with the addition of the amount of training proposed (*i.e.*, 2 weekends per month and one 3 week training event per year). Nonetheless, impacts from the proposed operation of aerial vehicles at JBLM YTC is considered less than significant given the short-term duration of individual training events but minor given the cumulative impact throughout the year.

5.3.2.3 S. Selah Alternative

5.3.2.3.1 Construction

Construction related impacts with S. Selah alternative would be similar to that discussed for N. Selah alternative with minor differences in the habitats which would be affected (see Section 5.3.2.2.1). Although the criteria for significance has been reached, overall impacts would be significant but mitigable with the inclusion of a mitigation measure to restore previously impacted area at a ratio of 3 acres restored for every 1 acre impacted (*i.e.*, 20 acres restored).

5.3.2.3.2 Operation

Impacts to wildlife resources would be similar to those discussed under the No Action alternative. Overall impacts would be greater considering the amount of training proposed (*i.e.*, 2 weekends per month and one 3 week training event per year). Nonetheless, impacts from the proposed operation of aerial vehicles at YTC is considered less than significant given the short-term duration of individual training events but minor given the cumulative impact throughout the year.

5.3.3 Threatened , Endangered and Special Status Species

Threatened, endangered, and special status species found on JBLM YTC can be found in Tables 4-3 and 4-4. The region of influence for these species is listed in Section 4.0 above and significance criteria includes reduction in population, habitat, or viability that would result in a trend toward endangerment or the need for federal listing; mortality that would result in "take" under ESA; and loss of critical habitat or nesting habitat critical to birds under the Migratory Bird Treaty Act. It is the intent of the analysis in this environmental assessment to

suffice as the biological assessment of impacts to federally listed species requiring ESA Section 7 Consultation (*i.e.*, listed fish, plant and animal species) given no impacts are anticipated to those species.

5.3.3.1 Bald Eagle

There are no direct impacts to bald eagles as a result of the construction or operations associated with any of the proposed alternatives as no suitable habitat for eagles or their prey exists on or near the proposed alternative locations and no bald eagles have been observed at those locations.

5.3.3.2 Migratory Birds

Migratory birds that inhabit JBLM can be found in Appendix B. Those species associated with big sagebrush/bunchgrass and stiff sagebrush vegetation communities in Table 4-2 may be present in the proposed project areas. Direct and indirect impacts to migratory birds and their habitat would be similar to those discussed above in Section 5.3.2 Wildlife and Fish. Those species associated with big sagebrush/bluebunch wheatgrass habitat would be impacted to a greater extent due to its permanent loss associated with construction related alternatives. Although the criteria for significance has been reached, overall impacts would be considered significant but mitigable with the implementation of a mitigation measure to restore previously impacted areas at a ratio of 3 acres restored for every 1 acre impacted (*i.e.*, 20 to 24 acres restored depending on which alternative is selected). The construction aspect of the proposed project does not constitute a military readiness activity (mobilization), however, “no population level effect” on migratory birds is expected to occur given the relatively small footprint of construction.

5.3.3.3 Listed Fish Species (Bull Trout)

There are no direct effects to any listed fish species that would occur as a result of implementing any of the proposed alternatives. No riparian or stream habitat exists within the proposed project area. Both action alternatives are in proximity (approximately 1 to 1.25 km north) of an ephemeral reach of Selah Creek, a tributary to the Yakima River. No construction related stormwater runoff is expected to impact Selah Creek or the Yakima River given the distance, low gradient, and application of construction related Best Management Practices to address stormwater runoff. As such, no impacts to federally listed fish species and/or their habitat would occur.

5.3.3.4 Listed Plant Species (Ute Ladies-tresses, Beaked Cryptantha, Hoover’s Tauschia, Nutall’s Sandwort, Umtanum Desert Buckwheat, and White Eatonella)

There are no direct or indirect impacts to any listed plant species that would occur as a result of implementing any of the proposed alternatives. No suitable habitat for any of the listed species assessed in this document exists within the proposed project area. None of the listed plant species are known to occur within the boundaries of the proposed project site. Plant surveys within the proposed project areas occurred in 2009 and 2010 (YTC, 2009/2010) and no listed species and/or suitable habitat were observed. As such, no impacts to federally listed plant species and/or their habitat would occur with the implementation of any alternative.

5.3.3.5 Sage Grouse

Greater sage-grouse is a federal candidate species and does not require ESA Section 7 Consultation. They are considered a special status species for JBLM YTC given its candidate status and its designation as an Army Species at Risk. Impacts to greater sage-grouse and its habitat are assessed below.

5.3.3.5.1 No Action

5.3.3.5.1.1 Construction

Construction activities would not occur under this alternative and therefore no impacts to greater sage-grouse or its habitat would occur.

5.3.3.5.1.2 Operations

Operational impacts would include disturbance and possibly displacement of sage-grouse utilizing habitats adjacent to the Selah Airstrip for the duration of the training event. No disturbance is anticipated by the flight of the aerial vehicles given the elevations utilized, with the exception of take-offs and landings, and given the proximity of the airfield to the Range 15 lek and suitable nesting and brood-rearing habitat. The Range 15 lek has only been active four out of the last nine years by only a small number of male sage-grouse and does not receive any formal protection under current sage-grouse protection measures due to its relative inactivity and amount of human activity associated with the current infrastructure (roads, airfield, and Range 15). Its contribution to the YTC population is minimal due to its inconsistent use as a lek and its reduced habitat effectiveness given the existing infrastructure (roads, airfield, Range 15) and its use. Although there is potential for sage-grouse-aerial vehicles collisions, the risk is thought to be minimal due to the small size of aerial vehicles, elevations utilized for flight, and lack of reported avian collisions to date. As such, impacts from the current operation of aerial vehicles at YTC is considered less than significant given the short-term duration of individual training events, inactivity of and small numbers of grouse that use the Range 15 lek, and reduced habitat effectiveness but minor given the cumulative impact throughout the year (72 days in 2009, 146 days in 2008).

5.3.3.5.2 N. Selah Alternative

5.3.3.5.2.1 Construction

Construction related impacts to sage-grouse include both the direct impact of habitat loss and indirect impacts due to disturbance/displacement of wildlife from construction related activities. Impacts to vegetation resources are described above in Section 5.3.1 and would result in the permanent loss of habitat for big sagebrush/bunchgrass associated species which constitutes suitable nesting and brood-rearing habitat for sage-grouse. Although the criteria for significance has been reached, overall impacts would be considered significant but mitigable with the inclusion of a mitigation measure to restore previously impacted areas at a ratio of 3 acres restored for every 1 acre impacted (*i.e.*, 24 acres restored). No direct injury or mortality of sage-grouse is expected to occur from construction. Indirect impacts of construction related disturbance and displacement would be considered negligible given the short-term duration of construction activities.

5.3.3.5.2.2 Operation

Operational impacts to sage-grouse under N. Selah alternative would be similar to those discussed under the No Action alternative. Overall impacts would be greater with the addition of the amount of training proposed (*i.e.*, 2 weekends per month and one 3 week training event per year). Impacts from the proposed operation of unmanned aerial vehicles at JBLM YTC is considered less than significant given the short-term duration of individual training events but minor given the cumulative impact throughout the year.

5.3.3.5.3 S. Selah Alternative

5.3.3.5.3.1 Construction

Construction related impacts with S. Selah alternative would be similar to those discussed for N. Selah alternative with minor differences in the habitats which would be affected (see Section 5.3.3.5.2.1). Although the criteria for significance has been reached, overall impacts would be considered significant but mitigable with the inclusion of a mitigation measure to restore previously impacted area at a ratio of 3 acres restored for every 1 acre impacted (*i.e.*, 20 acres restored).

5.3.3.5.3.2 Operation

Operational impacts to sage-grouse under S. Selah alternative would be similar to those discussed under the No Action alternative. Overall impacts would be greater with the addition of the amount of training proposed (*i.e.*, 2 weekends per month and one 3 week training event per year). As such, impacts from the proposed operation of aerial vehicles at YTC is considered less than significant given the short-term duration of individual training events but minor given the cumulative impact throughout the year.

5.3.3.6 Other Wildlife, Bird and Insect Species (Yellow-billed Cuckoo, Northern Leopard Frog, American White Pelican, Ferruginous Hawk, Sandhill Crane)

None of the proposed action alternatives will have impacts on yellow-billed cuckoo, Northern leopard frog, American white pelican, ferruginous hawk and sandhill crane would occur due to the absence of any of these species and the lack of essential habitat for these species within the proposed project sites. No riparian or shorewater habitats are present proximate to or on the proposed sites. There are also no old-growth forests or undisturbed areas near or at the project sites.

5.4 Soils

The region of influence for soils with respect to construction activities is the area of construction for the TUAS facility and underground utilities extension. The region of influence for soils with regards to operations is the boundary of YTC.

Factors considered when determining whether an alternative would have a significant impact on soil were evaluated and distinguished by the degree to which the impact would result in excessive soil loss through increased erosion (loss beyond a soil's calculated T-value), leading to a scenario where the soil can no longer be maintained as a medium for plant growth.

5.4.1 No Action

5.4.1.1 Construction

Construction activities would not occur under this alternative and therefore no impacts with respect to construction would result.

5.4.1.2 Operation

Impacts to soil due to operations and training would be less than significant. A maximum of ten vehicles and a few small pieces of equipment (*i.e.*, antennas and Tactical Automated Landing System) would be positioned on bare ground directly adjacent to the launch and recovery area/taxiway; however, these areas have been previously disturbed. No digging will occur under this alternative. The soil type present on either side of the taxiway is Selah Silt Loam which has a high erodibility index (Fig. 4-1); however, the amount of soil loss that

would result from the proposed activities is well within this soil's T-value (tolerance of soil loss). The maintenance tents would all be set-up on existing hardened surfaces, lessening the footprint of the operations. On occasion training operations would be conducted at other locations on YTC and in those scenarios established roads and training areas will be utilized. The extent of impacts to soils due to operations of this platoon under the no action alternative will be minor.

5.4.2 N. Selah Alternative

5.4.2.1 Construction

Impacts to soils will be less than significant, because the area of disturbance for the proposed action is relatively small and has been previously disturbed by numerous other training activities and road construction in the past (YTC, 1998). Common impacts to soil from construction activities include compaction, disturbance of surface soil horizons, and removal of vegetation. Each of these impacts affects soils by limiting their overall ability to support plant growth, which can lead to areas of barren land that are more exposed, and therefore, more prone to erosion. High volume, infrequent run-off events typical of YTC can produce high erosion rates; however, given that the facility is on level, vegetated terrain the potential for severe erosion is diminished. Compaction of soils would occur from construction activities within and near the project footprint. The negative effects of compaction can be limited by planting vegetation in impacted areas and minimizing the area in which large construction equipment can maneuver. The soil type present at this location is part Brehm silt loam and part Brehm-Gorskel-Gorst loam/silt loam which has a high erodibility index (Fig. 4-1); however, the amount of soil loss that would result from the proposed activities is well within these soil's T-value (Both Brehm and Brehm-Gorskel-Gorst silt loams have a T-value of 2).

The utility expansion along Badger Pocket Road will cross areas of steeper topography, and sparse vegetation, which will increase the potential for erosion if a precipitation event occurs during construction. Best management practices will be employed to control sediment entering the creek while the construction is in proximity of the creek. All impacts associated with construction under this alternative are minor.

5.4.2.2 Operation

Less than significant impacts to soils should occur due to the platoon's operations. All operations at Selah Airstrip would be conducted on hardened surfaces and Soldier's performing UAS training outside of the airstrip will utilize existing roads and scheduled training areas. There is potential for an increase in run-off due to the new hardened surfaces, which in turn could mobilize adjacent soils, resulting in soil loss over time from erosion. Based on the amount of soil loss that can be tolerated (T-value) versus the amount of soil that may be lost cumulatively from wind and operational activities, the threshold of significance will not be breached. The expected increase in run-off is minimal, given the small increase in hardened surfaces, therefore, only minor impacts are expected with regards to soil loss.

5.4.3 S. Selah Alternative

5.4.3.1 Construction

Impacts to soil under this alternative are similar to N. Selah alternative, above, with a few exceptions. The S. Selah site is positioned in a topographic depression compared to the rest of the airfield. Construction site preparation would be more extensive here in order to bring the site up to grade. The type of impacts to the soil

will remain the same, but the extent of acreage impacted would increase slightly. The soil type present at this location is mostly Esquatzel silt loam with some Benwy silt loam along the western edge of the site. Both of these soil types has a high erodibility index (Fig. 4-1); however, the amount of soil loss that would result from the proposed activities is well within these soil's T-value (Benwy and Esquatzel silt loams have a T-value of 5 tons per year).

5.4.3.2 Operation

The operational impacts to soils under this alternative are the same as those discussed under N. Selah alternative above.

5.5 Cultural and Historical

The region of influence for construction activities with respect to cultural and historic resources are the footprints of the facility and its supporting infrastructure, as well as the viewshed of these facilities. The region of influence for the platoon's operational activities is all of YTC. Informal and formal consultations have been done with the Yakama Nation and the Wanapum Band regarding the proposed action and alternatives. An additional chance for review and comment had been afforded the tribes concurrent with the 30-day SHPO consultation and the 30-day public comment period (August 1-30, 2012).

In the realm of cultural and historical resources, there are no variable levels of significance, only a determination of an adverse impact or a finding of no adverse impact. Based on 36 CFR 800, an adverse impact occurs when an "action is taken that alters, directly or indirectly any of the characteristics of a historic property that qualify it for the National Register in a manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling or association." The value of a National Register Historic Property (NRHP)-eligible cultural or historic resource is dependent upon its original condition, so if that is altered in any way significance has been breached.

Impacts to cultural resources on YTC were evaluated by whether or not impacts would:

- Cause adverse impact to an NRHP-eligible or listed historic properties, or restrict access to traditional cultural practices or places as protected under the American Indian Religious Freedom Act;
- Jeopardize compliance with American Indian Religious Freedom Act by creating conditions that prevent the use of sacred or religious sites or resources or by producing noise levels incompatible with their use.
- Jeopardize compliance with the Archaeological Resources Protection Act or RCW 27.53 through actions including, but not limited to: unauthorized construction or digging in areas that have not yet been cleared for archaeological resources; any damage to archaeological sites.

5.5.1 No Action

5.5.1.1 Construction

Construction activities would not occur under this alternative and therefore no impacts to cultural or historic resources would result.

5.5.1.2 Operation

No impacts to cultural and historic resources would result from the training and operations of the platoon on YTC, because known historic or cultural sites are protected from training activities. Training activities will be properly scheduled by the platoon with Range Control, in which case no training would occur in locations

designated as culturally or historically valuable. In the event that human remains, artifacts, or features of archaeological interest are inadvertently discovered, training activities shall immediately cease in the vicinity of the discovery, stabilize and protect such discoveries from further disturbance or public disclosure, and provide immediate notice (within 24 hours following discovery) by telephone and email to the JBLM's Operation's Center (telephone number 509-577-3280 or by Motorola radio FM 40.20) and/or Contracting Officer's Representative. The Operations Center will notify Department of Public Works and the Cultural Resources Manager will then notify/consult with the appropriate Indian Tribes and the SHPO/DAHP, regarding the discovery, for further consultation and guidance. Work may not proceed in the vicinity of the discovery until authorized to proceed by the Installation Cultural Resource Manager and/or the Contracting Officer's Representative.

5.5.2 N. Selah Alternative
5.5.2.1 Construction

No impact is expected as there are no cultural or historical sites on or near the proposed N. Selah construction site. The N. Selah site was surveyed by YTC's Cultural and Historic Resources Program personnel and was not found to contain any sites on or near the project area. At one time, a town named Spitzenberg existed several miles to the east-southeast of the Selah Airstrip; one of the only remnants of that settlement is an irrigation canal which runs lengthwise on the northern side of the airstrip. Because the remnants of this town have been previously altered/damaged, it is no longer considered a National Register eligible property. In the event that human remains, artifacts, or features of archaeological interest are inadvertently discovered, the contractor/unit shall immediately cease activity in the vicinity of the discovery, stabilize and protect such discoveries from further disturbance or public disclosure, and provide immediate notice (within 24 hours following discovery) by telephone and email to the JBLM's Operation's Center (telephone number 509-577-3280 or by Motorola radio FM 40.20) and/or Contracting Officer's Representative. The Operations Center will notify Department of Public Works and the Cultural Resources Manager will then notify/consult with the appropriate Indian Tribes and the SHPO/DAHP, regarding the discovery, for further consultation and guidance. Work may not proceed in the vicinity of the discovery until authorized to proceed by the Installation Cultural Resource Manager and/or the Contracting Officer's Representative.

5.5.2.2 Operation

No impacts are expected during the take-off and landing of the aerial vehicles because this activity occurs at Selah Airstrip, where no cultural or historic resources are present. No impacts are expected while the aerial vehicle is in flight as it should not be visible or audible when it is at normal operational altitude.

5.5.3 S. Selah Alternative
5.5.3.1 Construction

No impact is expected as there are no cultural or historical sites on or near the proposed S. Selah construction site. The S. Selah site was also surveyed by YTC's Cultural and Historic Resources Program personnel and was not found to contain any culturally or historically significant sites on or near the project area. In the event that human remains, artifacts, or features of archaeological interest are inadvertently discovered, the contractor/unit shall immediately cease activity in the vicinity of the discovery, stabilize and protect such discoveries from further disturbance or public disclosure, and provide immediate notice (within 24 hours

following discovery) by telephone and email to the JBLM's Operation's Center (telephone number 509-577-3280 or by Motorola radio FM 40.20) and/or Contracting Officer's Representative. The Operations Center will notify Department of Public Works and the Cultural Resources Manager will then notify/consult with the appropriate Indian Tribes and the SHPO/DAHP, regarding the discovery, for further consultation and guidance. Work may not proceed in the vicinity of the discovery until authorized to proceed by the Installation Cultural Resource Manager and/or the Contracting Officer's Representative.

5.5.3.2 Operation

Impacts under this alternative are identical to those of N. Selah alternative, above.

5.6 Infrastructure

The region of influence for construction activities with respect to infrastructure includes the road network to Selah Airstrip. The region of influence for operation and training activities with respect to infrastructure are Cantonment support facilities and utilities, and range and training lands. Factors considered when determining whether an alternative would have a significant impact on infrastructure were evaluated and distinguished by the degree to which the impact would:

- Increase the level of utility demand that exceeds the current or planned capacity of utility systems on YTC; or
- Cause the need for major improvements in any of the installation's utility systems; or
- Cause an existing infrastructure network or process (i.e. roads, wastewater treatment) to fail.

5.6.1 No Action

5.6.1.1 Construction

Construction activities would not occur under this alternative and therefore no impacts to the existing infrastructure would result.

5.6.1.2 Operation

Less than significant impacts to the existing infrastructure would result from the training and operations of the platoon on YTC. Each training weekend and annual training period the platoon would utilize available barracks within the Cantonment, as well as dining and other support facilities. Use of these facilities entails an increased use of the available potable water as well as an increased load on the wastewater treatment and disposal process. Given the relatively small number of soldiers in a platoon, the increased use of the wastewater and potable water infrastructure should not jeopardize the function of those systems. Barracks space is limited during high usage periods, typically spring through fall; however, advance planning should alleviate most issues regarding this resource. Overall, the impacts to YTC's infrastructure should be minor.

5.6.2 N. Selah Alternative

5.6.2.1 Construction

Less than significant impacts will result from construction at the N. Selah site and for the installation of the underground utilities. Impacts that will occur are an increased use of the roads network to Selah Airstrip from the Cantonment as well as constricted use of Badger Pocket Road during the utility extension along that road. If traffic is slowed along Badger Pocket Road it will be short in duration and will not impede soldiers' use of the training land. The facility will not be connected to YTC's sewer system, as it will be serviced by an on-site septic

system and leach field. Depending upon the number of people the system serves a permit may be necessary. Stormwater is generally left to infiltrate by way of open vegetated areas, or evaporate (B. Deeken, personal communication).

5.6.2.2 Operation

Impacts under this alternative are identical to those of the No Action alternative, above.

5.6.3 S. Selah Alternative

5.6.3.1 Construction

Impacts under this alternative are identical to those of N. Selah alternative, above.

5.6.3.2 Operation

Impacts under this alternative are identical to those of the No Action alternative, above.

5.7 Hazardous Materials and Wastes

The region of influence for construction activities with respect to hazardous materials and waste are the immediate construction areas as well as the final disposal location. The region of influence for operations with respect to hazardous materials and waste is the entire area of YTC.

Impacts associated with hazardous materials and waste in relation to the proposed action would be considered significant if they resulted in:

- violations of federal or state environmental rules, regulations, or permits held by the installation; or
- unacceptable levels of human exposure to contaminated materials; or
- A spill or release of a hazardous substance beyond the ability of a spill kit to contain (as defined by Title 40, CFR Part 302 [CERCLA], or Parts 110, 112, 116 and 117 [CWA])

5.7.1 No Action

5.7.1.1 Construction

Construction activities would not occur under this alternative and therefore no impacts with respect to construction would result.

5.7.1.2 Operation

Common petroleum products would be used in connection with the proposed action. The aerial vehicle runs on 100 LL fuel and its engine requires oil and other petroleum products to function properly. The platoon would strictly adhere to the WA ARNG Pamphlet 200-1 in order to keep any potential impacts to a minimum, including but not limited to, having necessary spill kits available and a spill prevention, control, and countermeasures plan (SPCCP). In the event that a spill occurred en route to or from the National Guard facility the clean-up would be subject to YTC's, not the National Guard's, SPCCP. Any wastes produced from the spill and subsequent clean-up would be taken to the YTC One Stop Yard for disposal, not the National Guard MATES facility. Impacts to the environment regarding hazardous materials/wastes are less than significant.

5.7.2 N. Selah Alternative

5.7.2.1 Construction

Several common construction materials are toxic and hazardous materials (i.e. concrete, paint, and petroleum products) and would be used in connection with the proposed action. Handled properly, these materials will not have an adverse impact on the surrounding environment. A SPCCP will be in effect during

construction activities to manage the extent of exposure in the event of a release, as well as to outline procedures by which to lessen the potential for a release to occur at all. Construction site preparation may be inclusive of the removal/clean-up of the debris area that was observed within the footprint of the N. Selah site. Overall, impacts from hazardous materials and waste would be minor and less than significant.

5.7.2.2 Operation

Impacts to the environment from the use of hazardous materials and the creation of hazardous wastes at the Selah Airstrip will be less than significant. About 100 LL fuel will be stored at the facility, requiring adherence to all appropriate laws and regulations regarding containment and handling measures for this substance during the design phase of the project. A spill kit will be kept on hand by the platoon in the event that a release occurs. Other hazardous wastes in relation to this action would be produced during the maintenance of the UAS, such as used oil, transmission fluid or coolant, and soaps from washing aircraft. A vault will catch any run-off from within the hangar (i.e. from cleaning the hangar floor or aircraft), which will be pumped on a regular schedule and its contents disposed of properly. All hazardous wastes will be disposed of using proper disposal methods based on the WA ARNG Pamphlet 200-1 and applicable laws and regulations, ensuring that there will be negligible impacts to the environment from hazardous materials/wastes during operation.

5.7.3 S. Selah Alternative

5.7.3.1 Construction

The construction related impacts with regards to hazardous materials and waste are similar to those described in N. Selah alternative above.

5.7.3.2 Operation

The operation and training related impacts with regards to hazardous materials and waste are similar to those described in N. Selah alternative above.

5.8 Mitigation Measures

As addressed in the environmental consequences section on vegetation, and on sage grouse, mitigation measures are necessary to keep the level of impacts of this proposed action below the significance thresholds set forth for each resource above. The mitigation under N. Selah alternative includes restoration of approximately 24 acres of big sagebrush/bluebunch wheatgrass vegetation communities in areas previously disturbed. The mitigation under S. Selah alternative includes restoration of approximately 20 acres of big sagebrush/bluebunch wheatgrass vegetation communities in areas previously disturbed. This mitigation works two-fold in that it lowers the level of significance for the impacts on the vegetation communities as well as for the sage grouse's habitat as they are one in the same.

5.9 Cumulative Effects

Cumulative effects are the combination of impacts of the proposed action, when added to other past, present, and reasonably foreseeable future actions, regardless of who undertakes those other actions (CEQ Regulation 1508.7). Cumulative effects can result from actions occurring over a period of time that are minor when each is considered individually, but that are significant when viewed collectively.

5.9.1 Actions Considered in Cumulative Effects

On-Post and Regional Activities. YTC is used for multiple types of training including gunnery, demolition, construction, off-road maneuver and aviation related operations, while the land surrounding YTC is used mostly for agricultural and livestock purposes. At Selah Airstrip specifically, current uses range from UAS flight training to driver's training and the surrounding land on all sides is dedicated to military training. The airstrip is fairly secluded between two ridgelines, one to the north and to the south, but is open on either end, exposed to forms of training not related to the airstrip operations.

Reasonably foreseeable future actions that are expected to take place on or around YTC or to have an effect on the proposed action, included in this analysis, are:

- Proposed construction of an additional set of high voltage power lines by PacifiCorps, est. FY12.
- As many as nine UAS platoons may be conducting at least a portion of their UAS training at YTC's Selah Airstrip within the next few years. Currently, there are four active Army UAS platoons utilizing the airstrip with the possibility of four more to be utilizing the airstrip in the future (not including the National Guard platoon referred to in this analysis), equaling a total of nine.
- Construction of an Aviation Training Range, FY15.
- Grow the Army Environmental Impact Study (EIS) (JBLM, 2010):
 - Increased overall troop strength and therefore increased training/range land use.
 - Construction of a Multi-Purpose Machine Gun Range, SE of Selah Airstrip (FY14)
 - Construction of a Sniper Range, SW of Selah AS (FY11)
 - Construction of a Combined Arms Collective Training Facility, FY15

5.9.2 Cumulative Effects Discussion

Impacts from the training of the additional UAS platoon units will be similar to those of the WA ARNG unit. Each of the new units expected to use Selah Airstrip in the future are/will be stationed at JBLM-Main and no new construction is planned to accommodate these units at YTC. In addition to an increased use of Selah Airstrip, both YTC and JBLM-Main are undergoing substantial growth as analyzed in the Grow the Army Environmental Impact Study. This increase in overall troop strength will impact both YTC's and JBLM's infrastructure by increasing the demand for training lands, barracks and other support facilities, as well as the treatment of wastewater and disposal of solid waste. The environmental resources that potentially would be impacted by this cumulative increase in use of YTC's Selah Airstrip and Cantonment resources are wildlife and vegetation, air quality, infrastructure, and soils. No additional impacts are expected with respect to the water quality/quantity or cultural and historic resources.

5.9.2.1 Wildlife and Vegetation

Vegetation and wildlife habitat on YTC have been degraded in the past, and continue to be degraded currently, by construction, military training activities, and wildland fires. A variety of new ranges as well as an increase in overall troop strength adds to the potential for adverse impacts to wildlife due simply to human presence and noise. The proposed future management approach of adjusting Army activities in response to resource conditions would ensure long-term protection of wildlife species and habitats that are regionally rare and/or sensitive.

5.9.2.2 Air Quality

The increased use of Selah Airstrip by additional UAS platoons, the increase in overall troop strength and the construction of additional ranges will result in an increase in air pollutant emissions. More aerial vehicles will be flown, producing more emissions; however, given the high fuel economy of the SHADOW emissions will easily remain below NAAQS and generator use would be lessened at Selah with the new electrical supply to the area. An increase in training will lead to a more rapid degradation of roads, contributing to an increase in PM from military vehicles stirring up dust in the field. Dust from vehicle traffic to and from Selah Airstrip would be minimal, given that Badger Pocket Road is an actively maintained, secondary all-weather road. With additional range construction projects, emissions associated with construction machinery and vehicles would increase; however these would be short term, minor effects. Overall, the cumulative effects to air quality would remain minor.

5.9.2.3 Infrastructure

YTC's infrastructure will be impacted by the proposed project when considered in conjunction with the planned increase in troop strength at JBLM-Main. Soldiers utilizing both JBLM and YTC as analyzed in the *Grow the Army EIS* (JBLM, 2010) will lead to more heavily used training areas, ranges and Cantonment amenities such as barracks, dining halls, and physical training facilities. In addition, the waste water and solid waste disposal systems will have an increased load. Overall, the cumulative effects to YTC's infrastructure will be less than significant as they will not cause any failures to the existing infrastructure systems or initiate the need for larger capacity systems.

5.9.2.4 Soils

Additional construction activities in the ranges would add to the overall soil disturbance on YTC; however, ground disturbing activities will continue to be restricted from high quality habitat areas, ensuring that previously degraded areas are impacted repeatedly. Soil disturbance will occur locally at future construction sites, but can be limited by replanting vegetation to promote reestablishment of soils in those areas. Overall, the cumulative effects to soils would be minor and not surpass the significance thresholds established for soils.

5.9.3 Cumulative Effects Conclusion

Impacts to the surrounding environment from the proposed action and associated mitigation when observed cumulatively with past, present, and future actions will remain below the established significance thresholds for each resource area. No proposed actions outside of the installation are likely to add any appreciable cumulative impacts to this project. The increased use of Selah Airstrip, increased overall troop strength and training needs, and construction of additional ranges in the future will increase the potential for and the actual impacts to resource areas; however, the level of cumulative impacts is low overall and the significance thresholds for each resource area are not breached.

6.0 COMPARISON OF ALTERNATIVES AND CONCLUSIONS

6.1 Comparison of Environmental Consequences of the Alternatives

This section summarizes the potential impacts assessed for the Preferred Action alternative by environmental resource area. Table 6-1 presents a comparison matrix for the No Action alternative, Preferred Action alternative and Alternative Location. The No Action alternative serves as a baseline from which to compare the potential impacts of the other two alternatives.

Table 6-1 Summary of Potential Impact by Resource Area.

Resource Areas	Activities	No Action Alternative	Preferred Action Alternative (N. Selah)	Alternative Location (S. Selah)
Air Quality	Construction	No Impact.	Less than significant impact. Negligible increase in air emissions/dust generation during construction to be controlled with BMPs, with no long-term impacts expected. Air quality impacts determined to be below <i>de minimis</i> levels for conformity analysis.	Less than significant impact. Negligible increase in air emissions/dust generation during construction to be controlled with BMPs, with no long-term impacts expected. Air quality impacts determined to be below <i>de minimis</i> levels for conformity analysis.
	Operation	Less than significant impact.	Less than significant impact. BMPs to be implemented for sedimentation control during construction.	Less than significant impact. BMPs to be implemented for sedimentation control during construction.
Water Resources	Construction	No Impact.	Less than significant impact.	Less than significant impact.
	Operation	No Impact.	Less than significant impact.	Less than significant impact.
Biological Resources	Construction	No Impact.	Significant but mitigable impact through habitat restoration..	Significant but mitigable impact through habitat restoration..
	Operation	Less than significant impact.	Significant but mitigable impact.	Significant but mitigable impact.
Cultural/Historic Resources	Construction	No Impact.	No Impact.	No Impact.
	Operation	No Impact.	No Impact.	No Impact.
Soils, Geology, and Topography	Construction	No Impact.	Less than significant impact.	Less than significant impact.
	Operation	Less than significant impact.	No Impact.	No Impact.
Infrastructure	Construction	No Impact.	Beneficial Impact.	Beneficial Impact.
	Operation	Less than significant impact.	Less than significant impact.	Less than significant impact.
Hazardous Materials/Wastes	Construction	No Impact.	Less than significant impact.	Less than significant impact.
	Operation	Less than significant impact.	Less than significant impact.	Less than significant impact.

6.2 Conclusion

Based on the *Environmental Consequences* evaluation, there would be significant impacts to the biological resources, particularly the big sagebrush/bluebunch wheatgrass vegetation community which serves as the habitat for the greater sage-grouse. These impacts to the identified resource areas will become negligible when mitigation measures below are integrated into the project for a specific vegetation community and the greater sage grouse.

- The mitigation under North Selah alternative includes restoration of approximately 24 acres of big sagebrush/bluebunch wheatgrass vegetation communities in areas previously disturbed.
- The mitigation under South Selah alternative includes restoration of approximately 20 acres of big sagebrush/bluebunch wheatgrass vegetation communities in areas previously disturbed.

This mitigation strategy for both alternative locations works two-fold in that it lowers the level of significance for the impacts on the vegetation communities which also serves as the sage grouse's habitat.

Because YTC is a highly valuable training resource utilized by all branches of the armed forces as well as state and local groups, impacts to YTC's environmental resources must continually be managed and the resources themselves monitored and maintained for sustained use. As the force grows, more stress will be felt in the training lands, ranges and Cantonment Areas as finite resources continue to be drawn from; however, the laws, regulations, management plans and associated best management practices that are in effect support the sustainability of the training lands so that the future mission will not be jeopardized. In addition, best management practices for construction activities would be adhered to by the WA ARNG. The construction of a facility for, and the operation of, the WA ARNG TUAS platoon at the N. Selah or the S. Selah site will have less than significant impacts on the surrounding natural and human environment at YTC. The preferred alternative is to implement the proposed action at the N. Selah site.

The analysis presented herein determines that an Environmental Impact Statement (EIS) is unnecessary for this Proposed Action and that a Finding of No Significant Impact (FNSI) is appropriate.

7.0 REFERENCES

Federal Status, Regulations, Executive Orders, and Memoranda

- American Indian Religious Freedom Act of 1978 (Public Law 95-341; 42 U.S.C. 1996)
- Archeological Resources Protection Act of 1979 (Public Law 96-95; 16 U.S.C. 470aa-470ll)
- Comprehensive Environmental Response, Compensation, and Liability Act of 1989 (42 U.S.C. 9601)
- Clean Air Act Amendments of 1990, *List of Hazardous Air Pollutants*
- Clean Air Act of 1970 (42 U.S.C. 7401 et seq.; 40 CFR Parts 50-87)
- Clean Water Act of 1972 (33 U.S.C. 1251 et seq.)
- Endangered Species Act of 1973 (Public Law 93-205; 16 U.S.C. 1531 et seq.)
- National Environmental Policy Act of 1969 (Public Law 91-190; 42 U.S.C. 4321 et seq.)
- National Historic Preservation Act of 1966 (Public Law 95-515; Public Law 102-575; 16 U.S.C. 470)
- Native American Graves Protection and Repatriation Act of 1990 (Public Law 101-601; 25U.S.C. 3001-3013)
- Council on Environmental Quality Regulations Implementing the National Environmental Policy Act* (40 CFR Parts 1500-1508)
- EO 11991, *Protection and Enhancement of Environmental Quality*, May 24, 1977
- EO 13007, *Indian Sacred Sites*, May 24, 1996
- United States Army, *Environmental Analysis of Army Actions* (32 CFR Part 651), 200236 Code of Federal Regulations Part 800. Protection of Historic Properties. 2000 (as amended in 2004)

Department of Defense and Army References

- AR 200-1, *Environmental Protection and Enhancement*
- Department of the Army. 1990. Procedures to protect and enhance the habitat of endangered, threatened, and/ or candidate species on Fort Lewis and sub-installations, Fort Lewis Regulation (FL Reg.) 420-5.
- Department of the Army-US Army Garrison. 2004. Environmental Assessment for the Training, Testing and Operation of Unmanned Aerial Vehicles at Redstone Arsenal, Alabama. Prepared by the Directorate of Environment and Safety, May 2004, Redstone, AL.
- Headquarters, Department of the Army (HQDA). 2001. Field Manual No. 1 The Army, Washington D.C., June 14, 2011. Available at <http://www.globalsecurity.org/military/library/policy/army/fm/1/>. Accessed on October 8, 2011.
- Headquarters, Department of the Army (HQDA). 2006. *Unmanned Aircraft System Flight Regulations*. Army Regulation (AR) 95-23, Washington, DC.
- Headquarters, Department of the Army (HQDA). 2007a. *Environmental Protection and Enhancement*. Army Regulation (AR) 200-1, Washington, DC.
- Headquarters, Department of the Army (HQDA). 2007b. *Transportation Infrastructure and Dams*. Army Regulation (AR) 420-1, Washington, DC.

- Headquarters, Department of the Army (HQDA). 2007c. *Unmanned Aircraft Systems Commander's Guide and Aircrew Training Manual*. Training Circular 1-600, Washington, DC.
- Headquarters, Department of the Army. 2008. Airspace, Airfields/Heliports, Flight activities, Air Traffic Control and Navigational Aids (*RAR 001). Army Regulation (AR) 95-2, Washington, DC.
- Headquarters, Department of the Army. 2009. Army Facilities Management, February 12, 2008 (Rapid Action Revision Issue Date: March 28, 2009), Washington D.C.
- 63 Federal Register Parts 31647 and 31651. Endangered and Threatened Wildlife and Plants: Determination of Threatened Status for the Klamath River and Columbia River Distinct Population Segments of Bull Trout, June 10, 1998.

Other References

- ASTM. 2006. ASTM Standard E1527 – 05 "Standard Practice for Environmental Site Assessments: Phase I ESA Process," ASTM International, West Conshohocken, PA, 2006, www.astm.org.
- US Army Combat Readiness/Safety Center (USACRC). 2009. Unmanned Aircraft Systems FY05-FY09 Class A-C Accident Analysis, Air Task Force, Fort Rucker, AL.
- Bock, C.E., A. Cruz, J.R., M.C Grant, C.S. Aid, and T.R. Strong. 1992. Field experimental evidence for diffuse competition among southwestern riparian birds. *American Naturalist* 140:815-828.
- Bottoff, J.A. and D. Swanson. 1993. Biological Assessment of the Restoration of an Heavy Division at Fort Lewis DACA 88-93-M-0808. Report Prepared by Resource Northwest, Inc. Olympia, Washington, for the Directorate of Engineering and Housing, Fort Lewis Military Reservation, U.S. Dept. of Defense, Fort Lewis, WA.
- Boreson, K. 1998. A cultural resources study on the Yakima Training Center, Kittitas and Yakima Counties, Washington. U.S. Army Corps of Engineers, Seattle District, Seattle, WA.
- Britton, C.M., and R.G. Clark. 1985. Effects of Fire on Sagebrush and Bitterbrush. K.Sanders and J. Durham (Tech. Eds). *Rangeland Fire Effects*. U.S. Dept. of Int., Bureau of Land Management. Boise, ID.
- Carter, J.A. and T. deBoer. 2002. Results of a 38,732-acre cultural resources inventory on Yakima Training Center, Kittitas and Yakima Counties, Washington. Prepared by Historical Research Associates for the U.S. Army, Fort Lewis, WA.
- Daubenmire, R. 1970. *Steppe Vegetation of Washington*. Washington State University, Agriculture Experiment Station Publication XT0062, 131 pp.
- Davis, M.M., W.A. Mitchell, J.S. Wakeley, J.C. Fischenich, and M.M. Craft. 1996. Environmental Value of Riparian Vegetation. U.S. Army Corps of Engineers Waterways Experiment Station. TR EL-96-16.
- Dobkin, S.D., and J.D. Sauder. 2004. Shrubsteppe landscapes in jeopardy. Distribution, abundances, and uncertain future of birds and small mammals in the Intermountain West. High Desert Ecological Institute, Bend, OR. 199pp.

- Dobler, F.C., J. Eby, C. Perry, S. Richardson, and M.Vander Haegen. 1996. Status of Washington's Shrub-Steppe Ecosystem: Extent, Ownership and Wildlife/Vegetation Relationships. Research Report. Washington Department Fish and Wildlife, Olympia, WA. 39pp.
- Doran, P. J., M. Whalen, K. Reiner, and L. Fitzner. 2004. American white pelican, *Pelecanus erythrorhynchos*. Pages 2-1–2-7 in E. Larsen, J. M. Azerrad, and N. Nordstrom, technical editors. Management Recommendations for Washington's Priority Species – Volume IV: Birds. Washington Department of Fish and Wildlife, Olympia, WA.
- Environmental and Natural Resources Division (ENRD). 2007. Environmental Assessment of the Modification of Aerial Fire Suppression Requirements at Yakima Training Center, Washington (07-026), YTC Public Works, Yakima, WA.
- Environmental and Natural Resources Division (ENRD). 2002. Cultural and Natural Resources Management Plan, Yakima Training Center, Yakima, WA.
- Environmental and Natural Resources Division (ENRD). 2008. Environmental Assessment: Land Rehabilitation and Maintenance (LRAM) Erosion Control Project at Training Areas 6, 11, and 12, and the Multi-Purpose Range Complex Surface Danger Zone (SDZ) Yakima Training Center, Washington.
- Ehrlich, P.R., D.S. Dobkin, and D. Wheye. 1988. The birder's handbook: a field guide to the natural history of North American birds. Simon and Schuster, New York, NY, p. 286.
- Fort Lewis. 2000. Draft Final Environmental Assessment Interim Brigade Combat Team Transformation at Fort Lewis, Washington. Prepared by CH2M HILL for Public Works Environmental Office, Fort Lewis. December, 2000.
- Franklin, J.E., and C.T. Dyrness. 1988. Natural Vegetation of Oregon and Washington. Oregon State University Press, 452 pp.
- Gough, S. 1999. Cultural resources inventory remaining phases of road mitigation, Yakima Training Center, Kittitas and Yakima Counties, Washington. Prepared by Eastern Washington University for U.S. Army, Fort Lewis, WA.
- Joint Base Lewis-McChord (JBLM). 2010. Final Environmental Impact Statement for the Fort Lewis Army Growth and Force Structure Realignment. JBLM, WA.
- Johnson, D.H., and T.A. O'Neil. 2001. Wildlife-Habitat Relationships in Oregon and Washington. Oregon State University Press. Corvallis, OR. 736pp.
- Knutson, K.L. and V.L. Naef. 1997. Priority Habitat Management Recommendations: Riparian. Washington Department of Fish and Wildlife, Olympia, WA.
- Leingang, C. 2011. Information paper on greater sage-grouse management at Yakima Training Center, August 9, 2011, Yakima, WA.
- Lewarch, D.E., Dugas, A.E. and Larson, L.L. 2000. Cultural resources (archaeological site) inventory and road mitigation survey on the Yakima Training Center, Kittitas and Yakima Counties, Washington. U.S. Army Corps of Engineers, Seattle District, Seattle, WA.

- Livingston, M. 1998. Western Sage Grouse Management Plan. Report Prepared for Directorate of Environmental and Natural Resources, Yakima Training Center. Yakima, WA.
- McAllister, K.R., Leonard, W.P., D.W. Hays, and R. C. Friesz. 1999. Washington state status report for the northern leopard frog. Wash. Dept. Fish and Wildl., Olympia. 36 pp.
- Remington, T.E. and C.E. Braun. 1985. Sage grouse food selection in winter, North Park, Colorado. *Journal of Wildlife Management* 49:1055-1061.
- Richardson, S., M. Whalen, D. Demers, and R. Milner. 2004. Ferruginous hawk, *Buteo regalis*. Pages 7- 1–7-6 in E. Larsen, J. M. Azerrad, and N. Nordstrom, technical editors. Management Recommendations for Washington's Priority Species – Volume IV: Birds. Washington Department of Fish and Wildlife, Olympia, WA.
- Seattle Audubon Society. 2012. BirdWeb: Seattle Audubon's Online Guide to the Birds of Washington State [Web page]. Located at: <http://www.birdweb.org>. Accessed September 5, 2012.
- Rickard, W.H., L.E. Rogers, B.E. Vaughn, and S.F. Liebertrau. 1988. Shrub-steppe, Balance and Change in a Semi-arid Terrestrial Ecosystem. Elsevier, NY.
- U.S. Army Corps of Engineers (USACE), 2002. *Programmatic Environmental Impact Statement, Army Transformation*, Mobile District, February 2002.
- U.S. Army Corps of Engineers (USACE). 2008. Airfield Pavement Evaluation, Selah Creek Airstrip, and Vagabond Army Airfield, Yakima Training Center, Washington, Engineer Research and Development Center, May 2008. ERDC/GSL APBAAF-08-09, Vicksburg, MS.
- U.S. Army Intelligence Center (USAIC). 2000. Tactical Unmanned Aerial Vehicle (TUAV) Concept of Operations.
- U.S. Army. 1994. Army Stationing of Mechanized or Heavy Combat Forces at Fort Lewis, WA. Final EIS and ROD. Fort Lewis, WA.
- U.S. Environmental Protection Agency (USEPA). 2008. Lead Emissions from the Use of Leaded Aviation Gasoline in the United States.; EPA420-R-08-020, Assessment and Standards Division; Office of Transportation and Air Quality., October 2008. Available at www.epa.gov/OMS/regs/nonroad/aviation/420r08020.pdf, Accessed October 14, 2011.
- U.S. Fish and Wildlife Service (USFWS). 2012. Listed and Proposed Endangered and Threatened Species and Critical Habitat; Candidate Species; and Species of Concern in Yakima County as Prepared by the U.S. Fish and Wildlife Service, Central Washington Field Office, Revised March 15, 2012. <http://www.fws.gov/wafwo/speciesmap/YakimaCounty0312.pdf>
- U.S. Fish and Wildlife Service (USFWS). 2000. Ute ladies'-tresses, *Spiranthes diluvialis*, Letter, May 10, 2000. Spokane, WA.
- U.S. Fish and Wildlife Service (USFWS). 2010. Species Assessment and Listing Priority Assignment Form: *Coccyzus americanus*, [Online], Available at http://ecos.fws.gov/docs/candidate/assessments/2010/r8/B06R_V01.pdf, Updated April 28, 2010, Accessed October 17, 2011.

- U.S. Department of Agriculture-Natural Resource Conservation Service (USDA-NRCS). 2006. Soil Survey of Yakima Training Center, Parts of Kittitas and Yakima Counties, Washington. In cooperation with United States Department of the Army, Yakima Training Center; U.S. Army Corps of Engineers; and Washington State University Agricultural Research Center.
- U.S. Department of Agriculture-Natural Resource Conservation Service (USDA-NRCS). 2009. National Soil Survey Handbook (NSSH) Part 618.56 and 63, 2009, accessed at <http://soils.usda.gov/technical/handbook/contents/part618.html>
- WAC 173-441. 2011. Available at Department of Ecology's website: <https://fortress.wa.gov/ecy/publications/summarypages/wac173441.html>
- Washington Department of Fish and Wildlife (WDFW). 1995. Washington State Management Plan for Sage Grouse. Game Division, WDFW. Olympia, Washington.
- Washington Department of Fish and Wildlife (WDFW). 1997. Wildlife Research Prairie Grouse. Olympia, Washington.
- Washington Department of Fish and Wildlife (WDFW). 2012. Washington State Species of Concern Lists. <http://wdfw.wa.gov/conservation/endangered/lists/search.php?searchby=All&orderby=AnimalType,%20CommonName%20ASC>
- Washington Department of Fish and Wildlife (WDFW). 2011. Annual Report: Northern Leopard Frog. http://wdfw.wa.gov/conservation/endangered/species/northern_leopard_frog.pdf
- Washington Department of Natural Resources (WDNR). 2012. *List of Vascular Plants Tracked by the Washington Natural Heritage Program* [Online], <http://www1.dnr.wa.gov/nhp/refdesk/lists/plantrnk.html>, Updated April 19, 2011, Accessed September 5, 2012.
- Washington Office of Financial Management and Budget. 2008. April 1 Population of Cities, Towns and Counties Used for the Allocation of Selected State Revenues; [<http://www.ofm.wa.gov/pop/april1/default.asp>] retrieved from the World Wide Web 10 November, 2009.
- White, K.R. 2012. Yakima Training Center Sage-Grouse Lek Monitoring. Prepared for Environmental Division, Public Works, Yakima Training Center by Stell Environmental Enterprises, Inc.
- Yakima Training Center (YTC). 1998 (Unpublished). Frames 14/24 and 15/24 [aerial photographs]. 1:8,600. "YTC".
- Yakima Training Center (YTC). 2004. Yakima Training Center Integrated Wildland Fire Management Plan. Yakima, WA.
- Yakima Training Center (YTC). 2007. Training Unit Standard Operating Procedure. Yakima, Washington.
- Yakima Training Center (YTC). 2009/2010 (Unpublished). Site Visit Report, Tactical Unmanned Aerial Systems Study Area, Selah Airstrip, Yakima WA.

Personal Communications

Antonio Felix, YTC Range Control, personal communication, December 14, 2009

Arthur J. Doyle, UAS Accident Data SME, U.S. Army Combat Readiness/Safety Center, personal communication, February 23, 2010

Brian Deeken, YTC Environmental Compliance Program Manager, personal communication, December 10, 2009

Ken Curry, HQ's 81st HBCT, personal communication, February 2, 2010

Gregg Kurz, USFWS Fish and Wildlife Biologist, personal communication, October 12, 2011

Michael Dasaro, 81st HBCT TUAS Platoon Sergeant, personal communication, October 29, 2009

Steve Kruger, YTC Department of Public Works Director, personal communication, February 4, 2009

Puget Sound Energy staff, personal communication, March 3, 2009

LTC Maher Abed, WA ARNG Construction Project Manager, March 4, 2009.

8.0 GLOSSARY

Aeolian – noting or pertaining to sediments carried or arranged by the wind.

Agency - agency as such term is defined in section 551 of Title 5, United States Code.

Ambient Air - any unconfined portion of the atmosphere: open air, surrounding air.

Anadromous – migrating from salt water to spawn in fresh water.

Anthropomorphic – ascribing human form or attributes to something that is not human or man-made.

Attainment Area - an area considered to have air quality as good as or better than the National Air Quality Standards as defined in the Clean Air Act. An area may be an attainment area for one pollutant and a non-attainment area for others.

Benthic – aquatic life-forms that dwell on or in the substrate at the bottom of water body.

Billeting – shelter for soldiers.

Cultural resources - refer to areas, places, buildings, structures, outdoor works of art, natural features, and other objects having a special historical, tribal, cultural, archaeological, architectural, community, or aesthetic value. Specifically, refer to historic properties as defined by National Historic Preservation Act; cultural items as defined by Native American Graves and Repatriation Act; archaeological resources as defined by Archaeological Resources Protection Act; sites and sacred objects to which access is afforded under American Indian Religious Freedom Act; and collections and records as defined in 36 CFR 79.

Critical Habitat - the specific areas within the geographical area occupied by a threatened or endangered species, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection.

De minimis - defined as so minor in amount, quantity, or impacts as to be disregarded.

Edge effect – the tendency toward greater variety and density of plant and animal populations in the transition area between two different habitat types.

Endangered Species - a species that is threatened with extinction throughout all or a significant portion of its range.

Endemic Species – a species that is natural to or characteristic of a specific place.

Fossorial - organism that is adapted to digging and life underground such as rodents and salamanders.

Forb – a broad-leaved herb other than a grass, especially one growing in a field, prairie, or meadow

Glide Slope – the proper path of descent for an aircraft preparing to land.

Groundwater - the water in the porous rocks and soils of the earth's crust; a large proportion of the total supply of fresh water.

Habitat - a place where particular plants or animals occur or could occur.

Hazardous Material - any material that because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either cause, or significantly contribute to an increase in mortality or an increase in serious, irreversible illness; or pose a substantial present or potential hazard to human health or the environment when improperly handled, used, stored, transported, or otherwise managed.

Hazardous Waste - a waste or combination of wastes which, because of its quantity, concentration, or physical, chemical, or infectious characteristics, may either cause, or significantly contribute to an increase in mortality or an increase in serious, irreversible illness; or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed.

Historic Property or **Historic Resource** - any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion on the National Register, including artifacts, records, and material remains related to such a property or resource.

Indian Tribe" or **Tribe** - an Indian or Alaska native tribe, band, nation, pueblo, village, corporation, or community that the Secretary of the Interior acknowledges to exist as an Indian tribe pursuant to the Federally Recognized Indian Tribe List Act of 1994, 25 USC 479a.

Introgression – the introduction of genes from one species into the gene pool of another species, occurring when matings of the two produce fertile off-spring.

Lek – communal mating grounds for the sage grouse

Loess – a fine-grained, primarily wind transported sediment.

National Register or **Register** - the National Register of Historic Places (NRHP)

Non-attainment Area - an area that has been designated by the U.S. Environmental Protection Agency and the appropriate state air quality agency as exceeding one or more National Ambient Air Quality Standards.

Phenology – the study of periodic biological phenomena, such as flowering, migration, breeding, etc

Pleistocene – an epoch of the Cenozoic era on the geologic time scale ranging from 65 million years ago to 55 million years ago.

Preservation or **Historic Preservation**- includes identification, evaluation, recordation, documentation, curation, acquisition, protection, management, rehabilitation, restoration, stabilization, maintenance, research, interpretation, conservation, education and training regarding the foregoing activities or any combination of the foregoing activities.

Riparian – of or pertaining to or situated on the bank of a river.

Seral Stage - a phase in the sequential development of plants or animals.

Smolts – a young silvery salmon in the stage of its first migration to the sea.

Species - all organisms of a given kind; a group of plants or animals that breed together but are not bred successfully with organisms outside their group.

Stormwater - rain and snow melt that runs off surfaces such as rooftops, streets/highways, parking lots and any other paved surfaces. Stormwater can carry pollutants as it flows into waterways and/or local waterbodies.

Threatened Species - a species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

Wetlands - areas that are inundated or saturated with surface or groundwater at a frequency and duration sufficient to support a prevalence of vegetation typically adapted for life in saturated soil, including swamps, marshes, bogs, and other similar areas.

9.0 LIST OF PREPARERS

Personnel involved in the development of this EA include the following:

List of Preparers:

Rowena Valencia-Gica, Ph.D.
Environmental Specialist
Washington Army National Guard/Washington Military Department
Camp Murray

Carol McAdams
NEPA Specialist
Joint Base Lewis-McChord
Contractor; Versar, Inc.

List of Contributors:

Bill Van Hoesen, NEPA Program Manager, Joint Base Lewis-McChord

Washington Army National Guard

Timothy Walker, Project Manager, Construction and Facilities Maintenance Office
Penny Chencharick, Supervisory Environmental Specialist/WA ARNG liaison
John Wunsch, Facility Operations Specialist
Shelly Tilly, GIS Support
Ken Curry, HQ's 81st HBCT
Michael Dasaro, 81st HBCT TUAS Platoon Sergeant

Yakima Training Center

Colin Leingang, Wildlife Program Manager
Margaret Taaffe (Pounds), Environmental Division Manager
Brian Deeken, Environmental Compliance Program Manager
Pete Nissen, Natural Resource Program Manager
Scott McDonald, NEPA liaison
David Theirl, GIS Cartographer
Andrea Trickey, NEPA Specialist, Contractor; ICI Services Corporation
Joan Bartz, Environmental Compliance Specialist, Contractor; ICI Services Corporation
Antonio Felix, Operations Officer, Range Control
Jay Becker, NEPA Program

Fort Rucker, AL

Arthur J. Doyle, UAS Accident Data SME

THIS PAGE LEFT INTENTIONALLY BLANK

10.0 AGENCIES AND INDIVIDUALS CONSULTED

Military

Washington Military Department/Washington Army
National Guard
Bldg. 36, Camp Murray
Tacoma, WA 98430-5054

Army National Guard/ National Guard Bureau
Environmental Programs Division
111 S. George Mason Drive
Alexandria, VA 22204-1382

Federal Agencies

Steven Landino
Director, Washington State Habitat
NOAA Fisheries
510 Desmond Drive SE Suite 103
Lacey, WA 98503-1263

Jessica Gonzales
Supervisor
U.S. Fish and Wildlife Service
Central Washington Field Office
214 Melody Lane, Wenatchee, WA 98801

Dale Bambrick
NOAA Fisheries
Eastern Washington Branch Chief
304 South Water Street Suite 201
Ellensburg, WA 98926

Michelle Cruz
NEPA Section
Federal Aviation Administration
Northwest Mountain Region
1601 Lind Avenue SW, Renton, WA 98057

Mark Miller
U.S. Fish and Wildlife Service
Spokane Ecological Services Office
11103 E. Montgomery Drive Suite 2
Spokane Valley, WA 99206

State Agencies

Washington Department of Ecology
Environmental Review Section
PO Box 47703,
Olympia, WA 98504-7703

John Gamon
Program Manager
Department of Natural Resources
Natural Heritage Program
P.O. Box 47014, Olympia, WA 98504-7014

Perry Harvester
Habitat Program Manager
Washington Department of Fish and Wildlife
1701 South 24th Avenue
Yakima, WA 98902-5720

Rob Whitlam
State Historic Preservation Officer
Washington Department of Archaeology and Historic
Preservation
1063 S. Capitol Way, Suite 106, Olympia, WA 98501

Jason Smith
Environmental Manager
Washington State Department of Transportation
South Central Regional Office
P.O. Box 12560, Yakima, WA 98909

Counties and Regional Agencies

Grant County Public Utility District
30 C Street SW
P.O. Box 878
Ephrata, WA 98823

Steven Erickson
Yakima County
Planning Services
128 N. 2nd Street, Yakima, WA 98901

Kirk Holmes
Director
Kittitas County Community Development Services
411 N Ruby Street, Suite 2
Ellensburg, WA 98926

Hassan Tahat
Engineering and Planning Division Supervisor
Yakima Regional Clean Air Agency
329 North First Street
Yakima, WA 98901-2303

Cities and Towns

Mayor Bruce Tabb
City of Ellensburg
501 North Anderson Street
Ellensburg, WA 98926

Mayor Micah Cawley
City of Yakima
129 North 2nd Street
Yakima, WA 98901

Dennis Davison
City of Selah
Planning Department
115 W. Naches Ave., Selah, WA 98942

Tribal Governments

Johnson Meninick
Yakama Nation
Cultural Resources Program Manager
PO Box 151
Toppenish, WA 98948

The Honorable Harry Smiskin
Yakama Nation Tribal Council
President
PO Box 151
Toppenish, WA 98948

Philip Rigdon
Deputy Director
Yakama Nation Department of Natural Resources
P.O. Box 151
Toppenish, WA 98948

Rex Buck
Wanapum Band
Grant County Public Utility District
15655 Wanapum Village Lane SW
Beverly, WA 99321

Libraries

Lynette Johnson
Library Manager
Kittitas Public Library
P.O. Box 800
Kittitas WA 98934-0800

Michael Martin
Community Library Supervisor
Yakima Regional Library (Selah Library)
106 South 2nd Street
Selah WA 98942

Conservation Agencies

The Nature Conservancy
South Central Washington Office
32 North 3rd Street, Suite 310
Yakima, WA 98901

Yakima Valley Audubon Society
P.O. Box 2823
Yakima, WA 98907-2823

Legislators

Doc Hastings
4th Congressional District
U.S. House of Representatives
1203 Longworth House Office Building
Washington D.C. 20515

Adam Smith
9th Congressional District
U.S. House of Representatives
2402 Rayburn Office Building
Washington D.C. 20515

APPENDIX A

PROJECT COORDINATION AND CONSULTATION EFFORTS

This appendix includes documentation of the consultation and coordination that have been carried out for this Environmental Assessment.

- 1. Memorandum for the Record (Native American Consultation for WAARNG's TUAS Project at YTC)**
 - a. Coordination Letters Sent to SHPO, GOIA and Tribes, November 1, 2012 and August 2, 2012
 - b. First SHPO Response Letter (Concurrence on Project's APE), November 15, 2012
 - c. Second SHPO Consult Letter, January 9, 2012
 - d. Final SHPO Response Letter (Concurrence on No Historic Properties Affected), January 9, 2012
 - e. Response Letters from Yakama Nation Tribe, January 6, 2012 and August 28, 2012
 - f. WAARNG's Response Letter and Follow-up E-mail to Yakama Nation Tribe, April 23, 2012
 - g. WAARNG's Invitation to Yakama Nation, Public Comment, August 2, 2012
 - h. Wanapum Band Tribe's Response, August 30, 2012

- 2. Memorandum for the Record, Agency and Section 7 ESA Consult for WAARNG's TUAS Project**
 - a. Consultation Letter Sent to USFWS, November 7, 2011
 - b. E-mail Responses from USFWS, January 5, 2012
 - c. Consultation Letter Sent to NOAA Fisheries, November 7, 2011
 - d. E-mail Responses from NOAA Fisheries, December 20, 2011
 - e. Consultation Letter Sent to WDFW, November 7, 2011 and August 2, 2012
 - f. Response Letter from WDFW, January 4, 2012
 - g. WAARNG's Response Letter and Follow-up E-mail to WDFW, April 20, 2011
 - h. Consultation Letter Sent to City of Selah, WA, November 7, 2011
 - i. E-mail Response from City of Selah, November 15, 2011
 - j. Consultation Letter Sent to YRCAA, November 7, 2011
 - k. E-mail and Formal Responses from YRCAA, January 10, 2012 and August 15, 2012
 - l. Consultation Letter Sent to DNR's Natural Heritage Program, November 7, 2011
 - m. E-mail Response from DNR's Natural Heritage Program, January 13, 2012
 - n. Consultation Letter Sent to Grant County, November 7, 2011
 - o. E-mail Response from Grant County, January 12, 2012
 - p. Consultation Letter Sent to FAA, November 7, 2011
 - q. E-mail Response from FAA, January 25, 2012
 - r. WAARNG's Invitation to Department of Ecology, Public Comment, August 2, 2012

- 3. Record of TUAS Project Meetings**
 - a. Memorandum for the Record, February 20, 2009
 - b. TUAS Meeting with YTC Environmental Staff, April 6, 2010

- 4. Notice of Availability of the TUAS EA and Draft FNSI**

- 5. Errata Sheet – Public Comments Received, August 1 – 30, 2012**

1. Memorandum for the Record (Native American Consultation for WAARNG's TUAS Project at YTC)

MEMORANDUM FOR RECORD										
Native American Consultation for WAARNG's TUAS Project at YTC, Yakima County, WA										
Contact Person/Position	Tribe/ Agency	Address	City	State	Zip	Initial Consultation Date	Follow-up	Follow-up Mode	Response	Copy of drafts EA/FNSI Sent
Dr. Rob Whitlam - SHPO	DAHP	P.O. Box 48343	Olympia	WA	98504-8343	10-Nov-11	12/20/2011; 8/1/2012	E-mail & phone	APE concurrence letter sent 11/10/2011; As per SHPO recommendation, WAARNG sent another letter of determination of no effect after responses from tribes received with an MFR attached to it on 1/9/2012; Concurrence on no cultural/ archaeological resources affected received 1/9/2012; phone consult on 1/11/2012 regarding Yakama Nation's recommendation on resurvey of project site and concurred that a resurvey may not yield new information so he recommended that WAARNG continue to discuss with Yakama Nation	yes via mail
Mr. Rex Buck - Tribal Chair	Wanapum Tribe	15655 Wanapum Loop SW	Beverly	WA	99321	10-Nov-11	12/20/2011; 1/5/2012; 8/1/2012	E-mail & phone	phone messages left on 12/20/11 and 1/5/12; e-mail on 12/20/2011; response received dated 8/30/2012	yes via certified mail and SAFE

MEMORANDUM FOR RECORD										
Native American Consultation for WAARNG's TUAS Project at YTC, Yakima County, WA										
Contact Person/Position	Tribe/ Agency	Address	City	State	Zip	Initial Consultation Date	Follow-up	Follow-up Mode	Response	Copy of drafts EA/FNSI Sent
Hon. Harry Smiskin - Tribal Chair	Yakama Nation	P.O. Box 151	Toppenish	WA	98948	10-Nov-11	12/20/2011; 8/1/2012	E-mail & phone	phone message left; response taken care of by Cultural & Natural Resources Program Managers	yes via certified mail
Mr. Arlen Washines - Wildlife Program Manager	Yakama Nation	P.O. Box 151	Toppenish	WA	98948	10-Nov-11	12/20/2011; 8/1/2012	E-mail & phone	phone message left; not connected with tribe anymore	yes via certified mail
Ms. Kristina Proszek - Environmental Review Coordinator	Yakama Nation	P.O. Box 151	Toppenish	WA	98948	10-Nov-11	20-Dec-11; 3-Jan-12; 5-Jan-12; 8/1/2012	E-mail	e-mail response of no comment on natural resources issues received 1/5/2012	yes via SAFE
Mr. Philip Rigdon - Natural Resources Department Manager	Yakama Nation	P.O. Box 151	Toppenish	WA	98948	10-Nov-11	3-Jan-12 thru Ms. Proszek; 8/1/2012 (Ms. Proszek and Mr. Rigdon)		e-mail response from Ms. Proszek of no comment on natural resources issues received 1/5/2012	yes thru Ms. Proszek
Kate Valdez - Cultural Resources staff	Yakama Nation	P.O. Box 151	Toppenish	WA	98948	10-Nov-11	12/20/2011; 8/1/2012	E-mail & phone	e-mail sent with e-files of EA; response taken care of by Cultural Resources Program Manager	yes via SAFE once & via certified mail to Hon. Smiskin & Mr. Washines

MEMORANDUM FOR RECORD										
Native American Consultation for WAARNG's TUAS Project at YTC, Yakima County, WA										
Contact Person/Position	Tribe/ Agency	Address	City	State	Zip	Initial Consultation Date	Follow-up	Follow-up Mode	Response	Copy of drafts EA/FNSI Sent
Johnson Meninick - Cultural Resources Program Manager	Yakama Nation	P.O. Box 151	Toppenish	WA	98948	10-Nov-11	12/20/2011; 4/23/2012; 7/13/2012; 8/1/2012	E-mail & phone	e-mail sent with e-files of EA; phone conversation on 1/5/12; re-sent files via SAFE on 12/20/11 & 1/5/2012; written comment received on 1/11/2012 recommending that a re-survey of APE be conducted because previous surveys are over 10 y old; WAARNG responded by certified mail on 4/23/2012; follow-up e-mail sent on 7/13/2012; formal response received 8/28/2012	yes via SAFE twice & via certified mails
Dave Powell - Cultural Resources staff	Yakama Nation	P.O. Box 151	Toppenish	WA	98948	10-Nov-11	12/20/2011; 8/1/2012	E-mail & phone	e-mail sent with e-files of EA; response taken care of by Cultural Resources Program Manager	yes via SAFE once & via certified mail to Hon. Smiskin & Mr. Washines



STATE OF WASHINGTON
MILITARY DEPARTMENT
Camp Murray, WA 98430-5000

MEMORANDUM FOR RECORD

September 17, 2012

TO: ARNG-ILE-T
111 So. George Mason Drive
Arlington, VA 22204-1382

FROM: Rowena Valencia-Gica, Ph.D.
Natural and Cultural Resources Program Manager
WAARNG/WMD

SUBJECT: Tribal and SHPO Consultation for the Construction and Operation of a Washington Army National Guard (WA ARNG) Tactical Unmanned Aircraft System (TUAS) Facility, and Training of a WA ARNG TUAS Platoon at Yakima Training Center, Washington

The WMD/WA ARNG through the Environmental Programs Section initiated its tribal consultation in the preparation of the Drafts TUAS Environmental Assessment (EA) and Finding of No Significant Impact (FNSI) to two federally-recognized (Yakama Nation and Wanapum Tribe) tribes identified as having potential cultural affiliation and interest with YTC's natural and cultural resources.

First informal consultation to the two tribes was done by YTC cultural resources manager (Mr. Randy Korgel) in 2010. First formal consultation was conducted on November 10, 2011 by sending a consult letter and a CD copy of the Drafts EA and FNSI to the Tribes by certified mail to solicit their comments on these documents. No response had been received after 30 days of sending the certified mail. Follow-up e-mails and phone calls were done in December 2011 and January 2012 and another consult letter with CD (updated EA and FNSI) was sent on August 2, 2012 as summarized in the attached MFR spreadsheet.

On January 5, 2012, Yakama Nation's Natural Resources Department sent an e-mail reply indicating that the Tribe does not have any comments on the proposed project, but recommended to continue following-up with the Cultural Resources Program. During a follow-up phone call on January 5, 2012 with Yakama Nation's Cultural Resources Program Manager, Mr. Johnson Meninick indicated that his initial comment on the project is that there is a potential for inadvertent discovery of archaeological resources. In a written letter dated January 6, 2012, Mr. Meninick did not concur on the WA ARNG's determination of no cultural/archaeological resources affected because it was based on surveys that are more than 10 years old. Also, he recommended for WAARNG to conduct a re-survey of the TUAS project's areas of potential effect prior to commencement of any ground disturbance. The WA ARNG responded through a certified mail on April 23, 2012 and a follow-up e-mail on July 13, 2012. Another consult letter was sent on August 2, 2012. A response from the Tribe indicating that their comment on the project remains the same was received on August 30, 2012. On September 4, 2012, the YTC Cultural Resources Manager informed the WAARNG Environmental staff that YTC will conduct a re-survey of the proposed project site in response to Yakama Nation's request.

TUAS Project Tribal Consults Memorandum for Record
September 17, 2012
Page 2 of 2

Despite repeated phone calls and e-mails, the Wanapum Tribe had not responded during the first formal consult. The Tribe has also been invited to comment on the EA during the public review period during which a copy of Notice of Availability and CD of updated EA and FNSI was sent. The Tribe sent a response letter dated August 30, 2012 indicating that the project does not have an adverse effect.

First formal consultation with the SHPO occurred on November 10, 2011 and concurrence on the area of potential effect (APE) was received on November 15, 2011. A second consult letter to SHPO indicating WA ARNG's determination based on consult with the tribes and review of the project was sent on January 9, 2012 and concurrence was received on the same day. Upon receipt of Yakama Nation's letter on January 11, 2012, SHPO was contacted to inquire if a resurvey of project site as recommended by Yakama Nation is necessary and SHPO concurred that a resurvey may not yield new information. SHPO recommended continuing the discussion with Yakama Nation about their concern. A copy of Notice of Availability and CD of updated EA and FNSI were sent to DAHP on August 1, 2012. No response from DAHP has been received as of the date of this MFR, except an e-mail on September 6, 2012 requesting the WA ARNG to apprise them about YTC's archaeological re-survey.

Point of contact for this action is the undersigned at 253-512-8704 or Rowena.valencia-gica@mil.wa.gov.


Rowena Valencia-Gica, Ph.D.

a. Coordination Letters Sent to SHPO, GOIA and Tribes, November 1, 2011



STATE OF WASHINGTON
MILITARY DEPARTMENT
Camp Murray, WA 98430-5000

November 1, 2011

The Honorable Harry Smiskin
President
Yakama Tribal Council
PO Box 151
Toppenish, WA 98948

RE: Tribal Consultation Regarding the Washington Army National Guard's Tactical Unmanned Aircraft System (TUAS) Project

Dear President Smiskin,

This is to request your participation and involvement in the identification of project-related concerns and potential effects to cultural and/or archaeological resources, sacred lands and/or heritage sites within the project area. The Washington Army National Guard (WAARNG) is proposing to construct a Tactical Unmanned Aircraft System (TUAS) Facility and train a TUAS platoon in an area at the Yakima Training Center (YTC) through a real property agreement with the Department of the Army via the United States Army Corps of Engineers-Seattle District (Figure 1). The Washington Army National Guard has entered into the environmental review phase of this project and has prepared an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA). Consultation to address cultural and historic resource issues is required in accordance with Section 106 of the National Historic Preservation Act 36 CFR 800.2(c)(4). A summary of this project as described in the EA is presented below.

TUAS Project Description

The WAARNG proposes to construct a TUAS training facility for sole use by the 81st HBCT/BSTB/TUAS Platoon. This facility will act as their primary duty station to support all collective and individual training requirements including all administrative requirements.

The proposed project involves the following elements:

1. Enter into a real estate agreement (25-yr renewable license) located on Selah Airstrip at YTC with the Department of the Army. The WAARNG will acquire approximately 8.0 acres of exclusive use area for the construction and operation of a TUAS training facility. Shared use of the runway and taxiways will also be included.
2. Construction of a hangar (9,308 sq ft) that will serve as the primary duty station for the unit's activities, containing areas for maintenance, administration, classrooms, latrines, as well as supply and storage.
3. Construction of two parking lots—one for privately owned vehicles (POVs) and another for military vehicles/equipment—to support the platoon, as well as occasional users.
4. Construction of a new aircraft apron or additional hardstand (approximately 7,800 sq yds) to provide access from the aircraft storage facility to the existing taxiway/runway. The amount of hardstand necessary will depend upon the site's final location and orientation to the airstrip.



Cultural and Historic Resource Consultation Request
November 1, 2011
Page 2

5. Provision for utilities such as water, sewer, electric, and communications. A new well will be drilled to supply potable water for the facility as the water-well that is currently located on the southern corner of the airstrip is required by YTC's Public Works Directorate to remain available for installation use.

(a) Wastewater treatments will include:

- Domestic waste water (sewage and grey water) – onsite septic system and leach field
- Stormwater – direct infiltration into the surrounding vegetated areas
- Industrial wastewater – onsite underground vault for collection of waste water associated with the maintenance of the aerial vehicles. The vault will be regularly pumped and the wastes disposed of properly (i.e., if wastes are dangerous by definition then the National Guard Dangerous Waste Management Pamphlet 200-1 will be followed).

(b) The remaining utilities, communication lines, electricity and gas will be run underground alongside Badger Pocket Road from Range Control, Bldg. 1805, to the facility site at Selah Airstrip (4.8 mi). A prime power generator will be used to provide energy to the facility up until the underground electrical lines have been connected. Portable generators will be used during the construction phase and during the utility extension.

6. Upgrade the existing access roads leading to the facility.

7. Once constructed, the TUAS will serve as the 81st HBCT/BSTB/TUAS platoon's primary duty station. Training on the operation and maintenance of the unmanned aircraft system will be conducted. Training will include launch and recovery and in-flight maneuvering focused on surveillance and reconnaissance missions during the day and night within the borders of YTC.

The project area and associated area of potential effect (APE) have been included in (partially or completely) four separate archaeological inventory surveys – Hartmann (1980), Boreson (1998), Lewarch (2000), and Carter (2001). No significant historic properties were revealed by these surveys or were observed within the project area or APE during a site survey performed by YTC cultural resources staff.

Two alternative sites for the construction, operation and maintenance of the TUAS were evaluated in this Environmental Assessment: North Selah Airstrip and South Selah Airstrip (Figure 2).

1. **Alternative A: North Selah Airstrip.** No impact is expected as there are no cultural or historical sites on or near the proposed N. Selah construction site. The N. Selah site was surveyed by YTC's Cultural and Historic Resources Program personnel and was not found to contain any sites on or near the project area. At one time a town named Spitzenberg existed several miles to the east-southeast of the Selah Airstrip; one of the only remnants of that settlement is an irrigation canal which runs lengthwise on the northern side of the airstrip. Because the remnants of this town have been previously altered/damaged, it is no longer considered a National Register eligible property. No operational impacts are expected during the take-off and landing of the AVs because this activity occurs at Selah Airstrip, where no cultural or historic resources were previously found. No impacts are expected while the AV is in flight as it should not be visible or audible when it is at normal operational altitude.

2. **Alternative B: South Selah Airstrip.** No impact is expected as there are no cultural or historical sites on or near the proposed S. Selah construction site. The S. Selah site was also surveyed by YTC's Cultural and Historic Resources Program personnel and was not found to contain any culturally or

Cultural and Historic Resource Consultation Request
November 1, 2011
Page 3

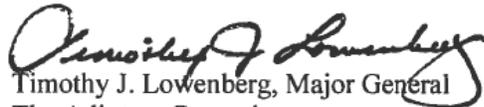
historically significant sites on or near the project area. Operational impacts under this alternative are identical to those of Alternative A, above.

We look forward to your participation in the review of the impacts of this project. We request your concurrence on our determination of "No Cultural or Archaeological Resources Affected." We are also inviting comments from the Wanapum Band.

To ensure that your concerns are considered and that our plan maximizes public input and coordination, your prompt attention is appreciated. If we do not receive a response after 30 days, we will proceed in accordance with provisions of 36 CFR 800.3(c)(4), 800.5(c)(1), and 800.5(d).

Our agency point of contact is Ms. Rowena Valencia-Gica at 253-512-8707, FAX 253-512-8904 or Rowena.valencia-gica@mil.wa.gov. Having been delegated the authority by The Adjutant General, Rowena Valencia-Gica or Thomas Skjervold will be responsible for future communications with the tribes.

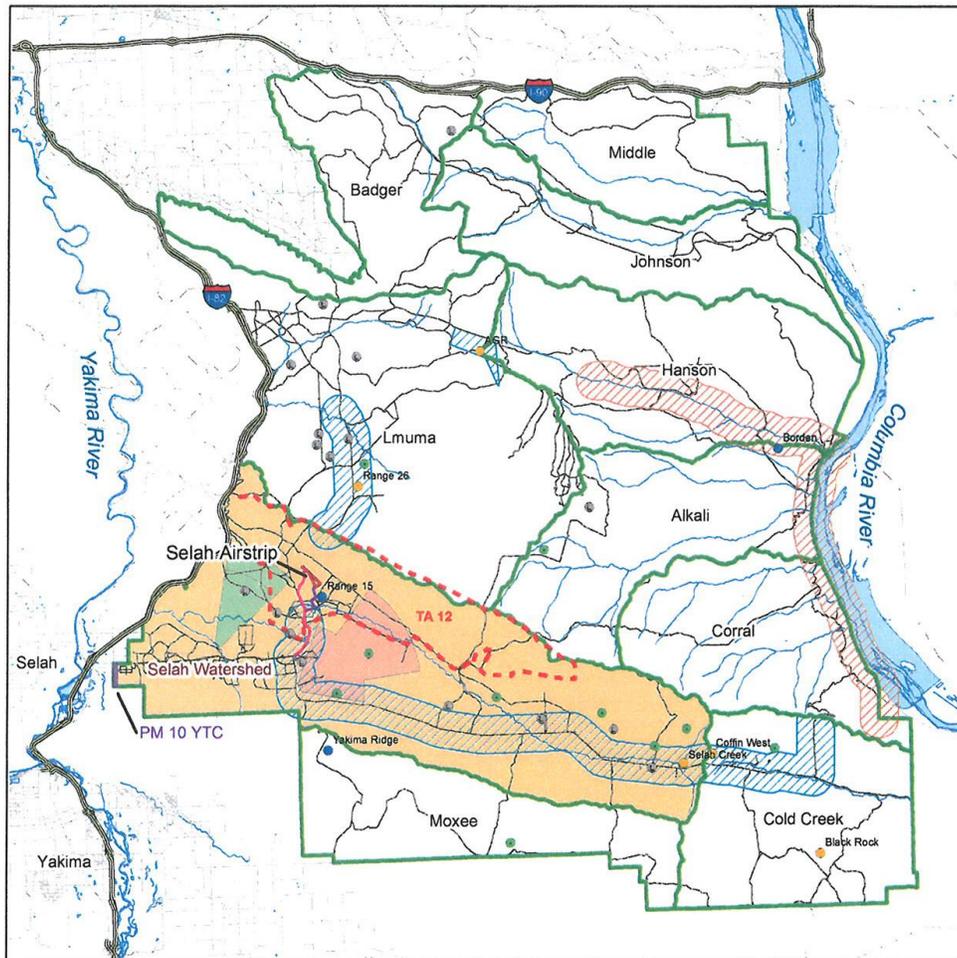
Sincerely,



Timothy J. Lowenberg, Major General
The Adjutant General
Director

cc: Mr. Craig A. Bill, Executive Director, Governor's Office of Indian Affairs
Mr. Randy Korgel, Cultural Resources Program Manager, YTC

Figure 1. Selah Airstrip at Yakima Training Center



Legend

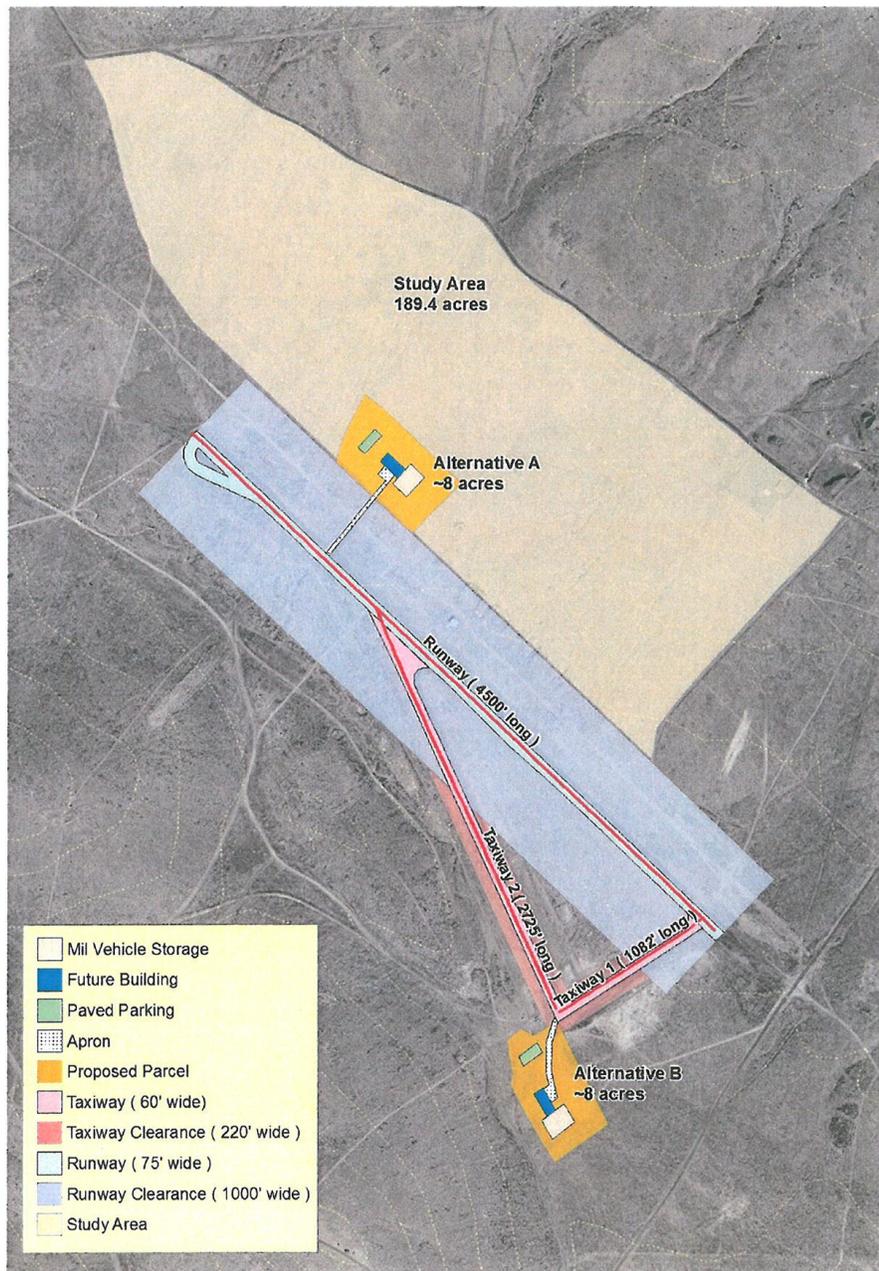
— Interstate 90, 82	— Utility Route - Alternative A
● Active Lek	— Utility Route - Alternative B
● Historic Lek	⋮ Training Area 12
● Recently Discovered Lek	▭ Watershed Boundary
● Recently Inactive Lek	▨ Seasonal Flight Restriction (Sage Grouse)
▭ PM 10 YTC	▨ Seasonal Flight Restriction (Eagle)
— Selah Airstrip	▭ Future MPMG Range
— Stream	▭ Future Sniper Range
— Road (milclass 2 and 3)	▭ Selah Watershed
	▭ YTC Boundary / Restricted Use Airspace



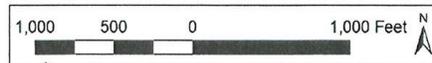
Map Prepared by:
 U.S. Army Garrison - JBLMYTC
 Directorate of Public Works
 Geographic Information Services



Figure 2 Selah Airstrip with Proposed Alternatives



Map Prepared by:
U.S. Army Garrison - JBLMYTC
Directorate of Public Works
Geographic Information Services





STATE OF WASHINGTON
MILITARY DEPARTMENT
Camp Murray, WA 98430-5000

November 1, 2011

The Honorable Harry Smiskin
President
Yakama Tribal Council
PO Box 151
Toppenish, WA 98948

RE: Tribal Consultation Regarding the Washington Army National Guard's Tactical Unmanned Aircraft System (TUAS) Project

Dear President Smiskin,

This is to request your participation and involvement in the identification of project-related concerns and potential effects to cultural and/or archaeological resources, sacred lands and/or heritage sites within the project area. The Washington Army National Guard (WAARNG) is proposing to construct a Tactical Unmanned Aircraft System (TUAS) Facility and train a TUAS platoon in an area at the Yakima Training Center (YTC) through a real property agreement with the Department of the Army via the United States Army Corps of Engineers-Seattle District (Figure 1). The Washington Army National Guard has entered into the environmental review phase of this project and has prepared an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA). Consultation to address cultural and historic resource issues is required in accordance with Section 106 of the National Historic Preservation Act 36 CFR 800.2(c)(4). A summary of this project as described in the EA is presented below.

TUAS Project Description

The WAARNG proposes to construct a TUAS training facility for sole use by the 81st HBCT/BSTB/TUAS Platoon. This facility will act as their primary duty station to support all collective and individual training requirements including all administrative requirements.

The proposed project involves the following elements:

1. Enter into a real estate agreement (25-yr renewable license) located on Selah Airstrip at YTC with the Department of the Army. The WAARNG will acquire approximately 8.0 acres of exclusive use area for the construction and operation of a TUAS training facility. Shared use of the runway and taxiways will also be included.
2. Construction of a hangar (9,308 sq ft) that will serve as the primary duty station for the unit's activities, containing areas for maintenance, administration, classrooms, latrines, as well as supply and storage.
3. Construction of two parking lots—one for privately owned vehicles (POVs) and another for military vehicles/equipment—to support the platoon, as well as occasional users.
4. Construction of a new aircraft apron or additional hardstand (approximately 7,800 sq yds) to provide access from the aircraft storage facility to the existing taxiway/runway. The amount of hardstand necessary will depend upon the site's final location and orientation to the airstrip.



Cultural and Historic Resource Consultation Request
November 1, 2011
Page 2

5. Provision for utilities such as water, sewer, electric, and communications. A new well will be drilled to supply potable water for the facility as the water-well that is currently located on the southern corner of the airstrip is required by YTC's Public Works Directorate to remain available for installation use.

(a) Wastewater treatments will include:

- Domestic waste water (sewage and grey water) – onsite septic system and leach field
- Stormwater – direct infiltration into the surrounding vegetated areas
- Industrial wastewater – onsite underground vault for collection of waste water associated with the maintenance of the aerial vehicles. The vault will be regularly pumped and the wastes disposed of properly (i.e., if wastes are dangerous by definition then the National Guard Dangerous Waste Management Pamphlet 200-1 will be followed).

(b) The remaining utilities, communication lines, electricity and gas will be run underground alongside Badger Pocket Road from Range Control, Bldg. 1805, to the facility site at Selah Airstrip (4.8 mi). A prime power generator will be used to provide energy to the facility up until the underground electrical lines have been connected. Portable generators will be used during the construction phase and during the utility extension.

6. Upgrade the existing access roads leading to the facility.

7. Once constructed, the TUAS will serve as the 81st HBCT/BSTB/TUAS platoon's primary duty station. Training on the operation and maintenance of the unmanned aircraft system will be conducted. Training will include launch and recovery and in-flight maneuvering focused on surveillance and reconnaissance missions during the day and night within the borders of YTC.

The project area and associated area of potential effect (APE) have been included in (partially or completely) four separate archaeological inventory surveys – Hartmann (1980), Boreson (1998), Lewarch (2000), and Carter (2001). No significant historic properties were revealed by these surveys or were observed within the project area or APE during a site survey performed by YTC cultural resources staff.

Two alternative sites for the construction, operation and maintenance of the TUAS were evaluated in this Environmental Assessment: North Selah Airstrip and South Selah Airstrip (Figure 2).

1. **Alternative A: North Selah Airstrip.** No impact is expected as there are no cultural or historical sites on or near the proposed N. Selah construction site. The N. Selah site was surveyed by YTC's Cultural and Historic Resources Program personnel and was not found to contain any sites on or near the project area. At one time a town named Spitzenberg existed several miles to the east-southeast of the Selah Airstrip; one of the only remnants of that settlement is an irrigation canal which runs lengthwise on the northern side of the airstrip. Because the remnants of this town have been previously altered/damaged, it is no longer considered a National Register eligible property. No operational impacts are expected during the take-off and landing of the AVs because this activity occurs at Selah Airstrip, where no cultural or historic resources were previously found. No impacts are expected while the AV is in flight as it should not be visible or audible when it is at normal operational altitude.

2. **Alternative B: South Selah Airstrip.** No impact is expected as there are no cultural or historical sites on or near the proposed S. Selah construction site. The S. Selah site was also surveyed by YTC's Cultural and Historic Resources Program personnel and was not found to contain any culturally or

Cultural and Historic Resource Consultation Request

November 1, 2011

Page 3

historically significant sites on or near the project area. Operational impacts under this alternative are identical to those of Alternative A, above.

We look forward to your participation in the review of the impacts of this project. We request your concurrence on our determination of "No Cultural or Archaeological Resources Affected." We are also inviting comments from the Wanapum Band.

To ensure that your concerns are considered and that our plan maximizes public input and coordination, your prompt attention is appreciated. If we do not receive a response after 30 days, we will proceed in accordance with provisions of 36 CFR 800.3(c)(4), 800.5(c)(1), and 800.5(d).

Our agency point of contact is Ms. Rowena Valencia-Gica at 253-512-8707, FAX 253-512-8904 or Rowena.valencia-gica@mil.wa.gov. Having been delegated the authority by The Adjutant General, Rowena Valencia-Gica or Thomas Skjervold will be responsible for future communications with the tribes.

Sincerely,



Timothy J. Lowenberg, Major General
The Adjutant General
Director

cc: Mr. Craig A. Bill, Executive Director, Governor's Office of Indian Affairs
Mr. Randy Korgel, Cultural Resources Program Manager, YTC



STATE OF WASHINGTON
MILITARY DEPARTMENT

Camp Murray • Tacoma, Washington 98430-5000

August 2, 2012

Yakama Nation
ATTN: Mr. Johnson Meninick
Cultural Resources Program Manager
PO Box 151
Toppenish, WA 98948

RE: Washington Army National Guard's Tactical Unmanned Aircraft System (TUAS) Project

Dear Mr. Meninick,

This is to provide you with an update on the status of the Washington Army National Guard's (WA ARNG) proposal to construct a Tactical Unmanned Aircraft System (TUAS) Facility and train a TUAS platoon in an area at the Yakima Training Center (YTC).

The WA ARNG has prepared the Drafts Environmental Assessment (EA) and Finding of No Significant Impact (FNSI) in accordance with the National Environmental Policy Act (NEPA). In November 2011 and January 2012, we requested your tribe to review these documents and to concur on our determination of "No Historic Properties Affected". You sent us a formal response on January 6, 2012. The WA ARNG responded to your letter on April 23, 2012.

At present, we are conducting a public review on these Drafts EA and FNSI and therefore, we are sending your tribe the Notice of Availability and a CD copy of these documents. If you have any additional comments or suggestions about these documents or the project, please do not hesitate to send us your written comment. If we do not receive a response by August 30, 2012, we will proceed with the proposed action in accordance with provisions of 36 CFR 800.3(c)(4), 800.5(c)(1), and 800.5(d).

Point of contact for this project is the undersigned, Tel. (253) 512-8704, Fax (253) 512-8904, or e-mail at Rowena.valencia-gica@mil.wa.gov.

Sincerely,

A handwritten signature in cursive script that reads "Rowena Gica".

Rowena Valencia-Gica, Ph.D.
Environmental Specialist

cc: Randy Korgel, Cultural Resources Program Manager, YTC



STATE OF WASHINGTON
MILITARY DEPARTMENT

Camp Murray, WA 98430-5000

November 1, 2011

Wanapum Band
ATTN: Rex Buck
Grant County Public Utilities District
15655 Wanapum Village Lane SW
Beverly, Washington 99321

RE: Tribal Consultation Regarding the Washington Army National Guard's Tactical Unmanned Aircraft System (TUAS) Project

Dear Mr. Buck,

This is to request your participation and involvement in the identification of project-related concerns and potential effects to cultural and/or archaeological resources, sacred lands and/or heritage sites within the project area. The Washington Army National Guard (WAARNG) is proposing to construct a Tactical Unmanned Aircraft System (TUAS) Facility and train a TUAS platoon in an area at the Yakima Training Center (YTC) through a real property agreement with the Department of the Army via the United States Army Corps of Engineers-Seattle District (Figure 1). The Washington Army National Guard has entered into the environmental review phase of this project and has prepared an Environmental Assessment (EA) in accordance with the National Environmental Policy Act (NEPA). Consultation to address cultural and historic resource issues is required in accordance with Section 106 of the National Historic Preservation Act 36 CFR 800.2(c)(4). A summary of this project as described in the EA is presented below.

TUAS Project Description

The WAARNG proposes to construct a TUAS training facility for sole use by the 81st HBCT/BSTB/TUAS Platoon. This facility will act as their primary duty station to support all collective and individual training requirements including all administrative requirements.

The proposed project involves the following elements:

1. Enter into a real estate agreement (25-yr renewable license) located on Selah Airstrip at YTC with the Department of the Army. The WAARNG will acquire approximately 8.0 acres of exclusive use area for the construction and operation of a TUAS training facility. Shared use of the runway and taxiways will also be included.
2. Construction of a hangar (9,308 sq ft) that will serve as the primary duty station for the unit's activities, containing areas for maintenance, administration, classrooms, latrines, as well as supply and storage.
3. Construction of two parking lots—one for privately owned vehicles (POVs) and another for military vehicles/equipment—to support the platoon, as well as occasional users.
4. Construction of a new aircraft apron or additional hardstand (approximately 7,800 sq yds) to provide access from the aircraft storage facility to the existing taxiway/runway. The amount of hardstand necessary will depend upon the site's final location and orientation to the airstrip.



Cultural and Historic Resource Consultation Request
November 1, 2011
Page 2

5. Provision for utilities such as water, sewer, electric, and communications. A new well will be drilled to supply potable water for the facility as the water-well that is currently located on the southern corner of the airstrip is required by YTC's Public Works Directorate to remain available for installation use.

(a) Wastewater treatments will include:

- Domestic waste water (sewage and grey water) – onsite septic system and leach field
- Stormwater – direct infiltration into the surrounding vegetated areas
- Industrial wastewater – onsite underground vault for collection of waste water associated with the maintenance of the aerial vehicles. The vault will be regularly pumped and the wastes disposed of properly (i.e., if wastes are dangerous by definition then the National Guard Dangerous Waste Management Pamphlet 200-1 will be followed).

(b) The remaining utilities, communication lines, electricity and gas will be run underground alongside Badger Pocket Road from Range Control, Bldg. 1805, to the facility site at Selah Airstrip (4.8 mi). A prime power generator will be used to provide energy to the facility up until the underground electrical lines have been connected. Portable generators will be used during the construction phase and during the utility extension.

6. Upgrade the existing access roads leading to the facility.

7. Once constructed, the TUAS will serve as the 81st HBCT/BSTB/TUAS platoon's primary duty station. Training on the operation and maintenance of the unmanned aircraft system will be conducted. Training will include launch and recovery and in-flight maneuvering focused on surveillance and reconnaissance missions during the day and night within the borders of YTC.

The project area and associated area of potential effect (APE) have been included in (partially or completely) four separate archaeological inventory surveys – Hartmann (1980), Boreson (1998), Lewarch (2000), and Carter (2001). No significant historic properties were revealed by these surveys or were observed within the project area or APE during a site survey performed by YTC cultural resources staff.

Two alternative sites for the construction, operation and maintenance of the TUAS were evaluated in this Environmental Assessment: North Selah Airstrip and South Selah Airstrip (Figure 2).

1. **Alternative A: North Selah Airstrip.** No impact is expected as there are no cultural or historical sites on or near the proposed N. Selah construction site. The N. Selah site was surveyed by YTC's Cultural and Historic Resources Program personnel and was not found to contain any sites on or near the project area. At one time a town named Spitzenberg existed several miles to the east-southeast of the Selah Airstrip; one of the only remnants of that settlement is an irrigation canal which runs lengthwise on the northern side of the airstrip. Because the remnants of this town have been previously altered/damaged, it is no longer considered a National Register eligible property. No operational impacts are expected during the take-off and landing of the AVs because this activity occurs at Selah Airstrip, where no cultural or historic resources were previously found. No impacts are expected while the AV is in flight as it should not be visible or audible when it is at normal operational altitude.

2. **Alternative B: South Selah Airstrip.** No impact is expected as there are no cultural or historical sites on or near the proposed S. Selah construction site. The S. Selah site was also surveyed by YTC's Cultural and Historic Resources Program personnel and was not found to contain any culturally or

Cultural and Historic Resource Consultation Request
November 1, 2011
Page 3

historically significant sites on or near the project area. Operational impacts under this alternative are identical to those of Alternative A, above.

We look forward to your participation in the review of the impacts of this project. We request your concurrence on our determination of "No Cultural or Archaeological Resources Affected." We are also inviting comments from the Yakama Tribal Council.

To ensure that your concerns are considered and that our plan maximizes public input and coordination, your prompt attention is appreciated. If we do not receive a response after 30 days, we will proceed in accordance with provisions of 36 CFR 800.3(c)(4), 800.5(c)(1), and 800.5(d).

Our agency point of contact is Ms. Rowena Valencia-Gica at 253-512-8707, FAX 253-512-8904 or Rowena.valencia-gica@mil.wa.gov. Having been delegated the authority by The Adjutant General, Rowena Valencia-Gica or Thomas Skjervold will be responsible for future communications with the tribes.

Sincerely,



Timothy J. Lowenberg, Major General
The Adjutant General
Director

cc: Mr. Craig A. Bill, Executive Director, Governor's Office of Indian Affairs
Mr. Randy Korgel, Cultural Resources Program Manager, YTC



STATE OF WASHINGTON
MILITARY DEPARTMENT

Camp Murray • Tacoma, Washington 98430-5000

August 2, 2012

Wanapum Band
ATTN: Rex Buck
Grant County Public Utilities District
15655 Wanapum Village Lane, Southwest
Beverly, WA 99321

RE: Washington Army National Guard's Tactical Unmanned Aircraft System (TUAS) Project

Dear Mr. Buck,

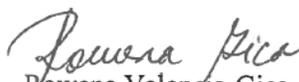
This is to provide you with an update on the status of the Washington Army National Guard's (WA ARNG) proposal to construct a Tactical Unmanned Aircraft System (TUAS) Facility and train a TUAS platoon in an area at the Yakima Training Center (YTC).

The WAARNG has prepared the Drafts Environmental Assessment (EA) and Finding of No Significant Impact (FNSI) in accordance with the National Environmental Policy Act (NEPA). In November 2011 and January 2012, we requested your tribe to review these documents and to concur on our determination of "No Historic Properties Affected". To date, we have not received any response from your tribe.

At present, we are conducting a public review on these Drafts EA and FNSI and therefore, we are sending your tribe the Notice of Availability and a CD copy of these documents. If you have any comments or suggestions about these documents or the project, please do not hesitate to send us your written comment. If we do not receive a response by August 30, 2012, we will proceed with the proposed action in accordance with provisions of 36 CFR 800.3(c)(4), 800.5(c)(1), and 800.5(d).

Point of contact for this project is the undersigned, Tel. (253) 512-8704, Fax (253) 512-8904, or e-mail at Rowena.valencia-gica@mil.wa.gov.

Sincerely,


Rowena Valencia-Gica, Ph.D.
Environmental Specialist

cc: Randy Korgel, Cultural Resources Program Manager, YTC

b. First SHPO Response Letter (Concurrence on Project's APE), November 15, 2012



STATE OF WASHINGTON

DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION

1063 S. Capitol Way, Suite 106 • Olympia, Washington 98501
Mailing address: PO Box 48343 • Olympia, Washington 98504-8343
(360) 586-3065 • Fax Number (360) 586-3067 • Website: www.dahp.wa.gov

November 15, 2011

Ms. Rowena Valencia-Gica
Cultural Resources
Military Department
Camp Murray, Washington 98430-5000

Re: Tactical Unmanned Aircraft System Project
Log No.: 111511-08-MIL

Dear Ms. Valencia-Gica:

Thank you for contacting our department. We have reviewed the materials you provided for the proposed Tactical Unmanned Aircraft System Project at the Yakima Training Center, Yakima County, Washington.

We concur with your determination of the Area of Potential Effect (APE) as detailed in your letter and illustrated in the associated figures.

We look forward to receiving the results of your review, consultations with the concerned tribes and the your determination of effect.

We would also appreciate receiving any correspondence or comments from concerned tribes or other parties that you receive as you consult under the requirements of 36CFR800.4(a)(4).

These comments are based on the information available at the time of this review and on behalf of the State Historic Preservation Officer in compliance with the Section 106 of the National Historic Preservation Act, as amended, and its implementing regulations 36CFR800.4. Should additional information become available, our assessment may be revised, including information regarding historic properties that have not yet been identified. Thank you for the opportunity to comment and we look forward to receiving the reports on the results of your investigations.

Sincerely,

Robert G. Whitlam, Ph.D.
State Archaeologist
(360)586-3080
email: rob.whitlam@dahp.wa.gov



c. Second SHPO Consult Letter, January 9, 2012



STATE OF WASHINGTON
MILITARY DEPARTMENT
Camp Murray • Tacoma, Washington 98430-5000

January 9, 2012

Department of Archaeology and Historic Preservation
ATTN: Dr. Rob Whitlam
State Historic Preservation Officer
PO Box 48343/Olympia WA 98504-8343

RE: Washington Army National Guard's Tactical Unmanned Aircraft System (TUAS) Project

Dear Dr. Whitlam,

This is in response to your letter (dated November 15, 2011; Log No. 111511-08-MIL) regarding our request for your review of the Washington Army National Guard (WAARNG) proposal to construct a Tactical Unmanned Aircraft System (TUAS) Facility and train a TUAS platoon in an area at the Yakima Training Center (YTC). In said letter, you concurred with our determination of the Area of Potential Effect (APE). You also requested for the results of our review and consultations with the tribes as well as determination of effect.

As presented in the draft EA provided to you in a CD enclosed in the previous consult letter, four separate archaeological inventory surveys (Hartmann 1980; Boreson 1998; Gough 1999; and Lewarch 2000) had already been conducted that covered the APE, revealing no significant historic properties. A site reconnaissance survey performed by YTC cultural resources staff in 2010 (no written report) did not yield any significant cultural resources either. Based on these surveys, we have made a determination of "No Cultural or Archaeological Resources Affected".

We have also invited the two federally recognized tribes with potential interest at YTC--the Yakama Nation and Wanapum Band--to review the proposed project as shown in the attached Memorandum for Record. As of January 9, 2012, no comment has been received from Wanapum Tribe since a certified letter of consultation was sent on November 10, 2011 and follow-up e-mails and phone calls in December 2011 and January 2012. The natural resources department of Yakama Nation Tribe has no comment on the project (see attached copy of the e-mail). Yakama Nation's cultural resources program manager indicated during a phone conversation with WAARNG's cultural resources manager that there is a potential for inadvertent archaeological discovery at the project site and recommended that a professional archaeologist be present during the ground-disturbance phase of the project. WAARNG will ensure that this recommendation will be followed.

Cultural and Historic Resource Consultation Request
Page 2
January 9, 2012

We will greatly appreciate if we receive your response and concurrence on our proposed action. If we do not receive a response after 30 days, we will proceed in accordance with provisions of 36 CFR 800.3(c)(4), 800.5(c)(1), and 800.5(d).

Point of contact for this action is Ms. Rowena Valencia-Gica, Tel. (253) 512-8704, Fax (253) 512-8904, or e-mail at Rowena.valencia-gica@mil.wa.gov.

Sincerely,



Rowena Valencia-Gica, Ph.D.
Natural and Cultural Resources Program Manager

cc: Randy Korgel, Cultural Resources Program Manager, YTC

d. Final SHPO Response Letter (Concurrence on No Historic Properties Affected), January 9, 2012



STATE OF WASHINGTON

DEPARTMENT OF ARCHAEOLOGY & HISTORIC PRESERVATION

1063 S. Capitol Way, Suite 106 • Olympia, Washington 98501
Mailing address: PO Box 48343 • Olympia, Washington 98504-8343
(360) 586-3065 • Fax Number (360) 586-3067 • Website: www.dahp.wa.gov

January 9, 2012

Dr. Rowena Valencia-Gica
Joint Force Headquarters
Washington Military Department
Camp Murray, Washington 98430-0500

Re: Tactical Unmanned Aircraft System Project
Log No.: 111511-08-MIL

Dear Dr. Valencia-Gica:

Thank you for contacting our department. We have reviewed the materials you provided for the proposed Tactical Unmanned Aircraft System Project at the Yakima Training Center, Yakima County, Washington.

We concur with your Determination of No Historic Properties Affected.

We would appreciate receiving any correspondence or comments from concerned tribes or other parties that you receive as you consult under the requirements of 36CFR800.4(a)(4).

In the event that archaeological or historic materials are discovered during project activities, work in the immediate vicinity must stop, the area secured, and this office notified.

These comments are based on the information available at the time of this review and on the behalf of the State Historic Preservation Officer in conformance with Section 106 of the National Historic Preservation Act and its implementing regulations 36CFR800. Should additional information become available, our assessment may be revised. Thank you for the opportunity to comment and a copy of these comments should be included in subsequent environmental documents.

Sincerely,

Robert G. Whitlam, Ph.D.
State Archaeologist
(360) 586-3080
email: rob.whitlam@dahp.wa.gov



e. Response Letter from Yakama Nation Tribe, January 6, 2012



Confederated Tribes and Bands of the Yakama Nation
Established by the Treaty of June 9, 1855

Post Office Box 151
Toppenish Washington 98948

Emailed { AA6100 11 JAN 12
JCOS 11 JAN 12
CPMO 11 JAN 12

Timothy J. Lowenberg
Major General
State of Washington Military Department
Camp Murray, Washington 98430-5000

January 6, 2012

RE: Washington Army National Guard's Tactical Unmanned Aircraft System (TUAS) Project

Major General Lowedenberg,

Thank you for contacting Yakama Nation regarding the proposed Washington Army National Guard's Tactical Unmanned Aircraft System (TUAS) Project. The proposed project is located within the Ceded Lands of the Yakama Nation, the legal rights to which were established by the Treaty of 1855, between the Yakama Nation and the United States Government. The Treaty set forth that the Yakama Nation shall retain rights to resources upon these lands and, therefore, it is with the assistance and backing of the United States Federal Government that Yakama Nation claims authority to protect traditional resources.

We apologize for the delayed response to your recent correspondence. After review of the proposed TUAS, **we cannot** concur with your determination of "No Cultural or Archaeological Resource Affect." Your finding was based on archaeological surveys, which are over 10 years old. We highly recommend that these areas be resurveyed for archaeological and cultural resources prior to the commencement of any ground disturbance. The Yakama Nation Cultural Resources Program may be able to assist in any resurvey, as we retain professional staff, members of which meet the Secretary of the Interiors Standards.

The Yakama Nation has a right and an interest to project lands within the Yakama Training Center (YTC). YTC lands are subject to an agreement between the Yakama Nation and the United States Army, under which land will revert to Yakama Nation management once military operations have been disbanded.

Thank you for your consideration in this matter. Please feel free to contact me at x4737 or Yakama Nation CRP archaeologist, Jessica Lally at x4766 if you have any questions.

Sincerely,

Johnson Meninick
Yakama Nation Cultural Resources
Program Manager

CC: Rowena Valencia-Gica, Ph.D., Environmental Programs
Elizabeth Sanchez, Yakama Nation Environmental Management Program
Kate Valdez, Yakama Nation Tribal Historic Preservation Officer



Confederated Tribes and Bands of the Yakama Nation
Established by the Treaty of June 9, 1855

Post Office Box 151
Toppenish Washington 98948

Rowena Valencia-Gica
State of Washington Military Department
Tacoma, WA 98430-5000

August 28, 2012

Subject: Washington Army National Guard's (WA ARNG) Tactical Unmanned Aircraft System (TUAS) Project and Review of Draft Environmental Assessment and Finding of No Significant Impact for TUAS Project at Yakima Training Center (YTC)

Dear Ms. Valencia-Gica,

Thank you for providing an update regarding the WA ARNG proposal to construct facilities at the YTC for the TUAS project. The proposed project is located within the Ceded Lands of the Yakama Nation, the legal rights to which were established by the Treaty of 1855, between the Yakama Nation and the United States Government. The treaty set forth that Yakama Nation shall retain the rights to resources upon these lands and, therefore, it is with the assistance and backing of the United States Federal Government that Yakama Nation claims authority to protect traditional resources.

In regards to your previous letter dated April 23, 2012 requesting concurrence of "No Cultural/Archaeological Properties Affected", the Yakama Nation **cannot** provide such a statement. Based on your response letter, WA ARNG and/or YTC will not conduct current archaeological investigations that are specific or directly associated with the proposed project activities/construction. Therefore, Yakama Nation CRP initial comments remain the same.

If WA ARNG and YTC will not conduct archaeological investigations (i.e. survey and subsurface testing specific to the project APE) then it is recommended that an archaeological monitor is present to ensure no damages to archaeological/cultural resources. As previously stated in the letter dated January 6, 2012 the Yakama Nation has a right and interest to the lands within the YTC. Archaeological resources are a significant resource to the Yakama People; evidence of our ancestors and past lifeways. It would be an unfortunate situation for all parties involved should archaeological resources be inadvertently damaged during project activities because due diligence was not taken with respect to our sacred resources.

To reiterate, Yakama Nation CRP continues to request archaeological investigations for the project APE. Please feel free to contact me at 509-865-5121, ext. 4737 if you have any questions regarding that which is written above.

Sincerely,

A handwritten signature in black ink, appearing to read 'J. Meninick', written over a horizontal line.

Johnson Meninick, Program Manager
Cultural Resources Program

CC: Rob Whitlam, Department of Archaeology and Historic Preservation
Randy Korgel, YTC Cultural Resources

f. WAARNG's Response Letter to Yakama Nation Tribe, April 23, 2012



STATE OF WASHINGTON
MILITARY DEPARTMENT
Camp Murray • Tacoma, Washington 98430-5000

April 23, 2012

Mr. Johnson Meninick
Cultural Resources Program Manager
Yakama Nation
P.O. Box 151
Toppenish, WA 98948

Re: Review of Drafts Environmental Assessment and Finding of No Significant Impact for TUAS
Project at YTC

Dear Mr. Meninick,

Thank you very much for your letter received on January 11, 2012 regarding your comments on the Drafts Environmental Assessment (EA) and Finding of No Significant Impact (FNSI) prepared by the Washington Army National Guard (WA ARNG) for a Tactical Unmanned Aircraft System (TUAS) project proposal at the US Army's Yakima Training Center (YTC). This letter is to provide you with our response on the issue of inadvertent archaeological discovery that you discussed in your letter.

The WA ARNG clearly understands your Tribe's interest and concerns on cultural resources at YTC. Also, the WA ARNG believes that studies pertaining to cultural/archaeological resources for the proposed TUAS site had been reasonably completed and that a resurvey of the area of potential effect would not yield new cultural resources information. The State Historic Preservation Officer (SHPO) concurred with this determination during a phone conversation with the WA ARNG's Cultural Resources program manager.

At present, the project is not fully funded and the WA ARNG is in the process of obtaining a license on the property. The licensing division of ARNG believes that further cultural/archaeological surveys are not necessary. Once project funding is obtained and construction commences, the WA ARNG will ensure that in the event that cultural and/or archaeological resources are found or identified during the construction, the work would stop and individuals would follow standard operating procedures for inadvertent archaeological discoveries as outlined in the WAARNG's Integrated Cultural Resources Management Plan (2007) and in accordance with US Army YTC's Integrated Cultural Resources Management Plan (2008).

In this regard, the WA ARNG would like to request for your concurrence on our determination of "No Cultural/Archaeological Properties Affected".

Again, the WA ARNG greatly appreciates your review of the Drafts TUAS EA/FNSI. Should you have any additional comments/suggestions, please do not hesitate to let us know.

Sincerely,

A handwritten signature in black ink, appearing to read "Thomas O. Skjervold".

Thomas O. Skjervold
Environmental Programs Manager, WAARNG/WMD

cc: COL Duane Coffey, EN, WAARNG, CFMO-WA
Stephanie Webber, Cultural Resources, ARNG-ILE-T
Margaret Pounds, Environmental Programs Manager, US Army YTC

g. WAARNG's Invitation to Yakama Nation, Public Comment, August 2, 2012



STATE OF WASHINGTON
MILITARY DEPARTMENT
Camp Murray • Tacoma, Washington 98430-5000

August 2, 2012

Yakama Nation
ATTN: Mr. Johnson Meninick
Cultural Resources Program Manager
PO Box 151
Toppenish, WA 98948

RE: Washington Army National Guard's Tactical Unmanned Aircraft System (TUAS) Project

Dear Mr. Meninick,

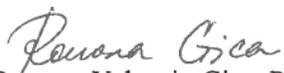
This is to provide you with an update on the status of the Washington Army National Guard's (WA ARNG) proposal to construct a Tactical Unmanned Aircraft System (TUAS) Facility and train a TUAS platoon in an area at the Yakima Training Center (YTC).

The WA ARNG has prepared the Drafts Environmental Assessment (EA) and Finding of No Significant Impact (FNSI) in accordance with the National Environmental Policy Act (NEPA). In November 2011 and January 2012, we requested your tribe to review these documents and to concur on our determination of "No Historic Properties Affected". You sent us a formal response on January 6, 2012. The WA ARNG responded to your letter on April 23, 2012.

At present, we are conducting a public review on these Drafts EA and FNSI and therefore, we are sending your tribe the Notice of Availability and a CD copy of these documents. If you have any additional comments or suggestions about these documents or the project, please do not hesitate to send us your written comment. If we do not receive a response by August 30, 2012, we will proceed with the proposed action in accordance with provisions of 36 CFR 800.3(c)(4), 800.5(c)(1), and 800.5(d).

Point of contact for this project is the undersigned, Tel. (253) 512-8704, Fax (253) 512-8904, or e-mail at Rowena.valencia-gica@mil.wa.gov.

Sincerely,


Rowena Valencia-Gica, Ph.D.
Environmental Specialist

cc: Randy Korgel, Cultural Resources Program Manager, YTC

h. Wanapum Band Tribe's Response, August 30, 2012

RECEIVED
WA MILITARY DEPT
CONST & FAC MGMT

~~2012 SEP -6 PM 12: 57~~

WANAPUM

Aug 30, 2012

State of Washington
Military Department
Attn: Rowena Valencia-Gica, Ph.D.
Environmental Programs
Bldg. 36 Quartermaster Rd. Mail Stop TA-20
Camp Murray, WA 98430

Subject: Washington Army National Guard's Tactical Unmanned Aircraft System (TUAS) Project

Dear Rowena Gica, Project Manager

The Wanapum appreciate the opportunity to review and comment on the Washington Army National Guard's Tactical Unmanned Aircraft System (TUAS) Project.

The Wanapum Band is interested in access to the Yakima Training Center Area because it is a place to hunt, and gather traditional foods and medicines. At this time, no adverse effects will come of the proposed project. If any archaeological or cultural material is discovered in the course of the project ground disturbance, please notify myself immediately so the disturbance can be addresses appropriately. This is an area of cultural importance to the Wanapum Band and we look forward to future coordination on maintaining the cultural integrity of the area.

Please feel free to contact me, Rex Buck @ 509-764-0500 ext. 3113 or via email RBUCK@GCPUD.ORG

Sincerely,



Rex Buck Jr.
Wanapum Leader

2. Memorandum for Record, Agency and Section 7 ESA Consult for WAARNG's TUAS Project

MEMORANDUM FOR RECORD										
Agency and Section 7 ESA Consultation for WAARNG's TUAS Project at YTC, Yakima County, WA										
Contact Person/Position	Tribe/ Agency	Address	City	State	Zip	Initial Consultation Date	Follow-up	Follow-up Mode	Response	Copy of drafts EA/FNSI Sent
Mrs. Jessica Gonzales - Office Manager /Mr. Jeff Krupka - staff	USFWS	215 Melody Lane	Wenatchee	WA	98801	10-Nov-11	20-Dec-11; 5 Jan-12; 8/1/2012	E-mail & phone	phone message left + files resent via SAFE; phone follow-up again on 1/5/12 - project review assigned to Mr. Greg Van Stralen--no comments on project as stated in an e-mail on 1/5/2012	yes thru certified mail & via SAFE on 12/20/11
Mr. Steven Landino - Director/Mr. Dale Bambrick - Eastern WA Branch Chief	NOAA Fisheries	304 South Water Street Suite 201	Ellensburg	WA	98926	10-Nov-11	12/20/2011; 8/1/2012	E-mail & phone	e-mail response sent on 12/20/11 explaining no concurrence letter needs to be provided by NOAA Fisheries	yes via certified mail and SAFE
Mr. Perry Harvester - Habitat Program Manager	WDFW	1701 South 24th Avenue	Yakima	WA	98902-5720	10-Nov-11	20-Dec-11; 5 Jan-12; 4/23/2012; 5/23-24/2012; 7/13/2012; 8/1/2012	E-mail & phone	e-mail response received on 12/22/11; formal response received on 1/5/2012; WAARNG responded by certified mail on 4/23/2012; e-mail sent on 5/23/2012; phone conversation on 5/24/2012 indicated he'll send another formal response; follow-up e-mail sent on 7/13/2012	yes via certified mail and SAFE

MEMORANDUM FOR RECORD										
Agency and Section 7 ESA Consultation for WAARNG's TUAS Project at YTC, Yakima County, WA										
Contact Person/Position	Tribe/ Agency	Address	City	State	Zip	Initial Consultation Date	Follow-up	Follow-up Mode	Response	Copy of drafts EA/FNSI Sent
Ms. Caroline Poyurs/Mr. Ryan Weller - NEPA Section	FAA	1601 Lind Avenue SW	Renton	WA	98057	10-Nov-11	20-Dec-11; 5 Jan-12; 8/1/2012	E-mail	e-mail sent; phone conversation on 1/9/2012; e-mail sent on 1/25/2012 indicated that no comments	yes via mail and SAFE
Mr. Dennis Davison - Community Planner	City of Selah	Planning Department 115 W. Naches Ave.	Selah,	WA	98942	11-Nov-11	12/20/2011; 8/1/2012	E-mail	e-mail response of no comment sent on 11/15/2011	yes via mail
Ms. Julie Pyper - Compliance Manager	Grant County PUD	30 C Street SW,	Ephrata	WA	98823	11-Nov-11	1/10/2012; 8/1/2012	E-mail & phone	no response received	yes via mail
Mr. John Gamon - Program Manager	DNR Natural Heritage Program	P.O. Box 47014	Olympia	WA	98504-7	11-Nov-11	1/10/2012; 8/1/2012	E-mail & phone	e-mail response received on 1/13/2012; no features of interest in TUAS construction areas but cannot comment on utility corridor until WAARNG provides a map of affected areas	yes via mail
Mr. Kirk Holmes - Director	Kittitas County Community Development Services	411 N Ruby Street	Ellensburg	WA	98926	11-Nov-11	1/10/2012; 8/1/2012	E-mail & phone	no response as of 1/10/2012	yes via mail

MEMORANDUM FOR RECORD										
Agency and Section 7 ESA Consultation for WAARNG's TUAS Project at YTC, Yakima County, WA										
Contact Person/Position	Tribe/ Agency	Address	City	State	Zip	Initial Consultation Date	Follow-up	Follow-up Mode	Response	Copy of drafts EA/FNSI Sent
Mr. Gary Pruitt - Executive Director/Dr. Hasan Tahat, Engineering and Planning Division Supervisor	Yakima Reg Clean Air Agency	329 North First St	Yakima	WA	98901-2	11-Nov-11	1/10/2012; 8/1/2012	E-mail & phone	no comment response as of 1/10/2012; requires to have a dust control plan and pay the fees to YRCAA before doing work at the airstrips; formal letter	yes via mail
Mr. Steve Erickson - Director	Yakima County Planning Division	Courthouse # 417	Yakima	WA	98901	11-Nov-11	1/10/2012; 8/1/2012	E-mail & phone	files re-sent on 1/10/2012 as requested; no response as of 1/12/2012	yes via mail and SAFE
Mr. Damien Hooper - Planning Manager	Grant County Planning Department	457 First Avenue	Ephrata	WA	98823	11-Nov-11	1/10/2012; 8/1/2012	E-mail & phone	requested files be re-sent on 1/10/2012; response of no comment received on 1/12/2012	yes via mail and SAFE



STATE OF WASHINGTON
MILITARY DEPARTMENT
Camp Murray • Tacoma, Washington 98430-5000

MEMORANDUM FOR RECORD

August 31, 2012

TO: Chuck Chamberlain
Natural Resources PM
ARNG-ILE-T

FROM: Rowena Valencia-Gica, Ph.D.
Natural and Cultural Resources PM
Environmental Programs
WAARNG/WMD

SUBJECT: Section 7 ESA and Other Agencies Consultation for the Construction and Operation of a Washington Army National Guard (WAARNG) Tactical Unmanned Aircraft System (TUAS) Facility, and Training of a WAARNG TUAS Platoon at Yakima Training Center, Washington

The WMD/WAARNG through the Environmental Programs Section initiated its Section 7 ESA and agency consultation in the preparation of the Drafts TUAS Environmental Assessment (EA) and Finding of No Significant Impact (FNSI) to ensure that their concerns/suggestions are considered prior to document finalization and project implementation.

First informal agency (USFWS) consultation was conducted sometime in 2010 by YTC Natural Resources Program Manager (Mr. Colin Leingang). First formal agency consultation was conducted by WAARNG on November 10, 2011 by sending a consult letter and a CD copy of the Drafts EA and FNSI to the agencies by certified mail to solicit their comments on these documents. No response had been received after 30 days from sending the certified mail. Follow-up e-mails and phone calls were done in December 2011 and January 2012 as well as on August 2, 2012 as summarized in the attached MFR spreadsheet.

In December 2012, Mr. Dale Bambrick of NOAA Fisheries responded by e-mail indicating that no formal concurrence letter would be sent because WAARNG has made a determination of no effect, making the ESA consultation over. In January 2012, the USFWS (Mrs. Jessica Gonzales/Mr. Greg Van Stralen) responded by e-mail indicating that the agency does not have comments on the project.

WDFW (Mr. Perry Harvester) responded on January 4, 2011, providing comments on noise and activity impacts, vegetation disturbance, and mitigation for impacts on sage grouse habitat as well as recommendations. The WAARNG responded to this letter on April, 2012 and has not yet received any response again. The WAARNG sent follow-up e-mail to Mr. Harvester on May 23, 2012.

Other agencies (Grant County, Kittitas County, Department of Natural Resources-Natural Heritage Program, YRCAA, and FAA) had also been consulted. No response had been received from these agencies as of the date of this MFR, except for YRCAA (Dr. Hasan Tahat) that suggested that a dust control plan be submitted by contractor and approval be obtained prior to

suggested that a dust control plan be submitted by contractor and approval be obtained prior to doing any work at the Selah airstrip. YRCAA's formal response on August 15, 2012 also indicated that a New Source Review may be required for this project.

All of the agencies mentioned above had also been consulted during the public comment period (August 1 to 15, 2012; extended to August 30 per YTC's request).

In 2010, YTC staff led by Mr. Colin Leingang had conducted a survey of the site and found no threatened or endangered (T&E) species present at the project site. Because T&E species list had some changes by August 2011, WAARNG again reviewed the list of T&E species and critical areas for Yakima County and consulted by phone a USFWS staff (Mr. Gregg Kurz, Fish and Wildlife Biologist, Central WA Office). Based on the review of the new list and consult with USFWS, WAARNG determined that no federally listed endangered or threatened species will be adversely impacted by the proposed action. The project would have significant but mitigable impacts on a limited portion of the habitat of sage grouse, a federal candidate species.

Point of contact for this memo is the undersigned, (253) 512-8704, Rowena.valencia-gica@mil.wa.gov.


Rowena Valencia-Gica, Ph.D.

a. Consultation Letter Sent to USFWS, November 7, 2011



STATE OF WASHINGTON
MILITARY DEPARTMENT
Camp Murray • Tacoma, Washington 98430-5000

November 7, 2011

Mrs. Jessica Gonzales
Supervisor
U.S. Fish and Wildlife Service
Central Washington Field Office
214 Melody Lane
Wenatchee, WA 98801

ATTN: Mr. Jeff Krupka

Re: Review of Drafts Environmental Assessment and Finding of No Significant Impact of TUAS
Project at YTC

Dear Ms. Gonzales:

This letter is to request for your review and comments on the Drafts Environmental Assessment (EA) and Finding of No Significant Impact (FNSI) of Tactical Unmanned Aircraft System (TUAS) Project at the Yakima Training Center (YTC) located in Yakima, WA.

The Washington Army National Guard (WAARNG), under the Washington State Military Department (WMD), prepared an EA to identify and evaluate potential significant environmental effects associated with the Proposed Action— real property agreement, construction and operation of a WAARNG Tactical Unmanned Aircraft System facility and training of a WAARNG TUAS platoon at Yakima Training Center (YTC), Washington. YTC is located in south central Washington, northeast of the city of Yakima, situated directly between Interstate 82 (I-82) on the west and the Columbia River to the east.

The WAARNG proposes to enter into a 25-year real property agreement with the Department of the Army via the U.S. Army Corps of Engineers-Seattle District, for use of an area of land at YTC to construct the TUAS facility where a TUAS platoon will train (Figs. 1 and 2). This facility would be intended solely for WAARNG's 81st Heavy Brigade Combat Team/Brigade Special Troops Battalion (HBCT/BSTB) and TUAS Platoon, and act as their primary duty station to support all collective and individual training requirements along with all administrative requirements. Construction will include a hangar/aircraft storage building, two parking lots, a new aircraft apron, utility connection, and possible access road improvements. Training will include launch and recovery and in-flight maneuvering focused on surveillance and reconnaissance missions during the day and night.

Two alternative sites for the construction, operation and maintenance of the TUAS were evaluated in this Environmental Assessment: North Selah Airstrip and South Selah Airstrip. Environmental analysis of the impacts of both alternative sites showed that there would be significant but mitigable impacts only to the big sagebrush/bluebunch wheatgrass vegetation community, which is an important habitat of greater sage grouse. Mitigation under both alternatives includes restoration of approximately 20 to 24 acres of big sagebrush/bluebunch wheatgrass vegetation communities in areas previously disturbed. This mitigation works two-fold in that it lowers the level of significance for the impacts on the vegetation communities which also serves as the sage grouse's habitat.

Review of Drafts EA/FNSI of TUAS Project at YTC
Page 2
November 7, 2011

In the draft EA, the analyses and determinations made for federally listed species showed that there would be no effects on these species with the implementation of the proposed action. No suitable habitat for bald eagles or their prey exists on or near the proposed alternative locations and no bald eagles have been observed at those locations. As such, there are no direct impacts to bald eagles as a result of the construction or operations associated with any of the proposed alternatives. No "population level effect" on migratory birds is expected to occur given the relatively small footprint of the proposed construction. Although there is potential for wildlife-aerial vehicle collisions, risk is thought to be minimal due to the small size of unmanned aerial vehicles, elevations utilized for flight, and lack of reported avian collisions to date. Because no riparian or stream habitat exists within the proposed project area, no direct effects to other listed birds (Yellowbilled Cuckoo, Northern Spotted Owl, Marbled Murrelet), fish species (Bull Trout), animals (Fisher, Grizzly Bear, Gray Wolf, North American Wolverine), and insects (Mardon Skipper) would occur as a result of implementing any of the proposed alternatives. Federally listed plant species (Ute Ladies-tresses, Showy Stickseed, Whitebark Pine) and/or their habitat would not be impacted with the implementation of any of the proposed alternatives. It is the intent of the analysis in the EA to suffice for the required Biological Assessment (BA) of impacts to federally listed species requiring ESA Section 7 Consultation (i.e., listed fish, plant and animal species) given no impacts are anticipated to those species.

Greater sage-grouse is a federal candidate species and does not require ESA Section 7 Consultation, however, it is considered a special status species for JBLM YTC given its candidate status and its designation as an Army Species at Risk. With the implementation of either the North Selah or South Selah alternatives, there would be significant but mitigable impacts to the vegetation community which serves as the habitat for the greater sage-grouse. These impacts to the identified resource areas will become negligible to minor when mitigation is integrated into the project for a specific vegetation community and the greater sage grouse. The mitigation under North Selah alternative includes restoration of approximately 24 acres of big sagebrush/bluebunch wheatgrass vegetation communities in areas previously disturbed. The mitigation under South Selah alternative includes restoration of approximately 20 acres of big sagebrush/bluebunch wheatgrass vegetation communities in areas previously disturbed. This mitigation works two-fold in that it lowers the level of significance for the impacts on the vegetation communities as well as for the sage grouse's habitat.

Enclosed is a CD copy of the drafts EA and FNSI.

We look forward to your participation in the review of the abovementioned documents. We also request your concurrence on the sufficiency of the analysis of impacts on biological resources in the EA for the required BA. To ensure that your concerns are considered and that our plan maximizes public input and coordination, your prompt attention is appreciated. Should you have any questions regarding this project, please do not hesitate to contact the undersigned at (253) 512-8704, Rowena.valencia-gica@mil.wa.gov.

Sincerely,



Rowena Valencia-Gica, Ph.D.
Natural and Cultural Resources Manager

cc: Colin Leingang, Wildlife Program Manager, YTC Environment and Natural Resource Division

b. E-mail Responses from USFWS, January 5, 2012

From: Greg_VanStralen@fws.gov

Sent: Thursday, January 05, 2012 11:04 AM

To: Valencia-Gica, Rowena B (MIL)

Cc: jessica_gonzales@fws.gov

Subject: Re: Request for Review of WAARNG's TUAS Project Drafts EA and FNSI

Ms. Valencia-Gica: I am responding at the request of Ms Jessica Gonzales. our Assistant Project Leader and Office Manager. We have reviewed your project and, at this time, do not have any comments to submit in response. Feel free to contact me if I can be of any further assistance.

Sincerely,

Greg "Gus" Van Stralen

Central Washington Field Office

U.S. Fish and Wildlife Service

215 Melody Lane, Suite 119

Wenatchee, WA 98801

(509) 665-3508 Ex. 20 Fax: (509) 665-3509

c. Consultation Letter Sent to NOAA Fisheries , November 7, 2011



STATE OF WASHINGTON
MILITARY DEPARTMENT

Camp Murray • Tacoma, Washington 98430-5000

November 7, 2011

Mr. Steven Landino
Director, Washington State Habitat
NOAA Fisheries
510 Desmond Drive SE Suite 103
Lacey, WA 98503-1263

Re: Review of Drafts Environmental Assessment and Finding of No Significant Impact of TUAS
Project at YTC

Dear Mr. Landino,

This letter is to request for your review and comments on the Drafts Environmental Assessment (EA) and Finding of No Significant Impact (FNSI) of Tactical Unmanned Aircraft System (TUAS) Project at the Yakima Training Center (YTC) located in Yakima, WA.

The Washington Army National Guard (WAARNG), under the Washington State Military Department (WMD), prepared an EA to identify and evaluate potential significant environmental effects associated with the Proposed Action— real property agreement, construction and operation of a WAARNG Tactical Unmanned Aircraft System facility and training of a WAARNG TUAS platoon at Yakima Training Center (YTC), Washington. YTC is located in south central Washington, northeast of the city of Yakima, situated directly between Interstate 82 (I-82) on the west and the Columbia River to the east.

The WAARNG proposes to enter into a 25-year real property agreement with the Department of the Army via the U.S. Army Corps of Engineers-Seattle District, for use of an area of land at YTC to construct the TUAS facility where a TUAS platoon will train (Figs. 1 and 2). This facility would be intended solely for WAARNG's 81st Heavy Brigade Combat Team/Brigade Special Troops Battalion (HBCT/BSTB) and TUAS Platoon, and act as their primary duty station to support all collective and individual training requirements along with all administrative requirements. Construction will include a hangar/aircraft storage building, two parking lots, a new aircraft apron, utility connection, and possible access road improvements. Training will include launch and recovery and in-flight maneuvering focused on surveillance and reconnaissance missions during the day and night.

Two alternative sites for the construction, operation and maintenance of the TUAS were evaluated in this Environmental Assessment: North Selah Airstrip and South Selah Airstrip. Environmental analysis of the impacts of both alternative sites showed that there would be significant but mitigable impacts only to the big sagebrush/bluebunch wheatgrass vegetation community, which is an important habitat of greater sage grouse. Mitigation under both alternatives includes restoration of approximately 20 to 24 acres of big sagebrush/bluebunch wheatgrass vegetation communities in areas previously disturbed. This mitigation works two-fold in that it lowers the level of significance for the impacts on the vegetation communities which also serves as the sage grouse's habitat.

Review of Drafts EA/FNSI of TUAS Project at YTC
Page 2
November 7, 2011

In the draft EA, the analyses and determinations made for federally listed species showed that there would be no effects on these species with the implementation of the proposed action. No suitable habitat for bald eagles or their prey exists on or near the proposed alternative locations and no bald eagles have been observed at those locations. As such, there are no direct impacts to bald eagles as a result of the construction or operations associated with any of the proposed alternatives. No "population level effect" on migratory birds is expected to occur given the relatively small footprint of the proposed construction. Although there is potential for wildlife-aerial vehicle collisions, risk is thought to be minimal due to the small size of unmanned aerial vehicles, elevations utilized for flight, and lack of reported avian collisions to date. Because no riparian or stream habitat exists within the proposed project area, no direct effects to other listed birds (Yellowbilled Cuckoo, Northern Spotted Owl, Marbled Murrelet), fish species (Bull Trout), animals (Fisher, Grizzly Bear, Gray Wolf, North American Wolverine), and insects (Mardon Skipper) would occur as a result of implementing any of the proposed alternatives. Federally listed plant species (Ute Ladies-tresses, Showy Stickseed, Whitebark Pine) and/or their habitat would not be impacted with the implementation of any of the proposed alternatives. It is the intent of the analysis in the EA to suffice for the required Biological Assessment (BA) of impacts to federally listed species requiring ESA Section 7 Consultation (i.e., listed fish, plant and animal species) given no impacts are anticipated to those species.

Greater sage-grouse is a federal candidate species and does not require ESA Section 7 Consultation, however, it is considered a special status species for JBLM YTC given its candidate status and its designation as an Army Species at Risk. With the implementation of either the North Selah or South Selah alternatives, there would be significant but mitigable impacts to the vegetation community which serves as the habitat for the greater sage-grouse. These impacts to the identified resource areas will become negligible to minor when mitigation is integrated into the project for a specific vegetation community and the greater sage grouse. The mitigation under North Selah alternative includes restoration of approximately 24 acres of big sagebrush/bluebunch wheatgrass vegetation communities in areas previously disturbed. The mitigation under South Selah alternative includes restoration of approximately 20 acres of big sagebrush/bluebunch wheatgrass vegetation communities in areas previously disturbed. This mitigation works two-fold in that it lowers the level of significance for the impacts on the vegetation communities as well as for the sage grouse's habitat.

Enclosed is a CD copy of the drafts EA and FNSI.

We look forward to your participation in the review of the abovementioned documents. We also request your concurrence on the sufficiency of the analysis of impacts on biological resources in the EA for the required BA. To ensure that your concerns are considered and that our plan maximizes public input and coordination, your prompt attention is appreciated. Should you have any questions regarding this project, please do not hesitate to contact the undersigned at (253) 512-8704, Rowena.valencia-gica@mil.wa.gov.

Sincerely,



Rowena Valencia-Gica, Ph.D.
Natural and Cultural Resources Manager

cc: Colin Leingang, Wildlife Program Manager, YTC Environment and Natural Resource Division

d. E-mail Responses from NOAA Fisheries, December 20, 2011

From: Dale Bambrick [dale.bambrick@noaa.gov]
Sent: Tuesday, December 20, 2011 1:41 PM
To: Valencia-Gica, Rowena B (MIL)
Subject: Re: Request for Review of WAARNG's TUAS Project Drafts EA and FNSI

Good. Let me know if there are further issues.

On Tue, Dec 20, 2011 at 12:52 PM, Valencia-Gica, Rowena B (MIL) <Rowena.Valencia-Gica@mil.wa.gov> wrote:

Hi Mr. Bambrick,

Thank you very much for the clarification. I believe that your e-mail response is sufficient for documentation. I will also share this information to NGB headquarters so that they will understand.

Sincerely,
Rowena

From: Dale Bambrick [mailto:dale.bambrick@noaa.gov]
Sent: Tuesday, December 20, 2011 12:36 PM
To: Valencia-Gica, Rowena B (MIL)
Cc: Frankie Chavez
Subject: Re: Request for Review of WAARNG's TUAS Project Drafts EA and FNSI

When an agency makes a determination of "no effect" for an action, ESA consultation is over. To put it another way, when an agency determines that an action will cause no effects to an ESA listed species, there is no requirement to consult. So, when the Army National Guard has determined that the TUAS project will not effect steelhead, the Army National Guard's responsibility for consultation with the National Marine Fisheries Service was satisfied. We DO NOT provide concurrence letters when agencies make no effect determinations, as the National Guard has done in this instance.

Thanks for letting us know about the project. We wish you good luck. Happy Holidays.

On Tue, Dec 20, 2011 at 12:24 PM, Valencia-Gica, Rowena B (MIL) <Rowena.Valencia-Gica@mil.wa.gov> wrote:

Hello Mr. Bambrick,

This e-mail is to follow-up on our request for your review and concurrence on our determination

of no effects for Washington Army National Guard's (WAARNG) Tactical Unmanned Aerial System (TUAS) Project at Yakima Training Center.

On Nov. 16, 2011, a package containing a consult letter and a CD was received by your office. I called your office today and left a phone message. Just to make sure you received the files, I sent these again via SAFE. You should have received an e-mail from WEBTeam@amrdec.army.mil that provides a link to the website where you can download the files using the password provided in their e-mail.

I'd greatly appreciate if you could please review the document and provide us a written response (concurrence on no federal species present or no effects).

Happy Holidays!

Sincerely,

Rowena Gica
Rowena Valencia-Gica, Ph.D.
Environmental Programs
Bldg. 36 Quartermaster Rd.
Camp Murray WA 98430
Tel. (253) 512-8704
Fax: (253) 512-8904
Mail Stop TA-20

e. Consultation Letters Sent to WDFW, November 7, 2011 and August 2, 2012



STATE OF WASHINGTON
MILITARY DEPARTMENT
Camp Murray • Tacoma, Washington 98430-5000

November 7, 2011

Mr. Perry Harvester
Habitat Program Manager
Washington Department of Fish and Wildlife
1701 South 24th Avenue
Yakima, WA 98902-5720

Re: Review of Drafts Environmental Assessment and Finding of No Significant Impact of TUAS Project at YTC

Dear Mr. Harvester,

This letter is to request for your review and comments on the Drafts Environmental Assessment (EA) and Finding of No Significant Impact (FNSI) of Tactical Unmanned Aircraft System (TUAS) Project at the Yakima Training Center (YTC) located in Yakima, WA.

The Washington Army National Guard (WAARNG), under the Washington State Military Department (WMD), prepared an EA to identify and evaluate potential significant environmental effects associated with the Proposed Action— real property agreement, construction and operation of a WAARNG Tactical Unmanned Aircraft System facility and training of a WAARNG TUAS platoon at Yakima Training Center (YTC), Washington. YTC is located in south central Washington, northeast of the city of Yakima, situated directly between Interstate 82 (I-82) on the west and the Columbia River to the east.

The WAARNG proposes to enter into a 25-year real property agreement with the Department of the Army via the U.S. Army Corps of Engineers-Seattle District, for use of an area of land at YTC to construct the TUAS facility where a TUAS platoon will train (Figs. 1 and 2). This facility would be intended solely for WAARNG's 81st Heavy Brigade Combat Team/Brigade Special Troops Battalion (HBCT/BSTB) and TUAS Platoon, and act as their primary duty station to support all collective and individual training requirements along with all administrative requirements. Construction will include a hangar/aircraft storage building, two parking lots, a new aircraft apron, utility connection, and possible access road improvements. Training will include launch and recovery and in-flight maneuvering focused on surveillance and reconnaissance missions during the day and night.

Two alternative sites for the construction, operation and maintenance of the TUAS were evaluated in this Environmental Assessment: North Selah Airstrip and South Selah Airstrip. Environmental analysis of the impacts of both alternative sites showed that there would be significant but mitigable impacts only to the big sagebrush/bluebunch wheatgrass vegetation community, which is an important habitat of greater sage grouse. Mitigation under both alternatives includes restoration of approximately 20 to 24 acres of big sagebrush/bluebunch wheatgrass vegetation communities in areas previously disturbed. This mitigation works two-fold in that it lowers the level of significance for the impacts on the vegetation communities which also serves as the sage grouse's habitat.

Review of Drafts EA/FNSI of TUAS Project at YTC

Page 2

November 7, 2011

In the draft EA, the analyses and determinations made for federally listed species showed that there would be no effects on these species with the implementation of the proposed action. No suitable habitat for bald eagles or their prey exists on or near the proposed alternative locations and no bald eagles have been observed at those locations. As such, there are no direct impacts to bald eagles as a result of the construction or operations associated with any of the proposed alternatives. No "population level effect" on migratory birds is expected to occur given the relatively small footprint of the proposed construction. Although there is potential for wildlife-aerial vehicle collisions, risk is thought to be minimal due to the small size of unmanned aerial vehicles, elevations utilized for flight, and lack of reported avian collisions to date. Because no riparian or stream habitat exists within the proposed project area, no direct effects to other listed birds (Yellowbilled Cuckoo, Northern Spotted Owl, Marbled Murrelet), fish species (Bull Trout), animals (Fisher, Grizzly Bear, Gray Wolf, North American Wolverine), and insects (Mardon Skipper) would occur as a result of implementing any of the proposed alternatives. Federally listed plant species (Ute Ladies-tresses, Showy Stickseed, Whitebark Pine) and/or their habitat would not be impacted with the implementation of any of the proposed alternatives. It is the intent of the analysis in the EA to suffice for the required Biological Assessment (BA) of impacts to federally listed species requiring ESA Section 7 Consultation (i.e., listed fish, plant and animal species) given no impacts are anticipated to those species.

Greater sage-grouse is a federal candidate species and does not require ESA Section 7 Consultation, however, it is considered a special status species for JBLM YTC given its candidate status and its designation as an Army Species at Risk. With the implementation of either the North Selah or South Selah alternatives, there would be significant but mitigable impacts to the vegetation community which serves as the habitat for the greater sage-grouse. These impacts to the identified resource areas will become negligible to minor when mitigation is integrated into the project for a specific vegetation community and the greater sage grouse. The mitigation under North Selah alternative includes restoration of approximately 24 acres of big sagebrush/bluebunch wheatgrass vegetation communities in areas previously disturbed. The mitigation under South Selah alternative includes restoration of approximately 20 acres of big sagebrush/bluebunch wheatgrass vegetation communities in areas previously disturbed. This mitigation works two-fold in that it lowers the level of significance for the impacts on the vegetation communities as well as for the sage grouse's habitat.

Enclosed is a CD copy of the drafts EA and FNSI.

We look forward to your participation in the review of the abovementioned documents. We also request your concurrence on the sufficiency of the analysis of impacts on biological resources in the EA for the required BA. To ensure that your concerns are considered and that our plan maximizes public input and coordination, your prompt attention is appreciated. Should you have any questions regarding this project, please do not hesitate to contact the undersigned at (253) 512-8704, Rowena.valencia-gica@mil.wa.gov.

Sincerely,



Rowena Valencia-Gica, Ph.D.
Natural and Cultural Resources Manager
Environmental Programs

cc: Colin Leingang, Wildlife Program Manager, YTC Environment and Natural Resource Division



STATE OF WASHINGTON
MILITARY DEPARTMENT
Camp Murray • Tacoma, Washington 98430-5000

August 2, 2012

Mr. Perry Harvester
Habitat Program Manager
Washington Department of Fish and Wildlife
1701 South 24th Avenue
Yakima, WA 98902-5720

Re: Review of Drafts Environmental Assessment and Finding of No Significant Impact of TUAS
Project at YTC

Dear Mr. Harvester,

This is to provide you with an update on the status of the Washington Army National Guard's (WA ARNG) proposal to construct a Tactical Unmanned Aircraft System (TUAS) Facility and train a TUAS platoon in an area at the Yakima Training Center (YTC).

The WA ARNG has prepared the Drafts Environmental Assessment (EA) and Finding of No Significant Impact (FNSI) in accordance with the National Environmental Policy Act (NEPA). In November 2011 and January 2012, we requested your agency to review these documents. You sent us a formal response on January 5, 2012. The WA ARNG responded to your letter on April 23, 2012. To date, we have not received any additional formal response from your agency after our phone conversation on May 23, 2012.

At present, we are conducting a public review on these Drafts EA and FNSI and therefore, we are sending your agency the Notice of Availability and a CD copy of these documents. If you have any additional comments or suggestions about these documents or the project, please do not hesitate to send us your written comment. If we do not receive any response by August 15, 2012, we will proceed with the proposed action.

Point of contact for this project is the undersigned, Tel. (253) 512-8704, Fax (253) 512-8904, or e-mail at Rowena.valencia-gica@mil.wa.gov.

Sincerely,


Rowena Valencia-Gica, Ph.D.
Environmental Specialist

cc: Colin Leingang, Wildlife Program Manager, YTC Environment and Natural Resource Division

f. Response Letter from WDFW, January 4, 2012



State of Washington
Department of Fish and Wildlife
South Central Region – Yakima Regional Office, 1701 So. 24th Avenue, Yakima, WA 98902
Phone: (509) 575-2470, Fax (509) 575-2474

January 4, 2011

State of Washington
Military Department
Attn: Rowena Valencia-Gica, Ph.D.
Environmental Programs
Bldg. 36 Quartermaster Rd. Mail Stop TA-20
Camp Murray WA 98430

This letter is submitted in response to your request for review of the Draft Environmental Assessment and Finding of No Significant Impact associated with the Tactical Unmanned Aircraft System (TUAS) project proposal at the Yakima Training Center.

As previously mentioned in e-mail, we are concerned that the project will result in adverse impacts to priority shrub-steppe habitat, as well as Sage Grouse. Sage Grouse use the area near the project proposal, fly back and forth through the area, and a lek is known to exist nearby. Cumulative loss of functional shrub-steppe throughout Washington and on the Yakima Training Center is a concern. Significant shrub-steppe has recently been lost to conversion and fire, and the Yakima Training Center supports one of the two remaining Sage Grouse populations in the state. Due to continued reduction in population health and cumulative habitat loss, we also expect Sage Grouse to be listed under ESA protection within the next year.

There are both direct and indirect adverse impacts expected to occur to Sage Grouse beyond the direct project footprint that do not appear to be adequately addressed in the Draft Environmental Assessment or proposed mitigation plan. Thus, while the 3:1 mitigation ratio proposed appears adequate to address impacts within the direct footprint of the new hanger facility, other impacts are not identified or adequately mitigated.

Noise and activity

Irregular, high-decibel noise intervals from takeoffs and landings can adversely affect and displace Sage Grouse and other wildlife. The Draft Environmental Assessment stated that, “*No disturbance is anticipated by the flight of aerial vehicles given the elevations utilized with the exception of take-offs and landings*”, (3.2.1.2 Operation). While we concur that high elevation flight >3000 feet are unlikely to be significant, it appears that there will be a substantial increase in the frequency of take offs and landings at the airstrip, increased activity at the airstrip, as well as a significant increase in noise.

State of Washington Military Department
Attn: Rowena Valencia-Gica, Ph.D.
January 4, 2012
Page 2

The Draft Environmental Assessment indicates that on a daily basis, six personnel will be working at the hanger facility full time, performing administrative and maintenance activities. Thus, presumably 6 additional vehicles will be driven to and from the airstrip facility, some perhaps several times a day.

The Draft Environmental Assessment indicates that the airstrip was used 72 days in 2009, and 146 days in 2008. It is indicated that the WAARNG will use the airstrip an additional 2 weekends per month (24 days/year) and one 3 week (21 days/year) training event per year, for a total increase of 45 days per year. This is more than a 60 percent increase in airstrip use over 2009. We do not concur that a 60 percent increase in airstrip use, with variable high decibel noise from takeoffs and landings, and increased activity, can be dismissed as inconsequential to Sage Grouse. The decibel readings for both the Shadow and Raven UAV's at take off were not provided in the Draft Environmental Assessment.

Review of the sound decibels produced by the Raven UAV indicate that despite its small size, it produces the same sound decibels as a C-130 or UH-60 aircraft, and is considered harmful to human hearing at 315 feet, where it produces 85 decibels. It produces 105 decibels at takeoff and 70 decibels at 1600 feet. Although the Draft Environmental Assessment did not provide this information, it is apparent that the combination of increased use and high decibel sound of the UAV's will likely have a measureable impact on Sage Grouse that was not identified or mitigated.

In spite of the recognition that take-offs and landings will likely have an impact, no mitigation was proposed. Thus, additional mitigation is necessary to offset the expected impacts to shrub-steppe habitat and Sage Grouse.

Vegetation Disturbance

The Draft Environmental Assessment identified that construction will include a hangar/aircraft storage building, two parking lots, a new aircraft apron, utility connection, and possible access road improvements. It was not stated whether all of these areas were included in the site disturbance calculation. In addition, it is indicated that WAARNG will run the utilities (communication lines, electricity, and gas) underground alongside Badger Pocket Road from Range Control, building 1805, to the facility site at Selah Airstrip, a total of 4.8 miles. An additional 4.8 miles of trenching will disturb a considerable area. The total disturbed area calculation must include excavation, spoil side-cast discharge, and backfilling of the trench as these activities will totally denude the utility corridor. Site restoration for the trench with native shrub-steppe was not indicated. Generally, trench excavation involves a minimum of a 12' vegetation and soil disturbance footprint. Thus, a 4.8 mile trench would disturb approximately 7 additional acres of shrub-steppe and soil, which would increase mitigation liability by 21 acres. Other utility line corridors were alluded to as well but it could not be determined if this was included within the 4.8 mile corridor.

State of Washington Military Department
Attn: Rowena Valencia-Gica, Ph.D.
January 4, 2012
Page 3

The Draft Environmental Assessment estimates that the amount of hardstand necessary will depend upon the site's final location and orientation to the airstrip, and that approximately 7,800 square yards of new hardstand will be constructed. It is not indicated if the 7800 yards (1.61 acres) was included in the expected disturbance footprint, or where this hardstand will be located.

In addition, it is not indicated if the drain field and stormwater treatment facility locations were included in the total disturbed area calculation. These areas should also be included in the disturbed area calculation.

It is noted that 6 high mobility multipurpose wheeled vehicles will also be used in association with the UAV's, but their manner of use and associated impact was not discussed in the Draft Environmental Assessment. We are concerned that crashes of the UAV's could result in fire, as hot exhausts of downed aircraft could contact dry cheat grass that is ubiquitous throughout the Yakima Training Center. While the UAV's have a low incidence of crashes or resulting fire, dry cheat grass is considerably more flammable and easily ignited compared to any other vegetation types. A fire management plan should be initiated with any crash between May 1 and October 31st.

Mitigation

We generally concur with the Draft Environmental Assessment that "showed that there would be significant but mitigable impacts to the biological resources, particularly the big sagebrush/bluebunch wheatgrass vegetation community and greater sage grouse". However, we do not concur that the mitigation for the N. Selah alternative, which includes restoration of approximately 24 acres of big sagebrush/bluebunch wheatgrass vegetation communities in areas previously disturbed, is sufficient.

We further concur with the findings of the Draft Environmental Assessment that, "*Disturbance reduces native plant species cover and diversity, changes species composition and structure, and increases the likelihood of invasion by non-native species (Rickard et al., 1988). Native bunchgrasses and native forbs are particularly vulnerable to disturbances and have decreased dramatically in most portions of the shrub-steppe in Washington*".

It appears that the adverse impacts associated with trenching utility lines over 4.8 miles (7 acres), increased vehicular activity, a 60 % increase in airstrip utilization, the associated noise impact on Sage Grouse, and additional 7,800 square yards of hardstand and stormwater facilities, were not adequately identified or mitigated.

Due to the above findings, it is our recommendation that appropriate mitigation for shrub-steppe and Sage Grouse impacts include restoration of approximately 48 acres of big

State of Washington Military Department
Attn: Rowena Valencia-Gica, Ph.D.
January 4, 2012
Page 4

sagebrush/bluebunch wheatgrass vegetation communities within areas previously disturbed on the Yakima Training Center. We also recommend that seasonal restrictions or reductions in airstrip use be implemented in the event that active leks are found within one mile of the airstrip.

We also recommend the use of proven restoration techniques, such as those found within shrub-steppe restoration guidelines recently developed by WDFW. Site preparation, seed sources, seeding and planting, and exotic weed control, are all necessary and critical elements of an effective shrub-steppe restoration proposal, as shrub-steppe restoration can often be extremely challenging and quality control is necessary to ensure success. We also recommend that one of our biologists be involved in a Technical Advisory Committee to identify a suitable restoration site, as well as providing input on the monitoring and implementation elements of the shrub-steppe restoration plan.

Thank you for the opportunity to comment on your project proposal.

Sincerely,



Perry Harvester
Regional Habitat Program Manager

Cc: Mark Teske, WDFW
Mike Livingston, WDFW

g. WAARNG's Response Letter and Follow-up E-mail to WDFW, April 20, 2011



STATE OF WASHINGTON
MILITARY DEPARTMENT
Camp Murray • Tacoma, Washington 98430-5000

April 20, 2012

Mr. Perry Harvester
Habitat Program Manager
Washington Department of Fish and Wildlife
1701 South 24th Avenue
Yakima, WA 98902-5720

Re: Review of Draft Environmental Assessment and Finding of No Significant Impact for TUAS
Project at YTC

Dear Mr. Harvester:

Thank you very much for your letter we received on January 9, 2012, regarding your comments on the Draft Environmental Assessment (EA) and Finding of No Significant Impact (FNSI) prepared by the Washington Army National Guard (WA ARNG) for a Tactical Unmanned Aircraft System (TUAS) project proposal at the US Army's Yakima Training Center (YTC). This letter is intended to clarify issues that you discussed in your letter.

The WA ARNG supports managing candidate species such as sage grouse to avoid adverse impacts to the species and its habitat. In the second paragraph of your letter, you mentioned that "a lek is known to exist nearby." We would like to clarify that the Range 15 lek has been inactive since 2005 with the exception of one male observed in 2008. The lek was discovered in 2002 and was active in both 2003 and 2004. High counts of male sage grouse for the three years it was active (2002-2004) were 5, 7, and 2, respectively. Sage grouse are managed at YTC per the US Army's 1998 Western Sage Grouse Management Plan (1 October 1998 to 30 September 2003). That plan identifies Sage Grouse Protection Areas on YTC. This particular lek is not within the current sage grouse protection area which includes all known active leks on the installation. Further, the Joint Base Lewis McChord's Grow the Army Environmental Impact Statement (JBLM's GTA EIS) mitigation mentions that this particular lek is one that is to be managed to the land zone designation it is contained in (i.e., Zone 3 – General Use) given its inactivity.

UAV Noise and Activity

The Final Programmatic EA for Army National Guard Transformation Equipment Fielding (2008) provided information on decibel readings for Shadow and Raven unmanned aerial vehicles (UAVs) in comparison with other common noise sources. Shadow UAV has a 38-horsepower rotary type combustion engine operating on Mobile (motor) vehicle gasoline and generates a noise level similar to a lawnmower and is much less audible than helicopters (2008 Supplemental Draft EIS for Military Training Activities at Makua Military Reservation, Hawaii). Typically, UAV operations would be conducted at 8,000 feet above ground level (AGL) during daytime training and 6,000 feet AGL for nighttime training (2008 Final PEA for Army National Guard Transformation Equipment Fielding). Once the UAV reaches approximately 3,000 feet AGL, the Shadow would no longer be heard on the ground. The Shadow climbs at a rate of 1,200 feet per minute - at less than three minutes after takeoff, the noise would not be heard on the ground. UAV training operations will remain in the restricted use airspace within YTC's borders. No residences,

Response to Comment Letter
April 20, 2012
Page 2 of 3

communities, or sensitive noise receptors would experience any notable change to the overall noise environment because of the airspace restrictions and the limited levels of noise.

As stated earlier, there is no active lek on Range 15 that may be affected by the TUAS noise during take-off and landing. Even when active, its contribution to overall population was minimal and its habitat is present but likely reduced in effectiveness by the current level of use of the airfield facility and what Range 15, Zone 3 Land-Use Designation allows for its use.

Although there would be an increase in the frequency of the airfield use compared to the 2008-2011 period, there is no restriction on the frequency of airfield use. Under the no-action alternative, any level of use/training requested at the airfield would be supported. Similarly, current use of the airfield and Range 15 proper allows unrestricted level of vehicle use on the existing roads. Further, the YTC's 2008 EA entitled Digital Multipurpose Range Complex (DMPRC) disclosed that the existing YTC airfield facility and Range 15 would be used to accommodate the displaced training normally occurring at the DMPRC during the time of construction for that project. In addition to supporting on-going TUAS operations conducted by active Army units, the airstrip also serves as a forward arming and refueling point (FARP) for helicopters operating on the installation.

As such, the WA ARNG's proposed mitigation ratio of 3:1 (24 acres) is deemed sufficient to mitigate for the noise and UAV activity impacts.

Vegetation Disturbance

The WA ARNG's Draft EA presented the proposed layout of and area of potential effect for the construction of the TUAS facility at YTC, but did not include the proposed utility corridor. The WA ARNG cannot yet determine the exact areas of disturbance due to a lack of project design which would become available when a fully funded project is in place. At that time, WA ARNG will provide more detailed maps and plans to correctly estimate the areas of disturbance and will mitigate for impacts in accordance with the Army's YTC's Sage Grouse Management Plan under revision. At present, it is known that within the 189 acres at the airstrip, about 8 acres would be used for TUAS facility construction.

The WA ARNG also understands WDFW's concern over potential for fire from crashed UAVs. Currently, the US Army applies a YTC Wildland Fire Management Plan that assesses the risk of fire by all training to include UAVs and minimizes risk through application of various fire management practices (timing restrictions, pre-stationing fire suppression assets), and has a dedicated fire suppression response capability. The WA ARNG will follow the installation's Wildland Fire Management Plan as it would apply to the use of the TUAS facility and associated training.

Mitigation

The sage grouse is a federal candidate species and does not require ESA Section 7 consultation. Nonetheless, the USFWS was consulted by WA ARNG twice (2010 and 2011) and has no objection to the proposed action or associated mitigation measures. The WA ARNG also conferred with USFWS regarding mitigation of potential impacts related to the proposed TUAS facility and operation on sage grouse habitat. Although the Endangered Species Act does not require WA ARNG to mitigate for impacts on a candidate species and/or its habitat, WA ARNG agreed with US Army's and USFWS's recommendations to provide for mitigation. The US Army has approved of the WA ARNG's sage grouse mitigation measures and considers them consistent with the Army's YTC's Western Sage Grouse Management Plan.

Response to Comment Letter
April 20, 2012
Page 3 of 3

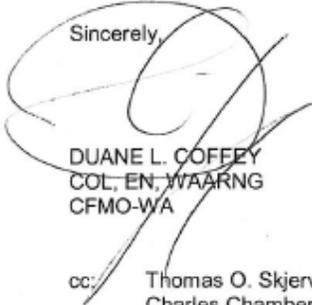
The WA ARNG cannot concur with WDFW's suggestion to increase the mitigation ratio than what has been suggested by the USFWS and has been practiced by U.S. Army in accordance with its YTC's Western Sage Grouse Management Plan. The WA ARNG would mitigate for impacts at the utility corridor at a 1:1 restoration ratio and at a 3:1 ratio for any additional new ground disturbing activities associated with the construction of the facility at the airfield. The WA ARNG will also utilize Best Management Practices (BMPs) during construction to minimize erosion, putting the disturbed area back to original grade, seeding with native grass/forb seed mix, and treating for noxious weeds. For areas covered by the 1:1 restoration, shrubs would be provided by natural regeneration from existing nearby seed sources. Shrubs would be purchased for areas included in the 3:1 restoration pertaining to construction impacts in existing shrub-steppe/suitable sage grouse habitat.

Because WA ARNG training activities would be conducted at the designated YTC restricted use airspace, WA ARNG does not concur with the seasonal timing restriction within one mile of the inactive lek as discussed above. As previously identified in JBLM's GTA EIS Record of Decision mitigation, YTC will develop a process for protecting active leks that are located outside the recently expanded Sage Grouse Protection Area which may include seasonal spatial/temporal restrictions to land-use. At this time, however, the area containing the proposed action is designated by US Army as Land-Use Zone 3 – General Use without any restrictions.

With regard to the reference to using proven restoration techniques as found in the WDFW's Shrub-Steppe and Grassland Restoration Manual For the Columbia River Basin (2011), all proposed restoration mitigation would be funded by WA ARNG but implemented and monitored by YTC's Environmental Division staff whose restoration techniques are consistent with the guidelines mentioned above. Further, YTC's Environmental Division staff have demonstrated expertise to implement and monitor such restoration efforts. While we appreciate WDFW's offer to act in a Technical Advisory Committee role, WAARNG and YTC determined that forming such a committee is not necessary and the offer is therefore declined.

Again, WA ARNG greatly appreciates your review of the Drafts TUAS EA/FNSI. We noted your comments and will incorporate those in the Revised Drafts EA/FNSI.

Sincerely,



DUANE L. COFFEY
COL, EN, WAARNG
CFMO-WA

cc: Thomas O. Skjervold, Environmental Programs Manager, WA ARNG/WMD
Charles Chamberlain, Natural Resources Program Manager, ARNG-ILE
Margaret Pounds, Environmental Programs Manager, US Army YTC

h. Consultation Letter Sent to City of Selah, WA, November 7, 2011



STATE OF WASHINGTON
MILITARY DEPARTMENT
Camp Murray • Tacoma, Washington 98430-5000

November 9, 2011

Mr. Dennis Davison
City of Selah
Planning Department
115 W. Naches Ave.
Selah, WA 98942

Re: Review of Drafts Environmental Assessment and Finding of No Significant Impact of TUAS Project at YTC

Dear Mr. Davison,

This letter is to request for your review and comments on the Drafts Environmental Assessment (EA) and Finding of No Significant Impact (FNSI) of Tactical Unmanned Aircraft System (TUAS) Project at the Yakima Training Center (YTC) located in Yakima, WA.

The Washington Army National Guard (WAARNG), under the State of Washington Military Department (WMD), prepared an Environmental Assessment (EA) to identify and evaluate potential significant environmental effects associated with the Proposed Action—construction and operation of a WAARNG TUAS facility and training of WAARNG TUAS platoon at YTC. YTC is located in south central Washington, northeast of the city of Yakima, situated directly between Interstate 82 (I-82) on the west and the Columbia River to the east.

The WAARNG proposes to enter into a 25-year real property agreement with the Department of the Army via the U.S. Army Corps of Engineers-Seattle District, for use of an area of land at YTC to construct the TUAS facility where a TUAS platoon will train (Figs. 1 and 2). This facility would be intended solely for WAARNG's 81st Heavy Brigade Combat Team/Brigade Special Troops Battalion (HBCT/BSTB) and TUAS Platoon, and act as their primary duty station to support all collective and individual training requirements along with all administrative requirements. Construction will include a hangar, two parking lots, a new aircraft apron, utility connection, and possible access road improvements. Training will include launch and recovery and in-flight maneuvering focused on surveillance and reconnaissance missions during the day and night.

Two alternative sites for the construction, operation and maintenance of the TUAS were evaluated in this Environmental Assessment: North Selah Airstrip and South Selah Airstrip.

Alternative A: North Selah Airstrip. No impacts are expected while the AV is in flight as it should not be visible or audible when it is at normal operational altitude. Environmental impacts analysis showed that there would be significant impacts to the biological resources, particularly the vegetation community which serves as the habitat for greater sage-grouse. These impacts to the identified resource areas will become negligible to minor when mitigation is integrated into the project for a specific vegetation community and the greater sage grouse. The North Selah site fulfills the needs of the platoon while at the same time has low interference with existing training conducted at YTC. This site supports the mission of

Request for Review of Drafts EA and FNSI for TUAS at YTC
Page 2
November 9, 2011

the platoon by giving them enough space to conduct their training effectively and allows for possible future development as well.

Alternative B: South Selah Airstrip. Operational impacts under this alternative are identical to those of Alternative A above. South Selah site fulfills the needs of the platoon and has sufficient RUA for the platoon to work with; however, use of this site would encroach on the current use of Range 15 (R15) to the south of the airstrip. This limitation would be resolved by units' scheduling of the use of either training asset (RUA and R15) in advance through Range Control who manages the use of all training areas and ranges. The South Selah site is supportive of the training mission and represents the alternative with the shortest distance to run utilities (3.0 miles).

Regarding impacts on cultural resources, no impact is expected from the project as there are no cultural or historical sites on or near the proposed N. Selah and S. Selah construction sites. Both sites were previously surveyed by YTC's Cultural and Historic Resources Program personnel and were not found to contain any culturally or historically significant sites on or near the project area.

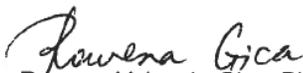
Enclosed is a CD copy of the drafts EA and FNSI. Copies of these documents will also be made available at the following locations:

- Environmental Programs, Bldg. 36 Quartermaster Rd., Camp Murray, WA 98430
- Environment and Natural Resource Division, Yakima Training Center, Department of Public Works Bldg. 810, Yakima WA 98901
- Yakima Valley Regional Library, 102 North 3rd Street, Yakima, WA 98901
- Kittitas Public Library, 200 N Pierce St, Kittitas, WA 98934

The electronic pre-final documents will also be made available online at <http://mil.wa.gov/Environmental/Army.shtml>.

We look forward to your participation in the review of the abovementioned documents. To ensure that your concerns are considered and that our plan maximizes public input and coordination, your prompt attention is appreciated. Should you have any questions regarding this project, please do not hesitate to contact the undersigned at (253) 512-8704 e-mail at Rowena.valencia-gica@mil.wa.gov.

Sincerely,



Rowena Valencia-Gica, Ph.D.
Natural and Cultural Resources Program Manager

cc: Randy Korgel, Cultural Resources Program Manager, YTC
Colin Leingang, Wildlife Program Manager, YTC

i. E-mail Response from City of Selah, November 15, 2011

From: Valencia-Gica, Rowena B (MIL)
Sent: Tuesday, November 15, 2011 3:50 PM
To: 'Dennis Davison'
Cc: Sweet, Frank
Subject: RE: WAARNG EA and FNSI

Dear Mr. Davison,

Thank you very much for reviewing our project and letting us know that you don't have comments on our EA and FNSI.

Sincerely,

Rowena Gica
Rowena Valencia-Gica, Ph.D.
Environmental Programs
Bldg. 36 Quartermaster Rd.
Camp Murray WA 98430
Tel. (253) 512-8704
Fax: (253) 512-8904
Mail Stop TA-20

From: Dennis Davison [mailto:ddavison@ellitel.net]
Sent: Tuesday, November 15, 2011 3:40 PM
To: Valencia-Gica, Rowena B (MIL)
Cc: Sweet, Frank
Subject: WAARNG EA and FNSI

Thank-you for the opportunity to review and comment on the draft EA and FNSI for the proposed Tactical Unmanned Aircraft System proposed for location at Yakima Training Center.

The City of Selah embraces the proposal and has no comment.

j. Consultation Letter Sent to YRCAA, November 7, 2011



STATE OF WASHINGTON
MILITARY DEPARTMENT
Camp Murray • Tacoma, Washington 98430-5000

November 9, 2011

Mr. Gary Pruitt
Executive Director
Yakima Regional Clean Air Agency
329 North First Street
Yakima, WA 98901-2303

Re: Review of Drafts Environmental Assessment and Finding of No Significant Impact of TUAS Project at YTC

Dear Mr. Pruitt,

This letter is to request for your review and comments on the Drafts Environmental Assessment (EA) and Finding of No Significant Impact (FNSI) of Tactical Unmanned Aircraft System (TUAS) Project at the Yakima Training Center (YTC) located in Yakima, WA.

The Washington Army National Guard (WAARNG), under the State of Washington Military Department (WMD), prepared an Environmental Assessment (EA) to identify and evaluate potential significant environmental effects associated with the Proposed Action—construction and operation of a WAARNG TUAS facility and training of WAARNG TUAS platoon at YTC. YTC is located in south central Washington, northeast of the city of Yakima, situated directly between Interstate 82 (I-82) on the west and the Columbia River to the east.

The WAARNG proposes to enter into a 25-year real property agreement with the Department of the Army via the U.S. Army Corps of Engineers-Seattle District, for use of an area of land at YTC to construct the TUAS facility where a TUAS platoon will train (Figs. 1 and 2). This facility would be intended solely for WAARNG's 81st Heavy Brigade Combat Team/Brigade Special Troops Battalion (HBCT/BSTB) and TUAS Platoon, and act as their primary duty station to support all collective and individual training requirements along with all administrative requirements. Construction will include a hangar, two parking lots, a new aircraft apron, utility connection, and possible access road improvements. Training will include launch and recovery and in-flight maneuvering focused on surveillance and reconnaissance missions during the day and night.

Two alternative sites for the construction, operation and maintenance of the TUAS were evaluated in this Environmental Assessment: North Selah Airstrip and South Selah Airstrip.

Alternative A: North Selah Airstrip. No impacts are expected while the AV is in flight as it should not be visible or audible when it is at normal operational altitude. Environmental impacts analysis showed that there would be significant impacts to the biological resources, particularly the vegetation community which serves as the habitat for greater sage-grouse. These impacts to the identified resource areas will become negligible to minor when mitigation is integrated into the project for a specific vegetation community and the greater sage grouse. The North Selah site fulfills the needs of the platoon while at the same time has low interference with existing training conducted at YTC. This site supports the mission of

Request for Review of Drafts EA and FNSI for TUAS at YTC

Page 2

November 9, 2011

the platoon by giving them enough space to conduct their training effectively and allows for possible future development as well.

Alternative B: South Selah Airstrip. Operational impacts under this alternative are identical to those of Alternative A above. South Selah site fulfills the needs of the platoon and has sufficient RUA for the platoon to work with; however, use of this site would encroach on the current use of Range 15 (R15) to the south of the airstrip. This limitation would be resolved by units' scheduling of the use of either training asset (RUA and R15) in advance through Range Control who manages the use of all training areas and ranges. The South Selah site is supportive of the training mission and represents the alternative with the shortest distance to run utilities (3.0 miles).

Regarding impacts on cultural resources, no impact is expected from the project as there are no cultural or historical sites on or near the proposed N. Selah and S. Selah construction sites. Both sites were previously surveyed by YTC's Cultural and Historic Resources Program personnel and were not found to contain any culturally or historically significant sites on or near the project area.

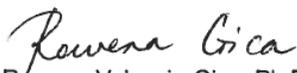
Enclosed is a CD copy of the drafts EA and FNSI. Copies of these documents will also be made available at the following locations:

- Environmental Programs, Bldg. 36 Quartermaster Rd., Camp Murray, WA 98430
- Environment and Natural Resource Division, Yakima Training Center, Department of Public Works Bldg. 810, Yakima WA 98901
- Yakima Valley Regional Library, 102 North 3rd Street, Yakima, WA 98901
- Kittitas Public Library, 200 N Pierce St, Kittitas, WA 98934

The electronic pre-final documents will also be made available online at <http://mil.wa.gov/Environmental/Army.shtml>.

We look forward to your participation in the review of the abovementioned documents. To ensure that your concerns are considered and that our plan maximizes public input and coordination, your prompt attention is appreciated. Should you have any questions regarding this project, please do not hesitate to contact the undersigned at (253) 512-8704 e-mail at Rowena.valencia-gica@mil.wa.gov.

Sincerely,



Rowena Valencia-Gica, Ph.D.
Natural and Cultural Resources Program Manager

cc: Randy Korgel, Cultural Resources Program Manager, YTC
Colin Leingang, Wildlife Program Manager, YTC

k. E-mail and Formal Responses from YRCAA, January 10, 2012 and August 15, 2012

From: Hasan Tahat [hasan@yrcaa.org]
Sent: Tuesday, January 10, 2012 3:20 PM
To: Valencia-Gica, Rowena B (MIL)
Subject: RE: Request for Review of WAARNG's EA/FNSI for TUAS Project at YTC

Dear Dr. Valencia-Gica:

Just for your information, the master dust control plan a one-time fee cost is \$319 and a site notification of \$149. If the contractor is local, most of the time they have one master plan with us at our office. All they need is a site notification \$149. I thought to let you know in case you need to know

the cost for the bidding purposes. Thank you for your prompt reply.

Best regards,

Hasan Tahat, Ph.D.
Engineering and Planning Division Supervisor
Yakima Regional Clean Air Agency
Tel: (509) 834-2050 ext. 105
Fax: (509) 834-2060
E-mail: hasan@yrcaa.org

From: Valencia-Gica, Rowena B (MIL) [mailto:Rowena.Valencia-Gica@mil.wa.gov]
Sent: Tuesday, January 10, 2012 1:40 PM
To: Hasan Tahat
Cc: Gary Pruitt; Tandy Jarvis
Subject: RE: Request for Review of WAARNG's EA/FNSI for TUAS Project at YTC

Hi Dr. Tahat,

Thank you very much for your reply. We will incorporate your suggestion about having a dust control plan in the contract bidding documents.

Sincerely,

Rowena Gica
Rowena Valencia-Gica, Ph.D.

From: Hasan Tahat [mailto:hasan@yrcaa.org]
Sent: Tuesday, January 10, 2012 1:36 PM
To: Valencia-Gica, Rowena B (MIL)
Cc: Gary Pruitt; Tandy Jarvis
Subject: RE: Request for Review of WAARNG's EA/FNSI for TUAS Project at YTC

Dear Ms. Valencia-Gica:

If you have not received any comment from us, most likely we did not have one. Otherwise, our comment would be a dust control plan should be submitted by the contractor prior to doing any work for the two new airstrips. I do apologize for any delay or any inconvenience. Please let me know if I can be of any further assistance. Thank you.

Best regards,

Hasan Tahat, Ph.D.



329 North First Street, Yakima WA 98901
Phone: (509) 834-2050 Fax: (509) 834-2060
Website: <http://www.yakimacleanair.org>

August 15, 2012

Rowena Valencia-Gica, Ph.D.
Environmental Programs
Washington Military Department,
Bldg. 36 Quartermaster Road
Camp Murray, WA 98430

RECEIVED

AUG 20 2012

Project Manager _____
Budget Approval _____
Authorized to Pay _____

RE: Draft Environmental Assessment for the Construction and Operation of Tactical Unmanned Aerial Systems (TUAS) and Training of a TUTAS Platoon at Yakima Training Center

Dear Dr. Valencia-Gica:

Thank you for providing the Yakima Regional Clean Air Agency (YRCAA) the opportunity to review and comment on the proposal to construct and operate a TUAS facility and train TUAS platoon at Yakima Training Center (YTC, located in Yakima County).

Following review YRCAA has the following comment(s):

1. Contractors doing demolition, excavation, clearing, construction, or landscaping work must file a Dust Control Plan with YRCAA and get approval, prior to the start of any work; and
2. A New Source Review (NSR) may be required for this project. The proponent must contact YRCAA for further information.

Thank you for the opportunity to connect with the county's continued support in protecting the air quality in Yakima County.

Best regards,

A handwritten signature in blue ink, appearing to read "Hasan M Tahat".

Hasan M Tahat, Ph.D.
Engineering and Planning Division Supervisor

Cc: Proponent and File

I. Consultation Letter Sent to DNR's Natural Heritage Program, November 7, 2011



STATE OF WASHINGTON
MILITARY DEPARTMENT
Camp Murray • Tacoma, Washington 98430-5000

November 9, 2011

Mr. John Gamon
Program Manager
Department of Natural Resources
Natural Heritage Program
P.O. Box 47014
Olympia, WA 98504-7014

Re: Review of Drafts Environmental Assessment and Finding of No Significant Impact of TUAS Project at YTC

Dear Mr. Gamon,

This letter is to request for your review and comments on the Drafts Environmental Assessment (EA) and Finding of No Significant Impact (FNSI) of Tactical Unmanned Aircraft System (TUAS) Project at the Yakima Training Center (YTC) located in Yakima, WA.

The Washington Army National Guard (WAARNG), under the State of Washington Military Department (WMD), prepared an Environmental Assessment (EA) to identify and evaluate potential significant environmental effects associated with the Proposed Action—construction and operation of a WAARNG TUAS facility and training of WAARNG TUAS platoon at YTC. YTC is located in south central Washington, northeast of the city of Yakima, situated directly between Interstate 82 (I-82) on the west and the Columbia River to the east.

The WAARNG proposes to enter into a 25-year real property agreement with the Department of the Army via the U.S. Army Corps of Engineers-Seattle District, for use of an area of land at YTC to construct the TUAS facility where a TUAS platoon will train (Figs. 1 and 2). This facility would be intended solely for WAARNG's 81st Heavy Brigade Combat Team/Brigade Special Troops Battalion (HBCT/BSTB) and TUAS Platoon, and act as their primary duty station to support all collective and individual training requirements along with all administrative requirements. Construction will include a hangar, two parking lots, a new aircraft apron, utility connection, and possible access road improvements. Training will include launch and recovery and in-flight maneuvering focused on surveillance and reconnaissance missions during the day and night.

Two alternative sites for the construction, operation and maintenance of the TUAS were evaluated in this Environmental Assessment: North Selah Airstrip and South Selah Airstrip.

Alternative A: North Selah Airstrip. No impacts are expected while the AV is in flight as it should not be visible or audible when it is at normal operational altitude. Environmental impacts analysis showed that there would be significant impacts to the biological resources, particularly the vegetation community which serves as the habitat for greater sage-grouse. These impacts to the identified resource areas will become negligible to minor when mitigation is integrated into the project for a specific vegetation community and the greater sage grouse. The North Selah site fulfills the needs of the platoon while at the

Request for Review of Drafts EA and FNSI for TUAS at YTC
Page 2
November 9, 2011

same time has low interference with existing training conducted at YTC. This site supports the mission of the platoon by giving them enough space to conduct their training effectively and allows for possible future development as well.

Alternative B: South Selah Airstrip. Operational impacts under this alternative are identical to those of Alternative A above. South Selah site fulfills the needs of the platoon and has sufficient RUA for the platoon to work with; however, use of this site would encroach on the current use of Range 15 (R15) to the south of the airstrip. This limitation would be resolved by units' scheduling of the use of either training asset (RUA and R15) in advance through Range Control who manages the use of all training areas and ranges. The South Selah site is supportive of the training mission and represents the alternative with the shortest distance to run utilities (3.0 miles).

Regarding impacts on cultural resources, no impact is expected from the project as there are no cultural or historical sites on or near the proposed N. Selah and S. Selah construction sites. Both sites were previously surveyed by YTC's Cultural and Historic Resources Program personnel and were not found to contain any culturally or historically significant sites on or near the project area.

Enclosed is a CD copy of the drafts EA and FNSI. Copies of these documents will also be made available at the following locations:

- Environmental Programs, Bldg. 36 Quartermaster Rd., Camp Murray, WA 98430
- Environment and Natural Resource Division, Yakima Training Center, Department of Public Works Bldg. 810, Yakima WA 98901
- Yakima Valley Regional Library, 102 North 3rd Street, Yakima, WA 98901
- Kittitas Public Library, 200 N Pierce St, Kittitas, WA 98934

The electronic pre-final documents will also be made available online at <http://mil.wa.gov/Environmental/Army.shtml>.

We look forward to your participation in the review of the abovementioned documents. To ensure that your concerns are considered and that our plan maximizes public input and coordination, your prompt attention is appreciated. Should you have any questions regarding this project, please do not hesitate to contact the undersigned at (253) 512-8704 e-mail at Rowena.valencia-gica@mil.wa.gov.

Sincerely,



Rowena Valencia-Gica, Ph.D.
Natural and Cultural Resources Program Manager

cc: Randy Korgel, Cultural Resources Program Manager, YTC
Colin Leingang, Wildlife Program Manager, YTC

m. E-mail Response from DNR's Natural Heritage Program, January 13, 2012

 RE: Request for Review of WAARNG's EA/FNSI for TUAS Project at YTC

From GAMON, JOHN (DNR) Date Friday, January 13, 2012 1:38:19 PM
To Valencia-Gica, Rowena B (MIL)
Cc
Subject RE: Request for Review of WAARNG's EA/FNSI for TUAS Project at YTC

Ms. Valencia-Gica: I have reviewed the project referenced in the above subject line for potential impacts to resources of concern to the Washington Natural Heritage Program, namely rare plant species and high quality plant communities. The immediate area where construction of new facilities is being contemplated does not appear to contain any features of interest to us.

The only potential concern that I've identified is that of any additional road work and/or installing additional utility lines along roadways to service the facility. I was not able to confidently identify the roads that might be involved, and therefore I wasn't able to review those locations against our database of known rare plant and high quality plant community occurrences. If you could provide us with more specific information regarding the route of utility lines, I'd be glad to quickly review that information against our database. If the specific information is presented in the documents that you previously sent, perhaps you could let me know where to look.

Thank you for the opportunity to review your project.

Sincerely,

John Gamon
Natural Heritage Program Manager
Forest Resources and Conservation Division
Washington State Department of Natural Resources (DNR)
(360) 902-1661
john.gamon@dnr.wa.gov
www.dnr.wa.gov

n. Consultation Letter Sent to Grant County, November 7, 2011



STATE OF WASHINGTON
MILITARY DEPARTMENT
Camp Murray • Tacoma, Washington 98430-5000

November 9, 2011

Ms. Julie Pyper
Compliance Manager
Grant County PUD
30 C St SW
P.O. Box 878
Ephrata, WA 98823

Re: Review of Drafts Environmental Assessment and Finding of No Significant Impact of TUAS Project at YTC

Dear Ms. Pyper,

This letter is to request for your review and comments on the Drafts Environmental Assessment (EA) and Finding of No Significant Impact (FNSI) of Tactical Unmanned Aircraft System (TUAS) Project at the Yakima Training Center (YTC) located in Yakima, WA.

The Washington Army National Guard (WAARNG), under the State of Washington Military Department (WMD), prepared an Environmental Assessment (EA) to identify and evaluate potential significant environmental effects associated with the Proposed Action—construction and operation of a WAARNG TUAS facility and training of WAARNG TUAS platoon at YTC. YTC is located in south central Washington, northeast of the city of Yakima, situated directly between Interstate 82 (I-82) on the west and the Columbia River to the east.

The WAARNG proposes to enter into a 25-year real property agreement with the Department of the Army via the U.S. Army Corps of Engineers-Seattle District, for use of an area of land at YTC to construct the TUAS facility where a TUAS platoon will train (Figs. 1 and 2). This facility would be intended solely for WAARNG's 81st Heavy Brigade Combat Team/Brigade Special Troops Battalion (HBCT/BSTB) and TUAS Platoon, and act as their primary duty station to support all collective and individual training requirements along with all administrative requirements. Construction will include a hangar, two parking lots, a new aircraft apron, utility connection, and possible access road improvements. Training will include launch and recovery and in-flight maneuvering focused on surveillance and reconnaissance missions during the day and night.

Two alternative sites for the construction, operation and maintenance of the TUAS were evaluated in this Environmental Assessment: North Selah Airstrip and South Selah Airstrip.

Alternative A: North Selah Airstrip. No impacts are expected while the AV is in flight as it should not be visible or audible when it is at normal operational altitude. Environmental impacts analysis showed that there would be significant impacts to the biological resources, particularly the vegetation community which serves as the habitat for greater sage-grouse. These impacts to the identified resource areas will become negligible to minor when mitigation is integrated into the project for a specific vegetation community and the greater sage grouse. The North Selah site fulfills the needs of the platoon while at the

Request for Review of Drafts EA and FNSI for TUAS at YTC

Page 2

November 9, 2011

same time has low interference with existing training conducted at YTC. This site supports the mission of the platoon by giving them enough space to conduct their training effectively and allows for possible future development as well.

Alternative B: South Selah Airstrip. Operational impacts under this alternative are identical to those of Alternative A above. South Selah site fulfills the needs of the platoon and has sufficient RUA for the platoon to work with; however, use of this site would encroach on the current use of Range 15 (R15) to the south of the airstrip. This limitation would be resolved by units' scheduling of the use of either training asset (RUA and R15) in advance through Range Control who manages the use of all training areas and ranges. The South Selah site is supportive of the training mission and represents the alternative with the shortest distance to run utilities (3.0 miles).

Regarding impacts on cultural resources, no impact is expected from the project as there are no cultural or historical sites on or near the proposed N. Selah and S. Selah construction sites. Both sites were previously surveyed by YTC's Cultural and Historic Resources Program personnel and were not found to contain any culturally or historically significant sites on or near the project area.

Enclosed is a CD copy of the drafts EA and FNSI. Copies of these documents will also be made available at the following locations:

- Environmental Programs, Bldg. 36 Quartermaster Rd., Camp Murray, WA 98430
- Environment and Natural Resource Division, Yakima Training Center, Department of Public Works Bldg. 810, Yakima WA 98901
- Yakima Valley Regional Library, 102 North 3rd Street, Yakima, WA 98901
- Kittitas Public Library, 200 N Pierce St, Kittitas, WA 98934

The electronic pre-final documents will also be made available online at <http://mil.wa.gov/Environmental/Army.shtml>.

We look forward to your participation in the review of the abovementioned documents. To ensure that your concerns are considered and that our plan maximizes public input and coordination, your prompt attention is appreciated. Should you have any questions regarding this project, please do not hesitate to contact the undersigned at (253) 512-8704 e-mail at Rowena.valencia-gica@mil.wa.gov.

Sincerely,



Rowena Valencia-Gica, Ph.D.
Natural and Cultural Resources Program Manager

cc: Randy Korgel, Cultural Resources Program Manager, YTC
Colin Leingang, Wildlife Program Manager, YTC

o. E-mail Response from Grant County, January 12, 2012

From: Damien Hooper [<mailto:dhooper@co.grant.wa.us>]
Sent: Thursday, January 12, 2012 10:18 AM
To: Valencia-Gica, Rowena B (MIL)
Subject: RE: Request for Review of WAARNG's EA/FNSI for TUAS Project at YTC

I have no substantive comments on the NEPA document, nor the FONSI, if this email will suffice that is great, otherwise I can send you a formal letter if need be.

Damien Hooper
Planning Manager

Grant County Department of Community Development
Planning Division
PO Box 37
Ephrata, WA 98823

Phone (509) 754-2011 ext. 626
Fax (509) 754-6097

p. Consultation Letter Sent to FAA, November 7, 2011



STATE OF WASHINGTON
MILITARY DEPARTMENT
Camp Murray • Tacoma, Washington 98430-5000

November 9, 2011

Ms. Caroline Poyurs
NEPA Section
Federal Aviation Administration
Northwest Mountain Region
1601 Lind Avenue SW
Renton, WA 98057

Re: Review of Drafts Environmental Assessment and Finding of No Significant Impact of TUAS
Project at YTC

Dear Ms. Poyurs,

This letter is to request for your review and comments on the Drafts Environmental Assessment (EA) and Finding of No Significant Impact (FNSI) of Tactical Unmanned Aircraft System (TUAS) Project at the Yakima Training Center (YTC) located in Yakima, WA.

The Washington Army National Guard (WAARNG), under the State of Washington Military Department (WMD), prepared an Environmental Assessment (EA) to identify and evaluate potential significant environmental effects associated with the Proposed Action—construction and operation of a WAARNG TUAS facility and training of WAARNG TUAS platoon at YTC. YTC is located in south central Washington, northeast of the city of Yakima, situated directly between Interstate 82 (I-82) on the west and the Columbia River to the east.

The WAARNG proposes to enter into a 25-year real property agreement with the Department of the Army via the U.S. Army Corps of Engineers-Seattle District, for use of an area of land at YTC to construct the TUAS facility where a TUAS platoon will train (Figs. 1 and 2). This facility would be intended solely for WAARNG's 81st Heavy Brigade Combat Team/Brigade Special Troops Battalion (HBCT/BSTB) and TUAS Platoon, and act as their primary duty station to support all collective and individual training requirements along with all administrative requirements. Construction will include a hangar, two parking lots, a new aircraft apron, utility connection, and possible access road improvements. Training will include launch and recovery and in-flight maneuvering focused on surveillance and reconnaissance missions during the day and night.

Two alternative sites for the construction, operation and maintenance of the TUAS were evaluated in this Environmental Assessment: North Selah Airstrip and South Selah Airstrip.

Alternative A: North Selah Airstrip. No impacts are expected while the AV is in flight as it should not be visible or audible when it is at normal operational altitude. Environmental impacts analysis showed that there would be significant impacts to the biological resources, particularly the vegetation community which serves as the habitat for greater sage-grouse. These impacts to the identified resource areas will become negligible to minor when mitigation is integrated into the project for a specific vegetation community and the greater sage grouse. The North Selah site fulfills the needs of the platoon while at the

Request for Review of Drafts EA and FNSI for TUAS at YTC
Page 2
November 9, 2011

same time has low interference with existing training conducted at YTC. This site supports the mission of the platoon by giving them enough space to conduct their training effectively and allows for possible future development as well.

Alternative B: South Selah Airstrip. Operational impacts under this alternative are identical to those of Alternative A above. South Selah site fulfills the needs of the platoon and has sufficient RUA for the platoon to work with; however, use of this site would encroach on the current use of Range 15 (R15) to the south of the airstrip. This limitation would be resolved by units' scheduling of the use of either training asset (RUA and R15) in advance through Range Control who manages the use of all training areas and ranges. The South Selah site is supportive of the training mission and represents the alternative with the shortest distance to run utilities (3.0 miles).

Regarding impacts on cultural resources, no impact is expected from the project as there are no cultural or historical sites on or near the proposed N. Selah and S. Selah construction sites. Both sites were previously surveyed by YTC's Cultural and Historic Resources Program personnel and were not found to contain any culturally or historically significant sites on or near the project area.

Enclosed is a CD copy of the drafts EA and FNSI. Copies of these documents will also be made available at the following locations:

- Environmental Programs, Bldg. 36 Quartermaster Rd., Camp Murray, WA 98430
- Environment and Natural Resource Division, Yakima Training Center, Department of Public Works Bldg. 810, Yakima WA 98901
- Yakima Valley Regional Library, 102 North 3rd Street, Yakima, WA 98901
- Kittitas Public Library, 200 N Pierce St, Kittitas, WA 98934

The electronic pre-final documents will also be made available online at <http://mil.wa.gov/Environmental/Army.shtml>.

We look forward to your participation in the review of the abovementioned documents. To ensure that your concerns are considered and that our plan maximizes public input and coordination, your prompt attention is appreciated. Should you have any questions regarding this project, please do not hesitate to contact the undersigned at (253) 512-8704 e-mail at Rowena.valencia-gica@mil.wa.gov.

Sincerely,



Rowena Valencia-Gica, Ph.D.
Natural and Cultural Resources Program Manager

cc: Randy Korgel, Cultural Resources Program Manager, YTC
Colin Leingang, Wildlife Program Manager, YTC

q. E-mail Response from FAA, January 25, 2012

Rowena,

At this time we have no comments regarding your Draft EA and FONSI. Thank you for forwarding it to the FAA for review. Please forward a copy of the final EA when complete.

Thanks!

Michele Cruz

Michele L. Cruz
Contract Support (NISC III)
AJV-W2, Western Operations Support Group
LOCKHEED MARTIN CORPORATION
1601 Lind Ave SW
Renton, WA 98057
425-203-4562

michele.ctr.cruz@faa.gov

----- Forwarded by Michele CTR Cruz/ANM/CNTR/FAA on 01/25/2012 07:26 AM -----

From: Robert Henry/ANM/FAA
AJV-W22, Airspace & Procedures South Team
To: Michele CTR Cruz/ANM/CNTR/FAA@FAA
Date: 01/25/2012 07:23 AM
Subject: Re: Draft EA and FONSI for the construction and operation of a TUAS facility at Yakima

Approved!

Thanks!

Rob

Rob Henry

Team Manager
Operations Support Group
Tactical Operations

Office: (425) 203-4530
Blackberry: (425) 306-7831

From: Michele CTR Cruz/ANM/CNTR/FAA
AJV-W2, Western Operations Support Group
To: Robert Henry/ANM/FAA@FAA
Cc: Johanna Forkner/ANM/FAA@FAA
Date: 01/24/2012 10:31 AM
Subject: Draft EA and FONSI for the construction and operation of a TUAS facility at Yakima

Rob,

While we are not a cooperating agency on the Washington Army National Guard's building of a TUAS facility at Selah Airstrip in the Yakima Training Center, the proponent would like confirmation the FAA has no objection to them continuing with the environmental process. With your concurrence I will send them an email (per my discussion with the proponent an email will suffice) stating we have no objections or comments at this time. A summary of my findings is below:

BLUF: The proposed action contains no airspace additions or modification. The TUAS facility and subsequent training of UASs will be wholly contained within current restricted airspace. The FAA was not a cooperating agency during the EA process but was forwarded the Draft EA for review.

PURPOSE: The Washington Army National Guard (WAARNG) is proposing to construct and operate a Tactical Unmanned Aircraft System (TUAS) facility for UAS training at the Yakima Training Center (YTC) in Washington. The YTC is located in south central Washington, northeast of Yakima. WAARNG completed a DRAFT Environmental Assessment and Finding of No Significant Impact which was forwarded for FAA review.

DISCUSSION: WAARNG is proposing to enter in a 25-year renewable real property agreement with the Department of the Army for use of an area of land at YTC to construct the TUAS facility. Construction includes a hangar, two parking lots, aircraft apron, utility connection and possible access road improvements. The subsequent UAS training will include launch and recovery and in-flight maneuvering during the day and night. Under the No Action Alternative the TUAS facility would not be built; however, the operations and training on UASs would still take place. Presently there are 4 UASs operating out of YTC and have been there since Oct 2009.

The environmental analysis of the Preferred and Alternative locations showed a significant but mitigable impact only to biological resources. There was not a significant impact found regarding air quality or noise pollution and the building of the facility and subsequent training will not have an impact to general aviation operations.

Respectfully,

Michele

Michele L. Cruz
Contract Support (NISC III)
AJV-W2, Western Operations Support Group
LOCKHEED MARTIN CORPORATION
1601 Lind Ave SW
Renton, WA 98057
425-203-4562, michele.ctr.cruz@faa.gov

r. Invitation for Public Comment to Department of Ecology, August 2, 2012



STATE OF WASHINGTON
MILITARY DEPARTMENT
Camp Murray • Tacoma, Washington 98430-5000

August 2, 2012

Ms. Peg Plummer
SEPA Register Coordinator
Washington State Department of Ecology
P.O. Box 47703
Olympia, WA 98504-7703

Re: Review of Drafts Environmental Assessment and Finding of No Significant Impact of TUAS
Project at YTC

Dear Ms. Plummer,

The Washington Army National Guard (WAARNG) proposes to construct a Tactical Unmanned Aerial System (TUAS) facility and train a TUAS platoon at this TUAS facility at Yakima Training Center (YTC) in Yakima, WA. The WAARNG has prepared the Drafts Environmental Assessment (EA) and Finding of No Significant Impact (FNSI) in accordance with the National Environmental Policy Act (NEPA).

At present, we are conducting a public review on the Drafts EA and FNSI and therefore, we are sending your agency the Notice of Availability and a CD copy of these documents. In this regard, the WAARNG is requesting your agency to review the Drafts EA and FNSI and to have these documents posted in the SEPA register.

Please send your written comments, if any, to:

Rowena Valencia-Gica, Ph.D.
Environmental Programs
Washington Military Department
Bldg. 36 Quartermaster Rd., Camp Murray, WA 98430.
Tel.: (253) 512-8704
Fax: (253) 512-8904
E-mail: Rowena.valencia-gica@mil.wa.gov

If we do not receive any response by August 15, 2012, we will proceed with the proposed action.

Sincerely,

A handwritten signature in cursive script that reads "Rowena Gica".

Rowena Valencia-Gica, Ph.D.
Environmental Specialist

3. Record of TUAS Project Meetings

a. Memorandum for the Record, February 20, 2009



DEPARTMENT OF THE ARMY
INSTALLATION MANAGEMENT COMMAND
US ARMY GARRISON, YAKIMA TRAINING CENTER
970 FIRING CENTER ROAD, MAIL STOP 75
YAKIMA, WASHINGTON 98901-9399

IMWE-YTC-ZA

20 February 2009

MEMORANDUM FOR RECORD

SUBJECT: TUAS Platoon and Regional (UAV) Training Facility (RTF)

1. Yakima Training Center staff met on 18 February 2009 with LTC Palmer, Deputy G3, LTC Hodgeman, Chief of Real Estate, and LTC Abed, Federal Programs coordinator of the Washington Army National Guard. YTC staff present included Jim Reddick, DGC; Tom Oxford, DPTMS; Steve Kruger, DPW; Margaret Pounds, C/ENRD, DPW; George Holman, Range Officer, DPTMS; Tony Felix, Operations Officer, DPTMS; Rita Robinson, Installation Safety Officer; Robert Rodriguez, C/Aviation Division, FLW and YTC; Ken Gordon, YTC Aviation Safety Officer; CW4 Petrescu, Deputy Aviation Officer; John Graf, Air, Traffic, and Airspace Officer (of GAAF). Also attending was supporting staff from WAARNG and Ryan Rodruck, Field Representative for Congressman Hastings, 4th District, Washington.

2. WAARNG described the two separate projects: The Tactical Unmanned Aerial Systems facility for 81st Brigade, WAARNG, and the proposed Regional Training Facility for UAV training in the Western Region.

a. Facilities for the TUAS Platoon include an (approximate) 10K square foot training/maintenance/storage facility and a runway approximately 40'x800', capable of supporting SHADOW. This project is a Military Construction National Guard (MCNG) requirement and is on the FYDP.

b. The RTF has less definition at this point, but has similar requirements on a larger scale (30,000 sq ft) and a runway capable of supporting SKY WARRIOR. This project is not on the FYDP currently; WAARNG is competing with other state NG for siting.

3. Initially, WAARNG requested that support facilities and runways be co-located. YTC staff identified conflicts with the Restricted Operating Zone (ROZ) and their initial siting locations. The ROZ appears to be the determining factor in choosing a runway location. Lack of power at suitable runway locations dictated that co-location was not feasible at reasonable cost, and both WAARNG and YTC concurred that runways and support facilities should be separately located.

4. Potential locations for support facilities (for both projects) included the current WAARNG leased area, a location in TAA3 immediately south of Range Control, and possibly near the controlled humidity storage facility in TA16. Proximity of utilities was the primary factor; access to the training facilities was secondary.

IMWE-YTC-ZA
SUBJECT: TUAS Platoon and Regional (UAV) Training Facility (RTF)

5. Potential locations for the TUAS runway were at Selah Airstrip (first choice), near Silica DZ, and vic GS215668. Selah Airstrip appears to be the only location on YTC suitable for Sky Warrior (6000 foot runway requirement). A map is enclosed identifying both support and runway locations.

6. I believe that YTC can and should support the TUAS action. I also believe that the RTF can and should be supported, with the caveat that we still do not have ROZ information and thus cannot determine which sites are truly suitable; most likely, Selah Airstrip will be a satisfactory site, but there may be some adverse effects on Range 15.

7. POC this HQs is Mr. James Reddick, Deputy to the Garrison Commander, at 509-577-3201, james.a.reddick@us.army.mil.

Encl


LEO G. PULLAR
LTC, IN
Commanding

b. TUAS Meeting with YTC Environmental Staff, April 6, 2010

TUAS meeting with YTC Environmental Staff April 6, 2010

Present:

Penny Chencharick – WAARNG Environmental
Carol McAdams – Fort Lewis, Environmental
Rowena Valencia-Gica – DFG Environmental
Colin Leingang – YTC Environmental, Wildlife
Andrea Trickey – YTC, NEPA
Margaret Pounds – YTC, Env Program Mgr
Pete Nissen – YTC Env
Brian (?) – YTC, hazardous wastes
Randy Korgel – YTC, Cultural resources
David – YTC, Environmental GIS staff

The group discussed all of the resources in the affected environment section of the EA.

Additional Notes:

Colin:

- discussed about the status of greater sage grouse in YTC
- mentioned that a conservation agreement with the U.S. Army and U.S. Fish and Wildlife Service has already been developed for management of sage grouse habitat on the Yakima Training Center
- mentioned there are three things about the e-mail on sage grouse as a candidate species:
 - rangewide assessment
 - bi-state/monobasin population
 - taxonomy
- said that there is no legal requirement for consultation for a candidate species.
- USFWS' listing priority # changed for sage grouse. Priority # is from 1 to 12. In 2001, sage grouse was #6, now #8. The monobasin population is priority #3.
- The latest version of the map of YTC shows increased protection areas for sage grouse (indicated by yellow areas)

Margaret:

- Asked who should be the signatory to the EA/FNSI.
- Thinks that it's the Army who should sign
- Will not prepare the ECOP
- Asked who'll fund the clean-up if ECOP turned up something (she'll ask Steve)
- She is not sure how to interpret the definition of "proponent" as defined in DOD Instruction letter that Penny shared with the group.
- Asked also who will fund for the clean-up of the "junk" at the site (metals, vault, cars, etc.) – will ask Steve.

Carol:

- Discussed all her EA questions with everyone at YTC Env present in this meeting

- Thinks that NGB is the proponent based on the DOD definition & the fact that WAARNG is proposing the construction & operation aspect of the project which are the main reason why there is real property action, so she thinks that the const&opern are the primary proposed action, so NGB should be the proponent.
- But also suggested that maybe dual signatory for EA (Garrison Commander Britton & NGB) and single signatory for FNSI (NGB)

Randy K.:

- Said that there is no need to obtain permission from the tribes.
- Suggested that the proponent (c/o Rowena) will prepare the letters to the tribes & the SHPO but POC is Randy Korgel; can prepare the tribal letter first while resolving the issue on signatory to EA/FNSI.
- due date of June 1 for tribal letters to be ready
- tribes review of the EA is 30 days, but project review has no time frame or due date—it'll be continuous until the project is finished.

Penny:

- asked Beth E. of NGB re: signatory issue on EA/FNSI—was told that it's ok if NGB is not the signatory to the EA/FNSI; can do REC and tier off of the approved EA/FNSI
- shared the DOD Instruction (proponent definition)
- mentioned that LTC Walker should come up with an MOU for the clean-up of the "junk" and of anything that the ECOP will find, if there's any.
- Asked Pete if revised version of YTC map showing the larger sage grouse protected area is already available.
- Discussed with Pete why a much larger area (189 ac) is covered by the EA, whereas the proposed site(s) is/are only up to about 8 ac.; Pete explained that it's to give flexibility to WAARNG just in case WAARNG decides later to use for whatever reason a different location than currently selected, then the envi documentation would be ready for the entire site.

Rowena:

- Suggested to Carol to have a Mitigation of Impacts section as well as Summary of Impacts table to facilitate review of impacts.
- Agreed to prepare the tribal consultation letters for the EA/FNSI review
- Based on the EA statement of purpose & need, thinks that the "action" in the "proponent" definition, in the case of TUAS project, refers to the construction & operation of TUAS because this is what will cause the >5 ac of disturbance and potentially significant envi impacts.

NOTICE OF AVAILABILITY

DRAFT ENVIRONMENTAL ASSESSMENT FOR THE CONSTRUCTION AND OPERATION OF TACTICAL UNMANNED AERIAL SYSTEMS (TUAS) AND TRAINING OF A TUAS PLATOON AT YAKIMA TRAINING CENTER

Description. Interested parties are hereby notified that the WAARNG has prepared an Environmental Assessment (EA) and a draft Finding of No Significant Impact (FNSI) regarding the proposed action described below.

Statutory Authority. This notice is being issued to all interested parties in accordance with the National Environmental Policy Act (NEPA) of 1969, the Council on Environmental Quality regulations for implementing the procedural provisions of the National Environmental Policy Act (40 CFR 1500-1508) and the Environmental Analysis of Army Actions (32 CFR 651).

Proposed Action. The WAARNG proposes to construct and operate a TUAS facility and train a TUAS platoon at Yakima Training Center (YTC) in Yakima County, Washington. The EA evaluated the potential environmental impacts associated with the land acquisition, the construction and operation of a TUAS facility, and training of a TUAS platoon in this facility.

The WAARNG plans to acquire approximately eight (8) acres of exclusive use area for the construction of the TUAS facility. Construction will include a hangar/aircraft storage building, two parking lots, a new aircraft apron, utility connection, and possible access road improvements. The hangar will be 9,408 square feet, containing areas for maintenance, administration, classrooms, latrines, as well as for supply and storage. Approximately 9,577 square yards of hardstand will be constructed. Parking, for both privately owned vehicles as well as military vehicles/equipment, will be constructed to support the platoon and other occasional users. The hardstand also includes access from the aircraft storage facility to the existing taxiway/runway. The WAARNG will need to drill a new well to supply the necessary potable water for the facility. Wastewater produced will be treated onsite in three different ways: Domestic waste water (sewage and grey-water) - onsite septic system and leach field; Stormwater - direct infiltration into the surrounding vegetated areas; and Industrial wastewater - onsite underground vault (to be pumped regularly and wastes disposed of properly) for collection of waste water associated with the maintenance of the aerial vehicles.

Public Review. The EA and the draft FNSI will undergo a 15-day public comment period from August 1, 2012 through August 15, 2012 in accordance with 32 CFR 651.14, Environmental Analysis of Army Actions. During this period, the public may submit comments on the EA and the draft FNSI. The electronic version of these documents can be accessed online at <http://mil.wa.gov/Environmental/Army.shtml> or at the following addresses:

- Environment and Natural Resources Division, Bldg. 810 Yakima Training Center, Yakima WA 98901
- Yakima Valley Regional Library (Selah Library), 106 South Second Street, Selah WA 98942
- Kittitas Public Library, 2nd and Pierce Streets, Kittitas, WA 98934
- Environmental Programs, Bldg. 36 Quartermaster Rd., Camp Murray, WA 98430

Comments. Comments on the EA and the draft FNSI should be submitted during the 30-day period (August 1 to 15, 2012) via postal mail, fax, or e-mail to:

Rowena Valencia-Gica, Ph.D.
Environmental Programs
Washington Military Department
Bldg. 36 Quartermaster Rd., Camp Murray, WA 98430
Tel.: (253) 512-8704
Fax: (253) 512-8904
E-mail: rowena.valencia-gica@mil.wa.gov

5. Errata Sheet – Public Comments Received, August 1 – 30, 2012

Errata Sheet – Public Comments Received, August 1 – 30, 2012										
Comment #	The comment refers to:					Comment	Reviewer	Required for Legal Sufficiency?	Action Taken by State to Address the Comment	Comments Addressed in Revised Final
	Chapter	Section	Page	Paragraph	Line					
1	FNSI					Suggest deleting the line of mitigation related to the South site unless it is being implemented along with the mitigation for the North site.	Janet Smith - JBLM Legal		According to ARNG NEPA staff (Ms. Royal), it is not advisable to remove the mitigation for S. Selah because this section presents the mitigation for both alternatives. The intent was to provide proposed mitigation for each of the alternatives. Revised Section 3 of FNSI into: The implementation of below mitigation measures for either of the alternatives listed in the final EA would reduce impacts to biological resources to less than significant levels. <ul style="list-style-type: none"> • Under North Selah alternative, the mitigation includes restoration of approximately 24 acres of big sagebrush/bluebunch wheatgrass vegetation communities in areas previously disturbed. • Under South Selah alternative, the mitigation includes restoration of approximately 20 acres of big sagebrush/bluebunch wheatgrass vegetation communities in areas previously disturbed. 	Yes
2	FNSI					Suggest changing this part of this sentence: "This mitigation for both alternatives works two fold in that it..." to read "This mitigation strategy for this alternative location lowers the level of...."	Janet Smith - JBLM Legal		According to ARNG NEPA staff (Ms. Royal), we need the plural here since you have reduction for both vegetation communities and sage grouse's habitat. No changes made.	Yes
3	FNSI					Suggest addressing cumulative impacts	Janet Smith - JBLM Legal		Done – Added a sentence "Foreseeable future actions expected to take place on or around YTC or to have an effect on the proposed action would not have significant cumulative impacts." Under 2.0 Environmental Analysis	Yes
4	EA -Ch 4					Table 4-3 and 4.4 seems to be incomplete. Check to see if sage grouse, Northern wormwood, UW Buckwheat, should have been included.	Janet Smith - JBLM Legal		Sage grouse had already been included in the table. See revised Chapter 4. Northern wormwood is not listed for Yakima County; UW Buckwheat discussion included in revised Chapter 4.	Yes

Comment #	The comment refers to:					Comment	Reviewer	Required for Legal Sufficiency?	Action Taken by State to Address the Comment	Comments Addressed in Revised Final
	Chapter	Section	Page	Paragraph	Line					
5	EA		22			Page 22 Air Quality – Line 13 Looks like these numbers are inconsistent with Appendix C, Air Conformity.	Janet Smith - JBLM Legal		Emissions data on pg. 22, Air Quality discussion refers to emissions calculated for entire YTC in 2009, whereas Appendix C refers to emissions calculated for the construction and operation of TUAS and training of a platoon.	Yes
6	EA		47			Page 47 Air Quality – the No Action discussion seems to indicate that some activities from this unit are ongoing – part of the baseline. Is that correct? The no action sections - some sections only discuss if the project will have an impact and others states that some impacts is occurring. Seems confusing.	Janet Smith - JBLM Legal		Emissions data on pg. 22, Air Quality discussion refers to emissions calculated for entire YTC in 2009, whereas Appendix C refers to emissions calculated for the construction and operation of TUAS and training of a platoon.	Yes
7	EA		47			Page 47 Air Quality – the No Action discussion seems to indicate that some activities from this unit are ongoing – part of the baseline. Is that correct? The no action sections - some sections only discuss if the project will have an impact and others states that some impacts is occurring. Seems confusing.	Janet Smith - JBLM Legal		Yes, some activities related to TUAS training have already been on-going. The No Action-Operations discussion says that impacts would be minor/less than significant. I can't see where the confusion lies.	Yes
8	EA		General			Couldn't find a greenhouse gas discussion anywhere. Is there one?	Janet Smith - JBLM Legal		Based on Air Conformity analysis data provided by JBLM for this project, the proposed action is not expected to exceed the federal (25,000 metric tons) and WA state (10,000 metric tons) standards of GHG emissions. Nonetheless, added 2 paragraphs under Air Quality in Chapter 4 to discuss GHGs; added statements in applicable sections in Chapter 5 under Air Quality "The GHG threshold of 25,000 metric tons per calendar year per EPA rule (10,000 metric tons in WA state) is not expected to be exceeded with the implementation of the proposed alternative."	Yes
9	EA - Ch 9					Preparers list should have been updated prior to publication.	Janet Smith - JBLM Legal		It's up to date/complete.	Yes
10	EA - Ch 10		77			Town of Selah should have been added to the list on page 77	Janet Smith - JBLM Legal		It's there (Dennis Davison). City Mayor was not included because he's never been consulted before; only the Planning Dept..	Yes

Comment #	The comment refers to:					Comment	Reviewer	Required for Legal Sufficiency?	Action Taken by State to Address the Comment	Comments Addressed in Revised Final
	Chapter	Section	Page	Paragraph	Line					
11	EA - NOA		141			Page 141 NOA – Inconsistency in dates for comment period . Public Review paragraph states 15 days and the Comments paragraph uses 30 day period. This may be a problem – I would suggest that the FNSI or a YTC REC not be signed until that 30 day period is over. (Already sent comment to ARNG [Rowena] 17 Aug - JB)	Janet Smith - JBLM Legal		Noted. Public review extended to Aug. 30, 2012 to meet the 30-day comment period.	Yes
12	EA - Appendix D					COPYRIGHTS: A number of the appendices have reports that have restricted release notations. If the proper releases were not obtained, I suggest the WA ARNG make the proper notifications to their Judge Advocate for legal advice.	Janet Smith - JBLM Legal		Noted. Excluded the EBS from the final copy.	Yes
13						Extend review period to Aug 30 due to "30-day" typographical error in the published NOA under Comment Period.	Colin Leingang - YTC Environmental		Noted. Public review extended to Aug. 30, 2012 to meet the 30-day comment period.	Yes
14			2			The Sniper Field Fire Range footprint as depicted in figure 1-1 is incorrect. The range is being constructed between range 4 and 5. (CL).	Colin Leingang - YTC Environmental		Done - Fig 1-1 replaced with updated map from YTC Envi	Yes
15			16			Zone 2 (SGPA) as depicted in figure 3-1 is incorrect. There are additional Zone 2 acres in TA 7, 8, 10 and 16 which are not included on this figure. Also the flight restrictions extend over the SGPA mentioned above and would also need to be revised in this figure. (CL).	Colin Leingang - YTC Environmental		Done - Fig 1-1 replaced with updated map from YTC Envi	Yes
16		4.7.4	Table 4		20	Numerous species listed in Table 4-3 but never full analyzed in the document as to affected environment and/or environmental consequences. Why include in this table if no subsequent analysis or explanation is provided as to excluding it from further analysis. Suggest doing one or the other for all species included in the list or modify the list to only include those species you intend to analyze for. Also, listed steelhead and Chinook ESU were not included on the list even though you consulted with NOAA Fisheries on them. Suggest adding them to the list (CL).	Colin Leingang - YTC Environmental		Done- revised Chapter 4 to reflect these comments	Yes

Comment #	The comment refers to:					Comment	Reviewer	Required for Legal Sufficiency?	Action Taken by State to Address the Comment	Comments Addressed in Revised Final
	Chapter	Section	Page	Paragraph	Line					
17			28		31 - 32	Author makes mention of subsequent surveys and results but does not cite them. Suggest addition citation for all surveys referenced in the document. (CL).	Colin Leingang YTC Environmental		Done- changed the word surveys into site visits by WA ARNG Envi staff	Yes
18		4.7.1.2	30			The entire section on Whitebark Pine is not required. This species has no potential to occur on JBLM YTC. Suggest deleting this entire section. (CL).	Colin Leingang YTC Environmental		Done- revised Biol resource section to reflect this comment. Whitebark pine removed from discussions. (See revised Chapter 4)	Yes
19			37		21	Suggest adding "county" after "Yakima" in this sentence. (CL).	Colin Leingang YTC Environmental		Done – section deleted after revision of Chapter 4	Yes
20			39		9 - 12	The sage-grouse monitoring data is somewhat dated (2008-2009) given the extended analysis period this project has been subject to. Data from 2010-2012 sage-grouse lek monitoring is available upon request. The addition of the updated data would not significantly change the context of the existing affected environment or environmental consequences sections of the document (i.e., still overall declining trend in population, 2012 population for YTC was 146 birds and represents lowest on record, Range 15 lek was not active 2010-2012, etc...). (CL)	Colin Leingang YTC Environmental		Done – updated with 2010-2012 data provided by YTC (see revised Chapter 4)	Yes
21			63		32-33	Suggest deleting the statement "High quality wildlife habitat would continue to be protected from further development..." as there is no installation commitment to this affect. The TUAS project itself impacts "high quality" shrub-steppe habitat and several projects mentioned in the cumulative effects section will potentially have impacts to "high quality" shrub-steppe. Suggest deleting this statement which misrepresents the installations position on impacts and future projects. (CL)	Colin Leingang YTC Environmental		Done – statement deleted	Yes

Comment #	The comment refers to:					Comment	Reviewer	Required for Legal Sufficiency?	Action Taken by State to Address the Comment	Comments Addressed in Revised Final
	Chapter	Section	Page	Paragraph	Line					
22		4.7				You reference FL Reg 420-5 as outlining procedures for the protection of "biological resources". This is generally true as the species this regulation specifically addresses are biological resources however it is narrowly focused to special status species (e.g., "Procedures for the protection of state and federal listed threatened, endangered, candidate species, species of concern and designated critical habitat"). As such it does not necessarily provide for all the "biological resources" (i.e., vegetation resources, habitat types (riparian), fish and wildlife species in general, etc...) which this section (4.7 Biological Resources) addresses. I would suggest changing your reference from "biological resources" to "special status species" in this paragraph.	Colin Leingang YTC Environmental		Done as suggested	Yes
23		4.7				Second paragraph. Suggest changing the sentence "ARNG developed the list of species determined to require special management..." to "ARNB develop a list of species to be analyzed in this E.A...."	Colin Leingang YTC Environmental		Done as suggested	Yes

Comment #	The comment refers to:					Comment	Reviewer	Required for Legal Sufficiency?	Action Taken by State to Address the Comment	Comments Addressed in Revised Final
	Chapter	Section	Page	Paragraph	Line					
24						I find the inclusion of species in tables but not being analyzed in the document confusing still. I would suggest that you add a column to tables 4.3 and 4.4 and for each species designate either it will be analyzed in further detail in the document or that it has been dropped from further analysis and state the reason why (i.e., habitat or species is not known to be present). Then the reader can fully expect up front which species will be considered in the analysis and which are not.	Colin Leingang YTC Environmental		Done as suggested	Yes
25						Greater Sage-grouse section. Suggest changing the last sentence of what you added to read "Human activity associated with Range 15 and Selah Airstrip has resulted in decreased habitat effectiveness and likely lek abandonment of the Range 15 lek. This lek and suitable nesting and brood-rearing habitat is located within 600 meters of both Range 15 and the Selah Airstrip".	Colin Leingang YTC Environmental		Done as suggested	Yes
26	EA & FNSI - General					3:1 mitigation is not sufficient	Perry Harvester - WDFW		3:1 (24 ac) mitigation is sufficient to mitigate for noise and activity impacts because there is no active lek; airstrip has already been used and no restriction on frequency of airfield use	Yes
27	EA & FNSI - General					a lek is known to exist nearby; project will result in adverse impacts to priority shrub-steppe habitat, as well as Sage Grouse	Perry Harvester - WDFW		WAARNG supports managing candidate species; A lek (R15 lek) has been inactive since 2005 and is not within the sage grouse protection area identified by YTC	Yes

Comment #	The comment refers to:					Comment	Reviewer	Required for Legal Sufficiency?	Action Taken by State to Address the Comment	Comments Addressed in Revised Final
	Chapter	Section	Page	Paragraph	Line					
28	EA & FNSI - General					Noise & Activity - impacts of irregular/high decibel noise on sage grouse and wildlife, therefore, requires additional mitigation	Perry Harvester - WDFW		UAV operations conducted at 8,000 ft above ground level and in <3 min after take-off, noise would not be heard on ground. No residences, communities, or sensitive noise receptors would experience notable change in overall noise environment. No active lek to be affected by noise.	Yes
29	EA & FNSI - General					Vegetation disturbance - utility line corridors alluded but not clear if included in the 4.8 mi corridor (~ 7 ac) and not included in mitigation consideration	Perry Harvester - WDFW		WAARNG cannot yet determine the exact area of disturbance for utility corridor due to a lack of project design. WAARNG will provide more detailed maps/plans to correctly estimate areas of disturbance and will mitigate for impacts in accordance with the Army's YTC Sage Grouse Management Plan.	Yes
30	EA & FNSI - General					Vegetation disturbance - not clear if the 7,800 sq yd of new hardstand (~1.61 ac), drain field and stormwater treatment facility was included in the disturbance footprint and where this would be located	Perry Harvester - WDFW		WAARNG will provide more detailed maps/plans to correctly estimate areas of disturbance and will mitigate for impacts in accordance with the Army's YTC Sage Grouse Management Plan. What's known at present is that a total of 8 acres would be disturbed for the TUAS facility construction.	Yes
31	EA & FNSI - General					Vegetation disturbance - crashes could result in fire, fire management plan needed	Perry Harvester - WDFW		WAARNG will follow US Army's Wildland Fire Management Plan as it would apply to the use of the TUAS facility and associated training.	Yes
32	EA & FNSI - General					Mitigation - concur that there would be significant but mitigable impacts to biological resources, but do not concur on the 24 ac of proposed mitigation for N. Selah alternative	Perry Harvester - WDFW		Sage grouse is a candidate species and there is no ESA Sec. 7 obligation for WAARNG to mitigate for impacts on sage grouse. Nonetheless, WAARNG consulted USFWS who agreed with the proposed 24 ac of mitigation for sage grouse habitat consistent with US Army's Sage Grouse Management Plan.	Yes
33	EA & FNSI - General					Mitigation - 24 ac of mitigation not sufficient; proposes to increase to 48 ac	Perry Harvester - WDFW		WAARNG cannot concur to increase mitigation ratio than what USFWS suggested and has been practiced by US Army. WAARNG would mitigate for impacts at the utility corridor at a 1:1 ratio and at 3:1 ratio for any additional new ground disturbing activities associated with TUAS construction. WAARNG will utilize BMPs during construction and training.	Yes

Comment #	The comment refers to:					Comment	Reviewer	Required for Legal Sufficiency?	Action Taken by State to Address the Comment	Comments Addressed in Revised Final
	Chapter	Section	Page	Paragraph	Line					
34	EA & FNSI - General					Mitigation - recommends seasonal restrictions or reductions in airstrip use for active leks within 1 mi of airstrip	Perry Harvester - WDFW		No active lek within 1 mile of airstrip. WAARNG does not concur with seasonal timing restrictions because training would be conducted at the designated YTC restricted use airspace.	Yes
35	EA & FNSI - General					Mitigation - recommends use of proven restoration techniques developed by WDFW; a WDFW biologist be involved in a Technical Advisory Committee to plan and implement mitigation measures	Perry Harvester - WDFW		All proposed mitigation would be funded by WAARNG and implemented and monitored by YTC Environmental Division whose restoration techniques are consistent with WDFW's restoration techniques. While WAARNG appreciates WDFW's offer to serve in TAC, WAARNG and YTC determined that forming such a committee is not necessary and the offer is therefore declined.	Yes
36	EA & FNSI - General					Contractors doing demolition, excavation, clearing, construction, or landscaping work must file a Dust Control Plan with YRCAA and get approval prior to start of any work	Hasan Tahat - Yakima Regional Clean Air Agency		WAARNG will ensure that project contractor will file a Dust Control Plan with YRCAA.	Yes
37	EA & FNSI - General					A New Source Review may be required for this project. WAARNG must contact YRCAA for further information.	Hasan Tahat - Yakima Regional Clean Air Agency		WAARNG will ensure to contact YRCAA again to discuss about the potential need for a New Source Review.	Yes
38	EA & FNSI - General					Cannot concur on WAARNG's determination of No cultural or archaeological resources affected" because findings were based on 10-y old surveys. Highly recommend re-survey of project site and Yakama Nation may be able to assist in any resurvey. Otherwise, recommends that an archaeological monitor be present to ensure no damages to archaeological/cultural resources.	Johnson Merinick - Yakama Nation		WAARNG clearly understands Yakama Nation's interest and concerns. WAARNG believes that studies pertaining to the cultural/archaeological resources for proposed TUAS site and already been reasonably completed and that a resurvey of the area of potential effect would not yield new cultural resources information. The SHPO concurred with WAARNG. At present, project is not fully funded. When funded and construction commences, WAARNG will ensure that in the event that cultural or archaeological resources are found/identified during construction, work would stop and individuals would follow SOPs for inadvertent discoveries outlined in WAARNG's ICRMP and in accordance with US Army YTC's Integrated Cultural Resources Management Plan.	Yes
39	EA & FNSI - General					Project has no adverse effects on cultural/archaeological resources	Rex Buck - Wanapum Band		Noted	Yes

[THIS PAGE LEFT INTENTIONALLY BLANK]

APPENDIX B

TERRESTRIAL VERTEBRATE SPECIES AT YTC

[THIS PAGE LEFT INTENTIONALLY BLANK]

Appendix B: Terrestrial Vertebrate Species at YTC.

Undocumented	Scientific name; (in taxonomic order within major taxa)	Common name	Code	Habitat	State Status	Federal Status	For YTC Occurrences					Source	WDFW SOC Priority Habitat Type	Migratory Bird
							RESIDENCE	Breed on YTC	Exotic	Obligate riparian dependency	Facultative riparian dependency			
	Mammals	(nomenclature follows Jones, J.K. et al., 1992)												
	<i>Sorex merriami</i>	Merriam's shrew	SOME	1	SC		Permanent	x				1, 3, 6, 7	1	
	<i>Sorex vagrans</i>	Vagrant shrew	SOVA	1	U		Permanent							
*	<i>Myotis californicus</i>	California myotis	MYCA	3,4	U		Undocumented					3		
	<i>Myotis ciliolabrum</i>	Western small-footed bat	MYCI	3,4	SM	SC	Permanent	?				3, 4, 6		
*	<i>Myotis evotis</i>	Long-eared myotis	MYEV	3,4	SM		Undocumented					3, 4, 6		
	<i>Myotis lucifugus</i>	Little brown bat	MYLU	3,4	U		Permanent	?				3		
	<i>Myotis thysanodes</i>	Fringed myotis	MYTH	3,4	SM	SC	Permanent	x				3, 4, 6		
	<i>Myotis yumanensis</i>	Yuma myotis	MYYU	3,4	U	SC	Peripheral					3, 4		
		Keen's myotis										1, 3	2	
	<i>Myotis volans</i>	Long-legged myotis										4		
	<i>Euderma maculatum</i>	Spotted bat										3, 4		
	<i>Lasionycteris noctivagans</i>	Silver-haired bat	LANO		U		Summer							
	<i>Lasiurus cinereus</i>	Hoary bat	LACI	3,4	U		Summer	?						
*	<i>Pipistrellus hesperus</i>	Western pipistrelle	PIHE	3,4	SM		Undocumented							
	<i>Eptesicus fuscus</i>	Big brown bat	EPFU	3,4	U		Permanent	?				3		
*	<i>Plecotus townsendii</i>	Townsend's big-eared bat	PLTO	3,4	SC	SC	Undocumented					1, 3, 4, 6, 7	2	
	<i>Antrozous pallidus</i>	Pallid bat	ANPA	3,4	SC	SC	Permanent					2, 3, 6		
*	<i>Brachylagus idahoensis</i>	Pygmy rabbit	BRID	1	SE	FE	Undocumented					1, 3, 4, 7	1	
	<i>Sylvilagus nuttallii</i>	Nuttall's cottontail	SYNU	1,3	G		Permanent	x						
	<i>Lepus californicus</i>	Black-tailed jackrabbit	LECA	1	SC		Permanent	x				1, 3, 7	1	
	<i>Lepus townsendii</i>	White-tailed jackrabbit	LETO	1	SC		Permanent	x				1, 3, 7	1	
	<i>Tamias minimus</i>	Least chipmunk	TAMI	1	P		Permanent	x						
	<i>Marmota flaviventris</i>	Yellow-bellied marmot	MAFL	1,3,4	U		Permanent	x						
*	<i>Spermophilus washingtoni</i>	Washington ground squirrel	SPWA	1	SC	FC	Undocumented							
	<i>Spermophilus townsendii</i>	Townsend's ground squirrel	SPTO	1	SC		Permanent	x				1, 6, 7	1	
	<i>Thomomys talpoides</i>	Northern pocket gopher	THTA	1,2	U		Permanent	x						
	<i>Perognathus parvus</i>	Great Basin pocket mouse	PEPA	1,2	U		Permanent	x						
	<i>Dipodomys ordii</i>	Ord's kangaroo rat	DIOR	1	SM		Permanent	x				6		
	<i>Castor canadensis</i>	American beaver	CACA	3	F		Permanent	x		x				
	<i>Reithrodontomys megalotis</i>	Western harvest mouse	REME	1,3	U		Permanent	x						
	<i>Peromyscus maniculatus</i>	Deer mouse	PEMA	1,2,3	U		Permanent	x						
*	<i>Onychomys leucogaster</i>	N. grasshopper mouse	ONLE	1	SM		Undocumented					6		
	<i>Neotoma cinerea</i>	Bushy-tailed woodrat	NECI	4	U		Permanent	x						
	<i>Mus musculus</i>	House mouse	MUMU	5	U		Permanent		x					
	<i>Microtus longicaudus</i>	Long-tailed vole	MILO	1,3	U		Permanent	x						

<i>Microtus montanus</i>	Montane vole	MIMO	3	U	Permanent	x							
<i>Lemmyscus curtatus</i>	Sagebrush vole	LECU	1	SM	Permanent	x				6			
<i>Ondatra zibethica</i>	Common muskrat	ONZI	3	F	Permanent	?	x						
<i>Erethizon dorsatum</i>	Common porcupine	ERDO	1,3	U	Permanent	x							
<i>Canis latrans</i>	Coyote	CALA	1,3,4,2	U	Permanent	x							
<i>Vulpes fulva</i>	Red fox	VUFU	1,3	F,G	Permanent	?							
<i>Procyon lotor</i>	Common raccoon	PRLO	1,3	F,G	Permanent	?							
* <i>Mustela erminea</i>	Ermine	MUER		F	Undocumented								
<i>Mustela frenata</i>	Long-tailed weasel	MUFR	1,3	F	Permanent	x							
<i>Mustela vison</i>	Mink	MUVI	3	F	Permanent	?							
<i>Taxidea taxus</i>	American badger	TATA	1,2,4	F	Permanent	x							
* <i>Spilogale gracilis</i>	Western spotted skunk	SPGR		U	Undocumented								
<i>Mephitis mephitis</i>	Striped skunk	MEMEp	1,3	U	Permanent	x							
<i>Felis concolor</i>	Mountain lion	FECO	1,3,4,2	G	Peripheral								
<i>Lynx rufus</i>	Bobcat	LYRU	1,3,4,2	F,G	Permanent	?							
<i>Cervus elaphus</i>	Elk	CEEL	1,3	G	Permanent	?				3			
<i>Odocoileus hemionus</i>	Mule deer	ODHE	1,3,2	G	Permanent	x				3			
<i>Ovis canadensis californiana</i>	California Bighorn Sheep	OVCA	2,4	G	Peripheral								
Birds		<i>(Nomenclature follows American Ornithologists' Union, 1983)</i>											
* <i>Gavia immer</i>	Common loon	GAIM	3	S	Peripheral					x	6		x
<i>Podilymbus podiceps</i>	Pied-billed grebe	POPO	3	P	Permanent			x					x
<i>Podiceps auritus</i>	Horned grebe	POAU	3	SM	Migrant			x					x
* <i>Aechmophorus occidentalis</i>	Western grebe	AEOC	3	SC	Migrant								x
* <i>Pelecanus erythrorhynchos</i>	American white pelican	PEER	3	SE	Permanent?						1, 3, 6, 7	5	x
<i>Ardea herodias</i>	Great blue heron	ARHE	3	SM	Permanent		x				6		x
<i>Botaurus lentiginosus</i>	American bittern	BOLE	3	P	Migrant		x				6		x
<i>Nycticorax nycticorax</i>	Black-crowned night heron	NYNY	3	SM	Peripheral		x						x
* <i>Grus canadensis</i>	Sandhill crane	GRCA	3	SE	Infreq. Migrant								x
<i>Branta canadensis</i>	Canada goose	BRCA	3	G	Permanent		x						x
<i>Cygnus columbianus</i>	Tundra Swan	CYCO	3	P	Migrant		x						x
<i>Aix sponsa</i>	Wood duck	AISP	3	G	Summer			x					x
<i>Anas platyrhynchos</i>	Mallard	ANPL	3	G	Permanent	x		x					x
<i>Anas acuta</i>	Northern pintail	ANAC	3	G	Permanent		x						x
<i>Anas cyanoptera</i>	Cinnamon teal	ANCY	3	G	Summer			x					x
<i>Anas discors</i>	Blue-winged teal	ANDI	3	G	Migrant		x						x
<i>Anas crecca</i>	Green-winged teal	ANCR	3	G	Summer		x						x
<i>Anas clypeata</i>	Northern Shoveler	ANCL	3	G	Migrant		x						x
<i>Anas strepera</i>	Gadwall	ANST	3	G	Migrant		x						x
<i>Anas americana</i>	American wigeon	ANAM	3	G	Permanent		x						x
<i>Aythya valisineria</i>	Canvasback	AYVA		G	Winter		x						x
<i>Aythya americana</i>	Redhead	AYAM	3	G	Summer		x						x
<i>Aythya collaris</i>	Ring-necked duck	AYCO	3	G	Permanent		x						x

<i>Pituophis melanoleucus</i>	Gopher snake	PIME	1,3,4,2,5	U		Permanent	x			x			
<i>Thamnophis elegans</i>	Terrestrial garter snake	THEL	1,3,4,2,5	U		Permanent	x			x			
<i>Thamnophis sirtalis</i>	Common garter snake	THSI	1,3,4,2,5	U		Permanent			x				
<i>Crotalus viridis</i>	Western rattlesnake	CRVI	1,3,4	U		Permanent	x			x			
<i>Contia tenuis</i>	Sharptailed snake			SC								2, 3, 7	
Fish													
	Bull trout		RIVERS										
				SC	FT							1, 3, 6, 7	5
<i>Salvelinus fontinalis</i>	Brook trout	SAFO	Ak,Hn	G									
<i>Salmo gairdneri</i>	Rainbow trout	SAGA	Ak, Sq, Jn	G									
<i>Rhinichthys osculus</i>	Speckled dace	RHOS	Sq	U									
<i>Catostomus platyrhynchus</i>	Mountain sucker	CAPL	Sq	SC								6	
<i>Gasterosteus aculeatus</i>	Three-spine stickleback	GAAC	Jn	U									
<i>Oncorhynchus tshawytscha</i>	Chinook salmon	ONTS	Col	SC	FE							2, 3, 7	4
<i>Micropterus dolomeiu</i>	Small mouth bass	MIDO	Col	G									
<i>Micropterus salmoides</i>	Large mouth bass	MISA	Col	G									
<i>Ptychocheilus oregonensis</i>	Northern squawfish	PTOR	Col	U									
<i>Acrocheilus alutaceus</i>	Chiselmouth	ACAL	Col	n/a									
<i>Prosopium williamsoni</i>	Mountain white fish	PRWI	Col	G									
<i>Cyprinus carpio</i>	Carp	CYCA	Col	FF									
<i>Richardsonius balteatus</i>	Redside shiner	RIBA	Col	U									
<i>Cottus asper</i>	Prickley sculpin	COAS	Col	U									
	Steelhead, Upper Columbia			SC	FE							1, 3, 7	4
	Steelhead, Mid Columbia			SC	FT							1, 3, 7	4

[THIS PAGE LEFT INTENTIONALLY BLANK]

APPENDIX C

RECORD OF NON-APPLICABILITY (RONA)

[THIS PAGE LEFT INTENTIONALLY BLANK]

**General Conformity
 Record of Non-Applicability**

Project/Action Name: WAARNG UAV Facility at YTC

Project/Action Number: PN 530132/CM

Project/Action POC: Carol McAdams

Project Proposed Dates: FY11

Date: 17 March 2010

Conformity under Clear Air Act, Section 176 has been evaluated for the above described project per 40 CFR 93. The requirements of this rule are not applicable to this project/action because:

1. ___ The project/action is described as an exempt action under 40 CFR 51.853(c) (2) (ii)

The exemption taken is: Continuing and recurring activities.

OR

2. X Total direct and indirect emissions from the project/action have been estimated at 2.77 tons VOC, 19.03 tons NOx and 12.15 tons CO are below the de minimus threshold established at 40 CFR 51.853 (b) of 100 tons VOC, 100 tons NOx, and 100 tons CO.

AND

The above project/ action is not considered "regionally significant" under 40 CFR 93.153 (i).

The supporting documentation and emissions estimates are:

- ATTACHED
- ATTACHED TO NEPA DOCUMENT
- OTHER:

Prepared by: 
 Tom Olsen
 Environmental Engineer
 Air Program Manager

Table 1 Air Emission Estimates at YTC

Emission Source	CO	NO _x	VOC	PM ₁₀	PM _{2.5}	SO ₂	CO ₂
Commuting	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Training	0.087	0.138	0.257	0.009	0.009	0.007	13.543
Construction	12.06	18.89	2.51	6.08	2.05	0.08	1979.98
Maintenance Ops	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total Emissions for Action	12.15	19.03	2.77	6.09	2.06	0.09	1993.52
	<i>units for all fields are tons per year (tons/yr)</i>						

[THIS PAGE LEFT INTENTIONALLY BLANK]

APPENDIX D
ECOP DOCUMENT

[THIS PAGE LEFT INTENTIONALLY BLANK]



STATE OF WASHINGTON
MILITARY DEPARTMENT
Camp Murray, Washington 98430-5000

October 21, 2011

Mr. Dee Lloyd
ARNG-ILE
111 S. George Mason Dr.
Arlington, VA 22204

Subject: Proposed Tactical Unmanned Aircraft System (TUAS) Facility at Selah Air Strip, Yakima Training Center, WA, Environmental Baseline Survey Document No. 38-EH-0DEC-10 Update

Dear Mr. Lloyd:

This memorandum provides updated information concerning the Environmental Baseline Survey 38-EH-0DEC-10 (Attachment 1), included with the Environmental Assessment document to acquire a 25 year lease for the proposed TUAS site at Selah Air Strip, Yakima Training Center (YTC), WA.

An EBS was completed in September 2010 for a Washington Army National Guard TUAS site at Yakima Training Center, Washington as defined by ASTM standards D 6008-98 (05) and AR200-1. The EBS was completed by US Army Public Health Command (USAPHC) for the approximately 9.2 acre site to document the environmental conditions of the site and identify environmental conditions that may impact the suitability of the site for lease. The original EBS provides due diligence by summarizing the Recognized Environmental Conditions (RECs) and defining the Environmental Condition of Property (ECOP) categories for CERCLA and Petroleum Product Contamination.

This memorandum is to confirm the information in the EBS has not changed since the environmental reports were compiled in September 2010. A site reconnaissance was completed on October 21, 2011 to verify the site has not changed since the EBS was completed. The surrounding areas of the site have not changed since the EBS was completed. Pictures of the site and surrounding areas are attached (Attachment 2). Personal interviews with YTC Range Control (Tony Felix) and YTC HazMart (Rob Shafer) confirm no changes have occurred since the last site visit. Mr. Shafer explained a spill occurred early in 2011 but the site is cleaned up and will not affect the proposed airstrip site.

If you have any questions please contact my staff lead, Ms. Barb Tope, at 253-512-7578.

Sincerely,

A handwritten signature in cursive script, appearing to read "Tom Skjervold".

Tom Skjervold
Environmental Program Manager
Washington Military Department
(253) 512-8466

Enclosures

Selah Airstrip Site Assessment 10-21-11

**The south end of the airstrip
looking east**



**The south end of the airstrip
looking north**



Selah Airstrip Site Assessment 10-21-11

Old restrooms-not in use



Looking East from the south end of the airstrip



Selah Airstrip Site Assessment 10-21-11

Training area



**Building on the east side of the airstrip.
Used by MPRC to repair targets.**



Selah Airstrip Site Assessment 10-21-11

North end of the airstrip



North end of the airstrip looking north east



Selah Airstrip Site Assessment 10-21-11

From the north end of the airstrip looking east



From the north end of the airstrip looking south east



Selah Airstrip Site Assessment 10-21-11

From the north end of the airstrip looking southeast



From the north end of the airstrip looking directly south



Selah Airstrip Site Assessment 10-21-11

From the north end of the airstrip looking south west



From the north end of the airstrip looking west



Selah Airstrip Site Assessment 10-21-11

From the north end of the airstrip looking north west



From the north end of the airstrip looking north west



Selah Airstrip Site Assessment 10-21-11

Bivouac area to the north east of the airstrip



Clean up area of approx 100 gallon gasoline spill in the bivouac area. Will not affect airstrip site.



Selah Airstrip Site Assessment 10-21-11

Looking east onto Selah Strip



Selah Airstrip Site Assessment 10-21-11

The south end of the airstrip



The well at the southwest end of the airstrip



Selah Airstrip Site Assessment 10-21-11

Well at the southwest end of the airstrip



Looking east from the south end of the airstrip



APPENDIX E

OTHER NEPA DOCUMENTS

[THIS PAGE LEFT INTENTIONALLY BLANK]

1. Past Action Memo for Fielding of TUAS to WA ARNG



WASHINGTON MILITARY DEPARTMENT
JOINT FORCE HEADQUARTERS, WASHINGTON NATIONAL GUARD
CAMP MURRAY, WASHINGTON 98430-5000

FMO-ENV (200)

24 May 2011

MEMORANDUM FOR ARNG-ILE, ATTN: CPT Michael O'Hara, 111 South George Mason Drive,
Arlington, VA

SUBJECT: National Environmental Policy Act of 1969 (NEPA) documentation for Fielding of Tactical
Unmanned Aerial System (TUAS) for 81st BSTB, Past Action

1. It is procedurally inappropriate and potentially illegal to perform National Environmental policy Act (NEPA) analyses after the action to be analyzed has taken place. NEPA "...is a federal statute that requires the identification and analysis of potential environmental effects of certain proposed federal actions before those actions are initiated."
2. NEPA, as set forth in AR 200-2, Environmental Effects of Army Actions, dated 13 December 2007 and superseded by 32 CFR Part 651, Army National Guard Manual for Compliance with NEPA 1998, Environmental Analysis of Army Actions, Final Rule, dated 29 March 2002, establishes "policies and responsibilities for the early integration of environmental considerations into planning and decision making."
3. Further, this regulation directs The Adjutant General (TAG) to "ensure the proponent initiates NEPA analysis of environmental consequences and assesses the environmental consequences of proposed programs and projects early in the planning process."
4. Paragraph 651.10 specifically addresses those actions requiring environmental analyses. In simpler terms, an "action" requiring environmental analyses under NEPA is any action that has federal funds tied to it, even if that action is primarily administrative in nature, such as re-designating or organizing a unit. NEPA is a planning statute that was enacted because environmental considerations were not routinely considered in agency planning. A NEPA analysis cannot be approved for an action that has already begun; a force structure modification that occurred in the past would fall under the category of actions that were implemented (or approved) before NEPA was completed.
5. Your request that the WAARNG Environmental Section provide NEPA documentation on unit fielding of TUAS equipment action that had already occurred is incompatible with NEPA regulations. The environmental section did not complete the Record of Environmental Checklist (REC) at that time due to the rapid fielding of the equipment within 30 days of the Battalion/Brigade's deployment. Completing NEPA documentation was not possible. However, based on the ARNG-ILE "Draft" Final Programmatic Environmental Assessment, dated May 2008, we concur that this action would not have caused any environmental concerns and that the action would have no future environmental impacts associated with it.
6. In the future, we will ensure to prepare NEPA documentation on any actions described in 32 CFR Part 651.10 as early as possible, so we can satisfy any/all NEPA requirements.
7. POC for this memorandum is Penny Chencharick, (253) 512-8566/DSN 323-8566, penny.i.chencharick@us.army.mil.


TIMOTHY WALKER
LTC, EN, WAARNG
Project Manager

2. Signed FNSI for ARNG's Programmatic Environmental Assessment

Finding of No Significant Impact

Programmatic Environmental Assessment for Army National Guard Transformation Equipment Fielding

The National Guard Bureau (NGB) has conducted a Programmatic Environmental Assessment (PEA) of the potential environmental and socioeconomic effects associated with Transformation Equipment Fielding for Army National Guard (ARNG) forces. The NGB prepared this PEA in accordance with the National Environmental Policy Act (NEPA, 42 USC § 4321 to 4370e), the Council on Environmental Quality Regulations for Implementing the Procedural Provisions of NEPA (CEQ Regulations, 40 CFR Parts 1500-1508), and *Environmental Analysis of Army Actions* (32 CFR 651).

1. Description of Proposed Action and Alternatives

Proposed Action

Consistent with current modernization plans, the NGB proposes to field six ground and air systems to State and Territory ARNGs throughout the United States, the District of Columbia, Guam, Puerto Rico, and the Virgin Islands. The six proposed systems are the M93A1 Fox Vehicle, M142 High Mobility Artillery Rocket System (HIMARS), UH-72A Lakota Light Utility Helicopter (LUH), RQ-7B Shadow Tactical Unmanned Aircraft System (TUAS), RQ-11 Small Unmanned Aircraft System (SUAS) Raven, and C27J Spartan Joint Cargo Aircraft (JCA).

Alternatives

The NGB considered two alternatives to the Proposed Action.

- *Fielding of fewer systems.* Instead of fielding six systems as proposed, the NGB could field only two, three, or four of the six systems. Fielding fewer than six systems would, however, impair the abilities of organizations to most effectively perform their missions. Moreover, fielding only some of the systems would leave portions of State and Territory ARNGs less capable of integrating seamlessly with Active Component forces in the event of mobilization.
- *Fielding of reduced numbers of systems.* Instead of fielding the various systems in the numbers proposed, the NGB could reduce some or all the systems in number (e.g., field only 80 Lakota helicopters, rather than 200). Fielding fewer system units would leave portions of State and Territory ARNGs less capable of integrating seamlessly with Active Component forces in the event of mobilization.

These alternatives were found not to support the purpose and need for the Proposed Action and, accordingly, they were not evaluated in detail in the PEA.

Consistent with guidance issued by the Council on Environmental Quality, the PEA evaluated the No Action Alternative.

2. Environmental Analysis

The PEA considered potential effects on a wide range of environmental resources and conditions, including real property, airspace, air quality, noise, water resources, geology and soils, biological

resources, cultural resources, hazardous materials and hazardous wastes, and socioeconomics (including environmental justice and protection of children).

Implementing the Proposed Action would be expected to result in a mixture of long-term minor adverse and long-term minor beneficial effects on air quality and the noise environment. Other environmental resources or conditions evaluated in the PEA would not be affected. Long-term minor adverse cumulative effects would be expected with respect to noise. No specific mitigation measures are identified. Table 1 identifies which of the systems proposed for fielding would affect air quality and noise and the nature of those effects.

Table 1
Systems' effects on air quality and noise

System	Air quality	Noise
M93A1 (Fox)	Long-term minor adverse	None
M142 (HIMARS)	Long-term minor beneficial	Long-term minor beneficial
UH-72A (Lakota)	Long-term minor adverse	Long-term minor beneficial
RQ-7B (Shadow)	Long-term minor adverse	None
RQ-11 (Raven)	None	None
C27J (Spartan)	Long-term minor adverse	Long-term minor adverse Long-term minor cumulative

State and Territory ARNGs will conduct additional analyses, as appropriate, to address potential site-specific environmental effects.

Under the No Action Alternative, no effects would be expected.

Mitigation

Implementing the Proposed Action would be expected to result in minor adverse effects on a limited number of environmental resources. To guard against circumstances developing that could in limited cases result in site-specific adverse effects, the NGB and State and Territory ARNGs will maintain their stewardship posture by ensuring those necessary measures unique to their particular cases.

Mitigation does not include legal, regulatory, or policy-driven environmental protections and best management practices, which are already part of the Proposed Action, required to comply with Federal and State laws or Army and NGB policies. No mitigation measures will be required to reduce potentially significant effects to less-than-significant levels.

3. Regulations

The Proposed Action will not violate NEPA, the CEQ Regulations, 32 CFR 651, or any other Federal, State, or local environmental regulations.

4. Commitment to Implementation

The National Guard Bureau (NGB) affirms its commitment to implement this PEA in accordance with NEPA. Implementation is dependent on funding. The NGB will ensure that adequate funds are requested in future years' budgets to achieve the goals and objectives set forth in this PEA.

5. Public Review and Comment

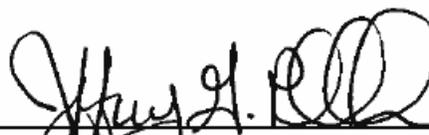
The draft PEA was made available for public review and comment from February 4, 2008 to March 5, 2008. One public comment was received during the comment period. The final PEA and DFNSI was made available for public review and comment from July 7th, 2008, to August 7th, 2008. No public comments were received during this period. Both instances the PEA was made available from the ARNG public website, www.arng.army.mil. For further information, contact Major Steve Stadelman, Training Lands Support Officer, at (703) 607-7968 or steve.stadelman@us.army.mil.

6. Finding of No Significant Impact

After careful review of the PEA, I have concluded that implementation of the Proposed Action would not generate significant controversy or have a significant impact on the quality of the human or natural environment. This analysis fulfills the requirements of NEPA and the CEQ Regulations. An Environmental Impact Statement will not be prepared, and the National Guard Bureau is issuing this Finding of No Significant Impact.

08 August 2008

Date



JEFFREY G PHILLIPS
COL, NGB
Chief, Environmental
Programs Division

3. REC for Restationing Action of TUAS Platoon to Yakima Training Center

ARNG ENVIRONMENTAL CHECKLIST		
Enter information in the yellow shaded areas.		
PART A - BACKGROUND INFORMATION		
1. PROJECT NAME: Organize the UAV Platoon at YTC.		
2. PROJECT NUMBER: 09-033	3. DATE: 1-Sep-09	
4. DESCRIPTION AND LOCATION OF THE PROPOSED ACTION: In order to facilitate training in the operation and flying of unmanned aerial vehicles (UAVs), the organization of an UAV Platoon is required. The UAV platoon will be formed out of Co A, 81st Brigade Special Troops Battalion (BSTB) in Kent. The new platoon, Detachment 1, Co A, 81st BSTB, will occupy building 951 at the Yakima Training Center (YTC) and will consist of 22 personnel. Major equipment includes but not limited to: 3 - Tactical Shadow UAVs (TUAV), 1UAS Raven, 6 - HMMVs, 4 - Generators; 2 - Cargo Trailers, 15 -Tool Kits, and 5 power supply units. For a complete listing, refer to MTOE: 87305GNG06, paragraphs 214 to 216, effective 1 Oct 2009.		
5. START DATE (dd-mmm-yy): 1-Oct-09	6. END DATE (dd-mmm-yy): Indefinite	
7. STATE/ORGANIZATION: Washington State Military Department	8. SERVICE COMPONENT: ARNG	
9. ADDRESS: 1 Militia Drive, Camp Murray, WA 98430		
10. PROPONENT/UNIT NAME: WAARNG, G3-MRO	11. POC: LTC William A. Leneweaver	
12. PROPONENT/UNIT ADDRESS: Building 1, Militia Drive, Camp Murray, WA 98430		
13. COMM VOICE: 253-512-8181	14. COMM FAX: 253-512-7829	15. DSN VOICE: 323-8181
16. DSN FAX: 323-7829	17. EMAIL: william-leneweaver@us.army.mil	
18. Was the project adequately addressed in a separate environmental review? Do not include Environmental <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO		
Baseline Surveys (EBSs).		
If YES, fill out and attach copy of the decision document:	Document Title:	
	Reviewing Agency:	
	Date of Review: (dd-mmm-yy):	
PART B - HISTORICAL INFORMATION		
1. Is the agency undergoing, or has it undergone, legal action for NEPA issues?		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
2. Has there been previous ARNG training, construction, or similar proposals on the site?		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
3. Are there any known contentious environmental issues currently associated with the site?		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Explain any YES answers. Bldg. 951 has been used as a training site for 2nd Battalion 205th Regiment for weekend drills and classroom instruction primarily administrative in nature. Vehicle maintenance is conducted by a permitted use agreement with the US Marine Corps and Washington Military Department with no WAARNG assets conducting maintenance activities.		
4. Has the proposed type of equipment (tracked or wheeled) been operated on the site before?		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
If NO, what NEPA document covers this action? Provide copy of REC, FNSI, or ROD. This does not include EBSs.	Document Title:	
	Preparing Agency:	
	Date (dd-mmm-yy):	
5. Describe the environmental setting, including past and present use of the site. The building is 43 years old and has been partially used as a vehicle/equipment maintenance facility, a warehouse, classrooms, and offices. The site is either hard surface pavement or continually maintained gravel parking for both military and civilian vehicles. The building is part of the Washington Army National Guard's numerous buildings in a developed cantonment area and the U.S.Army's Yakima Training Center, a huge high-desert training area of several hundreds of thousands of acres. The climate is dry and the landscape semi-arid.		

PART C - DESCRIPTION OF PROPOSED PROJECT/ACTION						
Include a map with the site clearly marked						
1. The proposed action will involve (check all that apply):	<input type="checkbox"/> Training Activities/Areas	<input type="checkbox"/> Construction	<input checked="" type="checkbox"/> Reorganization/Restationing	<input type="checkbox"/> Maintenance/Repair/Rehabilitation	<input type="checkbox"/> Lease or License	<input type="checkbox"/> Environmental Plans/Surveys
	<input type="checkbox"/> EBS Preparation	<input type="checkbox"/> Other (Explain):				
2. Has any related real estate action been addressed in a separate environmental document within the last 5 years?					<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
If YES Document Title:	Yakima Marine Corp Armory EBS			Date (dd-mmm-yy):	25-Oct-05	
3. Number of acres to be disturbed:						
4. How is the site currently zoned?	<input type="checkbox"/> Residential	<input type="checkbox"/> Commercial	<input type="checkbox"/> Industrial	<input type="checkbox"/> Park	<input checked="" type="checkbox"/> Other (Explain): Military	
5. Briefly describe the surrounding area land uses (e.g., undeveloped, recreation, residential, etc):						
This area of the Yakima Training Center (YTC) is for military training and maintenance of military equipment. Residential facilities are barracks used part of the year by training soldiers. There are no recreational activities at YTC and the cantonment area is zoned for military use and contains administrative buildings for the support of military activities on YTC. Land surrounding the site is largely underdeveloped with land use designated as Rural, Agricultural and Remote/Extremely Limited Use by Yakima County.						
6. Provide distances to ALL environmentally sensitive areas:						
	TYPE	Distance	Unit	TYPE	Distance	Unit
a. Prime/Unique Farmland		>50	mi	e. Wild/Scenic River	>50	mi
b. Wilderness Area/National Park		>50	mi	f. Coastal Zones	>100	mi
c. Sole-Source Aquifer				g. Floodplain	>10	mi
d. Wetlands		1.0	mi			
PART D - ENVIRONMENTAL IMPACT ANALYSIS						
1. AIR						
a. Is the proposed action in a non-attainment/maintenance area? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO						
Attach a General Conformity Determination or Record of Non-Applicability (RONA) for Military Construction activities in non-attainment/maintenance areas.						
b. Will the proposed action require an air emissions permit, registration, license, etc?		During proposed action	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
		During normal operations after proposed action is completed	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
c. Will the proposed action release objectionable odors, smoke, dust, suspended particles, or noxious gases into the air?		During proposed action	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
		During normal operations after proposed action is completed	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
d. Will the proposed action expose sensitive receptors (threatened or endangered plants or animals, or children) to pollutants?		During proposed action	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
		During normal operations after proposed action is completed	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO			
Explain any YES answers and/or planned mitigation here.						
2. TRAFFIC						
a. Will the proposed action result in generation of or increase in aircraft activity/traffic? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO						
b. Will the proposed action result in the generation of or increase in vehicular traffic? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO						

c. Will the proposed action use and/or construct unimproved roads?	During proposed action <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO During normal operations after proposed action is completed <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO				
Explain any YES answers and/or planned mitigation here. Include aircraft types, number of sorties, and flight schedules (if applicable). Traffic would increase one weekend a month and two weeks per year due to Reserve training requirements. Because YTC is considered a Major Training Facility (MTF) per Department of Army (DA) standards, already existing roads and infrastructure can handle the excess traffic due to Full Time Manning (FTM) not required to report.					
3. NOISE					
a. Will the proposed action result in an increase in noise levels?	During proposed action <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO During normal operations after proposed action is completed <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO				
b. Is the proposed action close to any civilian activity where noise might affect the population (add any not listed in the spaces provided)? Include distances for all types: <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
TYPE	Distance	Unit	TYPE	Distance	Unit
(1) Residence/Home	>5	mi	(5) Library	>10	mi
(2) Church	>10	mi	(6) Wilderness Area	>50	mi
(3) School	>10	mi			
(4) Hospital	>10	mi			
c. Will the proposed action involve aircraft?		<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO			
d. Will the proposed action involve night (10 pm to 7 am) operations?	During proposed action <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO During normal operations after proposed action is completed <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO				
Explain any YES answers. Shadow 200 RQ-7, TUAV will be stored and maintained at this location with actual flight operations conducted 'down range' at the Selah Airstrip outside the cantonement area.					
4. EARTH					
a. Will the proposed action result in long-term disruptions, displacements, compaction, or overcovering of soil, a permanent change in topography, or ground surface relief features? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
b. Will the proposed action result in a long-term increase in wind or water soil erosion, on or off the site, after the proposed action is completed? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
Explain any YES answers.					
5. NATURAL RESOURCES					
NOTE- A subject matter expert from the State/Territory ARNG Environmental Office must confirm the answers to these questions by signing the signature page.					
a. Will the proposed action change the diversity or numbers of any species including mammals, birds, reptiles, amphibians, fish, trees, shrubs, grasses, crops, microflora, or aquatic plants? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
b. Will the proposed action introduce any non-native species into the area? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
c. Will the proposed action impact any plants or animals that are listed or candidates for threatened, unique, rare, or endangered status? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					
d. Will the proposed action create barriers to prevent the migration or movement of animals? <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO					

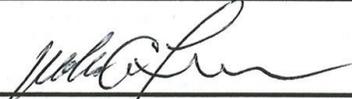
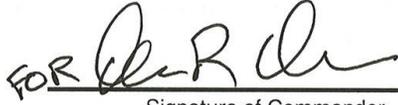
e. Will the proposed action deteriorate, alter, or destroy existing fish or wildlife habitat?		<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
f. Will the proposed action deplete any non-renewable natural resources?		<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
g. Will the proposed action alter, destroy, or significantly impact environmentally sensitive areas (wetlands, coastal zones, etc.)?		<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Explain any YES answers.			
6. LAND USE			
a. Will the proposed action alter the present land use of the site?		<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
b. Who owns the property?		<input checked="" type="checkbox"/> Federal/DOD <input type="checkbox"/> State <input type="checkbox"/> City/Town/County <input type="checkbox"/> Private <input type="checkbox"/> Other (Explain):	
c. Does the proposed action involve a real estate action (e.g., purchase, lease, permit, or license)?		<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Answer the following if you answered YES above:	(1) Has an EBS been completed? If YES, attach the EBS.	<input type="checkbox"/> YES	<input type="checkbox"/> NO
	(2) Require an increase of acreage/amendment to an existing lease or license?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
	(3) Require new purchase of additional acres using federal, state, or other funds?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
	(4) Require a new lease, license, and/or land use permit?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
	(5) Replace or dispose of existing facilities?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
Explain any YES answers.			
7. SOLID WASTE			
a. Will the proposed action generate solid wastes that must be disposed of on or off site?		<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
Explain a YES answer.			
Solid waste will be managed through already existing contracts via CFMO for other elements already occupying this site.			
8. HAZARDOUS WASTE			
a. Will the proposed action generate hazardous waste?		<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
b. Will the proposed action store and/or prepare for the disposal of hazardous waste or materials?	During proposed action	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	During normal operations after proposed action is completed	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
c. Does the proposed action require a permit to accumulate hazardous waste or materials at the site?	During proposed action	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	During normal operations after proposed action is completed	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
d. Does the proposed action have an increased risk for explosion, spill, or the release of hazardous waste or materials (including but not limited to pesticides, chemicals, or radiation)?	During proposed action	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	During normal operations after proposed action is completed	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
e. Will the proposed action require the presence of trained personnel to handle and dispose of hazardous and/or toxic waste/materials?	During proposed action	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
	During normal operations after proposed action is completed	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO

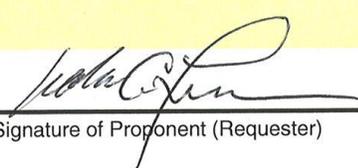
f. Will the proposed action involve the opportunity for hazardous material minimization and recycling?	During proposed action During normal operations after proposed action is completed	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Explain any YES answers.		
g. Do you have a plan describing procedures for the proper handling, storage, use, disposal, and cleanup of hazardous and/or toxic materials?	During proposed action During normal operations after proposed action is completed	<input checked="" type="checkbox"/> YES <input type="checkbox"/> NO <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO
Explain any NO answers.		
9. WATER		
a. Will the proposed action change currents, course, or direction of water movements in marine or fresh waters?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
b. Will the proposed action discharge sediments, liquids, or solid wastes into surface waters, or alter the surface water quality?	During proposed action During normal operations after proposed action is completed	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
c. Will the proposed action change the quality and/or quantity of ground waters, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
d. Does the proposed action have the potential to accidentally spill hazardous or toxic materials in or near a body of water?	During proposed action During normal operations after proposed action is completed	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
e. Does the proposed action have the need for a Spill Control and Countermeasure Plan, and/or Installation Spill Contingency Plan (SPCC and/or ISCP)?	During proposed action During normal operations after proposed action is completed	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
f. Will the proposed action construct facilities or implement actions within floodplains and/or wetlands?	During proposed action During normal operations after proposed action is completed	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO <input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
g. Does the proposed action require an NPDES stormwater or wastewater discharge permit?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
h. Does the proposed action involve the construction of a water or wastewater treatment system (oil water separators, grease traps, etc)?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO	
Explain any YES answers.		

10. CULTURAL RESOURCES		
a. Does the proposed action involve an undertaking (Reference: 36 CFR 800.161[y]) to a building/structure 50 years or older?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
If YES to Question a, has an architectural inventory/evaluation been completed to determine eligibility for the National Register of Historic Places?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
b. Does the proposed action involve ground disturbance? (Reference: 36 CFR 800.161[y])	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
If YES to Question b, has an archaeological inventory been completed to determine if there are any archaeological sites present?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
If YES to Question b, did the state contact any Federally-recognized Tribes to comment on the proposed action?	<input type="checkbox"/> YES	<input type="checkbox"/> NO
c. Does the proposed action fall under any Federal or Nationwide Programmatic Agreement or Programmatic Comment? If YES , reference it below.	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
d. Has the state contacted the SHPO for comments?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
e. Does the proposed action have the potential to affect any traditional cultural properties or sacred sites? If YES , attach coordination with Federally-recognized Tribes.	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Explain any YES answers.		
11. POPULATION		
a. Will the proposed action alter the location, distribution, density, or growth rate of the human population of an area?	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
b. Will the proposed action affect children? Reference: Executive Order 13045	During proposed action	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
	During normal operations after proposed action is completed	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
c. Are there any Environmental Justice issues associated with the proposed action? Reference: Executive Order 12898.	<input type="checkbox"/> YES	<input checked="" type="checkbox"/> NO
Explain any YES answers.		
12. INFRASTRUCTURE		
a. Will the proposed action result in the need for new systems or substantial alterations to the following utilities:		
(1) Electrical power, fossil fuel or other (specify):		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
(2) Drinking water?		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
(3) Wastewater treatment?		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
(4) Sewer collection system?		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
(5) Wash racks?		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
(6) Solid waste disposal?		<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO

Explain any **YES** answers.

PART E - INNOVATIVE READINESS TRAINING (IRT)			
Skip this portion if this is not an IRT Project			
1. REQUESTER INFORMATION			
a. REQUESTER NAME:	b. TITLE:		
c. AGENCY NAME:			
d. AGENCY ADDRESS:			
e. COMM VOICE:	f. COMM FAX:	g. DSN VOICE:	
h. DSN FAX:	i. EMAIL:		
j. TYPE: <input type="checkbox"/> FEDERAL <input type="checkbox"/> STATE <input type="checkbox"/> LOCAL/MUNICIPAL <input type="checkbox"/> YOUTH/CHARITABLE			
<div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> ENGINEER <input type="checkbox"/> TRANSPORTATION <input type="checkbox"/> TECH ASSISTANCE <input type="checkbox"/> LOGISTICAL </div>			
<div style="display: flex; justify-content: space-between;"> <input type="checkbox"/> COMMUNICATION <input type="checkbox"/> ADMINISTRATIVE <input type="checkbox"/> CEREMONIAL <input type="checkbox"/> PARADE </div>			
k. SUPPORT TYPE REQUESTED: <input type="checkbox"/> OTHER (SPECIFY):			
2. ASSIGNED UNIT INFORMATION (Filled out by assigned National Guard unit)			
a. UNIT ASSIGNED PROJECT:		b. SERVICE COMPONENT:	
c. UNIT ADDRESS:			
d. PROJECT OFFICER	RANK:	NAME:	
e. SITE VISIT DATE (dd-mmm-yy)			
f. PROJECT ASSESSMENT (Give detailed assessment of project requirements. Review project requirements against the screening criteria in Section 651.29 of 32 CFR Part 651. If the project qualifies for a Categorical Exclusion, indicate the Categorical Exclusion code).			
<p style="font-size: 2em; color: green; opacity: 0.5; text-align: center;">NO GOLF 2</p>			
g. ESTIMATED NUMBER OF HOURS REQUIRED TO COMPLETE PROJECT:		h. PERSONNEL REQUIRED:	
		OFFICER	ENLISTED

PART F - DETERMINATION	
a. Does the proposed action have the potential to degrade the quality of the environment, or curtail the diversity of the environment?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
b. Does the proposed action have the potential for cumulative impacts on environmental quality when the effects are combined with those of other Federal/State actions, or when the action is of lengthy duration?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
c. Does the proposed action have environmental effects that will cause substantial adverse effects on the human or natural environment, either directly or indirectly?	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
On the basis of this initial evaluation, the following is appropriate (check one): <input type="checkbox"/> An Environmental Baseline Survey (EBS) and a new checklist once the EBS is completed. <input type="checkbox"/> IAW 32 CFR 651 Appendix B, the proposed action qualifies for a Categorical Exclusion (CX) that does not require a Record of Environmental Consideration. <input checked="" type="checkbox"/> A Record of Environmental Consideration (REC) . <input type="checkbox"/> An Environmental Assessment (EA) . <input type="checkbox"/> A Notice of Intent (NOI) to prepare an Environmental Impact Statement (EIS) .	
<div style="text-align: center; margin-bottom: 10px;">  _____ Signature of Proponent (Requester) </div> <div style="text-align: center; margin-bottom: 10px;"> LTC William A. Leneweaver Printed Name of Proponent (Requester) </div> <div style="text-align: center; margin-bottom: 10px;"> 2 Sep 09 Date Signed </div>	<div style="text-align: center; margin-bottom: 10px;"> Concurrence:  _____ Environmental Program Manager </div> <div style="text-align: center; margin-bottom: 10px;"> Mr. Thomas Skjervold Printed Name of Env. Program Manager </div> <div style="text-align: center; margin-bottom: 10px;"> 2 September 2009 Date Signed </div>
Concurrence (as needed):	
<div style="text-align: center; margin-bottom: 10px;">  _____ Signature of Landowner </div> <div style="text-align: center; margin-bottom: 10px;"> Mr. Michael Williams Printed Name of Landowner </div> <div style="text-align: center; margin-bottom: 10px;"> 9/2/2009 Date Signed </div>	<div style="text-align: center; margin-bottom: 10px;"> FOR  _____ Signature of Commander </div> <div style="text-align: center; margin-bottom: 10px;"> BG Bret Daugherty Printed Name of Commander </div> <div style="text-align: center; margin-bottom: 10px;"> 3 Sep 09 Date Signed </div>
<div style="text-align: center; margin-bottom: 10px;">  _____ Signature of Facilities Officer </div> <div style="text-align: center; margin-bottom: 10px;"> LTC Rob Hodgman (Acting) Printed Name of Facilities Officer </div> <div style="text-align: center; margin-bottom: 10px;"> 2 Sep 09 Date Signed </div>	<div style="text-align: center; margin-bottom: 10px;">  _____ Signature of Plans & Operations Officer </div> <div style="text-align: center; margin-bottom: 10px;"> for COL Duane Coffey Printed Name of Plans & Operations Officer </div> <div style="text-align: center; margin-bottom: 10px;"> 2 Sep 09 Date Signed </div>

ARNG RECORD OF ENVIRONMENTAL CONSIDERATION	
1. PROJECT NAME: Organize the UAV Platoon at YTC.	
2. PROJECT NUMBER: 09-033	3. DATE: 1-Sep-09
4. PROJECT START DATE (dd-mmm-yy): 1-Oct-09	
5. PROJECT END DATE (dd-mmm-yy): Indefinite	
6. DESCRIPTION AND LOCATION OF THE PROPOSED ACTION: In order to facilitate training in the operation and flying of unmanned aerial vehicles (UAVs), the organization of an UAV Platoon is required. The UAV platoon will be formed out of Co A, 81st Brigade Special Troops Battalion (BSTB) in Kent. The new platoon, Detachment 1, Co A, 81st BSTB, will occupy building 951 at the Yakima Training Center (YTC) and will consist of 22 personnel. Major equipment includes but not limited to: 3 - Tactical Shadow UAVs (TUAV), 1 UAS Raven, 6 - HMMVs, 4 - Generators; 2 - Cargo Trailers, 15 - Tool Kits, and 5 power supply units. For a complete listing, refer to MTOE: 87305GNG06, paragraphs 214 to 216, effective 1 Oct 2009.	
7. CHOOSE ONE OF THE FOLLOWING:	
<input type="checkbox"/> An existing Environmental Assessment adequately covers the scope of this project. EA Date (dd-mmm-yy) _____ Conducted By: _____	
<input type="checkbox"/> An existing Environmental Impact Statement adequately covers the scope of this project. EIS Date (dd-mmm-yy) _____ Conducted By: _____	
<input checked="" type="checkbox"/> After reviewing the screening criteria and completing the ARNG Environmental Checklist, this project qualifies for a Categorical Exclusion (select one below). Categorical Exclusion Code: B-14: Relocation of personnel into existing federally-owned...	
<input type="checkbox"/> This project is exempt from NEPA requirements under the provisions of: Cite superseding law: _____	
8. REMARKS:	
 _____ Signature of Proponent (Requester) LTC William A. Leneweaver _____ Printed Name of Proponent (Requester) 2 Sep 09 _____ Date Signed	Concurrence:  _____ Environmental Program Manager Mr. Thomas Skjervold _____ Printed Name of Env. Program Manager 2 Sept 2009 _____ Date Signed